Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

Supplemental Appendix 1:

Search strategies employed in Medline, CINAHL and Embase

Medline

Searched September 4, 2019 by Matthew Hacker Teper (M.H.T.)

#	Searches
1	Case Management/
2	case manage*.tw,kf.
3	care manage*.tw,kf.
4	patient centered medical home*.tw,kf.
5	managed care program*.tw,kf.
6	patient care team*.tw,kf.
7	or/1-6
8	exp Qualitative Research/
9	(mixed adj (method* or studies)).ti,ab,kf.
10	exp Interviews as Topic/
11	exp Questionnaires/
12	interview*.ti,ab,kf.
13	focus group*.ti,ab,kf.
14	((action or participatory) and research).ti,ab,kf.
15	exp Community-Based Participatory Research/
16	grounded theory.ti,ab,kf.
17	phenomenolog*.ti,ab,kf.
18	exp Narration/
19	narrat*.ti,ab,kf.
20	conversation*.ti,ab,kf.
21	discourse*.ti,ab,kf.
22	(ethnograph* or ethnomethodolog* or ethno methodolog* or autoethnograph*).ti,ab,kf.
23	hermeneutic*.ti,ab,kf.

Supplemental materials for:
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24	constructivis*.ti,ab,kf.
25	((case or field) adj (study or studies)).ti,ab,kf.
26	((participant* or field) adj observ*).ti,ab,kf.
27	((purpos* or theoretical or judgement or "maximum variation" or convenience or "critical case" or "deviant case" or "key informant" or snowball or cluster) adj sampl*).ti,ab,kf.
28	(experience* or perspective* or perception* or meaning* or view? or viewpoint*).ti.
29	((lived or life or personal* or patient? or patients? or survivor*) adj3 (experience* or perspective* or perception* or meaning*)).ti,ab,kf.
30	((thematic or content) adj analys*).ti,ab,kf.
31	"group discussion*".ti,ab,kf.
32	(cope or copes or coping or thrive or thrives or thriving).ti,ab,kf.
33	or/8-32
34	Interprofessional Relations/
35	Interprofessional Relation*.tw.
36	"Attitude of Health Personnel"/
37	(attitude adj3 health professional*).tw.
38	Communication Barriers/
39	(communication adj3 barrier*).tw.
40	Interdisciplinary Communication/
41	(interdisciplinary adj3 communication).tw.
42	Social Work/
43	social work*.tw.
44	power.tw.
45	"power (psychology)"/
46	Health Knowledge, Attitudes, Practice/
47	Communication/
48	Cooperative Behavior/
49	Workload/
50	Health Resources/
51	or/34-50

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

52	Primary Health Care/
53	Family Practice/
54	Ambulatory Care/
55	exp Ambulatory Care Facilities/
56	Community Health Services/
57	Community Medicine/
58	Home Care Services/
59	(primary care or primary healthcare or primary health care or primary practice? or general practice? or family practice? or outpatient? or ambulatory care or community care or community health* or community medicine or home care).ti,ab.
60	or/52-59
61	7 and 33 and 59 and 60

CINAHL

Searched September 5, 2019 by Matthew Hacker Teper (M.H.T.)

#	Searches
S34	S7 AND S8 AND S28 AND S33
S33	S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32
S32	TI ("primary care" or "primary healthcare" or "primary health care" or primary W0 practice* or general W0 practice* or family W0 practice* or outpatient* or "ambulatory care" or "community care" or community W0 health* or "community medicine" or "home care") OR AB ("primary care" or "primary healthcare" or "primary health care" or primary W0 practice* or general W0 practice* or family W0 practice* or outpatient* or "ambulatory care" or "community care" or community W0 health* or "community medicine" or "home care")
S31	(MH “Home Health Care”)
S30	(MH “Community Medicine”)
S29	(MH “Community Health Services”)
S28	(MH “Ambulatory Care Facilities+”)
S27	(MH “Ambulatory Care”)
S26	(MH “Family Practice”)
S25	(MH “Primary Health Care”)

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

S24	S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23
S23	(MH “Health Resource Utilization”)
S22	(MH “Workload”)
S21	(MH “Cooperative Behavior”)
S20	(MH “Communication”)
S19	TI power OR AB power
S18	(MH “Power”)
S17	TI social work OR AB social work
S16	(MH “Social Work”)
S15	TI interdisciplinary communication OR AB interdisciplinary communication
S14	TI communication N3 barrier* OR AB communication N3 barrier*
S13	(MH “Communication Barriers”)
S12	TI attitude N3 health professional* OR AB attitude N3 heath professional*
S11	(MH “Attitude of Health Personnel”)
S10	TI interprofessional relation* OR AB interprofessional relation*
S9	(MH “Interprofessional Relations”)
S8	qualitative OR ethnol* OR ethnog* OR ethnonurs* OR emic OR etic OR leininger OR noblit OR "field note*" OR "field record*" OR fieldnote* OR "field stud*" or "participant observ*" OR "participant observation*" OR hermaneutic* OR phenomenolog* OR "lived experience*" OR heidegger* OR husserl* OR "merleau-pont*" OR colaizzi OR giorgi OR ricoeur OR spiegelberg OR "van kaam" OR "van manen" OR "grounded theory" OR "constant compar*" OR "theoretical sampl*" OR glaser AND strauss OR "content analy*" OR "thematic analy*" OR narrative* OR "unstructured categor*" OR "structured categor*" OR "unstructured interview*" OR "semi-structured interview*" OR "maximum variation*" OR snowball OR audio* OR tape* OR video* OR metasynthes* OR "meta-synthes*" OR metasummar* OR "meta-summar*" OR metastud* OR "meta-stud*" OR "meta-ethnograph*" OR metaethnog* OR "meta-narrative*" OR metanarrat* OR " meta-interpretation*" OR metainterpret* OR "qualitative meta-analy*" OR "qualitative metaanaly*" OR "qualitative metanaly*" OR "purposive sampl*" OR "action research" OR "focus group*" or photovoice or "photo voice" or "mixed method*"
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6
S6	TI patient care team* OR AB patient care team*
S5	TI managed care program* OR AB managed care program*

