Progress Report on Maternal Teleservices and Pregnancy Medical Home Pilot Programs

As Required by

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Contents

1. Executive Summary

Texas Health and Safety Code, §34.020, as added by Senate Bill (S.B.) 748, 86th Legislature, Regular Session, 2019, requires the Health and Human Services Commission (HHSC) to develop and implement a program to deliver prenatal and postpartum care through teleservices to pregnant women with a low risk of experiencing pregnancy-related complications. HHSC refers to this program as the Maternal Teleservices Pilot Program. Section 34.020 requires HHSC to, by January 1, 2021, submit to the legislature a report on the Maternal Teleservices Pilot Program's success in delivering prenatal and postpartum care through telemedicine medical services, telehealth services, and telemonitoring services.

Texas Government Code, §531.0996, as added by S.B. 748, 86th Legislature, Regular Session, 2019 requires HHSC to develop a pilot program to establish pregnancy medical homes that provide coordinated evidence-based maternity care management to women who are recipients of Medicaid through managed care. HHSC refers to this program as the Pregnancy Medical Home Pilot Program. Section 531.0996 requires HHSC to, by January 1, 2021, submit to the legislature a report on the Pregnancy Medical Home Pilot that includes:

- an evaluation of the pilot program's success in reducing poor birth outcomes; and
- a recommendation on whether the pilot program should continue, be expanded, or be terminated.

Because the Maternal Teleservices Pilot Program and the Pregnancy Medical Home Pilot Program required by S.B. 748 are both focused on improving service delivery and coordination of care for pregnant women and are similar in structure, the reports have been combined into one report. The pilot programs could not have feasibly been developed, conducted, and evaluated by the submission date of this report, so the report describes work completed thus far and the plans for implementation and evaluation of the programs. To obtain a sufficient sample size of information for evaluation, pilot programs are slated to run concurrently for three years each with the final evaluation of each pilot program taking at least two years to complete. In addition, due to a delay in the STAR managed care contract procurements, neither pilot program has been initiated yet.

2. Introduction

This report serves as a progress report for the Maternal Teleservices Pilot Program and the Pregnancy Medical Home Pilot Program for women receiving medical assistance through a Medicaid managed care model as required by S.B. 748. The following sections of statute amended by S.B. 748 are addressed:

- Health & Safety Code Section 34.020 directs HHSC to consult with the Maternal Mortality and Morbidity Review Committee[1] (called the Review Committee in this report) to develop a pilot program to deliver maternal care to women with low-risk pregnancies via teleservices in at least four counties as determined by HHSC in consultation with the Review Committee. HHSC refers to this program as the Maternal Teleservices Pilot Program. HHSC must develop criteria for program participants based on reports from the Review Committee under this chapter as well as the study on maternal telehealth/telemedicine[2] required by this bill and discuss findings in a legislative report.
- Government Code Section 531.0996 directs HHSC to develop a pilot program to establish pregnancy medical homes in at least four counties to provide maternity care to Medicaid recipients. HHSC refers to this program as the Pregnancy Medical Home Pilot Program. The bill includes requirements for the medical management team, the use of provider financial incentives, exceptions for a rural county, telemonitoring/durable medical equipment (DME), and a legislative report.

The Maternal Teleservices Pilot Program will aim to deliver prenatal and postpartum care through teleservices to explore the feasibility of widespread use of this innovative delivery model. Delivering prenatal and postpartum care through the use of Medicaid teleservices[3] is relatively new when compared to traditional, in-person care. Telemedicine first became a benefit in Texas Medicaid pursuant to House Bill 2389, 75th Legislature, Regular Session, 1997. Telehealth services and home telemonitoring services were later authorized for Texas Medicaid reimbursement pursuant to S.B. 293, 82nd Legislature, Regular Session, 2011.

The Pregnancy Medical Home Pilot described in S.B. 748 is, in part, an expansion of the Pregnancy Medical Home Pilot Program required by House Bill (H.B.) 1605, 83rd Legislature, Regular Session, 2013. H.B. 1605 directed HHSC to implement a Pregnancy Medical Home Pilot Program in Harris County, whereas S.B. 748 directs

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[1] https://statutes.capitol.texas.gov/Docs/HS/htm/HS.34.htm

[2] SECTION 7 of S.B. 748 adds Government Code Section 531.02163 and directs HHSC to conduct a study on the costs and benefits of providing reimbursement for maternity care through telehealth and telemedicine by September 1, 2020. Findings of that report and Review Committee reports are included in this interim report.

