

Appendix A. Search Strategies

Searches for systematic reviews

Ovid MEDLINE (2006 to May 2015)

- 1 exp Telemedicine/
- 2 exp Patient Care/
- 3 exp Therapeutics/
- 4 exp Health Services/
- 5 exp Diagnosis/
- 6 exp Professional-Patient Relations/
- 7 exp Health Services Accessibility/
- 8 exp Health Behavior/
- 9 2 or 3 or 4 or 5 or 6 or 7 or 8
- 10 exp *Telecommunications/
- 11 exp *Computer Communication Networks/
- 12 10 or 11
- 13 9 and 12
- 14 1 or 13
- 15 limit 14 to english language
- 16 limit 15 to systematic reviews
- 17 limit 16 to yr="2006 -Current"

Cochrane Database of Systematic Reviews (2005 to July 2015)

- 1 (telemedic\$ or telehealth\$ or teleradiol\$ or teledermat\$).mp.
- 2 (tele-medic\$ or tele-heal\$ or tele-radiol\$ or tele-dermat\$).mp.
- 4 (emedicine or ehealth or e-medicine or e-health).mp.

Searches for ongoing systematic reviews

PROSPERO database (August 1, 2013 to September, 2015)

Protocols marked "Ongoing" with the following words in any of the fields: "telehealth" OR "telecare" OR "telemedicine" OR "eHealth" OR "mHealth."

Searches for primary research

Ovid MEDLINE (2005 to August 2015)

- 1 exp telemedicine
- 2 telehealth.mp
- 3 1 or 2
- 4 exp cancer
- 5 exp chronic disease
- 6 4 or 5
- 7 3 and 6
- 8 limit 7 to english language
- 9 limit 8 to yr="2005 -Current"
- 10 limit 9 to ("all infant (birth to 23 months)" or "all child (0 to 18 years)")

-
- 1 exp telemedicine/
 - 2 telehealth.mp.
 - 3 1 or 2

- 4 exp Pregnancy/
- 5 exp Postpartum Period/
- 6 4 or 5
- 7 3 and 6
- 8 limit 7 to english language
- 9 limit 8 to yr="2005 - 2015"

- 1 exp telemedicine/
- 2 telehealth.mp.
- 3 1 or 2
- 4 ambulatory care.mp. or *Ambulatory Care/
- 5 urgent care.mp.
- 6 exp Triage/ or triage.mp.
- 7 4 or 5 or 6
- 8 3 and 7
- 9 limit 8 to english language
- 10 limit 9 to yr="2005 -Current"

Search for grey literature

The New York Academy of Medicine Library Grey Literature Collection (searched on 9.28.2015)

- 1 Telehealth
- 2 Telemedicine

Searches of websites of organizations and federal agencies

Text word searches of the following websites were conducted on 9.28.2015 and 9.29.2015

Agency/Organization	URL
American Telemedicine Association	www.americantelemed.org
United States Department of Health & Human Services	www.hhs.gov
Healthcare Information and Management Systems Society (HIMSS)	www.himss.org
United States Office of the Assistant Secretary for Planning and Evaluation (ASPE)	www.aspe.hhs.gov
Personal Connected Health Alliance	www.pchalliance.org
Centers for Medicare & Medicaid Services (CMS)	www.cms.gov/Medicare/Medicare-General-information/telehealth
The Office of the National Coordinator for Health Information Technology	www.healthit.gov
Wireless-Life Sciences Alliance	www.wirelesslifesciences.org
United States Health Resources and Services Administration	www.hrsa.gov/index.html
National Institute of Standards and Technology	www.nist.gov
United States Department of Veterans Affairs (VA)	www.telehealth.va.gov
Agency for Healthcare Research and Quality (AHRQ)	http://www.ahrq.gov/
Markle Foundation	www.markle.org/

Agency/Organization	URL
National Center for Telehealth and Technology (T2)	www.t2health.dcoe.mil/programs-telehealth
New York Academy of Medicine Library of Grey Literature	www.greylit.org
California Healthcare Foundation	www.chcf.org

Appendix B. Inclusion Criteria for Systematic Reviews

Study Designs	<p>INCLUDE: Systematic reviews: Must have conducted literature searches in at least one database AND reported some sort of quality for the included papers.</p> <p>EXCLUDE: Nonsystematic reviews, narrative reviews, opinions, letters, primary studies</p>
Populations	<p>INCLUDE: Patients (adult or pediatric) interacting with some provider (physician, nurse, therapist, etc.). Providers interacting without patient interaction when the interaction is directly related to care and not purely for education purposes. Acute and chronic conditions included.</p>
Interventions	<p>INCLUDE: Any telehealth intervention: “the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.” Other terms: telemedicine, eHealth, mHealth, remote patient monitoring, patient portals, eConsults, video consults, eICU</p> <ul style="list-style-type: none"> • Included interventions: consultation, diagnosis, mentoring, monitoring, triage, treatment • Intervention should be applicable to a US health care environment • Interactions can be via email if that email replaces an in-person interaction <p>EXCLUDE: Any intervention that does not include an interaction between a health professional and patient, or between two health professionals; training/education interventions that do not include a patient; telephone-only interactions</p>
Comparators	Any of the included interventions, usual care
Outcomes	<p>INCLUDE:</p> <p>Clinical Outcomes:</p> <ul style="list-style-type: none"> • Mortality • Morbidity • Illness • Test parameters (e.g., HbA1c) <p>Health Care Utilization and Access:</p> <ul style="list-style-type: none"> • hospitalizations (length of stay, readmission) • ER • Outpatient visits • Nursing home/rehab • Reduced travel time • Time to receipt of care <p>Cost Effectiveness</p> <p>EXCLUDE: Patient satisfaction, provider concordance, compliance, other nonclinical outcomes, or nonutilization outcomes.</p>
Timing/Setting	<p>INCLUDE: Any setting, including rural or urban, home or community-based care, clinic, radiology, pharmacy, nursing home, or hospital-based care Any duration of followup</p> <p>EXCLUDE: Systematic reviews with search date ranges ending prior to 2006</p>

ET=emergency room, HbA1c=hemoglobin A1c, ICU=intensive care unit, US=United States.

Appendix C. Included Studies

Ammenwerth E, Schnell-Inderst P, Hoerbst A. The impact of electronic patient portals on patient care: a systematic review of controlled trials. *J Med Internet Res.* 2012;14(6):e162. PMID: 23183044.

Antonacci DJ, Bloch RM, Saeed SA, et al. Empirical evidence on the use and effectiveness of telepsychiatry via videoconferencing: implications for forensic and correctional psychiatry. *Behav Sci Law.* 2008;26(3):253-69. PMID: 18548519.

Antoniou SA, Antoniou GA, Franzen J, et al. A comprehensive review of telerenting applications in laparoscopic general surgery. *Surg Endosc.* 2012;26(8):2111-6. PMID: 22350150.

Chaudhry SI, Phillips CO, Stewart SS, et al. Telemonitoring for patients with chronic heart failure: a systematic review. *J Card Fail.* 2007;13(1):56-62. PMID: 17339004.

Clarke M, Shah A, Sharma U. Systematic review of studies on telemonitoring of patients with congestive heart failure: a meta-analysis. *J Telemed Telecare.* 2011;17(1):7-14. PMID: 21097564.

Connelly J, Kirk A, Masthoff J, et al. The use of technology to promote physical activity in Type 2 diabetes management: a systematic review. *Diabet Med.* 2013;30(12):1420-32. PMID: 23870009.

Cox NS, Alison JA, Rasekaba T, et al. Telehealth in cystic fibrosis: a systematic review. *J Telemed Telecare.* 2012;18(2):72-8. PMID: 22198961.

Dang S, Dimmick S, Kelkar G. Evaluating the evidence base for the use of home telehealth remote monitoring in elderly with heart failure. *Telemed J E Health.* 2009;15(8):783-96. PMID: 19831704.

de Jong CC, Ros WJ, Schrijvers G. The effects on health behavior and health outcomes of Internet-based asynchronous communication between health providers and patients with a chronic condition: a systematic review. *J Med Internet Res.* 2014;16(1):e19. PMID: 24434570.

de Waure C, Cadeddu C, Gualano MR, et al. Telemedicine for the reduction of myocardial infarction mortality: a systematic review and a meta-analysis of published studies. *Telemed J E Health.* 2012;18(5):323-8. PMID: 22468983.

Eccleston C, Fisher E, Craig L, et al. Psychological therapies (Internet-delivered) for the management of chronic pain in adults. *Cochrane Database Syst Rev.* 2014;2:CD010152. PMID: 24574082.

Eland-de Kok P, van Os-Medendorp H, Vergouwe-Meijer A, et al. A systematic review of the effects of e-health on chronically ill patients. *J Clin Nurs.* 2011;20(21-22):2997-3010. PMID: 21707807.

Gaikwad R, Warren J. The role of home-based information and communications technology interventions in chronic disease management: a systematic literature review. *Health Inform J.* 2009;15(2):122-46. PMID: 19474225.

Gainsbury S, Blaszczynski A. A systematic review of Internet-based therapy for the treatment of addictions. *Clin Psychol Rev.* 2011;31(3):490-8. PMID: 21146272.

Garcia-Lizana F, Sarria-Santamera A. New technologies for chronic disease management and control: a systematic review. *J Telemed Telecare.* 2007;13(2):62-8. PMID: 17359568.

Holtz B, Lauckner C. Diabetes management via mobile phones: a systematic review. *Telemed J E Health.* 2012;18(3):175-84. PMID: 22356525.

Jaana M, Pare G, Sicotte C. Home telemonitoring for respiratory conditions: a systematic review. *Am J Manag Care.* 2009;15(5):313-20. PMID: 19435399.

Johansen MA, Berntsen GKR, Schuster T, et al. Electronic symptom reporting between patient and provider for improved health care service quality: a systematic review of randomized controlled trials. part 2: methodological quality and effects. *J Med Internet Res.* 2012;14(5):e126. PMID: 23032363.

Kairy D, Lehoux P, Vincent C, et al. A systematic review of clinical outcomes, clinical process, healthcare utilization and costs associated with telerehabilitation. *Disabil Rehabil.* 2009;31(6):427-47. PMID: 18720118.

Kamei T, Yamamoto Y, Kajii F, et al. Systematic review and meta-analysis of studies involving telehome monitoring-based telenursing for patients with chronic obstructive pulmonary disease. *Jpn J Nurs Sci.* 2013;10(2):180-92. PMID: 24373441.

- Knowles SR, Mikocka-Walus A. Utilization and efficacy of internet-based eHealth technology in gastroenterology: a systematic review. *Scand J Gastroenterol.* 2014;49(4):387-408. PMID: 24494974.
- Kodama S, Saito K, Tanaka S, et al. Effect of Web-based lifestyle modification on weight control: a meta-analysis. *Int J Obes (Lond).* 2012;36(5):675-85. PMID: 21694698.
- Kumar G, Falk DM, Bonello RS, et al. The costs of critical care telemedicine programs: a systematic review and analysis. *Chest.* 2013;143(1):19-29. PMID: 22797291.
- Laver KE, Schoene D, Crotty M, et al. Telerehabilitation services for stroke. *Cochrane Database Syst Rev.* 2013;12:CD010255. PMID: 24338496.
- Liang X, Wang Q, Yang X, et al. Effect of mobile phone intervention for diabetes on glycaemic control: a meta-analysis. *Diabet Med.* 2011;28(4):455-63. PMID: 21392066.
- Lustria MLA, Noar SM, Cortese J, et al. A meta-analysis of web-delivered tailored health behavior change interventions.[Erratum appears in *J Health Commun.* 2013;18(11):1397]. *J Health Commun.* 2013;18(9):1039-69. PMID: 23750972.
- Martin S, Sutcliffe P, Griffiths F, et al. Effectiveness and impact of networked communication interventions in young people with mental health conditions: a systematic review. *Patient Educ Couns.* 2011;85(2):e108-19. PMID: 21239133.
- McLean S, Nurmatov U, Liu JL, et al. Telehealthcare for chronic obstructive pulmonary disease. *Cochrane Database Syst Rev.* 2011(7):CD007718. PMID: 21735417.
- Merriel SWD, Andrews V, Salisbury C. Telehealth interventions for primary prevention of cardiovascular disease: a systematic review and meta-analysis. *Prev Med.* 2014;64:88-95. PMID: 24726502.
- Osborn CY, Mayberry LS, Mulvaney SA, et al. Patient web portals to improve diabetes outcomes: a systematic review. *Curr Diab Rep.* 2010;10(6):422-35. PMID: 20890688.
- Peeters JM, Mistiaen P, Francke AL. Costs and financial benefits of video communication compared to usual care at home: a systematic review. *J Telemed Telecare.* 2011;17(8):403-11. PMID: 22025744.
- Ramadas A, Quek KF, Chan CKY, et al. Web-based interventions for the management of type 2 diabetes mellitus: a systematic review of recent evidence. *Int J Med Inf.* 2011;80(6):389-405. PMID: 21481632.
- Richards D, Richardson T. Computer-based psychological treatments for depression: a systematic review and meta-analysis. *Clin Psychol Rev.* 2012;32(4):329-42. PMID: 22466510.
- Rietdijk R, Togher L, Power E. Supporting family members of people with traumatic brain injury using telehealth: a systematic review. *J Rehabil Med.* 2012;44(11):913-21. PMID: 23027316.
- Rooke S, Thorsteinsson E, Karpin A, et al. Computer-delivered interventions for alcohol and tobacco use: a meta-analysis. *Addiction.* 2010;105(8):1381-90. PMID: 20528806.
- Seto E. Cost comparison between telemonitoring and usual care of heart failure: a systematic review. *Telemed J E Health.* 2008;14(7):679-86. PMID: 18817497.
- Steel K, Cox D, Garry H. Therapeutic videoconferencing interventions for the treatment of long-term conditions. *J Telemed Telecare.* 2011;17(3):109-17. PMID: 21339304.
- Tan K, Lai NM. Telemedicine for the support of parents of high-risk newborn infants. *Cochrane Database Syst Rev.* 2012;6:CD006818. PMID: 22696360.
- Tran K, Drugs CAF, Health Ti. Home telehealth for chronic disease management: Canadian Agency for Drugs and Technologies in Health Ottawa; 2008.
- Urquhart C, Currell R, Harlow F, et al. Home uterine monitoring for detecting preterm labour. *Cochrane Database Syst Rev.* 2015.
- Wade VA, Karnon J, Elshaug AG, et al. A systematic review of economic analyses of telehealth services using real time video communication. *BMC Health Serv Res.* 2010;10:233. PMID: 20696073.
- Wallace DL, Hussain A, Khan N, et al. A systematic review of the evidence for telemedicine in burn care: with a UK perspective. *Burns.* 2012;38(4):465-80. PMID: 22078804.
- Zhai Y-k, Zhu W-j, Cai Y-l, et al. Clinical- and cost-effectiveness of telemedicine in type 2 diabetes mellitus: a systematic review and meta-analysis. *Medicine (Baltimore).* 2014;93(28):e312. PMID: 25526482.

Appendix D. Excluded Studies

Review articles were excluded if they analyzed studies with various interventions together, if they did not meet our criteria for *systematic* reviews, or both.

Aalbers T, Baars MAE, Rikkert MGMO. Characteristics of effective Internet-mediated interventions to change lifestyle in people aged 50 and older: a systematic review. *Ageing Res Rev.* 2011;10(4):487-97. PMID: 21628005.