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

S4	TI patient centered medical home* OR AB patient centered medical home*
S3	TI care manage* OR AB care manage*
S2	TI case manage* OR AB case manage
S1	MH ("Case Management")

Embase

Searched September 4, 2019 by Matthew Hacker Teper (M.H.T.)

#	Searches
1	Case Management/
2	case manage*.tw,kw.
3	care manage*.tw,kw.
4	patient centered medical home*.tw,kw.
5	managed care program*.tw,kw.
6	patient care team*.tw,kw.
7	or/1-6
8	qualitative research*.mp.
9	qualitative stud*.mp.
10	action research.mp.
11	Participatory Research/
12	participatory research.mp.
13	case stud*.mp.
14	ethno*.mp.
15	grounded theory.mp.
16	phenomeno*.mp.
17	Narrative/
18	narrative*.mp.
19	biograph*.mp.
20	Autobiograph*.mp.
21	documentar*.mp.
22	qualitative synthes*.mp.

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

23	active feedback.mp.
24	conversation*.mp.
25	discourse*.mp.
26	thematic.mp.
27	qualitative data.mp.
28	key informant*.mp.
29	focus group*.mp.
30	case report*.mp.
31	exp Interview/
32	interview*.mp.
33	exp Observational method/
34	observer*.mp.
35	visual data.mp.
36	(audio adj record*).mp.
37	Cultural Anthropology/
38	experience*.mp.
39	or/8-38
40	public relations/
41	interprofessional relation*.tw.
42	health personnel attitude/
43	(attitude adj3 health professional*).tw.
44	communication barrier/
45	(communication adj3 barrier*).tw.
46	interdisciplinary communication/
47	(interdisciplinary adj3 communication).tw.
48	social work/
49	social work*.tw.
50	power.tw.
51	attitude to health/
52	interpersonal communication/

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

53	cooperation/
54	workload/
55	health care planning/
56	or/40-55
57	primary health care/
58	general practice/
59	ambulatory care/
60	exp outpatient department/
61	community care/
62	community medicine/
63	home care/
64	(primary care or primary healthcare or primary health care or primary practice? or general practice? or family practice? or outpatient? or ambulatory care or community care or community health* or community medicine or home care).ti,ab.
65	or/56-63
66	7 and 39 and 56 and 65

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

Supplemental Appendix 2

A description of the framework, *An in-depth analysis of theoretical frameworks for the study of care coordination,* by Van Houdt et al. (44)

Introduction: The framework, *an in-depth analysis of theoretical frameworks for the study of care coordination*, was developed in response to the understanding that patients with "complex chronic illnesses" often require long-term care from a diverse range of healthcare and social care professionals. High quality care for these patients, the authors argue, requires service coordination in both the community and the hospital.

Methods: This framework, published in 2013, is a meta-synthesis review of currently published frameworks of care coordination. Based on a search of PubMed and ISI Web of Knowledge, the authors retrieved seven care coordination frameworks, which they combined with four studies identified by a previous review by the Agency for Healthcare Research and Quality (80).

Results: This summary framework identifies 14 "key concepts" of care coordination, that are commonly described across the individually identified frameworks. They are described below

Key Concept	Prevalence (number of frameworks)
External factors	2
Structure	7
Task characteristics	5
Cultural factors	1
Knowledge and technology	6
Need for coordination	4
Administrative operational processes	6
Exchange of information/communication	9
Goals	6
Roles	4
Quality of relationship	4
Patient outcome	7
Team Outcome	5
Organizational or inter-organizational outcome	4

These factors are described with varying levels of detail. While the analysis of our systematic review and thematic synthesis begins with these concepts, the remainder of the coding and analysis process remained highly inductive.

Supplemental materials for:
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Supplemental Appendix 3:

An assessment of the quality of included studies, assessed with the *Standards for Reporting Qualitative Research (SRQR)* tool (45). Red boxes indicate that a criterion is not satisfied. Studies of the lowest methodological quality are highlighted in yellow.

