Qualitative Research and Process Evaluation of a Linkage to Care Intervention for Formerly Incarcerated Persons Living with HIV/AIDS in North Carolina

Project imPACT Capstone Team
Gillings School of Global Public Health
University of North Carolina at Chapel Hill
2011-2012

Capstone Partner: UNC School of Medicine Center for Infectious Diseases
Community Partner: Catherine Grodensky, MPH
Faculty Advisor: Carol Golin, MD

On my honor, I have neither given nor received unauthorized aid on this assignment:

Claire Chu
Mary Key
Caitlin Kleiboer

Elaine Lo
Nora West
Acknowledgments

The Project imPACT Capstone team would like to sincerely thank the Capstone community partner, Catherine Grodensky, MPH, the Capstone faculty advisor, Carol Golin, MD, and the Capstone teaching team, Meg Landfried, MPH, and Justin Smith, MPH, for their guidance and technical support on the project deliverables and summary report.

The Capstone team would also like to thank other members of Project imPACT including David Wohl, MD/PhD, Debra Henninger, PhD, and Dave Rosen, MD/PhD, for sharing their expertise as the Capstone team developed the project deliverables.

Finally, the Capstone team thanks the individuals who participated in the focus group for sharing their experiences and Sharon Elliott-Bynum, PhD, and the staff of CAARE, Inc. for sharing their facility.
Abstract

Background: In the United States, the prison setting provides an opportunity to identify and treat Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS). However, prisoners who are infected with HIV/AIDS have a heightened potential to return to HIV transmission risk behaviors and for loss of viral suppression upon release. Project imPACT (individuals motivating to Participate in Adherence, Care, and Treatment) addresses these vulnerabilities in the “seek, test, treat, and retain” HIV prevention strategy for formerly incarcerated persons living with HIV/AIDS (PLWHA). The Capstone team supported the linkage-to-care component of Project imPACT, a comprehensive pre-release discharge-planning program for PLWHA focused on the identification of a post-release HIV medical clinic and the arrangement of an intake appointment at that community HIV clinic as soon as possible following release. Methods: The Capstone team developed three deliverables over the course of the 2011-2012 academic year. These deliverables included a summary of qualitative data analysis from one focus group with members of Project imPACT’s target population, process evaluation tools to assess Project imPACT linkage-to-care component’s implementation, and cost tracking instruments to inform future cost analyses of Project imPACT’s components. Results: Due to the timeline, the Capstone team was unable to implement two of the tools they developed for data collection. 1) Project imPACT integrated one of the Capstone’s process evaluation tools into the intervention’s database in order to assess, through a series of questions, the frequency of delivering the linkage-to-care intervention. The other process evaluation tool – interview guides for the linkage-to-care coordinator and Project imPACT participants – evaluates their perceptions of the intervention’s success. 2) Project imPACT staff would also use the cost tracking tools to assess the expenses for developing and implementing the intervention. Of the three main deliverables, only the focus group analysis yielded reportable results. The Capstone team conducted a qualitative analysis of the data collected
through the focus group with formerly incarcerated PLWHA to reveal the key themes of stigma; relationships outside of prison; personal approaches to disease; use of cell phones; HIV care in prison; HIV care transition from prison to release; HIV care after release; and recommendations for effective linkage-to-care. **Discussion:** In order to track expenses and assess the implementation of Project imPACT’s linkage-to-care intervention, Project imPACT should integrate the cost tracking instruments and process evaluation tools developed by the Capstone team into the existing intervention infrastructure. **Deliverables:** The Capstone deliverables included: 1) Summary of qualitative data analysis from one focus group with formerly incarcerated PLWHA, 2) process evaluation tools for the linkage-to-care component of Project imPACT, and 3) cost tracking instruments for the linkage-to-care component of Project imPACT.
Abbreviations and Acronyms

AIDS............ Acquired Immune Deficiency Syndrome
ART............ Antiretroviral Therapy
ASO............ AIDS Service Organization
CAARE......... Case management of AIDS and Addiction through Resources and Education
CDC.......... Centers for Disease Control and Prevention
CFID.......... Center for Infectious Diseases
EBI............. Evidence Based Intervention
HB............. Health Behavior
HIV............. Human Immunodeficiency Virus
ID............. Infectious Diseases
imPACT........ individuals motivating to Participate in Adherence, Care, and Treatment
MI.............. Motivational Interviewing
NCDCIDS...... North Carolina Department of Corrections Infectious Disease Service
NC TraCS...... North Carolina Translational and Clinical Sciences Institute
NIDA.......... National Institute on Drug Abuse
NIMH.......... The National Institute of Mental Health
NREPP......... National Registry of Evidence-based Programs and Practices
PACT.......... Participating and Communicating Together
PI.............. Principal Investigator
PLWHA......... People Living with HIV/AIDS
RCT............ Randomized Controlled Trial
RTI............. Research Triangle Institute
SAMHSA....... Substance Abuse and Mental Health Services Administration
SBSRC........ Social and Behavioral Science Research Core
SCT............ Social Cognitive Theory
SEF............. Social Ecological Framework
SOP............. Standard Operating Procedures
TNT............. Test-and-Treat
TRA............. Theory of Reasoned Action
UAB............. University of Alabama at Birmingham
UNC............. University of North Carolina at Chapel Hill
UNC SPH..... University of North Carolina at Chapel Hill Gillings School of Global Public Health
# Table of Contents

INTRODUCTION .................................................................................................................. 1

LITERATURE REVIEW ....................................................................................................... 3
  SIGNIFICANCE OF THE HEALTH ISSUE ........................................................................ 3
  TARGET POPULATION .................................................................................................... 4
  PUBLIC HEALTH APPROACH ....................................................................................... 4
  EVIDENCE-BASED INTERVENTION STRATEGIES ....................................................... 5
  THEORETICAL FRAMEWORK ....................................................................................... 6
  SIGNIFICANCE OF INTERVENTION ............................................................................. 8

METHODS .......................................................................................................................... 8
  LOGIC MODEL .............................................................................................................. 8
  WORK PLAN DELIVERABLES ...................................................................................... 12
  PLANNING FOR SUSTAINABILITY ............................................................................ 14

RESULTS ........................................................................................................................... 17
  SUMMARY OF DELIVERABLES ................................................................................... 17
  COMMUNITY ENGAGEMENT AND ASSESSMENT FINDINGS .................................. 20
  SUSTAINABILITY FINDINGS ...................................................................................... 21

DISCUSSION ....................................................................................................................... 23
  STRENGTHS AND LIMITATIONS OF ENGAGEMENT AND ASSESSMENT ACTIVITIES ....... 23
  CONSIDERATIONS FOR SUSTAINABILITY ................................................................. 24
  POTENTIAL IMPACTS AND BENEFITS .................................................................... 25
Introduction

The Capstone project is a field-based mentored experience that allows Master’s students in the Department of Health Behavior (HB) at the University of North Carolina at Chapel Hill Gillings School of Global Public Health (UNC SPH) to partner with locally-based researchers and/or organizations to address public health needs in the community. As part of the Capstone project, students produce deliverables that meet their educational requirements and community partner’s needs, such as conducting community needs assessments, evaluating programs, and developing interventions. To conclude the yearlong project, a Capstone team produces a summary report of the work and deliverables completed under the guidance of their community partner and faculty advisor.

The Capstone team partnered with the Center for Infectious Diseases (CFID) at the University of North Carolina at Chapel Hill’s (UNC) School of Medicine. CFID is a renowned leader in infectious disease (ID) research and training, particularly in HIV/AIDS research, training and clinical care (CFID, 2012). CFID’s mission is to “advance clinical care, education, and research in HIV/STDs and other infectious diseases” (CFID, 2012). It achieves its mission by coordinating ID research; collaborating with other researchers; coordinating outreach activities through the UNC SPH and other appropriate agencies; improving clinical care; and preventing the spread of ID. CFID’s programs include clinical research training for medical students and fellows, global ID research and training, and clinical care.

The North Carolina Department of Corrections Infectious Disease Service (NCDCIDS) is one of the agencies participating in the clinical care program. It receives recommendations from UNC ID faculty on HIV care for prisoners who also deliver the care to HIV-infected prisoners. In an effort to address the HIV care needs of formerly incarcerated PLWHA in the southern United States, researchers from CFID have developed and are in the process of conducting a randomized controlled trial (RCT) to evaluate the efficacy of an intervention designed to link
formerly incarcerated PLWHA to HIV care within the first few months after release. Given the continued incidence of HIV in the United States and the evidence that antiretroviral therapy (ART) can provide public and personal health benefits by reducing the viral loads of sexually active HIV-infected persons, researchers have recently focused on the “seek, test, treat, and retain” paradigm (Dieffenbach & Fauci, 2009; Granich, Gilks, Dye, De Cock, & Williams, 2009; Lima et al., 2008). This approach involves enhancing the detection of those who are HIV-infected, counseling them about risk reduction, and engaging them in medical care and services that encourage sustained HIV treatment and suppression of the virus in the blood, referred to as viremia. CFID’s Project imPACT (individuals motivating to Participate in Adherence, Care, and Treatment) works according to this paradigm and serves as the basis for the Capstone team’s project.

Project imPACT seeks to assist formerly incarcerated PLWHA by: 1) improving the adherence of formerly incarcerated persons who are HIV-positive to ART and 2) improving their linkage with HIV care post-release, and to evaluate the effectiveness of its intervention compared with the standard of care in the NCDOC. The Capstone team partnered with Project imPACT to address these aims.