Aardoom JJ, Dingemans AE, Spinhoven P, et al. Treating eating disorders over the internet: a systematic review and future research directions. *Int J Eat Disord.* 2013;46(6):539-52. PMID: 23674367.

Almeida P, Caetano F, Carvalho A, et al. Interactive applications for patient education and behaviour change in asthma. 2006.

An J-Y, Hayman LL, Park Y-S, et al. Web-based weight management programs for children and adolescents: a systematic review of randomized controlled trial studies. *ANS Adv Nurs Sci.* 2009;32(3):222-40. PMID: 19707091.

Andersson G. Guided internet treatment for anxiety disorders. As effective as face-to-face therapies? *Stud Health Technol Inform.* 2012;181:3-7. PMID: 22954817.

Andersson G, Cuijpers P. Internet-based and other computerized psychological treatments for adult depression: a meta-analysis. *Cognitive Behav Ther.* 2009;38(4):196-205. PMID: 20183695.

Andrews G, Cuijpers P, Craske MG, et al. Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: a meta-analysis. *PLoS One.* 2010;5(10):e13196. PMID: 20967242.

Aneni EC, Roberson LL, Maziak W, et al. A systematic review of internet-based worksite wellness approaches for cardiovascular disease risk management: outcomes, challenges & opportunities. *PLoS ONE.* 2014;9(1):e83594. PMID: 24421894.

Angeles RN, Howard MI, Dolovich L. The Effectiveness of Web-Based Tools for Improving Blood Glucose Control in Patients with Diabetes Mellitus: A Meta-Analysis. *Canadian Journal of Diabetes.* 2011;35(4):344-52. PMID.

Aresti-Bartolome N, Garcia-Zapirain B. Technologies as support tools for persons with autistic spectrum disorder: a systematic review. *Int J Environ Res Public Health.* 2014;11(8):7767-802. PMID: 25093654.

Atherton H, Sawmynaden P, Sheikh A, et al. Email for clinical communication between patients/caregivers and healthcare professionals. *Cochrane Database Syst Rev.* 2012;11:CD007978. PMID: 23152249.

Bacigalupo R, Cudd P, Littlewood C, et al. Interventions employing mobile technology for overweight and obesity: an early systematic review of randomized controlled trials. *Obes Rev.* 2013;14(4):279-91. PMID: 23167478.

Backhaus A, Agha Z, Maglione ML, et al. Videoconferencing psychotherapy: a systematic review. *Psychol Serv.* 2012;9(2):111-31. PMID: 22662727.

Bashshur RL, Shannon GW, Smith BR, et al. The empirical evidence for the telemedicine intervention in diabetes management. *Telemed J E Health.* 2015;21(5):321-54. PMID: 25806910.

Bashshur RL, Shannon GW, Tejasvi T, et al. The Empirical Foundations of Teledermatology: A Review of the Research Evidence. *Telemed J E Health.* 2015. PMID: 26394022.

Bashshur RL, Shannon GW, Smith BR, et al. The empirical foundations of telemedicine interventions for chronic disease management. *Telemed J E Health.* 2014;20(9):769-800. PMID: 24968105.

Baron J, McBain H, Newman S. The impact of mobile monitoring technologies on glycosylated hemoglobin in diabetes: a systematic review. *J Diabetes Sci Technol.* 2012;6(5):1185-96. PMID: 23063046.

Bender JL, Radhakrishnan A, Diorio C, et al. Can pain be managed through the Internet? A systematic review of randomized controlled trials. *Pain.* 2011;152(8):1740-50. PMID: 21565446.

Bergmo TS. Economic evaluation in telemedicine - still room for improvement. *J Telemed Telecare.* 2010;16(5):229-31. PMID: 20501629.

Boisvert M, Lang R, Andrianopoulos M, et al. Telepractice in the assessment and treatment of individuals with autism spectrum disorders: A systematic review. *Dev Neurorehabil.* 2010;13(6):423-32. PMID: 20887200.

- Bolton CE, Waters CS, Peirce S, et al. Insufficient evidence of benefit: a systematic review of home telemonitoring for COPD. *J Eval Clin Pract*. 2011;17(6):1216-22. PMID: 20846317.
- Botsis T, Hartvigsen G. Current status and future perspectives in telecare for elderly people suffering from chronic diseases. *J Telemed Telecare*. 2008;14(4):195-203. PMID: 18534954.
- Brennan L, Castro S, Brownson RC, et al. Accelerating evidence reviews and broadening evidence standards to identify effective, promising, and emerging policy and environmental strategies for prevention of childhood obesity. *Annu Rev Public Health*. 2011;32:199-223. PMID: 21219169.
- Burri H, Sticherling C, Wright D, et al. Cost-consequence analysis of daily continuous remote monitoring of implantable cardiac defibrillator and resynchronization devices in the UK. *Europace*. 2013;15(11):1601-8. PMID: 23599169.
- Calear AL, Christensen H. Review of internet-based prevention and treatment programs for anxiety and depression in children and adolescents. *Med J Aust*. 2010;192(11 Suppl):S12-4. PMID: 20528700.
- Canada Health Infoway. *Connecting Patients with Providers: A Pan-Canadian Study on Remote Patient Monitoring*. 2014.
- Carter BL, Bosworth HB, Green BB. The hypertension team: the role of the pharmacist, nurse, and teamwork in hypertension therapy. *J Clin Hypertens (Greenwich)*. 2012;14(1):51-65. PMID: 22235824.
- Cherofsky N, Onua E, Sawo D, et al. Telehealth in adult patients with congestive heart failure in long term home health care: a systematic review. *The JBI Database of Systematic Reviews and Implementation Reports*. 2011;9(30):1271-96.
- Ciere Y, Cartwright M, Newman SP. A systematic review of the mediating role of knowledge, self-efficacy and self-care behaviour in telehealth patients with heart failure. *J Telemed Telecare*. 2012;18(7):384-91. PMID: 23019605.
- Clark AM, Haykowsky M, Kryworuchko J, et al. A meta-analysis of randomized control trials of home-based secondary prevention programs for coronary artery disease. *Eur J Cardiovasc Prev Rehabil*. 2010;17(3):261-70. PMID: 20560165.
- Clark RA, Inglis SC, McAlister FA, et al. Telemonitoring or structured telephone support programmes for patients with chronic heart failure: systematic review and meta-analysis. *Bmj*. 2007;334(7600):942. PMID: 17426062.
- Costa BM, Fitzgerald KJ, Jones KM, et al. Effectiveness of IT-based diabetes management interventions: a review of the literature. *BMC Fam Pract*. 2009;10:72. PMID: 19917136.
- Costa PD, Rodrigues PP, Reis AH, et al. A review on remote monitoring technology applied to implantable electronic cardiovascular devices. *Telemed J E Health*. 2010;16(10):1042-50. PMID: 21070132.
- Cotter AP, Durant N, Agne AA, et al. Internet interventions to support lifestyle modification for diabetes management: a systematic review of the evidence. *J Diabetes Complications*. 2014;28(2):243-51. PMID: 24332469.
- Cucciare MA, Weingardt KR, Humphreys K. How Internet technology can improve the quality of care for substance use disorders. *Curr Drug Abuse Rev*. 2009;2(3):256-62. PMID: 20443772.
- Cuijpers P, van Straten A, Andersson G. Internet-administered cognitive behavior therapy for health problems: a systematic review. *J Behav Med*. 2008;31(2):169-77. PMID: 18165893.
- Dalal HM, Zawada A, Jolly K, et al. Home based versus centre based cardiac rehabilitation: Cochrane systematic review and meta-analysis (Erratum). Vol 3402010. PMID.
- Dalal HM, Zawada A, Jolly K, et al. Home based versus centre based cardiac rehabilitation: Cochrane systematic review and meta-analysis. *Bmj*. 2010;340:b5631. PMID: 20085991.
- Dalton JE. Web-based care for adults with type 2 diabetes. *Can J Diet Pract Res*. 2008;69(4):185-91. PMID: 19063808.
- de la Vega R, Miro J. mHealth: a strategic field without a solid scientific soul. a systematic review of pain-related apps. *PLoS ONE*. 2014;9(7):e101312. PMID: 24999983.
- Dellifraigne JL, Dansky KH. Home-based telehealth: a review and meta-analysis. *J Telemed Telecare*. 2008;14(2):62-6. PMID: 18348749.
- Deshpande A, Khoja S, Lorca J, et al. Asynchronous telehealth: Systematic review of analytic studies and environmental scan of relevant initiatives. Canadian Agency for Drugs and Technologies in Health, Ottawa. 2008.

- Donker T, Petrie K, Proudfoot J, et al. Smartphones for smarter delivery of mental health programs: a systematic review. *J Med Internet Res.* 2013;15(11):e247. PMID: 24240579.
- Dorstyn D, Mathias J, Denson L. Applications of telecounselling in spinal cord injury rehabilitation: a systematic review with effect sizes. *Clin Rehabil.* 2013;27(12):1072-83. PMID: 23823709.
- Dorstyn DS, Saniotis A, Sobhanian F. A systematic review of telecounselling and its effectiveness in managing depression amongst minority ethnic communities. *J Telemed Telecare.* 2013;19(6):338-46. PMID: 24163298.
- Dubner S, Auricchio A, Steinberg JS, et al. ISHNE/EHRA expert consensus on remote monitoring of cardiovascular implantable electronic devices (CIEDs). *Ann Noninvasive Electrocardiol.* 2012;17(1):36-56. PMID: 22276627.
- Duvvuri VR, Jianhong W. Information and communication technology developments in asthma management: a systematic review. *Indian J Med Sci.* 2007;61(4):221-41. PMID: 17401261.
- Edwards P, Felix L, Harris J, et al. Assessing the effectiveness and cost effectiveness of adaptive e-Learning to improve dietary behaviour: protocol for a systematic review. *BMC Public Health.* 2010;10:200. PMID: 20409308.
- Ekeland AG, Bowes A, Flottorp S. Methodologies for assessing telemedicine: a systematic review of reviews. *Int J Med Inf.* 2012;81(1):1-11. PMID: 22104370.
- Finitsis DJ, Pellowski JA, Johnson BT. Text message intervention designs to promote adherence to antiretroviral therapy (ART): a meta-analysis of randomized controlled trials. *PLoS ONE.* 2014;9(2):e88166. PMID: 24505411.
- Fisher E, Law E, Palermo TM, et al. Psychological therapies (remotely delivered) for the management of chronic and recurrent pain in children and adolescents. *Cochrane Database Syst Rev.* 2015(3).
- Fjeldsoe BS, Marshall AL, Miller YD. Behavior change interventions delivered by mobile telephone short-message service. *Am J Prev Med.* 2009;36(2):165-73. PMID: 19135907.
- Frade S, Rodrigues H. Benefits, challenges and impact of teleconsultation - a literature review. *Stud Health Technol Inform.* 2013;192:1157. PMID: 23920931.
- Franek J. Home telehealth for patients with chronic obstructive pulmonary disease (COPD): an evidence-based analysis. *Ont Health Technol Assess Ser.* 2012;12(11):1-58. PMID: 23074421.
- Free C, Phillips G, Galli L, et al. The effectiveness of mobile-health technology-based health behaviour change or disease management interventions for health care consumers: a systematic review. *PLoS Med.* 2013;10(1):e1001362. PMID: 23349621.
- Free C, Phillips G, Watson L, et al. The effectiveness of mobile-health technologies to improve health care service delivery processes: a systematic review and meta-analysis. *PLoS Med.* 2013;10(1):e1001363. PMID: 23458994.
- Gamble JE, Savage GT, Icenogle ML. Value-chain analysis of a rural health program: toward understanding the cost benefit of telemedicine applications. *Hosp Top.* 2004;82(1):10-7. PMID: 15490956.
- Garcia-Lizana F, Munoz-Mayorga I. Telemedicine for depression: a systematic review. *Perspect Psychiatr Care.* 2010;46(2):119-26. PMID: 20377799.
- García-Lizana F, Muñoz-Mayorga I. What about telepsychiatry? A systematic review. *Primary care companion to the Journal of clinical psychiatry.* 2010;12(2).
- Garcia-Lizana F, Sarria-Santamera A. New technologies for chronic disease management and control: a systematic review. *J Telemed Telecare.* 2007;13(2):62-8. PMID: 17359568.
- Gardiner S, Hartzell TL. Telemedicine and plastic surgery: a review of its applications, limitations and legal pitfalls. *J Plast Reconstr Aesthet Surg.* 2012;65(3):e47-53. PMID: 22178033.
- Geraedts H, Zijlstra A, Bulstra SK, et al. Effects of remote feedback in home-based physical activity interventions for older adults: a systematic review. *Patient Educ Couns.* 2013;91(1):14-24. PMID: 23194823.
- Ghanbarzadeh R, Ghapanchi AH, Blumenstein M. Application areas of multi-user virtual environments in the healthcare context. *Stud Health Technol Inform.* 2014;204:38-46. PMID: 25087525.
- Giamouzis G, Mastrogiannis D, Koutrakis K, et al. Telemonitoring in chronic heart failure: a systematic review. *Cardiol Res Pract.* 2012;2012:410820. PMID: 22720184.