	Al Sayah (2014)	Balard (2016)	Bowers (2016)	Carrier (2012)	Chen (2008)	De Stampa (2014)	Dick (2006)	Egan (2009)	Feltes (1994)	Gimm (2016)	Hoff (2017)	Iliffe (2011)	Larsson (2017)	Netting (1996)	Netting (1999)	O'Malley (2014)	Olsson (2012)	Peckham (2014)	Sargent (2008)	Yamashita (2005)	You (2016)	Young (2009)
Title/Abstract																						
Title	●	●						●	●	●	●					●	●	●		●	●	●
Abstract	●	●				●	●	●	●	●	●	●	●			●	●	●	●	●	●	●
Introduction																						
Problem	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Purpose/Question	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Methods																						
Qualitative Approach	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Researcher Reflexivity		●			●				●	●		●					●	●			●	
Context	●		●	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●
Sampling Strategy	●	●	●		●	●		●	●	●	●	●	●			●	●	●	●		●	●
Ethical Issues	●	●			●	●	●	●		●	●		●				●	●	●		●	
Data Collection Methods	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Data Collection Instruments	●	●		●	●	●		●	●	●	●	●	●			●	●	●	●			
Units of Study	●	●	●	●	●	●	●	●		●	●	●	●			●	●	●	●	●	●	●
Data Processing	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Data Analysis	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Trustworthiness					●	●	●	●	●			●		●	●	●	●	●	●	●	●	
Results/Findings																						
Synthesis/Interpretation	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Link to Empirical Data	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Discussion																						
Integration with Prior Work	●	●			●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●
Limitations	●	●			●	●	●	●	●	●	●	●	●	●		●	●			●	●	
Other																						
Conflicts of Interest	●	●				●				●	●	●	●			●						
Funding	●	●	●	●		●	●	●		●	●	●	●	●	●	●	●		●			

References

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1. Hudon C, Chouinard M-C, Couture M, Brousselle A, Couture EM, Dubois M-F, et al. Partners for the optimal organisation of the healthcare continuum for high users of health and social services: protocol of a developmental evaluation case study design. BMJ Open. 2014;4(12).
2. Sutherland D, Hayter M. Structured review: evaluating the effectiveness of nurse case managers in improving health outcomes in three major chronic diseases. J Clin Nurs. 2009;18(21):2978-92.
3. Hudon C, Chouinard M-C, Diadiou F, Lambert M, Bouliane D. Case management in primary care for frequent users of health care services with chronic diseases: a qualitative study of patient and family experience. The Annals of Family Medicine. 2015;13(6):523-8.
4. Hudon C, Chouinard M-C, Bayliss E, Nothelle S, Senn N, Shadmi E. Challenges and next steps for primary care research. The Annals of Family Medicine. 2018;16(1):85-6.
5. Manning E, Gagnon M. The complex patient: A concept clarification. Nursing & health sciences. 2017;19(1):13-21.
6. Cohen SB, Yu W. Statistical Brief# 354: The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the US Population, 2008–2009, vol March 29, 2012. Agency for Healthcare Research and Quality, Rockville, MD. 2012.
7. Drummond D, Girioux D, Pigott S, Stephenson C. Commission de la réforme des services publics de l'Ontario. Toronto (Ontario), Imprimeur de la Reine pour l'Ontario. 2012.
8. American Diabetes Association. Economic costs of diabetes in the US in 2012. Diabetes Care 2013; 36: 1033–1046. Diabetes Care. 2013;36(6):1797.
9. O'Connell J. The economic burden of heart failure. Clinical cardiology. 2000;23(S3):III6-III10.
10. Schoen C, Osborn R, Squires D, Doty M, Pierson R, Applebaum S. New 2011 survey of patients with complex care needs in eleven countries finds that care is often poorly coordinated. Health Affairs. 2011;30(12):2437-48.
11. Byrne M, Murphy AW, Plunkett PK, McGee HM, Murray A, Bury G. Frequent attenders to an emergency department: A study of primary health care use, medical profile, and psychosocial characteristics. Annals of Emergency Medicine. 2003;41(3):309-18.
12.Hansagi H, Olsson M, Sjöberg S, Tomson Y, Göransson S. Frequent use of the hospital emergency department is indicative of high use of other health care services. Annals of Emergency Medicine. 2001;37(6):561-7.
13. Hudon C, Sanche S, Haggerty JL. Personal characteristics and experience of primary care predicting frequent use of emergency department: a prospective cohort study. PLoS one. 2016;11(6):e0157489.
14. Vanderplasschen W, Rapp RC, Wolf JR, Broekaert E. The development and implementation of case management for substance use disorders in North America and Europe. Psychiatric Services. 2004;55(8):913-22.
15. Cooper BJ, Roberts DDY. National Case Management Standards in Australia—purpose, process and potential impact. Australian Health Review. 2006;30(1):12-6.
16. Moore S. Case management and the integration of services: How service delivery systems shape case management. Social work. 1992;37(5):418-23.
17. Ferlie EB, Shortell SM. Improving the quality of health care in the United Kingdom and the United States: a framework for change. The Milbank Quarterly. 2001;79(2):281-315.

