OVERALL AIMS & OBJECTIVES

Our overall objective is to conduct formative research in the implementation of evidence-based guidelines for treating tobacco use (TUT) in community-based, oncology care settings. Central to this effort, will be tobacco cessation provider education tailored to the needs of oncology professionals, dissemination of a new (October, 2012) Tobacco Cessation Provider Toolkit for Oncology Professionals, developed by the American Society of Clinical Oncology (ASCO) and practice-based support facilitated by a strong team of professionals with expertise in tobacco cessation training, education and technical assistance. Our ultimate objective is to develop a blueprint that will increase the number of oncology practices that have a system in place to screen all patients for tobacco use, provide brief advice to quit at every patient visit, and provide evidence-based assistance to quit successfully.

The specific aims of this project are to:

1) Identify the readiness and capacity of 200 oncology care providers to deliver tobacco use treatment (TUT);
2) Develop a multi-component dissemination and implementation plan that will be pilot tested with 9 community-based, oncology practices in New York City and used as a blueprint for widespread implementation of TUT in other oncology care settings.

The current project will make important contributions to our knowledge of establishing sustainable best practices for treating tobacco dependence in oncology care settings. The results will provide a blueprint for a future large, scale dissemination and implementation project that would scale up efforts to improve the quality of tobacco use treatment delivery in oncology care practices.

CURRENT ASSESSMENT OF NEED IN TARGET AREAS

It has been estimated that there are 12 million cancer survivors in the United States, representing nearly 4% of the entire US population (Ganz, 2009). Strong evidence exists that continued smoking by tobacco dependent cancer patients is associated with a greater probability of cancer recurrence (Fleshner et al., 1999; Kenfield, Stampfer, Chan, & Giovannucci, 2011), second primary malignancies (Garces et al., 2007; Kawahara et al., 1998; Richardson et al., 1993; Tucker et al., 1997), reduced survival (Murin & Inciardi, 2001; Parsons, Daley, Begh, & Aveyard, 2010; Waggoner et al., 2006; Warren, Kasza, Reid, Cummings, & Marshall, 2012), greater symptom burden (Peppone et al., 2011), and poorer quality of life (Garces et al., 2004).

Despite these risks, approximately 50.6% of cancer patients smoke regularly prior to their diagnosis and only 36.1% of them quit smoking after their cancer diagnosis (Tseng, Lin, Moody-Thomas, Martin, & Chen, 2012). Approximately 15.1% of all adult cancer survivors report persistent cigarette smoking (Underwood et al., 2012). Persistent smoking among those who

smoked prior to diagnosis varies widely by cancer type (Coups & Ostroff, 2005; Cox et al., 2002; Demark-Wahnefried, Aziz, Rowland, & Pinto, 2005; Gritz et al., 2006; Mayer et al., 2007; Ostroff et al., 2000; Park et al., 2012) with continued smoking rates ranging from a low of 20% among lung cancer patients (Cox et al., 2002) to a high of 65% among bladder cancer patients (Ostroff et al., 2000). Cancer-specific health risks and the prevalence of persistent smoking argue for the importance of providing evidence-based treatment of tobacco dependence as a standard of quality care in cancer settings (American Society for Clinical Oncology, 2009; Cox, Africano, Tercyak, & Taylor, 2003; Fleshner et al., 1999; Gritz, Dresler, & Sarna, 2005; National Comprehensive Cancer Network, 2007).

Although leaders in oncology have emphasized the value of integrating tobacco treatment into standards of quality cancer care (American Society for Clinical Oncology, 2009; Morgan et al., 2011), there remains considerable room for improvement in promoting tobacco cessation interventions in cancer care settings. Most cancer care settings have not yet established tobacco cessation treatment as standard care (Goldstein, Ripley-Moffitt, Pathman, & Patsakham, 2012), and recent surveys indicate that oncology providers miss many opportunities to promote tobacco cessation (Sabatino et al., 2007). Oncology nurses are considered to be ideal clinical staff for facilitating integration of TUT in oncology care (Cooley, Sipples, Murphy, & Sarna, 2008; L. Sarna & Bialous, 2004; L. P. Sarna et al., 2000).