[3] Defined in this report as telehealth, telemedicine medical, and home telemonitoring services.

HHSC to implement a Pregnancy Medical Home Pilot Program in at least four counties. Some implementation components of the S.B. 748 Pregnancy Medical Home Pilot Program will be modeled after the H.B. 1605 pilot program such as use of the contract amendment process for HHSC to contract with STAR managed care organizations (MCOs). The Pregnancy Medical Home Pilot Program required by S.B. 748 aims to test the replicability of findings from the previous Pregnancy Medical Home Pilot Program, and to explore expansion of the delivery model across Medicaid.

Both the Maternal Teleservices Pilot Program and Pregnancy Medical Home Pilot programs will be implemented in STAR because the majority of pregnant women receiving services through Medicaid managed care, including all women who are eligible due to pregnancy, are enrolled in STAR. A final report on both the Maternal Teleservices Pilot Program and Pregnancy Medical Home Pilot Program will be released once the pilot programs have been completed and an evaluation has been conducted. This report serves to quantify progress that has been made and define the implementation and evaluation plans for each pilot program moving forward.

3. Background

S.B. 748 directs HHSC to develop pilot programs that provide coordinated, evidence-based maternity care management for women in Medicaid managed care.

Maternal Teleservices Pilot Program

The Maternal Teleservices Pilot Program must be implemented in at least four counties:

- At least two counties with populations over 2 million;
- At least one county with a population more than 100,000 but less than 500,000; and
- At least one rural county with high rates of maternal mortality and morbidity as determined by HHSC in consultation with the Review Committee.

Other related components

- This pilot program must serve women who are determined by a physician as having a low risk of experiencing pregnancy-related complications.
- HHSC will develop criteria for selecting participants for the Maternal Teleservices Pilot Program by analyzing information prepared by the Review Committee and the outcomes of the study under Section 531.02163, Texas Government Code, both of which are incorporated into this report.
- In developing and administering the program, HHSC must endeavor to use innovative DME to monitor maternal and fetal health.
- If HHSC determines it feasible and cost-effective, HHSC may provide home telemonitoring services and necessary DME to pilot participants to the extent HHSC anticipates the services and equipment will reduce unnecessary emergency room visits or hospitalizations.

By January 1, 2021, HHSC must submit a report to the legislature that includes an evaluation of the pilot program's success in providing prenatal and postpartum care through teleservices. Due to the time required to implement the pilot and complete an evaluation, HHSC cannot report on the evaluation at this time.

Teleservices

Texas Medicaid covers telemedicine medical services, telehealth services, and home telemonitoring services.

- **Telemedicine medical** services are delivered by a licensed physician or a health professional under the delegation and supervision of a licensed physician to a patient at a different physical location using telecommunications or information technology per Texas Government Code §531.001(8).

- **Telehealth** services are services other than telemedicine medical services that are delivered by a State of Texas licensed, certified, or entitled health professional within the scope of their practice using telecommunications or information technology at a different location than the patient. Telehealth services are defined in Texas Government Code §531.001(7).
- **Home telemonitoring** of a patient's health data is delivered through a licensed home health agency or hospital. The prescribing physician reviews the data if the measures are outside of established parameters. Providers must be available 24 hours a day, seven days a week regardless of already scheduled transmissions.

Teleservices may be delivered through several modalities.

- **Live two-way synchronous** methods allow providers and clients to interact through audio or video communication in real time. Initially, real-time bilateral simultaneous video care was only available at specialty facilities with secure live audio and video connections.[4] Synchronous audio video teleservices continue to expand to other locations including homes due to the pervasiveness of smart phones and increased connectivity.
- **Store-and-forward** methods involve transmitting images (X-rays, photos, ultrasound, or other static or video imaging) to remote specialists for analysis and future consultation. Clients submit images and videos in real time, and after some delay in time, a specialist views them.[5]
- **mHealth** refers to services supported by wireless mobile devices, such as phones, monitoring devices, and personal digital assistants. These services do not require the involvement of health providers and therefore do not comprise billable visits.[5]
- **Remote patient monitoring** involves collecting data from clients at one location and transmitting the data to a provider in a remote location. Information is transmitted wirelessly through a handheld or wearable device or smart phones.