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

18. Mueser KT, Bond GR, Drake RE, Resnick SG. Models of community care for severe mental illness: a review of research on case management. Schizophrenia bulletin. 1998;24(1):37-74.
19. Case Management Society of America. What is A Case Manager? Little Rock, AR, USA2017 [cited 2018 November 27].
20. Boult C, Green AF, Boult LB, Pacala JT, Snyder C, Leff B. Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report: [see editorial comments by Dr. David B. Reuben, pp. 2348–2349]. Journal of the American Geriatrics Society. 2009;57(12):2328-37.
21. Kumar GS, Klein R. Effectiveness of case management strategies in reducing emergency department visits in frequent user patient populations: a systematic review. The Journal of emergency medicine. 2013;44(3):717-29.
22. Chouinard M-C, Hudon C, Dubois M-F, Roberge P, Loignon C, Tchouaket É, et al. Case management and self-management support for frequent users with chronic disease in primary care: a pragmatic randomized controlled trial. BMC health services research. 2013;13(1):49.
23. Norris SL, Nichols PJ, Caspersen CJ, Glasgow RE, Engelgau MM, Jack Jr L, et al. The effectiveness of disease and case management for people with diabetes: a systematic review. American journal of preventive medicine. 2002;22(4):15-38.
24. Okin RL, Boccellari A, Azocar F, Shumway M, O'brien K, Gelb A, et al. The effects of clinical case management on hospital service use among ED frequent users. The American journal of emergency medicine. 2000;18(5):603-8.
25. De Stampa M, Vedel I, Trouvé H, Ankri J, Saint Jean O, Somme D. Multidisciplinary teams of case managers in the implementation of an innovative integrated services delivery for the elderly in France. BMC Health Services Research. 2014;14(1):159.
26. Gimm G, Want J, Hough D, Polk T, Rodan M, Nichols LM. Medical Home Implementation in Small Primary Care Practices: Provider Perspectives. J Am Board Fam Med. 2016;29(6):767-74.
27. de Stampa M, Vedel I, Bergman H, Novella J-L, Lechowski L, Ankri J, et al. Opening the Black Box of Clinical Collaboration in Integrated Care Models for Frail, Elderly Patients. The Gerontologist. 2013;53(2):313-25.
28. Peters-Klimm F, Olbort R, Campbell S, Mahler C, Miksch A, Baldauf A, et al. Physicians' view of primary care-based case management for patients with heart failure: a qualitative study. International Journal for Quality in Health Care. 2009;21(5):363-71.
29. Chalmers I. Trying to do more good than harm in policy and practice: the role of rigorous, transparent, up-to-date evaluations. The Annals of the American Academy of Political and Social Science. 2003;589(1):22-40.
30. Cooper H, Hedges LV. Cooper, Harris, and Larry V. Hedges, eds., The Handbook of Research Synthesis. New York: Russell Sage Foundation, 1994. 1994.
31. Green S, Higgins J. Cochrane handbook for systematic reviews of interventions. Version; 2005.
32. Higgins J, Green S. Handbook for systematic reviews of interventions version 5.1. 0 [updated March 2011]. The Cochrane Collaboration. 2011.
33. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. BMC medical research methodology. 2008;8(1):45.

Supplemental materials for:
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34. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Ann Intern Med. 2009;151(4):264-9.
35. Stange, KC. The generalist approach. The Annals of Family Medicine. 2009;7(3):198-203
36. Laurant N, van de Biezen M, Wijers N, Watananirun K, Kontopantelis E, van Vught AJAH. Nurses as substitutes for doctors in primary care. Cochrane Database of Systematic Reviews 2008;7.
37. Evans D. Database searches for qualitative research. Journal of the Medical Libarary Association. 2002;90(3):290-293.
38. Iliffe S, Drennan V, Manthorpe J, Gage H, Davies SL, Massey H, et al. Nurse case management and general practice: implications for GP consortia. Br J Gen Pract. 2011;61(591):e658-65.
39. Sargent P, Boaden R, Roland M. How many patients can community matrons successfully case manage? J Nurs Manag. 2008;16(1):38-46.
40. Fleiss JL, Cohen J. The equivalence of weighted kappa and the intraclass correlation coefficient as measures of reliability. Educational and psychological measurement. 1973;33(3):613-9.
41. McHugh ML. Interrater reliability: the kappa statistic. Biochemia medica: Biochemia medica. 2012;22(3):276-82.
42. Britten N, Campbell R, Pope C, Donovan J, Morgan M, Pill R. Using meta ethnography to synthesise qualitative research: a worked example. Journal of health services research & policy. 2002;7(4):209-15.
43. Fereday J, Muir-Cochrane E. Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. International journal of qualitative methods. 2006;5(1):80-92.
44. Van Houdt S, Heyrman J, Vanhaecht K, Sermeus W, De Lepeleire J. An in-depth analysis of theoretical frameworks for the study of care coordination. International journal of integrated care. 2013;13(2).
45. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Academic Medicine. 2014;89(9):1245-51.
46. Carrier S. Service Coordination for Frail Elderly Individuals: An Analysis of Case Management Practices in Québec. Journal of Gerontological Social Work. 2012;55(5):392-408.
47. Peckham A, Williams AP, Neysmith S. Balancing Formal and Informal Care for Older Persons: How Case Managers Respond. Canadian Journal on Aging. 2014;33(2):123-36.
48. Chen, FP. A fine line to walk: case managers' persepctives on sharing information with families. Qualitative Health Research. 2008;18(11):1556-65.
49. Balard F, Gely-Nargeot MC, Corvol A, Saint-Jean O, Somme D. Case management for the elderly with complex needs: cross-linking the views of their role held by elderly people, their informal caregivers and the case managers. BMC Health Services Research. 2016;16(1):635.
50. You E, Dunt D, Doyle C. What is the role of a case manager in community aged care? A qualitative study in Australia. Health & Social Care in the Community. 2016;24(4):495-506.
51. Olsson M, Larsson LG, Flensner G, Back-Pettersson S. The impact of concordant communication in outpatient care planning - nurses' perspective. J Nurs Manag. 2012;20(6):748-57.

