Report to the Mississippi Legislature

An Evaluability Assessment of the Mississippi Delta Medicaid Population Health Demonstration Project

#659
September 13, 2021

PEER MISSISSIPPI
Joint Legislative Committee on Performance Evaluation and Expenditure Review

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September 13, 2021

Honorable Tate Reeves, Governor
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On September 13, 2021, the PEER Committee authorized release of the report titled ***An Evaluability Assessment of the Mississippi Delta Medicaid Population Health Demonstration Project.***

Representative Timmy Ladner, Chair

This report does not recommend increased funding or additional staff.

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PEER MISSISSIPPI
Joint Legislative Committee on Performance Evaluation and Expenditure Review

Joint Legislative Committee on Performance Evaluation and Expenditure Review
Report Highlights
September 13, 2021

An Evaluability Assessment of the Mississippi Delta Medicaid Population Health Demonstration Project

CONCLUSION: The Mississippi Delta Medicaid Population Health Demonstration Project, hereafter referred to as "the Project," began in 2014 as a pilot project with Medicaid funding through the Division of Medicaid (DOM). It is administered by the Delta Health Alliance (DHA) and comprises two programs, the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. As required in House Bill 1713, 2020 Regular Session, PEER sought to evaluate the services of DHA in administering the Project. PEER found that due to early operational delays, DHA expended funds for two years prior to any recruitment of program participants. Of the three registries developed by Cerner within the Project, only the Prediabetes registry has been utilized by DHA to provide a recruitment list for program participants. The Center for Community Research and Evaluation's evaluation of the Project is insufficient to establish the effectiveness of the Project, based on documentation submitted to PEER. DHA has not tracked the extent to which participants have received similar services from a different source during the evaluation period.

Background:
During the 2014 Regular Session, the Legislature passed House Bill 1481 (DOM's appropriation bill), which authorized DOM to allocate state general funds for the Project in FY 2015. DOM determined the Project's two areas of focus would be reducing prediabetes and reducing preterm births.

On June 26, 2014, DOM issued a request for grant proposals. PEER identified several applicant requirements that could be considered restrictive, and given the resulting narrow scope, DHA submitted the only grant proposal. DOM awarded DHA the Project on July 14, 2014.

Organizations Involved in the Project:
Four primary organizations had a role in the project. Additionally, clinic providers entered into Memoranda of Agreements with DHA to provide electronic medical record data.

- Delta Health Alliance (DHA)
- Division of Medicaid (DOM)
- Cerner
- University of Memphis Center for Community Research and Evaluation
- Contracted Electronic Medical Record Providers

Delta Medicaid Prediabetes Program Participants Served from CY 2016 to CY 2021

Delta Medicaid Prediabetes Program	Year of Program Enrollment (CY)						Total	Percent
	2016[1]	2017	2018	2019	2020	2021[2]		
Participants who completed the program	28	10	68	201	180	0	487	40.0%
Participants actively enrolled in the program as of June 23, 2021	0	0	0	0	94	168	262	21.5%
Participants who did NOT complete the program	47	17	83	239	69	14	469	38.5%
Total individuals enrolled in the program (first enrollment only)	**75**	**27**	**151**	**440**	**343**	**182**	**1,218**	**100.0%**

1) Beginning August 15, 2016.
2) Through June 23, 2021.

Healthy Pregnancy Program Participants Served from CY 2017 to CY 2021

Healthy Pregnancy Program (mothers)	Year of Program Enrollment (CY)					Total	Percent
	2017[1]	2018	2019	2020	2021[2]		
Participants who completed the program	5	73	193	143	3	417	39.5%
Participants actively enrolled in the program as of June 23, 2021	0	0	0	68	192	260	24.7%
Participants who did NOT complete the program	82	80	137	70	9	378	35.8%
Total individuals enrolled in the program (first enrollment only)	**87**	**153**	**330**	**281**	**204**	**1,055**	**100.0%**

1) Beginning January 18, 2017.
2) Through June 23, 2021.

Mississippi Delta Medicaid Population Health Demonstration Project Funding and Expenditures, FY 2015 to FY 2021

Fiscal Year	Funding ($)	Expenditures ($)
2015	2,165,297	1,349,253
2016	1,963,161	1,111,341
2017	1,948,535	1,483,615
2018	1,664,593	3,528,657
2019	2,879,051	3,185,223
2020	3,661,095	2,198,747
2021	4,161,095	3,675,942
Project Total	**$18,442,827**	**$16,532,778**

Timeline of Project Approval and Provision of Programmatic Services

Early operational delays in launching the Project resulted in a two-year time frame between when DOM first awarded DHA the grant for the Project and when DHA first started recruiting participants for the Delta Medicaid Prediabetes Program. As a result, DHA expended state funds for two years in an effort to launch the Project.

Participant Recruitment and Enrollment Challenges

Although Cerner developed three registries, only the Prediabetes Registry has been utilized for its intended purpose: to identify a recruitment list for DHA. DHA reported it does not use the Preterm Birth Registry to identify participants to participate in the Healthy Pregnancy Program. Because data from the Preterm Birth Registry is not timely, programmatic needs necessitate that DHA conduct its own recruitment process to find participants.

Center for Community Research and Evaluation's Efforts to Evaluate the Project

The Center for Community Research and Evaluation's evaluation of the Project is insufficient to establish the effectiveness of the Project, based on documentation submitted to PEER. Primarily, the Center for Community Research and Evaluation is unable to document the Project's research plan/methodology.

What is the Future of the Project?

During the 2021 Legislative Session, the Legislature passed House Bill 1400 (i.e., DOM's appropriation bill). H.B. 1400 significantly reduced the funding allocated to DHA for the Project from $4,161,095 in FY 2021 to $1,000,000 in FY 2022. Given this reduction in funding, DHA reported it has taken actions "in order to have an orderly shutdown of the project" and continue serving existing patients.

Recommendations

1. DOM should report to the Legislature (e. g., Chairmen of the Senate and House Public Health Committees, Medicaid Committees, and Appropriations Committees) by December 31, 2021, alternatives for how DOM would utilize such funding if not allocated to the Project and the reasons why.
2. In order for PEER to evaluate the Project's evaluability in future years, DHA should implement the following steps:
    a. Develop a documented research methodology for how the program is evaluated;
    b. Develop performance measures, as required by the Legislature, including not only identifying outcome measures in which to report on the Project but identifying what levels are to be achieved. Additional performance measures might include but are not limited to:
        i. Number of participants completing each program each year;
        ii. Program completion rate; and,
        iii. Program non-completion rate.
    c. Document Project performance. This includes source data, metrics, and dates in Project evaluations.
3. The Legislature should require DOM to oversee the Project and report its findings in conjunction with DHA's annual progress report. This includes:
    a. assessing the efficacy of such performance metrics established by DHA;
    b. monitoring the Project's process toward achieving established performance metrics;
    c. evaluating DHA's compliance with developing a documented written methodology in which to evaluate and assess the Project's performance;
    d. determining, in conjunction with DHA, the extent of program overlap/service overlap with other state-funded programs; and,
    e. establishing and enforcing oversight mechanisms on holding DHA accountable (e.g., authority to assess liquidated damages).

An Evaluability Assessment of the Mississippi Delta Medicaid Population Health Demonstration Project

Introduction

Authority

The PEER Committee, under its authority granted by MISS. CODE ANN. § 5-3-51 et seq. (1972), reviewed the Mississippi Delta Medicaid Population Health Demonstration Project, hereafter referred to as "the Project." The Project, which began in 2014 as a pilot project with Medicaid funding through the Division of Medicaid (DOM), is administered by the Delta Health Alliance (DHA) and comprises two programs, the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program.

PEER conducted an evaluability assessment of the Project to serve as a baseline review that will allow a comprehensive performance evaluation by a date certain in the future.

House Bill 1713, 2020 Regular Session, states that "the PEER Committee shall conduct an evaluation of the services of the Delta Health Alliance (DHA)" in administering the Project. House Bill 1713 requires PEER to conduct such a review by December 1, 2023, and every three years thereafter.

In order for PEER to conduct a comprehensive performance evaluation of the Project, the following information would need to be available to serve as the basis for the evaluation:

- operational, measurable definitions of the key components of the evaluation, as established in state law (i.e., establishing a separate account for Project funds to be deposited);
- performance metrics for each of the key program evaluation components, both long-term and short-term, measuring the program's success in achieving its goals and objectives; and,
- health-related outcome measures regarding the success of the Project's two programs, ideally relative to other similarly available Medicaid or state-funded programs with similar goals.

Scope and Purpose

In conducting this review, PEER sought to:

- describe how the Project originated and how DOM awarded the grant for the Project to DHA;
- describe the organizations involved in the Project including DHA, Cerner,[1] the contracted electronic medical record (EMR) providers,[2] DOM, and the University of Memphis Center for Community Research and Evaluation (Center for Community Research and Evaluation); [3]
- describe the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program;
- identify issues that impacted Project rollout, and delayed the recruitment and enrollment of program participants;
- conduct an expenditure review to determine how DHA expended funding for the Project;
- determine if DHA complied with House Bill 1713 (2020 Regular Session) requirements to "establish a separate account into which funds provided [for the Project] shall be deposited and accounted";
- determine if DHA complied with House Bill 1713 (2020 Regular Session) requirements to "establish performance measures that measure the goals to be achieved by each program activity implemented by the Alliance"; and,
- identify what program overlap[4] and/or service overlap[5], if any, exists in relation to the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program.

