

# THE INTER-PREGNANCY CARE PROJECT

IMPROVING MATERNAL AND CHILD HEALTH  
THROUGH INTER-PREGNANCY CARE FOR  
HIGH-RISK MOTHERS

Supported by Baptist Community  
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Maternal and Child Health

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## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	3
INTRODUCTION AND OVERVIEW.....	5
LPHI AND PRIMARY CARE TRANSFORMATION HISTORY.....	5
PRIMARY CARE DEVELOPMENT CORPORATION .....	5
INTER-PREGNANCY CARE OPPORTUNITY .....	5
MATERNAL AND CHILD HEALTH IN LOUISIANA .....	7
STATE INITIATIVES.....	8
GREATER NEW ORLEANS INITIATIVES.....	8
INTER-PREGNANCY CARE AND THE GRADY MODEL.....	10
THE GRADY MODEL OF IPC ELEMENTS .....	11
PROGRAM DEVELOPMENT.....	12
IPC AND THE NEW ORLEANS HEALTH SYSTEM.....	12
PILOT CENTERS OF IPC EXCELLENCE .....	12
GENERALIZABILITY .....	13
CORE PROGRAM ACTIVITIES AND METHODOLOGY .....	14
LPHI PRACTICE TRANSFORMATION METHODOLOGY.....	14
CLINIC ENGAGEMENT .....	14
LEARNING COLLABORATIVE .....	16
CARE COORDINATION TRAINING .....	24
HEALTH INFORMATION TECHNOLOGY .....	24
DISSEMINATION OF BEST PRACTICES .....	27
EVALUATION .....	28
PILOT CENTERS OF EXCELLENCE CHARACTERISTICS.....	28
PATIENT CHARACTERISTICS .....	29
IPC SERVICE DELIVERY.....	30
LEARNING SESSIONS AND TECHNICAL ASSISTANCE.....	31
PARTICIPANT SATISFACTION:.....	33
IPC IMPLEMENTATION: .....	33
PARTNERSHIPS/REFERRAL NETWORK .....	34
PERCEIVED BARRIERS.....	35
CHALLENGES:.....	36
SYSTEMS ISSUES .....	36
CLINIC ISSUES: .....	37
RECOMMENDATIONS FOR NEXT STEPS.....	38
CONCLUSION.....	40

# Executive Summary

In the fall of 2013, Louisiana Public Health Institute's Inter-Pregnancy Care Project was created with the generous support of Baptist Community Ministries, and in collaboration with the Primary Care Development Corporation (PCDC), Dr. Anne Dunlop, and the Louisiana Department of Health and Hospitals Birth Outcomes Initiative. The purpose of this initiative was to improve the health of low-income women and children by reducing rates of pre-term and low-birth weight infants born in the Greater New Orleans (GNO) area. To achieve this goal, a 24-month clinical quality improvement initiative was launched with the intent to accelerate the adoption of the Grady Hospital Model for Inter-Pregnancy Care (IPC) in the GNO area. Developed by Dr. Anne Dunlop, the Grady Model is a nationally recognized, evidence-based model of care that has dramatically improved maternal and child health outcomes for women who have had adverse birth outcomes<sup>1</sup>.

In order to advance systems-level change and care delivery models for inter-pregnancy care, LPHI and its partners designed and implemented a roadmap for accelerating the adoption of the Grady Model for the Greater New Orleans area. Core components of the project included:



- 1. Creation of a Centers of IPC Excellence pilot program in Community Health Centers.** The IPC Project engaged select community health centers to participate in a pilot program for Centers for IPC Excellence to promote the Grady Model of Inter-Pregnancy Care for women in the GNO area. Participant health centers were Federally Qualified Health Centers, had received Patient Centered Medical Home recognition from the National Committee for Quality Assurance, had strong quality improvement programs, used electronic health records, were connected to the Greater New Orleans Health Information Exchange, participated in the Crescent City Beacon Community that accelerated the adoption of chronic disease management best practice, and were familiar with a learning collaborative approach. Additionally, these health centers participate in the Greater New Orleans Community Healthcare Connection (GNOCHC) Medicaid 1115 Waiver.
- 2. Design and delivery of a learning collaborative.** The learning collaborative was designed to improve access, quality, coordination, and sustainability of inter-pregnancy care by bringing together key staff members from the practices and the extended care team and enabling them to dive deep into the core elements of the Grady Model and shape plans for implementation in their own clinical settings. These learning sessions also provided a forum for participants to share their experiences, best practice, and challenges with fellow participants and engage in developing solutions together.
- 3. Monthly "practice coaching" facilitation.** Practice coaching was provided by the Primary Care Development Corporation (PCDC) to reinforce the knowledge and methods described at the learning sessions, and directly assist the pilot centers to fully implement the Grady Model. The coaches, with support from LPHI, guided the practices in developing protocols, workflows, team assignments, communications strategies, and tools for patients and care teams to use in implementing IPC programs at their respective locations. Coaching was primarily delivered in the form of group calls/webinars with multiple primary care practice personnel and through individualized technical assistance as needed.

During the past 24 months, the IPC project has made strides in laying the foundation for advancing inter-pregnancy care at a systems and clinical level with the pilot centers of excellence, accomplishing the following:

- The IPC learning collaborative has engaged and trained four pilot Centers of Excellence (COEs) and additional community stakeholders on the Grady Model for Inter-Pregnancy Care and its implementation in the community clinic setting.
- COE pilot sites have developed protocols for the delivery of IPC at their respective sites.
- Practices were coached through the development of care plans for IPC patients.
- The COEs have modified their EHR configurations to integrate IPC elements. Specifically, an EHR template was developed for use in screening patients for needed IPC services.
- The creation of an IPC case management protocol for high-risk women enrolled in Bayou Health Plans in collaboration with AmeriHealth Caritas.
- Informing the development of IPC case management requirements included in section 6.13.2 of the newest Bayou Health managed care organization Request for Proposals, issued on July 28, 2014 by the state Medicaid office.

These accomplishments would not have been possible without the continuous support and commitment of Baptist Community Ministries, our clinical partners and Centers of IPC Excellence (CrescentCare, EXCELth, Jefferson Community Health Care Centers, and NOELA Community Health Center), community partners, Dr. Anne Dunlop, , The New Orleans Health Department and New Orleans Health Department Director Charlotte Parent, Healthy Start New Orleans, the Louisiana Department of Health and Hospitals Birth Outcomes Initiative and Dr. Joan Wightkin who was engaged as a consultant to LPHI on this project. In addition to exploring the ways in which to integrate programming to serve vulnerable communities, our partners have continued to serve as leaders and advocates for policy reform to better address the needs of women and children in Louisiana and the Greater New Orleans area in particular.

# Introduction and Overview

## LPHI and Primary Care Transformation History

The Louisiana Public Health Institute (LPHI) is a private, 501(c)(3) not-for-profit organization established in 1997 with a mission to promote and improve the health and quality of life in Louisiana through public-private partnering at the community, parish, and state levels. In the last nine years, LPHI has successfully managed public health initiatives to increase access to community-based, high-quality primary care for hundreds of thousands of Greater New Orleans (GNO) residents with the goal of improving population health. In partnership with the community, LPHI has facilitated millions of dollars in private and governmental investments to transform the safety net health care delivery system.

Hurricane Katrina and the subsequent flooding permanently damaged several area hospitals, including the major public hospital. During the post-Katrina period, LPHI's work resulted in the unprecedented growth and enhancement of community-based primary care and behavioral health services. LPHI administered the Primary Care Access Stabilization Grant (PCASG), a \$100 million dollar federal grant program designed to help community health clinics stabilize, improve, and expand their services. The PCASG initiative represented a bridge to a system of care where every citizen has access to high-quality, affordable healthcare close to where they live.

In 2010, LPHI was selected to convene a collaborative effort among public and private care systems as part of the federal Department of Health and Human Services Office of the National Coordinator for Health Information Technology Beacon Community Program. The Crescent City Beacon Community (CCBC) initiative worked with a diverse array of partners (including hospitals, primary care providers, community organizations, government agencies, and technology vendors) to improve health through the wide-scale use of health information technology (HIT) in area community health centers and medical homes.

## Primary Care Development Corporation

The Primary Care Development Corporation (PCDC) is a nonprofit organization dedicated to transforming and expanding primary care in underserved communities to improve health outcomes, reduce healthcare costs and disparities. Their programs enhance access to primary care by offering flexible financing to build and modernize facilities, by providing coaching and training to strengthen care delivery, and by leading policy initiatives. Since 1993, PCDC has partnered with nearly 900 primary care organizations throughout the U.S. to adopt a patient-centered model of care that maximizes patient access, meaningful use of health IT, care coordination, patient experience, and emergency planning.

PCDC's work on the IPC initiative included the design and implementation of a learning collaborative that focused on the adaptation and implementation of the Grady Model of Inter-Pregnancy Care.

## Inter-Pregnancy Care Opportunity

In 2013, through the generous support of Baptist Community Ministries, and in partnership with the Primary Care Development Corporation (PCDC), Dr. Anne Dunlop, and the DHH Birth Outcomes Initiative (BOI), LPHI initiated the Inter-Pregnancy Care Project (IPC Project.) The purpose of this initial 24 month program was to design and

implement a roadmap for accelerating the adoption of the Grady Model for the Greater New Orleans area. The goal of the IPC Project was two-fold:

- to improve the health of low-income women and children by reducing pre-term and low-birth weight infants born in the Greater New Orleans area;
- to connect women with adverse birth outcomes to evidence-based care, using a model of IPC adapted from Grady Memorial Hospital.

In pursuit of achieving this goal, key activities of the project (described in greater detail later in this report) included:

1. Pilot an adapted model of IPC with a cohort of community clinics selected to become Centers for IPC Excellence.
2. Engage key stakeholders (other care providers within the local health system, case management organizations, and social service agencies) to link women with adverse birth outcomes (ABOs) to participating clinics.
3. Work with Medicaid managed care organizations (MCOs) and participating clinics on care transitions, continuity of care, and linkage protocols to assure maternal health across prenatal, post-partum, and inter-pregnancy periods.
4. Develop and implement an IPC learning collaborative for pilot clinics that supports the implementation of the adapted Grady Model.
5. Work with participating clinics to assess and configure electronic health records to support the identification, population management, risk stratification, decision support tools, and referral processes aligned with the IPC model.
6. Engage relevant social service and other key stakeholders to establish formal referral relationships and processes, including the exchange of information and shared care planning to ensure at-risk women have access to the full complement of social and supportive services to support maternal health across the care settings.
7. Inform and develop consumer engagement strategies to successfully link and retain at-risk women in care consistent with the Grady Model.

Expected outcomes for this program were: 1) improved health status for the target population; 2) achieved reproductive health goals, such as birth spacing; 3) increased access to primary and behavioral health care, substance abuse treatment, and nutritional counseling for mothers seen by participating clinic sites; 4) financial savings to the health system by preventing future ABOs.



# Maternal and Child Health in Louisiana

Despite decades of research and prevention, the United States consistently ranks at the bottom among developed nations for most maternal and child health measures and spends more on healthcare for this population than any other nation in the world. Louisiana faces many challenges in terms of maternal and child health. In 2013, the state had the third highest infant mortality rate (8.18 deaths per 1,000 live births), the second highest low birth weight rate (10.9% of newborns weighed less than 2,500 grams), and the second highest preterm birth rate in the country (15.6% of babies were less than 37 weeks gestational age).<sup>ii</sup> The Greater New Orleans area has even poorer rates for low birthweight babies (11.4%). According to the Louisiana Department of Health and Hospitals<sup>iii</sup>, 2.1% of births in Louisiana are very low birth weight (newborns weighing less than 1,500 grams). A growing body of research links ABOs to the poor health of mothers, particularly with respect to chronic medical stress and depression, and short inter-pregnancy intervals, the timing between the birth of one child and the conception of another.<sup>iv</sup> Ultimately, women who have previously had a poor birth outcome are more likely to experience complications and/or adverse outcomes in a future pregnancy.<sup>v</sup>

In 2013, Louisiana had the **third highest infant mortality rate**, the **second highest low birth weight**, and the **second highest preterm birth rate** in the country.

