

# Atherosclerotic Cardiovascular Disease

## REDUCING POPULATION RISK

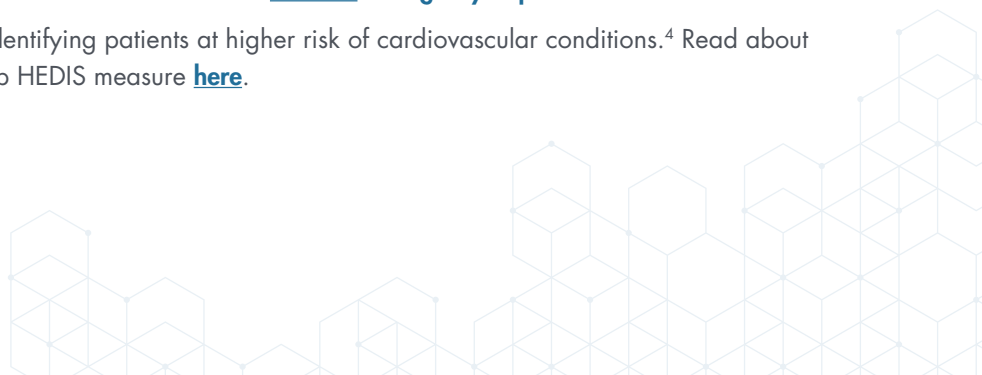
### PATIENT-CENTERED CARE

Holistic approaches to health, including screening for and addressing patients' social needs, and providing dietary and lifestyle counseling opportunities, empowers patients and improves health outcomes.

**Addressing unmet social needs: The role of social determinants of health (e.g., neighborhood environment, food security, socioeconomic status) in overall health is increasingly clear.<sup>1</sup>**

- ▶ Screening for and addressing resource needs is associated with improved blood pressure and lipid levels.<sup>2</sup>
- ▶ Connecting individuals with community resources is associated with reduced emergency department visits.<sup>3</sup>

Data on unmet social needs can be useful for identifying patients at higher risk of cardiovascular conditions.<sup>4</sup> Read about NCQA's Social Needs Screening and Follow-Up HEDIS measure [here](#).



**Dietary and lifestyle counseling:** Studies show that behavioral and dietary counseling slightly improves cholesterol levels in patients at risk of cardiovascular disease. Aspects of successful dietary and lifestyle counseling for patients at risk of a first or second cardiac event include:

- ▶ **Goal setting.**
- ▶ **Self-monitoring.**
- ▶ **Follow-up and care coordination.**
- ▶ **Clinical data system interventions (such as decision support in EHRs and patient data dashboards).**

One **study** found that dietary counseling provided by a primary care physician to patients at risk of ASCVD led to meaningful improvements in diet and lipid levels.<sup>5</sup>

A **systematic review** of randomized controlled trials demonstrated that behavioral counseling interventions are associated with small, but statistically significant, benefits across health outcomes (blood pressure, cholesterol levels, BMI, physical activity levels, dietary health).<sup>6</sup>

This **article** summarizes the evidence of behavioral interventions and outlines recommendations. Components and characteristics of behavioral interventions for addressing cardiovascular risk factors include group-based interventions, goal setting, self-monitoring strategies, consistent follow-up and individual-focused interventions.<sup>7</sup>

This **article** outlines strategies for addressing diet, physical activity, smoking cessation, stress management and cardiac rehabilitation, particularly for patients who have experienced a first cardiac event. Quality improvement and decision support, telehealth and coordinated care delivery systems are highlighted across strategy domains.<sup>8</sup> This Population Health Approach to Addressing ASCVD resource contains detailed information on these approaches.



## QUALITY IMPROVEMENT

A comprehensive cardiovascular **risk reduction strategy** for health systems includes the use of dashboards comprising patient EHR data, patient risk calculation, measures for quality improvement and decision support.<sup>9</sup> Practice facilitators engaged with providers learning to use the dashboard and automatic patient risk calculators to identify high risk patients and intervene.

The intervention targeted standard measures (hypertension control, aspirin for established CVD, counseling for tobacco cessation), as well as new measures capturing risk-based statin prescribing patterns and aspirin for primary prevention. Within 1 year of its implementation, it was associated with increased statin prescriptions and substantially reduced ASCVD risk scores for patients identified as high risk.

The Agency for Healthcare Research and Quality (AHRQ), through its EvidenceNOW Initiative, launched a **project** to advance heart health that implemented a similar QI approach. AHRQ provided support to primary care practices to develop dashboards and coach care teams on identifying high-risk patients for targeted for aspirin and statin interventions. Finding that many practices were missing the cholesterol laboratory data necessary to calculate patient risk, AHRQ **developed** statistical and care coordination strategies to address this gap.<sup>10</sup>

### Key Components of ASCVD QI Initiatives

- **Patient data dashboards**
- **Automated risk calculation**
- **Quality measures**
- **Decision support**

**Risk calculation:** As in the QI examples above, screening for traditional ASCVD risk factors and applying race- and sex-specific pooled cohort equations ([ASCVD Risk Estimator](#)) to estimate 10-year ASCVD risk for asymptomatic adults 40–75 years of age is an important step in monitoring patient populations and identifying patients in need of intervention.