The Capstone team focused on the linkage-to-care component of imPACT’s TNT intervention. The Capstone team enhanced Project imPACT’s ability to understand how to most effectively link prisoners with HIV care in their home communities (communities in which the prisoners intend to live after release), thus increasing the likelihood of adherence to HIV medication and treatment. To inform this understanding, the Capstone team designed and conducted a focus group with formerly incarcerated PLWHA to provide recommendations for improving the linkage-to-care component of the intervention. The team then completed analyses on the collected data and reported on significant themes that arose from the analyses.

Additionally, the Capstone team developed process evaluation instruments (measurement of the key factors influencing the implementation of an intervention [Linnan &
Steckler, 2002]) and cost tracking tools to assess the implementation of the linkage-to-care component of the intervention and the costs to develop and implement it. In accordance with the seek-test-treat-and-retain HIV prevention paradigm, the outcomes of these efforts would lead to the improved suppression of individuals’ viral loads and decrease the likelihood of HIV transmission within their home community. For further details, Figure 1 presents a conceptual model demonstrating how certain institutional, community, and individual factors can affect formerly incarcerated PLWHA’s linkage to care, and, ultimately, their HIV medication adherence and viral load.

This summary report provides an overview of the Capstone team’s involvement in furthering the research efforts of Project imPACT during the 2011-2012 academic year. This report consists of several sections that culminate in a comprehensive review of the Capstone team’s work. First, the Literature Review provides a discussion about HIV/AIDS issues affecting formerly incarcerated PLWHA. Second, the Methods section describes the processes by which the Capstone team produced the deliverables, engaged and assessed both the Project imPACT research team and the formerly incarcerated PLWHA population, and planned for the sustainability of their deliverables. Third, the Results section presents the details of the team’s deliverables shares key findings from the team’s community engagement and assessment activities, and discusses the sustainability of the team’s deliverables. Finally, the Discussion section explains the lessons the Capstone team learned, strengths and limitations of the team’s work, potential impacts and benefits of the team’s work, and recommendations for sustaining the team’s work.

Literature Review

Significance of the Health Issue

In 2009 the southern region of the United States had the highest rate of diagnosis of HIV infection of all the US regions (Centers for Disease Control and Prevention, 2011). Individuals
with a history of incarceration comprise 20%-26% of Americans infected with HIV (Weinbaum, Sabin, & Sanitbanez, 2005). Furthermore, prisoners who are infected with HIV have a high potential, relative to the non-incarcerated population, to transmit the virus after release due to a number of factors including the challenge of continuing HIV therapy and accessing clinical care. Either of these challenges can lead to an increase in viral load levels, and therefore a potentially greater rate of transmission by these individuals (Baillargeon, 2009).

In addition, release from incarceration is a critical time point for PLWHA when they are often confronted with economic and social challenges as well as the potential to return to HIV transmission risk behaviors, such as unprotected sex and/or illicit drug use (Baillargeon, 2009). These behaviors, coupled with the loss of viral suppression, create a “perfect storm” for the transmission of HIV post-release (Grinstead, Zack, & Faigeles, 2001; Stephenson et al., 2005). Project imPACT comprehensively addresses key vulnerabilities in the seek-test-treat-and-retain strategy for recently released PLWHA, particularly the maintenance of viral suppression following release.

**Target Population**

Project imPACT targets formerly incarcerated PLWHA in North Carolina and Texas who have achieved suppression of viremia during incarceration to encourage engagement in HIV care and treatment after release to sustain suppression of HIV, reduce infectiousness, and maintain health. The Capstone team worked specifically with the North Carolina intervention site, although deliverables will be used to track and inform the intervention in both states.

**Public Health Approach**

Project imPACT is funded by the National Institute on Drug Abuse (NIDA) to evaluate the seek-test-treat-and-retain HIV prevention intervention with formerly incarcerated persons who are living with HIV/AIDS. Project imPACT utilizes motivational interviewing (MI) and
cognitive mapping to improve participants’ motivation to engage in and adhere to their HIV treatment, and a linkage-to-care intervention to reduce barriers to accessing medical care post-release. These individual-level counseling approaches have been shown effective in changing behavior across a range of health outcomes (Golin et al., 2006; Pitre, Dansererau, Newbern, & Simpson, 1998). As part of the Project imPACT intervention, the linkage-to-care conducts a needs assessment to link released prisoners with HIV care in their home communities, thereby increasing the likelihood that they will maintain HIV treatment and medication. Under the seek-test-treat-and-retain paradigm, these outcomes should improve suppression of these patients’ viral loads and thus decrease their likelihood of transmitting HIV within their home communities.

Evidence-Based Intervention Strategies

Project imPACT evaluates the seek-test-treat-and-retain intervention, which includes components from three tested theory-based interventions adapted for formerly incarcerated PLWHA. These evidence-based interventions are Participating and Communicating Together (PACT), a multi-component motivational interviewing (MI) based intervention; Motivating Change, a cognitive mapping-based intervention to improve engagement and participation in health care following prison release; and CONNECT, a needs assessment and HIV linkage-to-care program:

a) PACT. MI is a client-centered therapeutic approach that seeks to resolve clients’ ambivalence in order to increase intrinsic motivation to change behavior and to improve clients’ commitment to ART adherence (Hettema, Steele, & Miller, 2005). The National Institute of Mental Health (NIMH)-funded PACT study was a two-arm, 140 participant RCT of an MI intervention consisting of 2 structured MI sessions that included:

i) a pre-session entertaining audio-booklet pair that patients listened to in preparation for the MI session and

ii) post-session booster letters (Golin et al., 2006).
The PACT intervention group had 2.75 times higher odds of achieving >95% ART adherence than did the controls (p=0.045) (Golin et al., 2006).

b) Motivate Change. Cognitive mapping is a “graphic representation strategy used to visually enhance the counseling process by using boxes (nodes) and lines (links) to illustrate thoughts, feelings, and actions, and how they relate to each other,” which can facilitate client-staff interaction, problem-solving, and decision-making (UNC CFID, 2010). In the Motivate Change RCT, researchers compare mapping-enhanced counseling to standard counseling in a sample of offenders in residential treatment. Offenders in the mapping-enhanced counseling rated themselves higher on treatment progress during and at the end of treatment (p<.01); had greater positive affect toward treatment (p<.001); and had higher levels of treatment engagement at the end of treatment (p<.01) (Pitre, et al., 1998). The Substance Abuse and Mental Health Services Administration (SAMHSA) has included the Motivate Change intervention in its National Registry of Evidence-based Programs and Practices (NREPP).

c) CONNECT. University of Alabama at Birmingham (UAB) developed a needs assessment and HIV linkage-to-care program. This is a new-patient navigation program that establishes immediate links to HIV care. With CONNECT, when new patients first call to schedule an appointment, they receive a patient navigator who invites them for clinic orientation, general and mental health screens, needs assessment, and baseline laboratory testing. They make this appointment the same day, if possible, and no later than five days after the phone call. Pre-CONNECT no-show rates at the UAB clinic were 31% compared to CONNECT’s 17% (OR=0.54) (Mugavero, 2008).

**Theoretical Framework**

Project imPACT operates at individual, institutional, and community levels of the Social Ecological Framework (SEF) to promote engagement and participation in HIV care to achieve
and sustain viral suppression of released PLWHA during community re-entry (Best et al., 2003; Stokols, 1996). The SEF frames behavior change through identifying factors at various levels – individual, community, organizational, and policy – and through the interaction of factors across these levels (Glanz et al., 1997).

Within the SEF, the PACT and Motivating Change elements primarily influence individual-level behavior to support ART adherence and engagement and participation in care, respectively. The MI component of PACT addresses individual factors – primarily self-efficacy and motivation/intent – that affect ART adherence among HIV-infected released inmates. Self-efficacy, the belief that one possesses the capability for an action, and motivation/intent are important constructs drawn from Social Cognitive Theory, Rogerian Psychology, and the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Fishbein, 1998; Bandura, 1986; Emmons, 2001; Miller & Rollnick, 2002). According to Social Cognitive Theory, people are more likely to change their behavior when they have the self-efficacy to do so (Glanz et al., 2007). Theory of Reasoned Action asserts that intention is the most important factor for changing behavior, which complements beliefs and attitudes that are also influencing behavior change (Glanz et al., 2007). Rogerian Psychology is a person-centered approach that allows patients to find solutions to their problems (Glanz et al., 2007). Project imPACT integrates these theories by using a person-centered approach to help formerly incarcerated PLWHAs examine their intention and self-efficacy to seek medical care and adhere to ART. Combined, the PACT and Motivate Change intervention activities can also enhance their motivation to seek out and utilize needed and available community resources (e.g., filling prescriptions, attending mental health or substance abuse treatment). Recognizing that institutional and community-level obstacles to accessing ART and care confront HIV-infected released inmates, the imPACT intervention also integrates the fundamental components of the CONNECT linkage-to-care intervention.

Project imPACT’s linkage-to-care coordinator is the primary point of contact for the community level and institutional (clinic) level of the intervention. At the institutional or clinic
level, she is responsible for knowledge and communication about available community resources and for sharing the participants’ needs as assessed by the needs assessment with the referral providers. At the community level, she serves to motivate and link formerly incarcerated PLWHA to clinics and available community AIDS service organizations (ASO) through referrals.

