# Enhancing the Pregnancy Test Visit to Increase Timely Prenatal Care

## A TECHNICAL BRIEF on the Texas Initiative of the Border States CoIIN

## Why is First Trimester Prenatal Care Important?

Early and ongoing prenatal care improves the chances of a healthy pregnancy. Prenatal care started during the first 12 weeks (first trimester) of pregnancy is associated with improved birth weight and decreased risk of preterm delivery, both of which are important contributors to infant mortality.

Mothers who do not receive prenatal care are three times more likely to deliver low-birthweight babies, and their babies are five times more likely not to survive.[1] Furthermore, women who do not receive prenatal care are also three to four times more likely to die from pregnancy-related complications than those who do receive care[2], and the likelihood is even higher for women with high-risk pregnancies.[3] While these birth outcomes have a complex set of contributing factors, early prenatal care has an important role in identifying risks during pregnancy, applying appropriate interventions and monitoring high-risk mothers.[1]

High quality, respectful prenatal care obtained throughout pregnancy can help to establish a trusted relationship with a healthcare provider that can extend well beyond the pregnancy. Moreover, frequent contact with the healthcare provider during pregnancy and the perinatal period offers important opportunities to identify and address other health and related social factors that can impact a family's health and well-being over the course of a lifetime. For this reason, reducing disparities in prenatal care access and utilization is of critical importance for mitigating life-long inequalities in the social determinants of health.

## Prenatal Care Disparities & User Experiences: Val Verde County, Texas

Val Verde County has among the lowest rates of first trimester prenatal care in the State of Texas. According to provisional State data, only 43% of women received first trimester prenatal care in 2017, compared to 66.4% in the State as a whole.[4]

Moreover, 2017 data for Val Verde County showed that out of 434 women that did not receive prenatal care in the first trimester, 90% were Hispanic, two-thirds were Medicaid recipients, and 95% received prenatal care at a Public Health Clinic/Federally Qualified Health Center (FQHC).[4] United Medical Center (UMC), the only FQHC in the county, accounted for more than half of the live births in the county and had even lower rates of first trimester prenatal care (29%) in the first quarter of 2018. Data from a sample of prenatal patients at UMC clinics during 2017 revealed long delays – up to 57 days – between receiving a positive pregnancy test and obtaining a first prenatal care appointment.[5]

Between 2017 and 2020, the **Border States CoIIN** (Collaborative Improvement & Innovation Network), led by PCI, worked with cross-sectoral teams across four U.S. states between 2017 and 2020 to achieve a common aim: to increase early prenatal care utilization by 10% among women in targeted impact areas of California, Arizona, New Mexico and Texas through the development of place-based improvement strategies that address the social determinants of health.



*Texas CoIIN team Ideation Workshop (March 2018)*

In March, 2018, the Texas team of the Border States CoIIN (see inset on Page 1) was convened by BCFS Health and Human Services, the Texas state lead organization. The team used a series of collaborative human-centered design exercises conducted onsite at UMC clinics to analyze the factors and/or barriers that were contributing to delayed prenatal care. From there, the team generated an initial set of innovation ideas to guide the design of prototypes in response to the barriers identified. Stakeholders who participated in the process included UMC clinic staff members, BCFS lead staff, State of Texas Title V Maternal and Child Health Services Block Grant Program representatives, hospital and medical professionals, Healthy Start home visiting participants, the Border States CoIIN team and community members.

**By studying actual experiences shared by UMC patients and staff through the use of human-centered design tools, the team was able to construct a typical "user journey" that revealed many barriers for prenatal patients in accessing timely care.** The team found that many women obtain free pregnancy testing and proof of pregnancy confirmation at UMC, but most would leave the clinic(s) with no prenatal appointment scheduled and no guidance on what prenatal care entails, what types of support they are eligible for, or assistance in the enrollment process. Many without healthcare coverage did not understand that they could schedule a prenatal appointment before they obtained insurance, or that they could apply for Medicaid at the clinic that same day. Instead, they would go to the offices of the Texas Health and Human Services Commission to initiate a Medicaid application, wait several weeks for their application to be processed before contacting UMC to schedule an appointment with a provider, and then often have to wait an additional two or more weeks before receiving their first prenatal appointment.