[1] Cerner Corporation is an American supplier of health information technology services headquartered in Kansas City, Missouri. DHA contracted with Cerner to utilize Cerner's population health management platforms to develop and manage registries for the Project's prediabetes population and preterm birth population.
[2] Clinic providers in the Project service area contractually agreed to provide their EMR data to DHA, in exchange for a fee.
[3] DHA contracted with the Center for Community Research and Evaluation to externally evaluate the Project as well as other DHA programs.
[4] The provision of similar programs/services by another state-supported program that covers the same geographic area and same participants (e.g., Medicaid, pregnant, and at least 18-years-old).
[5] In this case, a person enrolled in either the Delta Medicaid Prediabetes Program or the Healthy Pregnancy Program while also being dually enrolled in another state-supported program offering similar services (e.g., a managed care program providing case management and incentives for pregnant participants).

Methodology

PEER reviewed:

- DOM appropriation bills authorizing funding for the Project from FY 2014 to FY 2021;
- documents related to DOM's procurement of DHA as the grant provider, including DOM's request for grant proposals, DHA's grant proposal, and DOM's grant approval letter to DHA;
- contractual agreements between parties, including data use agreements between DOM and DHA, DOM and Cerner, and Memorandums of Agreement (MOA) between DHA and local clinic providers to provide EMR data; and,
- *Registry Requirements*, dated September 26, 2014 (version 0.5), in which DHA and Cerner identified the registry inclusion and registry exclusion criteria.[6]

PEER also:

- interviewed DHA staff regarding the operations and evaluation of the programs under the Project and DHA's interactions with the Project's contractors;
- obtained and analyzed DHA financial information from FY 2015 to FY 2021;
- interviewed DOM staff as to DOM's Project role;
- interviewed Cerner staff as to Cerner's Project role;
- interviewed Center for Community Research and Evaluation staff regarding their evaluation of and reporting on the Project;
- obtained and analyzed reports and other documentation associated with the Center for Community Research and Evaluation's evaluation of the Project; and,
- identified access to similar programs under Medicaid fee-for-service and Medicaid managed care (Mississippi Coordinated Access Network [MSCAN]), or other state-funded programs.

Scope Limitations

This report pertains only to DHA's administering of the Project, and the two programs which comprise it, including the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. PEER did not evaluate the operations and effectiveness of other DHA programs. The Project does not include the Delta Health Alliance Board's (Board) clinical

[6] This included the clinical criteria utilized to identify whether a Medicaid participant would be included in the Prediabetes Screening Registry, Prediabetes Registry, and Preterm Birth Registry.

operations, which are operated by a separate single member limited liability company owned by the Board called the Indianola Clinic, LLC, doing business as Leland Medical Clinic.

DOM staff members responsible for developing the Project, procuring the grant, and overseeing the Project through the initial years of the seven-year Project (2014 through 2018) were no longer with DOM at the time of the review.

In evaluating the Project's performance, PEER requested the Center for Community Research and Evaluation, the project's external evaluator, provide their research methodology supporting the project updates, reports, and evaluations submitted to DOM, DHA, and/or PEER. However, the Center for Community Research and Evaluation responded that they have not developed a formal, written methodology (see discussion on pages 37 through 39).

Although PEER identified other prediabetes prevention programs and preterm birth prevention programs available to Medicaid fee-for-service and MSCAN participants, PEER did not evaluate the effectiveness of such programs. PEER only sought to determine what programs were available to Medicaid fee-for-service and MSCAN participants, and to what extent Delta Medicaid Prediabetes Program participants and Healthy Pregnancy Program participants did or did not receive services from such programs.

Background

This chapter discusses:

- the Project's origin;
- DOM's procurement of DHA to administer the Project; and,
- the organizations involved in the Project.

The Project's Origin

Cerner approached the Office of the Governor and DOM about utilizing its population health management platform to provide data analysis for Medicaid beneficiaries deemed high risk for preventable medical conditions. DOM chose to implement the proposal as a pilot program, opting to target prediabetes and preterm births.

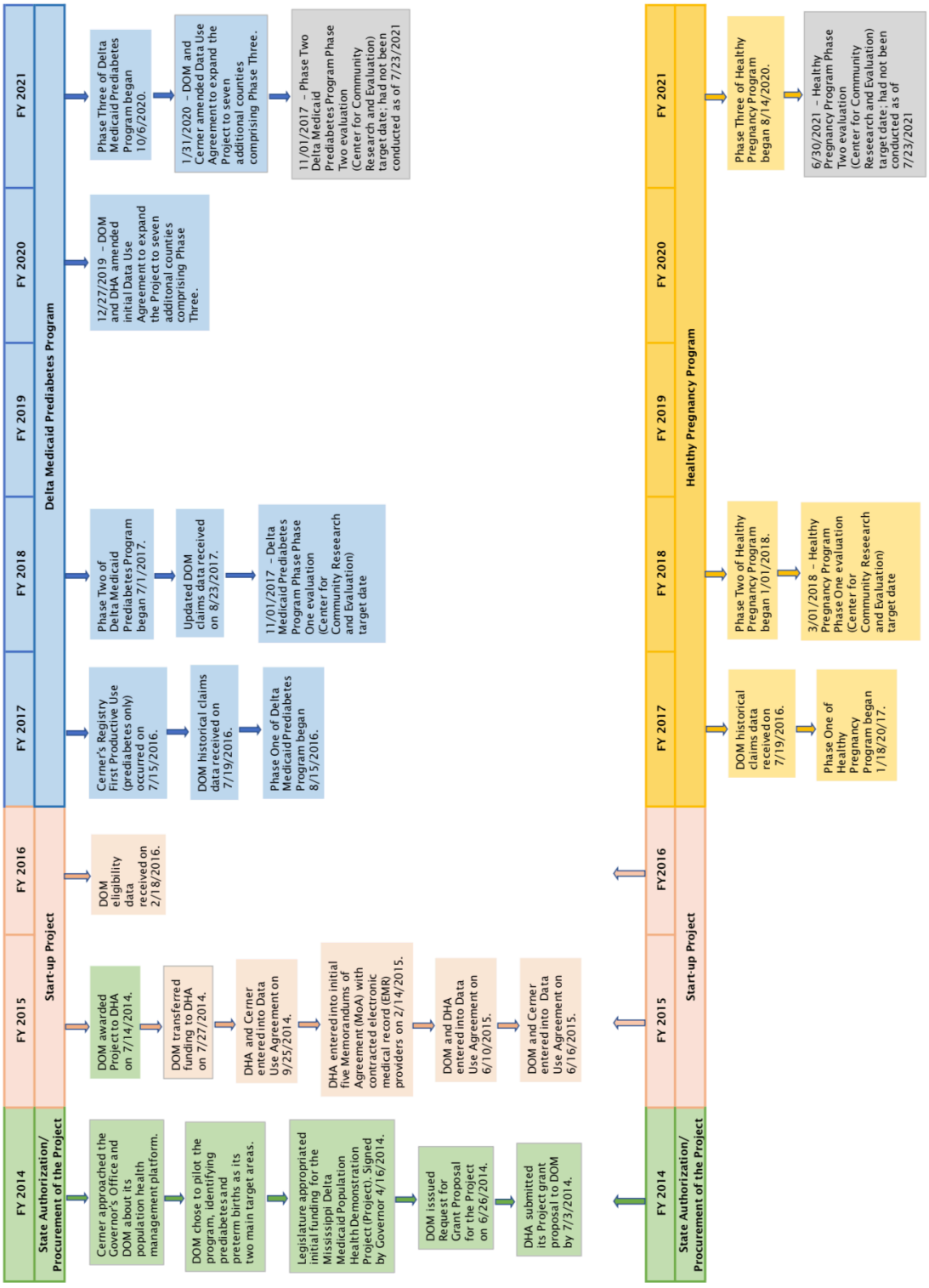
Cerner approached the Office of the Governor (then Governor Phil Bryant) and DOM (then led by Dr. David Dzielak) regarding their population health management platform. This platform would provide data analysis and intervention for Medicaid beneficiaries deemed high risk for preventable medical conditions, with a goal of Medicaid cost-savings and higher quality of life. DOM, at the time, sought to pilot the program to determine its effectiveness.

During the 2014 Regular Session, the Mississippi State Legislature passed House Bill 1481 (i.e., DOM's appropriation bill), authorizing DOM to allocate state general funds for the Project in FY 2015. However, the Legislature did not include a specific amount within the bill.

DOM determined the Project's two areas of focus would be reducing prediabetes and reducing preterm births. DOM reported it could not locate internal records identifying why each of these programmatic areas was chosen. This is in part because DOM staff responsible for the Project from 2014 to 2018 are no longer with DOM. DHA and current DOM staff both stated the two programs were likely chosen due to the Medicaid costs associated with diabetes and preterm births and the prevalence of both in Mississippi (see discussion on pages 7 and 8).