- Goldzweig CL, Orshansky G, Paige NM, et al. Electronic patient portals: evidence on health outcomes, satisfaction, efficiency, and attitudes: a systematic review. *Ann Intern Med.* 2013;159(10):677-87. PMID: 24247673.
- Goyal S, Cafazzo JA. Mobile phone health apps for diabetes management: current evidence and future developments. *Qjm.* 2013;106(12):1067-9. PMID: 24106313.
- Gremeaux V, Coudeyre E. The Internet and the therapeutic education of patients: A systematic review of the literature. *Ann Phys Rehabil Med.* 2010;53(10):669-92. PMID: 21036689.
- Griffiths KM, Farrer L, Christensen H. The efficacy of internet interventions for depression and anxiety disorders: a review of randomised controlled trials. *Med J Aust.* 2010;192(11 Suppl):S4-11. PMID: 20528707.
- Guedon-Moreau L, Mabo P, Kacet S. Current clinical evidence for remote patient management. *Europace.* 2013;15 Suppl 1:i6-i10. PMID: 23737234.
- Gunne O, Conraads V, Missault L, et al. A critical review on telemonitoring in heart failure. *Acta Cardiol.* 2012;67(4):439-44. PMID: 22997998.
- Gurol-Urganci I, de Jongh T, Vodopivec-Jamsek V, et al. Mobile phone messaging for communicating results of medical investigations. *Cochrane Database Syst Rev.* 2012;6:CD007456. PMID: 22696369.
- Guse K, Levine D, Martins S, et al. Interventions using new digital media to improve adolescent sexual health: a systematic review. *J Adolesc Health.* 2012;51(6):535-43. PMID: 23174462.
- Gustafson DH, Shaw BR, Isham A, et al. Explicating an evidence-based, theoretically informed, mobile technology-based system to improve outcomes for people in recovery for alcohol dependence. *Subst Use Misuse.* 2011;46(1):96-111. PMID: 21190410.
- Haesum LKE, Ehlers L, Hejlesen OK. Telehomecare technologies enhance self-management and empowerment among patients with chronic obstructive pulmonary disease (COPD) - where does health literacy fit into this equation? *Stud Health Technol Inform.* 2013;192:1182. PMID: 23920956.
- Hailey D, Roine R, Ohinmaa A. The effectiveness of telemental health applications: a review. *Can J Psychiatry.* 2008;53(11):769-78. PMID: 19087471.
- Hailey D, Roine R, Ohinmaa A, et al. Evidence of benefit from telerehabilitation in routine care: a systematic review. *J Telemed Telecare.* 2011;17(6):281-7. PMID: 21844172.
- Hailey D, Roine R, Ohinmaa A, et al. The status of telerehabilitation in neurological applications. *J Telemed Telecare.* 2013;19(6):307-10. PMID: 24163293.
- Hasselberg M, Beer N, Blom L, et al. Image-based medical expert teleconsultation in acute care of injuries. A systematic review of effects on information accuracy, diagnostic validity, clinical outcome, and user satisfaction. *PLoS ONE.* 2014;9(6):e98539. PMID: 24887257.
- Head KJ, Noar SM, Iannarino NT, et al. Efficacy of text messaging-based interventions for health promotion: a meta-analysis. *Soc Sci Med.* 2013;97:41-8. PMID: 24161087.
- Herdman E, Ljotsson B, Lindfors N. Cognitive behavior therapy via the Internet: a systematic review of applications, clinical efficacy and cost-effectiveness. *Expert rev.* 2012;12(6):745-64. PMID: 23252357.
- Herbert L, Owen V, Pascarella L, et al. Text message interventions for children and adolescents with type 1 diabetes: a systematic review. *Diabetes Technol Ther.* 2013;15(5):362-70. PMID: 23550554.
- Hess DC, Audebert HJ. The history and future of telestroke. *Nat Rev Neurol.* 2013;9(6):340-50. PMID: 23649102.
- Huang VW, Reich KM, Fedorak RN. Distance management of inflammatory bowel disease: systematic review and meta-analysis. *World J Gastroenterol.* 2014;20(3):829-42. PMID: 24574756.
- Huckvale C, Car J, Akiyama M, et al. Information technology for patient safety. *Qual Saf Health Care.* 2010;19 Suppl 2:i25-33. PMID: 20693213.
- Inglis SC, Clark RA, McAlister FA, et al. Structured telephone support or telemonitoring programmes for patients with chronic heart failure. *Cochrane Database Syst Rev.* 2010(8):CD007228. PMID: 20687083.
- Institute of Health Economics. Telehealth in substance abuse and addiction review of the literature on smoking, alcohol, drug abuse and gambling. 2010.
- Jaana M, Pare G. Home telemonitoring of patients with diabetes: a systematic assessment of observed effects. *J Eval Clin Pract.* 2007;13(2):242-53. PMID: 17378871.

- Johansson T, Wild C. Telemedicine in acute stroke management: systematic review. *Int J Technol Assess Health Care*. 2010;26(2):149-55. PMID: 20392317.
- Johansson T, Wild C. Telerehabilitation in stroke care--a systematic review. *J Telemed Telecare*. 2011;17(1):1-6. PMID: 21097560.
- Joint Task Force for the Development of Telepsychology Guidelines for P. Guidelines for the practice of telepsychology. *Am Psychol*. 2013;68(9):791-800. PMID: 24341643.
- Jones KR, Lekhak N, Kaewluang N. Using mobile phones and short message service to deliver self-management interventions for chronic conditions: a meta-review. *Worldviews Evid Based Nurs*. 2014;11(2):81-8. PMID: 24597522.
- Kasckow J, Felmet K, Appelt C, et al. Telepsychiatry in the assessment and treatment of schizophrenia. *Clin Schizophr Relat Psychoses*. 2014;8(1):21-7A. PMID: 23428781.
- Khan F, Amatya B, Kesselring J, et al. Telerehabilitation for persons with multiple sclerosis. *Cochrane Database Syst Rev*. 2015(4).
- Kirk S, Beatty S, Callery P, et al. The effectiveness of self-care support interventions for children and young people with long-term conditions: a systematic review. *Child Care Health Dev*. 2013;39(3):305-24. PMID: 22676438.
- Klasnja P, Pratt W. Healthcare in the pocket: mapping the space of mobile-phone health interventions. *J Biomed Inform*. 2012;45(1):184-98. PMID: 21925288.
- Klersy C, De Silvestri A, Gabutti G, et al. Economic impact of remote patient monitoring: an integrated economic model derived from a meta-analysis of randomized controlled trials in heart failure. *Eur J Heart Fail*. 2011;13(4):450-9. PMID: 21193439.
- Klersy C, De Silvestri A, Gabutti G, et al. A meta-analysis of remote monitoring of heart failure patients. *J Am Coll Cardiol*. 2009;54(18):1683-94. PMID: 19850208.
- Krishna S, Boren SA, Balas EA. Healthcare via cell phones: a systematic review. *Telemed J E Health*. 2009;15(3):231-40. PMID: 19382860.
- Kumar S, Merchant S, Reynolds R. Tele-ICU: efficacy and cost-effectiveness of remotely managing critical care. *Perspect*. 2013;10:1f. PMID: 23805066.
- Lal S, Adair CE. E-mental health: a rapid review of the literature. *Psychiatr Serv*. 2014;65(1):24-32. PMID: 24081188.
- Laplante C, Peng W. A systematic review of e-health interventions for physical activity: an analysis of study design, intervention characteristics, and outcomes. *Telemed J E Health*. 2011;17(7):509-23. PMID: 21718092.
- Lewis ER, Thomas CA, Wilson ML, et al. Telemedicine in acute-phase injury management: a review of practice and advancements. *Telemed J E Health*. 2012;18(6):434-45. PMID: 22694296.
- Lilly CM, Zubrow MT, Kempner KM, et al. Critical care telemedicine: evolution and state of the art. *Crit Care Med*. 2014;42(11):2429-36. PMID: 25080052.
- Linn AJ, Vervloet M, van Dijk L, et al. Effects of eHealth interventions on medication adherence: a systematic review of the literature. *J Med Internet Res*. 2011;13(4):e103. PMID: 22138112.
- Liu S, Dunford SD, Leung YW, et al. Reducing blood pressure with Internet-based interventions: a meta-analysis. *Can J Cardiol*. 2013;29(5):613-21. PMID: 23618507.
- Ludwig W, Wolf K-H, Duwenkamp C, et al. Health-enabling technologies for the elderly--an overview of services based on a literature review. *Comput Methods Programs Biomed*. 2012;106(2):70-8. PMID: 22115611.
- Macea DD, Gajos K, Daglia Calil YA, et al. The efficacy of Web-based cognitive behavioral interventions for chronic pain: a systematic review and meta-analysis. *J Pain*. 2010;11(10):917-29. PMID: 20650691.
- Marcolino MS, Maia JX, Alkmim MBM, et al. Telemedicine application in the care of diabetes patients: systematic review and meta-analysis. *PLoS ONE*. 2013;8(11):e79246. PMID: 24250826.
- Maric B, Kaan A, Ignaszewski A, et al. A systematic review of telemonitoring technologies in heart failure. *Eur J Heart Fail*. 2009;11(5):506-17. PMID: 19332417.
- Maric B, Kaan A, Ignaszewski A, et al. A systematic review of telemonitoring technologies in heart failure. *Eur J Heart Fail*. 2009;11(5):506-17. PMID: 19332417.
- Martin S, Kelly G, Kernohan GW, et al. Smart home technologies for health and social care support. *Cochrane Database Syst Rev*. 2009(1).

- Mathur A, Kvedar JC, Watson AJ. Connected health: a new framework for evaluation of communication technology use in care improvement strategies for type 2 diabetes. *Curr Diabetes Rev.* 2007;3(4):229-34. PMID: 18220678.
- McGeary DD, McGeary CA, Gatchel RJ. A comprehensive review of telehealth for pain management: where we are and the way ahead. *Pain pract.* 2012;12(7):570-7. PMID: 22303839.
- McGeary DD, McGeary CA, Gatchel RJ, et al. Assessment of research quality of telehealth trials in pain management: a meta-analysis. *Pain pract.* 2013;13(5):422-31. PMID: 23017210.
- McLean S, Chandler D, Nurmatov U, et al. Telehealthcare for asthma. *Cochrane Database Syst Rev.* 2010(10):CD007717. PMID: 20927763.
- Meyer B, Atherton H, Sawmynaden P, et al. Email for communicating results of diagnostic medical investigations to patients. *Cochrane Database Syst Rev.* 2012;8:CD007980. PMID: 22895970.
- Moffatt JJ, Eley DS. The reported benefits of telehealth for rural Australians. *Aust Health Rev.* 2010;34(3):276-81. PMID: 20797357.
- Moorhead SA, Hazlett DE, Harrison L, et al. A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. *J Med Internet Res.* 2013;15(4):e85. PMID: 23615206.
- Morrison D, Wyke S, Agur K, et al. Digital asthma self-management interventions: a systematic review. *J Med Internet Res.* 2014;16(2):e51. PMID: 24550161.
- Morrison LG, Yardley L, Powell J, et al. What design features are used in effective e-health interventions? A review using techniques from Critical Interpretive Synthesis. *Telemed J E Health.* 2012;18(2):137-44. PMID: 22381060.
- Munro J, Angus N, Leslie SJ. Patient focused Internet-based approaches to cardiovascular rehabilitation--a systematic review. *J Telemed Telecare.* 2013;19(6):347-53. PMID: 24163299.
- Myung S-K, McDonnell DD, Kazinets G, et al. Effects of Web- and computer-based smoking cessation programs: meta-analysis of randomized controlled trials. *Arch Intern Med.* 2009;169(10):929-37. PMID: 19468084.
- Nakamura N, Koga T, Iseki H. A meta-analysis of remote patient monitoring for chronic heart failure patients. *J Telemed Telecare.* 2014;20(1):11-7. PMID: 24352899.
- Neubeck L, Redfern J, Fernandez R, et al. Telehealth interventions for the secondary prevention of coronary heart disease: a systematic review. *Eur J Cardiovasc Prev Rehabil.* 2009;16(3):281-9. PMID: 19407659.
- Neubeck L, Redfern J, Fernandez R, et al. Telehealth interventions for the secondary prevention of coronary heart disease: a systematic review. *Eur J Cardiovasc Prev Rehabil.* 2009;16(3):281-9. PMID: 19407659.
- Neuhauser L, Kreps GL. Online cancer communication: meeting the literacy, cultural and linguistic needs of diverse audiences. *Patient Educ Couns.* 2008;71(3):365-77. PMID: 18424046.
- Neve M, Morgan PJ, Jones PR, et al. Effectiveness of web-based interventions in achieving weight loss and weight loss maintenance in overweight and obese adults: a systematic review with meta-analysis. *Obes Rev.* 2010;11(4):306-21. PMID: 19754633.
- New England Healthcare Institute. Critical care, critical choices the case for tele-ICUs in intensive care, (2010).
- Nglazi MD, Bekker L-G, Wood R, et al. Mobile phone text messaging for promoting adherence to anti-tuberculosis treatment: a systematic review. *BMC Infect Dis.* 2013;13:566. PMID: 24295439.
- Ohinmaa A. What lessons can be learned from telemedicine programmes in other countries? *J Telemed Telecare.* 2006;12 Suppl 2:S40-4. PMID: 16989673.
- Ohinmaa A, Chatterley P, Nguyen T, et al. Telehealth in substance abuse and addiction: review of the literature on smoking, alcohol, drug abuse and gambling. 2010.
- Oliver DP, Demiris G, Wittenberg-Lyles E, et al. A systematic review of the evidence base for telehospice. *Telemed J E Health.* 2012;18(1):38-47. PMID: 22085114.
- Omboni S, Gazzola T, Carabelli G, et al. Clinical usefulness and cost effectiveness of home blood pressure telemonitoring: meta-analysis of randomized controlled studies. *J Hypertens.* 2013;31(3):455-67; discussion 67-8. PMID: 23299557.
- Omboni S, Guarda A. Impact of home blood pressure telemonitoring and blood pressure control: a meta-analysis of randomized controlled studies. *American journal of hypertension.* 2011;24(9):989-98.

- O'Reilly GA, Spruijt-Metz D. Current mHealth technologies for physical activity assessment and promotion. *Am J Prev Med.* 2013;45(4):501-7. PMID: 24050427.
- Orwat C, Graefe A, Faulwasser T. Towards pervasive computing in health care - a literature review. *BMC Med Inform Decis Mak.* 2008;8:26. PMID: 18565221.
- Osenbach JE, O'Brien KM, Mishkind M, et al. Synchronous telehealth technologies in psychotherapy for depression: a meta-analysis. *Depress Anxiety.* 2013;30(11):1058-67. PMID: 23922191.
- Pandor A, Thokala P, Gomersall T, et al. Home telemonitoring or structured telephone support programmes after recent discharge in patients with heart failure: systematic review and economic evaluation. *Health Technol Assess.* 2013;17(32):1-207, v-vi. PMID: 23927840.
- Pare G, Jaana M, Sicotte C. Systematic review of home telemonitoring for chronic diseases: the evidence base. *J Am Med Inform Assoc.* 2007;14(3):269-77. PMID: 17329725.
- Pare G, Moqadem K, Pineau G, et al. Clinical effects of home telemonitoring in the context of diabetes, asthma, heart failure and hypertension: a systematic review. *J Med Internet Res.* 2010;12(2):e21. PMID: 20554500.
- Park LG, Howie-Esquivel J, Dracup K. A quantitative systematic review of the efficacy of mobile phone interventions to improve medication adherence. *J Adv Nurs.* 2014;70(9):1932-53. PMID: 24689978.
- Pate B. A systematic review of the effectiveness of breastfeeding intervention delivery methods. *J Obstet Gynecol Neonatal Nurs.* 2009;38(6):642-53. PMID: 19930278.
- Paul CL, Carey ML, Sanson-Fisher RW, et al. The impact of web-based approaches on psychosocial health in chronic physical and mental health conditions. *Health Educ Res.* 2013;28(3):450-71. PMID: 23660463.
- Pellowski JA, Kalichman SC. Recent advances (2011-2012) in technology-delivered interventions for people living with HIV. *Curr HIV/AIDS Rep.* 2012;9(4):326-34. PMID: 22922945.
- Pezzella FR, Pozzessere C, Siniscalchi A, et al. The cloud stroke unit: 24-hour acute stroke expertise-on-demand. *Hosp Top.* 2013;91(4):81-6. PMID: 24255936.
- Pol MC, Poerbodipoero S, Robben S, et al. Sensor monitoring to measure and support daily functioning for independently living older people: a systematic review and road map for further development. *J Am Geriatr Soc.* 2013;61(12):2219-27. PMID: 24479150.
- Polisena J, Coyle D, Coyle K, et al. Home telehealth for chronic disease management: a systematic review and an analysis of economic evaluations. *Int J Technol Assess Health Care.* 2009;25(3):339-49. PMID: 19619353.
- Polisena J, Tran K, Cimon K, et al. Home telehealth for diabetes management: a systematic review and meta-analysis. *Diabetes Obes Metab.* 2009;11(10):913-30. PMID: 19531058.
- Polisena J, Tran K, Cimon K, et al. Home telehealth for chronic obstructive pulmonary disease: a systematic review and meta-analysis. *J Telemed Telecare.* 2010;16(3):120-7. PMID: 20197355.
- Polisena J, Tran K, Cimon K, et al. Home telemonitoring for congestive heart failure: a systematic review and meta-analysis. *J Telemed Telecare.* 2010;16(2):68-76. PMID: 20008054.
- Price CI, Clement F, Gray J, et al. Systematic review of stroke thrombolysis service configuration. *Expert rev.* 2009;9(2):211-33. PMID: 19210196.
- Pron G, Ieraci L, Kaulback K, et al. Internet-based device-assisted remote monitoring of cardiovascular implantable electronic devices: an evidence-based analysis. *Ont Health Technol Assess Ser.* 2012;12(1):1-86. PMID: 23074419.
- Purcell R, McInnes S, Halcomb EJ. Telemonitoring can assist in managing cardiovascular disease in primary care: a systematic review of systematic reviews. *BMC Fam Pract.* 2014;15:43. PMID: 24606887.
- Radhakrishnan K, Jacelon C. Impact of telehealth on patient self-management of heart failure: a review of literature. *J Cardiovasc Nurs.* 2012;27(1):33-43. PMID: 21558862.
- RAND Corporation. Health and well-being in the home a global analysis of needs, expectations, and priorities for home health care technology. 2010.
- Reardon T. Research findings and strategies for assessing telemedicine costs. *Telemed J E Health.* 2005;11(3):348-69. PMID: 16035931.

