

**Supplemental materials for:**

Shelley D, Blechter B, Siman N, et al. Quality of cardiovascular disease care in small urban practices. *Ann Fam Med*. 2018;16(Suppl 1):21-28.

## Appendix 1. Measures of independent variables

Variable (data source)	Survey item	Coding method
<b>Practice characteristics</b>		
Number of clinicians (Practice Survey)	Which of the following best describes your practice site size? A. Solo practice B. 2-5 clinicians (MD, DO, NP, PA) C. 6-10 clinicians D. 11-15 clinicians E. 16 or more clinicians	1 = “Solo clinician” (Answer option A) 0 = “≥2 clinicians” (Other than answer option A)
Full-time equivalent of supporting staff (Practice Survey)	Please provide the combined FTE for each of the following type of staff. A. Clinical Staff (those providing direct patient care, e.g., RN, LPN, MA, CMA) B. Office staff (those supporting practice operations and NOT involved directly in patient care, e.g., receptionists, billing staff, data analyst, etc.) C. Psychologist D. Social worker or Licensed Social Worker E. PharmD or Pharmacist F. Other	Total FTE equals to the sum of FTE in all the categories A-F
Practice ownership (Practice Survey)	Which of the following best describes your practice site size? A. Clinician-owned solo or group practice B. Hospital/Health system owned C. Health maintenance organization (e.g., Kaiser Permanente) D. Federally Qualified Health Center or Look-Alike E. Non-federal government clinic (e.g., state, county, city, public health clinic, etc.) F. Academic health center / faculty practice G. Federal (Military, Veterans Administration, Department of Defense) H. Rural Health Clinic I. Indian Health Service J. Other	1 = “Independent” (Answer option A) 0 = “Non-independent” (Answer options B-J)
ACO status (Practice Survey)	Is your practice site part of an accountable care organization (ACO)? (Check all that apply.) A. Yes, Medicaid ACO B. Yes, Medicare ACO (Pioneer, Shared Savings Plan, or Advance Payment) C. Yes, Private/Commercial ACO D. Yes, Another type of ACO E. No, not part of an ACO F. Don’t know	1 = “Part of ACO” (Answer options A-D) 0 = “Other” (Answer options E and F)
MUA designation (HRSA Website)	Has your practice site been designated as a medically underserved area (MUA) or medically underserved population (MUP) by the Health Resources and Service Administration (HRSA)? A. Yes      B. No	1 = “Yes” 0 = “No”

PCMH recognition (PCIP)	Is your practice site recognized or accredited as a patient-centered medical home (PCMH) A. Yes      B. No	1 = “Yes” 0 = “No”
Patient panel size (PCIP)	Please estimate the average patient panel size for a full-time clinician in your practice site	

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### Patient characteristics

% of non-Hispanic white patient (PCIP)	Please give the percentage of your patients in the following categories. A. White B. Black/African American C. American Indian or Alaska Native D. Asian E. Native Hawaiian or Other Pacific Islander F. Some Other Race/Mixed Race G. Percent Unknown	
% of Medicaid payer (Practice Survey)	Please give the approximate percentage of your patients in the following payer categories. A. Medicare only B. Medicaid only C. Dual Medicare and Medicaid D. Private or commercial E. No insurance F. Other	Total percent of patients on Medicaid was calculated by summing answer options B and C