In recognition of the need to provide the American Society of Clinical Oncology (ASCO), the leading national professional organization for oncologists, has developed a new set of resources to help oncology providers integrate tobacco cessation counseling services into practice. The ASCO resources include a provider guide, a patient guide, and additional provider resources. These resources are part of ASCO's efforts to promote the reduction in tobacco use. Our use of the *ASCO Tobacco Cessation Provider Toolkit* enhances the likelihood of sustainability following project completion.

TECHNICAL APPROACH, INTERVENTION DESIGN AND METHODS

Overview: Technical Approach: We will use multi-component dissemination and implementation plan and mixed (provider survey, chart review, clinic observation, patient survey) methods evaluation plan to identify and address barriers for implementation of TUT in oncology settings. We will provide training and technical assistance to participating oncology providers/practices in the New York City Metropolitan area.

Recruitment of Oncology Practices/Providers: During the initial phase of the project, the goal is to reach out to a random sample of 200 community-based, oncology practices in the NYC metropolitan area. With assistance from the New York State Education Department, Office of the Professions, we will identify all licensed physicians who self-identify as oncologists/hematologists, practicing within one of New York City's 176 zip codes (41 in Manhattan, 37 in Brooklyn, 61 in Queens, 25 in the Bronx and 12 on Staten Island. Using the same zip codes, we will also obtain a mailing list of oncologists/hematologists from the

American Society of Clinical Oncology (ASCO) to insure broadest recruitment reach. Recruitment of oncology providers will be facilitated by our partnership with the NYS funded, Manhattan Cessation Center, led by Dr Donna Shelley and the NYC Bureau of Chronic Disease Prevention & Tobacco Control, led by Dr Thihalolipavan. We will leverage the existing provider relationships and work with professional oncology societies such as the New York Society of Medical Oncologists and Hematologists. Completion of a TUT provider survey recently developed by ASCO will provide a baseline comparison for subsequent dissemination and implementation efforts.

TUT Webinar: Survey respondents will be invited to a 60 minute webinar developed by the Primary Investigator entitled, Overcoming Barriers in the Treatment of Tobacco Use among Cancer Patients. This well-received webinar was recently presented to the NYS Cessation Centers (May, 2012). It will be updated and the revised TUT webinar will be hosted by the NYS Cessation Center Collaborative who have extensive experience in providing support for outreach, registration and technical support. Continuing education (1.0 CEU) will be provided by the University of Buffalo School of Medicine. This TUT webinar has several learning objectives. Upon completion of the webinar, participants will be able to: 1) Identify the specific risks of persistent smoking and the benefits of smoking cessation for cancer patients; 2) Describe provider and patient level challenges associated with promoting tobacco cessation among dependent cancer patients; and 3) Discuss tobacco cessation treatment delivery strategies tailored to meet the needs of cancer patients. In order to obtain

Dissemination and Implementation Intervention for Tobacco Use Treatment (TUT)

We propose a multi-component dissemination and implementation plan including staff training, toolkit, as well as practice-based facilitation and support for TUT.

Consistent with the PHS Guidelines, the brief TUT protocol for the oncology practices will be as follows: 1) assess smoking status, 2) deliver advice to quit, 3) assess readiness to quit, 4) provide cancer-specific patient education materials, 5) provide prescription for cessation pharmacotherapy and referral to the New York State (NYS) Quitline or other local cessation resources for smokers ready to quit, and 6) document findings and treatment plan on the chart system. In NYS, all cessation pharmacotherapies are covered by Medicaid and the NYS Quitline provides free medication for the uninsured. The NYS Quitline began operation in 2000 and currently receives over 35,000 calls per year. The NYS Quitline promotes a "Fax-to-Quit" tool intended to simplify the referral process by offering clinical practices a way to link patients to a proactive telephone counseling service using a pre-printed fax referral form. Patients who are ready to quit are asked by the health care provider to sign a referral form that is faxed by administrative staff to the NYS Quitline. The Quitline then makes five attempts to reach patients within one week after receiving the fax or within one week of the quit date, if one is designated on the faxed form. Smoking cessation counselors at the NYS Quitline provide two, 20-30 minute proactive followup telephone counseling sessions to referred smokers. A list of community-based cessation support referrals for high risk smokers needing more intensive