ABOs include any of the following: (i) preterm birth; (ii) low birth weight; (iii) very low birth weight; (iv) fetal death (death of a fetus after 20 or more weeks of pregnancy); and (v) infant death (death of an infant under 1 year of age). These can have serious financial and health consequences, some of them long-lasting, for children and families. Predicting a woman's first adverse birth outcome is challenging, however the single best predictor of a subsequent adverse birth outcome is already having one adverse birth outcome.

Medicaid covers approximately 7,000 premature births each year in Louisiana. The average labor and delivery costs of premature infants are about eight times than that of a full-term infant.<sup>vi</sup> Preterm birth is also a leading contributor to newborn death.<sup>vii</sup> Those that survive often suffer from physical, neurological, or learning disabilities.<sup>viii</sup> Studies also indicate that those born preterm or premature are more likely to develop chronic diseases as adults.<sup>ix</sup> The adverse effects of preterm and low birth weight may be further exacerbated by poverty and low socioeconomic status.<sup>x</sup>

Across Louisiana and specifically in the GNO area, there is a large racial disparity in birth outcomes. African-American women are more likely to be teenage mothers than their white counterparts (55.5% vs. 8.1%).<sup>xi</sup> They face greater hardships in receiving prenatal care and having a healthy, full-term infant.<sup>xii</sup> African-American women have a higher incidence of ABOs as compared with their white counterparts. Compared with white women, African American women are at a 1.5- to 2.5-fold greater risk of delivering a preterm (<37 weeks gestation; 18.5% vs. 11.7%) or very preterm infant (<32 weeks gestation; 4.1% vs. 1.7%) as well as a full-term low birth weight infant



(<2500 g birth weight at ≥37 weeks; 5.6% vs. 2.6%).<sup>xiii</sup> Rates of low birth weight for African-American mothers in the GNO area are nearly double that of white mothers (14% versus 7.8%).<sup>xiv</sup>

For the Greater New Orleans area, with a high burden of chronic disease, many women enter into pregnancy with hypertension, diabetes, and/or obesity, which put them at greater risk of having an adverse birth outcome. In addition, racial disparities seen for chronic disease and overall access to care carry through to this population of at-risk women.

## State Initiatives

In July 2012, a partnership between the Health Resources and Services Administration (HRSA), March of Dimes, Association of State and Territorial Health Officials, Centers for Medicaid and Medicare Services (CMS), and the National Governor’s Association, launched the Collaborative Improvement & Innovation Network (COIIN) to reduce infant mortality among the 13 southern states in Federal Public Health Regions IV and VI, including Louisiana.<sup>xv</sup>

In Louisiana, Governor Jindal initiated the state’s focus on birth outcomes by establishing a 16-member Commission on Perinatal Care and Prevention of Infant Mortality in early 2010 to identify key performance indicators and aggressive public health strategies to address them<sup>xvi</sup>. The Birth Outcomes Initiative (BOI) was formally launched on Prematurity Awareness Day (November 17, 2010) in conjunction with the release of the March of Dimes 2010 Premature Birth Report Card that gave Louisiana a failing grade based on the state’s high preterm birth rate (15.4 percent of births).<sup>xvii</sup> The BOI works collaboratively within the Louisiana Department of Health and Hospitals (DHH) and with private sector partners to advance five major strategies: (1) prevent elective deliveries at less than 39 weeks gestational age; (2) improve quality of perinatal care; (3) improve data collection and performance monitoring; (4) expand access to inter-conception care; and (5) expand and improve screening for behavioral health risks.

## Greater New Orleans Initiatives

There are significant financial barriers to primary care for low-income women in Louisiana who have experienced an adverse birth outcome. For most low-income mothers in the state, access to health care coverage is limited to the Medicaid LaMOMS program from pregnancy up to 60 days post-partum. In the Greater New Orleans area, however, safety-net providers are participating in a Medicaid 1115 Waiver, referred to as the Greater New Orleans Community Health Connection (GNOCHC), which extends primary and behavioral health care coverage to residents of Orleans, Jefferson, St. Bernard, and Plaquemines Parishes with income less than 100% of the Federal Poverty Level. As a result, the majority of these at-risk mothers will have access to continued health care coverage through the state’s traditional Medicaid program (for those at less than 24% of FPL) or through the GNOCHC program. These women are then eligible to receive preventive care, chronic care management, behavioral health services, and other core IPC services from GNOCHC-participating safety-net primary care clinics. The table below further describes Medicaid programs available to women in the GNO area:

## Louisiana Medicaid Programs

Program Name	Eligibility	Additional Information
Medicaid	Parents, up to 24% FPL	Services administered by MCOs
LaMOMS	Pregnant women, up to 133% FPL	Coverage ends 60 days post-partum
LaCHIP	Ages 0-18, up to 212% FPL	
GNOCHC	GNO residents, up to 100% FPL	Must reside in Orleans, Jefferson, St. Bernard, or Plaquemines Parishes
Take Charge Plus	Men and women, up to 138% FPL	Only covers family planning related services

**Table 1: Eligibility Criteria for Louisiana Medicaid Programs**

As part of the Medicaid 1115 Waiver that renewed the GNOCHC program in June of 2012, funds were expressly dedicated to providing intensive IPC case management to women with a recent ABO. Beginning in July 2012, IPC services were expanded through the GNOCHC program to include comprehensive IPC for eligible women in New Orleans who had recently given birth to a preterm or low-birth-weight baby or who experienced a fetal or infant death. Through door-to-door outreach to 439 households, Healthy Start New Orleans (HSNO) enrolled 47 women in intensive, IPC case management. HSNO case managers connected these women to primary care services at the GNOCHC-participating clinics with the goal of improving clients' management of chronic conditions as well as their overall health. There were several challenges with the pilot project around enrollment and retention which are described later in this report in the Challenges section.

# Inter-Pregnancy Care and the Grady Model

Increasing access to prenatal care has been the cornerstone of national policy for improving birth outcomes. However, there is growing consensus that the health of the mother before pregnancy (preconception) and between pregnancies (inter-pregnancy) profoundly impacts maternal and infant health outcomes. The importance of women’s preconception health and health care in improving birth outcomes, especially among high-risk populations, is increasingly being recognized across the nation. In 2005, the first National Summit on Preconception Care was convened to gather information about promising practices in the field. In 2008, a clinical work group of the national Preconception Health and Health Care (PCHHC) Initiative published a review of evidence-based clinical content for preconception care in the *AJOG* supplement, *Preconception Health and Health Care: The Clinical Content of Preconception Care*. This included 13 components of care: health promotion; infectious disease; medical conditions; psychiatric conditions; parental exposure to alcohol, tobacco, and illicit substances; nutrition; environmental exposure; psychosocial risk; medication; and reproductive history; as well as specific recommendations for certain at-risk groups, such as immigrant populations, women with disabilities, and cancer survivors.<sup>xviii</sup>

As a result of continued high rates of poor birth outcomes, increasing attention is being focused on inter-pregnancy care (IPC) as a way to reduce ABOs. IPC is defined as “care received from the delivery of one neonate until conception of the next,”<sup>xix</sup> and focuses on identifying and reducing risks associated with prior adverse pregnancy outcomes.<sup>xx</sup> These risks or precursors include:

- Chronic diseases
- Lack of family planning (which includes child spacing, and contraception use)
- Nutritional deficiencies and lack of supplementation
- Existing reproductive tract infections
- Substance abuse
- Depression, psychosocial stressors, and domestic violence
- Periodontal disease.

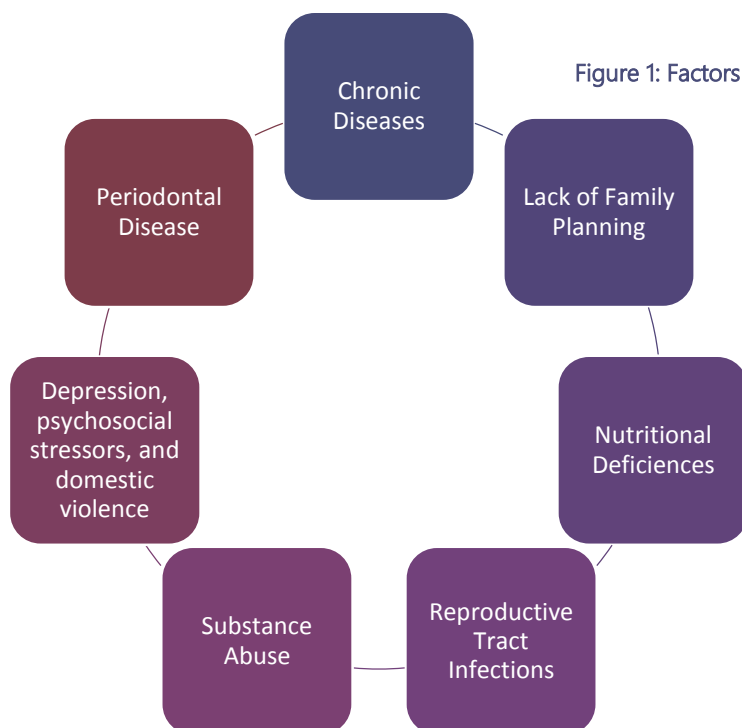


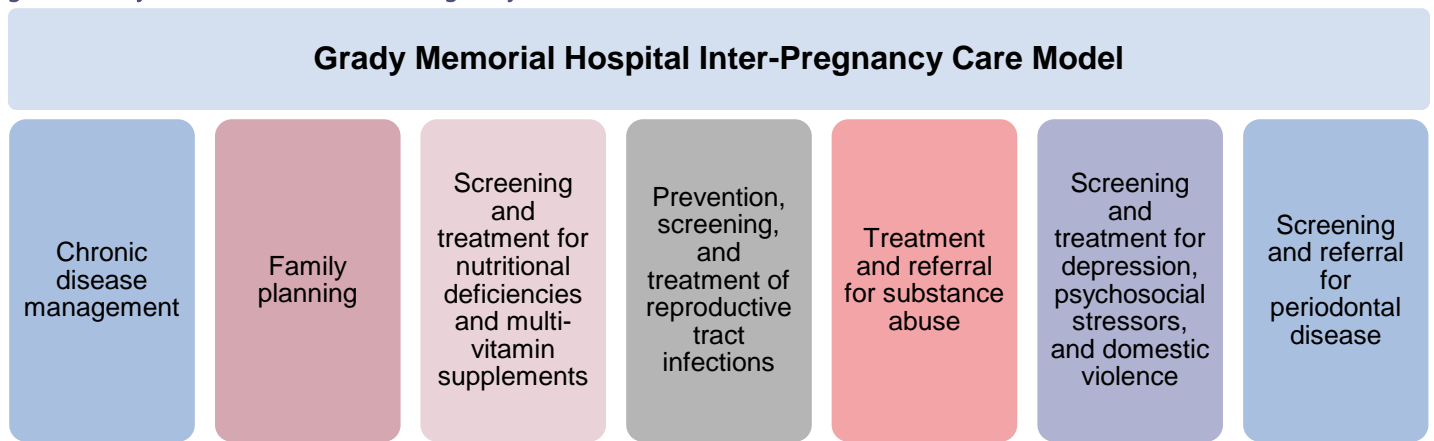
Figure 1: Factors affecting poor birth outcomes

The Grady Model is designed to address each of these conditions, in an attempt to minimize or effectively manage them to ensure that women are at optimal health for their next pregnancy. IPC is focused on providing holistic care because it has been shown that adverse pregnancy outcomes are a result of multifactorial components. Initially piloted at Grady Memorial Hospital in Atlanta, Georgia, IPC is a unique approach in comparison to other pre-pregnancy related interventions.