**Prescribing statins:** Statin therapy is [associated](#) with a reduction in mortality and cardiovascular events across patient demographic groups.<sup>11</sup> Prescribing statins is also [cost-effective](#)<sup>12</sup>, and is currently [recommended](#) by the U.S. Preventive Services Task Force for adults 40–75 who have one or more risk factors and an estimated 10-year CVD risk of  $\geq 10\%$ .<sup>13</sup> Other cholesterol lowering drugs, such as PCSK9 inhibitors, are recommended for patients who are at very high risk and for whom statin therapy has not been effective. (Other newly approved drugs, such as adenosine triphosphate-citrate lyase inhibitors, do not yet have published prescription guidelines.)

Read about NCQA's statin therapy adherence measures [here](#).



## CARE COORDINATION

**Team-based care:** Team-based care is [recommended](#) by guidelines, and promotes intentional and strategic management of patients at risk of ASCVD.<sup>14</sup> A model of care integrating community health workers and patient navigators largely [improves](#) cholesterol outcomes.<sup>15</sup> Team-based care structures allow appropriate patient follow-up, medication management and adherence support, lifestyle counseling and access to mental health providers.

This [article](#) highlights the challenges and priorities for addressing cardiovascular health in patients with serious mental illness. High-intensity care coordination and care management processes that establish accountability and facilitate communication across behavioral and physical health providers is crucial for supporting vulnerable populations.<sup>16</sup>

**Telehealth monitoring:** Telemedicine is an [effective](#) and accessible route for tracking patient risk of ASCVD, improving medication adherence and monitoring symptoms.<sup>17</sup>

Calls with clinicians and text message interventions are [associated](#) with decreased hospitalizations and mortality rates, increased cost-effectiveness and improved quality of care.<sup>18</sup>

A [barrier](#) to widespread adoption of telehealth is lack of reimbursement for telehealth appointments vs. face-to-face visits.<sup>19</sup>



## AWARENESS CAMPAIGNS

Click a link below for information on campaigns that promote public cholesterol management awareness:

- ▶ [Cholesterol | cdc.gov](#)
- ▶ ["Live to the Beat" Campaign Toolkit | Million Hearts® \(hhs.gov\)](#)
- ▶ [Million Hearts® | American Heart Association](#)
- ▶ [Counter Cholesterol | National Forum](#)
- ▶ [Know Your Numbers | National Forum](#)
- ▶ [LDL Safe Zone—Family Heart Foundation](#)