**Significance of Intervention**

The Capstone deliverables are part of the larger research efforts of Project imPACT and its intervention targeting multiple levels of the SEF through its strong evidence-base and theoretical foundation. Following the end of the 2012 academic year, the Capstone project’s focus group summary report will help Project imPACT refine the intervention; the process evaluation will allow the team to assess the effectiveness of the linkage-to-care intervention’s delivery; and the cost tracking instruments will inform cost analyses of Project imPACT’s components. The Capstone team contributed to Project imPACT’s evidence base by creating deliverables that help identify successful and unsuccessful intervention components within the theoretical framework, while also providing tools to assess whether the intervention was effectively implemented at the interpersonal and community levels.

**METHODS**

**Logic Model**

As described by Linney and Wandersman (1991), logic models are effective tools to organize and present how conditions are linked within a community, how a program’s activities are intended to address the conditions, the short-term outcomes due to the activities, and the potential long-term impacts due to the outcomes. The Capstone team used a logic model (Figure 2) to help conceptualize and execute process and outcome goals in order to achieve the anticipated long-term impact of improved suppression of HIV viral loads of formerly incarcerated
PLWHAs, leading to the decreased transmission of HIV within their home communities (Julian, 1997).

To inform and facilitate the execution of activities, the Capstone team utilized a number of inputs in the form of various resources. These resources included mentorship, expertise, and time of Project imPACT and Health Behavior faculty. Students input their time into the project, while also applying qualitative research skills attained through prior Health Behavior training. Written resources included interview and focus group guides developed previously by Project imPACT staff, the Project imPACT grant, past cost tracking documents used in previous CFID studies, and Standard Operating Procedures (SOP) for the linkage-to-care coordinator. These previously developed materials served as references for providing background and substantiation for the Capstone team’s activities. Monetary resources to support the activities of the Capstone team included funding from Project imPACT and a $100 stipend provided by the Health Behavior department for the 2011-2012 academic year.

The Capstone team developed a work plan to define project activities and timelines for completion. The Capstone team’s activities included the execution of the qualitative research process, from developing a focus group guide to conducting a focus group to analyzing the collected data. Upon the completion of data analysis, the Capstone team presented an analysis summary to imPACT staff for the purposes of informing the future development of intervention materials based on the challenges and experiences of formerly incarcerated PLWHAs. The Capstone team also created process evaluation tools for the Project imPACT staff to assess the dosage (the amount of intervention received by the participants) and fidelity (the extent to which the intervention was delivered as planned) of the intervention (Linnan & Steckler, 2002). These process evaluation tools included an interview guide for imPACT participants who have completed the intervention, an interview guide for the linkage-to-care coordinator, as well as process evaluation questions, objectives, and indicators. The Capstone team also created cost
tracking tools to enable a cost-effectiveness evaluation of the program and produce cost estimates of delivering the intervention for possible replication by other researchers and practitioners. Additionally, the cost tracking instruments will allow Project imPACT staff to collect information on the amount of time spent on the linkage-to-care intervention components. All activities to develop these tools involved regular consultations and check-ins between the Capstone team and the community partner.

Expected outputs resulting from the completion of the activities included the following: summary of focus group data analysis for imPACT staff; process evaluation tools for future implementation by imPACT staff; cost tracking tool for linkage-to-care; time tracking tool for intervention development; process evaluation questions for imPACT database; process evaluation qualitative interview guides for participants and linkage coordinator, and the summary report of the Capstone project.

Short-term outcomes due the Capstone project’s activities included increased fidelity to intervention implementation through the process evaluation tools; increased knowledge about barriers and facilitators to the linkage-to-care intervention; increased ability for cost analysis based on cost tracking tools; and clear goals, objectives, and action steps for Project imPACT’s linkage-to-care intervention.

Through these inputs, activities, outputs, and outcomes, the Capstone team expects to achieve the anticipated long-term impact of improved suppression of HIV viral loads of formerly incarcerated PLWHA, which would ultimately lead to the decreased transmission of HIV within the home communities of formerly incarcerated PLWHA.
Figure 2.

Project imPACT Logic Model

**Inputs**
- Mentorship and expertise from imPACT staff and HB department
- Time of students, HB faculty, imPACT staff, and participants
- Qualitative research skills from HB training
- Round I Interview/ focus group guides
- $100 from HB department
- Funding support from Project imPACT
- Capstone team
- imPACT grant, past cost tracking documents, Standard of Procedure for linkage-to-care coordinator

**Activities**
- Develop work plan
- Develop focus group guide
- Conduct Round II focus group with participants
- Analyze collected data
- Present analysis summary to imPACT staff
- Create process evaluation interview guide for participants and linkage-to-care coordinator
- Develop process evaluation questions, objectives, and indicators
- Create instrument for tracking time spent during intervention development
- Develop cost tracking tool for linkage-to-care
- Meet regularly with community partner

**Outputs**
- Summary of focus group data analysis for imPACT staff
- Process evaluation tools for future implementation by imPACT staff
- Cost tracking tool for linkage-to-care
- Time-tracking tool for intervention development
- Process evaluation questions for imPACT database
- Process evaluation qualitative interview guides for participants and linkage-to-care coordinator
- Summary report

**Outcomes**
- Increased fidelity to intervention implementation through use of process evaluation tools
- Increased knowledge about barriers and facilitators to linkage to care intervention
- Increased ability for cost analysis based on cost tracking tools
- Clear goals, objectives, and action steps for Project imPACT’s linkage-to-care intervention

**Impacts**
- Improved suppression of HIV viral loads of formerly incarcerated individuals living with HIV
Work Plan Deliverables

Project imPACT and the Capstone team selected work plan deliverables that would serve the collective purpose of enhancing the linkage-to-care intervention already scheduled for implementation by Project imPACT. As shown in Figure 2, these deliverables included: 1) a summary of analysis from one Round II focus group with formerly incarcerated individuals who are HIV-positive, 2) linkage-to-care process evaluation tools, and 3) linkage-to-care cost tracking instruments. Through the deliverables, the Project imPACT team gained rich information about the target population, formerly incarcerated PLWHA, ensuring the relevance and applicability of the intervention. Furthermore, the deliverables provided tools by which the Project imPACT team could assess and monitor components of the intervention even after the Capstone project had ended. The deliverables were valuable for evaluating and ultimately improving the linkage-to-care intervention, which in turn ensured greater potential for success in achieving long-term impacts of improved suppression of HIV viral loads of formerly incarcerated PLWHA and decreased transmission of HIV within the home communities of formerly incarcerated PLWHA. The Results section provides a more detailed description of the purpose, methods, and key findings for each of the deliverables.

Community Engagement and Assessment Activities

In order to inform the development of the deliverables, the Capstone team undertook a variety of community engagement and assessment activities. As outlined by Green & Kreuter in their PRECEDE-PROCEED model, community assessment involves gaining an understanding of a community by examining social matters that impact quality of life for a particular health issue (Green & Kreuter, 2005). Community assessment provides a key set of activities that paves the way for successfully addressing a health issue by immersing researchers or program planners in the community in which they are working, as well as engaging community members themselves in the assessment process (Green & Kreuter, 2005). To assess the community of
formerly incarcerated PLWHA, the Capstone team undertook a variety of activities. The Capstone team completed extensive background research on this community by reading dissertations, theses, and studies. The Capstone team also reviewed the first round of focus group transcripts and analyses conducted previously by Project imPACT with formerly incarcerated PLWHAs, which gave the Capstone team an opportunity to hear the differing voices of community members. More directly, the Capstone team toured the facilities and offices of an AIDS Service Organization (ASO), Case Management of AIDS and Addiction through Resources and Education (CAARE) Inc., to understand the needs and services provided to PLWHA.

The Centers for Disease Control and Prevention’s (CDC) Principles of Community Engagement give particular attention to the engagement of communities affected by health issues; however, for the purposes of this Capstone project, community engagement referred more broadly to stakeholders, such as academics and public health professionals (McCloskey et al., 2011, p. xvi). Due to the research setting of this Capstone project, the Capstone team operated under an inclusive interpretation of community that considered intended beneficiaries, formerly incarcerated PLWHA, as well as the Project imPACT research team to be primary stakeholders. Secondary stakeholders included ASOs, community-based organizations, medical institutions providing HIV primary care, and agencies and groups serving the intended beneficiaries.

The Capstone team regularly engaged the Project imPACT research team by attending their staff meetings and having bi-weekly meetings with the Project imPACT community partner. Throughout each deliverable’s development, the Capstone team directly communicated with the Project imPACT community partner to assess the Project imPACT research team’s needs, in addition to meeting with Principal Investigators when necessary. The Capstone team also met with the linkage-to-care coordinator, a member of the intervention team, to inform the development of the process evaluation tools, as she was the intended end-user.
The Capstone team had no interaction with Project imPACT participants due to the nature of the study and its timeline. Because of a lack of interaction with intervention participants, the direct beneficiaries of the Capstone team’s work were the Project imPACT research team and the linkage-to-care coordinator who would ultimately use the developed process evaluation tools. The Capstone team, nonetheless, had some engagement with the community through a focus group with members of the target population, formerly incarcerated PLWHAs, who had been interviewed previously during the intervention’s development. Secondary stakeholder engagement included an in-depth visit and tour of an ASO, CAARE Inc. The Capstone team maintained a relationship with CAARE Inc. throughout the year via email and conducted the focus group with formerly incarcerated PLWHA in the organization’s facility.

**Planning for Sustainability**

Of equal importance to a program as community engagement and assessment activities is planning for sustainability of that program. Sustainability is the extent to which an evidence-based intervention (EBI) can deliver its intended benefits over an extended period of time after external support is terminated (Linnan, August 24, 2011). In order to ensure that a program can be sustained, it is essential to plan for sustainability even before beginning a program or intervention, including identifying clear indicators to monitor sustainability in the future (Shediac-Rizkallah & Bone, 1998). In the case of Project imPACT, the goal of the overall project was to evaluate the imPACT intervention in order to determine if there was evidence of its effectiveness. Should the research team find positive results, the intervention might be adopted in other prison systems.