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52. Larsson LG, Bäck-Pettersson S, Kylén S, Marklund B, Carlström E. Primary care managers' perceptions of their capability in providing care planning to patients with complex needs. Health Policy. 2017;121(1):58-65.
53. Feltes M, Wetle T, Clemens E, Crabtree B, Dubitzky D, Kerr M. Case managers and physicians: communication and perceived problems. Journal of the American Geriatrics Society. 1994;42(1):5-10.
54. Bowers BJ, Jacobson N. Best practice in long-term care case management: how excellent case managers do their jobs. Journal of Social Work in Long-Term Care. 2002;1(3):55-72.
55. O'Malley AS, Gourevitch R, Draper K, Bond A, Tirodkar MA. Ovecoming challenges to teamwork in patient-centered medical homes: a qualitative study. Journal of general internal medicine. 2015;30(2):183-92.
56. Al Sayah F, Szafran O, Robertson S, Bell NR, Williams B. Nursing perspectives on factors influencing interdisciplinary teamwork in the Canadian primary care setting. J Clin Nurs. 2014;23(19-20):2968-79.
57. Dick K, Frazier SC. An exploration of nurse practitioner care to homebound frail elders. J Am Acad Nurse Pract. 2006;18(7):325-34.
58. Netting FE, Williams FG. Geriatric case managers: integration into physician practices. Care Manag J. 1999;1(1):3-9.
59. Netting FE, Williams FG. Case manager-physician collaboration: implications for professional identity, roles, and relationships. Health Soc Work. 1996;21(3):216-24.
60. Hoff T, Scott S. The strategic nature of individual change behavior: How physicians and their staff implement medical home care. Health Care Manage Rev. 2017;42(3):226-36.
61. Egan M, Wells J, Byrne K, Jaglal S, Stolee P, Chesworth BM, et al. The process of decision-making in home-care case management: implications for the introduction of universal assessment and information technology. Health & Social Care in the Community. 2009;17(4):371-8.
62. Yamashita M, Forchuk C, Mound B. Nurse case management: negotiating care together within a developing relationship. Perspectives in Psychiatry Care. 2005;41(2):62-70.
63. Young S. Professional relationships and power dynamics between urban community-based nurses and social work case managers: advocacy in action. Professional Case Management. 2009;14(6):312-20.
64. Vanderplasschen W, Wolf J, Rapp RC, Broekaert E. Effectiveness of Different Models of Case Management for Substance-Abusing Populations. Journal of Psychoactive Drugs. 2007;39(1):81-95.
65. Burns T, Catty J, Dash M, Roberts C, Lockwood A, Marshall M. Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta-regression. Bmj. 2007;335(7615):336.
66. Gensichen J, Beyer M, Muth C, Gerlach F, Von Korff M, Ormel J. Case management to improve major depression in primary health care: a systematic review. Psychological medicine. 2006;36(1):7-14.
67. McAlister FA, Lawson FM, Teo KK, Armstrong PW. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. Bmj. 2001;323(7319):957-62.

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

68. Egerton T, Diamond L, Buchbinder R, Bennell K, Slade S. A systematic review and evidence synthesis of qualitative studies to identify primary care clinicians' barriers and enablers to the management of osteoarthritis. Osteoarthritis and cartilage. 2017;25(5):625-38.
69. Lamb BW, Brown KF, Nagpal K, Vincent C, Green JS, Sevdalis N. Quality of care management decisions by multidisciplinary cancer teams: a systematic review. Annals of surgical oncology. 2011;18(8):2116-25.
70. Molcard S. History of multidisciplinary team care for rheumatoid arthritis and review of literature. Rheumatologie-Lyon Then Trevoux-Société Aixoise de Documentation Maladie et D'édition. 1998;50:203-7.
71. Overbeck G, Davidsen AS, Kousgaard MB. Enablers and barriers to implementing collaborative care for anxiety and depression: a systematic qualitative review. Implementation Science. 2016;11(1):165.
72. Wood E, Ohlsen S, Ricketts T. What are the barriers and facilitators to implementing Collaborative Care for depression? A systematic review. Journal of affective disorders. 2017;214:26-43.
73. Starfield B. Primary care: concept, evaluation, and policy: Oxford University Press, USA; 1992.
74. Supper I, Catala O, Lustman M, Chemla C, Bourgueil Y, Letrilliart L. Interprofessional collaboration in primary health care: a review of facilitators and barreirs perceived by involved actors. Journal of Public Health. 2015;37(4):716-27
75. Morgan S, Pullon S, McKinlay E. Observation of interprofessional collaboraitve practice in priamry care teams: an integrative literature review. International jounral of nursing studies. 2015;52(7):1217-30.
76. True G, Stewart GL, Lampman M, Pelak M, Solimeo SL. Teamwork and delegation in medical homes: primary care staff persepctives in the Veterans Health Administration. Journal of general internal medicine. 2014;29(2):632-9
77. Mullahy CM. The case manager's handbook: sixth edition. Burlington, MA: Jones & Bartlett Learning; 2017.
78. Vedel I, Monette M, Beland F, Monette J, Bergman H. Ten years of integrated care: backwards and forwards. The case of the province of Québec, Canada. International journal of integrated care. 2011;(Special 10th Anniversary Edition).
79. O'Shea M, Wrigley M, Ryan J, Osborne B, Thakore J, Hanlon DO, Finegan P, Collins C. Promoting the physical health of people with severe mental illness: improving integration between primary and secondary care. International joural of integrated care. 2018;17(5).
80. McDonald KM, Sundaram V, Bravata DM, Lewis R, Lin N, Kraft SA, et al. Closing the quality gap: a critical analysis of quality improvement strategies (Vol. 7: Care Coordination). Rockville, MD: Agency for Healthcare Research and Quality (US); 2007.

