

Evaluating Centralized Interventions to Address Low Adherence to Lung Cancer Screening Follow-up in Decentralized Settings

Matthew Triplette, MD, MPH¹; Gloria Coronado, PhD², Lorella Palazzo, PhD³, Karen Wernli, PhD.³

¹Fred Hutchinson Cancer Center; ²Kaiser Permanente Center for Health Research; ³Kaiser Permanente Washington Health Research Institute

Lung cancer remains the leading cause of cancer death in the United States. Despite evidence that lung cancer screening (LCS) reduces both lung cancer-specific and overall mortality, implementation has been poor across the care continuum. The benefits of screening are tempered by low adherence to recommended follow-up, which includes either annual screening or specialized testing for abnormal results. Early evidence suggest timely follow-up rates in clinical programs are sub-optimal and range from 25-60%. Observational data also suggests that programs which provide care coordination through LCS hubs, known as “centralized” programs, have higher rates of follow-up, and also reduce disparities in follow-up care. Prospective data from diverse community care settings is needed to evaluate the impact of care coordination on timely follow-up.

The central objectives of this study are to: 1) understand the determinants of screening care and care coordination at community-based regional health systems; 2) evaluate a care coordination model which includes organizational structure, process maps and dedicated coordinator support; and 3) evaluate local adaptations and maintenance of the intervention in real-world settings. The study will be conducted in partnership with 3 health systems which serve as LCS hubs for large catchment areas in Washington state. Catchment areas include large rural and Hispanic (~25%) populations. Formative work to understand current care processes and local determinants of LCS follow-up will be conducted by on-site rapid ethnographic assessments supplemented by interviews with programmatic stakeholders, providers and LCS patients. Care coordination models will be adapted for each site and introduced including the following key elements: 1) an organization structure including an LCS oversight committee led by a dedicated program champion, 2) flexible but defined process maps defining patient flow along the care continuum, 3) a dedicated program coordinator to track LCS results and provide patient support. Adherence to on-time follow-up will be compared in the pre- and post-intervention period using adjusted generalized estimating equations used to: 1) separate the underlying temporal trend in adherence from the impact of the intervention, 2) adjust for important covariates, and 3) account for multiple rounds of screening per patient.

The primary outcome, on-time follow-up after LCS, will be stratified by the severity of the index LCS CT, with recommended follow-up intervals defined by Lung-RADS. Based on enrollment periods and patient volume, the study is designed to have >80% power to detect a 5% difference in adherence to follow-up in the post intervention period among those with normal LCS, and a 12% difference in adherence for those with positive exams. Secondary outcomes will assess differential impacts across patient groups and measures of implementation.

This study will provide essential data on the impact of adapted and pragmatic care coordination models on LCS follow-up which can be translated to real-world care settings.