See Exhibit 1 on page 6 for a timeline of the Project from its creation through fiscal year 2021.

Exhibit 1: Project Timeline for the Mississippi Delta Medicaid Population Health Demonstration Project, FY 2014 through FY 2021



SOURCE: PEER compiled from information provided by DHA.

Prediabetes in Mississippi

Mississippi consistently ranked as one of the top three states for diabetes prevalence in the country from 2009 to 2014, with the prevalence of adult diabetes ranging from 11% to 13%. The* 2018 Mississippi Diabetes Action Plan *reported that charges to DOM for diabetes and diabetes-associated complications totaled $964,428,604 in 2013.

Mississippi consistently ranked as one of the top three states for diabetes prevalence in the country from 2009 to 2014, with the prevalence of adult diabetes ranging from 11% to 13%.[7] More so, the *2018 Mississippi Diabetes Action Plan* cited prediabetes as an issue of concern, but found prediabetes is not routinely tracked. The Mississippi State Department of Health (MSDH), in part, attributes this to physicians not routinely diagnosing prediabetes. The Centers for Disease Control and Prevention (CDC) does attempt to estimate the prevalence of prediabetes in the U.S. and by state. The CDC estimates 33.9% of the U.S. population had prediabetes in 2015, including over 30% or approximately 600,000 to 750,000 Mississippians.

Diabetes can be costly. The *2018 Mississippi Diabetes Action Plan* reported that 2013 total charges to the Mississippi Division of Medicaid for diabetes and diabetes-associated complications totaled approximately $964 million. These charges do not reflect charges to Medicare, private insurance companies, self-payers, and other insurance providers, as data for comprehensive charges by other payers were not accessible by MSDH at the time the *2018 Mississippi Diabetes Action Plan* was produced.

According to the *2018 Mississippi Diabetes Action Plan*, diabetes-associated hospitalizations[8] comprised 27% of all hospital charges in 2011. Diabetes-associated hospitalizations in Mississippi totaled more than $2.85 billion in 2011, with 62% of the costs charged to Medicare, 11% charged to Medicaid, and 27% charged to a combination of private insurers or self-payers.

Preterm Births in Mississippi

Mississippi's preterm birth rate has consistently been the highest in the nation, rising from 12.9% in 2014 to 14.6% in 2019. The total medical cost for preterm birth in Mississippi in 2016 was $226,833,701, or $43,841 per preterm birth.

Mississippi's rate of preterm birth has consistently been the highest in the nation, rising from 12.9% in 2014 at the time of the Project's launch to 14.8% in 2019. In 2016,

[7] Information culled from State of Childhood Obesity (www.stateofchildhoodobesity.org), a project of the Robert Wood Johnson Foundation, utilizing Behavioral Risk Factor Surveillance System data.
[8] Includes patient hospitalization charges where diabetes was either the primary or secondary diagnosis as well as charges for diabetes associated complications.

Mississippi's preterm birth rate was 13.6%, or 5,174 preterm births out of 37,928 total births.

Preterm births can also result in increased medical costs. According to the March of Dimes 2016 report, *Updating National Preterm Birth Costs to 2016 with Separate Estimates for Individual States*, the total combined medical cost due to preterm delivery for child and mother was $19.1 billion. This includes $17.1 billion, or $44,116 per preterm birth, for medical care services for children born preterm and $2 billion for medical costs associated with maternal delivery. According to the report, the total medical cost attributed to preterm birth in Mississippi in 2016 was $226,833,701, or $43,841 per preterm birth.

Preterm births can also result in increased societal costs post-delivery, such as costs associated with early intervention and special education services and indirect costs associated with loss of labor market productivity.

DOM's Procurement of Delta Health Alliance to Administer the Project

On June 26, 2014, DOM issued a request for grant proposals. DHA submitted the only response to DOM's request for grant proposals. DOM awarded DHA the Project on July 14, 2014.

During the 2014 Regular Session, the Mississippi State Legislature authorized DOM to provide funding for Phase One of the Project as part of House Bill 1481 (i.e., DOM's appropriation bill).

On June 26, 2014, DOM issued a request for grant proposals for the Project, stating the Project's goal "is to improve health outcomes in the Mississippi Delta." DOM also listed two Project objectives:

> *This project is a community-based initiative designed to utilize the resources and expertise of qualified agencies in the Mississippi Delta.*
>
> *The Grantee shall develop and implement cutting edge innovations and strategies in order to improve health outcomes for the Medicaid population in the Mississippi Delta.*

Proposals were due between June 26, 2014, and July 3, 2014. In reviewing the request for grant proposals, PEER identified several "requirements for applicants" that could be considered restrictive when taken as a whole. For example, the applicant had to:

- be a registered 501(c)(3) entity;
- conduct community-based behavioral healthcare programs in the Mississippi Delta for at least ten years;
- have a current annual operating budget of at least $5,000,000;

- have oversight by a community-based Board of Directors;
- provide evidence that it has an active community-based advisory group in place for at least the past two years;
- be headquartered solely in the Mississippi Delta; and,
- be dedicated exclusively to providing services in the Delta region of the State.

Given the narrow scope of the grant requirements, DHA submitted the only Project grant proposal. DOM awarded DHA the Project on July 14, 2014. DHA included Cerner as a project participant in its grant proposal. Cerner serves as a subcontractor on the project. In its grant proposal, DHA stated its Project objectives were to reduce prediabetes and preterm births by 5% in the Project's initial five Delta counties.

Organizations Involved in the Project

Four primary organizations had a role in the Project, including DHA, Cerner, DOM, and the Center for Community Research and Evaluation. Additionally, clinic providers entered into MOAs with DHA to provide electronic medical record data to Delta Health Alliance.

Delta Health Alliance

DHA is a 501(c)(3) nonprofit entity headquartered in Stoneville, Mississippi. DHA was incorporated in December 2001 by the Delta Council, the region's economic development agency, to serve as a platform upon which partnering agencies can collaborate and share resources to improve access to health care and education. Overseen by a five-member board, DHA operated or supported 41 programs as of February 2021, with at least one program in 39 Mississippi counties. For a list of DHA programs by county, see Appendix A on page 48.

DHA administers and implements the Project. This includes actively recruiting program participants for each program, administering each program, collecting participant data on each program, interacting with program participants through one-on-one coaching sessions or other program-related activities, and assessing program participants.

Division of Medicaid

DOM played multiple roles in the Project. From FY 2014 to FY 2017, DOM allocated the funds to DHA for the Project. (The Legislature directly appropriated DHA funding for the Project for FY 2018 to FY 2021). Additionally, DOM provided

DHA Medicaid data for the Project, including Medicaid enrollment data and Medicaid claims data. Medicaid data was initially only provided for the five Delta counties included as part of Phase One, but as the Project expanded to include more counties in Phase Two and Phase Three, Medicaid provided data for those counties as well.

DOM also oversaw the Project. DHA provided DOM quarterly or bimonthly Project updates through February 2019. These reports were also provided to the Chairmen of the Senate and the House Public Health Committees, Medicaid Committees, and Appropriation Committees. Furthermore, as part of DOM's FY 2021 appropriation bill (House Bill 1713, 2020 Regular Session), DHA was required to submit information to DOM by December 2020.

Cerner

Cerner's population health management platform HealtheIntent™ collects data from multiple, disparate sources, including EMR systems, existing IT systems or other data sources, such as pharmacy benefit managers or insurance claims (e.g., Medicaid claims). As part of the Project, Cerner attempted to utilize various custom HealtheRegistries™ and multiple sources of data to assist DHA in identifying potential program participants. [9]

As part of such, Cerner developed three HealtheRegistries for the Project: the Prediabetes Screening Registry, the Prediabetes Registry, and the Preterm Birth Registry. PEER discusses the role of each of these registries, and the hurdles related to utilizing them, beginning on page 18.

University of Memphis Center for Community Research and Evaluation

Beginning in 2016, DHA contracted with the Center for Community Research and Evaluation to serve in an external oversight capacity and evaluate multiple DHA programs, including the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. The Center for Community Research and Evaluation has provided written program updates for the Project on an annual basis (or as requested by DHA) since 2017. PEER discusses the Center for Community Research and Evaluation's assessment of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program beginning on page 33.

[9] Cerner Corporation's HealtheRegistries act as clinical data registries. These can be used to target specific groups to provide care, such as those with certain chronic diseases, cancers, or acute conditions.

Contracted Electronic Medical Record Providers

DHA entered into MOAs with local providers to provide EMR data to input into the HealtheRegistries. For a list of participating providers, see Appendix B on page 50.

This EMR data includes items such as patient longitudinal health records and patient medical procedures data. Once uploaded into the Cerner system, Cerner utilizes its algorithms to search such records and identify, from a clinical criteria basis (as outlined in the Prediabetes Registry and the Preterm Birth Registry), who may be at risk of prediabetes or preterm birth.

