Study	QI Strategy	Outreach	Navigator	Control	Personnel Providing QI Delivery	Frequency of Treatment	Session Duration, hours	Duration of Intervention, mo
Botha 2014 (1) (CR: Botha 2010 (37))	CM, TC	Yes	Unclear	Weak CM	Psychiatrist, social worker, psychiatric nurse, with access to psychologist, occupational therapist as needed	Every 2 wk, as needed	NR	12
Burns 2014 (2)	CM, SM, PE	No	Yes	Usual care	Community health worker	1 or more in- hospital visits, weekly calls	NR	1
Gellis 2014 (3) (CR: Gellis 2012 (38))	FR, CM, SM, PE, CE	Yes	Yes	Usual care	Three telehealth trained nurses	daily telemonitoring, 8 weekly sessions of PST	PST session– 35 minutes	3
Ruchlewska 2014 (4)	SM	No	No	Usual care	Clinicians (most psychiatric nurses)	NR	NR	NR
Puschner 2011 (5)	TC, SM	Unclear	Unclear	Usual care	Clinician, intervention worker, research staff	Before discharge, 3 mo after discharge	NR	3
Courtney 2009 (6)	CM, TC, SM, PE	Yes	Unclear	Usual care	Nurses, physiotherapists	Daily in hospital, home visit within 48 hrs of discharge, weekly calls for 4 weeks, monthly calls for 5 mo, as needed	Walking: 3- 10 min 2- 4x/week; strengthening: Contractions were held for 3	6
Killaspy 2009 (7) (CR: Killaspy 2006 (39))	CM, TC	Yes	Unclear	Weak CM	Multidisciplinary team	Mean 5.4 contacts/mo	NR	18

Study	QI Strategy	Outreach	Navigator	Control	Personnel Providing QI Delivery	Frequency of Treatment	Session Duration, hours	Duration of Intervention, mo
Koehler 2009 (8)	TC, CM PE, SM, CIS	No	No	PE	3 care coordinators (highly experienced with advanced nursing certifications), clinical pharmacists (upper-level pharmacy residents completing their inpatient clinical rotations)	Daily in- hospital, upon discharge, 1 week post- discharge	NR	0.25
Bellon 2008 (9)	SM, CQI, CE	Yes	Unclear	Usual care	3 trained and experienced physicians, specialized nurse case manager	NR	NR	3
Lichtenberg 2008 (10)	CM, TC, SM	Yes	Yes	Usual care	Case managers: social workers, psychologists, occupational therapists, psychiatric nurses with at least 2 years' experience	NR	NA	12
Shumway 2008 (11)	СМ	Yes	Yes	Usual care	Master's-level social worker	As needed	NR	24
Rivera 2007 (12)	СМ	Yes	Unclear	Weak CM	Social workers, program directors	Ongoing, as needed	NR	12
Schreuders 2007 (13) (CRs: Schreuders 2005 (40), Bosmans 2012 (41))	CM, SM	Unclear	Unclear	Usual care	12 community nurses from a mental health care institution	4-6 sessions	Max.1 for first session, max 0.5 for subsequent sessions	3
Sledge 2006 (14)	CM, TC, SM	Yes	Yes	Usual care	Psychiatric nurse	As needed, minimum 1 phone call/mo	NR	12
Scott 2004 (15) (CR: Coleman 2001 (42))	TC, PE	Unclear	Unclear	Usual care	19 primary care physicians and nurses (with physical therapists, pharmacists, occupational therapists, community resources as needed)	1/mo	1.5	24
Castro 2003 (16)	CM, PE, SM	Yes	Unclear	Usual care	Nurses	NR	NR	6

Study	QI Strategy	Outreach	Navigator	Control	Personnel Providing QI Delivery	Frequency of Treatment	Session Duration, hours	Duration of Intervention, mo
Laramee 2003 (17)	CM, TC, PE, SM	No	Yes	Usual care	Case manager (with master's degree and 18 years experience in critical care and cardiology), consultations from social services, dietary services, physical therapy, occupational therapy	As needed in- hospital, phone call at 1-3 days post-discharge, weekly for 1 mo, then bi- weekly for 2 mos	5-45 minute phone calls	3
Harrison-Read 2002 (18)	CM, TC, SM	Yes	Unclear	Weak CM	Social worker, 2 part-time clinical psychologists, specialist registrar psychiatrist, 3 community mental health nurses, occupational therapist who acted as team coordinator	NR	NR	24
Kasper 2002 (19)	CM, TC, PE, SM, FI	Yes	Unclear	Usual care	Telephone nurse coordinator, nurse, cardiologist	Nurse calls within 72 hr of discharge, weekly for 1 mo, 2 times in 2 nd mo; as needed Cardiologist visit at baseline and 6 mo	NR	6
Katzelnick 2000 (20) (CR: Simon 2001 (43))	CM, PE, CE	Unclear	Unclear	No intervention	Physician and coordinators (with bachelor's or master's degrees and some clinical mental health experience) plus 1 or 2 psychiatrist consultants	Follow-up at 1,3,6, and 10 wk; subsequently 1 visit/10 wk	NR	12
Salkever 1999 (21)	CM, TC, PE	Yes	Unclear	Weak CM	Community mental health professionals	Availability 24 h/d, 7 d/wk	NR	18