### The Grady Model of IPC Elements

The Grady Model identifies seven core areas for IPC delivery: chronic diseases, family planning, nutritional deficiencies, reproductive tract infections, substance abuse, psychosocial stressors (including depression and domestic violence), and periodontal disease. These intervention areas are well targeted since the seven factors are closely linked and interrelated.

Figure 2: Grady Model Elements of Inter-Pregnancy Care



It should be noted that certain conditions may be difficult to address solely through IPC delivered in a primary care setting and may require a more intense approach. For example, women with active substance abuse issues who were not enrolled in a formal treatment program are difficult to treat and maintain through IPC as addiction often superseded any other priorities.<sup>xxi</sup>

# Program Development

## IPC and the New Orleans Health System

In 2013, in addition to the IPC Project, LPHI engaged in a larger strategic health systems mapping of the existing and ideal systems for the a) identification and case management of Medicaid-financed ABOs and b) linkage of patients to primary care and to assess provider knowledge and buy-in towards the significance and implementation of the Grady Model.

The findings of this study suggest numerous areas of fragmentation within the GNO health care system's capacity to provide IPC-related care for low-income women who are at risk or have experienced an ABO. Services for vulnerable populations were documented as grossly lacking, with issues ranging from lack of access to specialists due to Medicaid, transportation, and geographical constraints, to providers and clients who are ill-informed about changes in the Bayou Health Plans.

Much of the fragmentation of health care delivery in the GNO region is the result of the reshaping of the health system after Hurricane Katrina following the closure of Charity Hospital. Before Hurricane Katrina, most safety net health care services were provided by the public Charity Hospital system. In the post-Katrina period, Community Health Centers have become a significant resource in attempting to fill the gaps left by the closure of Charity Hospital and later restructuring of the public health care system. This means that health care delivery is no longer centralized into a closed system, but rather delivered by multiple providers across multiple organizations including hospitals, community health centers, and social service agencies.

Although Louisiana is committed to improving birth outcomes, several issues around the state health entitlement programs were identified that impact the identification, case management, and linkage to primary care of low-income women who have experienced an ABO. In 2012, Louisiana changed from a fee-for-service Medicaid program to Bayou Health, a system that provides care through contracted MCOs. There are currently five MCOs operating within the Bayou Health program, each with varying levels of coverage, provider networks, and formularies. These changes in the Medicaid program have further contributed to confusion for providers and patients.

While the Grady Model worked well in Atlanta, the application of the model had to be adapted to the fragmentation and resource constraints that constitute the GNO health care system if positive outcomes were to be expected. This has affected not only uninsured women, but also providers and hospitals within the system.

## Pilot Centers of IPC Excellence

The pilot Centers of IPC Excellence that participated in this intervention are New Orleans area Community Health Centers that serve the uninsured and under-insured population, including women of child-bearing age. At the time of the IPC Project initiation, the pilot sites were poised to successfully implement IPC. All centers were already providing some women's health (OB/GYN) services on site and had a demonstrated history of providing holistic care to underserved populations. However, the centers were neither systematically



identifying female patients who had a history of ABO nor providing care coordination to ensure all elements of the Grady Model were delivered. Two of the pilot organizations were existing Federally Qualified Health Centers (FQHCs), and the other two organizations received FQHC designation during the course of this project. Additionally, all pilot centers were NCQA-recognized Patient Centered Medical Homes.

The pilot centers were already using electronic health record (EHR) systems for patient care and data reporting and had established strong clinical quality improvement programs. All COEs also previously participated in the Crescent City Beacon Community (CCBC), led by LPHI, which accelerated their adoption of health information technology and chronic disease management best practice. Through the CCBC, all pilot centers were participating in the Greater New Orleans Health Information Exchange (GNOHIE), which enables electronic information sharing between local healthcare providers.

Additionally, the COEs participate in Louisiana Medicaid through the Bayou Health Plan MCOs and the GNOCHC 1115 Medicaid Waiver. Due to their participation in GNOCHC, the pilot clinics are able to provide primary care to low-income women who may lose Medicaid coverage post-partum (when LaMOMS coverage ends), but are unable to afford private health insurance or qualify for subsidies under the Affordable Care Act.

### Generalizability

Despite New Orleans having unique systems challenges, many states and metropolitan areas throughout the country continue to face challenges around birth outcomes and inter-pregnancy care. Optimizing the health of every woman and child continues to be determined by quality access to all segments of the health care system making New Orleans by no means an exception. We believe that the lessons learned from implementing the Grady Model in the open health care system of Greater New Orleans can be applied by other healthcare providers seeking to implement IPC in a similar environment in similar Community Health Center settings.



# Core Program Activities and Methodology

## LPHI Practice Transformation Methodology

Learning collaboratives are a core methodology at LPHI to educate, inform, and support community partners through quality improvement and practice transformation initiatives. The model has been employed by a number of other LPHI projects, including the Crescent City Beacon Community (CCBC), Primary Care Capacity Project (PCCP), Louisiana Health Center Control Network (HCCN), and the New Orleans Charitable Health Fund (NOCHF). Primary Care Development Corporation (PCDC) was contracted by LPHI to assist with both the CCBC and PCCP learning collaboratives.

The IPC learning collaborative, designed by LPHI and PCDC with consultation from Dr. Anne Dunlop, strove to design a framework to guide the adoption of the IPC model for the Greater New Orleans area. A 12-month learning collaborative was delivered via two core methodologies:

- Four quarterly, interactive learning sessions over the course of 12 months that brought together key staff members from the practices and local community stakeholders. In-depth education on core elements of the Grady Model was provided, and participants were guided through initial planning for implementation in their own clinical settings. Key stakeholders from the community participated in the learning sessions, including case management organizations, other health care providers, and Medicaid MCOs.
- Eight practice coaching/facilitation group calls were held monthly with change teams from the four pilot sites. The purpose of these calls was to reinforce the knowledge and methods described at the learning sessions, and directly assist the practices in their implementation of the Grady Model.

## Clinic Engagement

The local community health clinic landscape, in combination with the GNOCHC waiver, has provided the opportunity to develop a more comprehensive, integrated health system that responds to complex issues affecting women and inter-pregnancy care and to foster holistic health care programs. Over the past 9 years, LPHI has collaborated closely with the Greater New Orleans community health centers, FQHCs, and the larger health system to integrate the delivery of behavioral health, primary care, and social services for vulnerable populations.

At the start of the project, LPHI attempted to engage all GNOCHC clinics in the learning collaborative to develop IPC programs. Despite their initial enthusiasm for the subject, it quickly became clear that full engagement of all GNOCHC clinics would not be sustainable. Instead, a select group of four clinic sites, representing four different operating organizations, were engaged as pilot sites and designated as Centers of IPC Excellence. This smaller cohort enabled clinics to interact more meaningfully with LPHI, PCDC, and each other during learning collaborative activities. It is the intent of the IPC Project that this initial pilot implementation of the Grady Model will inform best practices and promote subsequent implementation at more sites within each clinic organization and at additional community health center organizations within the GNO region.

### Engagement Strategies:

*Project charter.* At the beginning of the pilot program, project staff met with the leadership teams of each participating organization. The purpose of this meeting was to review the goals of the project, describe expectations of participation, and gain leadership buy-in for participation. Organizations were also given a project charter document that described the objectives and methodology for the program as well as requested commitment for staff participation. These meetings and the project charter helped to create a shared understanding of project goals and activities.

*Change teams.* As with previous LPHI-lead quality improvement initiatives, clinics were asked to identify specific staff members to compose the change team to lead implementation activities in their respective organizations. These team members were responsible for disseminating knowledge gained from the learning collaborative to clinic staff and facilitating implementation of IPC processes and protocols. The key members of the IPC change team were the project leader, who was responsible for convening the change team to complete project tasks, and the clinical champion, who served as an early-adopter of new methods and encouraged buy-in from fellow clinicians. Additional change team members were recommended to represent departments/disciplines that were also affected by the intervention. These roles included nursing, mental health, quality improvement, health information technology, social services, and care coordination.

*Individual check-in calls with clinics.* When the IPC project team sensed that the change teams at pilot sites were not as engaged in project activities as they had been at the start of the initiative, LPHI and PCDC held individual check-in calls with each of the four pilot sites. Clinic change teams were given the opportunity to communicate their barriers to participating, and the project team helped them articulate realistic next steps toward implementation of the Grady Model.



*Stipends:* In past LPHI programs, learning collaboratives have been used to compliment larger programs that made significant investments of funding in the local health system. The IPC program was different in that the learning collaborative itself was the main component of the program. Although not able to offer a large financial investment, IPC provided participating pilot COE organizations with a nominal stipend to recognize the staff time and effort that was dedicated to project activities, including clinicians' time away from the clinic to attend learning sessions.

### Engagement Successes:

*Enthusiasm for IPC:* The Grady Model fits well with the pilot centers' missions to improve community health through provision of high-quality, holistic health care. Change team members were aware of Louisiana's high rates of poor birth outcomes and recognized the Grady Model of IPC as a means to improve birth outcomes for their patients. Additionally, the centers saw the implementation of an IPC program as a way to distinguish themselves from other primary care providers in the area.

*Enthusiasm for learning collaborative model:* The learning collaborative model is designed to foster exchange of ideas and best practices. The pilot centers appreciated this opportunity to share their experiences in implementing the Grady Model and to engage in group-level problem-solving as challenges arose.

## Learning collaborative

At the crux of inter-pregnancy care and the Grady model is the concept that to prevent adverse birth outcomes, women need to be healthy before a pregnancy starts. This means that women, particularly those who face social and/or economic barriers can benefit from support in many different areas of their lives to improve their health before pregnancy. Often they need access to an array of services including housing and employment support, behavioral health services, family planning, and chronic disease management. Care coordination is a crucial piece of this model.

To inform the design of the project and before the work with the centers began, PCDC performed an assessment of the strengths and challenges that the NOLA pilot centers faced regarding implementing the Grady model of inter pregnancy care. PCDC noted the following:

### Strengths:

- The GNOCHC program allowed more women without insurance coverage to receive free or low cost services
- Take Charge coverage provided patients some insurance coverage for family planning and STI testing and treatment services
- CCBC initiative infrastructure- all four pilot centers had been through a learning collaborative process previously with PCDC and LPHI and were familiar with how to make changes within this framework
- Multiple New Orleans stakeholders were engaged in the project including state officials, insurance plans, reproductive health providers, and community service providers

### Challenges:

- No coordinated system in New Orleans that tracked women with adverse birth outcomes
- Core services of the Grady Model were delivered inconsistently and varied between different GNOCHC clinics
- Family planning services were frequently provided separately from primary care services, sometimes at a completely different organization or location
- Patients and clinicians were unfamiliar with preconception and inter-pregnancy care
- There was poor coordination of care between primary care providers, OB providers, and hospitals with no clear workflows or processes in place especially in regards to postpartum care after deliveries
- There was no “resource mother” role-a key part of the original Grady Model that had no corresponding role in the NOLA primary care settings or in the OB hospital departments

These identified challenges informed the approach and design of the learning collaborative.

The original Grady Model of IPC was provided to women who had delivered at Grady Memorial Hospital who had been referred to a hospital-based nurse case manager if they had an adverse birth outcome. The nurse case manager helped patients enroll in the program and connected them to the “resource mother” who made contact with the patient after she was home, and helped her get to her first visit with the primary care team. The resource mother also followed-up periodically with the mother after her first IPC visit, to help with any psychosocial issues she might be facing.