**Project Goal:** Increase first trimester prenatal care by 10% at United Medical Center (UMC) clinic sites in Val Verde County Texas, through strategies that (1) reduce the delay between pregnancy confirmation and enrollment; and (2) demystify prenatal care enrollment requirements.

## Defining Success // Designing for Results

With improved understanding of patient barriers to timely care, stakeholders began to innovate around specific challenges. The team reconvened in May 2018, in Del Rio, Texas, for a weeklong "design sprint": a five day process for rapid design, prototyping and testing of a potential solution with actual end users of that solution. Through the week, stakeholders shared data pertaining to prenatal care utilization, listened to experiences of prenatal clients, and conducted several design exercises that helped them to narrow their ideas around a clear project goal, shared design principles to guide the development of prototypes, and ultimately the selection of two specific, testable concepts.

The CoIIN Texas team developed two prototypes that were tested through simulations at clinic sites during the design sprint. The prototypes were then implemented and refined at UMC clinics between December 2018 and June 2020.

**Prototype 1:** Patient education tools to help demystify prenatal care enrollment and perceived eligibility barriers among patients in order to promote early and ongoing prenatal care.

**Prototype 2:** A streamlined workflow for the pregnancy testing visit that would accommodate same-day eligibility screening for Medicaid and prenatal appointment scheduling at UMC; and
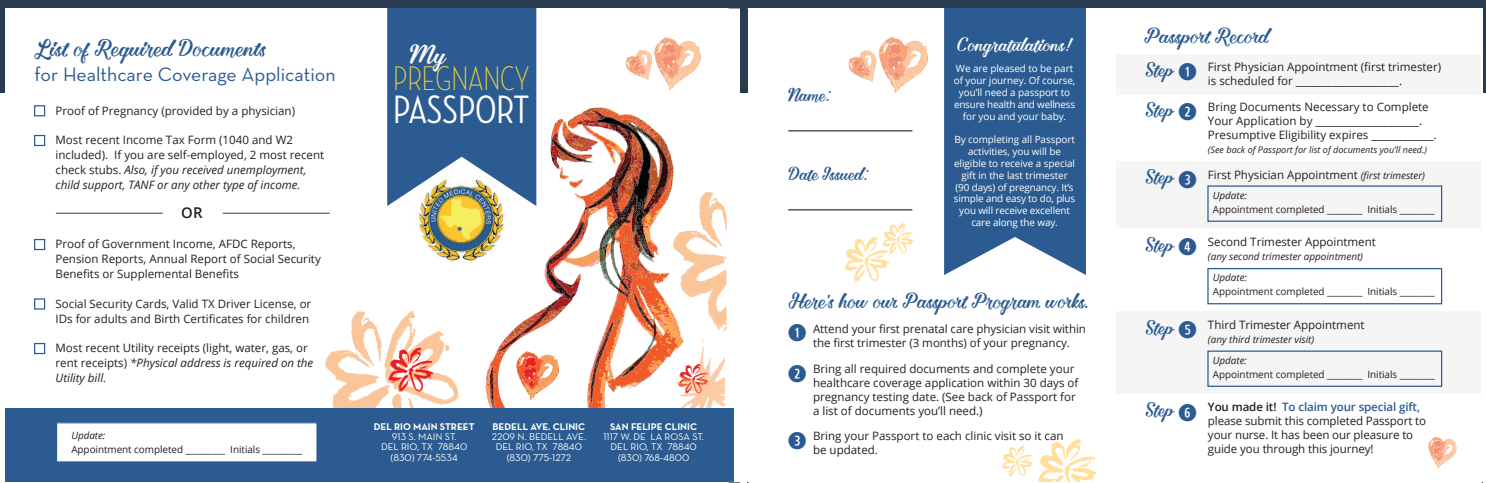
Figure 1. My Pregnancy Passport English outer cover (left) and inside view (right).

## Prototype 1: My Pregnancy Passport:

The *My Pregnancy Passport* (see Figure 1) is a patient education tool designed by the Texas CoIIN team to promote understanding of prenatal care services, eligibility and timely completion of care in a way that is accessible and empowering.

The passport is available in English and Spanish and is provided to all patients who present with a positive pregnancy test and wish to obtain prenatal care at UMC clinics. It informs women of what they need to bring to expedite Medicaid eligibility screening and helps them keep track of their prenatal care milestones.