Supplemental materials for:
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Supplemental Table 1: Table of characteristics of included studies, ordered by primary author's last name, showing year, country, qualitative design, patient population/setting and main areas of questioning.

Study (Year)	Country	Qualitative Design	Data Collection Method(s)	Study Population and Setting	Team, Clinic and Patient Description	Main areas of questioning
Al Sayah et al. (2014) (56)	Canada	Focused ethnography	Semi-structured interviews	Nurse-case managers (n = 20) working in three Primary Care Networks (PCNs) across Alberta	Physicians and nurses with access to decentralized pharmacists, dieticians, social workers, psychologists and exercise specialists. General patient population.	Nurses asked about (1) personal experience in PCN; (2) role of nurse in PCN team; (3) barriers and facilitators to teamwork in PCN
Balard et al. (2016) (49)	France	Inductive qualitative grounded theory analysis	Open-ended, semi-structured interviews (n = 35)	Older patients (age 60+) (n = 19); their informal caregivers (n = 11); and case managers (n = 5)	State-sponsored case managers working with primary care providers (physicians, nurses and physiotherapists). Elderly patient population.	Case managers asked about (1) conceptions of role and work; (2) relationships with patients; (3) motivations to practice; (4) perceived successes and limitations of intervention
Bowers & Jacobson (2002) (54)	USA	Grounded dimensional analysis (grounded theory and dimensional analysis)	Interviews	"Best" case managers (n = 6), selected from "multiple informant sources"	State-sponsored case managers working with primary care providers. Elderly, disabled and chronically ill Medicaid-eligible patient population.	Case managers asked questions to help researchers understand what "excellent" case managers think about the nature and quality of their work
Carrier (2012) (46)	Canada	Qualitative exploratory	Document analysis,	Case managers interviewed (n = 14)	Teams of case managers, social	Case managers interviewed and

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		embedded case study	interviews, direct observation	and shadowed (n = 6) at three Health and Social Service Centers (one mega-urban, one urban, one semi-rural)	workers, nurses and occupational therapists working with family medicine clinic. Frail and elderly patient population.	shadowed to rendering explicit the coordination processes and professional practices of case managers
Chen (2008) (48)	USA	Grounded theory analysis	Semi-structured interviews (n = 24)	Case managers (n = 24) representing 10 community support programs in 7 counties of southern Wisconsin	State-sponsored case managers working with primary care providers. Mentally ill patient population.	Case managers asked to describe their work; to describe their relationships with families; and to identify reasons why they would, or would not, contact a patient's family without consent
de Stampa et al. (2014) (25)	France	Grounded theory analysis	Focus groups	Case managers (n = 59) working at 14 multidisciplinary health centers across France	Multidisciplinary teams (nurses, social workers, psychologists, occupational therapists) working with primary care providers. Frail and elderly patient population.	Case managers asked about (1) motivations for becoming a case manager; (2) activities of case managers; (3) team of case managers and partnering; (4) implementation of CM
Dick & Frazier (2006) (57)	USA	Qualitative descriptive study	Focus groups (n = 3), individual in-depth interviews (n = 10), participant observation (n = 2)	36 Boston-based nurse practitioners (NPs) who provided primary care to homebound elders. NPs worked in clinical health centers, community-based programs and certified home care agencies	NPs collaborating with physicians, social workers, and pharmacy. Frail and elderly patient population	NPs asked to (1) identify and classify care activities; and (2) describe perceptions of the outcomes of their care activities

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Egan (2009) (61)	Canada	Qualitative descriptive study *	Focus groups and individual interviews	Case managers (n = 30) from Ontario Community Care Access ~~Centres~~ Centers (CCACs) who provided homecare to older adults	Community-based case managers who refer to homecare services (nursing, personal support, occupational therapy, nutrition, social work). Elderly patient population, recovering from hip fractures	Case managers asked questions about general experience and patient needs assessment
Feltes (1994) (53)	USA	Qualitative descriptive study	Open-ended, in-depth interviews	Case managers (n = 7) purposively selected from statewide CM agency in Connecticut	State-sponsored case managers (nursing or social work background) working with primary care providers. Frail and elderly patient population.	Case managers asked open-ended questions designed to elicit “stories” about doing CM
Gimm, Polk & Nichols (2016) (26)	USA	Qualitative descriptive study *	Focus groups (n = 13) and in-depth telephone interviews (n = 37)	Healthcare professionals in Maryland Patient ~~Centred~~ Centered Medical Home (PCMH) physicians (n = 82), nurse practitioners (n = 6) and administrators (n = 5)	Individual primary care practices organized into larger units and given access to external nurses “local care coordinators” and an information portal cataloguing patient interactions with the healthcare system.	Healthcare professionals asked about (1) motivation for joining PCMH program; (2) perception of various PCMH Program elements
Hoff & Scott (2017) (60)	USA	Qualitative descriptive study *	Semi-structured interviews (n = 51)	Six primary care PCMH (patient centered medical home) practices, varying in in clinic size, number of patients, urbaneness, sickness of patient. Physicians (n = 21),	Physicians, nurses, NPs, medical assistants and administrators working in clinics of varying size, geography (urban vs. suburban) and characteristics (healthy vs. sick	Healthcare professionals asked about (1) types of activities staff engaged in; (2) staff perspectives on PCMH activities