Texas Medicaid MCOs are prohibited from denying reimbursement for covered services solely because they are delivered remotely. MCOs must consider reimbursement for all medically necessary Medicaid-covered services provided via teleservice and must consider clinical and cost-effectiveness to determine whether a teleservice visit is appropriate. MCOs must determine whether to reimburse for a teleservice based on the following considerations:

- Medical necessity.
- Clinical effectiveness.
- The teleservice provided is cost-effective.

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[4] Committee on Pediatric Workforce. (2015). The Use of Telemedicine to Address Access and Physician Workforce Shortages. Pediatrics. doi:10.1542/peds.2015-1253.
[5] Rabie NZ, Canon S, Patel A, et al. (2016). Prenatal diagnosis and telemedicine consultation of fetal urologic disorders. J Telemed Telecare. 22(4):234-237. doi:10.1177/1357633X15595556.

- The teleservice is provided in accordance with the law and contract requirements applicable to the provision of the same health-care service provided in person.
- The use of teleservice promotes and supports patient-centered medical homes.

Texas Medicaid MCOs cannot deny, limit, or reduce reimbursement for a covered health-care service or procedure provided via teleservice based on the provider's choice of telecommunications platform to provide the service or procedure.

Teleservice Delivery of Prenatal and Postpartum Care

The Maternal Teleservices Pilot Program aims to provide flexibility with the provision of prenatal and postpartum care services and assist with the management of chronic health conditions (which may place a woman in a higher risk category for her pregnancy) that can feasibly be alleviated with the use of teleservices. These conditions include asthma,[6] diabetes,[7] and hypertension.[8] Teleservice use can also assist with improved patient outcomes with breastfeeding[9] and gestational weight management.[10]

To inform the development of the proposed pilot program model, HHSC completed a literature review detailing a number of programs delivering care to women with low-risk pregnancies. Most programs combine in-person and virtual visits and rely on the mother to monitor certain aspects of her health and coordinate with her care team. The following are the teleservice programs that informed the proposed teleservice pilot program design:

OB Nest – The Mayo Clinic[11]

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[6] Zairina E, Abramson MJ, McDonald CF, et al. (2016). Telehealth to improve asthma control in pregnancy: A randomized controlled trial. Respirology. 21(5):867-874. doi:10.1111/resp.12773.

[7] Rigla M, Martínez-Sarriegui I, García-Sáez G, et al. (2018). Gestational diabetes management using smart mobile telemedicine. J Diabetes Sci Technol. 12(2):260-264. doi:10.1177/1932296817704442.

[8] Cairns AE, Tucker KL, Leeson P, et al. (2018). Self-management of postnatal hypertension: The SNAP-HT Trial. Hypertension. 72(2):425-432. doi:10.1161/HYPERTENSIONAHA.118.10911.

[9]Kapinos K, Kotzias V, Bogen D, et al. (2019). The use of and experiences with telelactation among rural breastfeeding mothers: secondary analysis of a randomized controlled trial. J Med Internet Res. 21(9):e13967. doi:10.2196/13967.

[10] Sherifali D, Nerenberg KA, Wilson S, et al. (2017). The effectiveness of eHealth technologies on weight management in pregnant and postpartum women: systematic review and meta-analysis. J Med Internet Res. 19(10):e337. doi:10.2196/jmir.8006.

[11] Retrieved from https://www.mayoclinichealthsystem.org/locations/la-crosse/services-and-treatments/birthing-centers/ob-nest

- Eight in-person visits with OB/Midwife and six phone/online visits with a nurse
- At-home monitoring of weight, blood pressure, fundal height, and fetal heartbeat
- Access to text-based communication with care team

University of Utah Health[12]

- Between eight and 15 virtual prenatal visits
- At-home monitoring of weight, blood pressure, and fetal heartbeat
- Measurements are uploaded into MyChart application before each appointment.

Multicare[13]

- Seven to nine prenatal and one postpartum in-person visit(s) with obstetrician, and five prenatal and one postpartum video visit(s) with nurse practitioner
- At-home monitoring of weight, blood pressure, and fetal heartbeat

Texas Medicaid's proposed Maternal Teleservices Pilot Program model considers best practices and guidelines for prenatal and postpartum care and integrates them into a teleservice delivery model where feasible.