Study	QI Strategy	Outreach	Navigator	Control	Personnel Providing QI Delivery	Frequency of Treatment	Session Duration, hours	Duration of Intervention, mo
Burns 1999 (22) (CRs: UK700 (44), Burns 2000 (45), Burns 2002 (46), Hassiotis 2001 (47))	СМ	Yes	Unclear	Weak CM	Case managers (mainly nurses, but also occupational therapists, mental- health support workers, and psychologists)	As needed	NR	24
Coleman 1999 (23)	TC, SM, CE	Unclear	Unclear	Usual care	Physicians, nurses, social worker, pharmacist	Every 3-4 mo	Extended 30 min with physician and team nurse;15 min with pharmacist; 45 min self management group	24
Gagnon 1999 (24)	СМ	Yes	Unclear	Usual care	Nurse case manager	1 phone call/mo; 1 home visit/6 wk; follow-up as needed	NR	10
Essock 1998 (25) (CR Essock 2006 (48))	CM, TC	Yes	Unclear	Weak CM	Physicians, nurses, part-time psychiatrist	NR	NR	18
Stewart 1998 (26)	TC, CM, PE, SM	Yes	No	Usual care	Nurse, pharmacist	Before discharge and 1 week post- discharge	NR	NR
Beck 1997 (27)	TC, PE, FR	Unclear	Unclear	Usual care	Physicians, nurses, psychologist	1/mo	2	12
Spillane 1997 (28)	TC	Unclear	Unclear	Usual care	Social worker, psychiatrist, emergency department nurse, primary care provider or clinic nurse	As needed	NR	12

Appendix 3 (continued)									
Study	QI Strategy	Outreach	Navigator	Control	Personnel Providing QI Delivery	Frequency of Treatment	Session Duration, hours	Duration of Intervention, mo	
Lafave 1996 (29)	CM, TC, SM	Yes	Unclear	Usual care	Psychiatrist, nurses, social workers, vocational counselor, support worker with mental illness	1/wk to several times daily	NR	12	
Quinlivan 1995 (30)	СМ	Unclear	Unclear	Weak CM	2 case managers,2 community living aides	NR	NR	24	
Rich 1995 (31) (CR: Rich 1996 (49))	CM, TC, PE, SM	Yes	Unclear	Usual care	Study nurse, dietician, social service personnel, geriatric cardiologist	NR	NR	3	
Rosenheck 1995 (32) (CR: Rosenheck 1998 (50))	CM, TC	Yes	Unclear	Weak CM	Masters-level nurses, social workers, psychiatrist (occasional)	As needed	NR	24	
Muijen 1994 (33)	СМ	Yes	Unclear	Weak CM	Nurse	Mean 2.9 contacts/mo	NR	NR	
Rich 1993 (34)	TC, CM, PE, SM	Yes	Unclear	Usual care	Cardiovascular nurse, dietician, cardiologist, social worker	Daily in hospital, within 48 hours of discharge, 3 times in week 1, as needed (ongoing phone contact)	NR	3	
Bond 1988 (35)	СМ	Yes	Unclear	Weak CM	Case managers	As needed	NR	6	
Franklin 1987 (36)	СМ	Unclear	Unclear	Usual care	Supervisor, 7 case managers (social work, sociology, psychology, counselling, business administration degrees. mental health experience)	As needed	NR	12	

Abbreviations: AF, Audit and feedback; CE, Clinician education; CIS, Clinical information system; CM, Case management; CQI, Continuous quality improvement; CR, Companion report; DS, Decision support; FI, Financial incentives; FR, Facilitated relay of clinical information; Mo, Month; NR, not reported; PE, Patient education; PR, Patient reminders; PST, Problem-solving treatment; QI, Quality improvement; SM, Self-management; TC, Team changes; Wk, Week.