All clinic staff and providers are trained in passport tracking, so they can educate patients about the passport at initial distribution, encourage patients to bring the passport with them to each visit, and provide initials when passport milestones are completed. Patients who initiate care in the first trimester of pregnancy, complete a healthcare coverage application (if needed), and attend all required prenatal visits, are eligible to receive an incentive in the form of a gift bag with diapers and personal care items upon returning their completed passports at their final prenatal visit, postpartum, or first pediatric visit. Nurse teams use logs to monitor passport distribution and completion at each site.

The passport was refined based on user feedback collected through several tests of the tool with prenatal clients. Over 300 passports were distributed to UMC prenatal clients during the demonstration period (December 2018 to March 2020), and user experiences captured through qualitative feedback. Passport recipients shared that they liked the booklet, that the tool helped them to remember things like taking prenatal vitamins, and helped them understand the importance of seeing a doctor early in the pregnancy. See client testimonial under User Experiences section below.

## Prototype 2: Pregnancy Test Visit Workflow:

To support timely enrollment into prenatal care and first prenatal appointment scheduling, key clinic staff from nursing and eligibility departments collaborated to develop and test an improved clinic workflow for the pregnancy testing visit at UMC. The workflow, illustrated in Figure 2, prioritizes the patient experience and promotes 'warm handoffs' between nursing, business and eligibility staff to integrate and expedite the many processes required to identify and address the needs of each patient.

Prior to the CoIIN project, patients left the clinic after receiving their pregnancy test results and were expected to call back or return for scheduling and application assistance, resulting in several weeks delay (as described above). By integrating enrollment, scheduling and application assistance into the required steps of the same visit, the workflow ensures that all patients exit the pregnancy confirmation visit with a first prenatal appointment scheduled within 14 days of the pregnancy test. Patients are also guided though the enrollment process in a way that meets their individual needs.

The enhanced workflow is integrated into required training and standardized clinic protocols at all clinic sites, and the average scheduling delay at each site is posted monthly on internal memo boards alongside other key improvement measures to promote and reinforce the use of the workflow.

To support expedited enrollment in Medicaid, UMC also initiated the process of becoming authorized by the State of Texas to enroll eligible patients in Presumptive Eligibility for Medicaid. Presumptive Eligibility allows patients to be temporarily enrolled in Medicaid while being put on a path to more stable coverage.
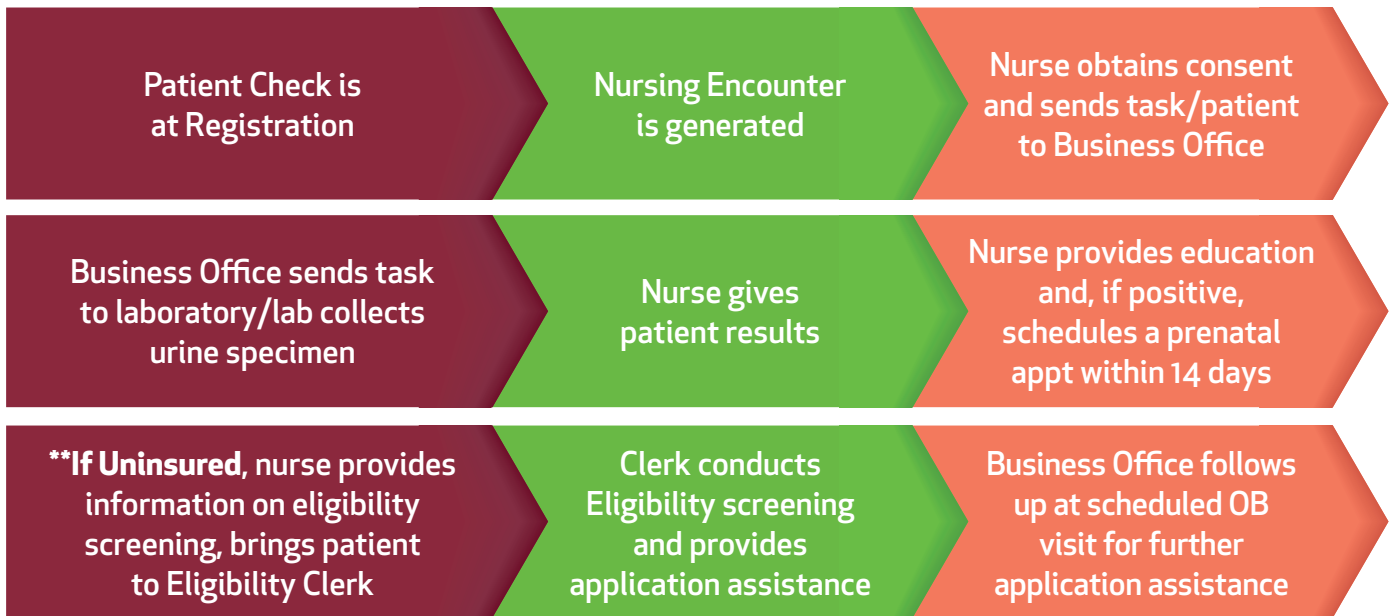
| Patient Check is at Registration | Nursing Encounter is generated | Nurse obtains consent and sends task/patient to Business Office |
|---|---|---|
| Business Office sends task to laboratory/lab collects urine specimen | Nurse gives patient results | Nurse provides education and, if positive, schedules a prenatal appt within 14 days |
| **If Uninsured**, nurse provides information on eligibility screening, brings patient to Eligibility Clerk | Clerk conducts Eligibility screening and provides application assistance | Business Office follows up at scheduled OB visit for further application assistance |