To support the uploading of EMR data from varying clinical providers with differing EMR systems, DHA contracted with Allscripts[10] to synchronize dissimilar EMR systems to Cerner software.

[10] Allscripts Healthcare Solutions, Inc. is a publicly traded American company that provides physician practices, hospitals, and other healthcare providers with practice management and electronic health record technology.

Program Descriptions

This chapter provides:

- a general Project overview;
- a description of the Delta Medicaid Prediabetes Program; and,
- a description of the Healthy Pregnancy Program.

General Project Overview

The Project consists of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. The Project initially started in five Delta counties (Phase One) but expanded to include five additional counties in the Delta (Phase Two) and seven additional counties in southwest Mississippi (Phase Three).

The Project includes the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. Its purpose is to (a) decrease the number of patients who progress from prediabetes to diabetes and (b) reduce preterm births. The Project attempts to demonstrate the value of technology and in-person coaching through the usage of population health management tools and patient-centered interventions in select counties.

DHA does not provide clinical services to participants as part of the Project.

The Project includes three phases:

- Phase One: (Coahoma, Holmes,[11] Leflore, Sunflower, and Washington counties)
  - Delta Medicaid Prediabetes Program—August 15, 2016; and,
  - Healthy Pregnancy Program—January 18, 2017.
- Phase Two: (Bolivar, Panola, Tunica, Warren, and Yazoo counties)
  - Delta Medicaid Prediabetes Program—July 1, 2017; and,
  - Healthy Pregnancy Program—January 1, 2018.
- Phase Three: (Adams, Amite, Claiborne, Franklin, Jefferson, Pike, and Wilkinson counties)
  - December 27, 2019

The counties comprising Phase One and Phase Two were initially part of the Grant Proposal. According to DHA, DHA considered three areas of the state as possibilities for Phase

[11] Holmes County was included in the Delta Medicaid Prediabetes Program in Phase One, but did not become part of the Healthy Pregnancy Program until Phase Two.

Three expansion: the southern counties along the Mississippi River, the Mississippi Gulf Coast counties, and northeast Mississippi counties. DHA stated the southern counties along the Mississippi River were chosen because (a) the seven southern counties more aptly compared to the original ten counties in terms of both demographics and historical outcomes, and (b) DHA's existing presence in Vicksburg would facilitate recruitment and reduce operational expenses.

According to DHA, the three reasons for expansion included (1) the ongoing need for support for preterm births in low-income communities; (2) the potential for scalability of the programs; and (3) opportunities available in the additional 12 counties allowing the Project's programs to leverage existing partnerships and programs to facilitate recruitment, outreach, and referral networks for support services.

See Appendix C on page 51 for a map of the counties served by the Project and the phase in which the county was added.

Exhibit 2 on page 15 compares the eligibility requirements, staffing, program activities, and recruitment methods for each program.

The programs differ in services provided, populations targeted (prediabetes versus pregnancy), recruitment methods, and performance assessment.

Delta Medicaid Prediabetes Program

Recruiting participants since August 15, 2016, the Delta Medicaid Prediabetes Program is an intervention program aimed at decreasing the number of participants who progress from prediabetes to diabetes.

Operational since August 15, 2016, DHA's Delta Medicaid Prediabetes Program aims to decrease the number of participants who progress from prediabetes to diabetes. The program, which is voluntary, is offered at no cost to the program participants.

Program participants must meet the program's eligibility requirements. Participants must be at least 18 years old, Medicaid eligible, reside in one of the counties served, and meet the clinical requirements to be identified by the Prediabetes Registry as prediabetic or at risk of developing prediabetes (as discussed in more detail on page 52).

DHA does not provide clinical services as part of the program but does have agreements with clinical providers to provide patient EMR data that is then utilized by DHA and Cerner to identify program participants utilizing the Prediabetes Registry.

Utilizing data from clinical providers and DOM, external parties develop a Prediabetes Registry, from which a recruitment pool is developed. The Center for Community

Research and Evaluation divides the recruitment pool into a Treatment Group and Control Group. DHA Care Coordinators then utilize the Treatment Group pool to develop a letter-writing and phone campaign to recruit potential program participants.

Healthy Pregnancy Program

Recruiting participants since January 18, 2017, the Healthy Pregnancy Program is an intervention program aimed at decreasing the number of pregnancies resulting in preterm births.

Operational since January 18, 2017, DHA's Healthy Pregnancy Program aims to reduce and prevent preterm births. The Project utilized the CDC definition to define preterm birth as the birth of a baby prior to 37 weeks. The program, which is voluntary, is offered at no cost to the program participant.

Program participants must meet the program's eligibility requirements. Participants must be pregnant, at least 18 years old, be Medicaid eligible, and reside in one of the counties served. DHA does not provide clinical services as part of the program.

Program duration varies by participant. Program duration is dependent on the trimester during which a participant enrolls and the time it takes to give birth. For instance, a participant may enroll in the Healthy Pregnancy Program as early as eight weeks into their pregnancy or as late as 28 weeks into their pregnancy. The same participant may give birth early (e.g., at 24 weeks) or in a normal range (e.g., at 40 weeks).

Without a recruitment list due to the issues in developing the Preterm Birth Registry and the timeliness of the data, as discussed beginning on page 20, Healthy Pregnancy Program coaches conduct county-level fieldwork to actively seek program participants instead of utilizing a recruitment list provided by Cerner. DHA's method for recruiting program participants includes:

- receiving referrals from current and prior preterm birth participants;
- partnering with prenatal care providers to obtain referrals for recruiting enrollees;
- canvassing neighborhoods and apartment complexes; and,
- local marketing such as posting leaflets on cars in parking lots and placing posters in areas such as grocery stores, hair and nail salons, OBGYN Providers, WIC[12] centers, State Department of Health regional offices).

[12] The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, infants, and children up to age five who are found to be at nutritional risk.

Exhibit 2: Comparison of Delta Medicaid Prediabetes Program and Healthy Pregnancy Program, by Program Component

Components		Delta Medicaid Prediabetes Program	Healthy Pregnancy Program
Eligibility Requirements		• Medicaid eligible • At least 18 years of age • Reside in 17-county service area • Patient of participating clinical site and diagnosed with prediabetes or at risk of developing prediabetes	• Medicaid eligible • At least 18 years of age • Reside in 17-county service area • Currently pregnant or new mothers who have given birth within eight weeks
Reasons for Removal from Program		• No longer eligible for Medicaid • Move outside of 17-county service area • Become diabetic or pregnant • Voluntarily opt out/DHA no longer able to contact	• No longer eligible for Medicaid • Move outside of 17-county service area • Voluntarily opt out/DHA no longer able to contact
Staffing	**Direct**	• Nine full-time participant care coordinators • One part-time program manager	• Six full-time participant coaches • One regional director • One part-time project manager
	Shared	• DHA provides administrative and health information technology support • Subcontract program evaluation services and activities related to development of the clinical registries	
Care Coordinator/ Coach Responsibilities		• Participant recruitment, coaching, and assessment • Monitor participants' progress to determine if interventions should be modified	• Participant recruitment, coaching, and assessment • Administer assessment tools to identify participants' strengths and opportunities for growth
Care Coordinator/ Coach Case Load		• About 75 participants per month • Complete 85-90% of home visits on a monthly/quarterly basis • Complete a minimum of four 60-minute quarterly home visits within 12 months for each assigned participant	• 40 to 50 participants per month • Complete 85-90% of monthly home visits • Complete at least one 60-minute home visit per month for each assigned participant
Program Activities		• Utilize National Diabetes Prevention Program: PreventT2 curriculum[1] • Developing individualized participant management care plans • Track participants' clinical progress at six months and twelve months • Grocery store tours • Nutrition classes/referrals • Health education workshops • Exercise classes • Weekly/bi-weekly phone calls	• Utilize Partners for a Healthy Baby curriculum[2] • Provide participants tailored education resources • Coordinate services with provider clinics • Assist with obtaining support services • Provide mothers three months post-partum support with focus on improving future birth outcomes
Recruitment Methods		• Utilize a recruitment list to develop a letter-writing and phone campaign to recruit potential participants • This includes: o eight phone calls per month over a two-month period o sending a letter at the beginning and end of such period	• Conduct county-level fieldwork to solicit program participation via: o participant referrals o distributing leaflets or posters o canvassing neighborhoods o partnering with prenatal care providers to obtain referrals or set up booths

1) Developed by the Centers for Disease Control and Prevention.
2) Developed by Florida State University's Center for Prevention & Early Intervention Policy.

SOURCE: Compiled from information provided by DHA.

Initial Project Delays to Launch Intervention Programs and Participant Recruitment

This chapter includes a discussion of:

- a timeline of Project approval and the provision of programmatic services;
- delays due to requirements to obtain data use agreements;
- delays related to converting the data into productive use; and,
- participant recruitment and enrollment challenges due to flaws in the registry process.

Timeline of Project Approval and the Provision of Programmatic Services

Early operational delays in launching the Project resulted in a two-year time frame between when DOM first awarded DHA the grant for the Project and when DHA first started recruiting participants for the Delta Medicaid Prediabetes Program. As a result, DHA expended state funds for two years in an effort to launch the Project, prior to any recruitment of program participants.