At the time of the Capstone team’s work, Project imPACT did not have a sustainability plan or the evidence to demonstrate that its activities yielded positive results. Therefore, it was not possible to evaluate its sustainability using traditional operational definitions of sustainability, such as continuation of health improvements achieved through a program, incorporation of a
program within an organization to ensure its continuation, or building the capacity of the community that receives the program by strengthening skills, knowledge, and increasing access to resources (Shedia-Rizkallah & Bone, 1998). Only after Project imPACT has proven its efficacy should the research team plan for the sustainability of Project imPACT’s benefits for its participants, institutionalization of the intervention within North Carolina’s prison system, and the prison system’s capacity building to help prisoners in North Carolina link to care after release.

If the research team were to plan for the sustainability of Project imPACT, it would need to consider project design and implementation factors, organizational setting factors, and broader community environment factors that can influence the ability of Project imPACT to endure in North Carolina (Shedia-Rizkallah & Bone, 1998). The Discussion section provides a more thorough explanation of the factors the research team could consider for planning imPACT’s sustainability.

The Capstone team’s deliverables focused on intervention components that were vital to the continuation and replication of the linkage-to-care component of Project imPACT, but there were limitations on planning for its sustainability. This Capstone project was unique because the needs of the Project imPACT research team were driving the Capstone’s efforts, and dictated in what areas these efforts were focused. Since the research team did not include anyone from the Capstone team, the Capstone team was not involved in the intervention planning or implementation processes. As such, the Capstone team was limited in its ability to determine the sustainability of their activities within the intervention.

Nonetheless, the Capstone team considered ways to increase Project imPACT’s likelihood of maintaining the use of the linkage-to-care process evaluation and cost tracking tools. The Capstone team worked to increase the usefulness of the deliverables by conducting regular meetings with the community partner, research team, and other key imPACT staff, and incorporating their feedback to enhance the quality of the deliverables. Additionally, these partners provided feedback to ensure that the deliverables would help assess whether the
linkage-to-care intervention was meeting its primary goal – to “develop an approach [for linking outgoing inmates living with HIV in to care] that [would] be beneficial to prison systems and their community partners,” thereby increasing HIV medication and treatment adherence within this population (UNC CFID, 2010).

Furthermore, the Capstone team deliverables contributed to the evidence-base that the research team was seeking to build, and provided data to inform the researchers and practitioners about the intervention’s effectiveness. If Project imPACT were successful, the research team would present their results at HIV/AIDS conferences, publish on online research dissemination websites (e.g., Institute of Behavioral Research), and in peer-reviewed journals, and present them to community forums, ASOs, and prison systems. After collecting and analyzing data through the process evaluation and cost tracking tools, they would also disseminate the results and inform the community about essential factors contributing to the success of imPACT’s intervention and the costs of implementation. In order for other research groups, non-profit organizations, and/or prison facilities to replicate the intervention, the research team would develop protocols and manuals to explain the intervention design, and its guidelines for assessing its implementation (using the process evaluation tools) and its implementation costs (using the cost tracking tools). As other researchers and practitioners replicate the intervention and yield findings, the results they would share with Project imPACT could be used to refine the protocols and manuals continuously. The research team would also recommend taking advantage of the North Carolina Translational and Clinical Sciences Institute’s (NC TraCS) Dissemination Core to make study results and materials widely available on its website as well as that of the UNC Center for AIDS Research. The Conclusion section provides specific suggestions for using the Capstone deliverables for sustaining the intervention.
RESULTS

Summary of Deliverables

The Capstone team produced a focus group analysis, linkage-to-care process evaluation tools and linkage-to-care cost evaluation tools. Due to time constraints, the Capstone team developed but did not apply the process evaluation and cost tracking tools to the intervention to produce findings and analyses. The following tables describe the deliverables, their purposes, methods and timelines for completing deliverables, and key findings.

<table>
<thead>
<tr>
<th>Deliverable 1:</th>
<th>Summary of analysis from one Round II focus groups with formerly incarcerated individuals who are HIV-positive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose:</strong></td>
<td>To inform further development and modification of intervention materials, and understand additional challenges and experiences of formerly incarcerated individuals who are HIV-positive.</td>
</tr>
<tr>
<td><strong>Timeline:</strong></td>
<td>November 2011-April 2012 (~5 months)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methods</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed Round I focus group data</td>
<td>The focus group produced themes of stigma, relationships outside of prison, personal approaches to disease, use of cell phones, HIV care in prison, HIV care transition from prison to release, HIV care after release, and recommendations for effective linkage-to-care.</td>
</tr>
<tr>
<td>Developed Round II focus group guide</td>
<td></td>
</tr>
<tr>
<td>Submitted Round II focus group guide to Project imPACT manager and research team for review</td>
<td></td>
</tr>
<tr>
<td>Worked with the project manager to submit IRB modification for use of finalized Round II focus group guide</td>
<td></td>
</tr>
<tr>
<td>Obtained approval for modified UNC IRB for use of Round II focus group guide</td>
<td></td>
</tr>
<tr>
<td>Recruited participants for Round II focus group via list from Round I focus groups provided by research team</td>
<td></td>
</tr>
<tr>
<td>Conducted focus group and submitted the audio files for transcription through transcription service funded by Project imPACT</td>
<td></td>
</tr>
<tr>
<td>Received transcriptions of collected data</td>
<td></td>
</tr>
<tr>
<td>Data analysis: Memoed the transcribed data</td>
<td></td>
</tr>
<tr>
<td>Data analysis: Interpreted data and produced analytical product</td>
<td></td>
</tr>
<tr>
<td>Draft of analytics summary report submitted for review by community partners, faculty advisor, and TA</td>
<td></td>
</tr>
<tr>
<td>Produced final summary report</td>
<td></td>
</tr>
<tr>
<td>HIV+ inmates frequently experienced stigma due to their HIV status. This stigma often led to physical harm against the individual, poor mental health, discrimination, and isolation.</td>
<td></td>
</tr>
<tr>
<td>Relationships outside of prison (e.g., family and church communities) provided social and emotional support, as well as assistance in HIV care both during incarceration and after release.</td>
<td></td>
</tr>
<tr>
<td>Personal approaches to disease included taking ownership for one’s health through actively seeking and advocating for one’s own HIV care.</td>
<td></td>
</tr>
<tr>
<td>Use of cell phones was instrumental to recently released PLWHA’s HIV care. Cell phones allowed individuals to contact providers and pharmacies, set reminders to take medications, and provided privacy when talking about HIV status or care over the phone.</td>
<td></td>
</tr>
<tr>
<td>Experiences with HIV care in prison were varied but were generally inadequate and</td>
<td></td>
</tr>
</tbody>
</table>
lacked privacy measures.
- **HIV care transitions from prison to release** revealed both the need to be an advocate for one's own health, as well as the need for assistance to transition out of prison and into consistent HIV care.
- **HIV care after release** focused on the sources of care, including health departments and ASOs, highlighting the many service needs of this population upon release, such as housing and employment.
- A number of **recommendations** emerged for linking this population to care, providing resources and training, and structuring in-prison services for incarcerated PLWHA.

### Deliverable 2: Linkage-to-care process evaluation tools

**Purpose:** To assess the dosage and delivery of the linkage-to-care intervention and identify key successful factors of imPACT’s linkage-to-care component

**Timeline:** January-March 2012 (~3 months)

<table>
<thead>
<tr>
<th>Methods</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Developed linkage-to-care process evaluation tool (questions for linkage-to-care coordinator to answer during the intervention)</td>
<td>Due to the nature of this deliverable being a tool for implementation after the completion of the Capstone project, key findings are not applicable. Nonetheless, the process of developing these tools achieved the following:</td>
</tr>
<tr>
<td>o Worked with imPACT team to decide which process evaluation tool to develop, identify objectives and indicators, and refine survey questions</td>
<td>The Capstone team identified objectives for the linkage-to-care process evaluation tool:</td>
</tr>
<tr>
<td>o First draft of tool submitted for feedback</td>
<td>- To assess the dose of linkage-to-care intervention components and resources</td>
</tr>
<tr>
<td>o Refined tool</td>
<td>- To assess the delivery of the linkage-to-care intervention components and resources</td>
</tr>
<tr>
<td>- Developed qualitative interview guide for linkage-to-care coordinator</td>
<td>- To assess the key success factors of the intervention on participant’s attendance of first medical appointment</td>
</tr>
<tr>
<td>o Worked with imPACT team to address topic and scope of the interview guide</td>
<td>The Capstone team developed research questions for the qualitative interview guide for the linkage-to-care coordinator:</td>
</tr>
<tr>
<td>o Developed first draft of interview guide and submitted for feedback</td>
<td>- How does the linkage-to-care coordinator perceive that the linkage-to-care component of the intervention affects participants’ ability to access medical care?</td>
</tr>
<tr>
<td>o Refined guide and submitted to imPACT research team</td>
<td>- What affects the linkage-to-care coordinator’s ability to help participants access medical care?</td>
</tr>
</tbody>
</table>
- Refined guide and submitted to imPACT research team
- What are the interactions between the linkage-to-care coordinator and other staff (e.g. outreach nurses, parole or probation officers, MI counselors)?
- What are the linkage-to-care coordinator’s interactions with other stakeholders like?
- What are the linkage-to-care coordinator’s reactions to the way the intervention is being implemented?