Pregnancy Medical Home Pilot Program

In addition to the Maternal Teleservices Pilot Program, S.B. 748 also requires HHSC to implement a Pregnancy Medical Home Pilot Program.

S.B. 748 requires the Pregnancy Medical Home Pilot Program to be implemented in at least four counties:

- At least two counties with populations over two million;
- At least one county with a population more than 100,000 but less than 500,000; and
- At least one rural county with high rates of maternal mortality and morbidity as determined by HHSC in consultation with the Review Committee.

The bill also requires the pregnancy medical homes to have a medical management team that:

- Consists of healthcare providers who provide healthcare services at the same location, including:

[12] Retrieved from https://healthcare.utah.edu/virtual-care/virtual-prenatal-care/what-is-virtual-prenatal-care.php
[13] Retrieved from https://www.multicare.org/

    - Obstetricians
    - Gynecologists
    - Family physicians
    - Physician assistants
    - Certified nurse midwives
    - Nurse practitioners
    - Social workers
- Conducts a risk assessment of each pilot program participant on her entry into the program to determine the risk classification for her pregnancy;
- Establishes an individual pregnancy care plan for each participant based on the assessment conducted; and
- Follows each participant throughout her pregnancy to reduce poor birth outcomes.

HHSC may waive a requirement for a pregnancy medical home located in a rural county.

Other related components

- HHSC may incorporate financial incentives as a component of the Pregnancy Medical Home Pilot Program for healthcare providers who participate in a maternity management team.
- HHSC may provide home telemonitoring services and necessary DME to pilot program participants who are at risk of experiencing pregnancy-related complications, as determined by a physician, to the extent the HHSC anticipates the services and equipment will reduce unnecessary emergency room visits or hospitalizations.
- HHSC may reimburse providers under Medicaid for the provision of home telemonitoring services and DME under the pilot program.

By January 1, 2021, HHSC must submit a report evaluating the pilot program's success in reducing poor birth outcomes and a recommendation on whether the program should continue, expand, or terminate. Due to the time required to implement the pilot and complete an evaluation, HHSC cannot report on the evaluation at this time. However, this report serves as a progress report and outlines implementation plans for the pilots.

What is a Medical Home?

A medical home, often called a patient-centered medical home, is a type of model for delivering primary care that delivers the core functions of primary healthcare. Government Code 533.0029 defines a patient centered medical home as a medical relationship:

(1) between a primary care physician and a child or adult patient in which the physician:

a. provides comprehensive primary care to the patient; and

b. facilitates partnerships between the physician, the patient, acute care and other care providers, and, when appropriate, the patient's family; and

(2) that encompasses the following primary principles:

a. the patient has an ongoing relationship with the physician, who is trained to be the first contact for the patient and to provide continuous and comprehensive care to the patient;

b. the physician leads a team of individuals at the practice level who are collectively responsible for the ongoing care of the patient;

c. the physician is responsible for providing all of the care the patient needs or for coordinating with other qualified providers to provide care to the patient throughout the patient's life, including preventive care, acute care, chronic care, and end-of-life care;

d. the patient's care is coordinated across health care facilities and the patient's community and is facilitated by registries, information technology, and health information exchange systems to ensure that the patient receives care when and where the patient wants and needs the care and in a culturally and linguistically appropriate manner; and

e. quality and safe care is provided.

What is a Pregnancy Medical Home?

A pregnancy medical home incorporates all five key attributes of a traditional medical home but with a focus on maternal and perinatal care and is designed to improve maternal and infant health through coordinated, evidence-based maternity care management for women at risk for poor birth outcomes. Specifically, pregnancy medical homes aim to improve birth outcomes by lowering rates of preterm birth, low birthweight, and caesarean section deliveries.[14]

Women participating in a pregnancy medical home can access a full team of clinical and non-clinical staff to address medical and social needs.[15] Prenatal and postpartum care are patient-centered and tailored to a woman's risk level.[16]

H.B. 1605, 83rd Legislature, Regular Session, 2013

H.B. 1605, 83rd Legislature, Regular Session, 2013, required HHSC to implement a pregnancy medical home that is nearly identical to the Pregnancy Medical Home