cessation and/or psychosocial support services will also be provided to participating oncology practices. Integration of tobacco dependence treatment requires the establishment of a universal system for screening all patients for tobacco use, and documenting tobacco use status and cessation treatment plan in the medical record (e.g., chart reminder, clinical documentation). Tobacco use status and treatment plan will be integrated into the existing medical chart system (i.e. paper or electronic).

During the second year of the grant, the project will partner with 9 community-based, oncology practices and provide practice-based support for the dissemination of tobacco dependence treatment in their oncology care setting. Selection of oncology practice demonstration sites is guided by our desire to insure that our findings would be generalizable to real-world oncology settings serving diverse population of smokers. We will partner with 9 oncology practices that express interest in participation and meet the following eligibility requirements: 1) community-based, oncology practices treating at least 500 patients annually; 2) nominate a clinical staff member and agree to allow that staff member 5 days of release time for this person to undergo intensive training as a CTTS and subsequently champion efforts to establish TUT as standard of routine oncology care; and 3) agree to add tobacco use status and treatment plan into existing chart documentation system.

Staff training: Each selected oncology practice will nominate a staff person (e.g., oncology nurse) who will undergo additional training as a prerequisite for becoming a Certified Tobacco Treatment Specialist (CTTS). Given their proximity to NYC, the Tobacco Dependence Program of the University of Medicine and Dentistry of New Jersey (UMDNJ), will serve as our TUT training facility. Their 5-day training workshop provides health professionals with an in-depth understanding of tobacco dependence, as well as familiarity with essential evidence-based tools necessary to help their patient's achieve freedom from tobacco use. More specifically, the CTTS training will include education regarding FDA approved cessation pharmacotherapy, behavioral counseling principles and how to refer to quitlines and other cessation treatment resources. The nationally recognized UMDNJ training faculty has expertise in nicotine addiction, medical consequences of tobacco use, treatment of tobacco dependence, and program development and evaluation. The comprehensive curriculum and interactive format provides knowledge of evidence-based treatment methods and provides participants with necessary skills and tools needed to assess and treat smokers. The UMDNJ CTTS training program is consistent with the PHS Clinical Practice Guidelines for Treating Tobacco use and Dependence as well as the proposed standards for competencies for tobacco treatment specialists developed by the Association for the Treatment of Tobacco Use and Dependence (ATTUD).

Tool Kits (Staff and Patient Education Booklets and Prescribing Tools): All nine selected oncology practice sites will receive a tool kit with patient education booklets describing cancer-specific tobacco risks, a laminated table summarizing the PHS Tobacco Cessation Guidelines for brief cessation counseling (the "5 As" — Ask, Advise, Assess, Assist, and Arrange), a laminated pharmacotherapy prescribing information card tailored for oncology care providers, a laminated Fax-to-Quit forms and internet-based instructions for easy referral to the NYS

Quitline, and the brief narrative version of the PHS guideline for Treating Tobacco Dependence (PHS 2008).

The centerpiece of our dissemination and implementation efforts will be the ***Tobacco Cessation Provider Toolkit for Oncology Professionals***, newly developed (October, 2012) by the American Society of Clinical Oncology (ASCO). The ***Toolkit*** includes a provider guide, a patient guide, and additional provider resources. See Tobacco Cessation and Control Resources - ASCO

The *Tobacco Cessation Guide for Oncology Providers* is an evidence-based booklet for oncology professionals developed by a multidisciplinary group of cancer and tobacco cessation experts. This guide will help oncology providers integrate tobacco cessation strategies into their practices by offering practical tips for tobacco use assessment and treatment, as well as information about how to be reimbursed for these services. To complement the provider guide, this bundle also includes *Stopping Tobacco Use after a Cancer Diagnosis*. This patient-oriented, booklet provides clear, practical information especially for patients and their caregivers about the benefits of stopping tobacco use after a cancer diagnosis, as well as tips for talking with health care professionals about tobacco cessation. The patient guide also offers a quitting-assessment tool, a place to develop a plan to quit, and a list of resources to help support patients' efforts to quit.