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				nurses (n = 14) and administrators (n = 5)	patients). General patient population.	
Illffe et al. (2011) (38)	UK	Qualitative case study	Semi-structured individual interviews, by telephone (n = 41), face-to-face (n = 29), plus stakeholder analysis	Community nurse managers from 10 English strategic health authorities and two Welsh health boards (n = 41), plus nurse case managers (n = 12), GPs (n = 12) and NHS community service managers (n = 15), all from primary care trusts (PCTs) and caring for older people	State-sponsored nurse-case managers working with physician practices. Variation in clinic geography (inner city vs. urban vs. rural). Elderly and chronically ill patient population.	Healthcare professionals asked about (1) motivations for introducing nurse case managers; (2) models of CM used; (3) working relationships between nurse case managers and other healthcare professionals; (4) perceptions of CM; (5) perceived contribution and impact of nurse CM; (6) factors supporting or inhibiting nurse CM
Larsson et al. (2017) (52)	Sweden	Qualitative descriptive study *	Semi-structured interviews (n = 18)	Primary care managers (n = 18) in western Sweden. Manager backgrounds included RNs (n = RNs); physicians (n = 5); specialist nurses (n = 5)	Primary care centers that collaborate with municipal health services. Blend of clinics that were public/private; low/high SES.	Managers asked to describe their roles, plus the roles of their employees, in care planning for patients with complex needs.
Netting & Williams (1996) (59)	USA	Qualitative descriptive study *	Semi-structured interviews, all face-to-face (n = 105), plus informal dialogs with participants	Physicians (n = 40), case managers (n = 32), care assistants (n = 2), office staff (n = 23), administrators and managers (n = 8), from nine urban sites across the U.S.	Physicians working in tandem with nurses, advanced practice nurses, social workers and physician assistants. Variation in pay mix, and community environment. Frail	Healthcare professionals asked about (1) relationships among healthcare professionals; (2) roles played by various professionals; and (3) professional identity

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					and elderly patient population.	
Netting & Williams (1999) (58)	USA	Qualitative descriptive study *	Semi-structured interviews, all face-to-face (n = 89)	Physicians (n = 44), RNs (n = 12), office staff (n = 8), nurse practitioners (n = 7), MSW-level social workers (n = 5), care assistants (n = 5), paraprofessionals (n = 3), managers (n = 3), physician assistants (n = 2), from nine urban sites across the U.S.	Physicians working in tandem with nurses, advanced practice nurses, social workers and physician assistants. Variation in pay mix, and community environment. Frail and elderly patient population.	Healthcare professionals asked (1) how much and in what ways did CM become integrated into practice; and (2) what were the critical factors that led to integration?
O'Malley et al. (2014) (55)	USA	Qualitative descriptive study *	In-depth interviews (n = 63)	Physicians (n = 22), administrative staff (n = 12), managers (n = 9), RNs (n = 7), medical assistants (n = 7), NPs/PAs (n = 3), primary care experts (n = 3) from 27 PCMHs across 17 states.	Variation in clinic size (1 to 50+ physicians); ownership styles (physician-owned vs. hospital-owned vs. community vs. military); electronic health record use. Collocated healthcare professionals. General patient population, including pediatrics.	Healthcare professionals asked about (1) team composition and role delegation; (2) barriers to teamwork and how they were (or were not) overcome); and (3) how space, policy and technology affect team-based practice
Olsson et al. (2012) (51)	Sweden	Qualitative content analysis	Focus groups (n = 2)	Registered Nurses (RNs) (n = 10) working in outpatient clinics, with three years' experience with CM	Psychiatric care and health-care centers. Patient interactions in home and in clinic. No patient population identified.	RNs asked about (1) care planning process; (2) communication with caregivers; (3) patient assessment
Peckham (2014) (47)	Canada	Mixed methods sequential	In-depth qualitative key	Case managers (n = 10), who previously performed a	Case managers from Community Care Access Centers	Case managers asked about (1) the "unit of care"; (2) the services

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		explanatory study	informant interviews	"Balance of Care" simulation	(CCACs), conducting home visits as part of an "Aging at Home" initiative. Frail and elderly patient population.	required by caregivers and care recipients; and (3) the impact of ethno-racial diversity
Sargent (2008) (39)	UK	Grounded theory analysis *	Individual interviews (n = 46)	Community matrons, active case managers, advanced primary nurses and advanced practice practitioners in six Primary Care Trusts (PCTs), scattered across the UK (n = 46), plus clinical and program leads (n = 11)	State-sponsored community matrons working alongside physician practices. Frail and elderly patient population.	Healthcare professionals asked about (1) professional background; (2) descriptions of care models; (3) day-to-day case manager activities; (4) caseloads; (5) collaboration; (6) concerns
Yamashita (2005) (62)	Canada	Grounded theory analysis	Two-time (repeated) interviews	Registered nurses (RNs) who had worked as case managers for a minimum of four months (n = 16)	Nurse case managers conduct homecare visits, rely on relationships built with other healthcare agencies. Frail and elderly patient population.	RNs asked about (1) establishing and maintaining relationships with patients and agencies; and (2) advocating for patient needs
You (2016) (50)	Australia	Qualitative descriptive study *	Individual interviews (n = 23) and group interviews (n = 10),	Diverse healthcare professionals, primarily trained in social work, allied health, and nursing, working as case managers (n = 47)	State-sponsored case managed community aged programs. Practices both government owned and private non-profit. Variation in geography and organizational size. Frail and elderly patient population.	Healthcare professionals asked to describe the roles do case managers fulfill in their practice

