

---

## Team-based care within the primary care practice: Outcomes & characteristics

### Summary

#### Time required to delivery care:

- To meet guidelines for chronic disease management and prevention, solo physicians would need to work between 22 and 27 hours per day and reorganize their practices so that they spent almost 50% of their time in chronic disease management and a third of their time in prevention.(1, 34)
- With effective team-based care, physicians are estimated to need to work a maximum of 9 hours per day. (34)

#### Team-based primary health care has been associated with the following outcomes:

- Improved chronic disease management. (3–14, 32, 36)
- Increased patient satisfaction. (8,15–18)
- Improved quality of care. (3–14, 19, 32, 33, 36)
- Successful implementation of primary care innovations such as the patients medical home. (2,20)
- Reduced emergency room use and hospitalization in some studies. (4,10,11,21).
- Improved health outcomes. (10,12,15,16,21, 33, 36)
- Improved access to care: Sharing the care with nurses, nurse practitioners and other allied health care team members improves access. (30,31)

#### Higher-performing primary care teams can achieve even greater outcomes:

- The stronger the team effectiveness the better the following outcomes:
  - Better clinical outcome measures (8, 36)
  - Lower burnout(24, 35, 36)
  - Higher patient satisfaction.(16,23)
  - Higher-quality care.(22, 36)

#### Key components of a high-performing team:

- According to the research evidence, the following characteristics have a positive association with team functioning:
  - Role clarity (37, 38)
  - Co-location (37, 42-44)
  - Common vision, mission & goals for the practice (37, 39)
  - Leadership (37)
  - Transparent processes (37)
  - Regular, effective communication, including daily huddles. (38-41)
  - Capacity for improvement (40)

**After investing in team development, studies reported the following outcomes:**

- Higher job satisfaction and morale.(25,26)
- Team members felt more autonomy.(26)
- Improvements in communication.(25)
- Improvements in quality of care & patient outcomes.(25,27–29)
- Increased patient satisfaction.(27)
- Improved teamwork processes.(28,29)

**References**

1. Yarnall KSH, Østbye T, Krause KM, Pollak KI, Gradison M, Michener JL. Family physicians as team leaders: “time” to share the care. *Prev Chronic Dis*. 2009 Apr;6(2):A59.
2. Bodenheimer T, Ghorob A, Willard-Grace R, Grumbach K. The 10 Building Blocks of High-Performing Primary Care. *Ann Fam Med*. 2014 Mar 1;12(2):166–71.
3. Health Council of Canada. Getting it right: case studies of effective management of chronic disease using primary health care teams [Internet]. Toronto, ON: Health Council; 2009. Available from: [http://www.healthcouncilcanada.ca/rpt\\_det.php?id=164](http://www.healthcouncilcanada.ca/rpt_det.php?id=164)
4. Khan S, McIntosh C, Sanmartin C, Watson D, Leeb K. Primary health care teams and their impact on processes and outcomes of care [Internet]. Ottawa, ON: Statistics Canada; 2008 Jul. (Health Research and Information Division Working Paper Series). Report No.: 82-622–X, NO.002. Available from: <http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/82-622-x/82-622-x2008002-eng.pdf>
5. Barrett J, Curran V, Glynn L, Godwin M. Interprofessional collaboration and quality primary healthcare [Internet]. Ottawa, ON: Canadian Health Services Research Foundation; 2007 Dec. Available from: [http://www.cfhi-fccass.ca/Migrated/PDF/ResearchReports/CommissionedResearch/SynthesisReport\\_E\\_rev4\\_FINAL.pdf](http://www.cfhi-fccass.ca/Migrated/PDF/ResearchReports/CommissionedResearch/SynthesisReport_E_rev4_FINAL.pdf)
6. Shojania KG, Ranji SR, McDonald KM, Grimshaw JM, Sundaram V, Rushakoff RJ, et al. Effects of quality improvement strategies for type 2 diabetes on glycemic control: a meta-regression analysis. *JAMA J Am Med Assoc*. 2006 Jul 26;296(4):427–40.
7. Walsh JME, McDonald KM, Shojania KG, Sundaram V, Nayak S, Lewis R, et al. Quality improvement strategies for hypertension management: a systematic review. *Med Care*. 2006 Jul;44(7):646–57.
8. Bower P, Campbell S, Bojke C, Sibbald B. Team structure, team climate and the quality of care in primary care: an observational study. *Qual Saf Health Care*. 2003 Aug;12(4):273–9.
9. Wagner EH. The role of patient care teams in chronic disease management. *BMJ*. 2000 Feb 26;320(7234):569–72.
10. Reiss-Brennan B, Brunisholz KD, Dredge C, Briot P, Grazier K, Wilcox A, et al. Association of Integrated Team-Based Care With Health Care Quality, Utilization, and Cost. *JAMA*. 2016 Aug 23;316(8):826–34.
11. Carter R, Riverin B, Levesque J-F, Garipey G, Quesnel-Vallée A. The impact of primary care reform on health system performance in Canada: a systematic review. *BMC Health Serv Res*. 2016 Jul 30;16:324.
12. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med*. 2006 Nov 27;166(21):2314–21.