Practice-based Facilitation and Support:

Two promising practice-based facilitation and support strategies will be used:

Collaborative Conference Calls: We will convene 12 monthly, 60 minute, collaborative conference calls with the newly trained CTTS embedded within the nine oncology practices. These conference calls will provide ongoing opportunity for mentorship and coaching and will be co-facilitated by Drs. Ostroff, Shelley, Sheffer and Thihalolipavan. Each call will focus on collaborative review and discussion of each CTTS' progress made towards their tobacco treatment implementation goals. These calls will be audio-recorded, transcribed and subsequently coded for thematic analysis by MSK's Behavioral Research Methods Core Facility, by a qualitative methods specialist with well-established expertise in narrative content coding. This implementation strategy, often referred to as Learning Labs, Collaborative Communities, or Self-Study interventions) has been used successfully in a prior study training dental hygienists to integrate smokeless tobacco cessation treatment guidelines into routine dental care (Akers et al., 2006) and is modeled closely on the National Cancer Institute's successful Research to Reality (R2R) online community of cancer control practitioners and researchers dedicated to providing asynchronous opportunities for discussion, learning, and enhanced collaboration on moving research into practice. We have opted for synchronous conference call so as to create a supportive climate for practice-based facilitation among our novice oncology CTTS.

Performance Feedback: The NYS Quitline provides a monthly report summarizing referrals made to the Quitline and outcome of proactive cessation counseling calls. The CTTS will receive a copy of this report as an indicator of TUT delivery progress.

EVALUATION DESIGN

Overview: Mixed methods (i.e., clinic observation, interview and survey) data will be collected from patients, oncology providers, medical charts). Our evaluation plan will include the following metrics: % of oncology providers who register and complete the TUT webinar, pre and post-changes in provider TUT knowledge, attitudes and practice behaviors, and improved documentation of A's in medical chart. After the funding expires, this work would be disseminated at national meetings of the Oncology Nursing Society and the American Society of Clinical Oncology.

Webinar Evaluation: Following completion of the webinar, all participants will rate the following items using a scale of 1 to 4, with 1 representing poor and 4 representing excellent:
1. Content of the presentation:
2. Program accomplished the stated objectives:
3. Teaching methods and aids were appropriate and used effectively:
4. Overall quality of the program:
5. The program provided me with new information and knowledge that may be pertinent to my practice and patient care:
6. The teaching effectiveness of the presenter: Jamie S. Ostroff, Ph.D.
7. What percentage of information was new to you? Please circle:
0-20% 21-40% 41-60% 61-80% 81-100%
8. As a result of attending this presentation, I intend to _____

Process Measurement: The collaborative calls will be audio-recorded, transcribed and subsequently coded for thematic analysis by MSK's Behavioral Research Methods Core Facility, by a qualitative methods specialist with well-established expertise in narrative content coding. Special attention will be given to identifying and addressing barriers for implementation of TUT in the TTS' oncology practice settings.

