



NCI Community Cancer Centers Program Pilot Work Plan and Deliverables Summary

Information Technology

INTRODUCTION: The NCI Community Cancer Centers Program (NCCCP) pilot research initiative will explore the development of a national network of community-based cancer centers. The focus of the pilot will be to research how best to accomplish the following:

- increase accruals to NCI-sponsored clinical trials, especially for underrepresented and disadvantaged populations;
- develop new or expanded programs to increase outreach to the uninsured, underrepresented, and disadvantaged populations for prevention, screening, treatment, follow-up care, palliative care, survivorship plans, and end-of-life care;
- increase knowledge of infrastructure requirements, necessary interfaces, and applicability of specific components of NCI's Cancer Biomedical Informatics Grid (caBIG™) program for community hospital settings, and increase implementation of electronic medical records and exploration of the application of electronic medical records in the provision of cancer care;
- increase knowledge of infrastructure requirements, policies and procedures, costs, and other issues (e.g. collaborations or contracts necessary for biospecimen collection, annotation and storage) required for implementation of NCI Best Practices for Biospecimen Resources, thus enabling community hospitals to participate in biospecimen initiatives that will advance the NCI's research agenda.

The NCCCP pilot will incorporate key NCI initiatives into the examination of a model for hospital-based community cancer care to include the four focus areas listed above. In addition, there is interest in exploring the following special areas of interest that could serve to enhance the model:

- Models for effective linkages with NCI-designated cancer centers or academic medical research institutions that would support the program goals;
- Effective linkages with state-sponsored cancer initiatives;
- The potential benefit of participation in healthcare information technology initiatives such as a RHIO (Regional Health Information Organization) or similar initiative;
- Working with providers to examine the potential for the development of new reimbursement models for cancer prevention, screening and treatment;
- Models for survivorship plans that would support the overall goals of the program;
- Exploration of the benefit of linkages with the NCI-sponsored Cancer Expert Corps, a program under development, to bring cancer expertise to locations where there is a gap in a needed service;
- The value of a knowledge exchange network for community hospital-based cancer providers;
- Models for co-investment with the NCI to broaden the effective reach of the NCI research programs;
- Models of multidisciplinary cancer care that incorporate the continuum of services including early detection, prevention, therapy, survivorship follow-up and end-of-life support programs;
- Working with providers that have developed successful approaches for accrual of patients into NCI-sponsored clinical trials. NCCCP pilot sites are not expected to encompass all areas of special interest;
- Programs in locations where the population has significant hardships affecting access to healthcare; and
- Whether selecting a site that is part of a national health system might speed the replication of a successful model.

WORKSCOPE: The pilot sites represent institutions with varying experiences, accomplishments, and dedicated staff devoted to information technology and informatics. Sites will fall broadly within one of the three categories:

Type	Integration	Interfaces	IT Staff	Investment
Integrated	Homegrown/Commercial	Smooth navigation between applications Difficult to expand/extend	Large	\$10M's
Heterogeneous	Complex mix of commercial and homegrown components (may be composed of dozens of components)	No common interfaces	Medium	\$1M's
Informal/None	Use of productivity applications (e.g., Excel, Access)	Complex manual processes	Small/None	\$100K's

The pilot sites will collaborate to assess the benefits, implications, and barriers to implementing the relevant infrastructure and components of caBIG™ over the duration of the pilot. Some of the pilot sites have already invested in initiatives that are in a position to accelerate the advancement of NCI/HHS IT goals, for example experience participating in Regional Health Information Organizations (RHIOs). The pilot sites will participate in regularly scheduled conference calls with the NCI and SAIC-Frederick staff aimed at leveraging the caBIG™ program to advance the sites informatics capabilities.

Organizations are expected to *leverage* caBIG™ through the following:

- Explore the capabilities of caBIG™, including software, data standards, training, documentation, and support.
- Assess how caBIG™ can be used to enable the advancement of cancer research and treatment in their institution, and define a plan for doing so.
- Implement relevant caBIG™ tools, standards and resources according to their plan.
- Build on/contribute to caBIG™ policies and procedures.

A few caBIG™ applications are listed below, and are potentially relevant to other focus areas of the pilot.

APPLICATION	FUNCTIONALITY	PILOT FOCUS AREA
C3PR	Subject/participant registry	Clinical Trials, Biospecimens
caTissue	Biospecimen repository	Biospecimens
caMATCH	Eligibility prescreening	Clinical Trials, Disparities
caXchange	Automated transfer of clinical data	Clinical Trials, Biospecimens
C3DS	Clinical research environment	Clinical Trials

During the pilot period, specific research issues to be addressed will include the following:

- Assess existing IT strengths, challenges and opportunities at the pilot site.
- Identify the caBIG™ products whose adoption by the pilot site would yield maximum benefit.
- Assess the implications (e.g., benefits, resources, workflow integration) of the pilot site adopting the identified caBIG™ products.
- Define the process for this adoption.

DELIVERABLES: Throughout the pilot period, the sites will work closely with SAIC-Frederick and the NCI staff responsible for caBIG™. Pilot sites will develop a report detailing IT infrastructure requirements, necessary interfaces, and applicability of specific components of caBIG™ for community hospital settings. If implementation and integration of electronic medical records and electronic tumor registry data into the pilot site’s activities is deemed viable, it should be completed by the end of the pilot if not prior.

The organization will provide quarterly reports and a final report to include the work completed to address the focus area of informatics. Quarterly reports should monitor progress towards achieving year 1-3 activities and should discuss plans for improving performance when achievement of activities is delayed – problems and potential solutions should be highlighted.

TIMELINE – MAJOR ACTIVITIES AND METRICS:

YEAR 1 – PLAN
<p>Assess informatics capabilities and challenges at pilot site, and determine strategy for leveraging the caBIG™ program to advance the informatics capabilities at the pilot site.</p> <p>Collaboratively identify caBIG™ tools that would add value to the site and develop plan for either:</p> <ul style="list-style-type: none"> • using NCICB as an application service provider, or • installing infrastructure locally, or • adapting local systems to share data in a caBIG™ compliant manner <p>In addition, if appropriate, include plan for:</p> <ul style="list-style-type: none"> • utilizing local electronic medical record infrastructure, either pre-existing or open source, and • utilizing local tumor registry system, <p>to prototype an end-to-end clinical research data pipeline.</p>
Participate in the formal program evaluation
YEAR 2 – DO
<p>Refine and execute implementation plan(s) from Year 1</p> <p>Develop metrics for evaluation</p>
Participate in the formal program evaluation
YEAR 3 – ASSESS
Use defined metrics to evaluate execution according to defined plan(s)
Document lessons learned (e.g., barriers to implementation, successful strategies, future opportunities)
Participate in the formal program evaluation