The Capstone team developed research questions for the qualitative interview guide for imPACT participants:
- How do the intervention components help participants adhere to ART?
- What is the participant’s level of satisfaction with the intervention?

**Deliverable 3: Linkage-to-care cost tracking instruments**

*Purpose:* To collect information on the amount of time spent on developing the linkage-to-care intervention and time spent implementing it. Cost tracking provides the data necessary for conducting an accurate cost analysis (at a later date), which shows the relationship between intervention costs and intervention effectiveness.

*Timeline:* January-March 2012 (~3 months)

<table>
<thead>
<tr>
<th>Methods</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researched cost analysis and met with a consultant to discuss cost analysis and cost-effectiveness</td>
<td>Due to the nature of this deliverable being a tool for implementation after the completion of the Capstone project, key findings are not applicable. Nonetheless, the process of developing this tool achieved the following:</td>
</tr>
<tr>
<td>Worked with imPACT team to decide which costs to track through cost tracking instruments</td>
<td>Identified items to track:</td>
</tr>
<tr>
<td>Draft of instrument to track time spent on intervention development submitted for feedback</td>
<td>- Time spent scheduling and confirming in-prison interviews</td>
</tr>
<tr>
<td>Draft of instrument to track time spent on implementing intervention submitted for feedback</td>
<td>- Time spent liaising with prison staff</td>
</tr>
<tr>
<td>Revised and finalized tracking instruments for use by imPACT staff</td>
<td>- Time spent educating participants on medical appointment importance</td>
</tr>
<tr>
<td></td>
<td>- Time spent collaborating with medical home personnel and scheduling appointments</td>
</tr>
<tr>
<td></td>
<td>- Time spent entering information into imPACT study database</td>
</tr>
</tbody>
</table>
Community Engagement and Assessment Findings

Other than producing the aforementioned deliverables, the Capstone team spent the majority of their time working with the Project imPACT research team. While the Capstone team was unable to engage with Project imPACT’s participants, the team learned valuable information through their engagement and assessment with the target population of formerly incarcerated PLWHA. Through both reviewing Round I focus group data and conducting a follow-up focus group with formerly incarcerated PLWHA, the Capstone team gained rich insight into experiences with HIV care after release from prison. The responses gleaned through the discussions provided information about the types of assistance available to link individuals to HIV care; the resources used to remain in care and adhere to treatment (e.g., cell phones); the gaps in information or assistance that were encountered; the extent to which individuals remained in medical care after release; and the roles that ASOs and other organizations played in providing care. The Round II focus group conducted by the Capstone team informed future improvements to the Project imPACT intervention. Moreover, through the tour of CAARE’s facility and meeting with CAARE staff members, the Capstone team gained a more informed understanding of the plethora of services required by the target population aside from medical care. Access to these services, including housing and food assistance and mental health care, would directly affect the ability of PLWHA to initiate or maintain HIV care.

In addition to engaging with members from the target population, regular engagement with the Project imPACT research team allowed for close collaboration in the development of process evaluation tools. This consistent level of communication increased buy-in from the imPACT team for these tools, thereby increasing the likelihood that they would serve an integral role in the intervention. Furthermore, through the development of these process evaluation tools, the Capstone team gained valuable insight into the way the research team conducted its intervention, process evaluation, and cost analysis.
Sustainability Findings

Despite the close collaboration over the course of the year with the Project imPACT research team to complete the deliverables, the Capstone team was unable to directly integrate or observe the use of their developed tools before the term ended. The Capstone team’s primary goal was to develop deliverables that Project imPACT staff would adopt and sustain, which would ultimately serve to help refine and maintain Project imPACT. Unfortunately, the timeframe limited the Capstone team’s role to solely the intervention development period, which restricted involvement in planning for sustainability of the intervention or evaluation. A delay in imPACT’s implementation prevented the Capstone team and research team from utilizing the tools for collecting data and producing results for analysis during the timeframe of the Capstone team’s involvement with Project imPACT. The team could only provide expected outcomes for sustaining the efforts of the Capstone team and Project imPACT. Thus, the procedures and materials developed by the Capstone team were likely to be used and sustained for several reasons.

First, the research team’s involvement in the development of process evaluation and cost-tracking tools was integral to the sustainability of the deliverables. The Capstone team ensured that these tools reflected the interests and met the needs of the community partner, research team, and linkage-to-care coordinator through feedback gathered in multiple meetings and communications. More specifically, the team incorporated their feedback with the goal of increasing their and other researchers’ and practitioners’ likelihood of using the deliverables for the intervention.

Second, the research team’s use of the Capstone deliverables could be crucial for assessing the success of the intervention’s implementation and refining the intervention based on the evaluation results. Project imPACT incorporated the questions developed for the linkage-to-care process evaluation into a database, which the imPACT research team would use to
track how the intervention was being implemented and the effects the implementation had on their intended outcomes. As previously stated, due to the timeline, the Capstone team was unable to collect data using the two qualitative interview guides, which were designed to gain information on how the linkage-to-care coordinator and participants perceived the intervention. The imPACT research team expressed interest in using the guides in the future to collect this valuable information for the purpose of improving Project imPACT based on their feedback. The research team also intended to use the cost tracking tools to monitor the costs incurred in the development and implementation of the intervention.

The research team’s use of the process evaluation and cost tracking tools will allow them to understand how specific factors of the intervention could influence its effectiveness. For example, the process evaluation results could provide the imPACT research team with information about whether the clients were receiving all the critical components of the linkage-to-care intervention and why they were not receiving the whole intervention if that were the case. The interviews would be especially important in helping the research team assess the latter point and providing suggestions for improvements to ensure that participants were receiving the whole intervention. Additionally, the research team could use the cost tracking data to conduct a cost analysis of the intervention and understand the costs they would expect to incur when replicating the intervention. The research team could also use the focus group analysis to understand the identified needs of formerly incarcerated PLWHAs and improve the intervention to make it more relevant and efficacious.

Third, other researchers and practitioners interested in replicating the intervention could also benefit from the process evaluation and cost tracking tools and results. Others would be more likely to adopt an intervention that demonstrated successful results and provided tools to help assess the implementation and costs of the intervention.

CFID’s commitment to researching and improving HIV outcomes among North Carolina’s incarcerated populations would help sustain Project imPACT’s efforts by sharing the
Capstone’s work through NC TraCS’ Dissemination Core, HIV/AIDS conferences, and peer-reviewed publications. The Capstone deliverables focused on multiple components of the overall project, which garnered support and vested interest from the faculty, staff, and research team of Project imPACT. This close collaboration increased the likelihood that researchers and practitioners would find the deliverables to be relevant and applicable for their use.

**DISCUSSION**

The Discussion section provides a discourse of strengths and limitations of the Capstone team’s community engagement activities, considerations for the sustainability of the deliverables, the potential impacts of the Capstone project, and challenges and lessons they encountered.

**Strengths and Limitations of Engagement and Assessment Activities**

As discussed previously, engagement with community partners and intended beneficiaries provided researchers with direct access to the diverse perspectives and understandings of the health issue. As such, the Capstone team both valued and appreciated working with the Project imPACT research team but also struggled with the lack of engagement with imPACT participants. Capstone team members were not formal members of the research team and therefore did not interact with imPACT participants. Additionally, participant recruitment for the intervention was only just beginning as the Capstone team was ending its work, further limiting opportunities for engagement. This limitation was of particular concern when developing the process evaluation interview guide for use with the Project imPACT participants. The interview guide focused on learning about the participants’ experiences with the intervention, including satisfaction with the overall process and also with each of the intervention components. Having the opportunity to pilot the interview guide and possibly conduct cognitive interviews to assess the questions for meaning and other features, as well as
receive feedback from the intended beneficiaries, would have strengthened this deliverable. Although they were not participants of the intervention, the Capstone team was able to engage with members of the target population, formerly incarcerated PLWHA, through a focus group. From the information collected, the Capstone team derived a summary of analysis to be used to inform the intervention during implementation.

Additional strengths of the Capstone team’s engagement activities included collaboration with the Project imPACT research team, the Capstone team’s other primary stakeholder group. Collaborating with these stakeholders on an ongoing basis facilitated the development of appropriate measurement instruments, making efforts more effective and efficient, while also establishing a mutual trust that enhanced the quantity and quality of data collected (Viswanathan, et al., 2004). The Capstone team’s relationship with the Project imPACT research team could have been improved through the Capstone team’s continued participation in Project imPACT research team’s regular staff meetings, which were suspended in the fall.

The greatest weakness in engaging with this stakeholder group was structural in nature. Because the work of the Capstone team was limited to only one component of the Project imPACT intervention, linkage-to-care, the process evaluation tools were confined in the information they could provide. The team found that this intervention fragmentation restricted their ability to help refine the overall intervention based solely on the linkage-to-care process evaluation, in addition to limiting Capstone team engagement with the intervention team aside from the linkage-to-care coordinator. Broader involvement of the Capstone team in Project imPACT’s efforts would have strengthened the Capstone team’s deliverables.

Considerations for Sustainability

Due to the nature of the research project, the Capstone team not only had restricted interaction with imPACT participants but also had a limited role in planning for sustainability. Since Project imPACT was not a research project that yielded the types of sustainability that
Shediac-Rizkallah & Bone (1998) identified, the Capstone team could only discuss the factors that could potentially influence the continuation of the Capstone’s deliverables within Project imPACT. As part of the ongoing initiatives of Project imPACT, the Capstone team expected that the research team would sustain the Capstone team’s efforts by using the tools after the completion of the Capstone term in May 2012 and conduct analyses of the data they collect in 2012-2013.