- Reger MA, Gahm GA. A meta-analysis of the effects of internet- and computer-based cognitive-behavioral treatments for anxiety. *J Clin Psychol*. 2009;65(1):53-75. PMID: 19051274.
- Richards D, Vigano N. Online counseling: a narrative and critical review of the literature. *J Clin Psychol*. 2013;69(9):994-1011. PMID: 23630010.
- Richardson T, Stallard P, Velleman S. Computerised cognitive behavioural therapy for the prevention and treatment of depression and anxiety in children and adolescents: a systematic review. *Clin Child Fam Psychol Rev*. 2010;13(3):275-90. PMID: 20532980.
- Riper H, Blankers M, Hadiwijaya H, et al. Effectiveness of guided and unguided low-intensity internet interventions for adult alcohol misuse: a meta-analysis. *PLoS ONE*. 2014;9(6):e99912. PMID: 24937483.
- Rogante M, Grigioni M, Cordella D, et al. Ten years of telerehabilitation: A literature overview of technologies and clinical applications. *NeuroRehabilitation*. 2010;27(4):287-304. PMID: 21160118.
- Rojas SV, Gagnon M-P. A systematic review of the key indicators for assessing telehomecare cost-effectiveness. *Telemed J E Health*. 2008;14(9):896-904. PMID: 19035798.
- Rosser BA, Vowles KE, Keogh E, et al. Technologically-assisted behaviour change: a systematic review of studies of novel technologies for the management of chronic illness. *J Telemed Telecare*. 2009;15(7):327-38. PMID: 19815901.
- RUPRI Center for Rural Health Policy Analysis UoIW, Marcia, Mirou Jaana, Nabil Natafqi. A Systematic Review of the Literature on Tele-Emergency Performance Measurement and A Library of Potential Tele-Emergency Performance Measures. 2015:1-64. PMID.
- Russell-Minda E, Jutai J, Speechley M, et al. Health technologies for monitoring and managing diabetes: a systematic review. *J Diabetes Sci Technol*. 2009;3(6):1460-71. PMID: 20144402.
- Sahu M, Grover A, Joshi A. Role of mobile phone technology in health education in Asian and African countries: a systematic review. *Int*. 2014;7(4):269-86. PMID: 25161104.
- Sawmynaden P, Atherton H, Majeed A, et al. Email for the provision of information on disease prevention and health promotion. *Cochrane Database Syst Rev*. 2012;11:CD007982. PMID: 23152250.
- Schlachta-Fairchild L, Elfrink V, Deickman A. Patient Safety, Telenursing, and Telehealth
- Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Rockville MD2008. PMID: 21328785.
- Schmidt S, Schuchert A, Krieg T, et al. Home telemonitoring in patients with chronic heart failure: a chance to improve patient care? *Dtsch*. 2010;107(8):131-8. PMID: 20300221.
- Schwamm LH, Holloway RG, Amarenco P, et al. A review of the evidence for the use of telemedicine within stroke systems of care: a scientific statement from the American Heart Association/American Stroke Association. *Stroke*. 2009;40(7):2616-34. PMID: 19423852.
- Shahab L, McEwen A. Online support for smoking cessation: a systematic review of the literature. *Addiction*. 2009;104(11):1792-804. PMID: 19832783.
- Shahpori R, Kushniruk A, Hebert M, et al. Tele-ICU - a Canadian review. *Stud Health Technol Inform*. 2011;164:420-4. PMID: 21335747.
- Shore J, Kaufmann LJ, Brooks E, et al. Review of American Indian veteran telemental health. *Telemed J E Health*. 2012;18(2):87-94. PMID: 22283396.
- Shulman RM, O'Gorman CS, Palmert MR. The impact of telemedicine interventions involving routine transmission of blood glucose data with clinician feedback on metabolic control in youth with type 1 diabetes: a systematic review and meta-analysis. *International journal of pediatric endocrinology*. 2010;2010. PMID.
- Siriwardena LSAN, Wickramasinghe WAS, Perera KLD, et al. A review of telemedicine interventions in diabetes care. *J Telemed Telecare*. 2012;18(3):164-8. PMID: 22362832.
- Smith AJ, Skow A, Bodurtha J, et al. Health information technology in screening and treatment of child obesity: a systematic review. *Pediatrics*. 2013;131(3):e894-902. PMID: 23382447.
- Steel K, Cox D, Garry H. Therapeutic videoconferencing interventions for the treatment of long-term conditions. *J Telemed Telecare*. 2011;17(3):109-17. PMID: 21339304.
- Stewart SF, Switzer JA. Perspectives on telemedicine to improve stroke treatment. *Drugs Today (Barc)*. 2011;47(2):157-67. PMID: 21431103.

- Stip E, Rialle V. Environmental cognitive remediation in schizophrenia: ethical implications of "smart home" technology. *Can J Psychiatry*. 2005;50(5):281-91. PMID: 15968845.
- Swanepoel DW, Hall JW, 3rd. A systematic review of telehealth applications in audiology. *Telemed J E Health*. 2010;16(2):181-200. PMID: 20187743.
- Tait RJ, Spijkerman R, Riper H. Internet and computer based interventions for cannabis use: a meta-analysis. *Drug Alcohol Depend*. 2013;133(2):295-304. PMID: 23747236.
- Tildesley HD, Po MD, Ross SA. Internet blood glucose monitoring systems provide lasting glycemic benefit in type 1 and 2 diabetes: a systematic review. *Med Clin North Am*. 2015;99(1):17-33. PMID: 25456641.
- Tomlinson M, Rotheram-Borus MJ, Swartz L, et al. Scaling up mHealth: where is the evidence? *PLoS Med*. 2013;10(2):e1001382. PMID: 23424286.
- Tsimicalis A, De Courcy MJ, Di Monte B, et al. Tele-practice guidelines for the symptom management of children undergoing cancer treatment. *Pediatr Blood Cancer*. 2011;57(4):541-8. PMID: 21319280.
- Urquhart C, Currell R. Home uterine monitoring: a case of telemedicine failure? *Health Informatics J*. 2010;16(3):165-75. PMID: 20889847.
- Valimaki M, Hatonen H, Lahti M, et al. Information and communication technology in patient education and support for people with schizophrenia. *Cochrane Database Syst Rev*. 2012(10).
- van den Berg N, Schumann M, Kraft K, et al. Telemedicine and telecare for older patients--a systematic review. *Maturitas*. 2012;73(2):94-114. PMID: 22809497.
- van der Heijden JP, Spuls PI, Voorbraak FP, et al. Tertiary teledermatology: a systematic review. *Telemed J E Health*. 2010;16(1):56-62. PMID: 20064068.
- van Gorp J, Hasselaar J, van Leeuwen E, et al. Connecting with patients and instilling realism in an era of emerging communication possibilities: a review on palliative care communication heading to telecare practice. *Patient Educ Couns*. 2013;93(3):504-14. PMID: 23906650.
- Vedel I, Akhlaghpour S, Vaghefi I, et al. Health information technologies in geriatrics and gerontology: a mixed systematic review. *J Am Med Inform Assoc*. 2013;20(6):1109-19. PMID: 23666776.
- Vegting IL, Schrijver EJM, Otten RHJ, et al. Internet programs targeting multiple lifestyle interventions in primary and secondary care are not superior to usual care alone in improving cardiovascular risk profile: a systematic review. *Eur*. 2014;25(1):73-81. PMID: 24011771.
- Ventura F, Ohlen J, Koinberg I. An integrative review of supportive e-health programs in cancer care. *Eur J Oncol Nurs*. 2013;17(4):498-507. PMID: 23158437.
- Verhoeven F, Tanja-Dijkstra K, Nijland N, et al. Asynchronous and synchronous teleconsultation for diabetes care: a systematic literature review. *J Diabetes Sci Technol*. 2010;4(3):666-84. PMID: 20513335.
- Verhoeven F, van Gemert-Pijnen L, Dijkstra K, et al. The contribution of teleconsultation and videoconferencing to diabetes care: a systematic literature review. *J Med Internet Res*. 2007;9(5):e37. PMID: 18093904.
- Ward MM, Jaana M, Natafqi N. A Systematic Review of the Literature on Tele-Emergency Performance Measurement and A Library of Potential Tele-Emergency Performance Measures. *Mathematica Policy Research*. 2015.
- Warsaw EM, Hillman YJ, Greer NL, et al. Teledermatology for diagnosis and management of skin conditions: a systematic review. *J Am Acad Dermatol*. 2011;64(4):759-72. PMID: 21036419.
- Wei I, Pappas Y, Car J, et al. Computer-assisted versus oral-and-written dietary history taking for diabetes mellitus. *Cochrane Database Syst Rev*. 2011(12).
- White A, Kavanagh D, Stallman H, et al. Online alcohol interventions: a systematic review. *J Med Internet Res*. 2010;12(5):e62. PMID: 21169175.
- Wootton R. Twenty years of telemedicine in chronic disease management--an evidence synthesis. *J Telemed Telecare*. 2012;18(4):211-20. PMID: 22674020.
- Wootton R, Bahaadinbeigy K, Hailey D. Estimating travel reduction associated with the use of telemedicine by patients and healthcare professionals: proposal for quantitative synthesis in a systematic review. *BMC Health Serv Res*. 2011;11:185. PMID: 21824388.
- World Health Organization. Building foundations for eHealth: progress of member states: report of the WHO Global Observatory for eHealth. 2006.
- World Health Organization. How can telehealth help in the provision of integrated care? 2010.

Worswick J, Wayne SC, Bennett R, et al. Improving quality of care for persons with diabetes: an overview of systematic reviews - what does the evidence tell us? *Syst. 2013*;2:26. PMID: 23647654.

Xiang R, Li L, Liu SX. Meta-analysis and meta-regression of telehealth programmes for patients with chronic heart failure. *J Telemed Telecare. 2013*;19(5):249-59. PMID: 24163234.

Ye X, Bapuji SB, Winters SE, et al. Effectiveness of internet-based interventions for children, youth, and young adults with anxiety and/or depression: a systematic review and meta-analysis. *BMC Health Serv Res. 2014*;14:313. PMID: 25037951.

Young LB. Telemedicine interventions for substance-use disorder: a literature review. *J Telemed Telecare. 2012*;18(1):47-53. PMID: 22101610.

Young LB, Chan PS, Lu X, et al. Impact of telemedicine intensive care unit coverage on patient outcomes: a systematic review and meta-analysis. *Arch Intern Med. 2011*;171(6):498-506. PMID: 21444842.

Yu CH, Bahniwal R, Laupacis A, et al. Systematic review and evaluation of web-accessible tools for management of diabetes and related cardiovascular risk factors by patients and healthcare providers. *J Am Med Inform Assoc. 2012*;19(4):514-22. PMID: 22215057.

Appendix E. Data Abstraction of Telehealth Reviews

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Ammenwerth, 2012	1990 - 2011	4	3	1	To systematically review the available evidence on the impact of electronic patient portals on patient care by analyzing controlled studies on the use of the use of patient portals	Patients undergoing IVF: one for diabetes mellitus patients, one for patients with congestive heart failure, and one was a general patient portal
Antonacci, 2008	1950 - 2007	45	5	40	To review empirical evidence on the use and effectiveness of videoconferencing in providing diagnostic and treatment services in the area of mental health	Mental illness
Antoniou, 2012	1980- 2011	10	0	10	Evaluate efficiency and safety of telementoring in the field of general surgery	Abdominal surgery
Chaudhry, 2007	1966- 2006	4	4	0	Method, efficacy, and costs of telemonitoring for CHF	CHF
Clarke, 2011	1969 - 2009	13	13	0	Assess the effectiveness of telemonitoring on primary and secondary outcomes.	CHF
Connelly, 2013	2001- 2013	15	15	0	Effectiveness of telehealth in promoting physical exercise in patients with Type 2 diabetes	Diabetes

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Ammenwerth, 2012	Adults	Inpatient & outpatient portals	Patient electronic portals that care institutions that primarily allow access to clinical EHR data and secondarily may offer functions and services that are targeted towards enhancing medical treatment; validated questionnaire; such as secure messaging, interactive decision-support or health-related reminders	1. basic functionalities to access (a subset of) a patient's clinical data optional, 2. additional functionalities such as communication modules, prescription refills, appointment scheduling, or educational guidelines	Mortality, morbidity, (cost of care), therapy adherence, resource consumption (number of messages), subjective health status, patient empowerment & medication adherence. Clinical outcomes: HbA1c, blood pressure, LDL, and medication adjustments; resource consumption including office visit rates and telephone contacts; subjective parameters such as patient satisfaction, patient knowledge, and patient anxiety
Antonacci, 2008	Adults	Home	Videoconference	Diagnosis and treatment	Mixed clinical (cost studies were excluded)
Antoniou, 2012	NR, probably adults	Hospital and military ships	Real-time telementoring	Telementoring	Successful number of surgical procedures and presence of complications
Chaudhry, 2007	Adults	Home	Automated symptom and physiological monitoring	Monitoring and management	All-cause hospital admissions
Clarke, 2011	Adults	Home	Mixed	Monitoring and management	Mortality, QOL, cost, others.
Connelly, 2013	Adults	Home	Mixed - Web-based (9), mobile phone (3), CD-ROM (2) and computer-based (1)	Monitoring and management	Increased physical exercise, HgbA1c

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Ammenwerth, 2012	The number of available controlled studies with regard to patient portals was low. There was insufficient & no statistically significant evidence to support patient empowerment and improvement in quality of care assumption. Further studies of larger sample size and with harmonized outcome indicators are needed to investigate this question.	No	Meta-analysis could not be performed because of different outcome measures examined in the study
Antonacci, 2008	Outcomes appear to be the same	No	Qualitative
Antoniou, 2012	Total of 96 laparoscopic telementored procedures included 50 cholecystectomies, 23 colorectal resections, 7 funduplications, 9 adrenalectomies, 6 hernia repairs, and 2 splenectomies. Completion of remotely assisted procedures was feasible in the almost all cases. Technical difficulties included video and audio latency with low bandwidth (<128 kbps) and inadequate guidance regarding correct plane for dissection	Yes	Qualitative
Chaudhry, 2007	No benefit for automated monitoring of signs and symptoms (1 study). automated physiologic monitoring (1 study), or usual care vs. multiple monitoring modalities (2 studies)	Yes	Qualitative
Clarke, 2011	Telemonitoring can reduce CHF hospital admission over a 12-month period, not all outcomes showed improvement	No	Meta-analysis
Connelly, 2013	All 15 studies showed benefit in increased exercise, though only 9 were statistically significant and only 4 used intention to treat analysis. 4/8 studies measuring HgbA1c found small statistically significant benefits (1-2%).	Yes	Qualitative