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Young (2009) (63)	USA	Qualitative content analysis	In-depth personal interviews (n = 20) plus qualitative content analysis	Nurse (n = 15) and social work (n = 5) case managers, working in public housing and university-affiliated community nursing centers	Community-based case managers act as liaisons to complex healthcare system, beginning with primary care provider. General (but socially vulnerable) patient population.	Healthcare professionals asked about (1) how to nurse and social work case managers conceptualize and practice advocacy; and (2) how to professional relationships facilitate advocacy

** denotes when design is not specified, but has been deduced by the primary researcher (M.H.T.)*

Selected References [from reference list in main article at https://AnnFamMed.org/:]
56. Al Sayah F, Szafran O, Robertson S, Bell NR, Williams B. Nursing perspectives on factors influencing interdisciplinary teamwork in the Canadian primary care setting. J Clin Nurs. 2014;23(19-20):2968-79.
49. Balard F, Gely-Nargeot MC, Corvol A, Saint-Jean O, Somme D. Case management for the elderly with complex needs: cross-linking the views of their role held by elderly people, their informal caregivers and the case managers. BMC Health Services Research. 2016;16(1):635.
54. Bowers BJ, Jacobson N. Best practice in long-term care case management: how excellent case managers do their jobs. Journal of Social Work in Long-Term Care. 2002;1(3):55-72.
46. Carrier S. Service Coordination for Frail Elderly Individuals: An Analysis of Case Management Practices in Québec. Journal of Gerontological Social Work. 2012;55(5):392-408.
48. Chen, FP. A fine line to walk: case managers' persepctives on sharing information with families. Qualitative Health Research. 2008;18(11):1556-65.
25. De Stampa M, Vedel I, Trouvé H, Ankri J, Saint Jean O, Somme D. Multidisciplinary teams of case managers in the implementation of an innovative integrated services delivery for the elderly in France. BMC Health Services Research. 2014;14(1):159.

57. Dick K, Frazier SC. An exploration of nurse practitioner care to homebound frail elders. J Am Acad Nurse Pract. 2006;18(7):325-34.

Supplemental materials for:
Teper M, Vedel I, Yang X, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: a systematic review and thematic synthesis. *Ann Fam Med*. 2020;18(4):355-363.

61. Egan M, Wells J, Byrne K, Jaglal S, Stolee P, Chesworth BM, et al. The process of decision-making in home-care case management: implications for the introduction of universal assessment and information technology. Health & Social Care in the Community. 2009;17(4):371-8.
53. Feltes M, Wetle T, Clemens E, Crabtree B, Dubitzky D, Kerr M. Case managers and physicians: communication and perceived problems. Journal of the American Geriatrics Society. 1994;42(1):5-10.
26. Gimm G, Want J, Hough D, Polk T, Rodan M, Nichols LM. Medical Home Implementation in Small Primary Care Practices: Provider Perspectives. J Am Board Fam Med. 2016;29(6):767-74.
60. Hoff T, Scott S. The strategic nature of individual change behavior: How physicians and their staff implement medical home care. Health Care Manage Rev. 2017;42(3):226-36
38. Iliffe S, Drennan V, Manthorpe J, Gage H, Davies SL, Massey H, et al. Nurse case management and general practice: implications for GP consortia. Br J Gen Pract. 2011;61(591):e658-65.
52. Larsson LG, Bäck-Pettersson S, Kylén S, Marklund B, Carlström E. Primary care managers' perceptions of their capability in providing care planning to patients with complex needs. Health Policy. 2017;121(1):58-65.
59. Netting FE, Williams FG. Case manager-physician collaboration: implications for professional identity, roles, and relationships. Health Soc Work. 1996;21(3):216-24.
58. Netting FE, Williams FG. Geriatric case managers: integration into physician practices. Care Manag J. 1999;1(1):3-9.
55. O'Malley AS, Gourevitch R, Draper K, Bond A, Tirodkar MA. Ovecoming challenges to teamwork in patient-centered medical homes: a qualitative study. Journal of general internal medicine. 2015;30(2):183-92.
51. Olsson M, Larsson LG, Flensner G, Back-Pettersson S. The impact of concordant communication in outpatient care planning - nurses' perspective. J Nurs Manag. 2012;20(6):748-57.
47. Peckham A, Williams AP, Neysmith S. Balancing Formal and Informal Care for Older Persons: How Case Managers Respond. Canadian Journal on Aging. 2014;33(2):123-36.
39. Sargent P, Boaden R, Roland M. How many patients can community matrons successfully case manage? J Nurs Manag. 2008;16(1):38-46.
62. Yamashita M, Forchuk C, Mound B. Nurse case management: negotiating care together within a developing relationship. Perspectives in Psychiatry Care. 2005;41(2):62-70.
50. You E, Dunt D, Doyle C. What is the role of a case manager in community aged care? A qualitative study in Australia. Health & Social Care in the Community. 2016;24(4):495-506.
63. Young S. Professional relationships and power dynamics between urban community-based nurses and social work case managers: advocacy in action. Professional Case Management. 2009;14(6):312-20.

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