The Capstone team proposed specific factors for the research team to consider when planning for imPACT’s sustainability. First, the research team could incorporate specific project design and implementation factors to increase the potential for sustainability of the intervention. As discussed in the Results section, the research team should make efforts to disseminate their results, manuals and protocols, which would include the process evaluation and cost tracking tools, should the intervention be proven successful.

Furthermore, strengthening the organizational capacity of North Carolina’s HIV clinics, ASOs, and prison system could help enhance imPACT’s sustainability. CFID and Project imPACT could collaborate with these organizations to identify ways and resources that could help them integrate the intervention and evaluation measures into their existing systems. CFID and Project imPACT could also put measures in place to monitor replications of the intervention and the outcomes produced, in addition to providing training and technical assistance to researchers and practitioners. The Conclusion section proposes steps to ensure the sustainability of the Capstone team’s work.

Potential Impacts and Benefits

Through the efforts of the Capstone team, CFID and Project imPACT gained valuable information and tools to help strengthen the implementation of the intervention, thereby leading to potentially significant impacts for formerly incarcerated PLWHA and their communities. The implications of these intended benefits were not only wide-reaching but also enduring. At the
conclusion of the Capstone team’s involvement with Project imPACT, Project imPACT staff maintained the resources produced by the Capstone team. These resources, such as the process evaluation tools, would strengthen the staff’s assessment of the intervention implementation and could serve in future replications of the intervention. The development of the process evaluation tools also helped the Project imPACT research team to clearly specify the details for implementing the intervention. For example, when developing process objectives and indicators, the research team and Capstone team referenced the Standard Operating Procedures (SOP) for the linkage-to-care coordinator to determine what roles she would be performing, which became the evaluation’s indicators for measuring the frequency of each intervention component delivered to the participants.

Additionally, the linkage-to-care cost tracking tools provided a valuable resource by which to conduct future cost analyses of expenses incurred during development and implementation phases of the intervention. Lastly, direct involvement and feedback from members of the target population, formerly incarcerated PLWHAs, in the qualitative research process boosted the relevance and impact of the linkage-to-care intervention.

**Lessons Learned and Challenges**

Each member of the Capstone team learned valuable lessons through the course of conducting a successful Capstone project. Close and effective coordination among team members was necessary to ensure that all deliverables incorporated each member’s insights, producing work based on collective consensus. All project-related issues were addressed in a timely manner within the team through this deliberate coordination. Furthermore, the team reinforced lessons learned through the 2-year Health Behavior Master’s curriculum by directly applying qualitative and quantitative research and evaluation skills to the efforts of Project imPACT. In the development of focus group and interview guides, the Capstone team referenced and utilized Health Behavior principles and theories, including the SEF as described
above in the Literature Review section, which focused on individual, community, and policy levels of influences on a behavior (Glanz, Rimer, & Cancer Institute, 1997). Finally, the Capstone team also learned about the many steps, processes, time, and manpower required to establish and evaluate an intervention such as Project imPACT.

Key challenges of the Capstone project stemmed from continual changes to some of the Capstone deliverables over the course of the year. Such modifications created a domino effect of changes to other components, oftentimes delaying the completion of the Capstone work. Further complicating the timeline, delayed communication with stakeholders also proved to be a challenge in the timely completion of projects for some deliverables. Aside from the community partner, interaction between the Capstone team, imPACT participants and Project imPACT staff was limited, creating barriers to the establishment of relationships and engagement with key stakeholders. Although the work expected of the Capstone team was within the scope of members’ skills, the team would have benefited greatly from enhancing their skills by learning how to analyze the data collected through the process evaluation and cost tracking tools they developed, which was not possible due to previously mentioned time constraints. The data collection and analysis process using these tools, however, will occur outside the timeline and purview of the Capstone team’s involvement with Project imPACT. Finally, the Capstone team struggled to address the format and expectations for deliverables set forth by the Health Behavior teaching team due to the evaluative and research-based nature of the deliverables.

CONCLUSION AND RECOMMENDED NEXT STEPS

In summary, the Capstone team’s successful completion of the three main deliverables will serve as valuable resources to ensure the strengthening of Project imPACT’s efforts. The analysis and key findings from the Round II focus group with formerly incarcerated PLWHA will inform any revisions and improvements to the Project imPACT intervention, bolstering its relevance to the target population. The process evaluation tools will allow the imPACT research
team to assess the intervention components received by imPACT participants and address the extent to which the imPACT team delivered the intervention as planned. Lastly, the linkage-to-care cost tracking instruments will provide the means to collect information on the amount of time spent on the intervention development and implementation to conduct cost-effectiveness analyses in the future.

In order to increase the impact and sustainability of the process evaluation tools, the Capstone team recommends developing a protocol for incorporating process evaluation into the intervention to sustain the use of the developed tools. The sustainability of the process evaluation tools depends on the imPACT staff’s successful integration of the tools into existing program’s infrastructure and the research team’s use of the results to enhance the intervention.

The protocol created by the Project imPACT research team should include adding process evaluation questions developed by the Capstone team to the linkage-to-care coordinator’s database. This allows the research team to assess which steps of the intervention the linkage-to-care coordinator used and did not use with imPACT participants, and the reasons why certain steps were not completed. Adding the process evaluation tool to the database also allows the research team to differentiate the amount of time and the linkage-to-care coordinator spent with each imPACT participant.

Project imPACT should also create a protocol for the cost tracking instrument developed by the Capstone team. Tracking the cost of the intervention is necessary to conduct an accurate cost analysis, which provides a thorough description of the amount of time used developing and implementing the linkage-to-care intervention. This protocol would provide a standard for using the cost tracking tool, which would allow the research team to show the relationship between program costs and program effectiveness through cost-effectiveness analysis.

In addition to these recommended next steps regarding the deliverables, the Capstone team recommends that Project imPACT continue to engage with the various stakeholders
identified in the Methods section, ASOs, community-based organizations, medical institutions, and groups serving the intended beneficiaries. This continual engagement will provide dialogue and boost the collective effort of these organizations to sustain linkage-to-care for the target population.
Figure II. Project imPACT
Capstone Work Plan
Spring 2012

A. Capstone Team Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catherine Grodensky, MPH</td>
<td>Core Manager, UNC Center for AIDS Research Social and Behavioral Sciences Research Core 135 Dauer Dr. CB #7440 Chapel Hill, North Carolina 27599 Phone: (919) 843-2532 Fax: (919) 966-2921 E-mail: <a href="mailto:grodensk@med.unc.edu">grodensk@med.unc.edu</a></td>
</tr>
<tr>
<td>Carol Golin, MD</td>
<td>Faculty Adviser</td>
</tr>
<tr>
<td></td>
<td>Associate Professor</td>
</tr>
<tr>
<td></td>
<td>UNC-School of Public Health</td>
</tr>
<tr>
<td></td>
<td>Department of Health Behavior</td>
</tr>
<tr>
<td></td>
<td>CB# 7440</td>
</tr>
<tr>
<td></td>
<td>Chapel Hill, NC 27599-7440</td>
</tr>
<tr>
<td></td>
<td>Phone: (919) 966-7939</td>
</tr>
<tr>
<td></td>
<td>Fax: (919) 966-3811</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:carol_golin@med.unc.edu">carol_golin@med.unc.edu</a></td>
</tr>
<tr>
<td>Claire Chu</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Phone: 559-213-1238</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:claire.chu@unc.edu">claire.chu@unc.edu</a></td>
</tr>
<tr>
<td>Elaine Lo</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Phone: 510-837-7789</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:ejlo@email.unc.edu">ejlo@email.unc.edu</a></td>
</tr>
<tr>
<td>Mary Key</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Phone: 919-638-4949</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:mary.key@unc.edu">mary.key@unc.edu</a></td>
</tr>
<tr>
<td>Nora West</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Phone: 703-217-2587</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:nswest@email.unc.edu">nswest@email.unc.edu</a></td>
</tr>
<tr>
<td>Caitlin Kleiboer</td>
<td>Student</td>
</tr>
<tr>
<td></td>
<td>Phone: 616-481-5243</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:kleiboer@live.unc.edu">kleiboer@live.unc.edu</a></td>
</tr>
</tbody>
</table>

B. Working Title
Project imPACT: Qualitative Research and Process Evaluation of a Linkage to Care Intervention for Formerly Incarcerated Persons Living with HIV/AIDS in North Carolina.

C. Capstone Project Description
In 2009 the southern region of the United States (US) had the highest rate of diagnosis of HIV infection of all the US regions.\(^1\) For prisoners who are infected with HIV, the time period following their release is the most challenging with regard to HIV therapy and clinical care.\(^2\) Our Capstone team will be working with Project imPACT to address the needs of this population.

Project imPACT (\textit{individuals motivating to Participate in Adherence, Care and Treatment}) is a NIDA-funded evaluation of the “seek, test, and link to care” paradigm of HIV prevention in criminal justice populations. Projects such as these are central to the mission of the UNC School of Medicine’s Center for Infectious Diseases (CFID), which is committed to researching and enhancing HIV outcomes within North Carolina’s incarcerated populations. The Capstone team will enhance the ability of Project imPACT to understand how best to link released prisoners effectively with HIV care in their home communities, thereby increasing the likelihood that they will be able to adhere to their medications and receive HIV treatment. Under the “seek, test, and link to care” paradigm, these outcomes should improve suppression of these patients’ viral loads, leading to a decreased likelihood of transmitting HIV within their home communities.