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Cox, 2012	1998- 2011	8	2	6	Evaluate use of telehealth in people with cystic fibrosis	Cystic fibrosis
Dang, 2009	1966-2009	9	9	0	Review of literature to examine the evidence for home telehealth remote monitoring in CHF management	CHF
de Jong, 2014	2001-2013	15	15	0	Do patients with chronic diseases use asynchronous communications and does it have an effect on health behavior, health outcomes, and patient satisfaction?	Mixed chronic
de Waure, 2012	Before January 2010	5	5	0	Does transmission of ECG from ambulance or home improve outcomes in acute myocardial infarction?	Myocardial infarction
Eccleston, 2014	1950-2013	15	15	0	Do Internet-delivered psychological therapies improve pain symptoms, reduce disability, and improve depression and anxiety in adults with chronic pain?	Chronic pain
Eland de Kok, 2011	2000-2009	12	12	0	Is e-health in chronically ill patients as effective as usual care regarding health outcomes, cost-effectiveness?	Mixed chronic

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Cox, 2012	Children and adults	Home	Mixed - monitoring and teleconference	Monitoring and management	Variable utilization outcomes
Dang, 2009	Adults	Home	Mixed	Monitoring	Weight, blood pressure, ECG, other clinical. Cost evaluated in some, but not all.
de Jong, 2014	Adults and elderly	Home	Mixed - monitoring, communication, and teleconference	Monitoring and management	Various utilization and clinical outcomes
de Waure, 2012	Adults	Ambulance or home	ECG transmission	Monitoring and management	In-hospital or 12-month mortality
Eccleston, 2014	Adults	Home	Real-time video	Monitoring and management	Quantity of pain for headache and non headache post-treatment and at followup
Eland de Kok, 2011	Children and adults	All	Monitoring, treatment, instructions, self-management training and general information and communication between patient and caregiver	Monitoring and management	Various clinical outcomes based on conditions

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Cox, 2012	Of 2 RCTs, one showed no difference and another found increased caloric intake. One non-RCT found increased antibiotic use that returned to baseline after telehealth intervention. One non-RCT found no difference in FEV1 or hospitalizations but decreased outpatient visits for telehealth. Other studies just assessed feasibility.	Yes	Qualitative
Dang, 2009	Promising strategy, although optimal technology not yet clear due to mix in studies	Yes	Narrative
de Jong, 2014	No statistically significant difference in physician visits. Improvement in HgbA1c, blood pressure, and lipids for patients with diabetes. Improvement in FEV1 for patients with asthma, symptoms in back pain and MS fatigue, and psychological symptoms from various conditions.	Yes	Qualitative
de Waure, 2012	All studies showed improved in-hospital and 12-month mortality, with in-hospital mortality in meta-analysis of 3 studies statistically significant (risk ratio = 0.65)	Yes	Meta-analysis
Eccleston, 2014	Improvement in headache pain at post-treatment, reduced depression at follow-up, improvement in nonheadache pain and disability post-treatment, and no improvement in nonheadache pain at followup. (All improvements statistically significant.)	Yes	Meta-analysis
Eland de Kok, 2011	7 studies of e-health in addition to usual care showed modest improved outcomes in diabetes mellitus, atopic dermatitis, and multiple chronic diseases. 5 studies of e-health replacing usual care showed improved outcomes in diabetes mellitus and cardiovascular diseases.	Yes	Qualitative

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Gaikwad, 2009	2002- 2007	27	5	22	To evaluate the feasibility and benefits of home-based information and communications technology enabled interventions for chronic disease management, with emphasis on their impact on health outcomes and costs.	Multiple chronic conditions
Gainsbury, 2011	up to September 2009	9	7	2	To evaluate and summarize existing evidence regarding the effectiveness of Internet-therapy for the general class of addictive disorders.	Substance and behavioral addictions; (no suggestions) illicit substance and alcohol abuse and dependence, and problem and pathological gambling
Garcia-Lizana, 2007	1995– 2005	24	24	0	To review the clinical effectiveness of interventions using ICTs for managing and controlling chronic diseases.	5 studies in asthma, 3 in hypertension, 1 in home telecare, 7 in diabetes, 6 in heart failure and 2 in prevention heart disease.
Hailey, 2010	to November 2009	27 of 61 are not telephone only	21	6	To consider the evidence of benefit from use of telerehabilitation	Cardiology neurology MS, cancer, speech disorders, urology, rheumatology, pulmonary disease, chronic pain, mobility impairment

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Gaikwad, 2009	Adults	Home, hospitals, ambulances, clinics, prison	Telemonitoring, telehealth, teleconsultations, teleassistance, telehomecare, videoconferencing and telecardiology	Monitoring and management	Self-management of chronic diseases, implementation, (n=3) self-efficacy (n=1), perception, (n=3) healthcare costs*, medication adherence, (n=1) rehospitalization rates(n=1), length of hospital stay(n=2), QOL(n=3)
Gainsbury, 2011	Adults; 3 papers: adolescents or young adults	Home, treatment clinic outpatient, schools/university/insurance company employees	Email, chat-based exchanges or instant messaging, and video conferencing	Seven papers reporting on tobacco-cessation programs, one Internet-based therapy for pathological gambling, and one treatment program for substance abuse	Carbon monoxide measures; Urine analysis; salivary cotinine analysis; nicotine dependence; Average daily cigarette consumption; Hospital Anxiety & Depression scale; QOL; program satisfaction; counseling adherence; None common for all studies
Garcia-Lizana, 2007	Adults	Home, clinic outpatient	Internet, videoconference, interactive media and electronic transmission of data	Disease monitoring, management & control: improving patient self-control and management; improve the clinical process, improving diagnosis, followup or therapeutic compliance	Clinical: HbA1c, cholesterol level non clinical: knowledge (n=4), self-control, patient satisfaction (n=5), clinic or emergency room visit frequency, continuity of care, cost reduction, (n=6) mortality, health services utilization, (n=3) treatment adherence, (n=3) communication, psychological status, (n=2) , family relation, QOL (n=7)
Hailey, 2010	Varies	Home	Mixed	Telerehabilitation	Mixed clinical outcomes that vary by the clinical area; some studies include cost and utilization of services.

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Gaikwad, 2009	HBIs applied to chronic disease management improve functional and cognitive patient outcomes and reduce healthcare spending. However, further research is needed to assess benefit in terms of evidence-based outcome indicators (that can provide a basis for meta-analysis), to confirm sustainable cost benefits, and to systematically collect data on physician satisfaction with patient management.	No	Qualitative
Gainsbury, 2011	This review is the first attempt to summarize and evaluate the evidence of the effectiveness of Internet therapy for addiction. Positive treatment effects were reported following completion of therapy and at longer-term followup. The review concluded that Internet-based therapies for addictions are effective in achieving positive behavioral changes but that more research is required to determine the comparative effectiveness of various Internet-based therapies and their components	Yes	Qualitative
Garcia-Lizana, 2007	ICTs applications did not show an improvement in clinical outcomes, although no adverse effects were (No Suggestions). However, ICTs used in the detection and followup of cardiovascular diseases provided better clinical outcomes, mortality reduction and lower health services utilization. Systems used for improving education and social support were also shown to be effective. At present the evidence about the clinical benefits of ICTs for managing chronic disease is limited.	No	Qualitative
Hailey, 2010	Generally positive. Overall 71% of studies reported benefits; 63% of those that we included report benefit. The authors concluded that further study was required or desirable for 89% of the telerehabilitation applications in order to establish the application as suitable for routine use.	No	51% high/good; 29% fair and 20% poor--for all For included 63% high; 22% fair and 15% poor

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Holtz, 2012	2000 - 2010	21	10	11	To understand the most common uses and functions of mobile phones in monitoring and managing diabetes, their potential role in a clinical setting, and the current state of research in this area	Diabetes type I and/or type II
Jaana, 2009	1966-December2007	23	8	15	To present evidence on effects of home telemonitoring for respiratory conditions in relation to data quality, patient medical condition, utilization of health services, feasibility and use, and economic viability.	Respiratory Conditions: Pulmonary transplantation Asthma COPD
Johansen, 2012	1990 -2011	29	29	0	To assess and summarize high quality RCTS on electronic symptom or health information reporting	Cancer Lung diseases Cardiovascular diseases Psychiatry Diabetes
Kairy, 2009	Unspecified through February 2007	28	8	20	Identify clinical outcomes, clinical process, healthcare utilization and costs associated with telerehabilitation for individuals with physical disabilities.	Physical disability

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Holtz, 2012	Adults, children	Home, unreported, mixed	Telephone SMS, study-specific application	Text messaging, supplemental features	HbA1c (n=13), body mass index (n=5), self-efficacy (24%), knowledge (n=5), satisfaction/usefulness (n=10), self-management behaviors (43% reported)
Jaana, 2009	Mixed. Some studies adults, some children, some both	Home	Remote monitoring, timely (not at time of visit or end of study) transmission of data from home to healthcare center	Monitoring	Data Quality--reliability of monitoring Feasibility and Use among Patients Clinical Effects Health Services Utilization Economic Viability
Johansen, 2012	Children and adults	Home	Mixed	They defined 4 types Consultation Support Monitoring with Clinician support Self management with clinician support Therapy	Patient-Centered Care Health Benefits Reduced health care costs
Kairy, 2009	Not restricted	Home, community hospital, simulation	Primarily videoconference	Telerehabilitation	Utilization, costs, satisfaction

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Holtz, 2012	This systematic review has examined studies that used mobile phones to help people manage their diabetes. However, many of the studies evaluated did not use rigorous study designs, and few statistically significant results in patient outcomes were found. No generalizability. Nevertheless, there is promise in that many of the outcomes had positive trends, such as for HbA1c levels, self-efficacy, and diabetes knowledge.	No	Qualitative
Jaana, 2009	Clinical: 17 studies Assisted in early identification of deterioration or diagnosis of other problems. Health Services Utilization: 13 studies no consistent or definite results Economic Viability: 8 studies preliminary promising results/affordability Potential benefit.	No	Qualitative
Johansen, 2012	Self-management with clinical support: 9 studies: 4 positive superior results; 4 positive equivalence; 1 no benefit Monitoring with clinical support: 6 studies 2 positive; 4 no benefit Consultation support: 2 benefit; 1 not benefit Therapy: 1 study, 1 benefit. Positive for Self-management; multiple conditions. Unclear for monitoring and consultation Not enough evidence for therapy	No	They excluded high risk of bias studies (13) Did Qualitative Synthesis by Type
Kairy, 2009	Clinical outcomes were generally improved following a telerehabilitation intervention and were at least similar to or better than an alternative intervention. Clinical process outcomes, such as attendance and compliance, were high with telerehabilitation although few comparisons are made to alternative interventions. Consultation time tended to be longer with telerehabilitation. Satisfaction with telerehabilitation was consistently high, although it was higher for patients than therapists. Few studies examined healthcare utilization measures and those that did reported mixed findings with respect to adverse events, use of emergency rooms and doctor visits. Only five of the studies examined costs. There is some preliminary evidence of potential cost savings for the healthcare facility.	No	Qualitative

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Kamei, 2013	beginning of database to October 2011	7	5	2	To determine whether telehealth is better than conventional treatment or disease management for patients with COPD	COPD
Knowles, 2014	through September 2013	15	Total: 9 Psych: 5 Disease Mgmt: 4	Total: 6 Psych: 4 Disease Mgmt: 4	Assess impact of eHealth interventions in GI treatment	eHealth psychological eHealth disease management
Kodama, 2012	1980 to 2011	23	23	0	Determine effects of internet component in obesity treatment	Weight loss
Kumar, 2013	1990 - 2011	8	0	8	To summarize data on costs of tele-ICU	ICU monitoring and treatment (not triage)
Laver, 2013	1950 and 1980 to 2012	10	10	0	To determine the impact of telerehabilitation for stroke	Rehabilitation

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Kamei, 2013	Patients with moderate to severe COPD	Home	Telehome monitoring-based telenursing	Monitoring and management	Hospitalization ED Visits COPD exacerbation Mortality Health-related QOL
Knowles, 2014	IBS IBD Celiac	Home	Internet based skills training, Cognitive behavioral therapy , writing, diet and treatment monitoring	Management of mental and somatic symptoms	Adherence Knowledge of disease Bowel symptoms QOL Health care costs Utilization
Kodama, 2012	Overweight or obese adults	Home	Internet	Instruction Self monitoring Counseling	Weight
Kumar, 2013	ICU patients	Inpatient	Real time video, monitoring a	ICU monitoring and management	Cost of implementation Savings per bed
Laver, 2013	Patients with stroke, most in chronic phase	Home	Several types of information and communication: Video, sensors, virtual reality one used store and forward of video of patient sent to therapist	Rehabilitation	Activities of Daily Living Independence Mobility Upper Limb Function Cognitive Function Adverse Events Feasibility User Satisfaction

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Kamei, 2013	Hospitalization: Reduced for severe and when program is for 12 months ED Visits: Reduced COPD exacerbation: Reduced Morality: Not different QOL: Improved Positive: Utilization/Cost Potential: Clinical	Unclear	Meta analysis for each outcome
Knowles, 2014	Psych: Significant reduction in symptoms and improved QOL (moderate effect size) 2 Cost effectiveness studies reported savings Disease Management: No difference in QOL, adherence, hospitalization, surgery or use of steroids. Improved knowledge and compliance with treatment in 2 studies Positive: for eHealth Psych	No	No meta analysis, but did report effect sizes across studies
Kodama, 2012	Internet had a modest but significant effect on weight control. The effect is due to difference in initial weight loss not on maintenance. Potential effect	No	Meta analysis
Kumar, 2013	Implementation and operations for 1st year: \$50,000 to 100,000 per bed Savings: \$3,000 to 5, 600 increase VHA data: \$70,000 to 87,000 per bed Unclear--costs not reported consistently	No	Qualitative
Laver, 2013	Activities of daily living: no difference Mobility : no difference Upper lib function: no difference No data on self care, cognitive function, cost-effectiveness Unclear: No benefit, but authors rate evidence as insufficient (7 of 10 had under 50 subjects)	Yes	Qualitative for all 10 studies; Meta analysis for 4

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Liang, 2011	1990 to 2010	22	11	11	To assess the effect of mobile phone intervention on glycemic control in diabetes self-management	Diabetes
Lustria, 2013	1999 to 2009	40	31	9	To compare the effects of tailored versus nontailored web-based interventions on health behaviors and explores the influence of key moderators on treatment outcomes.	Mixed: Smoking Alcoholism Physical activity Nutrition/diet Asthma Arthritis Encopresis
Martin, 2011	All through 2009	12	2	10	To evaluate the effectiveness, patient level impact, patient and clinician satisfaction of networked communication interventions associated with meeting healthcare needs of adolescents and young adults with diagnosed mental health disorders.	Any mental health disorder defined by the DSM-IV-TR
McLean, 2011	To 1/2010	10	10	0	To review the effectiveness of telehealthcare for COPD compared with usual face-to-face care.	COPD
Merriel, 2014	To 2013	13	13	0	To assess the effectiveness of telehealth interventions in the primary prevention of cardiovascular disease in adult patients in community settings.	Reducing risk of cardiovascular disease