References

- 1. Botha UA, Koen L, Galal U, et al. The rise of assertive community interventions in South Africa: a randomized control trial assessing the impact of a modified assertive intervention on readmission rates; a three year follow-up. *BMC Psychiatry* 2014;14:56.
- 2. Burns ME, Galbraith AA, Ross-Degnan D, et al. Feasibility and evaluation of a pilot community health worker intervention to reduce hospital readmissions. *Int J Qual Health Care*. 2014; Apr. 16. [Epub ahead of print].
- 3. Gellis ZD, Kenaley BL, Ten Have T. Integrated telehealth care for chronic illness and depression in geriatric home care patients: the Integrated Telehealth Education and Activation of Mood (I-TEAM) study. *J Am Geriatr Soc* 2014;62:889-95.
- 4. Ruchlewska A, Wierdsma AI, Kamperman AM, et al. Effect of crisis plans on admissions and emergency visits: a randomized controlled trial. *PLoS ONE* 2014;9:e91882.
- 5. Puschner B, Steffen S, Volker KA, et al. Needs-oriented discharge planning for high utilisers of psychiatric services: multicentre randomised controlled trial. *Epidemiol Psychiatr Sci* 2011;20:181-92.
- 6. Courtney M, Edwards H, Chang A, et al. Fewer emergency readmissions and better quality of life for older adults at risk of hospital readmission: a randomized controlled trial to determine the effectiveness of a 24-week exercise and telephone follow-up program. *J Am Geriatr Soc* 2009;57:395-402.
- 7. Killaspy H, Kingett S, Bebbington P, et al. Randomised evaluation of assertive community treatment: 3-year outcomes. *Br J Psychiatry* 2009;195:81-2.
- 8. Koehler BE, Richter KM, Youngblood L, et al. Reduction of 30-day postdischarge hospital readmission or emergency department (ED) visit rates in high-risk elderly medical patients through delivery of a targeted care bundle. *J Hosp Med* 2009;4:211-8.
- 9. Bellón JA, Rodriguez-Bayon A, de Dios Luna J, et al. Successful GP intervention with frequent attenders in primary care: randomised controlled trial. *Br J Gen Pract* 2008;58:324-30.
- 10. Lichtenberg P, Levinson D, Sharshevsky Y, et al. Clinical case management of revolving door patients a semi-randomized study. *Acta Psychiatr Scand* 2008;117:449-54.
- 11. Shumway M, Boccellari A, O'Brien K, et al. Cost-effectiveness of clinical case management for ED frequent users: results of a randomized trial. *Am J Emerg Med* 2008;26:155-64.
- 12. Rivera JJ, Sullivan AM, Valenti SS. Adding consumer-providers to intensive case management: Does it improve outcome? *Psychiatr Serv* 2007;58:802-9.
- 13. Schreuders B, van Marwijk H, Smit J, et al. Primary care patients with mental health problems: outcome of a randomised clinical trial. *Br J Gen Pract* 2007;57:886-91.

- 14. Sledge WH, Brown KE, Levine JM, et al. A randomized trial of primary intensive care to reduce hospital admissions in patients with high utilization of inpatient services. *Dis Manage* 2006;9:328-38.
- 15. Scott JC, Conner DA, Venohr I, et al. Effectiveness of a group outpatient visit model for chronically ill older health maintenance organization members: a 2-year randomized trial of the cooperative health care clinic. *J Am Geriatr Soc* 2004;52:1463-70.
- 16. Castro M, Zimmermann NA, Crocker S, et al. Asthma intervention program prevents readmissions in high healthcare users. *Am J Respir Crit Care Med* 2003;168:1095-9.
- 17. Laramee AS, Levinsky SK, Sargent J, et al. Case management in a heterogeneous congestive heart failure population: a randomized controlled trial. *Arch Intern Med* 2003;163:809-17.
- 18. Harrison-Read P, Lucas B, Tyrer P, et al. Heavy users of acute psychiatric beds: randomized controlled trial of enhanced community management in an outer London borough. *Psychol Med* 2002;32:403-16.
- Kasper EK, Gerstenblith G, Hefter G, et al. A randomized trial of the efficacy of multidisciplinary care in heart failure outpatients at high risk of hospital readmission. J Am Coll Cardiol 2002;39:471-80.
- 20. Katzelnick DJ, Simon GE, Pearson SD, et al. Randomized trial of a depression management program in high utilizers of medical care. *Arch Fam Med* 2000;9:345-51.
- Salkever D, Domino ME, Burns BJ, et al. Assertive community treatment for people with severe mental illness: the effect on hospital use and costs. *Health Serv Res* 1999;34:577-601.
- 22. Burns T, Creed F, Fahy T, et al. Intensive versus standard case management for severe psychotic illness: a randomised trial. UK 700 Group. *Lancet* 1999;353:2185-9.
- 23. Coleman EA, Grothaus LC, Sandhu N, et al. Chronic care clinics: a randomized controlled trial of a new model of primary care for frail older adults. *J Am Geriatr Soc* 1999;47:775-83.
- 24. Gagnon AJ, Schein C, McVey L, et al. Randomized controlled trial of nurse case management of frail older people. *J Am Geriatr Soc* 1999;47:1118-24.
- 25. Essock SM, Frisman LK, Kontos NJ. Cost-effectiveness of assertive community treatment teams. *Am J Orthopsychiatry* 1998;68:179-90.
- 26. Stewart S, Pearson S, Horowitz JD. Effects of a home-based intervention among patients with congestive heart failure discharged from acute hospital care. *Arch Intern Med* 1998;158:1067-72.
- 27. Beck A, Scott J, Williams P, et al. A randomized trial of group outpatient visits for chronically ill older HMO members: the Cooperative Health Care Clinic. *J Am Geriatr Soc* 1997;45:543-9.
- 28. Spillane LL, Lumb EW, Cobaugh DJ, et al. Frequent users of the emergency department: Can we intervene? *Acad Emerg Med* 1997;4:574-80.