The Capstone team will evaluate a linkage-to-care intervention, already scheduled for implementation, by working with the North Carolina Department of Corrections; prison outreach nurses; community clinic providers; and formerly incarcerated persons living with HIV/AIDS. To inform this evaluation, the Capstone team will design and conduct focus groups with former inmates and conduct analyses of the collected qualitative data. The team will also design process evaluation instruments for the linkage-to-care intervention, interview guides, and a protocol to monitor and assess intervention dosage and delivery. A cost analysis instrument and protocol will be developed by the Capstone team for the purpose of tracking intervention expenses by the imPACT research team.

\textbf{D. Deliverables & Activities}

\textbf{Deliverable 1}: Summary of analysis from one Round II focus groups with formerly incarcerated individuals who are HIV-positive.

\textbf{Lead Team Members}: Claire Chu and Nora West

\textbf{Purpose}: To inform further development and modification of intervention materials and understand additional challenges and experiences of formerly incarcerated individuals who are HIV-positive. The groups will focus on seeking and accessing medical care, as well as participants’ experiences with cell phones related to their HIV care. We have yet to begin the process of recruitment but expect \(\sim 4-5\) participants in each focus group, lasting \(\sim 90\) minutes.

\textbf{Completion Date}: May 2012

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Round I focus group data</td>
<td>Complete</td>
</tr>
<tr>
<td>Development of focus group guide</td>
<td>Complete</td>
</tr>
<tr>
<td>Submit Round II focus group guide to project manager and project team for review</td>
<td>Complete</td>
</tr>
<tr>
<td>Work with the project manager to submit IRB modification for use of finalized Round II focus group guide</td>
<td>February 10(^{th}), 2012</td>
</tr>
<tr>
<td>Obtain approval for modified UNC IRB for</td>
<td>February 24(^{th}), 2012</td>
</tr>
<tr>
<td>use of Round II focus group guide</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Recruit participants for Round II focus group via list provided by research team from Round I focus groups</td>
<td></td>
</tr>
<tr>
<td>February 20th, 2012</td>
<td></td>
</tr>
<tr>
<td>Conduct focus group and submit the audio files for transcription service funded by Project imPACT</td>
<td></td>
</tr>
<tr>
<td>March 13th, 2012</td>
<td></td>
</tr>
<tr>
<td>Receive transcriptions of collected data</td>
<td></td>
</tr>
<tr>
<td>March 20th, 2012</td>
<td></td>
</tr>
<tr>
<td>Data analysis: Memo data</td>
<td></td>
</tr>
<tr>
<td>March 23rd, 2012</td>
<td></td>
</tr>
<tr>
<td>Data analysis: Interpret data and produce analytical product</td>
<td></td>
</tr>
<tr>
<td>March 30th, 2012</td>
<td></td>
</tr>
<tr>
<td>Draft of summary report to be submitted for review by community partners, faculty advisor, and TA</td>
<td></td>
</tr>
<tr>
<td>April 10th, 2012</td>
<td></td>
</tr>
<tr>
<td>Produce final summary report</td>
<td></td>
</tr>
<tr>
<td>April 18th, 2012</td>
<td></td>
</tr>
</tbody>
</table>

**Product Review:** Our community partner reviewed and provided feedback on our focus group guide. We are still waiting for additional feedback from other imPACT research team members and faculty advisor.

**Deliverable 2:** Process evaluation tools  
**Lead Team Members:** Elaine Lo and Caitlin Kleiboer  
**Purpose:** The process evaluation tools will assess the dosage and delivery of the linkage-to-care intervention and identify key successful components of the imPACT intervention.

The process evaluation tools will include quantitative and qualitative methods of assessing dosage and delivery the linkage-to-care intervention. We will develop questions for the database the linkage-to-care coordinator will use to monitor and document her work with the intervention participants. The questions will assess the linkage-to-care coordinator’s (the personnel responsible for implementing the linkage-to-care intervention) duties to indicate which intervention components she used and did not use with her clients, resources she used, and differentiate the amount of time she spent with each client, on behalf of each client, and on behalf of the imPACT project. The number of questions and number of clients the linkage-to-care coordinator will work with have not yet been determined.

Another tool will be qualitative interviews with both the imPACT participants and the linkage-to-care coordinator to identify successful components of the intervention and areas of improvement, including the use of cell phones and other resources. The qualitative interviews with the participants will include questions about their satisfaction with the intervention, the intervention’s success at linking the participants with HIV care (i.e., attending their first medical appointments after release), and the resources they used to seek medical care (i.e., cell phones, linkage-to-care coordinator). These interviews will be done after the participants have completed all aspect of the intervention, likely beginning in June 2012. The Capstone team will not be able to conduct the interviews but will develop the guide for the imPACT team to conduct. The qualitative interview with the linkage-to-care coordinator will ask her to identify intervention components that have been successful or unsuccessful and areas of improvement. This
interview will be conducted after the linkage-to-care coordinator has worked with several participants and will likely occur in April 2012. The goal of the process evaluation tools is answer the following process evaluation research questions:
1. How can the imPACT intervention be implemented successfully?
2. Which intervention components are successful and unsuccessful?
3. What are the barriers, if any, preventing the implementation of the intervention?
4. How can the implementation of the intervention be improved?

**Completion date:** March 2012

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop needs assessment (in prison) process evaluation tools</td>
<td>Complete</td>
</tr>
<tr>
<td>Work with imPACT team to decide which process evaluation tools will be developed</td>
<td>Complete</td>
</tr>
<tr>
<td>Refined tools for pre-testing</td>
<td>January 13, 2012</td>
</tr>
<tr>
<td>Develop linkage-to-care (out of prison) process evaluation tools</td>
<td></td>
</tr>
<tr>
<td>● Work with imPACT team to decide which process evaluation tools will be developed</td>
<td>Complete</td>
</tr>
<tr>
<td>● First draft of tools submitted for feedback</td>
<td>Complete</td>
</tr>
<tr>
<td>● Refined tools</td>
<td>February 13th, 2012</td>
</tr>
<tr>
<td>Develop qualitative interview guide for linkage-to-care coordinator</td>
<td></td>
</tr>
<tr>
<td>● Work with imPACT team to address topic and scope of the interview guide</td>
<td>February 17, 2012</td>
</tr>
<tr>
<td>● Develop first draft of interview guide and submit for feedback</td>
<td>February 24, 2012</td>
</tr>
<tr>
<td>● Refine guide and submit to imPACT team</td>
<td>March 16, 2012</td>
</tr>
<tr>
<td>Develop qualitative interview guide for participants</td>
<td></td>
</tr>
<tr>
<td>● Work with imPACT team to address topic and scope of the interview guide</td>
<td>February 17, 2012</td>
</tr>
<tr>
<td>● Develop first draft of interview guide and submit for feedback</td>
<td>February 24, 2012</td>
</tr>
<tr>
<td>● Refine guide and submit to imPACT team</td>
<td>March 16, 2012</td>
</tr>
</tbody>
</table>

**Product Review:**
Our Community Partner has reviewed our in-prison needs assessment process evaluation tool and we are waiting for our Faculty Adviser’s responses.
Deliverable 3: Cost tracking instruments

Lead Team Members: Mary Key and Elaine Lo

Purpose: The cost tracking instruments will collect information on the amount of time spent on the linkage-to-care intervention components.

The team will create two instruments to track the Linkage-to-Coordinator’s time spent implementing the intervention and the other intervention staff’s time spent developing the various activities for the intervention. Tracking the cost of the intervention is necessary to conduct an accurate cost analysis, which provides a thorough description of the amount of time used developing and implementing the linkage-to-care intervention. Cost tracking also allows the imPACT research team to perform cost-effectiveness analysis, which shows the relationship between program costs and program effectiveness.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research cost analysis and meet with a consultant to discuss cost analysis and cost-effectiveness</td>
<td>Complete</td>
</tr>
<tr>
<td>Work with imPACT team to decide which costs will be tracked on the cost tracking instrument</td>
<td>February 14th, 2012</td>
</tr>
<tr>
<td>Draft of intervention development time tracking instrument submitted for feedback</td>
<td>February 15th, 2012</td>
</tr>
<tr>
<td>Draft of cost tracking instrument submitted for feedback</td>
<td>March 1st, 2012</td>
</tr>
<tr>
<td>Cost tracking instruments completed</td>
<td>March 15th, 2012</td>
</tr>
</tbody>
</table>

E. Important Health Behavior Principles

A. Theory Grounded

The intervention is designed to operate at individual, institutional, and community levels within the Social Ecological Framework (SEF) to promote engagement and participation in HIV care to achieve and sustain viral suppression during community re-entry.3, 4 Within the SEF, the Participating and Communicating Together (PACT) and Motivate Change elements of imPACT are designed primarily to influence individual level behavior to support ART adherence and engagement and participation in care, respectively. The motivational interviewing (MI) component of PACT, which has theoretical underpinnings that draw from Social Cognitive Theory, Rogerian Psychology, and the Theory of Reasoned Action, 5-9 addresses factors – primarily self-efficacy and motivation/intent – that affect ART adherence amongst HIV-infected released inmates. Combined, the PACT and Motivate Change intervention activities can also enhance motivation to seek out and utilize needed and available community resources (e.g., filling prescriptions, attending mental health or substance abuse treatment). Recognizing that institutional and community-level obstacles to accessing ART and care confront HIV-infected released inmates, the imPACT intervention integrates the fundamental components of the CONNECT intervention.