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Liang, 2011	People with diabetes, age not specified	4 inpatient; 18 outpatient primary care or generalist	Mobile phone including SMS and/or internet	Self-management	Glycemic control HBA1c
Lustria, 2013	Varied: General, children, patients, students	Outpatient	Web-based but varied	Personalized support/coaching and counseling	Standard mean difference in outcome/behavior measured in each study.
Martin, 2011	Adolescents/young adults	Outpatient/home	Email, web-based electronic diary, videoconferencing, virtual reality	Consultation and/or triage	Clinical outcomes combined Patient level impacts
McLean, 2011	Adults	Home	Telehealth care defined as electronic transfer of information about a patient and personalized feedback from a professional	Monitoring and management	QOL ED visits Hospital Admissions Death costs Cost effectiveness FEV1 FVC Patient satisfaction
Merriel, 2014	Adults with no history of cardiovascular disease	Community	Telehealth for preventive care	Counseling, self-assessment, some monitoring	Change in Overall cardiovascular disease risk Change in modifiable cardiovascular disease risk factors

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Liang, 2011	Significant reduction in HBA1c across all studies; larger in Type II than Type I. Larger reduction in higher quality studies (not significant) Positive benefit	No	Meta analysis
Lustria, 2013	The weighted mean effect size for the posttest effects of interventions was $d = 0.139$ (95% CI 0.111 to 0.166, $p < 0.001$, $k = 0$). Thus, tailored, web-based interventions had a significantly Greater effect on health behavior outcomes than the comparison/control conditions Positive benefit	No	Meta analysis
Martin, 2011	Clinical Outcomes: 7/12 studied clinical outcomes. 3/7 studies showed statistically significant improvements. Potential benefit. Patient level impacts: 7/12 suggested that networked communication interventions increased the frequency of contact between patient and clinician. Potential benefit.	No	Qualitative
McLean, 2011	QOL: positive impact (not precise) ED: significantly fewer visits Hospitalizations: significantly fewer Death: No significant difference Costs reported in different ways Positive benefit	No	Meta analysis for each outcome
Merriel, 2014	No evidence for reduction in overall risk Small impact on blood pressure and total cholesterol No effect on HDL, smoking No benefit	No	Meta analysis

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Osborn, 2010	2000-2010	15	8	7	Do diabetes interventions via patient Web portals improve patient self-care behaviors, glycemic control, and other health outcomes and/or provider care and processes of care for persons with type 1 or type 2 diabetes mellitus?	Diabetes
Peeters, 2011	No date limit. Search conducted in December 2009.	9	4	5	Costs and financial benefits of video communication compared to usual care at home.	Diabetes, dialysis, hypertension, COPD, people needing long-term nursing care
Ramadas, 2011	2000 - 2010	20	Not specified	Not specified	Assess web-based behavioral interventions in management of type 2 diabetes mellitus.	Diabetes
Richards, 2012	2001- 2011	10	10	21	Evaluate the overall effectiveness of computer-based treatments for depression and examine the impact of support on dropout rates and clinical outcomes	Depression
Rietdijk, 2012	to December 2011	16	7	9	To describe the effectiveness of using telehealth programs to provide training or support to family members of people with traumatic brain injury.	Caregivers of patients with traumatic brain injury
Rooke, 2010	to January 2009	34	34	0	To quantify the overall effectiveness of computer-delivered interventions for alcohol and tobacco use	Smoking cessation Alcohol reduction

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Osborn, 2010	All	Home	Patient portal	Monitoring and management, secure portals	HgbA1c, hospital admission, quality of care, QOL, blood pressure
Peeters, 2011	All ages	Home	Videoconference	Monitoring and management	Costs and financial benefits. Some studies also examined QOL, medication adherence, and self-management.
Ramadas, 2011	Adults	Home	Goal-setting, personalized coaching, interactive feedback and online peer support groups	Monitoring and management	HbA1c, fasting blood glucose, cholesterol, weight, depression, QOL, social support, self efficacy, physical activity, bout steps, weight, waist circumference, clinical composite score
Richards, 2012	Adults	Outpatient-Specialty	Cognitive behavioral therapy delivered via computer	Management	Various validated instruments to measure depression, normalized to standard mean difference
Rietdijk, 2012	Family members, parents, siblings, spouse	Home	Teleconferencing video conferencing	Training and support	Patient outcomes Caregiver/family outcomes Number of interactions Satisfaction
Rooke, 2010	Varied	Home and research settings	Web or computer based offline	Treatment	Smoking abstinence Alcohol reduction

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Osborn, 2010	10 studies found improved disease management and 5 found improved patient Outcomes	Yes	Qualitative
Peeters, 2011	"The review found no evidence that the cost of implementing video communication in home care was lower than the resulting financial benefits. More methodologically well conducted research is needed."	No	Qualitative
Ramadas, 2011	The web-based interventions have demonstrated some level of favorable outcomes, provided they are further enhanced with proper e-research strategies.	No	Qualitative
Richards, 2012	Meta-analysis of RCTs found standard mean difference supported cognitive behavioral therapy delivered via computer (-0.56, 95% CI 0.41-0.71)	Yes	Meta-analysis
Rietdijk, 2012	Some positive results but in feasibility and satisfaction. Minimal results related to outcomes. Quality scores were low. Unclear/insufficient	Yes, using Oxford Levels of Evidence, but the results are not summarized.	No
Rooke, 2010	Small over all effects Potential benefit	No	Average effect sizes

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Seto, 2008	Through November 2007	10	4	6	Determine whether remote patient monitoring of patients with heart failure decreased costs	CHF
Steel, 2011	Through January 2009	35	8	27	We have therefore conducted a systematic review, specifically relating to the use of videoconferencing for chronic and/or long-term conditions	Mixed
Tan, 2012	Through September 2011	1	1	0	How does telehealth support families of newborn infants receiving intensive care effect the length of hospital stay?	ICU
Tran, 2008	1998-2008	78	18	16	In-home management of chronic diseases issues include the improvement and maintenance of patients' QOL and health status, the avoidance of unnecessary trips to emergency departments, a reduction in hospital readmissions, and a reduction of costs.	Mixed chronic
Urquhart, 2015	1966-2014	15	14	1	To determine whether home uterine monitoring is effective in improving the outcomes for women and their infants considered to be at high risk of preterm birth when compared with conventional or other care packages which do not include home uterine monitoring	Preterm birth

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Seto, 2008	Adults (inferred)	Home	Remote monitoring	Monitoring and management	Direct costs to healthcare system, direct costs to patient
Steel, 2011	Adults	Home	Videoconference	Mixed	Panic, anxiety, activity, depression, pain, expense per session (cost not evaluated in all studies), number of prescriptions
Tan, 2012	Neonatal	Inpatient	Mixed - real-time video, patient portal	Secure messaging with a provider	Hospital length of stay
Tran, 2008	Adults	Home	Mixed	Telemonitoring	Rehospitalization, ED visits, number of primary care & specialist visits, HbA1c
Urquhart, 2015	Pregnant Women	Home	Remote monitoring	Monitoring and management	Primary outcomes: Perinatal mortality rate; preterm birth at less than 34 weeks gestation; number of days in hospital antenatally

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Seto, 2008	9 of 10 studies assessed cost to healthcare system, with benefit of 1.6-68.3%; 1 study found 3.5% lower travel costs for patients	Yes	Qualitative
Steel, 2011	Videoconference is equivalent	Yes	Qualitative
Tan, 2012	No difference between groups	Yes	Qualitative - only one study
Tran, 2008	Conclusions are broken out by condition, and by modality - overall, saw improvements in clinical outcomes. In their cost analysis, they did not break out telephone & telehealth analysis, so we are reporting just on clinical outcomes.	Yes	Meta-analysis
Urquhart, 2015	There were no significant differences between women using home uterine monitoring and the control group for most of the outcomes assessed and implications for organization of delivery of care are unclear.	Yes	Meta-analysis

Author, Year	Search Date Range	Number of Studies	Number of Randomized Controlled Trials	Number of Studies That Are Not Randomized Controlled Trials	Study Purpose	Clinical Indication
Wade, 2010	Through June 2009	36	18	18	What is the cost-benefit of real-time telehealth services?	Mixed
Wallace, 2012	1966-2010	16	0	16	Assess evidence for the use of telemedicine in acute burn care and outpatient based management	Burn care
Zhai, 2014	2000-2014	35	35	0	Perform a meta-analysis of RCTs of telemedicine on HbA1c	Type 2 diabetes

Author, Year	Population	Patient Setting	Telehealth Modality	Telehealth Function	Outcomes
Wade, 2010	Mixed	Mixed	Real-time videoconferencing	Real-time communication with a healthcare provider	Cost and patient outcomes for real-time telehealth
Wallace, 2012	NR	Burn care unites and outpatient	Video and static images	Sent images for treatment decision making and acute triage	Avoidance of air evacuation (n=3); cost (n=13); clinical outcomes: changed clinical plans (n=1), early discharge (n=1), triage accuracy (n=1), diagnosis accuracy (2)
Zhai, 2014	NR but likely adults since Type 2.	Outpatient	Call/text, internet-based websites or video conferencing, transmission of glucose levels	Tailored management of diabetes	HbA1C

Author, Year	Conclusions	Was there a summary of evidence?	Synthesis Type
Wade, 2010	Of the 18 RCTs, 9 reported telehealth to be more costly and 9 less costly than the nontelehealth comparison. 15 reported the health outcomes to be the same. The 18 non- RCTs showed results more favorable to telehealth, with 12 reporting telehealth to be less costly, 3 more costly, and 3 giving equal or mixed results. 10 reported improved and 8 comparable health outcomes. Synchronous video delivery found to be cost- effective for home care, for on-call hospital specialists, and possibly cost-effective for regional and rural health care. It was not cost-effective from the health services perspective, for local delivery of service between hospital specialists and primary care, due to need for additional health care staffing.	Yes	Qualitative
Wallace, 2012	Unclear. More work is needed to assess outcomes of telemedicine.	NR	Qualitative
Zhai, 2014	Current evidence is unconvincing. Publication bias was detected. Improvement in HbA1c (p<0.001)	Comments about publication bias	Meta-analysis

Please see Appendix C. Included Studies for full study references.

CD-ROM=compact disk read-only memory, CHF=congestive heart failure, COPD =chronic obstructive pulmonary disease, DSM-IV-TR=Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision, ECG=electrocardiogram, ED=emergency department, EHR=Electronic health record, FEV1=forced expiratory volume in 1 second, FVC=forced vital capacity, GI=gastrointestinal, HbA1c=Hemoglobin A1c, HDL=high-density lipoprotein, IBD=inflammatory bowel disease, IBS=irritable bowel syndrome, ICU=intensive care unit, ICTs=information and communication technologies, IVF=in vitro fertilization, kbps= kilobytes per second, LDL= low-density lipoprotein, MS=multiple sclerosis, NR=not reported, QOL=quality of life, RCT=randomized controlled trial, SMS=short message service, VHA=Veteran’s Health Administration.

Appendix F. Systematic Review Characteristics, Modality, and Function

Systematic Review Author	Systematic Review Publication Year	Ending Year of Search	Assigned Broad Clinical Indication	Assigned Narrow Clinical Indication	Telehealth Function	Telehealth Modality	Individual studies included in systematic review (N)	Randomized Controlled Trials (N)	Randomized Controlled Trials (%)	Patients (N)
Ammenwerth	2012	2011	Mixed	Mixed	Communication and counseling	Asynchronous communication	5	4	80%	6907
Antonacci	2008	2007	Behavioral Health	Mixed Behavioral Health	Psychotherapy	Video-conferencing	45	5	11%	3835
Antoniou	2012	2011	ICU or Surgery Support	Surgical Telementoring	Telementoring	Video-conferencing	10	0	0%	118
Chaudhry	2007	2006	Cardiovascular disease	CHF	Monitoring and management	Mixed	4	4	100%	959
Clarke	2011	2009	Cardiovascular disease	CHF	Monitoring and management	Mixed	10	10	100%	2351
Connelly	2013	2013	Diabetes	Diabetes	Communication and counseling	Mixed	15	15	100%	5816
Cox	2012	2011	Respiratory disease	Cystic Fibrosis	Mixed	Mixed	7	2	29%	203
Dang	2009	2009	Cardiovascular disease	CHF	Monitoring and management	Mixed	5	5	100%	1190
de Jong	2014	2013	Mixed Chronic Condition	Mixed Chronic Condition	Communication and counseling	Asynchronous communication	15	15	100%	2657
de Waure	2012	2010	Cardiovascular disease	Myocardial Infarction	Consultation	Mixed	5	1	20%	6927
Eccleston	2014	2013	Mixed Chronic Condition	Chronic pain	Psychotherapy	Video-conferencing	14	14	100%	1936
Eland de Kok	2011	2009	Mixed Chronic Condition	Mixed Chronic Condition	Mixed	Asynchronous communication	10	10	100%	1981
Gaikwad	2009	2007	Mixed Chronic Condition	Mixed Chronic Condition	Mixed	Mixed	20	8	40%	16736
Gainsbury	2011	2009	Behavioral Health	Addictive Disorder	Psychotherapy	Mixed	9	7	78%	12561
Garcia-Lizana	2007	2005	Mixed Chronic Condition	Mixed Chronic Condition	Monitoring and management	Mixed	19	19	100%	2698
Hailey	2010	2009	Physical Rehabilitation	Physical Rehabilitation	Tele-rehabilitation	Mixed	15	12	80%	2303
Holtz	2012	2010	Diabetes	Diabetes	Mixed	Mobile phone	19	8	42%	975

Systematic Review Author	Systematic Review Publication Year	Ending Year of Search	Assigned Broad Clinical Indication	Assigned Narrow Clinical Indication	Telehealth Function	Telehealth Modality	Individual studies included in systematic review (N)	Randomized Controlled Trials (N)	Randomized Controlled Trials (%)	Patients (N)
Jaana	2009	2007	Respiratory disease	Mixed Respiratory	Monitoring and management	Mixed	22	7	32%	1320
Johansen	2012	2011	Mixed	Mixed	Communication and counseling	Mixed	28	28	100%	6736
Kairy-2009	2009	2007	Physical Rehabilitation	Physical Rehabilitation	Tele-rehabilitation	Video-conferencing	28	8	29%	1039
Kamei	2013	2011	Respiratory disease	COPD	Monitoring and management	Video-conferencing	6	4	67%	550
Knowles	2014	2013	Mixed	Mixed GI	Communication and counseling	Asynchronous communication	15	9	60%	1371
Kodama	2012	2011	Mixed Chronic Condition	Obesity	Communication and counseling	Asynchronous communication	23	23	100%	9076
Kumar	2013	2011	ICU or Surgery Support	Tele-ICU	Consultation	Video-conferencing	8	0	0%	0
Laver	2013	2012	Physical Rehabilitation	Tele-Stroke	Tele-rehabilitation	Video-conferencing	10	0	0%	810
Liang	2011	2010	Diabetes	Diabetes	Communication and counseling	Mobile phone	15	8	53%	1154
Lustria	2013	2009	Mixed	Mixed Health Behaviors	Communication and counseling	Asynchronous communication	37	31	84%	23121
Martin	2011	2009	Behavioral Health	Behavioral Health	Psychotherapy	Mixed	12	2	17%	533
McLean	2011	2010	Respiratory disease	COPD	Monitoring and management	Asynchronous communication	9	9	100%	889
Merriel	2014	2013	Cardiovascular disease	Cardiovascular disease prevention	Communication and counseling	Asynchronous communication	12	12	100%	9354
Osborn	2010	2010	Diabetes	Diabetes	Communication and counseling	Asynchronous communication	10	4	40%	1944

Systematic Review Author	Systematic Review Publication Year	Ending Year of Search	Assigned Broad Clinical Indication	Assigned Narrow Clinical Indication	Telehealth Function	Telehealth Modality	Individual studies included in systematic review (N)	Randomized Controlled Trials (N)	Randomized Controlled Trials (%)	Patients (N)
Peeters	2011	2009	Mixed Chronic Condition	Mixed Chronic Condition	Monitoring and management	Video-conferencing	7	2	29%	2414
Ramadas	2011	2010	Diabetes	Diabetes	Communication and counseling	Asynchronous communication	8	7	88%	842
Richards	2012	2011	Behavioral Health	Depression	Psychotherapy	Mixed	38	23	61%	10428
Rietdijk	2012	2011	Physical Rehabilitation	Traumatic Brain Injury	Communication and counseling	Mixed	16	8	50%	1150
Rooke	2010	2009	Behavioral Health	Addictive Disorder	Communication and counseling	Asynchronous communication	30	30	100%	8356
Seto	2008	2007	Cardiovascular disease	CHF	Monitoring and management	Mixed	5	0	0%	782
Steel	2011	2009	Mixed Chronic Condition	Mixed Chronic Condition	Mixed	Video-conferencing	29	5	17%	2157
Tan	2012	2011	ICU or Surgery Support	NICU Family Support	Monitoring and management	Video-conferencing	1	1	100%	75
Tran	2008	2008	Mixed Chronic Condition	Mixed Chronic Condition	Monitoring and management	Mixed	62	33	53%	14511
Urquhart	2015	2014	Preterm Birth	Preterm Birth	Monitoring and management	Asynchronous communication	15	15	100%	6026
Wade	2010	2009	Mixed	Mixed	Mixed	Video-conferencing	35	18	51%	0
Wallace	2012	2010	Burn Care	Burn Care	Consultation	Mixed	24	0	0%	6782
Zhai	2014	2014	Diabetes	Diabetes	Communication and counseling	Mixed	25	25	100%	6530

Please see Appendix C. Included Studies for full study references.