*Figure 2. Enhanced work flow for pregnancy testing visit at UMC*

## Measuring Success

In order to monitor the success of prototype implementation, the project tracked outcome, intermediate and process measures over a 16-month period to monitor the impact of the prototype on first trimester prenatal care (outcome measure), average scheduling delay (intermediate outcome) and Medicaid enrollment (process measure). Data for all clinic sites was sent by clinic staff to the Texas state lead (BCFS) for review and analysis and monitored monthly by the entire state team with the use of data run charts to inform continuous improvement efforts. The team monitored changes for each clinic site as well as for averages across all clinic sites.

In addition, the Border States CoIIN team monitored changes in self-reported levels of confidence and capacity in the key CoIIN methods of innovation, quality improvement and collaborative learning. These were assessed through baseline, midline and endline questionnaires by an external evaluator.

| Key Measures | Data Sources |
|---|---|
| Percent of births to women in Val Verde County with prenatal care in the first trimester (annual, quarterly) | Birth certificate data obtained by Title V co-lead from state vital statistics |
| Percent of births to women at UMC Clinics with prenatal care in the first trimester (annual, quarterly) | Uniform Data System (UDS) data in practice analytics report obtained by Quality Clinical Assistant |
| Average number of days between pregnancy confirmation visit and first prenatal care visit with a provider at each clinic site (monthly) | Comparison of prenatal appointment dates against pregnancy test log in custom tool managed between Laboratory Supervisor and Nurse Coordinator |
| Number of patients obtaining Medicaid applications assistance at each clinic site (monthly) | Enrollment assistance log at each clinic site obtained by Business Unit Lead |

*Figure 3: Using diverse data sources to monitor key measures for project success at the state and local level.*