B. Evidence-Based
The imPACT project is an integrated multi-component intervention that combines elements from 3 tested theory-based interventions: Participating and Communicating Together (PACT), Motivate Change, and CONNECT. This randomized control trial will test if a comprehensive intervention supporting *seek-test-treat-and-retain*, a combined approach to enhance the use of antiretroviral therapy (ART), results in a significant reduction in the potential for HIV-infected prisoners to transmit their virus after release.

**PACT** is a multi-component motivational interviewing (MI)-based ART adherence intervention. The NIMH-funded study was a 2-arm, 140 participant RCT of an MI component consisting of 2 structured MI sessions that were supported by: a) a pre-session entertaining audio-booklet pair that patients listened to in preparation for the MI session and b) post-session booster letters. The PACT intervention group had 2.75 times higher odds of achieving >95% adherence than did the controls (P=0.045; 95% CI:1.023-7.398).10

**Motivate Change** is a cognitive mapping-based intervention to improve engagement and participation in health care following prison release. In a RCT comparing mapping-enhanced counseling to standard counseling in a sample of offenders in residential treatment, offenders in the mapping enhanced counseling rated themselves higher on treatment progress during and at the end of treatment (p < .01); greater positive affect toward treatment (p < .001); and had higher levels of treatment engagement at the end of treatment (p < .01).11 Mapping tools will be adapted from Motivating Change,12 a program to engage prisoners facing release. It has been included in SAMHSA’s National Registry of Evidence-based Programs and Practices (NREPP).

**CONNECT** is a needs assessment and HIV care linkage program developed at the University of Alabama (UAB). This new-patient navigation program establishes immediate links to HIV care. With CONNECT, when new patients first call to schedule an appointment, they are linked immediately to a patient navigator who invites them in that day, if possible, or within 5 days for clinic orientation, general and mental health screens, needs assessment and baseline laboratory testing. Pre-CONNECT (n=522) no-show rates at the UAB clinic were 31%; with CONNECT (n = 361) the rate was 17% with an adjusted OR=0.54 (95% CI: 0.38-0.76).13

C. Participatory

**imPACT Staff**: On September 22, 2011, all Capstone team members will attend an imPACT staff meeting to introduce ourselves and present the deliverables of our project. A representative of the Capstone team will attend the imPACT staff meetings on a bi-weekly basis thereafter to deliver updates on our progress and receive feedback.

**imPACT Participants**: All Capstone team members will participate in a windshield tour of the relevant communities to gain a better understanding of our population. Through the process of Deliverable I, Capstone team members will engage with the imPACT participants.

D. Public Health-Oriented

The intervention will enhance the ability of the imPACT project to link released prisoners effectively with HIV care in their home communities, thereby increasing the likelihood that they will be able to adhere to their medications and receive HIV treatment. This increased likelihood of adherence would potentially reduce community viral load and overall HIV transmission rates, as well as improve the health of individual formerly incarcerated persons.

E. Attention to the Potential for Sustainability and Dissemination

All imPACT staff members will continue to use the tools (process evaluation and cost evaluation) developed by our Capstone team after the completion of our Capstone project. The summary of findings has the potential to benefit other researchers and practitioners interested in linkage-to-care for formerly incarcerated individuals living with HIV/AIDS.
F. **IRB Implications**
   All activities fall under the already existing Project imPACT study IRB. The Capstone student team members have been successfully added to the imPACT study IRB. Upon completion of the focus group guide, the Capstone student team will work with the imPACT coordinator to submit the guide for IRB approval.

G. **Roles & Responsibilities**
   *The Capstone has four stakeholder groups: students, community partners, faculty advisers, and the Health Behavior Department, as represented by the Capstone teaching team.* The roles and responsibilities for each of these groups are outlined in Appendix A. The student team has identified the following team members for the roles listed below:
   a. Teaching Team Liaison: Nora West
   b. Department Liaison: Mary Key
   c. Community Partner Liaison: Claire Chu

H. **Resources**
   a. **Capstone Site Resources**
      The Health Behavior department will reimburse up to $100 of expenses relating to the direct activities necessary to carry out the established deliverables of the Capstone team.

      The Capstone partner will supply long distance phone and fax, transportation costs when off-campus travel required for the project, data sources as needed, printing, postage, limited clerical support, other activity supplies, and participant compensation for process evaluation activities as needed.

   b. **Capstone Partner Key Personnel**
      *Please use the table below to identify key personnel (besides the community partner) at the Capstone organization/agency who will interact with the Capstone team.*

```
<table>
<thead>
<tr>
<th>Name, Degree(s)</th>
<th>Title</th>
<th>Relationship to Capstone Team</th>
<th>Communication Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Wohl, MD</td>
<td>Associate Professor, School of Medicine; PI, imPACT project</td>
<td>Will assist in guiding team on developing appropriate measures for process evaluation and defining the appropriate audience and content for training</td>
<td>Dr. Wohl will participate in imPACT team meetings and obtain updates from the Capstone team when they are also in attendance. Then Dr. Golin and Ms. Grodensky will request that Dr. Wohl be included in additional communications as needed.</td>
</tr>
<tr>
<td>Debbie Henninger, PhD</td>
<td>Project Manager, Project imPACT</td>
<td>Will be available to CAPSTONE Team as needed to facilitate communication with</td>
<td>Dr. Henninger will participate in imPACT Team meetings and obtain updates from Capstone team when</td>
</tr>
</tbody>
</table>
```
Dave Rosen, MD, PhD  
Post-Doctoral Fellow, Sheps Center for HSR  
Will assist in guiding team on developing appropriate cost measures  
Dr. Rosen will participate in Prison Group Team meetings and will meet with Capstone Team as needed to provide cost evaluation consultation

<table>
<thead>
<tr>
<th>Name, Degree(s)</th>
<th>Title</th>
<th>Area(s) of Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Mugavero, MD</td>
<td>Associate Professor of Medicine, University of Alabama at Birmingham</td>
<td>Developed and evaluated linkage-to-care interventions in Alabama for HIV-infected persons</td>
</tr>
</tbody>
</table>

I. Logistical Considerations

a. Timing

<table>
<thead>
<tr>
<th>Classes Begin for All Students</th>
<th>Tue. Aug. 23</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Day</td>
<td>Mon. Sep. 5</td>
<td>No Classes Held, Holiday</td>
</tr>
<tr>
<td>University Day</td>
<td>Wed. Oct. 12</td>
<td></td>
</tr>
<tr>
<td>Fall Break begins - 5:00 P.M.</td>
<td>Wed. Oct. 19</td>
<td></td>
</tr>
<tr>
<td>Classes resume - 8:00 A.M.</td>
<td>Mon. Oct. 24</td>
<td></td>
</tr>
<tr>
<td>Thanksgiving Recess</td>
<td>Wed. Nov. 23</td>
<td>No Classes Held, University Holiday, Nov 24,25</td>
</tr>
<tr>
<td>Classes resume - 8:00 A.M.</td>
<td>Mon. Nov. 28</td>
<td></td>
</tr>
<tr>
<td>Classes End</td>
<td>Wed. Dec. 7</td>
<td></td>
</tr>
<tr>
<td>Reading Days</td>
<td>Thu. Dec. 8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wed. Dec. 14</td>
<td></td>
</tr>
<tr>
<td>Exam Days</td>
<td>Dec. 9, 10, 12, 13, 15, 16</td>
<td>(F, Sa, M, T, Th, F)</td>
</tr>
<tr>
<td>Spring Semester</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Classes Begin</td>
<td>Mon. Jan. 9</td>
<td></td>
</tr>
<tr>
<td>Holiday</td>
<td>Mon. Jan. 16</td>
<td></td>
</tr>
<tr>
<td>Spring Break begins - 5:00 P.M.</td>
<td>Fri. Mar. 2</td>
<td></td>
</tr>
<tr>
<td>Classes resume 8:00 A.M.</td>
<td>Mon. Mar. 12</td>
<td></td>
</tr>
<tr>
<td>Holiday</td>
<td>Fri. Apr. 6</td>
<td></td>
</tr>
<tr>
<td>Classes End</td>
<td>Wed. Apr. 25</td>
<td></td>
</tr>
</tbody>
</table>

b. Travel
Our team will primarily be based on campus at the UNC SPH. We may, however, need to travel to other locations of organizations serving the population of interest if necessary in the development of resource directory and deliverables. If travel is required, means for travel will be provided by the UNC SPH (ie. Health Behavior department van, etc.)

c. Other
No other considerations

J. Permissible Uses of Information
a. Ownership of the Deliverables
   The final deliverables will be under the ownership of our Capstone partner, imPACT, and its members. However, Health Behavior reserves the right to publicly list the organization as a Capstone partner, to keep copies of all Capstone teams' final deliverables for review by the Health Behavior community, and to include a brief project description in Capstone promotional materials.

   Students will be allowed limited use of the work produced in pursuit of their educational and professional careers. Dissemination in any form (including a publication or abstract) will require approval by the faculty advisor.

b. Authorship
   If published, the lead Capstone student team member assigned to the specific deliverable will be included as author, if his/her work is of suitable quality. Other Capstone student team members could potentially receive co-authorship for a publication that they did not lead, if their contribution warrants authorship.

c. Use of Recorded Materials
   In accordance with IRB requirements, IRB-approved staff will have access to these materials for project purposes only. The community partner will have ownership over any recorded materials generated from Capstone project work. Health Behavior cannot use recordings or interview transcripts.
Work Plan References

Summary Report References


University of North Carolina Center for Infectious Diseases. (2010). *RCT (Randomized Control Trial) of an augmented test, treat, link, & retain model for NC and Texas Prisoners.* (Grant No. R01 DA030793-01). Chapel Hill: North Carolina.