[14] Texas Health and Human Services Commission (2017). Pregnancy Medical Home Pilot Final Evaluation Report. Retrieved from https://hhs.texas.gov/sites/default/files//documents/laws-regulations/reports-presentations/2017/pregnancy-medical-home-pilot-final-eval-sept-6-2017.pdf

[15] Community Care of North Carolina. (n.d.) Pregnancy Medical Home. Retrieved from https://www.communitycarenc.org/what-we-do/clinical-programs/pregnancy-medical-home

[16] Rakover, Jeff. (2016) The Maternity Medical Home: The Chassis for a More Holistic Model of Pregnancy Care? Institute for Healthcare Improvement. Retrieved from http://www.ihi.org/communities/blogs/_layouts/15/ihi/community/blog/itemview.aspx?List=7d1126ec-8f63-4a3b-9926-c44ea3036813&ID=222

Pilot Program required by S.B. 748 passed by the 86th Legislature. Whereas H.B. 1605 required the pilot program run in one county (Harris County), S.B. 748 prescribes the pilot to run in four Texas counties. The Pregnancy Medical Home Pilot Program from H.B. 1605 was implemented in 2014 at The Center for Women and Children, a family-centered medical home operated by Texas Children's Health Plan (TCHP).[17] The evaluation design included TCHP Medicaid clients in Harris County with a live birth that occurred between February 1, 2014 and December 31, 2016. A final evaluation report was completed and submitted to the legislature on September 2017.

Evaluation findings showed that participants in the Pregnancy Medical Home Pilot Program had better outcomes than similar participants at other local clinics on measures such as emergency department visits while pregnant, delivery by Cesarean section, and rates of admission to the neonatal intensive care unit. Participants in the Pregnancy Medical Home Pilot Program also spent more time in prenatal care and were more likely to attend a postpartum visit. Despite these improved outcomes, the Pregnancy Medical Home Pilot Program did not yield significantly lower rates of preterm birth or low birthweight when compared with a control group. A possible explanation for the modest outcomes is that control group clinics offered similar services as the Pregnancy Medical Home Pilot Program. For example, although the pregnancy medical home offered more comprehensive care in terms of the variety of providers, many comparison group clinics also followed practices that align with the Pregnancy Medical Home Pilot Program. In many cases both conducted formal risk assessments, completed individual care plans, and prescribed 17 Alpha-Hydroxyprogesterone Caproate (17P) to patients with a history of preterm birth.

[17] Texas Health and Human Services Commission. (2017). Pregnancy Medical Home Pilot Final Evaluation Report. Retrieved from https://hhs.texas.gov/sites/default/files//documents/laws-regulations/reports-presentations/2017/pregnancy-medical-home-pilot-final-eval-sept-6-2017.pdf

4. Implementation Plan and Limitations

Because HHSC has not yet implemented the Maternal Teleservices Pilot Program or the Pregnancy Medical Home Pilot Program, this report outlines the implementation plan including the selection of counties, the solicitation of interest survey, the contracting process, and provisions specific to the Maternal Teleservices Pilot Program. The pilot programs are slated to run for three years each with the final evaluation of each pilot program taking at least two years to complete.

STAR Contracts

HHSC will be re-procuring managed care services contracts for the STAR program. The solicitation of interest survey, site selection, and related contract amendments for the pilot programs as described below are dependent on the operational start date of the new contracts, which has not yet been determined.

Successful operation of the pilot programs is contingent upon having a uniform MCO and provider base throughout the duration of the pilots. The implementation activities for both the Maternal Teleservices Pilot Program and the Pregnancy Medical Home Pilot Program as described below will begin as soon as the new contracts are executed.

Selection of Counties

The Maternal Teleservices Pilot Program and Pregnancy Medical Home Pilot Program have identical requirements that dictate the characteristics of the counties in which pilot programs should run:

- At least two counties with populations over two million;
- At least one county with a population more than 100,000 but less than 500,000; and
- At least one rural county with high rates of maternal mortality and morbidity as determined by HHSC in consultation with the Review Committee.

