

Million Hearts®: Preventing Heart Attacks and Strokes in Primary Care

Improving Cholesterol Management Case for Change

Clinical Rationale

More than 100 million U.S. adults, 20 years or older, have total cholesterol levels equal to 200 mg/dL or more, while almost 31 million have levels 240 mg/dL or more.¹ Elevated blood cholesterol is a major risk factor for cardiovascular disease (CVD). Numerous randomized trials have demonstrated that treatment with a statin reduces LDL-C and risk of major cardiovascular events by approximately 50 percent.² Current guidelines identify the following high-risk individuals who would benefit from statin therapy: 1) individuals with atherosclerotic cardiovascular disease (ASCVD), 2) individuals with LDL-C \geq 190 mg/dL, or 3) individuals with diabetes and LDL-C 70-189 mg/dL.³ However, of these high risk patients, only approximately 55% are currently prescribed/taking a statin.⁴ Work to date has shown that while the highest number of patients not on a statin as indicated are in the diabetes and LDL-C 70-189 mg/dL group, there is the greatest room for improvement in the high LDL-C (\geq 190 mg/dL) group.

Business Rationale (Potential ROI)

Together, heart disease and stroke are among the most widespread and costly health problems facing the nation, accounting for over \$316.6 billion in health care expenditures and lost productivity annually (CDC, 2019). CVD accounts for 1-in-6 US health care dollars spent – almost \$1 billion per day⁵—and for 800,000 deaths every year, almost a third of US deaths.⁶ With the transition to value-based care, efforts focused on the preventing cardiovascular events are a business imperative. Studies have found that statin use is a cost-effective method to lower risk of CVD events^{7,8} and that this benefit will increase as more statin drugs become generic.⁹

¹ Mozaffarian, D., Benjamin, E.J., Go, A.S., et al. (2015). "Heart disease and stroke statistics-2015 update: a report from the American Heart Association." *Circulation*, 131, e29-e322. doi:10.1161/CIR.0000000000000152

² Fitch K, Goldberg SW, Iwasaki K, Pyenson BS, Kuznik A, Solomon HA. Estimates of commercial population at high risk for cardiovascular events: impact of aggressive cholesterol reduction. *Am Health Drug Benefits*. 2009;2(6):224-32

³ Stone, N.J., J. Robinson, A.H. Lichtenstein, C.N. Bairey Merz, C.B. Blum, R.H. Eckel, A.C. Goldberg, D. Gordon, D. Levy, D.M. Lloyd-Jones, P. McBride, J.S. Schwartz, S.T. Shero, S.C. Smith Jr., K. Watson, and P.W.F. Wilson. "2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines." Full Panel Report Supplement. *Circulation*, vol. 129, no. 25, Suppl. 2, June 24, 2014, pp. S1-S45. Available at <http://circ.ahajournals.org/content/circulationaha/early/2013/11/11/01.cir.0000437738.63853.7a.full.pdf>

⁴ Wall HK, Ritchey MD, Gillespie C, Omura JD, Jamal A, George MG. Vital Signs: Prevalence of key cardiovascular disease risk factors for Million Hearts 2022 – United States, 2011-2016. 2018;67(35):983-991.

⁵ Benjamin EJ, Virani SS, Callaway CW, et al.; American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2018 update: a report from the American Heart Association. *Circulation*. 2018;137:e67–492.

⁶ Yoon PW, Gillespie CD, George MG, Wall HK. Control of hypertension among adults--National Health and Nutrition Examination Survey, United States, 2005-2008. *MMWR Suppl*. 2012 Jun 15;61(2):19-25

⁷ Pandya et al. Cost-effectiveness of 10-Year Risk Thresholds for Initiation of Statin Therapy for Primary Prevention of Cardiovascular Disease. *JAMA*. 2015 July 14; 314(2): 142–150. doi:10.1001/jama.2015.6822.

⁸ Heller et al. Evaluating the Impact and Cost-Effectiveness of Statin Use Guidelines for Primary Prevention of Coronary Heart Disease and Stroke. *Circulation*. 2017 Sep 19;136(12):1087-1098. doi: 10.1161/CIRCULATIONAHA.117.027067

⁹ Mitchell, A.P, Simpson, R.J. Statin cost effectiveness in primary prevention: A systematic review of the recent cost-effectiveness literature in the United States. *BMC Research Notes* 2012, 5:373 <http://www.biomedcentral.com/1756-0500/5/373>