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Improved management of patients with high LDL-C through electronic health record-directed algorithms for guideline-concordant high-intensity statin prescribing

The development of fatty deposits in your blood vessels is silent, with no symptoms of hypercholesterolemia until a potentially catastrophic event such as a heart attack or stroke. Hypercholesterolemia accounts for a third of ischemic heart disease, an estimated 2.6 million deaths (4.5% of total) and 29.7 million DALYS (Disability-adjusted life year) globally. Laboratory medicine. Measurement of low density lipoproteins cholesterol (LDL-C) is the only way to detect hypercholesterolemia and is increasingly important with a global hypercholesterolemia prevalence of 39% in adults.

Available treatment for elevated cholesterol include lifestyle changes and medications, such as statins. Statins are highly effective at reducing LDL-C, safe for most people, and are the recommended treatment for hypercholesterolemia. Despite their effectiveness, high-intensity statins are underutilized among adults with LDL-C \geq 190 mg/dL. Consequently, as part of the SureNet program, Kaiser Permanente Southern California conceived and initiated the Statin Start program. The program aims to identify undiagnosed and untreated hypercholesterolemia (LDL-C \geq 190 mg/dL) and enable



Pictured from left to right: Kristi Reynolds, Matthew Mefford, Michael Kanter, Ronald Scott, Tracey Imley

treatment and follow-up. Using electronic surveillance to identify patients with gaps in care, high-intensity statin orders and lipid panel testing are automatically generated for primary care provider approval. To help ensure approval and minimize care provider burden, care managers alert a patient's primary care provider of pending orders for their approval. Patients are then notified of their new prescription and follow-up laboratory requisition.

Through this multi-disciplinary collaboration, there was a 6% improvement (from 21.5% to 27.5%) in high-intensity statin prescription orders for patients with LDL-C at or above 190 mg/dL, corresponding to a 22.2% relative increase (from 34.7% to 42.4%, $p < 0.001$) in the proportion of patients who improved their LDL-C below 190 mg/dL. Impressively, clinicians also find this program beneficial to their workload. "The KPSC SureNet program reduces the clinician burden associated with identifying and correcting missed diagnosis

of hyperlipidemia and missing medications and lab orders, enabling clinicians to focus on high quality patient care. In addition, the program eliminated a missed diagnosis of hyperlipidemia in patients with an LDL at or above 190 mg/dL." – Michael Kanter, *Chair of the Department of Clinical Science; Professor, Kaiser Permanente Bernard J. Tyson School of Medicine, Associate Investigator, Kaiser Permanente Southern California Department of Research & Evaluation.*

For their commitment to patient care and measurably better healthcare, the Kaiser Permanente SureNet, Statin Start program team have been awarded the Top 2024 UNIVANTS of Healthcare Excellence award. Congratulations to Matthew Mefford, *Research Scientist, Department of Research & Evaluation*, Michael Kanter, *Chair of the Department of Clinical Science; Professor, Kaiser Permanente Bernard J. Tyson School of Medicine Associate Investigator, Kaiser Permanente Southern California Department of Research & Evaluation*, Ronald Scott, *Family Medicine; Cholesterol and Cardiovascular Risk National Clinical Lead, KPSC Co-Lead, Southern California Permanente Medical Group*, Kristi Reynolds, *Director, Epidemiologic Research, Department of Research & Evaluation Professor, Kaiser Permanente Bernard J. Tyson School of Medicine*, Tracy Imley, *Regional Assistant Medical Director, Quality, Clinical Analysis, and Value Demonstration.*

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