# Results

**This project met and exceeded its stated goals, contributing to an increase in first trimester prenatal care within the UMC clinics, reduction in scheduling delays, and an increase in enrollment for Medicaid coverage among eligible UMC prenatal patients.** In addition, the initiative resulted in increased collaboration for quality improvement efforts across clinic departments. As a result of the success of this demonstration project, UMC clinics are now rolling out the enhanced pregnancy test visit workflow and My Pregnancy Passport tool to its clinic sites in an adjacent county (Maverick County, Texas). Specific results are described below.
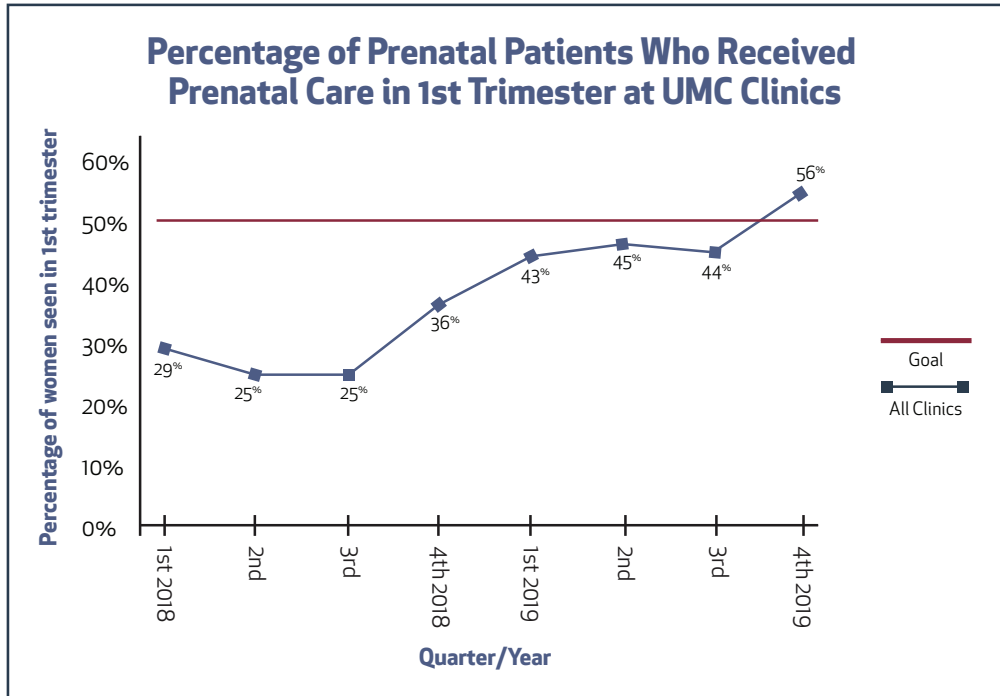


*Figure 4. Change over time in percent of births to women at UMC Clinics with prenatal care in the first trimester, calculated quarterly from 2018 (Q1) to 2019 (Q4) based on UDS data from UMC.*
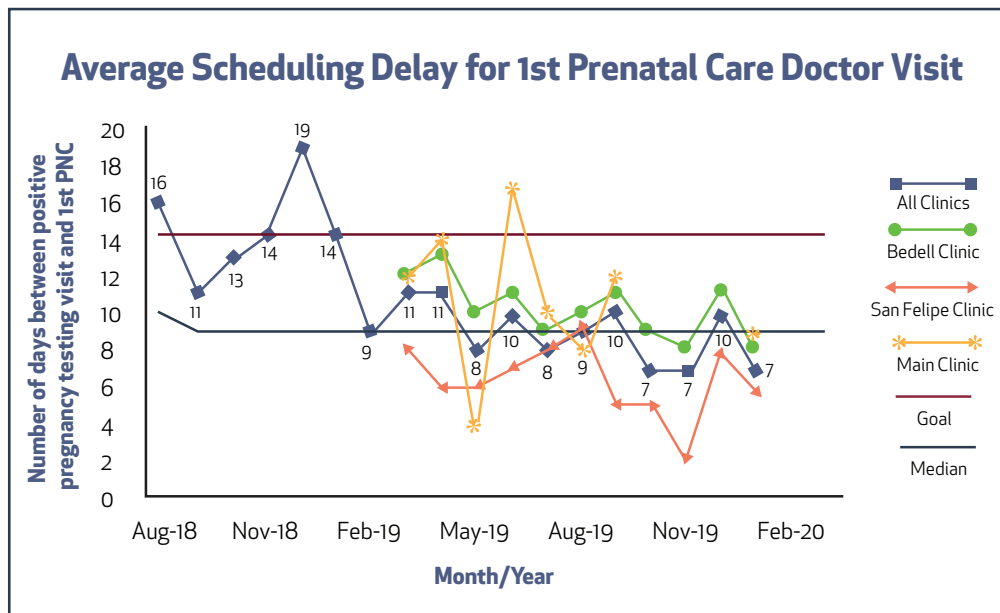


*Figure 5. Change over time in average number of days between pregnancy confirmation visit and first prenatal care visit with a provider at each UMC clinic site, calculated monthly from August 2018 to February 2020 based on UMC clinic data.*

## Improved Patient Outcomes

Between January 2018 and March 2020, the percentage of women who received prenatal care in the first trimester of pregnancy increased from 29% in the 1st quarter of 2018 to 56% in the 1st quarter of 2020 (see Figure 4). Calculated annually, first trimester prenatal care increased from 30% yearly in 2018 to 46% yearly in 2019 at UMC clinics in Val Verde County, Texas.