DOM awarded DHA the Project on July 14, 2014. DOM transferred DHA the first year of Project funding on July 27, 2014. However, DHA did not start actively recruiting participants until August 2016 for the Delta Medicaid Prediabetes Program and January 2017 for the Healthy Pregnancy Program.

Early operational delays resulted in DHA expending state funds for two years in an effort to launch the Project, prior to any recruitment of program participants. DHA Project expenditures in FY 2015 and FY 2016 totaled approximately $2.46 million.

Exhibit 1 on page 6 illustrates the project timeline including Project delays and the beginning of each phase of each program.

According to the President/CEO of DHA, the delay in Medicaid data acquisition (discussed in more detail in the following sections) limited DHA efforts to identify patients, enroll Project participants, and begin participant consultation and coordination of care for the Phase One interventions.

Delays Due to Requirements to Obtain Data Use Agreements

The Project encountered a year-long delay related to DHA and Cerner entering into separate data use agreements with DOM. An additional delay occurred related to DOM providing the Medicaid data once the data use agreements were in place.

Project implementation was delayed due to the time it took the parties involved to enter into multiple data use agreements. This included a year-long process for both DHA and Cerner to enter into separate data use agreements with DOM to access Medicaid data.

Although DOM awarded DHA the Project in July 2014, data use agreements were not entered into until the following:

- DHA/Cerner MOA—September 25, 2014;
- DOM/DHA Data Use Agreement—June 10, 2015; and,
- DOM/Cerner Data Use Agreement—June 12, 2015.

Given such, neither DOM nor DHA was permitted to share data with Cerner until almost a full year after the awarding of the Project to DHA.

DHA also reported there were issues related to DOM providing the Medicaid data once the data use agreements were in place. DHA staff noted that this was, in part, due to issues surrounding removing sensitive data from the files prior to sending it to DHA. This resulted in an additional delay in the sharing of Medicaid eligibility and Medicaid claims data. DOM initially provided DHA Medicaid eligibility data on February 18, 2016, and historical claims data on July 19, 2016.

Delays Related to Converting the Data into Productive Use

The Project also encountered delays due to the time it takes DHA and Cerner to convert the Medicaid data and the clinical provider EMR data to first productive use. "Productive use" occurs when the data extract can be used to recruit participants. According to the DHA Project timeline, first productive use did not occur for the Prediabetes Program until July 2016 or for the Healthy Pregnancy Program until January 2018.

DHA also entered into MOAs with clinical providers to obtain their EMR data for the project. DHA entered into MOAs with five clinical providers beginning February 1, 2015, and two additional clinical providers beginning June 30, 2015. For a list of the clinical providers having agreements with DHA, see Appendix B on page 50.

DHA then provided both the Medicaid data and clinical provider EMR data to Cerner. This data, as discussed on pages 18 and 19, was used by Cerner to develop the Prediabetes Registry and the Preterm Birth Registry. However, the data was not ready for productive use upon

initial submission. "Productive use" occurred when the data extract could be used to recruit participants.

Three issues arose that delayed converting the data into productive use. This included:

- discrepancies between the provider EMR data and the Medicaid data;
- problems with data validity and uniformity; and,
- the delay in Cerner being able to provide a data extract of potential program participants.

According to DHA's President/CEO, the extracting and matching of clinical data records with Medicaid data presented substantial accuracy challenges. DOM and DHA had to verify the data before the Project could move forward.

Cerner developed proprietary algorithms to identify potential Project participants. Due to problems that arose during the data validation process and the testing and refinement of Cerner algorithms, DHA's President/CEO stated its staff was utilized to check the uniformity, accuracy, and quality of source data before proceeding.

According to DHA's President/CEO, this delayed Cerner's provision of a data extract of potential program participants. DHA intervention staff did not get a data extract (i.e., recruitment report) of potential prediabetes participants until August 2016.

This delayed DHA's ability to recruit potential participants to sign up for each intervention. DHA began recruiting participants for the Delta Medicaid Prediabetes Program in August 2016, two years after initial funding for the Project was transferred to DHA (July 27, 2014). In January 2017, DHA decided to forego waiting for the recruitment report for the Healthy Pregnancy Program and began recruiting program participants. (Reasons for this are discussed beginning on page 20). Preterm birth extraction information was not available until 2018.

Participant Recruitment and Enrollment Challenges Due to Flaws in the Registry Process

Although Cerner developed three registries, only the Prediabetes Registry has been utilized for its intended purpose: to identify a target population and provide a recruitment list for DHA to use to recruit program participants. Additionally, DHA reported it does not use the Preterm Birth Registry to identify participants to participate in the Healthy Pregnancy Program. Because data from the Preterm Birth Registry is not timely, programmatic needs necessitate that DHA conduct its own recruitment process to find participants.

Cerner's population health management platform attempts to provide data analysis and intervention for Medicaid beneficiaries deemed high risk for preventable medical

conditions. The premise was that Cerner could obtain and consolidate provider EMR data and Medicaid data, and then utilize proprietary algorithms and clinical criteria for defining registries to identify program participants to target for intervention through the Project.

Cerner, in coordination with DHA and DOM, developed three HealtheRegistries for the Project: the Prediabetes Screening Registry, the Prediabetes Registry, and the Preterm Birth Registry. The three customized registries utilized clinical criteria to determine who was to be included in (and excluded from) each registry. (See Appendix D on page 52 for Cerner's clinical inclusion and exclusion criteria.) For example, the Prediabetes Registry excluded those who had been diagnosed with diabetes or who were on palliative care but included those diagnosed with prediabetes, morbid obesity, or metabolic syndrome during the current measurement period or the prior two measurement periods. According to Cerner, the clinical inputs utilized in the registries were determined in conjunction with DOM and DHA clinicians at the time (e.g., DHA nurses).

However, the feasibility of using such a registration process is limited by the needs of the Project, the timeliness in which the most recent data on the potential participant is provided, and the time frame in which the applicable intervention (i.e., prediabetes, preterm birth) needs to be provided to have an impact. The following discussion highlights the challenges related to utilizing each of the three registries and how these impacted the Project.

Prediabetes Registry is Utilized for Its Intended Purpose

Only the Prediabetes Registry has been utilized for its intended purpose to identify a target population for DHA to use to recruit program participants. Over the course of the Project's seven fiscal years 2014 to 2021, DHA has spent $5,507,604 for Cerner contractual services related to the Project and the registries. Because DHA only utilizes the Prediabetes Registry, the cost for Cerner's Prediabetes Registry is equivalent to $4,521 per Delta Medicaid Prediabetes Program enrollee.

According to DHA, the Prediabetes Registry has been utilized since program inception. Cerner provides DHA with a recruitment report every two months that identifies the qualifying participants based on the Prediabetes Registry population. Minus the delays in obtaining the data to initially operate the registry (as discussed on page 17), DHA staff stated that the Prediabetes Registry has met expectations.

Given the other two of the three planned registries are not utilized by DHA to recruit program participants (as discussed on pages 20 and 21), Cerner's population management software has been utilized to recruit participants only for the Prediabetes Registry at a total

Project cost of $5,507,604 over seven fiscal years (FY 2014 to FY 2021). From August 2016 to June 2021, the Delta Medicaid Prediabetes Program had 1,218 unduplicated enrollees. Taking such factors into account, DHA has spent $4,521 per Delta Medicaid Prediabetes Program enrollee to utilize the Cerner Prediabetes Registry.[12] PEER notes this cost per enrollee may be inflated because it includes the initial expenditures DHA paid to Cerner for two fiscal years that services were not being actively provided by the Project. This is in part due to Project delays (as discussed previously on page 17). In addition, this cost per enrollee includes only the enrollees of the Prediabetes Registry and does not account for any enrollees of the Preterm Birth Registry, even though DHA staff stated that they utilize some data elements from the Preterm Birth Registry (discussed on page 21).

Prediabetes Screening Registry Determined not to be Feasible at Project Onset

The Prediabetes Screening Registry was determined not to be feasible due to the development costs and the lack of existing tracking of pre-prediabetes screening. As a result, the Prediabetes Screening Registry was never utilized.

The Prediabetes Screening Registry was to be utilized in screening for pre-prediabetes, allowing DHA health coaches to intervene earlier in the process, i.e., before a person was diagnosed as prediabetic. However, according to Cerner staff, it was determined it was not feasible, from both a cost perspective and a clinical perspective, to create and operate a Prediabetes Screening Registry. This is in part because pre-prediabetes is not formally tracked in the health system. Given such, it would have been difficult to identify a pre-prediabetes population pool. In order to screen for pre-prediabetes, participants would have had to have received screenings in a clinical setting. Cerner added that conducting such screenings would have been considerably more costly, and thus required increased program funding. Additionally, Cerner stated DHA did not have sufficient staffing at the time necessary to manage the additional program and workload across the initial five-county project service area.