13. Hogg W, Lemelin J, Dahrouge S, Liddy C, Armstrong CD, Legault F, et al. Randomized controlled trial of Anticipatory and Preventive multidisciplinary Team Care. *Can Fam Physician*. 2009 Dec;55(12):e76–85.
14. Pany MJ, Chen L, Sheridan B, Huckman RS. Provider Teams Outperform Solo Providers In Managing Chronic Diseases And Could Improve The Value Of Care. *Health Aff Proj Hope*. 2021 Mar;40(3):435–44.
15. Powell Davies G, Williams AM, Larsen K, Perkins D, Roland M, Harris MF. Coordinating primary health care: an analysis of the outcomes of a systematic review. *Med J Aust*. 2008 Apr 21;188(8 Suppl):S65-68.
16. Grumbach K, Bodenheimer T. Can health care teams improve primary care practice? *JAMA J Am Med Assoc*. 2004 Mar 10;291(10):1246–51.
17. Jesmin S, Thind A, Sarma S. Does team-based primary health care improve patients’ perception of outcomes? Evidence from the 2007-08 Canadian Survey of Experiences with Primary Health. *Health Policy Amst Neth*. 2012 Apr;105(1):71–83.
18. Wen J, Schulman KA. Can team-based care improve patient satisfaction? A systematic review of randomized controlled trials. *PLoS One*. 2014;9(7):e100603.
19. Campbell SM, Hann M, Hacker J, Burns C, Oliver D, Thapar A, et al. Identifying predictors of high quality care in English general practice: observational study. *BMJ*. 2001 Oct 6;323(7316):784.
20. Bodenheimer T. Building teams in primary care: 15 case studies [Internet]. Oakland, CA: California HealthCare Foundation; 2007 Jul. Available from: <http://www.chcf.org/publications/2007/07/building-teams-in-primary-care-lessons-from-15-case-studies>
21. Riverin BD, Li P, Naimi AI, Strumpf E. Team-based versus traditional primary care models and short-term outcomes after hospital discharge. *CMAJ*. 2017 Apr 24;189(16):E585–93.
22. Beaulieu M-D, Haggerty J, Tousignant P, Barnsley J, Hogg W, Geneau R, et al. Characteristics of primary care practices associated with high quality of care. *Can Med Assoc J*. 2013 Sep 3;185(12):E590–6.
23. Schmutz J, Manser T. Do team processes really have an effect on clinical performance? A systematic literature review. *Br J Anaesth*. 2013 Apr 1;110(4):529–44.
24. Willard-Grace R, Hessler D, Rogers E, Dubé K, Bodenheimer T, Grumbach K. Team Structure and Culture Are Associated With Lower Burnout in Primary Care. *J Am Board Fam Med*. 2014 Mar 1;27(2):229–38.
25. Dunn EJ, Mills PD, Neily J, Crittenden MD, Carmack AL, Bagian JP. Medical team training: applying crew resource management in the Veterans Health Administration. *Jt Comm J Qual Patient Saf Jt Comm Resour*. 2007 Jun;33(6):317–25.
26. Roth LM, Markova T, Monsur JC, Severson RK. Effects of implementation of a team model on physician and staff perceptions of a clinic’s organizational and learning environments. *Fam Med*. 2009 Jun;41(6):434–9.
27. Hughes AM, Gregory ME, Joseph DL, Sonesh SC, Marlow SL, Lacerenza CN, et al. Saving lives: A meta-analysis of team training in healthcare. *J Appl Psychol*. 2016 Sep;101(9):1266–304.
28. Salas E, DiazGranados D, Klein C, Burke CS, Stagl KC, Goodwin GF, et al. Does Team Training Improve Team Performance? A Meta-Analysis. *Hum Factors*. 2008 Dec 1;50(6):903–33.
29. Weaver SJ, Dy SM, Rosen MA. Team-training in healthcare: a narrative synthesis of the literature. *BMJ Qual Saf*. 2014 May 1;23(5):359–72.
30. Ansell D, Crispo JAG, Simard B, Bjerre LM. Interventions to reduce wait times for primary care appointments: a systematic review. *BMC Health Serv Res*. 2017 20;17(1):295.

