Economic Analysis of the CDC's Colorectal Cancer Screening Demonstration Program

In collaboration with the five Colorectal Cancer Screening Demonstration Program (CRCSDP) programs, the Centers for Disease Control and Prevention (CDC) is performing a comprehensive cost analysis incurred throughout the 3-year demonstration period. A cost assessment tool (CAT) has been developed to collect and analyze data on costs related to start-up activities and program implementation. One component of the CAT was designed specifically to collect costs associated with the start-up phase. For this study, the start-up phase was defined as the period between the receipt of funding and the performance of the first screening procedure. The programs were provided with a worksheet to record information on hours spent on start-up activities either on a weekly or monthly basis. Each team member completed a separate worksheet so details on time spent by individual staff members were available for analysis. Costs collected for the start-up phase included public education and outreach, developing program policies, developing data collection systems, and program management.

The second component of the CAT was designed to collect the yearly costs of maintaining a colorectal cancer screening program. Information is collected annually on costs associated with staff salaries, screening and diagnostic tests, outreach efforts, quality assurance, database management and other activities performed by the programs. Information is also collected on in-kind contributions (donated labor and other resources).

CAT was developed using Microsoft Excel. Having an electronic data collection tool helped eliminate errors from data entry and also allowed programs to check and correct their data inputs prior to submission. The CAT contained "drop-down" menus as appropriate to reduce data input burden to the programs. Prior to CAT being finalized, it was reviewed with the programs during the reverse site visit and during a series of teleconferences.

The *CAT User's Guide* was developed for the start-up CAT and for the annual CAT to assist the programs in providing the cost information requested. The detailed *Guide* provided programs:

- Technical information necessary to complete the CAT.
- Conventions to use in preparing the data.
- Guidelines for ensuring data quality.
- Examples of the data entry forms.
- Technical assistance.

Data coordinators for each of the programs use the annual *CAT User's Guide* as they collect and prepare the cost data for submission. To maintain confidentiality, all data submitted are stored in secure password-protected electronic folders and any analysis used in publications will not contain information that will identify cost estimates to specific programs. The data analysis results will be presented in reports that will be shared with the programs. Programs might find it useful to use this data for their own management and evaluation purposes.

Program Reimbursement Data (PRD) for the office visits and for screening and diagnostic procedures funded through the program are also being collected. The reimbursed or payment amounts will be used to estimate the clinical cost incurred. PRD will be submitted annually using an ASCII flat file to include the following data elements: billing codes (Current Procedural Terminology (CPT), Ambulatory Payment Classification (APC), Healthcare Common Procedural Coding System (HCPCS)), reimbursement amounts, patient ID and date of procedure. The requested information will be obtained either from the programs or the contracted providers' billing data systems. In addition, details on any complications reported are being obtained and will be used to estimate costs associated with these events.

Data from the CAT and PRD will be used to answer the following questions:

- What are the start-up costs for each program?
- What are the costs of providing CRC screening and diagnosis?
- What is the variation in reimbursing colorectal cancer screening and diagnostic services across the programs?

- What is the distribution of costs among the key program components (e.g., outreach, screening) for each program?
- What is the average and incremental cost per person screened for each program?
- Does average and incremental cost change across the years?
- Are programs cost-effective?
- What is the cost of cancer detected (or cancer prevented if polyps are removed)?
- What is the average cost of screening and diagnosis for each program by type of test and patient risk categories?
- What does it really cost to run the program annually?
- What are the values and proportions of funding from different funding sources (i.e., CDC, state funds, and in-kind donations)?

The findings from the economic assessment will provide important information to guide the implementation of future colorectal cancer screening programs.