Preterm Birth Registry Has Not Been Utilized

Although Cerner still produces quarterly recruitment reports utilizing the Preterm Birth Registry, DHA reported it is not able to utilize the recruitment reports for the Healthy Pregnancy Program, in part because the time frame

[12] Equates to $5,507,604 in Cerner contractual costs divided by 1,218 unduplicated Delta Medicaid Prediabetes program enrollees. This calculation does not include enrollees of the Preterm Birth Registry because it was not actively utilized to recruit program participants.

in which the data is able to be provided is not sufficient to meet programmatic needs.

Cerner utilizes the Preterm Birth Registry to produce a recruitment list (with contact information) of Medicaid beneficiaries at risk of preterm birth and provides it to DHA on a quarterly basis. The intended purpose of this recruitment list was for DHA Healthy Pregnancy Program coaching staff to contact and enroll eligible participants in the program.

DHA reported it was not able to utilize the recruitment reports for the Healthy Pregnancy Program, in part because the time frame in which the data is able to be provided is not sufficient to meet programmatic needs.

Unlike the Delta Medicaid Prediabetes Program, the Healthy Pregnancy Program's participants have a shorter time frame in which to participate in the program (i.e., the time in which they find out they are pregnant until they give birth). Given a pregnancy is typically not confirmed by a medical provider until at least four to six weeks after conception and the goal of the Healthy Pregnancy Program is to reduce the incidences of preterm birth (defined at 37 weeks or less), the maximum program intervention time period is approximately 33 weeks.

DHA reported Cerner's preterm birth recruitment reports included expectant mothers who were further along in their pregnancy (five-plus months). This limited the potential impact the program could have on the pregnancy, especially in cases in which the expectant mother was already near giving birth.

In addition, data utilized to produce the recruitment list is not provided in real-time. For example, DOM and DHA both reported that Medicaid providers do not submit claims related to pregnancy when they occur. Additionally, DOM does not transmit the data to DHA in real-time nor does DHA transmit the data to Cerner in real-time. This can also serve to reduce the 33-week intervention time frame.

Therefore, DHA chose to deploy its Healthy Pregnancy Coaches to program counties to actively recruit program participants rather than rely on Cerner's recruitment list. However, Cerner still produces the recruitment report for the Healthy Pregnancy Program utilizing the Preterm Birth Registry on a quarterly basis.

Project Enrollment, Costs, and Oversight

This chapter includes a discussion of:

- enrollment by program;
- funding and expenditures, FY 2015 to FY 2021; and,
- oversight mechanisms.

Enrollment by Program

Even excluding the two-plus year delay prior to recruitment and provision of programmatic services, the Delta Medicaid Prediabetes Program and Healthy Pregnancy Program have each produced less than 100 participants per 12 months, on average, who completed the program. This is in part due to each program's limited reach and each program's high non-completion rate: 38.5% for the Delta Medicaid Prediabetes Program and 35.8% for the Healthy Pregnancy Program.

The following discussion provides an overview of the Delta Medicaid Prediabetes and the Healthy Pregnancy programs offered through the Project.

Delta Medicaid Prediabetes Program Enrollment, CY 2016 to CY 2021

From August 15, 2016, to June 23, 2021, DHA reported enrolling 1,218 total unduplicated enrollees in the Delta Medicaid Prediabetes Program. Of those 1,218 individuals, only 487 (40.0%) have completed the program while 469 (38.5%) have not completed the program. The program had 262 participants (21.5%) actively enrolled as of June 23, 2021.

In August 2016, DHA began enrolling participants in the Delta Medicaid Prediabetes Program. Exhibit 3 on page 23 provides a breakout of participants served, by year, for the Delta Medicaid Prediabetes Program enrollment. DHA reported 1,218 total unduplicated enrollees enrolled in the Delta Medicaid Prediabetes Program from August 15, 2016, to June 23, 2021.

DHA reported the Delta Medicaid Prediabetes Program served participants who resided in 13 of the program's 17 eligible counties. According to the manager of the Delta Medicaid Prediabetes Program, DHA did not have participants from Adams, Claiborne, Franklin, or Jefferson counties as of June 25, 2021.

Exhibit 3: Delta Medicaid Prediabetes Program Enrollment, CY 2016 to CY 2021

Delta Medicaid Prediabetes Program	Year of Program Enrollment (CY)						Total	Percent
	2016[1]	2017	2018	2019	2020	2021[2]		
Participants who completed the program	28	10	68	201	180	0	487	40.0%
Participants actively enrolled in the program as of June 23, 2021	0	0	0	0	94	168	262	21.5%
Participants who did NOT complete the program	47	17	83	239	69	14	469	38.5%
Total individuals enrolled in the program (first enrollment only)	**75**	**27**	**151**	**440**	**343**	**182**	**1,218**	**100.0%**

1) Beginning August 15, 2016.
2) Through June 23, 2021.

SOURCE: PEER compiled from information provided by DHA.

During a five-year span, 487 participants—40.0% of all participants—completed the Delta Medicaid Prediabetes Program. The program had 262 participants actively enrolled as of June 23, 2021.

DHA reported that 469 participants—38.5% of all program participants—did not complete the Delta Medicaid Prediabetes Program, either because the participant voluntarily opted out of the program, DHA was no longer able to contact the participant, or the participant was no longer eligible to participate (i.e., the participant was no longer Medicaid eligible, no longer resided in the county, or became pregnant).

Healthy Pregnancy Program Enrollment, CY 2017 to CY 2021

From January 18, 2017, to June 23, 2021, DHA reported enrolling 1,055 total unduplicated enrollees in the Healthy Pregnancy Program. Of those 1,055 individuals, only 417 (39.5%) have completed the program while 378 (35.8%) have not completed the program. The program had 260 participants (24.7%) actively enrolled as of June 23, 2021.

In January 2017, DHA began enrolling participants in the Healthy Pregnancy Program. Exhibit 4 on page 24 provides a breakout of participants served, by year, for the Healthy Pregnancy Program enrollment. DHA reported 1,055 total unduplicated enrollees enrolled in the Healthy Pregnancy Program from January 18, 2017, to June 23, 2021.

Although the Healthy Pregnancy Program expanded to cover 17 counties in December 2019, DHA reported active recruitment to enroll prospective participants was only occurring in 12 of the 17 counties as of May 20, 2021.

Exhibit 4: Healthy Pregnancy Program Enrollment, CY 2017 to CY 2021

Healthy Pregnancy Program (mothers)	Year of Program Enrollment (CY)					Total	Percent
	2017[1]	2018	2019	2020	2021[2]		
Participants who completed the program	5	73	193	143	3	417	39.5%
Participants actively enrolled in the program as of June 23, 2021	0	0	0	68	192	260	24.7%
Participants who did NOT complete the program	82	80	137	70	9	378	35.8%
Total individuals enrolled in the program (first enrollment only)	**87**	**153**	**330**	**281**	**204**	**1,055**	**100.0%**

1) Beginning January 18, 2017.
2) Through June 23, 2021.

SOURCE: PEER compiled from information provided by DHA.

During this four-and-a-half-year span, 417 participants—39.5% of all participants—completed the Healthy Pregnancy Program. The program had 260 participants actively enrolled as of June 23, 2021.

DHA reported that 378 participants—35.8% of all program participants—did not complete the Healthy Pregnancy Program, either because the participant voluntarily opted out of the program, DHA was no longer able to contact the participant, or the participant was no longer eligible to participate (i.e., the participant was no longer Medicaid eligible or no longer resided in the county).

Effects of COVID-19 Hindered Project Enrollment and Outreach in 2020 and 2021

Managers of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program reported COVID-19 impeded participant recruitment, in part due to participant concerns over in-person visits and difficulties in attracting staff due to the requirement to conduct home visits. The Healthy Pregnancy Program, which relies on field-level recruitment, faced additional hurdles such as the temporary prohibition on setting up in OBGYN clinics.

According to the managers of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program, participant recruitment was hindered during the COVID-19 pandemic. Both managers reported existing and potential participants were less inclined to partake in home visits due to concerns about themselves or a family member contracting COVID-19.

The Delta Medicaid Prediabetes Program manager attributed this to staffing limitations, stating the hiring of Care Coordinators was delayed because potential hires were

not motivated to conduct home visitation work, in part due to the rising COVID-19 cases.

The manager of the Healthy Pregnancy Program stated COVID-19 limited the ability of its staff to actively recruit in the field, either due to clinics reducing opportunities to recruit onsite, or other facilities reducing groups targeted at expectant mothers.

Project Funding and Expenditures, FY 2015 to FY 2021

Over the course of the seven fiscal years 2015 to 2021, the Project received $18,442,827 in funding and expended $16,532,778. The two largest expenditure categories of total Project costs were for salaries, wages, and fringe benefits (46%), and contractual expenditures (40%).

Over the course of the Project's seven fiscal years 2015 to 2021, the Legislature appropriated the Project $18,442,827 either through requirements of DOM to allocate funds for the Project or directly appropriating pass-through funds for the project. DHA is permitted to roll over any unexpended project funds to the next fiscal year.

Exhibit 5 on page 25 includes total funding and total expenditures for the Project for fiscal years 2015 through 2021.