CHF=congestive heart failure, COPD=chronic obstructive pulmonary disease, GI=Gastrointestinal, ICU=intensive care unit, NICU=neonatal intensive care unit.

Appendix G. Individual Studies Included in the Systematic Reviews

Author	Year	Patients (N)	RCT (Yes/No)
Abroms	2008	83	Yes
Adachi	2007	183	Yes
Ades	2000	133	No
Alessi	2003	1	No
Alkema	2007	781	Yes
An	2008	517	Yes
Anderson	2010	295	Yes
Andersson	2005	117	Yes
Antonicelli	2008	56	Yes
Appel	2002	27	Yes
Arsand	2008	9	No
Artinian	2003	18	Yes
Baer	1995	26	No
Balk	2008	214	Yes
Barnason	2009	232	Yes
Barnett	2006	800	No
Barnett	2007	212	Yes
Barth	2001	32	No
Bartholomew	2000	133	Yes
Bell	2004	171	Yes
Bell	2011	433	Yes
Bella	2009	60	No
Bellazzi	2004	22	No
Benatar	2003	216	Yes
Bendixen	2009	128	Yes
Benhamou	2007	60	No
Benhamou	2007	30	Yes
Bennete	2010	101	Yes
Bennett	2011	145	Yes
Berger	2011	81	Yes
Bergmo	1997	0	No
Bergmo	2009	73	Yes
Bergström	2010	65	Yes
Berman	2009	78	Yes
Berry	2011	660	Yes
Bewick	2008	317	Yes
Biermann	2002	43	Yes
Biermann	2002	48	Yes
Bishai	2003	0	No
Bishop	2002	24	No
Blondel	1992	168	Yes
Bogner	2012	180	Yes
Bohnenkamp	2004	0	No
Bond	2007	62	Yes
Bond	2006	62	Yes
Bondmass	1999	60	No
Bose	2001	13	No
Boter	2004	486	No
Bouchard	2000	8	No

Author	Year	Patients (N)	RCT (Yes/No)
Bouchard	2004	21	No
Bourbeau	2003	191	Yes
Bove	2011	465	Yes
Boyes	2006	80	Yes
Bradford	2004	126	No
Brattberg	2006	60	Yes
Brendryen	2008	396	Yes
Brendryen	2008	290	Yes
Breslow	2004	0	No
Breslow	2004	0	No
Brodey	2000	43	No
Broekhuizen	2012	340	Yes
Bromberg	2011	144	Yes
Brown	1999	83	No
Brown	1999	343	Yes
Bruderman and Abboud	1997	39	No
Bruschi	2005	8	No
Buhrman	2004	51	Yes
Buhrman	2011	50	Yes
Buhrman	2013	56	Yes
Buhrman	2013a	61	Yes
Bujnowska-Fedak	2006	60	No
Buller	2008	1234	Yes
Buller	2008	2077	Yes
Bunjnowska-Fedak	2011	95	Yes
Byrne	2000	34	No
Capomolla	2004	133	Yes
Carey	2007	20	No
Carlbring and Smit	2008	66	Yes
Carpenter	2012	131	Yes
Carrasco	2008	143	Yes
Carroll	2007	10	No
Casas	2006	155	Yes
Cavanagh	2006	219	No
Cavanagh	2011	295	No
Chan	2000	0	No
Chan	2003	10	Yes
Chan	2007	120	Yes
Chandler	1990	13	Yes
Chase	2003	63	Yes
Chase	2003	70	Yes
Chiauzzi	2010	186	Yes
Chiauzzi	2005	265	Yes
Chiauzzi	2005	123	Yes
Cho	2006	71	Yes
Cho	2006	80	Yes
Christensen	2002	1574	No
Christensen	2004	525	Yes
Christensen	2006	2231	Yes
Christian	2011	323	Yes
Chua	2001	0	Yes
Chumber	2004	226	No

Author	Year	Patients (N)	RCT (Yes/No)
Chumbler	2012	44	No
Chumbler	2005	537	No
CHUMS	1995	1165	Yes
Claes	2013	314	Yes
Clarke	2002	299	Yes
Clarke	2005	255	Yes
Clarke	2009	160	Yes
Cleland	2005	426	Yes
Cleland	2005	253	Yes
Cleland	2005	426	Yes
Cluver	2005	10	No
Cluver	2005	9	No
Cook	2007	419	Yes
Cordisco	1999	81	No
Corwin	1996	377	Yes
Cowain	2000	1	No
Cross	2007	25	No
Cross	2012	41	Yes
Crow	2009	0	Yes
Crowther	1995	99	No
Cruz	2005	81	No
Cruz	2007	21	Yes
Cubano	1999	5	No
Cullum	2006	14	No
Curran	2010	6	No
Cussler	2008	135	Yes
Dale	2003	55	No
Dale	2009	231	Yes
Dalolio	2008	137	Yes
Dang	2006	17	No
Dang	2006	59	No
Dang	2007	41	No
Dansky	2009	284	Yes
Dansky	2001	171	Yes
Dar	2009	182	Yes
Day	2002	80	Yes
de Graaf	2009	303	Yes
De Las Cuevas	2006	130	Yes
de Lusignan	2001	20	Yes
de Toledo	2006	157	Yes
Dear	2013	62	Yes
DeBusk	2004	262	Yes
Deitsch	2000	4	No
Dekkers	2011	276	Yes
Del Prato	2012	241	Yes
DeMaio	2001	0	No
Deng	2012	16	No
Deodhar	2002	0	No
Devineni	2005	86	Yes
DeVito Dabbs	2009	34	Yes
Dickson	2008	12	No
Digenio	2009	300	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Dimmick	2003	34	No
Dongier	1986	50	No
Donohue	2004	104	Yes
Doumas & Hannah	2008	82	Yes
Dowie	2007	0	No
Duchesne	2008	0	No
Dunton & Robertson	2008	156	Yes
Dyson	1991	251	Yes
Dyson	1998	2422	Yes
Earnest	2004	0	Yes
Eberl	2006	23	Yes
Egan	2002	66	Yes
Egner	2003	27	Yes
Ehlers	2008	0	No
Elford	2000	23	No
Elford	2001	90	No
Elkjaer	2010	21	No
Elkjaer	2010	303	Yes
Elliot	2007	36	No
Elliott	2007	36	No
Eriksson	2009	22	No
Eron	2006	0	No
Estabrooks	2005	469	Yes
Faridi	2008	30	Yes
Farmer	2005	47	No
Farmer	2005	94	Yes
Farrero	2001	122	Yes
Farzanfar	2004	5	No
Fell	2000	160	Yes
Ferrer-Roca	2004	23	No
Finfgeld-Connett & Madsen	2008	29	Yes
Finkelstein	1993	18	No
Finkelstein	1996	41	No
Finkelstein	1999	45	No
Finkelstein	2000	31	No
Finkelstein	2006	53	Yes
Finkelstein	2004	53	Yes
Finkelstein	2004	68	Yes
Finkelstein	2006	0	Yes
Fonda	2009	104	Yes
Forducey	2012	9	No
Fortney	2007	395	Yes
Fox	2004	56	No
Franklin	2008	64	No
Franklin	2006	91	Yes
Franklin	2006	59	Yes
Franzini	2011	0	No
Frenn	2005	132	No
Friedman	1996	267	Yes
Frueh	2005	18	No
Frueh	2004	0	No
Frueh	2007	74	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Galbreath	2004	1069	Yes
Gallar	2007	57	No
Gammon	2005	30	No
Gattis	1999	181	Yes
GESICA	2005	1518	Yes
Ghahari	2010	95	Yes
Giallauria	2006	45	No
Gilkey	2009	23	No
Giordano	2008	460	Yes
Giordano	2007	461	Yes
Glasgow	2003	320	Yes
Glasgow	2012	463	Yes
Glasgow	2005	886	Yes
Goldberg	2003	280	Yes
Goldberg	2003	180	Yes
Goodarzi	2012	81	Yes
Grant	2008	244	Yes
Gray	2000	75	Yes
Grealish	2005	5	No
Greenwood	2004	31	No
Griffiths	2006	15	No
Griffiths	2006	40	No
Grime	2004	48	Yes
Grzincich	2010	60	Yes
Guendelman	2002	134	Yes
Guilfoyle	2003	12	No
Hageman	2005	31	Yes
Halpert	2010	156	No
Hanauer	2009	40	Yes
Hanauer	2009	29	Yes
Harno	2006	175	Yes
Harvey-Berino	2002	690	Yes
Harvey-Berino	2004	232	Yes
Harvey-Berino	2010	481	Yes
Hassall	2003	12	No
Hauber	2002	9	No
Hebert	2006	44	Yes
Hedborg	2011	76	Yes
Hee-Sung	2007	51	Yes
Heidenreich	1999	154	No
Hermen	2008	81	Yes
Hester & Delaney	1997	40	Yes
Hill	2006	111	Yes
Hill	1990(a)	299	Yes
Himle	2006	3	No
Himle	2006	1	No
Himle	2005	3	No
Hoenig	2006	13	No
Holbrook	2009	511	Yes
Hollandare	2011	84	Yes
Hollbrook	2008	511	Yes
Homer	2000	137	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Homko	2007	57	Yes
Hommel	2013	9	No
Hopp	2006	37	Yes
Hotta	2007	101	No
Houtchens	1993	209	No
Huang	2006	497	Yes
Hui	2006	58	No
Hui	2006	58	Yes
Huijgen	2008	0	No
Hunt	2006	164	No
Hunt	2009	54	Yes
Hunter	2007	446	Yes
Hurling	2007	77	Yes
Huss	2003	101	Yes
Hyder	2005	380	No
Hyman	1998	123	Yes
Iams	1987	309	Yes
Iams	1990	76	Yes
IDEATel trial	2007	1665	Yes
Inglis	2004	152	Yes
Inglis	2006	297	Yes
Istepanian	2009	137	Yes
Istepanian	2009	87	Yes
Izquierdo	2003	46	Yes
Jacklin	2003	0	Yes
Jan	2007	154	Yes
Jan	2007	164	Yes
Jansa	2006	40	Yes
Japuntich	2006	248	Yes
Japuntich	2006	284	Yes
Jarab	2012	171	Yes
Jarad	2011	51	No
Jerant	2001	37	Yes
Jerant	2005	54	Yes
Jerant	2001	0	Yes
Johansen	2004	4	No
Johnston	2000	212	Yes
Johnston	2000	29	Yes
Johnston	2000	0	Yes
Jones	2001	30	No
Jones	2003	60	No
Jones	2004	60	No
Jones	2007	15	No
Joseph	2007	314	Yes
Kamei	2011a	37	Yes
Karagiannis	2006	21	No
Kashem	2008	48	Yes
Katz and Nordwall	2008	30	No
Kaye	1997	0	No
KcKay	2001	78	Yes
Kearney	2009	112	Yes
Keays	2006	344	No