The primary care team consisted of a family physician, a nurse-midwife, and a periodontist all operating within the same hospital system, in addition to the nurse case manager and the resource mother. Transitions between the hospital and follow-up with primary care/postpartum care were facilitated by “warm handoffs” between the nurse case manager, resource mother, and the primary care team. Patient retention between the hospital and primary care was high in the Grady Model.

In the New Orleans, the design of the program needed to directly address the lack of connection between the hospitals and the primary care centers and the lack of designated staff that could build a relationship with patients at the hospital and help ensure that women would get back to primary care after their delivery.

Another issue that influenced the design of the project was the pilot centers’ relationships with community maternal child health linkage providers such as Nurse Family Partnership and Healthy Start. While these organizations reached out to women after the birth of a child, they didn't always have strong relationships with the primary care clinics in GNO. “Warm handoffs” happened infrequently with the community service organizations not always knowing who to call at the primary care centers to help a patient secure an appointment. A key piece of the Grady Model and the GNO IPC Project was to ensure that at-risk women got back into primary care, making this was an important issue to address.

Finally, there were discrepancies in care delivery at the pilot sites, especially regarding reproductive life planning (plans for pregnancy or for avoiding pregnancy) and support and treatment for intimate partner violence.

PCDC has extensive experience providing technical assistance and coaching for community health centers who want to improve the quality of care they deliver by implementing new workflows and processes. A roadmap or “checklist” is always a useful thing for centers to have to help them understand how to do this. PCDC created core competencies or “project measures” that served as this roadmap, allowing the centers to understand the operational tasks related to implementing processes that would allow them to deliver high quality, coordinated inter-pregnancy care (*see Table 2*).



IPC Centers for Excellence Pilot Project Measures	
Goal	For the healthcare organizations:
Knowledge of the Grady Model	<ul style="list-style-type: none"> <li>• Team can list seven components of Grady model</li> <li>• Team can describe connection between history of poor birth outcomes and future poor health and/or future poor birth outcomes</li> </ul>
Identify women at risk for future poor birth outcomes	<ul style="list-style-type: none"> <li>• There is an established screening process to identify women with history of poor birth outcome or history of high risk pregnancy.</li> <li>• The organization maintains a registry list of patients with history of poor birth outcomes or high risk pregnancy.</li> </ul>
Patient outreach and engagement	<ul style="list-style-type: none"> <li>• There is an identified staff member who outreaches to an identified at risk patient who qualifies for IPC care.</li> <li>• The organization partners with an outside organization to outreach to and to engage the patient.</li> </ul>
Provision of IPC Care	<ul style="list-style-type: none"> <li>• The organization is able to provide the initial comprehensive IPC visit as defined in the Grady model</li> <li>• The organization is able to provide the core services of IPC care at one central location including: <ul style="list-style-type: none"> <li>◦ Chronic disease management, Family planning services, Mental health services</li> </ul> </li> <li>• The organization is able to provide all seven components of the Grady model of IPC care at one central location.</li> </ul>
Use of IPC care plan	<ul style="list-style-type: none"> <li>• An IPC care plan is developed at the initial IPC visit with patients.</li> <li>• The IPC care plan is routinely updated at follow up visits with patients receiving IPC services.</li> </ul>
Organizational commitment to IPC program	<ul style="list-style-type: none"> <li>• Leadership of the organization is aware of and supportive of the IPC program.</li> <li>• There is a designated staff member who is responsible for managing the IPC program.</li> <li>• There is an identified clinical champion-MD, NP, CNM, PA who provides IPC care and supports the IPC program.</li> <li>• Staff has protected time to work on IPC program.</li> <li>• Staff has regular meetings to discuss IPC program patients and issues.</li> </ul>
Care Coordination	<ul style="list-style-type: none"> <li>• There is a designated staff member who reminds patients about their upcoming IPC visits.</li> <li>• There is a designated staff member who coordinates referrals for patients who are receiving IPC care outside the organization</li> </ul>
Collaboration	<ul style="list-style-type: none"> <li>• The organization has established relationships with hospital maternity departments.</li> <li>• The organization has established relationships with community providers and resources.</li> </ul>

Table 2: IPC Centers for Excellence Project Measures

### Methodology:

PCDC facilitated and presented four in-person learning sessions (LS) for the pilot centers followed by three to four month action periods in collaboration with Anne Dunlop, MD (Grady Memorial Hospital), LA DHH, and the LPHI team. During the action periods, the pilot centers worked on their own to design and test new workflows and processes that would support their delivery of inter-pregnancy care to their at-risk patients. During action periods, PCDC conducted monthly, 60-minute group technical assistance (TA) coaching calls via webinar.

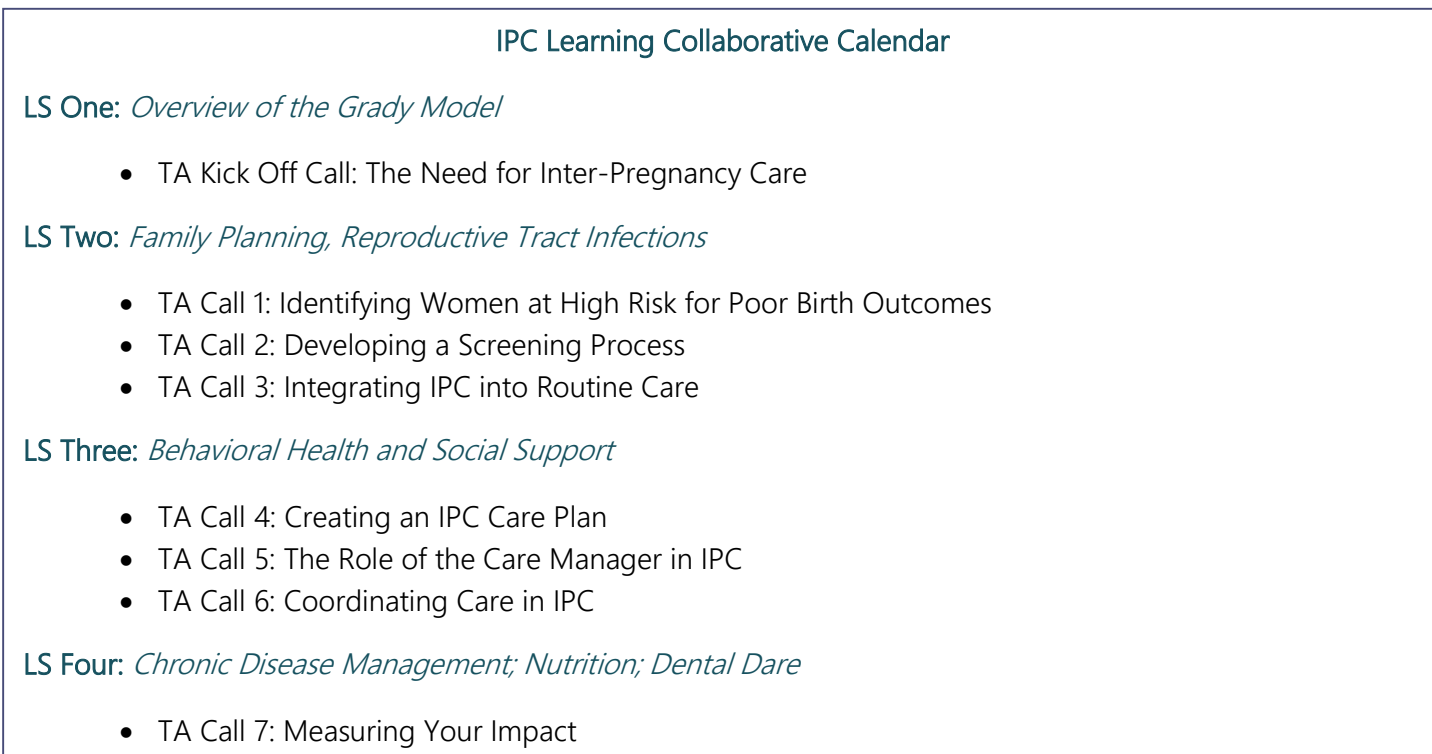


Figure 3: IPC Learning Collaborative Calendar of Activities

Throughout learning sessions and coaching calls, pilot sites were guided through exercises and activities that allowed them to gain understanding of the Grady Model and how the principles could be applied for their patient population in their care delivery system.

**Learning Session 1:** Pilot centers, community social service providers, Healthy Start, Nurse Family Partnership, the Louisiana Medicaid office, and various MCOs attended the first learning session. PCDC and Dr. Dunlop focused on the core concepts of the Grady Model, the proposed approach to implementing the model in the New Orleans community health centers, and the evidence behind the Grady Model strategy to improving birth outcomes.

PCDC led participants through exercises that encouraged team-building and collaboration. There were presentations on health disparities and racism and their relationship to birth outcomes. These presentations generated intense discussion and participants expressed their desire to address these factors through better collaboration and coordination of their services. A key take-away from this session was that women at increased risk of poor birth outcomes are seen every day by primary care providers and community resource providers in



the GNO area, but opportunities are missed to help these women because few processes are in place in these organizations that allow them to identify these women.

**Kick-Off Call:** PCDC used the kick-off TA call to explain the project details to the pilot centers and to help the Pilot Centers of IPC Excellence set goals and develop a work plan.

**Learning Session 2:** The focus of the second learning session was family planning, reproductive life planning, and screening and treatment for sexually transmitted infections. Dr. Dunlop spoke about the evidence that supports planned pregnancies and birth spacing as strategies for improving birth outcomes. Officials from Louisiana DHH talked about their work to increase women’s access to reproductive health and family planning services through better collaboration with primary care providers in New Orleans.

Group activities such as “Partnering to Help Our Patients” had different participants meeting each other and discussing whether they partner now and brainstorming how they could partner in the future to increase women’s access to reproductive health and family planning services. PCDC also facilitated a discussion with the pilot centers that focused on understanding what “high quality reproductive health services” look like, and identifying what barriers existed at their site to the provision of these services.

**TA Calls 1-3:** After the second learning session, pilot centers began designing new workflows and processes. TA calls during the first action period focused on creating a screening process, setting up a registry of identified high risk women, and integrating IPC into routine care and comprehensive care.

In one of the first TA calls with the centers PCDC shared with them the CDC’s two step approach for improving birth outcomes:

- Target women at highest risk to reduce morbidity and mortality.
- Aim to improve preconception health for all women of reproductive age regardless of risk status.

Based on this information the centers aimed to set up a process that:

- 1) Screened *all* women of reproductive age who visited the center for history of ABO
- 2) Was designed to asses for known risks associated with ABOs for women who had previously given birth, *and* for those who had never given birth.

PCDC and Dr. Dunlop also presented three core high-risk criteria for the centers to look for in a patient’s history based on evidence-based guidelines from the CDC and ACOG including:

- History of low-birth-weight infant or pre-term delivery in the past
- History of high risk pregnancy
- Current chronic disease or medical condition

These were not conditions that the centers were routinely screening for at primary care visits. For example, one center reported that a complete OB history, where questions about past high risk pregnancies and pre-term deliveries are asked, was only done at prenatal visits, not at primary care visits. This illustrates a common situation where women at risk of ABO are often not identified as high risk until they are actually pregnant again, a time when it is too late to make significant improvements to their pregnancy health.

Staff at the pilot centers also observed that with primary care providers and specialists there is often a “disconnect” between providing care for a woman of reproductive age who has a chronic medical condition, and simultaneously considering her reproductive health and pregnancy plans. Many felt that because women’s health and reproductive health services have historically been provided at separate women’s health or gynecologist visits, primary care providers and specialists often did not address the potential effects of a chronic condition on a future pregnancy or the state of a woman’s mental health and how that could affect her reproductive outcomes. Staff noted that patients frequently do not raise these issues at primary care visits either.