## REFERENCES

1. Powell-Wiley, T. M., Baumer, Y., Baah, F. O., Baez, A. S., Farmer, N., Mahlobo, C. T., Pita, M. A., Potharaju, K. A., Tamura, K., & Wallen, G. R. (2022). Social Determinants of Cardiovascular Disease. *Circulation Research*, 130(5), 782–799. <https://doi.org/10.1161/CIRCRESAHA.121.319811>
2. Berkowitz, S. A., Hulberg, A. C., Standish, S., Reznor, G., & Atlas, S. J. (2017). Addressing Unmet Basic Resource Needs as Part of Chronic Cardiometabolic Disease Management. *JAMA Internal Medicine*, 177(2), 244–252. <https://doi.org/10.1001/jamainternmed.2016.7691>
3. Parish, W., Beil, H., He, F., D’Arcangelo, N., Romaine, M., Rojas-Smith, L., & Haber, S. G. (2023). Health Care Impacts Of Resource Navigation For Health-Related Social Needs In The Accountable Health Communities Model. *Health Affairs*, 42(6), 822–831. <https://doi.org/10.1377/hlthaff.2022.01502>
4. Drake, C., Lian, T., Trogon, J. G., Edelman, D., Eisenon, H., Weinberger, M., Reiter, K., & Shea, C. M. (2021). Evaluating the association of social needs assessment data with cardiometabolic health status in a federally qualified community health center patient population. *BMC Cardiovascular Disorders*, 21(1), 342. <https://doi.org/10.1186/s12872-021-02149-5>
5. Kulick, D., Langer, R. D., Ashley, J. M., Gans, K. M., Schlauch, K., & Feller, C. (2013). Live well: A practical and effective low-intensity dietary counseling intervention for use in primary care patients with dyslipidemia - a randomized controlled pilot trial. *BMC Family Practice*, 14(1), 59. <https://doi.org/10.1186/1471-2296-14-59>
6. Patnode, C. D., Redmond, N., Iacocca, M. O., & Henninger, M. (2022). Behavioral Counseling Interventions to Promote a Healthy Diet and Physical Activity for Cardiovascular Disease Prevention in Adults Without Known Cardiovascular Disease Risk Factors: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*, 328(4), 375–388. <https://doi.org/10.1001/jama.2022.7408>
7. *Interventions to Promote Physical Activity and Dietary Lifestyle Changes for Cardiovascular Risk Factor Reduction in Adults* | Circulation. (2010). *Circulation*;122:406–441. <https://doi.org/10.1161/CIR.Ob013e3181e8edf1>
8. Aggarwal, M., Ornish, D., Josephson, R., Brown, T. M., Ostfeld, R. J., Gordon, N., Madan, S., Allen, K., Khetan, A., Mahmoud, A., Freeman, A. M., & Aspry, K. (2021). Closing Gaps in Lifestyle Adherence for Secondary Prevention of Coronary Heart Disease. *American Journal of Cardiology*, 145, 1–11. <https://doi.org/10.1016/j.amjcard.2021.01.005>
9. Cykert, S., Keyserling, T. C., Pignone, M., DeWalt, D., Weiner, B. J., Trogon, J. G., Wroth, T., Halladay, J., Mackey, M., Fine, J., In Kim, J., & Cene, C. (2020). A controlled trial of dissemination and implementation of a cardiovascular risk reduction strategy in small primary care practices. *Health Services Research*, 55(6), 944–953. <https://doi.org/10.1111/1475-6773.13571>
10. *About Advancing Heart Health* | Agency for Healthcare Research and Quality. (2021). Retrieved October 4, 2023, from <https://www.ahrq.gov/evidencenow/projects/heart-health/about/index.html>
11. Chou, R., Cantor, A., Dana, T., et al. (2022). Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 328(8):754–771. doi:10.1001/jama.2022.12138
12. Eisavi, M., Mazaheri, E., Rezapour, A., Vahedi, S., Hadian, M., & Jafari, A. (2021). The Cost-Effectiveness and Cost-Utility of Statin Drug for the Treatment of Patients with Cardiovascular Disease, A Systematic Review. *International Journal of Preventive Medicine*, 12, 39. [https://doi.org/10.4103/ijpvm.IJPVM\\_125\\_20](https://doi.org/10.4103/ijpvm.IJPVM_125_20)
13. US Preventive Services Task Force. (2022). Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: US Preventive Services Task Force Recommendation Statement. *JAMA*. 328(8):746–753. doi:10.1001/jama.2022.13044
14. Arnett, D. K., Blumenthal, R. S., Albert, M. A., Michos, E. D., Buroker, A. B., Miedema, M. D., Goldberger, Z. D., Muñoz, D., Hahn, E. J., Smith, S. C., Himmelfarb, C. D., Virani, S. S., Khera, A., Williams, K. A., Lloyd-Jones, D., Yeboah, J., McEvoy, J. W., & Ziaeian, B. (2019). 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: Executive Summary. *Circulation*, 140(11), e563–e595. <https://doi.org/10.1161/CIR.0000000000000677>
15. HDSP: Community Health Workers | *The Community Guide*. (2023, May 12). <https://www.thecommunityguide.org/findings/heart-disease-stroke-prevention-interventions-engaging-community-healthworkers.html>
16. Murphy, K. A., Dalcin, A., McGinty, E. E., Goldsholl, S., Heller, A., & Daumit, G. L. (2021). Applying Care Coordination Principles to Reduce Cardiovascular Disease Risk Factors in People With Serious Mental Illness: A Case Study Approach. *Frontiers in Psychiatry*, 12, 742169. <https://doi.org/10.3389/fpsy.2021.742169>
17. Takahashi, E. A., Schwamm, L. H., Adeoye, O. M., Alabi, O., Jahangir, E., Misra, S., Still, C. H., & null, null. (2022). An Overview of Telehealth in the Management of Cardiovascular Disease: A Scientific Statement From the American Heart Association. *Circulation*, 146(25), e558–e568. <https://doi.org/10.1161/CIR.0000000000001107>
18. Kruse, C. S., Soma, M., Pulluri, D., Nemali, N. T., & Brooks, M. (2017). The effectiveness of telemedicine in the management of chronic heart disease – a systematic review. *JRSM Open*, 8(3), 2054270416681747. <https://doi.org/10.1177/2054270416681747>
19. Takahashi, E. A., Schwamm, L. H., Adeoye, O. M., Alabi, O., Jahangir, E., Misra, S., Still, C. H., & null, null. (2022). An Overview of Telehealth in the Management of Cardiovascular Disease: A Scientific Statement From the American Heart Association. *Circulation*, 146(25), e558–e568. <https://doi.org/10.1161/CIR.0000000000001107>