In December 2019, HHSC sought feedback from the Review Committee on selection of rural counties (at least one for each pilot program) with high rates of maternal mortality and morbidity. Out of the 254 counties in Texas, HHSC identified 184 rural counties with populations of less than 50,000, and the Department of State Health Service's Maternal and Child Health Epidemiology Unit[18] identified those that had severe maternal morbidity rates for state fiscal years 2014 through 2018. Of the 184 rural counties identified, 51 (27.8 percent) had suppressed severe maternal morbidity rates which means that fewer than five cases were identified in that county. These counties were not considered for either pilot to prevent identification of affected individuals that could be possible with such small numbers, thereby

[18] https://www.dshs.state.tx.us/opds/default.shtm

protecting the confidentiality and privacy of impacted individuals and their families. Further, the limited pool of participants in these counties would make these rates unstable and thus not reflective of population health, making it difficult to infer improvements.

HHSC consulted with the Review Committee on county selection and decided that in lieu of pre-selecting counties for participation in the pilot programs, MCOs from all Texas counties would have an opportunity to participate. One reason for not limiting the counties is the suppressed severe maternal mortality and morbidity counts seen in rural counties, which makes it more difficult to select a rural county with high rates of maternal mortality and morbidity. In addition, HHSC cannot make participation in either pilot program mandatory. HHSC will make every attempt to ensure the county requirements stipulated in S.B. 748 are met. Representation of counties cannot be determined at the time of publication of this report.

Solicitation of Interest Survey

HHSC will develop and conduct a survey to gather information from MCOs and potential pilot providers on their interest and ability to participate in Maternal Teleservices Pilot Program and/or the Pregnancy Medical Home Pilot Program. HHSC plans to gather information on interested provider-MCO teams, counties in which interested parties are located, what provider practice changes may be needed to implement the pilots, and other information.

The information gathered in this survey will help HHSC determine which MCOs and providers will participate in each pilot program.

Joint Proposals from Providers and MCOs

After gathering the information from a solicitation of interest survey, HHSC plans to offer all STAR MCOs the opportunity to participate in the pilot programs. The success of the pilot programs hinges upon the working relationship between the MCOs and the pilot providers (contracted to provide services through the MCOs). For example, pilot providers must adjust their practice to meet pilot requirements as described in the bill and MCOs would be charged with establishing pilot sites and must provide data to aid HHSC in linking the mother-infant dyad for the pilot evaluations. Therefore, HHSC will seek joint proposals from both providers and MCOs.

Additional Details on the Implementation of the Maternal Teleservices Pilot Program

Collaboration with the Maternal Mortality and Morbidity Review Committee

In addition to the implementation plan described above, the Maternal Teleservices Pilot Program is being developed with best practices for prenatal and postpartum care and in consultation with the Review Committee. In December 2020, HHSC presented a proposed pilot model to the Review Committee for feedback at a regularly scheduled quarterly meeting to comply with Texas Government Code 551.143. HHSC compiled questions for the Review Committee related to development of the program, criteria for selecting participants, and verification of county selection processes previously discussed with the Review Committee.

HHSC also requested feedback in areas that required additional development or would benefit from a clinical perspective, including but not limited to recommendations on DME use such as a fetal doppler, threshold(s) for patients to enter and exit the pilot program, and recommendations on overcoming technological barriers. The feedback gathered from the Review Committee will be used to further inform the scope of services provided and parameters for the pilot.

Operation of the Maternal Teleservices Pilot Program

The Maternal Teleservices Pilot Program will allow patients to receive a set number of appointments for prenatal and postpartum care via teleservices while allowing flexibility for a woman and her care team to decide which appointments should be in-person or virtual. The woman's physician will perform a risk assessment using an evaluation tool to determine the patient's risk category, and eligible patients may be enrolled in the pilot program if they consent to adhere to prescribed parameters of the pilot program. If a woman's risk status changes mid-pilot then she will no longer be eligible for participation and her data will be removed from the evaluation sample. The Maternal Teleservices Pilot Program will run for at least three years to ensure adequate information is gathered to sufficiently evaluate the success of the program in providing care during a woman's prenatal and postpartum periods.

5. Preliminary Evaluation Plan

This preliminary evaluation plan outlines the state's current approach to the two pilot program studies discussed above and required under S.B. 748.

HHSC will evaluate the goals of each pilot program by assessing outcomes across the prenatal, birth, and postpartum periods. This approach is intended to provide a comprehensive overview of the outcomes associated with the pilot models across different phases of pregnancy. Given the similarity between the research questions and overarching study design framing both pilot programs, they will be discussed concurrently in this progress report.