Exhibit 5: Mississippi Delta Medicaid Population Health Demonstration Project Funding and Expenditures, FY 2015 to FY 2021

Fiscal Year	Funding[2] ($)	Expenditures ($)
2015	2,165,297	1,349,253
2016	1,963,161	1,111,341
2017	1,948,535	1,483,615
2018	1,664,593	3,528,657
2019	2,879,051[3]	3,185,223
2020	3,661,095[4]	2,198,747
2021[1]	4,161,095	3,675,942
Project Total	**$18,442,827**	**$16,532,778**

1) DHA reported FY 2021 expenses through April 30, 2021.
2) Yearly funding includes the Project's legislative appropriation amount only and does not include unexpended Project funds rolled over from prior years.
3) DHA was appropriated $3,945,889 for the Project in FY 2019. The Project was unable to utilize the $1,066,838 specifically allocated for the purposes of obtaining federal matching funds for expansion of the program.
4) In FY 2020, DHA was appropriated $4,161,095 for the Project. However, DHA reported it was told by the Chair of Senate Appropriations that the $4,161,095 included $500,000 for the third-year funding of the Patient Centered Model Home (PCMH). DHA placed the $500,000 into the separate PCMH Project fund account; this reduced funding for the Project to $3,661,095.

SOURCE(S): Funding was compiled using information reported by DHA and DOM for FY 2015 to FY 2018; information in the DOM's appropriation bills for FY 2019 to FY 2021; and, information provided by DHA in response to PEER follow-up. Expenses were compiled using information reported by DHA for FY 2015 to FY 2021.

Breakdown of Project Costs, FY 2015 to FY 2021

DHA expended $16,532,778 from FY 2015 to FY 2021 to implement the Project. This includes expenditures for Cerner to develop and maintain the registries, the Center for Community Research and Evaluation to evaluate the Project, DHA program coaches to recruit, coach, and assess participants, and DHA Health Information Technology staff to gather and transmit data to applicable parties, as well as program management and DHA administrative costs.

To implement the Project, DHA expended $16,532,778 over the seven fiscal years 2015 to 2021.[13] Exhibit 6 on page 26 provides a breakdown of Project costs by expenditure category.

Exhibit 6: Breakdown of Mississippi Delta Medicaid Population Health Demonstration Project Costs, FY 2015 to FY 2021

Expense Category	Fiscal Year ($)							Total ($)
	2015	2016	2017	2018	2019	2020	2021[3]	
Admin[1]	122,659	101,031	137,624	320,787	292,498	207,669	329,659	**1,511,927**
Salaries/ Wages	421,475	572,450	670,775	1,241,757	1,471,997	875,728	866,140	**6,120,322**
Fringe Benefits	99,196	131,466	160,316	303,669	399,301	243,674	239,022	**1,576,644**
Contractual	680,207	286,723	460,644	1,541,455	815,079	730,712	2,109,962	**6,624,782**
Travel	14,848	14,495	17,917	45,622	58,679	50,708	33,990	**236,259**
Supplies	7,046	2,660	20,013	28,202	49,841	17,837	13,901	**139,500**
Other[2]	3,821	2,517	16,327	47,164	97,828	72,419	83,268	**323,344**
Total ($)	**1,349,253**	**1,111,341**	**1,483,615**	**3,528,657**	**3,185,223**	**2,198,747**	**3,675,942**	**16,532,778**

1) Includes the amount the Project allowed for an administrative charge. The administrative charge of 10% was used to offset general DHA administrative expenses.
2) Includes the cost of rental expenses of various offices which help DHA Population Health employees; incentives for participants; and telephone and internet charges.
3) DHA reported FY 2021 expenses through April 30, 2021.

SOURCE: Compiled using information in DOM's appropriation bills for FY 2015 to FY 2021 and information reported by DHA for FY 2015 to FY 2021.

Administrative Costs

DHA's reported Project expenditures include administrative costs. According to DHA's Chief Financial Officer, the administrative charge of 10% was used to offset general DHA administrative expenses. According to DHA's Chief Financial Officer, the 10% administrative charge was

[13] DHA reported FY 2021 expenses through April 30, 2021.

included in all discussions and budgets with the parties during the preliminary discussions of the project.

Staffing Costs

Salaries, wages, and fringe benefits accounted for a combined 46% of total project costs. This includes the costs for program managers, Health Information Technology, program recruiters/coaches, and administrative staff costs directly related to the project. According to DHA's Chief Financial Officer, staff cost relating to a program is based on the time the staffer assigns to the program on their timecard.

Contractual Expenditures

Contractual expenditures comprise approximately 40% of total project costs. The following are some examples of Project-related contractual expenditures DHA reported, as of June 24, 2021:

- $5,507,604 to Cerner for contractual services related to the Project, including developing and maintaining the registries;
- $65,498 to the Center for Community Research and Evaluation for external evaluation services related to the Project;
- $51,090 to clinics to provide EMR data; and,
- $621,481 to Allscripts for costs associated with synchronizing dissimilar EMR systems to Cerner software.

As discussed on page 11, DHA enters into agreements with clinical providers to provide EMR data. Under earlier MOAs, DHA paid each provider $5,000 per year per clinic location to participate. Under the most recent MOAs, DHA paid each provider an annual payment based on the number of eligible participants/patients from the "initial pull" with amounts ranging from $5,000 to $20,000.

Miscellaneous Expenditures

Miscellaneous expenditures include the costs for travel and supplies. The main travel expense is related to Healthy Pregnancy Program and Delta Medicaid Prediabetes Program staff conducting in-home visits or Healthy Pregnancy Program staff conducting recruitment efforts in the counties they serve. "Other expenditures" includes the cost of rental expenses for various offices which help DHA Population Health employees; incentives for program participants; and telephone and internet charges.

DHA's Compliance with Separation of Accounts Requirements

From FY 2015 through FY 2020, DHA deposited Project funds received from the state with funds from other sources and for other purposes into one bank account and utilized the governmental generally accepted accounting principles of fund accounting to monitor and report the receipt and expenditure of funds from each source. Beginning in FY 2021, DHA established a separate bank account for state Project funds in order to comply with legislation from the 2020 Regular Session. DHA continues to use fund accounting to monitor and document the receipt and expenditure of funds from all sources.

Prior to FY 2021, DHA did not deposit Project funds received from the state in a separate bank account, but instead deposited Project funds into a bank account with funds received from other sources and for other purposes. To account for Project funds and funds from other sources, DHA followed the governmental generally accepted accounting principles of fund accounting. Through fund accounting, an organization can use one bank account to hold funds from various sources for different purposes but establish separate funds (accounts) in its accounting records to monitor the receipt and expenditure of funds.

As part of the Project's FY 2021 appropriation bill, the Legislature added the requirement that DHA "establish a separate account into which [Project] funds provided by this section shall be deposited and accounted". Given this requirement, DHA reported it established a bank account exclusively for the receipt and disbursement of project funds and continues to utilize fund accounting to monitor the receipt and expenditure of Project funds and all other funds.

Oversight Mechanisms

DOM oversight of the Project has been limited, requiring only the submittal of Project update reports prior to Legislative action in 2020. Given such, the Project operated without accountability as to whether the Project achieved documented effectiveness toward reaching its overall goals.

DOM's Project Oversight Role

DOM oversight of the Project included the required submission of bimonthly Project status reports and the requirement to submit a comprehensive Project report when the Project transitioned from Phase One to Phase Two. However, there has been minimal oversight by DOM as to whether the Project was effective in achieving its overarching goals to reduce prediabetes and preterm births and achieve cost savings for Medicaid.

In its July 14, 2014, acceptance of DHA grant proposal, DOM specified several requirements in which DHA must adhere to as it relates to the Project. This included the submission

of bimonthly progress reports; a comprehensive progress report within five calendar days of the completion of Phase One and a final Project report within 30 calendar days of the completion of Phase One.

Submission of Bimonthly Status Reports: June 30, 2015, to February 28, 2019

DHA complied with the DOM grant requirement to submit to DOM bimonthly/quarterly progress reports (i.e., summary of expenses and list of current period accomplishments, activities critical for intervention implementation, and anticipated upcoming activities), submitting reports from December 21, 2014, to February 28, 2019. These served as program updates, and did not reflect whether or not the Project was effective in meeting its overarching goals. Both programs were in their third year when the last bimonthly report was submitted.

DHA complied with the requirement to submit to DOM bimonthly/quarterly progress reports, submitting such reports from December 21, 2014, to February 28, 2019. DHA's progress reports included:

- a summary of programmatic expenses;
- a Project summary;
- current reporting period accomplishments;
- activities critical to intervention implementation; and,
- anticipated activities for the next reporting period.

As part of the awarding of the grant, DOM required DHA to submit bimonthly reports on the status of the Project to DOM's Executive Director, commencing from the date of acceptance and continuing until completion of the Project. According to the grant award letter, if DHA failed to submit a bimonthly progress report, the Project could be discontinued and DHA shall be at risk of forfeiture of future grant award distributions.