Author	Year	Patients (N)	RCT (Yes/No)
Kennedy	2003	156	No
Kennedy and Yellowlees	2000	124	No
Kennedy and Yellowlees	2003	124	No
Kessler	2009	255	Yes
Khan	2011	129	Yes
Kim	2006	99	No
Kim	2006	33	No
Kim	2008	34	No
Kim	2006	44	No
Kim	2005	45	No
Kim	2009	37	Yes
Kim	2003	50	Yes
Kim and Kang	2006	73	Yes
Kim and Kim	2008	34	Yes
Kim CJ	2006	73	Yes
Kim HS	2003	36	Yes
Kim SI	2008	34	Yes
King	2006	335	Yes
King	2009	37	Yes
Knobloch	2009	2	No
Kobb	2003	281	No
Kobb	2003	338	No
Kobb	2003	1545	No
Kollmann	2007	10	No
Kople	2007	136	No
Kortke	2006	170	No
Kraaij	2010	73	Yes
Krier	2011	34	Yes
Krishna	2003	228	Yes
Krumholz	2002	88	Yes
Kunkler	2007	0	Yes
Kwok	2004	67	Yes
Kwon	2004	185	No
Kwon	2004	101	Yes
Kwon	2004	110	Yes
Kwon	2004	80	Yes
Kypri	2004	104	Yes
Kypri	2008	576	Yes
Kypri	2004	94	Yes
Kypri	2008	247	Yes
Kypri & McAnally	2005	218	Yes
Kypri & McAnally	2005	126	Yes
Ladyzynski	2007	30	Yes
LaFramboise	2003	90	Yes
Lai	2004	19	No
Lange	2001	25	Yes
Laramee	2003	287	Yes
Larizza	2006	68	No
Lawrence	2003	513	Yes
Learmonth	2008	555	No
Learmonth and Rai	2008	104	No
Learmonth and Sadik	2007	590	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Lee	2007	274	No
Lehmann	2006	20	No
Leibreich	2008	49	Yes
Leibreich	2009	49	Yes
Lemaire	2001	47	No
Leonard	2004	80	No
Leveille	2009	141	Yes
Lewis	2010	40	Yes
Lewis	2007	142	Yes
Lewis & Neighbors	2007	53	Yes
Lexcen	2006	72	No
Liesenfeld	2000	61	No
Lim	2011	103	Yes
Limido	2006	368	No
Lin	2005	606	Yes
Linassi	2005	15	No
Lindgren	1997	77	No
Liu	2005	274	Yes
Ljótsson	2010	85	Yes
Ljótsson	2011	61	Yes
Ljótsson	2011	75	Yes
Ljótsson	2011	195	Yes
Loane	2000	0	Yes
Loane	2001a	0	Yes
Loane	2001b	0	Yes
Lohr	2007	3	No
Lorig	2006	958	Yes
Lorig	2010	2010	Yes
Lorig	2002	580	Yes
Lorig	2008	641	Yes
Lorig	2008	855	Yes
Lorig	2010	761	Yes
Loring	2008	855	Yes
Luley	2011	70	Yes
Lum	2006	7	No
Lusignan	2001	20	Yes
Lyons	1990	62	Yes
Magrabi	2005	5	No
Mahmud	1995	12	No
Maiolo	2003	23	No
Mair	2005	36	No
Mair	2008	20	No
Maljanian	2005	507	Yes
Maljanian	2005	336	Yes
Man	2006	109	Yes
Mangunkusumo	2007	495	Yes
Marcin	2005	223	No
Marcin	2004	0	No
Marcus	2007	249	Yes
Marrero	1995	106	Yes
Mashima	2003	72	Yes
Mashima	2003	51	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Massman	1999	40	No
Matsuura	2000	17	No
Mayo	2008	157	No
McConnon	2007	221	Yes
McCormick	2010	31	No
McKay	2001	78	Yes
McKay	2008	2318	Yes
McMahon	2005	104	Yes
McManus	2004	60	No
McManus	2008	2394	No
Meer	2009	200	Yes
Meheghini	1998	184	No
Mehra	2000	113	No
Meigs	2003	598	Yes
Mermelstein and Turner	2006	351	Yes
Meyer	2009	396	Yes
Miller	2006	1	No
Mitchell and Dunn	2007	27	No
Mobley	2006	172	Yes
Modai	2006	42	No
Modai	2006	81	No
Modai	2006	0	No
Moore	2005	100	Yes
Moreno	2009	2169	Yes
Morgan	2008	372	No
Morgan	2009	65	Yes
Morland	2004	20	No
Morlion	2002	22	No
Morrison	2010	0	No
Morrison	1987	69	Yes
Mortara	2009	461	Yes
Mullan	2003	119	Yes
Myers	2004	369	No
Myers	2006	115	No
Myers	2006	166	No
Nagey	1993	59	Yes
Nakamura	1999	32	No
Napolitano	2003	65	Yes
NEHI	2010	0	No
Neighbors	2004	252	Yes
Neighbors	2006	185	Yes
Neighbors	2009	282	Yes
Nelson	2003	28	No
Nelson	2004	62	No
Neufield	2007	289	No
Nguyen	2004	294	No
Nguyen	2013	124	Yes
Nguyen	2008	51	Yes
Nguyen	2009	17	Yes
Nguyen	2008	50	Yes
Nikander	2010	19	No
Noble	2005	0	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Noel	2004	104	Yes
Noh	2010	40	Yes
Nolan	2011	680	Yes
Nolan	2012	387	Yes
Norman	2008	1402	Yes
O'Neill	2008	58	Yes
O'Reilly	2007	0	Yes
Oakley	2000	0	Yes
Oenema	2008	2159	Yes
Oenema	2005	782	Yes
Oenema	2008	547	Yes
Oerlemans	2011	76	Yes
Ohinmaa	2002	0	Yes
O'Reilly	2007	495	Yes
Ortolani	2007	121	No
Ostojic	2005	16	Yes
Palmer	2005	233	No
Pare	2006	29	No
Pare	2006	30	No
Parker	2010	10	No
Paschall & Bersamin	2006	370	Yes
Patrick	2008	65	Yes
Patten	2006	140	Yes
Pearson	2006	762	Yes
Pedersen	2012	92	No
Perini	2008	13	No
Perini	2009	45	Yes
Persaud	2005	0	No
Phillips	1999	35	No
Phillips	2001	111	Yes
Piazza-Waggoner	2006	1	No
Piette	2000	280	Yes
Piette	2001	292	Yes
Piette	2001	272	Yes
Piron	2002	5	No
Piron	2004	5	No
Piron	2008	10	No
Piron	2009	36	No
Piron	2009	36	Yes
Pittaway	2009	50	No
Polzien	2007	28	Yes
Poon	2005	22	Yes
Porto	1987	136	Yes
Prabhakaran	2010	120	Yes
Pressman	2014	198	Yes
Pronovost	2009	0	Yes
Proudfoot	2003	274	Yes
Purves	2009	100	No
Pushparajah	2006	80	No
Quinn	2006	26	No
Quinn	2008	30	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Quinn	2008	26	Yes
Quinn	2009	260	Yes
Quinn	2011	163	Yes
Ralston	2009	83	Yes
Ralston	2009	74	Yes
Rami	2006	72	No
Rami	2006	36	Yes
Rasmussen	2005	258	Yes
Rasmussen	2005	300	Yes
Rea	2004	135	Yes
Redlick	2002	14	No
Reina-Tosina	2000	1	No
Rendina	1997	0	No
Richardson	2007	35	Yes
Richardson	2010	324	Yes
Richardson	2007	30	Yes
Riegel	2008	135	Yes
Riper	2008	261	Yes
Ritterband	2003	24	Yes
Riva	1999	1	No
Roa	1999	22	No
Robertson	2006	104	No
Robinson	2007	154	Yes
Rodriguez-Idigoras	2009	328	Yes
Rogers	2001	121	Yes
Rogers	2002	74	Yes
Rosenfeld	2000	0	No
Ross	2004	81	Yes
Ross	2004	107	Yes
Ross	2006	328	Yes
Rosser	1997	6	No
Rossi	2009	91	No
Rossi	2009	41	No
Rossi	2010	119	Yes
Roth	2009	4598	No
Roth	2004	118	No
Rothert	2006	2862	Yes
Rotondi	2005	17	No
Roy	2008	1	No
Ruehlman	2012	241	Yes
Ruffin	2011	3382	Yes
Ruland	2003	52	Yes
Ruland	2010	145	Yes
Rumberger	2006	0	No
Ruskin	2004	119	Yes
Ruskin	2004	0	Yes
Russell	2004	31	No
Russell	2003	21	Yes
Ruwaard	2009	45	Yes
Ryan	2005	91	No
Sable	1999	0	No
Saffle	2006	2	No

Author	Year	Patients (N)	RCT (Yes/No)
Saffle	2009	98	No
Sagraves	2007	311	No
Sainsbury	2013	189	Yes
Salazar	2000	119	Yes
Sander	2009	15	No
Sanford	2006	49	Yes
Sanford	2004	22	Yes
Sanford	2006	65	Yes
Santamore	2007	321	Yes
Savin	2006	21	No
Sawyer	2000	12	No
Scalvini	2005	230	No
Scalvini	2005	426	No
Scalvini	2006	230	No
Scalvini	2005	436	No
Scerri	1999	12	No
Schechter	2012	526	Yes
Schinke	2004	327	Yes
Schlachra	2009	26	No
Schlachta	2010	2	No
Schneider	1990	579	Yes
Schoenberg	2008	39	No
Schofield	2005	92	No
Schwarz	2008	102	Yes
Scioscia	1988	72	Yes
Segajang	2005	14	No
Severson	2008	2523	Yes
Shah	1998	27	No
Shany	2010	40	Yes
Shea	2006	1417	Yes
Shea	2006	1665	Yes
Shepherd	2006	25	No
Shokrollahi	2007	31	No
Shore	2004	50	No
Shore	2007	53	No
Shore	2007	0	No
Sicotte	2003	6	No
Sicotte	2004	0	No
Sieibert	2008	23	No
Simpson	2001	10	No
Slootmaker	2009	102	Yes
Smart	2005	30	No
Smith	2012	32	No
Smith	2004	16	No
Smith	2002	5	No
Smith	2002	0	No
Smith	2002	1	No
Smith	2004	3	No
Smith	2004	293	No
Smith	2007	1589	No
Sone	2010	2033	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Soopramanien	2005	1	No
Soran	2008	315	Yes
Sorknæs	2011	100	No
Southard	2003	100	Yes
Southard	2003	104	Yes
Sparks	1993	20	Yes
Spek	2008	301	Yes
Spittaels	2007	434	No
Spittaels	2007	526	Yes
Starling	2003	136	No
Steel	2002	33	No
Stevens	2008	878	Yes
Strecher	2005	3971	Yes
Strom	2000	45	Yes
Svetkey	2008	1032	Yes
Swartz	2006	351	Yes
Tam	2003	3	No
Tanaka	2010	51	Yes
Tang	2003	305	No
Tang	2003a	16	No
Tang	2013	415	Yes
Tasker	2007	37	Yes
Tate	2006	192	Yes
Te Poel	2009	615	Yes
Thomas	2005	38	No
Thompson	2010	53	Yes
Thompson	1999	46	Yes
Tildesley	2010	47	Yes
Tindall	2008	24	No
Titov	2010	141	Yes
Topolovec-Vranic	2010	21	No
Tousignant	2006	4	No
Trappenburg	2008	115	No
Trappenburg	2008	165	No
Tsang	2001	20	No
Tsuyuki	2004	176	Yes
Tuil	2007	180	Yes
Turner	2009	23	No
Ueki	2009	29	Yes
Urness	2006	48	No
Ushiyama	2003	1	No
Vaccaro	2001	690	No
Vahatalo	2004	203	No

Author	Year	Patients (N)	RCT (Yes/No)
Vahatalo	2004	103	No
van Bastelaar	2011	255	Yes
Van den Berg	2004	155	No
van den Berg	2006	160	Yes
van der Meer	2009	200	Yes
Van Egmond-Fröhlich	2006	521	Yes
Van Straten	2008	213	Yes
van Wier	2009	924	Yes
Velikova	2004	216	Yes
Verheijden	2004	146	Yes
Vernmark	2010	88	Yes
Vesmarovich	1999	8	No
Vitacca	2006	45	No
Vitacca	2009	240	Yes
Vittaca	2009	101	Yes
Vontetsianos	2005	18	No
Voyles	2003	63	No
Wade	2004	6	No
Wade	2011	9	No
Wade	2004	19	No
Wade	2006	44	Yes
Wade	2008	9	Yes
Wade	2009	9	Yes
Wade	2010	35	Yes
Wade	2011	120	Yes
Wagner	1999	7	No
Wagner	2006	55	Yes
Wakefield	2008	148	Yes
Wakefield	2011	302	Yes
Wakefields	2008	101	Yes
Waldmann	2008	1500	Yes
Wallace	2007	1165	No
Walters	2007	106	Yes
Walters	2009	136	Yes
Wangberg	2006	11	Yes
Wapner	1995	218	Yes
Warmerdam	2008	263	Yes
Warren	2000	28	Yes
Warrington	2003	40	No
Wasson	2006	13271	No
Weatherburn	2007	6	No
Weinert	2008	176	Yes
Weinert	2011	209	Yes
Weintraub	2005	188	Yes
Weitzel	2007	39	Yes
Wheeler	2006	41	No
Whitfield	2006	20	No
Whitlock	2000	28	Yes
Whitten	2004	546	No
Whitten	2007	322	No
Whitten	2007	83	Yes
Wilkinson	2008	7	Yes

Author	Year	Patients (N)	RCT (Yes/No)
Willems	2007	110	Yes
Willems	2008	109	Yes
Williams	2010	106	Yes
Williams	2007	886	Yes
Williamson	2006	37	Yes
Winett	1999	180	No
Winett	2007	1071	No
Wing	2006	104	Yes
Wister	2007	611	Yes
Wojcicki	2001	32	Yes
Wolf	2004	147	Yes
Womble	2004	47	Yes
Wong	2005	20	No
Wong	2005	22	No
Wong	2005	60	Yes
Wong	2005	60	Yes
Wong	2005	120	Yes
Wong	2006	0	Yes
Wong	2005	101	Yes
Woodend	2008	121	Yes
Woodend	2008	249	Yes
Woodruff	2007	136	Yes
Woods	2011	48	No
Woolf	2006	273	No
Wootton	2000	0	Yes
Wright	2005	45	Yes
Wu	2006	17	No
Wylie-Rosett	2001	474	Yes
Yager	2001	3	No
Yager	2003	3	No
Yardley	2010	714	Yes
Yoo	2009	111	Yes
Yoon	2008	51	Yes
Yoon an Kim	2008	51	Yes
Zanini	2005	340	No
Zarate	1997	45	No
Zawada	2009	0	No
Zaylor	2000	49	No
Zaylor	2001	45	No
Zbikowski	2008	11143	No
Zhou	2007	6402	No
Zolfaghari	2011	80	Yes
Zutz	2007	15	Yes

Appendix H. Summary of PROSPERO Search for Ongoing Systematic Reviews

The search resulted in 84 protocols and a face value screening of the titles identified 9 irrelevant to the report. The remaining 75 were sorted by clinical focus. Counts of protocols by clinical focus are below.

Number of Protocols	Clinical Focus
10	Not specified or any
7	Maternal/child health
6	Diabetes
3	Stroke
3	Post-traumatic stress disorder
2	Congestive heart failure
2	Chronic obstructive pulmonary disorder
2	Musculoskeletal disease
2	Physical activity
2	Tuberculosis
2	Weight loss
1	Adult primary care
1	Athletes
1	Bipolar
1	Cancer
1	Weight management – Youth
1	Chronic disorder
1	Chronic lung disease or cardiovascular disease
1	Contraception
1	Critical care
1	Dementia
1	Depression
1	Dietary assessment
1	Emergency medicine
1	General practice
1	Geriatrics
1	Health behaviors in young adults
1	Hepatitis C
1	Inpatients
1	Insomnia
1	Caregivers
1	Knee arthroplasty
1	Low vision
1	Multiple sclerosis
1	Nutritional status
1	Osteoarthritis
1	Postoperative patients
1	Rheumatic disease
1	Risk of cardiovascular disease
1	Sleep apnea
1	Smoking cessation
1	Spinal pain
1	Prevention of sexually transmitted infections
1	Teledermatology

Appendix I. Clinical Focus Areas of Excluded Reviews

Clinical Focus	Excluded Reviews (N)
Mixed	26
Diabetes	17
Congestive heart failure	14
General	10
Prevention	8
Psychiatry/psychology	8
Addictive disorder	6
Chronic disease	5
Mixed chronic conditions	5
Obesity	5
Asthma	4
Depression	4
Depression and anxiety	4
Hypertension	4
Stroke	4
Anxiety	3
Cancer	3
Cardiovascular disease prevention	3
Chronic pain	3
Critical care	3
Dermatology	3
Economics - general telehealth	3
Elderly	3
Heart disease - implantable devices	3
Rural health	3
Autism	2
Behavioral health	2
Chronic obstructive pulmonary disorder	2
HIV	2
Pain	2
Rehabilitation	2
Acute injury	1
Audiology	1
Breastfeeding	1
Cardiovascular unspecified	1
Cardiovascular disease mixed	1
Cardiovascular disease prevention: diabetes and related cardiovascular risk factors	1
Diagnostic testing	1

Clinical Focus	Excluded Reviews (N)
Diet	1
Hospice care	1
Inflammatory bowel	1
Injuries	1
Mixed behavioral health	1
Neurological disorders	1
Physical rehabilitation	1
Plastic surgery	1
Pregnancy	1
Sexual health, teen	1
Smoking addictive disorder	1
Substance use	1
Tuberculosis	1

HIV=human immunodeficiency virus.