- 29. Lafave HG, de Souza HR, Gerber GJ. Assertive community treatment of severe mental illness: a Canadian experience. *Psychiatr Serv* 1996;47:757-9.
- Quinlivan R, Hough R, Crowell A, et al. Service utilization and costs of care for severely mentally ill clients in an intensive case management program. *Psychiatr Serv* 1995;46:365-71.
- 31. Rich MW, Beckham V, Wittenberg C, et al. A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *N Engl J Med* 1995;333:1190-5.
- 32. Rosenheck R, Neale M, Leaf P, et al. Multisite experimental cost study of intensive psychiatric community care. *Schizophr Bull* 1995;21:129-40.
- 33. Muijen M, Cooney M, Strathdee G, et al. Community psychiatric nurse teams: intensive support versus generic care. *Br J Psychiatry* 1994;165:211-7.
- Rich MW, Vinson JM, Sperry JC, et al. Prevention of readmission in elderly patients with congestive heart failure: results of a prospective, randomized pilot study. *J Gen Intern Med* 1993;8:585-90.
- 35. Bond GR, Miller LD, Krumwied RD, et al. Assertive case management in three CMHCs: a controlled study. *Hosp Community Psychiatry* 1988;39:411-8.
- 36. Franklin JL, Solovitz B, Mason M, et al. An evaluation of case management. *Am J Public Health* 1987;77:674-8.
- 37. Botha UA, Koen L, Joska JA, et al. Assessing the efficacy of a modified assertive community-based treatment programme in a developing country. *BMC Psychiatry* 2010;10:73.
- 38. Gellis ZD, Kenaley B, McGinty J, et al. Outcomes of a telehealth intervention for homebound older adults with heart or chronic respiratory failure: a randomized controlled trial. *Gerontologist* 2012;52:541-52.
- 39. Killaspy H, Bebbington P, Blizard R, et al. The REACT study: randomised evaluation of assertive community treatment in north London. *BMJ* 2006;332:815-20.
- 40. Schreuders B, van Oppen P, van Marwijk HW, et al. Frequent attenders in general practice: problem solving treatment provided by nurses. *BMC Fam Pract* 2005;6:42.
- 41. Bosmans JE, Schreuders B, van Marwijk HW, et al. Cost-effectiveness of problemsolving treatment in comparison with usual care for primary care patients with mental health problems: a randomized trial. *BMC Fam Pract* 2012;13:98.
- 42. Coleman EA, Eilertsen TB, Kramer AM, et al. Reducing emergency visits in older adults with chronic illness. a randomized, controlled trial of group visits. *Effect Clin Pract* 2001;4:49-57.
- 43. Simon GE, Manning WG, Katzelnick DJ, et al. Cost-effectiveness of systematic depression treatment for high utilizers of general medical care. *Arch Gen Psychiatry* 2001;58:181-7.

- 44. Cost-effectiveness of intensive v. standard case management for severe psychotic illness. UK700 case management trial. UK700 Group. *Br J Psychiatry* 2000;176:537-43.
- 45. Burns T, Fiander M, Kent A, et al. Effects of case-load size on the process of care of patients with severe psychotic illness. Report from the UK700 trial. *Br J Psychiatry* 2000;177:427-33.
- 46. Burns T, White I, Byford S, et al. Exposure to case management: relationships to patient characteristics and outcome. Report from the UK700 trial. *Br J Psychiatry* 2002;181:236-41.
- 47. Hassiotis A, Ukoumunne OC, Byford S, et al. Intellectual functioning and outcome of patients with severe psychotic illness randomised to intensive case management. Report from the UK700 trial. *Br J Psychiatry* 2001;178:166-71.
- Essock SM, Mueser KT, Drake RE, et al. Comparison of ACT and standard case management for delivering integrated treatment for co-occurring disorders. *Psychiatr Serv* 2006;57:185-96.
- 49. Rich MW, Gray DB, Beckham V, et al. Effect of a multidisciplinary intervention on medication compliance in elderly patients with congestive heart failure. *Am J Med* 1996;101:270-6.
- 50. Rosenheck RA, Neale MS. Cost-effectiveness of intensive psychiatric community care for high users of inpatient services. *Arch Gen Psychiatry* 1998;55:459-66.