Despite the change teams’ acknowledgement that to reduce adverse birth outcomes they needed to provide an integrated care delivery model, it was challenging for them to understand how to provide this kind of care. Historically, separate delivery of different types of medical services has been reinforced in multiple ways including how staff are trained in school, how billing and coding are set up, and how reimbursement is delivered. At one TA call, the centers discussed creating separate IPC visits as opposed to integrating IPC seamlessly into primary care visits. In response to this discussion, PCDC shared research and statistics with the pilot centers that show that:

- 50% of pregnancies in the United States are unintended. Most women who become pregnant will never attend a pre-conception or IPC visit if it is offered separately from routine primary care and women’s health visits because they are not planning pregnancy
- Most pre-conception care or IPC is appropriate for all women and improves their health, regardless of pregnancy plans and therefore is an important part of routine primary care for women
- Preconception care and IPC shouldn’t be offered as stand-alone visits from primary care or gynecologist visits as this just further siloes this type of care.<sup>xxii</sup>

Subsequent TA calls focused on core tasks, including rolling out a developed screening process, and integrating preconception and inter-pregnancy care into routine care. PCDC’s approach was based on, “Every Woman, Every Time: Integrating Preconception Health into Routine Care” from The National Preconception Curriculum and Resources<sup>xxiii</sup> and on the CDC guidelines for improving pre-conception health.

Strategies that were shared with the pilot centers for integrating IPC into primary care included:

- Provide risk assessment and educational and health promotion counseling to all women of childbearing age to reduce reproductive risks and improve pregnancy outcomes
- Give protection against infectious diseases and neural tube defects in the form of vaccines and vitamins
- Manage conditions known to be detrimental to reproductive health outcomes if poorly controlled such as obesity, diabetes, and hypertension

- Counsel and support women to avoid exposures known to be teratogenic in early pregnancy such as taking certain medication, smoking, alcohol, and drug use
- Create a care plan that includes a woman's plans for avoiding pregnancy or conceiving a well-timed, well-spaced pregnancy

**Learning Session 3:** The focus of this session was behavioral health, social support services, and the connection between addressing behavioral health and improved birth outcomes. There were presentations on the relationship between a woman's mental health and birth outcomes, as well as on the relationship between intimate partner violence (IPV) and poor birth outcomes.

A "Community Services Fair" drew many social service providers and allowed them to exhibit information about their services and meet other participants as well as the staff at the pilot centers. This kind of community relationship building was one of the goals that LPHI and PCDC had set for this project and these activities helped meet that goal. Participants included substance abuse treatment providers, behavioral health providers, IPV resources and shelters, nutrition assistance, smoking cessation resources, and case management organizations.

**TA calls 4-6:** The TA calls after the third learning session focused on creating and using an IPC care plan, patient outreach and engagement, care coordination, and collaboration with community providers.

The IPC care plan was an operational challenge for many of the pilot sites. When the project began, some were using care plans and some were not. For those who did use some type of care plan, the information on it tended to be related to chronic conditions, medications, and the patient's goals for health improvement. None of the care plans included reproductive life plans or family planning choices on their care plans. Issues related to reproductive health conditions were notably absent.

In addition, some centers were unsure about who should be creating and updating a care plan. One pilot center who made tremendous progress during the project assigned the care plan creation to a care manager who was also tasked with following up with specific, at-risk women who would be receiving inter-pregnancy services at her primary care visits. This team-based care model helped the work to be distributed manageably among the care team instead of adding more work for the doctor. The care manager was also in a better position to coordinate the plans of all the different providers and services a woman might need when receiving IPC services. However, allowing care managers to coordinate care and to do some of the assessment and screening for at risk women proved to be challenging for some of the centers. At these locations they attempted to add the screening, assessment and care planning process to doctor's already full plates. These centers had more trouble moving forward with the project.

PCDC worked with the centers to help them create care plans and the workflows in which those care plans would be used. The pilot centers were encouraged to use the Grady Model care plan template that included:

- Patient's plan for avoiding a pregnancy or conceiving a well-timed and well-spaced pregnancy
- Management of chronic diseases

- Prevention, screening and treatment of STIs
- Screening and treatment for depression, stressors, and intimate partner violence
- Screening and treatment of substance abuse including linkage to treatment programs for alcohol and tobacco use
- Management of nutritional deficiencies
- Screening and treatment for periodontal disease.

Working on the care plan meant that the pilot centers needed to understand how to have a reproductive life plan discussion with a patient. PCDC shared best practices for having this discussion that included asking the following open-ended questions:

- Do you plan to have children/ any more children in the future?
  - Encourages the person to consider that one has a choice about how many children they have
- How long would you like to wait until you or your partner become pregnant?
  - Encourages person to vision their future
- What family planning method do you plan to use until you or your partner are ready to become pregnant?
  - Gives the patient an opportunity to formulate and communicate a personal strategy
- How sure are you that you will be able to use this method without any problems?
  - Encourages the patient to recognize methods can have problems and to consider matching personal choice to personal circumstances

PCDC shared case studies with the centers to give them an opportunity to identify the inter-pregnancy and well woman needs of various fictional patients. Centers correctly identified the inter-pregnancy care needs of the cases. However, the bigger challenge for the centers was figuring out when, and from what staff, would these services be delivered.

Centers also participated in TA calls that focused on the role of the care manager and the workflow for each care manager in relation to other care providers. PCDC encouraged centers to plan how often the care manager would meet with IPC patients, if it would be in person or by phone, and what the care planning process would look like. Centers were asked to plan how they could support the care manager to build relationships in the community, a crucial task related to connecting patients to needed resources. PCDC also asked the centers to set aside protected time for care managers to engage in outreach activities and to develop personal relationships with contacts outside their organization.

Dr. Dunlop shared care management tools used in the Grady Model study with the centers and they included reproductive interview questions, sample reproductive plans, and reproductive health questions.

**Learning Session 4:** At the fourth and final learning session, there were presentations and activities related to chronic disease management, health promotion, nutrition, and dental care and their relationship to improved birth outcomes. A robust discussion took place with the Louisiana Medicaid medical director about the new Medicaid coverage (Take Charge Plus) for men and women of reproductive age that would be replacing the Take Charge program and expand services that were currently offered. Participants were also interested to learn about food and nutrition assistance programs that were frequently underutilized by many of the patients who are eligible for them.

**TA Calls 7-8:** As the pilot centers moved closer to implementing new processes and workflows in the final action period, they wanted to measure how well they were doing. LPHI and PCDC worked together to help the centers improve and build upon the clinical data reporting they were already doing for this project (discussed in detail in the Evaluation section of this report) and formulate plans to track the new processes that they were implementing. Measures included:

- # of women of reproductive age with a chronic disease diagnosis who were given counseling about reproductive impact of conditions and medications
- # of women of reproductive age who had reproductive plan assessments administered
- # of women of reproductive age who had screening for depression.

## Care Coordination Training

Through key informant interviews in February 2015, COE change teams identified the need for additional training for care manager and care coordinator staff. All COE's had developed IPC implementation plans that relied on existing care coordination staff to orchestrate delivery of IPC services. The clinic change teams felt that additional training was needed to orient care coordination staff to specific IPC topics such as reproductive health and post-partum linkage to primary care.

LPHI contracted with PCDC to provide two additional training sessions after the conclusion of the original learning collaborative activities. These sessions were specifically aimed at COE staff who were responsible for coordination of IPC services. The learning sessions were delivered by PCDC via webinar. Participants gathered at a conference room in the LPHI office to view the webinar. Convening all attendees in person helped to foster discussion and peer learning during and after the webinar.

These learning sessions were held in June and July. The June session covered reproductive life planning, family planning counseling, and screening for intimate partner violence. The July session addressed care coordination in the context of IPC and post-partum linkage to primary care. In addition to COE care coordinators, maternal health case managers from three of Louisiana's Medicaid Managed Care Organizations were also in attendance. Clinic and managed care staff had the opportunity to network and to learn about each other's protocols.

## Health Information Technology

### EHR Optimization

In addition to the learning collaborative, LPHI provided technical support to the clinics in the area of health information technology to ensure that the existing electronic health record systems were used to their fullest

potential to support the IPC evidence-based guidelines. Health information technology-enabled strategies included: recommended assessment tools, risk stratification, referral tracking and linkages, clinical decision support, cross-setting care planning and communication, and overall performance monitoring of access and patient outcomes.

A list of key clinical indicators was identified for use by clinics to track the success of their IPC programs. COE sites completed assessments to describe how IPC-related data was captured in their electronic health records. Assessment results revealed that all pilot sites were already collecting information on several IPC elements: chronic disease management, nutrition screening, STI screening and treatment, behavioral health, substance abuse screening, and history of dental exam. The majority of these elements were collected in structured fields and therefore clinics were able to generate reports on the data and track changes over time. However, sites were not capturing information about reproductive planning or birth spacing counseling. EHR optimization efforts focused on building these elements into clinics' EHR systems and creating a single template to capture all IPC-related measures.

Figure 4: EHR Template Screenshot

The screenshot displays an EHR template interface for 'Screenings and Counseling'. At the top, there are dropdown menus for 'Prefix', 'Modifier', 'Result', 'Status', and 'Episode', along with a 'Spec' button. Below these are tabs for 'CC / GYN and OB Hx', 'Sexual and Social Hx', 'Screenings and Counseling' (which is active), and 'Outline View'. The main content area is organized into several sections, each with a title and a list of clinical indicators, each followed by 'Y', 'N', and a checkbox:

- Depression Screen**
  - Over The Past Two Weeks Felt Down - Depressed - Or Hopeless? [Y] [N] [ ]
  - Over The Past Two Weeks Felt Little Interest Or Pleasure In Doing Things? [Y] [N] [ ]
- Domestic Violence Screen**
  - Domestic Violence Screening - Positive [Y] [N] [ ]
  - Have been hit, slapped, kicked or physically hurt by someone? [Y] [N] [ ]
  - Are you in a relationship with someone who threatens or hurts you? [Y] [N] [ ]
  - Has anyone forced you to have sexual activities that made you feel uncomfortable? [Y] [N] [ ]
- Immunization History**
  - Immunizations Reviewed And Current [Y] [N] [ ]
  - Immunization Record Unavailable [Y] [N] [ ]
- Counseling**
  - Reproductive Plan Assessed [Y] [N] [ ]
  - Family Planning Counseling [Y] [ ] [ ]
  - Interpregnancy Spacing [Y] [ ] [ ]
  - Risk Of Adverse Pregnancy Outcome [Y] [ ] [ ]
  - Risk Of Pregnancy Complications [Y] [ ] [ ]
  - Risk Of Inherited Condition [Y] [ ] [ ]
- HIV Prevention**
  - HIV Prevention Counseling [Y] [N] [ ]
  - Safe Sex Counseling [Y] [ ] [ ]
  - Condoms Given [Y] [ ] [ ]
  - Condoms Recommended [Y] [ ] [ ]
  - Monogamous Relationship [Y] [ ] [ ]
- Medications Reviewed**
  - Counseling Given To Patients With Chronic Disease About Reproductive Impact Of Conditions And/Or Medications [Y] [N] [ ]
- Counseling**
  - Tobacco Quitline [Y] [ ] [ ]
  - Illicit Substance Use Counseling [Y] [ ] [ ]
  - Alcohol And Drug Hotline [Y] [ ] [ ]
  - STI Risks And Symptoms [Y] [ ] [ ]
  - Domestic Violence Counseling [Y] [ ] [ ]
  - Domestic Violence Hotline [Y] [ ] [ ]
  - Raw/Rare/Unpasteurized Foods [Y] [ ] [ ]
  - Risk Of Occupational / Hobby Exposure [Y] [ ] [ ]
  - Regular Dental Care [Y] [ ] [ ]
  - Other Resources [Y] [ ] [ ]
- Specific Handouts Given:**
  - General Health Promotion [Y] [ ] [ ]
  - Pregnancy Planning And Birth Spacing [Y] [ ] [ ]
  - Prior Adverse Pregnancy Outcome [Y] [ ] [ ]
  - Depression [Y] [ ] [ ]
  - Diabetes [Y] [ ] [ ]
  - Hypertension [Y] [ ] [ ]
  - Seizures [Y] [ ] [ ]
  - Thyroid [Y] [ ] [ ]
  - Lupus [Y] [ ] [ ]