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### Organizational capacity

Adaptive reserve (Practice Member Survey)	<ol style="list-style-type: none"> <li>1. Mistakes have led to positive changes here</li> <li>2. I have many opportunities to grow in my work</li> <li>3. People in our practice actively seek new ways to improve how we do things</li> <li>4. People at all levels in this office openly talk about what is and isn't working</li> <li>5. Leadership strongly supports practice change efforts</li> <li>6. After trying something new, we take time to think about how it worked</li> <li>7. Most of the people who work in our practice seem to enjoy their work</li> <li>8. It is hard to get things to change in our practice</li> <li>9. This practice is a place of joy and hope</li> <li>10. This practice learns from its mistakes</li> <li>11. Practice leadership promotes an environment that is an enjoyable place to work</li> <li>12. People in this practice operate as a real team</li> <li>13. When we experience a problem in the practice, we make a serious effort to figure out what's really going on</li> <li>14. Leadership in this practice creates an environment where things can be accomplished</li> </ol> <p><i>Each item is offered a 5-point Likert scale as below.</i></p> <p>A. Strongly disagree</p>	Each item was scored on a 1 (“Strongly disagree”) to 5 (“Strongly agree”) scale. To obtain the mean adaptive reserve score, we converted the score for each item to a 0-1 scale and then summed up all the non-missing values and divided by the total number of non-missing items.
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	<p>B. Disagree</p> <p>C. Neutral</p> <p>D. Agree</p> <p>E. Strongly agree</p>	
CPCQ (Practice Survey)	<p>Indicate the extent to which you agree or disagree that your practice site has used the following strategies to improve cardiovascular preventive care:</p> <ol style="list-style-type: none"> <li>1. Providing information and skills-training</li> <li>2. Using opinion leaders, role modeling. Or other vehicles to encourage support for change</li> <li>3. Changing or creating systems in the practice that make it easier to provide high quality care</li> <li>4. Removal or reduction of barriers to better quality of care</li> <li>5. Using teams focused on accomplishing the change process for improved care</li> <li>6. Delegating to non-clinician staff the responsibility to carry out aspects of care that are normally the responsibility of physicians</li> <li>7. Providing to those who are charged with implementing improved care the power to authorize and make the desired changes</li> <li>8. Periodic measurements of care quality for assessing compliance with any new approach to care</li> <li>9. Reporting measurements of practice performance on cardiovascular disease prevention measures (such as aspirin for patients at risk for ischemic vascular disease) for comparison with their peers</li> <li>10. Setting goals and benchmarking rates of performance quality on cardiovascular disease prevention measures at least yearly</li> <li>11. Customizing the implementation of cardiovascular disease prevention care changes to the practice</li> <li>12. Using rapid cycling, piloting, pre-testing, or other vehicles for reducing the risk of negative results for introducing organization-wide change in care</li> <li>13. Deliberately designing care improvements so as to make clinician participation less work than before</li> <li>14. Deliberately designing care improvements to make the care process more beneficial to the patient</li> </ol> <p><i>Each item is offered a 5-point Likert scale as below.</i></p> <p>A. Strongly disagree</p> <p>B. Disagree</p> <p>C. Neutral</p> <p>D. Agree</p> <p>E. Strongly agree</p> <p>F. NA</p>	<p>Each item was scored on a 1 (“Strongly disagree”) to 5 (“Strongly agree”) scale. To obtain the mean CPCQ score, we converted the score for each item to a 0-1 scale, and then summed up all the non-missing values and divided by the total number of non-missing items.</p>

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Burnout (Practice Member Survey)	Using your own definition of burnout - please indicate which of the following statements best describes how you feel about your situation at work A. I enjoy my work. I have no symptoms of burnout B. Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out C. I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion D. The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot E. I feel completely burned out and often wonder if I can go on practicing. I am at the point where I may need some changes	1 = "Burnout" (Answer options C-E) 0 = "Not burned out" (Answer options A or B)
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APPENDIX 2. Algorithm of calculating the proportion of patients who meet the treatment target of the ABCS clinic guidelines

Outcome	Proportion of patients who meet the treatment target of the clinic guideline
Aspirin	$\frac{\text{Patients aged } \geq 18 \text{ years with ASCVD who were treated with aspirin or other antithrombotic}}{\text{Patients aged } \geq 18 \text{ years with diagnosis of ASCVD}} \times 100\%$
Blood pressure control	$\frac{\text{Patients aged 18 – 85 whose blood pressure was adequately controlled (< 140/90)}}{\text{Patients aged 18 – 85 with diagnosis of hypertension}} \times 100\%$
Cholesterol management	$\frac{\text{Patients who are on statin therapy}}{\text{Patients aged } \geq 21 \text{ years and diagnosis of ASCVD or with a history of LDL } \geq 190\text{mg/dL, or adults aged 40 – 75 with diabetes and LDL 70 – 189mg/dL}} \times 100\%$
Smoking	$\frac{\text{Patients aged } \geq 18 \text{ who were screened for tobacco use AND who received cessation intervention or counseling if identified as a tobacco user}}{\text{Patients aged } \geq 18 \text{ with 2 or more visits during the measurement period or one or more preventive visits during the measurement period}} \times 100\%$
Composite measure	$\frac{\text{Patient aged 21 – 85 who are on aspirin and statin therapy and blood pressure controlled to < 140/90}}{\text{Patients aged 21 – 85 with diagnosis of AASCVD}} \times 100\%$