Moreover, the average scheduling delay for first prenatal care doctor visits decreased from 15 days in 2018 to 10 days in 2019, and from 16 days in August 2018 to 7 days in January 2020 at UMC clinics (see Figure 5).

## Increased Clinic Revenue

In addition to the benefits attained for patients by receiving timely care, UMC clinics had an increase in revenue through the prenatal patients that received Medicaid coverage at an earlier stage of pregnancy and attended visits sooner and more often.

In 2018, 12 patients completed their Medicaid applications at UMC clinic sites and by 2019, the total applications more than doubled to 27 in conjunction with the demonstration period. Based on the number of applications completed, UMC more than doubled their Medicaid revenue from $30,444.48 in 2018 to $65,500.08 in 2019.

Figure 6 illustrates a comparison of clinic revenue from those patients that had Medicaid coverage versus those that had self-pay. Patients that are uninsured pay $20 per visit if they qualify for the lowest fee within the UMC sliding scale, versus $211.42 per visit if the visit is reimbursed by Medicaid. The total revenues were based on an average of 12 prenatal visits per client.

UMC is currently working to obtain approval from the State of Texas to offer Presumptive Eligibilty for Medicaid, which will allow women who qualify to obtain coverage for prenatal care even earlier.

## Increased Collaboration for Quality Improvement Across Departments

Collaboration across different departments within the UMC clinics on this quality improvement project was critical to its success and can be considered a benefit. As an FQHC, first trimester prenatal care was one of UMC's existing performance measures required for the Uniform Data System Resources under the Bureau of Primary Health at the Health Resources & Services Administration (HRSA). This measure had been solely a responsibility of the medical team in the Women's Department. However, through this initiative, staff member participation in improving this performance measure expanded to include laboratory supervisors, quality improvement nurses, information technology staff, unit clerks, eligibility clerks, medical office assistants, nurses and nursing supervisors.

Regular data reporting and sharing drove continuous improvement and continued to motivate staff to invest time and energy in the process. Data and results were reviewed with the UMC team, State of Texas Title V representatives and PCI during monthly check-in calls. The state lead utilized a run chart maker for the collection of data and easy data visualization. The UMC team reviewed the run charts with their providers and staff during their meetings and the quality improvement/quality assurance (QI/QA) staff posted the run charts on their boards for all the UMC employees to see results on a monthly basis and included them in reports to UMC's board of directors.
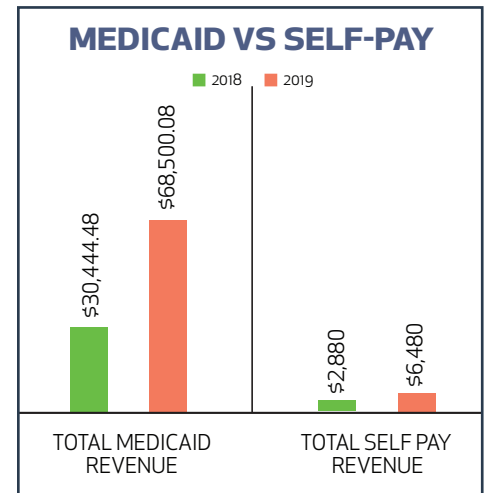
**MEDICAID VS SELF-PAY**

2018   2019

TOTAL MEDICAID REVENUE: $30,444.48 (2018), $68,500.08 (2019)
TOTAL SELF PAY REVENUE: $2,880 (2018), $6,480 (2019)

*Figure 6. Calculating revenue increase resulting from increasing Medicaid coverage among clinic patients at UMC.*

# User Experiences



*Nursing Refresher Training on CoIIN workflow and passport in April 2019.*

## Clinical Nursing Coordinator:

*"As a FQHC [federally qualified health center], we are already required to manage so much with minimal staffing. Nevertheless, once the project evolved, it became clear how each of the key players had an important role and they soon realized that this type of work was worth their efforts. The monthly meetings and hands-on demonstration on the use of the My Pregnancy Passport and Enhanced Pregnancy Test Visit Workflow provided by the CoIIN team were extremely beneficial. The team felt motivated when seeing the positive results which enabled us to become more structured and have better communication among the different departments".*