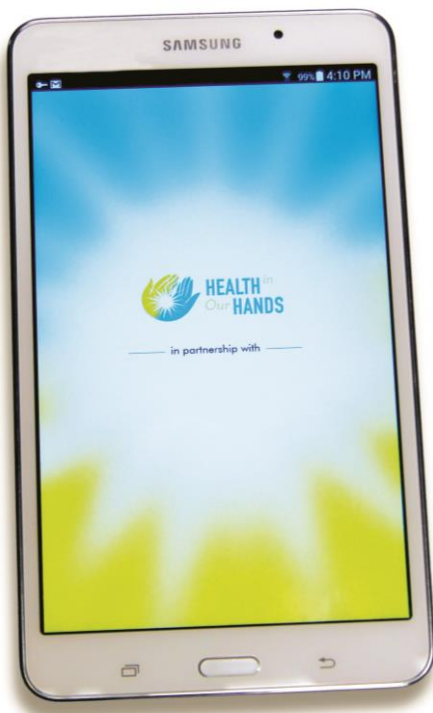


Three out of four of the COE organizations used the Greenway SuccessEHS EHR platform. LPHI engaged Greenway to build a custom template that enabled clinic staff to capture IPC data in a single location. This template combined elements that the pilot sites had already been recording and added the elements that they were not recording or were unable to report on. In accordance with the workflows developed by each IPC COE pilot site, this template was and will continue to be used as a screening tool for women of reproductive age to identify needed services. Nurses, care managers, or physicians use the template to identify women who are in need of IPC and to record their health and social histories related to the Grady Model elements of care. The COE organization that does not use SuccessEHS has staff that is able to build custom templates into their EHR system and is creating an IPC template equivalent the one built by Greenway.

Following the deployment of the template, clinics worked to integrate it into their workflows. The template addresses multiple screenings and data collection elements. Some elements allow for COE organizations to capture discrete data on elements such as domestic violence screening, reproductive planning, method of contraception, and others for the first time. Other elements of this template such as PHQ-2 screening, STI history, and drug and alcohol use are now centralized to be near other relevant health information, as opposed to located on disparate tabs or sections throughout the EHR.

The EHR template build process was successful as the centers came to agreement in order to define the content of the tools, and how they would use them once they were in place. Additionally, the template allowed previously free text data to be tracked in reportable fields, which will allow organizations to pull reports and build registries of patients based on their answers to the screenings and questions. Overall, tracking the provision of IPC components will be a long-term benefit of the EHR template deployment both from a billing and payment standpoint, as well as to monitor the delivery of important integrated clinical services.

Figure 5: Health in Our Hands Tablet



#### Additional HIT Activities

During the last six months of the IPC program, the EXCELth Family Health Center, one of the four COEs, sought additional technical assistance from LPHI on the development and implementation of a screening protocol. LPHI worked with EXCELth's clinical champion to develop and deploy a screening tool to identify current patients who may be in need of inter-pregnancy care. During a paper-based pilot of this screening survey at EXCELth, 20 out of 75 women screened were in need of inter-pregnancy care. LPHI also assisted with workflow integration for the new screening and training of clinic staff on the purpose and use of the screening tool.

In developing the screening tool for EXCELth, the IPC project team was able to collaborate with REACHnet, another program coordinated by LPHI, to build the screening questions onto a tablet interface. The Health in Our Hands (HiOH) interface is used to collect data directly from patients via computer tablets in clinic exam rooms. REACHnet uses Health in Our Hands to screen and recruit patients for participation in clinical research studies, but the interface can be customized for a variety of applications.

The IPC project team continues to work with REACHnet to build and deploy a tablet version of the IPC screening tool that is currently being administered on paper. Once complete, the IPC screening tool may be used by other clinics that participate in HiOH, should they so desire. REACHnet is actively building its clinic network and aims to include other IPC COE sites in the future.

### Dissemination of Best Practices

The IPC project team compiled the educational presentations and implementation tools developed throughout the course of the project into a toolkit for other clinics interested in implementing the Grady Model. The tool kit includes the educational presentations that were used to train health care and social service providers on the key elements of the Grady Model, as well as the implementation tools were used by the clinics to plan, execute, and track the incorporation of IPC into their processes. LPHI, PCDC, and Dr. Anne Dunlop developed the materials included in the toolkit.

A closing reception for the Inter-Pregnancy Care Project was held on September 29, 2015. The event allowed the IPC project team to share lessons learned with community stakeholders and to recognize the Centers of Excellence sites. The IPC project team provided an overview of the program, and COE change teams shared their experiences and best practices in implementing the Grady Model at their clinics.

The IPC toolkit was disseminated to local partners and stakeholders at the IPC closing reception. The toolkits were loaded onto USB drives and made available to event participants. Additional electronic tool kits for community partners are being made and will continue to be distributed. The toolkit will also be made available for download on the LPHI website.

## Evaluation

The goal of the program evaluation was to assess the feasibility of implementing the Grady Model of Inter-Pregnancy Care in four GNO area clinics and the satisfaction of the clinics with LPHI and PCDC's technical assistance in implementing this program. The assessment tools used during the two year program were:

Evaluation Activity	Frequency of Collection
<i>Clinic Assessment</i>	Three Times
<i>Reporting Feasibility Assessment</i>	Once
<i>Health Center Satisfaction Survey</i>	Once
<i>Key Informant Interviews</i>	Once
<i>Quarterly Data Report</i>	Four Quarters

Table 3: Program Evaluation Activities

From these tools, data on demographics, learning session satisfaction, implementation, barriers and successes, referral networks, and plans moving forward were gathered and analyzed.

*Clinic Assessments:* LPHI created an assessment tool to gauge the integration of Grady Model elements of IPC into their primary care services. This tool was administered at the start of the COE pilot program in February 2014, at the end of the Transom Grant period in February 2015, and once more at the end of the Strategic Grant period in August 2015.

*Quarterly Clinical Data Reports:* LPHI developed a list of clinical data elements to measure delivery of IPC based on an assessment of the pilot sites' current EMR reporting capabilities. The standardized Quarterly Reporting Data Template was used to collect data reported from each pilot site's EMR. LPHI hosted four data collection workshops, one before each report was due. In addition, LPHI offered individual technical assistance sessions and gave assistance in data validation. Data from the quarterly reports is summarized in the following section.

*Key Informant Interviews:* During key informant interviews, clinic change teams shared their perspectives on the usefulness of the IPC Learning Collaborative in helping to design a standardized data collection and entry plan to make sure the data is usable to identify at-risk women. Interviewees also shared their experiences in designing and implementing IPC.

### Pilot Centers of Excellence Characteristics

Over the course of the project, no clinics reported any changes in the elements of IPC that were provided at their sites. However, it should be noted that all clinics offered most of the Grady Model elements at baseline, including family planning and behavioral health.

All COEs offered screening for intimate partner violence (IPV), but referred out for supportive services for patients experiencing IPV. All but one COE site referred to external organizations for substance abuse treatment. Two of the COE sites provided nutritional counseling on-site; one provided this service at another site within their organization. One site provided dental services at their location; one site provided dental services at another site within their organization. The remaining two sites referred to external providers for dental care.

Two of the four participating COEs were awarded with FQHC designations during the course of the project, meaning that at the end of the project period all participating COEs had FQHC status. In addition, one of the COE operators expanded from one to three primary care sites during the course of the project. One of the new clinic sites was specifically designated for the care of women and families. After the expansion, IPC implementation for this organization focused on the care delivered at the women’s and family health center.

## Patient Characteristics

Patient Demographics: The self-reported estimated number of women of reproductive age seen in the year ending in August 2015 across all four Centers was 3,530.. Characteristics of this population are displayed in the graph below.

### DEMOGRAPHICS: RACE

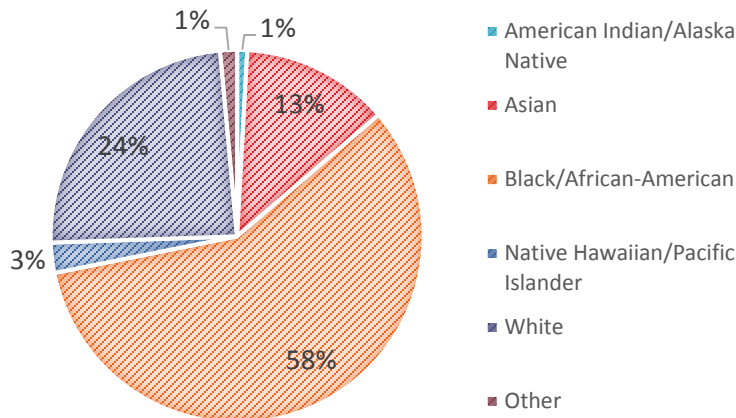


Figure 6: Women of reproductive age receiving care at a pilot IPC Center of Excellence site, by race

More than half of the female population of reproductive age at the four Centers identifies as Black/African-American. About 13 percent identifies as Asian, and an additional 24 percent identifies as White. The population is largely not Hispanic/Latino (90%).

### PAYER MIX

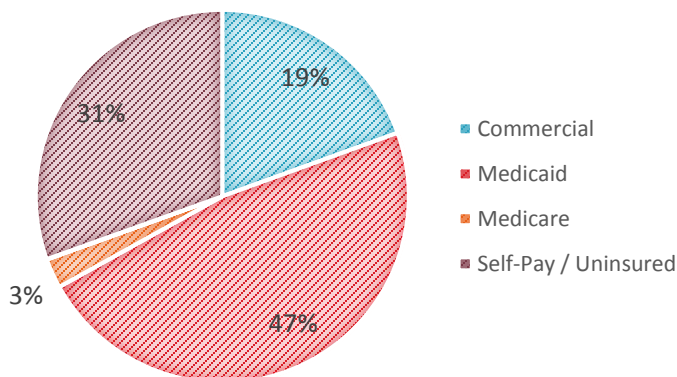


Figure 7: Women of reproductive age receiving care at a pilot IPC Center of Excellence site, by payer

About half of the female population of reproductive age across the four Centers is covered by Medicaid (n=47 percent). An additional 31 percent is categorized as self-pay/uninsured. Nineteen percent of the population is covered by commercial payers, and three percent by Medicare.

Clinic	Approximate GNOCHC Coverage
Health Center 1	21%
Health Center 2	24%
Health Center 3	33%
Health Center 4*	10%*

Table 4: GNOCHC Coverage of total unduplicated encounters assigned to panel in past 24 months. Please note that this information is organization-level, not individual pilot COE site-level. Source: GNOHIE and \*staff estimate.

Table 4 shows the percent of total encounters attributed to GNOCHC at each organization. The GNOCHC Medicaid 1115 Waiver program, included in the Medicaid percentage reported in Figure 4, is a significant payer source for all of the COE organizations.

### Chronic Disease Burden

About six percent of women of reproductive age had diabetes across all four COEs during the most recent reporting period (range 3% - 11%). Fourteen percent of women of reproductive age had hypertension across all four COEs during the most recent reporting period (range 8% - 18%).

