

## **Supplemental Digital Content 1: New Hampshire Colonoscopy Registry data collection protocol**

The New Hampshire Colonoscopy Registry (NHCR) has been collecting and analyzing colonoscopy data from patients, providers, and pathology labs since 2004, using an IRB-approved protocol reviewed by the Committee for the Protection of Human Subjects at Dartmouth College. The 30 participating endoscopy sites include academic medical centers, community hospitals, ambulatory surgery centers, and private practices in rural and urban areas of New Hampshire. These different practice settings contribute real-world diversity to the data of the NHCR.

Three data sources contribute to the NHCR database: the Patient Information Form, Procedure Form, and Pathology Reports.

**Patient Information Form:** Patients are invited to enroll on the day of their colonoscopy, providing consent and completing a Patient Information Form, which collects demographic data and risk factors (e.g. age, sex, race/ethnicity, insurance, marital status, personal or family history of polyps or colorectal cancer (CRC), and health behaviors such as smoking and aspirin use). Family history assessment includes the number of affected relatives, closeness to the patient, age at CRC diagnosis (<50, 50-60, >60), and family or personal history of Lynch Syndrome or Familial Adenomatous Polyposis. Consent rates are uniformly high (>80%), using a protocol that permits future contact and access to patient medical records and polyp tissue. Colonoscopy data for the same patient from different NH facilities are linked. The NH State *Cancer* Registry provides cancer diagnosis data from NH and nearby states, supplementing CRC outcomes for patients diagnosed outside of a colonoscopy.

**Procedure Form:** Endoscopists and endoscopy nurses are trained to complete the Procedure Form during or shortly after colonoscopy, recording indication for and extent of exam, polyp size, location, number and treatment, and data that can affect exam quality, e.g. type of sedation, bowel prep type and quality, and withdrawal time. At each site, data collection closely follows clinical flow, using standardized and efficient forms, resulting in highly accurate and complete data.

**Pathology Reports:** are requested from pathology labs and abstracted by trained NHCR staff in consultation with Dr. Srivastava (expert GI pathologist) and Dr. Butterly (NHCR PI), with polyp-level pathology linked to Procedure Form findings.