31. D’Afflitti J, Lee K, Jacobs M, Pace C, Worcester J, Thornton S, et al. Improving Provider Experience and Increasing Patient Access Through Nurse Practitioner-Physician Primary Care Teams. *J Ambulatory Care Manage*. 2018 Dec;41(4):308–13.
32. Pany MJ, Chen L, Sheridan B, Huckman RS. Provider Teams Outperform Solo Providers In Managing Chronic Diseases And Could Improve The Value Of Care. *Health Aff (Millwood)*. 2021 Mar;40(3):435–44.
33. Schmutz JB, Meier LL, Manser T. How effective is teamwork really? The relationship between teamwork and performance in healthcare teams: a systematic review and meta-analysis. *BMJ Open*. 2019 Sep 12;9(9):e028280.
34. Porter J, Boyd C, Skandari MR, Laiteerapong N. Revisiting the Time Needed to Provide Adult Primary Care. *J GEN INTERN MED*. 2023 Jan 1;38(1):147–55.
35. Farag A, Wakefield BJ, Jaske E, Paez M, Stewart G. Determinants of Patient Aligned Care Team (PACT) members’ burnout and its relationship with patient-centered care. *Appl Ergon*. 2024 Jul;118:104272.
36. Tandan M, Dunlea S, Cullen W, Bury G. Teamwork and its impact on chronic disease clinical outcomes in primary care: a systematic review and meta-analysis. *Public Health*. 2024 Apr;229:88–115.
37. Wranik WD, Price S, Haydt SM, Edwards J, Hatfield K, Weir J, et al. Implications of interprofessional primary care team characteristics for health services and patient health outcomes: A systematic review with narrative synthesis. *Health Policy*. 2019 Jun 1;123(6):550–63.
38. Ovsepyan H, Chuang E, Brunner J, Hamilton AB, Needleman J, Heilemann M, et al. Improving primary care team functioning through evidence based quality improvement: A comparative case study. *Healthc Amst Neth*. 2023 Jun;11(2):100691.
39. Ndateba I, Wong ST, Beaumier J, Burge F, Martin-Misener R, Hogg W, et al. Primary care practice characteristics associated with team functioning in primary care settings in Canada: A practice-based cross-sectional survey. *J Interprof Care*. 2023;37(3):352–61.
40. Khan AI, Barnsley J, Harris JK, Wodchis WP. Examining the extent and factors associated with interprofessional teamwork in primary care settings. *J Interprof Care*. 2021 Apr 17;0(0):1–12.
41. Morgan S, Pullon S, McKinlay E. Observation of interprofessional collaborative practice in primary care teams: An integrative literature review. *Int J Nurs Stud*. 2015 Jul 1;52(7):1217–30.
42. Xyrichis A, Lowton K. What fosters or prevents interprofessional teamworking in primary and community care? A literature review. *Int J Nurs Stud*. 2008 Jan;45(1):140–53.
43. Rumball-Smith J, Wodchis WP, Koné A, Kenealy T, Barnsley J, Ashton T. Under the same roof: co-location of practitioners within primary care is associated with specialized chronic care management. *BMC Fam Pract*. 2014 Sep 2;15:149.
44. Crompton D, Hsu C, Coleman K, Fishman PA, Liss DT, Ehrlich K, et al. Barriers and facilitators to team-based care in the context of primary care transformation. *J Ambul Care Manage*. 2015 Jun;38(2):125–33.