Chronic Disease Burden Among Women of Reproductive Age				
Diagnosis	Mean	Min.	Max.	N Reporting
Diabetes	6%	3%	11%	4
Hypertension	14%	8%	18%	4

Table 5: Selected chronic disease indicators at aggregate level (all 4 centers). Most recent data from August 2015.

### IPC Service Delivery

The quarterly data reports also collected information on the screenings included in the Grady Model. There was significant variation across all four COEs in rates of screening for women of reproductive age. Please note that these averages were greatly influenced by the size of the various COEs. Across the four centers, about 60 percent of women of reproductive age received a depression screening during the measurement period. This percent varied from nine percent to 100 percent among the four COEs. Across all four pilot sites, 91% of women of reproductive age who had a visit during the measurement period had a blood pressure screening with results (range 79% - 99%). Seventy-one percent of women of reproductive age with at least one visit during the measurement period were screened for tobacco use during the measurement period. There was significant variation among COEs, from 32 percent to 93 percent. Of diabetic women of reproductive age who had at least one visit during the measurement period, 82 percent had a hemoglobin A1c screening with results during the measurement period (range 61% - 86%).

These results indicate that there are particular screenings that all centers are doing well, such as performing HbA1c tests for diabetic patients, and blood pressure screenings for all patients. Significant variation in depression screening and tobacco use screening suggests that there could be differences in data entry and capture, reporting, or clinical workflow.

Screening rates in Primary Care among women of reproductive age				
Screening	Mean	Min	Max	N Reporting
Depression screening	61%	9%	100%	4
Blood Pressure Screening	91%	79%	99%	4
Tobacco Use Screening	71%	32%	93%	4
HbA1c (diabetic patients only)	82%	61%	86%	4

Table 6: Selected Screening indicators at aggregate level (all 4 centers). Most recent data from August 2015.

### Clinical Data Trends

There was not a significant change in clinical data values from the first reported quarter and the last. The key differences were that the validity of the data submitted by COEs improved over the reporting year, and each center was able to report on more indicators by the end of the reporting year than at the beginning.

The overall population reported on (female patients of reproductive age) increased steadily each quarter, by about 14% from Q1 to Q4. There was no significant change in chronic disease prevalence (diabetes, hypertension, seizure disorder) over time. There was some variation across centers and over time in screening rates. The overall rate of performing blood pressure screening at least annually for hypertensive women of reproductive age was very high across all clinics, remaining around 98% for the duration of the project period. There is some variation in blood pressure screening rates for women of reproductive age over time, but this is likely due to reporting inconsistencies. HbA1c screening for diabetic females of reproductive age was relatively constant around 85% for the duration of the reporting period with some variation among centers.

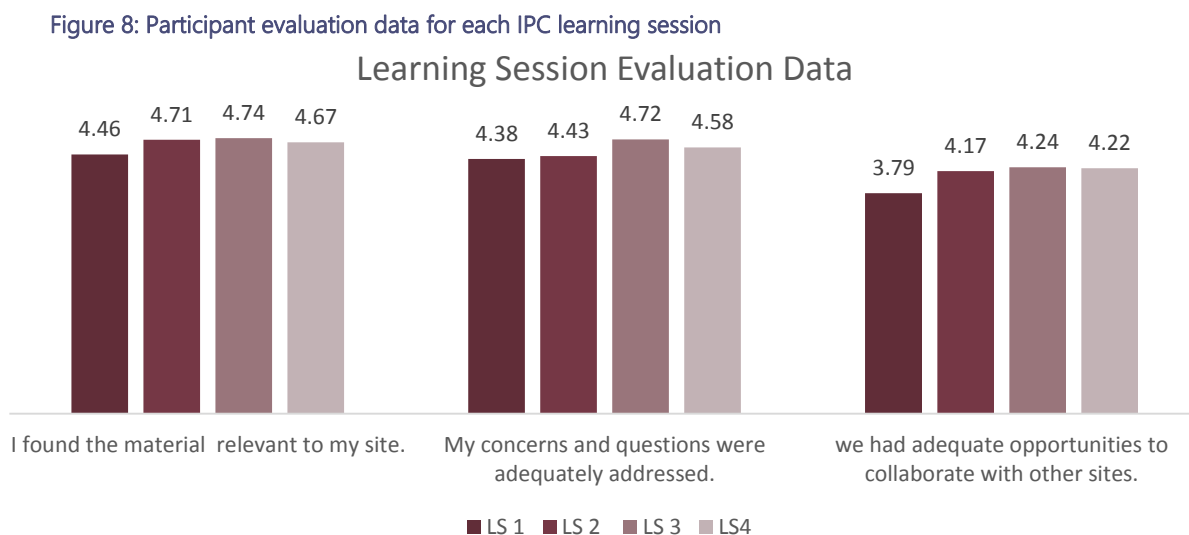
Significant variation between centers and over time in screening for tobacco use and tobacco cessation counseling (when identified as a tobacco user) is probably due to inconsistent documentation. Reporting on the tobacco use screening and cessation counseling measures presented challenges for each of the four centers as they are not standard reported measures. There were improvements in reporting on these measures over time, especially for one COE site that was unable to report for the first two quarters and with TA and reporting guidance was able to begin reporting consistently on cessation counseling in Q3.

There was also significant variation between clinics on depression screening rate for women of reproductive age. This is probably also due to differences in documentation and ability to report accurately from the EMR. The overall depression screening rate throughout the reporting period remained somewhat consistent around 60%.

### Learning Sessions and Technical Assistance

During key informant interviews, all COE sites reported that the learning sessions were very helpful and increased their knowledge of both the Grady Model and the IPC implementation process. When asked about the learning sessions, one clinic key informant said, "Personally, I took it and learned from it, and shared it with my patients - the importance of it."

After each learning session, participants were asked to fill out a satisfaction survey that assessed satisfaction with the learning session overall and with each presentation (see Figures 5 and 6).



Questions were also asked on overall satisfaction with each learning session in the areas of relevance to clinics' work, adequate response to questions and concerns, and opportunities to collaborate with other work sites. The learning sessions received their lowest average satisfaction score here, receiving a 3.79 out of 5 for adequate time to collaborate with other sites. It should be noted that this was received during the first learning session and the scores improved over the next three sessions.

The presentation topic that scored highest for both content and relevance was the Update on State Medicaid, receiving an average score of 4.88 for content and an average score of 4.84 for relevance. The topic that scored the lowest for both content and relevance was Louisiana Women in Need of Publicly Supported Contraceptive Services and Supplies receiving an average score of 4.19 for content and 4.35 for relevance. Overall, the learning session topic presentations never received an average score lower than a 4 out of 5 and satisfaction with learning sessions improved over the course of the learning collaborative, with highest satisfaction scores seen in Learning Session 4.

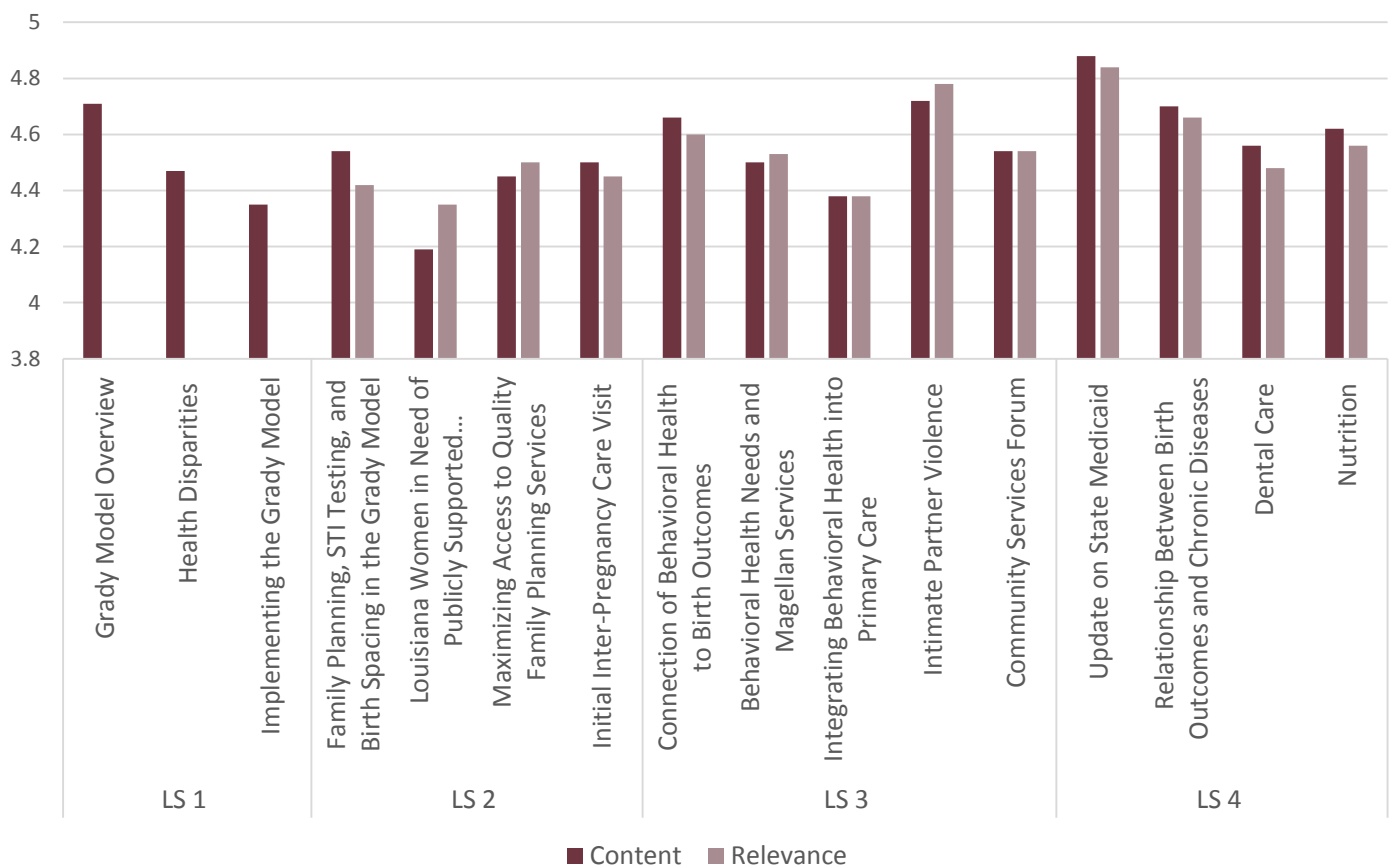


Figure 9: Participant evaluation of the content and relevance to clinical practice for each topic presentation at the IPC learning sessions

The clinical change team from each pilot site was invited to each learning session throughout the IPC Project. Attendance at learning sessions by change teams was tracked and recorded for each learning session. All four COEs had at least two representatives at every learning session, but the characteristics and professional roles of participants who attended varied greatly across centers. Table 7 reports COE staff attendance at each learning session and shows the variance in the number of staff attending among COEs.



	COE Sites Represented	COE Staff Attendance	Average Attendance per COE	Min. COE Attendance	Max. COE Attendance
LS 1	4	14	3.50	2	6
LS 2	4	17	4.25	2	6
LS 3	4	15	3.75	3	6
LS 4	4	19	4.75	3	6

Table 7: Centers of Excellence attendance at IPC Learning Sessions.

### Participant Satisfaction:

At the conclusion of the IPC Project, COE change teams were given a survey to ask how they felt about the program as a whole. Their responses, summarized in Table 8, were recorded on a scale of 1-5 (1 - not at all satisfied, 2 - somewhat dissatisfied, 3 - neutral, 4 - somewhat satisfied, 5 - highly satisfied). Overall, the project was well-received. Average scores ranged from a low of 3.00 for satisfaction with partnerships established for identification of patients in need of IPC and provision of services to a high of 4.25 for helpfulness of the tools and resources established during the IPC program.