Research Questions

To assess the impact of each pilot program, HHSC developed the following research questions:

1. What is the impact of each pilot program on care delivery and outcomes across the prenatal, birth, and postpartum phases of pregnancy?
2. To what degree was each pilot program implemented with fidelity?

Potential measures for each research question, by pilot program, can be found in Table 1. Evaluation measures will be further tailored to address aspects of the specific pilot models as additional program details become available.

Table 1. Preliminary Research Questions and Measures

Pregnancy Phase	Maternal Teleservices Pilot	Pregnancy Medical Home Pilot
Research Question 1. What is the impact of each pilot program on care delivery and outcomes across the prenatal, birth, and postpartum phases of pregnancy?		
Prenatal	• Length of time in prenatal care • Number of prenatal visits • Use and timing of 17 alpha hydroxyprogesterone (17P) • Number of prenatal emergency department visits • Number of virtual prenatal care visits • Cost of virtual prenatal care visits • Use of DME	• Length of time in prenatal care • Number of prenatal visits • Use and timing of 17 alpha hydroxyprogesterone (17P) • Number of prenatal emergency department visits • Percentage of clients who receive a formal pregnancy risk assessment • Percentage of clients with an individual pregnancy care plan
Birth	• Rate of preterm birth • Rate of low birthweight • Neonatal Intensive Care Unit (NICU) indicators (e.g., rate of NICU admissions, NICU level of care, days in NICU) • Rate of Cesarean-section deliveries • Rate of adverse birth outcomes (e.g., delivery anemia, abnormal fetal heart rate)	• Rate of preterm birth • Rate of low birthweight • Neonatal Intensive Care Unit (NICU) indicators (e.g., rate of NICU admissions, NICU level of care, days in NICU) • Rate of Cesarean-section deliveries • Rate of adverse birth outcomes (e.g., delivery anemia, abnormal fetal heart rate)
Post-partum	• Number of postpartum visits • Timing of postpartum visits (e.g., number of days to first postpartum visit) • Rate of adverse postpartum outcomes (e.g., postpartum anemia, several maternal morbidity) • Postpartum treatment utilization (e.g., long-acting reversible contraception, breast pump)	• Number of postpartum visits • Timing of postpartum visits (e.g., number of days to first postpartum visit) • Rate of adverse postpartum outcomes (e.g., postpartum anemia, several maternal morbidity) • Postpartum treatment utilization (e.g., long-acting reversible contraception, breast pump)
Research Question 2. To what degree was each pilot program implemented with fidelity?		
All	• Number of teleservice virtual visits conducted per client • Timing of virtual visits • Types of DME provided to clients • Modality of teleservices (e.g., audio only) • Perceived effectiveness of virtual visits and services	• Type(s) of risk assessment tools • Frequency of risk assessment use • Frequency of pregnancy care plan development • Type and number of providers • Level of care coordination across providers • Perceived effectiveness of the pregnancy medical home model

Methodology

For both evaluations, HHSC plans to employ a matched case-control design to compare pregnant women receiving care from providers in each pilot program (i.e., the intervention groups) to pregnant women receiving care from providers in a comparison group. A matched case-control design attempts to correct for pre-existing differences by pairing each intervention group participant with a similar comparison group participant based on observed baseline characteristics.

HHSC plans to execute the matched case-control design in a two-stage process. In the first stage, HHSC will identify pregnant women receiving services from comparison group clinics who are enrolled in the same MCOs as pregnant women participating in the intervention group.[19] In the second stage, HHSC will attempt to match participants from the comparison pool with participants in the intervention pool based on client characteristics, such as demographics, pregnancy risk factors, and county or region. Using a matched case-control design will allow HHSC to isolate differences associated with the intervention model of care. This portion of the evaluation will rely primarily on administrative data, such as client enrollment files and Medicaid managed care encounter data.

HHSC will also explore conducting a provider survey to collect qualitative information about pilot operations not captured in administrative data. This survey may assess the extent to which providers implement teleservices or elements of a pregnancy medical home. Additionally, the survey may investigate providers' perceptions about the effectiveness of each pilot program.

