# PRagmatic Trial of Messaging to Providers About Treatment of HyperLIPIDemia (PROMPT-LIPID):

Learn more about the clinical trial

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## BACKGROUND >

PROMPT-LIPID evaluated the impact of real-time electronic health record (EHR) alerts on encouraging intensifying lipid-lowering therapy (LLT) in very high-risk atherosclerotic cardiovascular disease (ASCVD) outpatients over 90 days compared to usual care. The results of this study show promise for improving cholesterol management strategies for patients at high risk of adverse cardiovascular events.<sup>1</sup>

Elevated low-density lipoprotein cholesterol (LDL-C) levels are a causal risk factor for ASCVD, yet LLT, which can improve cardiovascular outcomes, remains underutilized in high-risk ASCVD patients.<sup>1</sup>

Current guidelines recommend intensification of LLT if the LDL-C is above 70 mg/dL (55 mg/dL in a more recent expert consensus decision pathway) for very high-risk ASCVD patients.<sup>1</sup> Despite these recommendations, few patients with very high-risk ASCVD receive the necessary LLT intensification, and therefore do not achieve recommended LDL-C levels.<sup>1</sup>

### STUDY METHODS >

#### **Study Design and Intervention:**

The PROMPT-LIPID trial was a pragmatic, cluster- randomized trial assessing the effect of EHR alerts among clinicians treating patients with very high-risk ASCVD and LDL-C levels of 70 mg/dL or higher.<sup>1</sup>

The intervention was a best practice advisory alert that notified clinicians in the alert group that a given patient had very high-risk ASCVD and displayed individualized evidence-based treatment recommendations for LLT intensification in a dynamic, patient-specific order set. For clinicians in the no-alert group (usual care), eligible patients identified by the EHR did not generate a visible alert, and their patients received usual care.<sup>1</sup>

#### **Randomization and Participation:**

Clinicians were randomized either to the electronic alert group (intervention) or no alert group (usual care). Patients were automatically enrolled if seen by a consenting clinician meeting the eligibility criteria.<sup>1</sup>



#### 2018 American Heart Association (AHA)/American College of Cardiology (ACC) Guidelines



LDL-C level <70 mg/dL for very high-risk ASCVD patients<sup>2</sup>

#### 2022 ACC Expert Consensus Decision Pathway



LDL-C level <55 mg/dL for very high-risk ASCVD patients<sup>3</sup>

### About the Alert:

The alert was created and modified after targeted sessions with provider focus groups to elicit feedback on design, user experience, and hindrance to workflow.<sup>4</sup>

#### STUDY RESULTS >



There was a numerically higher rate of LLT intensification\* in the alert group compared to the no alert group (usual care) (14.1% vs. 10.4%), but this difference was not statistically significant (p = 0.08 OR 1.42 [95% CI 0.96, 2.10]).1

\*Intensification included the initiation or increase of high-intensity statins, or certain non-statin therapies.

Alerted clinicians who did not dismiss the alert were 2.3X more likely to intensify any LLT<sup>1</sup>

# SECONDARY OUTCOMES

No significant differences in secondary outcomes between the alert and no alert groups (usual care) including:1



LDL-C levels and proportion reaching LDL-C of <70 or < 55 mg/dL within 6 months<sup>1</sup>



**Rate of major** adverse cardiovascular events (MACE)\* within 6 months<sup>1</sup>

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Incidences of emergency department visits within 6 months<sup>1</sup>

Within both alert and no alert groups (usual care), there were significant increases in prescriptions of LLTs from baseline to 90 days<sup>1</sup>

\*Defined as hospitalization for myocardial infarction, ischemic stroke, or coronary or peripheral arterial revascularization within 6 months.





For 16.6% of patients, clinicians in the alert group accepted the recommendation as suggested<sup>1</sup>

For **31.4%** of patients, clinicians in the alert group selected "I will adjust medications," suggesting a current or future action<sup>1</sup>

FURTHER INSIGHTS



Providers who adhered to the alert (did not dismiss it) were 42%more likely to intensify LLT than providers who were assigned to the no alert group (usual care).<sup>1</sup>



83% of alerted providers agreed the BPA effectively enabled improved prescription of LLT for VHR ASCVD<sup>4</sup>

#### REFERENCES:

HEPERENCES: 1. Shah NN, et al. Pragmatic Trial of Messaging to Providers About Treatment of Hyperlipidemia (PROMPT-LIPID): A Randomized Clinical Trial. Circ Cardiovasc Qual Outcomes. 2024;17(5):e010335. Published 2024 Apr 18. 2, Grundy SM et al. Circulation. 2018;139(25). 3. Lloyd-Jones DM et al. J Am Coll Cardiol. 2022;80(14):1366-1418. 4. Riello R. ALERT! Can clinical decision support tools "PROMPT' better quality ASCVD care? Clinical and Translational Research Accelerator, Yale School of Medicine. Presented at: American Heart Association Summit. April 25, 2023. 5. Shah NN et al. A PRagmatic Trial Of Messaging to Providers About Treatment of HyperLiPIDemia (PROMPT-Lipid). Presented at: 95th annual Scientific Sessions of the American Heart Association Featured Science Presentation for Digital Innovations to Improve CVD Prevention, Chicago, IL. November 7, 2022. https://yale.box.com/s/mlcgdx639bxws78bl3kdwle9g0soqvv0. Accessed August 23, 2024. (Suppl):S1053. REF-99213.

### **CONCLUSIONS AND FUTURE IMPLICATIONS >**



The proportion of patients with very high-risk ASCVD with LLT intensification was numerically higher with real-time, targeted, and individualized EHR alert as compared with usual care, but did not reach statistical significance.<sup>1</sup>



Among clinicians who did not dismiss the alert, there was a greater than 2-fold increase in LLT intensification frequency.<sup>1</sup>



The results of this EHR-based intervention pose the question if real-time, targeted alerts as part of a comprehensive intervention can be scaled across other health systems for future research.<sup>1</sup>

#### EHR ALERT<sup>5</sup>

Patient May Need Lipid Medication Optimization

Your patient has clinical atherosclerotic cardiovascular disease (ASCVD)

LDL Calculated	108	7/14/2022
HDL	47	7/14/2022
Cholesterol	172	7/14/2022
AST	18	2/8/2020
ALT	18	2/8/2020
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Current Lipid Lowering Therapy Antihyperlipidemic - HMG CoA Reductase Inhibitors (statins)

20 mg tablet

In order to improve the care of patients at high risk for adverse CV events, we present guideline-based treatment options below. In addition to ensuring adherence to current lipid lowering medication and continued lifestyle modification, please consider whether any of the following are appropriate for your patient:

#### Intensify and/or add therapy

This patient is part of a randomized clinical trial. The guideline-recommended treatment for hyperlipidemia in the alert IS NOT a substitute for clinical judgment and individual-patient-centered decision making. Evidenced-based therapies include those that may not be listed here due to patient allergy or contraindication Please consult with the attending provider before making any clinical decisions. There are clinical reasons why these recommendations may not apply to your patient. For full treatment guidelines, <u>click here</u>.

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