Question	Average
Was your organization satisfied with the partnerships established for identification of patients in need of IPC and provision of IPC services?	3.00
Do you feel that the IPC program helped you develop tools and/or increase resources?	3.75
Do you feel these tools and resources established during the IPC program are helpful to your IPC program?	4.25
Do you feel your organization's feedback was taken into consideration in the development of the programs tools/protocols?	3.67
Does your organization feel more confident in its ability to deliver IPC as a result of your participation in the programs?	3.75
Overall do you feel satisfied with the IPC program?	4.00

Table 8: IPC change team satisfaction

### IPC Implementation:

Pilot COEs reported no challenges in getting organizational buy-in at the start of the IPC Project. Clinic key informants felt little resistance from their leadership. Both clinic change teams and COE organizational leadership saw IPC's potential to impact health on a community level by assuring the health of women, and by extension, their families. As one COE clinical champion described at the IPC Project closing reception, "Instead of just impacting the mother, we are also impacting the child as well as the family. So it's moving upstream to improve not only the health of the individual, but the family as well."

All clinics reported that staff felt that IPC provided numerous benefits to their patients. Respondents felt that patients received a better service, and have an improved chance for better birth outcomes. Clinic key informants felt that IPC increased awareness for mothers and families about spacing pregnancies and helped educate them

on improving health behaviors. One clinician interviewed described IPC as “really good primary care, it is really hard for a single provider to provide really good care. IPC helps parcel out the care to make sure it gets done.” Instead of relying on one clinician to remember and deliver every piece of inter-pregnancy care, this pilot site developed a protocol using a team-based approach in order to ensure that patients receive appropriate IPC services. The Grady Model’s framework for IPC helped clinics develop plans to find patients who would otherwise not be identified by their systems and therefore not receive the care and education they need to attain optimum health.

One clinician interviewed described IPC as **“really good primary care.** It is really hard for a single provider to provide really good care. IPC helps parcel out the care to make sure it gets done.”

As noted in the analysis of baseline and follow-up clinic assessments, the COE sites had many Grady Model services in place before beginning this project. However, the clinic change teams stated that the Grady Model provided a needed framework to provide these services to high-risk women in a coordinated fashion. At the program’s closing reception, one COE project lead stated, “A lot of services involved in IPC, we were already providing ...but it was something about this model that showed us how to come together, that pulled our services

*“A lot of services involved in IPC, we were already providing ...but it was something about this model that showed us how to come together, that pulled our services and our resources together.”*

and our resources together.” This sentiment was echoed by New Orleans Health Department Director, Charlotte Parent, who expressed her belief that community health centers play an important role in coordinating services for women at risk for adverse birth outcomes. At the IPC Project closing reception, Ms. Parent remarked “In the end it [the IPC Project] became a project that really focused on where we needed to take it, which is the clinics ...and then wrap that around with the social need to make sure that their family is touched.”

At the closing of the project period, all clinics reported they had developed a screening process to identify women at risk for adverse birth outcomes and to coordinate inter-pregnancy care for them. Each of these plans differs across clinics.

### Partnerships/referral network

All of the COE sites provide a majority of the Grady Model elements of a care at their clinic, or refer out for the service. Three out of the four clinics interviewed were not providing substance abuse treatment in-house, however did have external partners to whom they referred. One clinic key informant reported having a hard time finding partners for dental care and attributed it to being hard to find clinics that accepted Medicaid for dental care. A key informant from a different COE reported long wait-times for appointments at their main referrals partner for substance abuse treatment.

There is anecdotal evidence to indicate that the number of informal partnerships increased during the IPC project period. The third learning session contained a mini resource fair, which enabled COE staff to connect to agencies and resources with whom they were not already engaged. There was significant positive feedback from both social service agencies and the COEs on these activities; both parties signaled interest in developing coordination pathways.

## Perceived barriers

Key informant interviews revealed some of the challenges that COE sites faced in implementing and sustaining IPC programs. All pilot sites listed time, money, and resources as the main clinic-level barriers. Clinics expressed that having well-trained staff to identify and track IPC patients is a high priority in keeping a well-run IPC program in their clinics. Clinical change teams described difficulties finding the staff time required to develop and implement IPC protocols. Clinical change teams completed this work in addition to their regular job duties and other special projects in which they were involved. Despite stated plans for continuing their IPC programs beyond the project period, interviewees expressed concern for the long-term sustainability of IPC-specific workflows without formal mechanisms for referral of new patients who have experienced adverse birth outcomes.

# Challenges:

## Systems Issues

### *Low Hospital Engagement:*

The IPC project team had separate meetings at the two hospitals that provide most of the labor and delivery services in the GNO area. LPHI staff met with nurse managers, physicians, and administrators representing maternal and child health departments including: obstetrics, labor and delivery, and neonatal intensive care units. Both institutions were very receptive to the IPC project and agreed that referrals to primary care from their facilities could be improved. However, both organizations expressed that they did not have the staff capacity to develop and implement a formal, robust referral protocol to link women who experience ABOs to IPC providers. Both organizations did agree to incorporate patient-centered information on how and why to obtain primary care services after pregnancy into their current discharge processes. LPHI facilitated the development and distribution of these materials, in collaboration with management staff at both hospitals.

### *Missed opportunity for electronic health information exchange:*

Unfortunately, the two hospitals discussed above, who provide most of the labor and delivery care in the GNO area do not currently participate in the Greater New Orleans Health Information Exchange (GNOHIE). The GNOHIE is administrated by Partnership for Achieving Total Health (PATH), which is a supporting organization of LPHI. The GNOHIE has the potential to facilitate electronic referrals and alerts between hospitals and clinics. These capabilities could have been leveraged to make referrals for IPC from hospitals and to alert primary care providers when their current patients experience ABOs.

### *Low uptake of IPC case management services offered by Healthy Start:*

The main challenge encountered by Healthy Start New Orleans (HSNO) in providing IPC case management was recruitment and enrollment of women who had experienced an ABO. HSNO outreach initially relied on a list, generated by the state Medicaid program, identifying women who had recently experienced an ABO. However, this list came at a two-month delay which meant that contact information for the women was often invalid. HSNO also attempted to recruit women via referral from local neo-natal intensive care units (NICUs), but this approach also yielded a low number of clients. Because NICUs provide care to infants, not their mothers, there was a lack of opportunity to develop formal referral mechanisms from NICUs to service targeted at mothers. Additionally, HSNO attempted to recruit IPC clients from GNOCHC providers and WIC clinics. The clinics identified high-risk women, and a HSNO case manager would try to meet and enroll the women at their next clinic appointments. This process was minimally successful as women frequently did not attend the subsequent appointment as scheduled. HSNO also engaged in more generalized outreach to engage women for IPC care. This included exhibiting at health fairs and door-to-door outreach. Neither of these methods was successful at engaging women for IPC.

When HSNO *was* successful in making initial contact with women in the IPC target group, they were often unsuccessful in enrolling them because the women were not interested in participating in an intensive case management program. Reasons for not wanting to participate, as reported by HSNO case managers, included not

having time and competing priorities (housing, employment, etc). Some women were interested in addressing one specific need and then stopped participating after the need was met (for example, enrollment in Medicaid), or once it became clear that HSNO could not meet the need directly (for example, housing). In general, women in the IPC target group had trouble meeting basic needs, and HSNO did not have sufficient resources to address those needs. Until those basic needs were met, women were not receptive to the HSNO program components that offered education and assistance on avoiding future ABOs.

### Clinic Issues:

#### *Time constraints:*

In addition to their primary activities providing high-quality healthcare services, pilot center change team members were often involved in an array of clinical quality improvement initiatives. These competing priorities sometimes made it difficult for the clinic teams to dedicate time to IPC project activities.

#### *Value of participating:*

Although the pilot centers recognized the long-term benefits of IPC delivery for their patients and, by extension, the larger community, the direct benefits to the organization itself were not as clear. Aside from the nominal stipend provided to the pilot centers, there was little else to demonstrate to pilot center leadership that it was worth staff members' time to participate in program activities.

# Recommendations for Next Steps

## Use clinic staff as “resource mothers”

The Grady Model uses a “resource mother” to link women to social services. Initial attempts at applying the Grady Model in GNO unsuccessfully used a third party agency to serve as a resource mother. Instead, integrating the functions of the resource mother into the clinic care team may be more successful. The overall resource mother role is a critical component of IPC, and using clinic-based care coordination to fulfill this role needs to be examined to determine the best fit the GNO patient and provider climate and to inform IPC sustainability.

## Clinic engagement incentives

There is little understanding of how buy-in from CHCs could be encouraged in additional environments beyond LPHI and PCDC’s preexisting relationships with the participating organizations that activated their initial engagement. Further investigation of incentivizing participation in IPC implementation is needed.

## Improve partnerships with community resources

Limited wrap-around services across seven IPC components continues to remain a challenge to the successful adoption of the Grady model. The IPC project team began the process of building partnerships and referral networks, but this task requires significant investments of time and resources, especially in highly disconnected health care systems. There needs to be further investigation as to how to ensure meaningful linkages and referrals within the seven IPC service delivery areas in the context of the GNO. One tactic could be the development of a dedicated directory of referral sources that is shared with providers in the GNO area; another is the eventual linkage of social services agencies to the GNOHIE.

## Reimburse care management services

There is no current reimbursement for care management through state health entitlement programs to support the sustainability of the IPC model in GNO. There needs to be a better understanding of how to gain buy-in from the MCOs, and payment systems for care coordination need to be further studied.

## Continued EHR optimization

Additional EHR optimization to enhance data collection, data reporting, and coordination of services will strengthen the delivery of inter-pregnancy care. In order to better understand the impact of IPC on the health of high-risk women, it is necessary to continue to work with pilot sites to build their capacity to create registries of women at high risk of adverse birth outcomes (ABOs) and report on key indicators to enhance and inform their quality improvement processes. An idea discussed by several clinic key informants was the creation of a common clinical threshold or risk stratification criteria, so that all clinics would have the same definition of which women should receive IPC.

## Optimize IPC workflow integration

While the IPC Centers of Excellence clinics have completed initial implementation of the Grady Model and demonstrated buy-in for the importance of IPC as a means to prevent repeat ABOs, more work is needed to

ensure that the clinic's IPC programs are fully integrated into their clinical practice. Assessment and improvement of IPC workflows to ensure efficiency and efficacy will strengthen the sustainability of the COEs' IPC programs.

#### **Fully leverage electronic health information exchange capabilities**

The disjointed health care system of New Orleans is a major barrier to ensuring that all aspects of the Grady Model are fully implemented. The lack of connection between hospital delivery, clinics, and social services makes it hard to ensure that mothers are receiving all aspects of care they truly need. The GNOHIE, with its capability for real-time health information exchange, can be leveraged to enable coordination, reporting, and evaluation of services across the continuum of care in the GNO health system.



# Conclusion

The Grady Model provides a sound framework for delivery of IPC in a primary care setting. Community Health Centers are uniquely qualified to implement this model due to their inherent emphasis on holistic patient care. The pilot Centers of IPC Excellence that participated in this project have implemented or are poised to soon implement the Grady Model, despite challenges. Sites are ready to provide services to existing patients through screening and subsequent care coordination. Adaptations to the Grady Model were needed in order to account for the open, fragmented health care system in the Greater New Orleans area. Most notably, the role of “resource mother” was not successfully filled by a third-party agency and may be more effective if filled by a clinic staff member. Electronic health records and electronic health information exchange systems have the potential to alleviate the barriers of health system fragmentation by improving linkage to care, tracking of care delivery, and care coordination. Future efforts should focus on improving linkage to IPC for women who have experienced adverse birth outcomes and harnessing the capabilities of health information technology to enable care linkages and improve delivery of IPC.

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