DETAILED WORK PLAN AND DELIVERABLES SCHEDULE

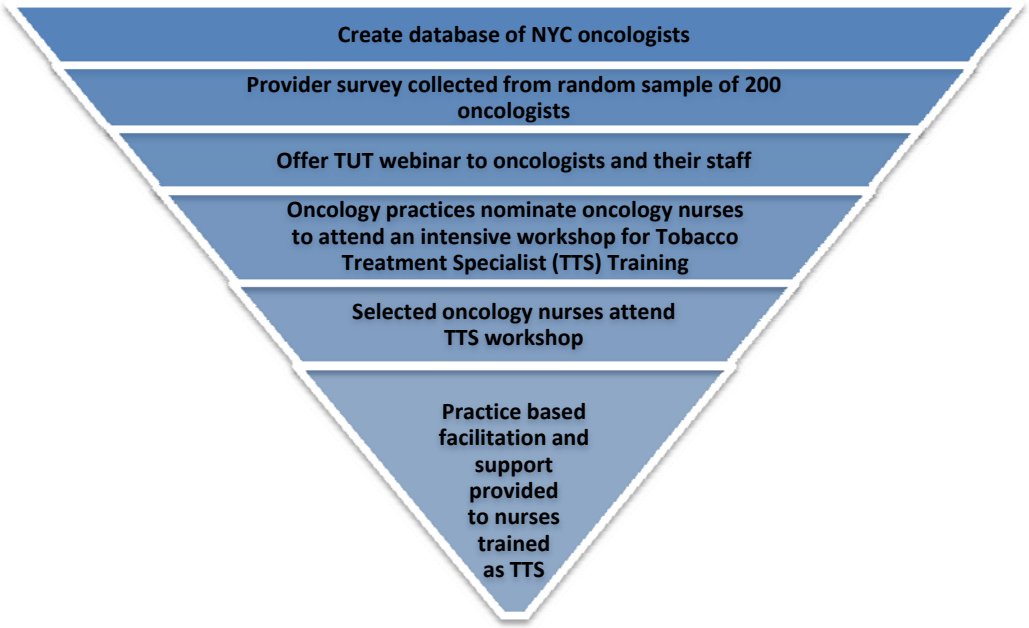
During the first quarter of the grant period we will use data from New York State Education Department, Office of Professions and a mailing list from ASCO to compile a database of all practicing oncologists in New York City. A random sample of 200 oncologists will be selected to complete a baseline survey to determine baseline levels of provider capacity to offer TUT interventions. Data will be collected using an evaluation tool that was recently developed by ASCO for use with oncology care providers. The ASCO survey tool will be used to evaluate the current tobacco related knowledge, attitudes and TUT practice behaviors of these oncologists. Each provider will be offered a $10 incentive for completion of the survey.

After completion of the baseline assessment, oncologists and oncology nurses will be invited to attend a one hour webinar focusing on TUT training for oncology health care providers. The webinar is an informational program that trains providers to assess smoking status of patients and assist in smoking cessation.

In quarters two and three of the project period, community based oncology practices will be invited to nominate a member of their staff (most likely an oncology nurse) to attend an intensive workshop for Tobacco Treatment Specialists (TTS). The intensive training is an accredited 42 hour workshop that takes place over five days. The purpose of the training is to prepare participants to become certified TTS. The core training provides health professionals with an in depth understanding of tobacco dependence as well as tools to help their patients with tobacco cessation.

Upon completion of the workshop, oncology nurses will integrate TUT and provide counseling to patients in their practices. In quarters four-seven of the grant period novice TTS will be supported and further educated by practice based facilitation and support via conference calls and recorded practice self-audits. Monthly conference calls will be audio recorded and transcribed. Data collected during these calls will be evaluated to determine the effectiveness of the TUT training and intervention. TTS will self-audit their progress and effectiveness with TUT counseling, and they will be offered advice and support from Drs Ostroff, Sheffer, and Thihalolipavan. Evidence-based practice improvements such as increased numbers of Quitline referrals and effectiveness of the TUT training workshop will be evaluated in the last quarter of the program period. Results will be disseminated in academic publications and at academic conferences.

Project Implementation Diagram



Study Timeline

Process	2013				2014			
	Jan - March	Apr - June	July - Sept	Oct- Dec.	Jan - March	Apr- June	July - Sept	Oct- Dec.
Train staff, compile database of practicing oncologists in NYC, finalize evaluation tools, acquire toolkits and other research supplies.	→							
Select random sample of 200 NYC oncologists and collect baseline survey data on TUT	→							
Offer TUT webinar to oncologists and their staff		→						
Practices nominate oncology nurses to attend intensive workshop for Tobacco Treatment Specialists (TTS)		→						
Selected oncology nurses attend TTS workshop as preparation for becoming Certified Tobacco Treatment Specialists		→	→					
Practice based facilitation and support provided to oncology nurses trained as TTS				→	→	→	→	
Collect, compile and disseminate program results and outcome data								→