Anticipated Limitations

Findings from the pilot evaluations will need to be interpreted alongside several limitations. A key limitation of both evaluations is selection bias, which may occur at the MCO, provider, and participant levels. For instance, MCOs that choose to participate in one or both of the pilot programs may be systematically different from those who do not.[20] Further, pilot program MCOs might play a role in which of their providers integrate the intervention model of care. Regardless of MCO involvement, providers who choose to integrate the intervention model of care may differ from those who do not in terms of clinic size, availability of resources, or other characteristics. At the participant level, pregnant women who choose to receive services from clinics in the intervention group may be systematically different from women who choose to receive services from clinics in the comparison

[19] The stage 1 comparison pool may include the same clients for both pilot programs.
[20] MCOs that choose to participate in one of the pilot programs may operate in different regions, have different provider networks, or have more resources than MCOs that do not choose to participate.

group.[21] Selection bias, especially when compounded at multiple levels, makes it difficult to know whether pregnancy outcomes are due to pre-existing differences or to the pilot program. Additionally, the evaluation may encounter other statistical challenges due to pregnancy outcomes of women at a given clinic "clustering" together due to clinic-specific effects that are independent of the clinic's model of care.[22] HHSC plans to leverage a robust quasi-experimental design and rigorous analytic methods to enhance evaluators' ability to detect intervention effects that are confounded with clinic-specific effects. Specifically, HHSC will include a sufficient number of clinics from multiple counties to increase statistical power and the generalizability of findings. HHSC will also use matching techniques to correct for pre-existing differences between the intervention and comparison groups and make statistical adjustments for other forms of bias where feasible. These design elements and analytic techniques will increase HHSC's ability to isolate the impact of the pilot program models from confounding factors.

A second limitation is that some services offered to pilot program participants may also be offered to comparison group participants. For example, comparison clinics offering the standard of care may provide some teleservices to their clients or may have a variety of provider types employed at the same location. If comparison clinics offering standard of care provide similar services as one of the pilot models, HHSC's ability to detect differences between the invention and comparison groups may be limited. To the extent possible, HHSC will document the degree to which each provider aligns with the designated model of care and account for these variations in data analyses.

A third limitation is the timing of the first prenatal care visit. Participants who enter one of the pilot programs later in pregnancy may not receive the full impact of the pilot model and may therefore not benefit from it as much as participants who enter the program earlier in pregnancy. Delays in the timing of the first prenatal care visit may reduce the ability to detect associations between the intervention model of care and pregnancy outcomes. To the extent possible, HHSC will investigate the association between the timing of the first prenatal visit and pregnancy outcomes, and if necessary, account for these considerations in data analyses.

[21] Women who choose to receive services from clinics in the intervention group may differ from women who choose to receive services from clinics in the comparison group on pregnancy risk factors, demographics, or timing of prenatal care.

[22] For example, one intervention clinic may offer unique pregnancy-related seminars unrelated to the pilot intervention model. These seminars may improve outcomes for clients attending this clinic compared to clients attending other intervention clinics that do not offer this additional service. As shown by this example, clinic-specific effects that are unrelated to the pilot model—and that are unknown or impractical to measure—may result in similar outcomes among clients receiving services from the same clinic.

6. Conclusion

HHSC plans to follow the steps outlined in this progress report to implement and collect data to evaluate both the Maternal Teleservices Pilot Program and Pregnancy Medical Home Pilot Program. The pilot programs could not have feasibly been developed, conducted, and evaluated by the submission date required of this report. Pilot programs are slated to run for three years each with the final evaluation of each pilot program taking at least two years to complete. In addition, due to a delay in the STAR managed care contract procurements, neither pilot program has been initiated by HHSC. Successful operation of the pilot programs is contingent upon having a uniform MCO and provider base throughout the duration of the pilots. Final reports for the pilot programs will include an evaluation of each pilot program's outcomes and a recommendation as to whether each pilot program should continue, expand, or terminate.

List of Acronyms

Acronym	Full Name
17P	**17 Alpha-Hydroxyprogesterone Caproate**
ACOG	**The American College of Obstetricians and Gynecologists**
DME	**Durable Medical Equipment**
H.B.	**House Bill**
HHSC	**Health and Human Services Commission**
MCO	**Managed Care Organization**
NICU	**Neonatal Intensive Care Unit**
S.B.	**Senate Bill**
TCHP	**Texas Children's Health Plan**