## Prenatal Client:

*"I liked the My Pregnancy Passport as it helped me keep track of my pregnancy/baby's progress, and the incentive program was really nice. The pregnancy test visit did not take long at all, and I received an appointment right away as well as my Medicaid coverage. As a result, I was able to be seen by a provider within eight weeks of pregnancy."*

## Lessons Learned

Close collaboration and responsiveness between the Texas state lead organization (BCFS), State of Texas Title V Maternal and Child Health Block Grant Program representatives and the demonstration site (UMC) was critical to the success of the initiative, and hinged on strong team relationship building and establishment of trust. Team members invested significant time early on to clearly define measures and improvement goals that were aligned with clinic objectives, and utilized the human-centered design approaches and tools facilitated by PCI to gain a deep understanding of user experiences in the clinic that either facilitated or hindered timely prenatal care utilization. All departments were able to develop a shared sense of their role in improving outcomes by collaboratively listening and learning.



*UMC prenatal client with completed passport and incentive.*

Data played a key role in guiding improvement efforts throughout the demonstration phase. UMC's Quality Department was able to facilitate access to required data early on that informed the design of the workflow and ongoing refinement. Creating two simplified tools for data collection that were used by the laboratory, nursing and business offices to monitor clinic level measures was also beneficial. The state lead organization was able to compile the data monthly and facilitated review of progress on monthly team calls. The team utilized run charts provided by Abt Associates, the data and technical assistance contractor for HRSA's Infant Mortality CoIIN, to easily visualize data for each key measure and monitor changes on a monthly and quarterly basis.

The CoIIN team used Plan-Do-Study-Act cycles (PDSAs) to structure rapid tests that allowed the team to monitor whether the prototypes were having the intended result and what needed further refinement. Through PDSAs, UMC identified that staff turnover had necessitated refresher training in the enhanced pregnancy testing work-flow among all nursing staff. In response, the team worked to increase communication and structured training processes among team leaders that led to improved results. Keeping track of PDSAs, and discussing findings on a regular basis, were key to keeping the team engaged and the improvements moving forward. PDSAs and data discussions allowed for engagement at all levels in the clinic, as well as helped the team maintain momentum to achieve its goals.

# Future Directions

Public health systems must be enhanced with standardized processes, such as prioritization of early appointments for pregnant women regardless of payer source, and assistance with expediting the enrollment to healthcare coverage for those with no insurance. More awareness on the importance of early prenatal care needs to happen within health institutions and communities. These efforts must also be carried out in a way that empowers pregnant women by assisting them with navigation of the health care system and eliminating as many barriers as possible.

In states that make Presumptive Eligibility for Medicaid available, providers can obtain approval and training to provide pregnant women with short-term Medicaid to support prenatal care. Presumptive Eligibility permits pregnant prospective Medicaid enrollees to obtain prenatal services during the traditional application period. In states where Presumptive Eligiblity is not available, or (as in the case of UMC) an entity is awaiting state approval and training, the CoIIN approach presents a viable model for minimizing prenatal care delays. Low-income women are more likely to obtain prenatal care earlier and more frequently when barriers such as lack of health care coverage are removed.

Other appropriate settings that might consider replicating these strategies include qualified hospitals and entities such as FQHCs and public health clinics that are Medicaid providers and serve low-income families. Replication of this project with other FQHCs that face similar challenges would be an important next step.

Finally, focusing quality improvement efforts on one or two specific barriers/processes such as with this project can make it easier to tackle complex problems and have long-lasting and impactful results. In efforts to impact the health outcomes of women living in the border region, improvement initiatives need to also address the social determinants of health that impede access to care, including streamlining scheduling and enrollment in health care coverage.

## Key requirements for replication:

- Obtain feedback from end users to validate ideas early in the process.
- Wherever possible, engage multidisciplinary teams to include clinical, administrative, data support, patient, IT and other departments in developing, validating, and testing prototypes as well as monitoring project results.
- Provide project orientation and frequent refresher trainings for all clinic staff, including administration, to build will and buy-in.
- Regularly share data and project updates with senior leaders as well as key team members and support staff.
- Conduct and review PDSA tests frequently and use them to inform continuous improvement activities.
- Identify reports and individual(s) that will obtain and analyze data.

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