However, these bimonthly reports served as program updates, and did not assess whether or not the Project's two programs were effective in meeting the overarching goals. Both programs were in their third year when the last bimonthly report was submitted in February 2019. According to DHA staff, "DHA discontinued the submission of bimonthly reports in March 2019 at the request of the DOM Executive Director."

In 2017, DHA also began utilizing an annual/semi-annual reporting format. Those reports are produced by the Center for Community Research and Evaluation (see discussion on page 33).

Submission of Phase One Progress Reports

DHA did not submit a formal, comprehensive report at the conclusion of Phase One, as required in the grant award letter, but did provide DOM a PowerPoint presentation that outlined projected Project outcomes and projected cost savings as well as a one-page document regarding the Phase One outcomes. In response, DOM requested significant follow-up work to answer questions not clearly answered in the DHA's/evaluator's reporting. This was the only time in which there was significant documented Project oversight by DOM (other than overseeing the data use agreement requirements). Neither DHA nor DOM could confirm the final Phase One Project report was submitted to DOM.

According to the grant award letter, DOM required the DHA to submit two separate reports to the DOM Executive Director at the conclusion of Phase One of the Project: 1) a comprehensive progress report within five calendar days of completion, and 2) a final Project report within 30 calendar days of completion.

According to DHA's President/CEO, DHA did not submit a formal, comprehensive Project report at the conclusion of Phase One, as required in the grant proposal acceptance letter. Instead, DHA met with DOM on May 15, 2018, and presented a 10-slide PowerPoint presentation that outlined projected Project outcomes and projected cost savings as well as a one-page document regarding the Phase One outcomes. Following this meeting, DOM requested significant follow-up work to answer questions not clearly answered by DHA and its contracted evaluator's reporting. This included requiring DHA to provide general information related to its reporting such as time periods and number of participants covered (versus only percentage comparisons DHA provided); document how it determined projected cost savings; and provide the statistical analysis used in the analysis.

DHA's contracted evaluator provided DHA's response to DOM on June 12, 2018. This is the only time in which DOM utilized its oversight authority over the Project, other than overseeing the data use agreement requirements.

Neither DHA or DOM could confirm the final Phase One Project report was submitted to DOM. According to the grant award letter, the final Project report must provide evidence of successful completion of Phase One of the Project by addressing all of the following: the purpose of the grant, the expected outcomes, the actual outcomes, the number of Mississippi Delta residents that benefited from the Project, and the status of the action plan for sustainability if the Project continues beyond the grant funding.

Submission of Phase Two Progress Reports

DHA's President/CEO stated DHA was not able to produce the Phase Two evaluation reports as of June 8, 2021, primarily because the data was unable to be run accurately. DHA's Health Information Technology Director cited concerns related to validating Medicaid claims data.

In addition, the Project timeline estimated that Phase Two would be completed August 18, 2020, for the Delta Medicaid Prediabetes Program and January 18, 2021, for the Healthy Pregnancy Program. Additionally, DHA's Project timeline projected DHA would complete a 36-month Delta Medicaid Prediabetes Program evaluation by February 28, 2021, and a 36-month Healthy Pregnancy Program evaluation by June 30, 2021.

According to DHA's President/CEO, neither of the Phase Two evaluation reports were completed. According to DHA, the major hurdle to producing the reports revolved around deficiencies in the data or lack thereof, primarily concerning cost data. DHA's Health Information Technology Director cited concerns related to validating Medicaid claims data. Given such, DHA's President/CEO stated the Phase Two evaluation reports were still unable to be run accurately as of June 8, 2021.

Legislature Requires Annual Progress Reports as Part of the Appropriation Process

Following concerns raised by the DOM Executive Director in 2018, the Mississippi State Legislature began requiring DHA to submit annual Project progress reports in 2019, and in 2020, made submitting such progress reports a condition to receive funding.

On December 28, 2018, the DOM Executive Director, Drew Snyder, submitted a letter to the Chairmen of the Senate and House Public Health Committees, Medicaid Committees, and Appropriations Committees raising concerns about the performance of the Project. He stated:

> *…I remain unable to endorse the Project in its existing form as a cost-effective use of taxpayer dollars.*

In 2019, the Legislature began including requirements that DHA submit an annual progress report for the Project in the language appropriating funding for the Project. Although the Legislature required a progress report, it did not specify what to include.

In 2020, the Legislature added specificity in terms of what items should be included as part of the progress report,[14] and made compliance with submitting the progress report

[14] This included number of persons served; amount of funds expended; list of contractual expenditures, including the amounts paid to each contractor and a description of services rendered; and staffing costs, by position.

a required condition to receive Project funding. DHA complied with submitting the information requested and provided it to DOM on July 16, 2020.

House Bill 1713, 2020 Regular Session, further required DHA to "establish performance measures that measure the ends to be achieved by each program activity implemented by the Alliance."

DHA complied with submitting the information requested, providing such to DOM on July 16, 2020. Additionally, in its July 16, 2020, response to DOM, DHA reported that

> *performance measures have been established to measure the ends to be achieved by each program implemented for that project.*

These performance measures, referred to by DHA as outcome metrics, can be found in Exhibit 7 on page 35.

These outcome metrics are utilized in the Center for Community Research and Evaluation's Project updates. The Project updates include undated, unsourced exhibits comparing the treatment group to the control group/benchmark group for most outcome metrics.

Has the Project had Results or Duplicated Existing Services?

This chapter includes a discussion of:

- an assessment of the Center for Community Research and Evaluation's efforts to evaluate the Project; and,
- the extent to which Project participants receive similar services from state-funded or applicable managed care programs.

Assessment of the Center for Community Research and Evaluation's Efforts to Evaluate the Project

The Center for Community Research and Evaluation's evaluation of the Project is insufficient to establish the effectiveness of the Project and its two respective programs, based on documents DHA and the Center for Community Research and Evaluation submitted to PEER. Primarily, the Center for Community Research and Evaluation is unable to document its project's research plan/methodology.

Lack of documentation undermines the evaluability of the research that is presented. If it is impossible for the outside observer to determine the mechanisms of statistical comparison in use, then it is impossible to determine whether the comparisons made and the conclusions drawn from them are valid.

Prior to such legislation, DHA established an evaluation process through its contract with the Center for Community Research and Evaluation to evaluate the Project's impact. The Center for Community Research and Evaluation first began evaluating the Project in 2017. According to both DHA and the Center for Community Research and Evaluation, the contract includes the evaluation of multiple other DHA programs.

The Center for Community Research and Evaluation produced six annual/semiannual Project update documents between 2017 and 2020, which range in length from one to eight pages. These documents, along with the documents DHA/the Center for Community Research and Evaluation submitted to DOM to satisfy the Phase One Project completion reporting requirements, serve as the Project's evaluation reports.

What outcome metrics does the Center for Community Research and Evaluation utilize to evaluate the Project?

The Center for Community Research and Evaluation reviewed the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program utilizing a combination of clinical outcome metrics, behavioral metrics, and cost savings metrics.

Exhibit 7 on page 35 provides a list of the Project outcome metrics for the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. In its Project updates, the Center for Community Research and Evaluation compares the results of Project participants against data for the control group/benchmark group.

The Delta Medicaid Prediabetes Program utilized four clinical outcome metrics, two behavioral metrics, and two cost metrics to assess the impact of the prediabetes intervention program. For example, the four clinical metrics that indicate prediabetes/diabetes are body mass index, blood pressure, cholesterol, and blood glucose.

The Healthy Pregnancy Program utilized three outcome metrics to assess the impact of the preterm birth intervention. These include incidences of preterm birth, low birth weight,[15] and very low birth weight.[16]

DHA also utilized a self-reported survey to conduct a behavioral assessment of program participants (e.g., depression, anxiety, alcohol use, tobacco use). The Center for Community Research and Evaluation compares participant survey results at either six months or twelve months to the participant's results at the beginning of the program (i.e., prior to the intervention).

The Center for Community Research and Evaluation also attempted to assess potential cost savings attributed to the Project. These are also discussed in Exhibit 7 on page 35.

In addition to these metrics, DHA's health information technology staff track the efforts to outcomes (ETO) related to each program. The Delta Medicaid Prediabetes Program's ETO report includes items such as:

- enrollment;
- number of participant contacts by method;
- monthly and quarterly home visits;
- expected home visits versus actual home visits by coordinator; and,
- expected monthly phone calls versus actual monthly phone calls by coordinator.

The Healthy Pregnancy Program's ETO report includes items such as:

- enrollment;
- live birth outcomes;
- expected home visits versus actual home visits, by coordinator; and,

[15] Defined by the Center for Community Research and Evaluation as less than 5 pounds, 8 ounces.
[16] Defined by the Center for Community Research and Evaluation as less than 3 pounds, 4 ounces.

- recruitment data (number of people reached, by coach, and number of referrals, by source).

Exhibit 7: Mississippi Delta Medicaid Population Health Demonstration Project Outcome Metrics

Delta Medicaid Prediabetes Program (Treatment Group vs. Control Group)	Healthy Pregnancy Program Birth Outcomes (Treatment Group vs. Benchmark Group)
Clinical Metrics • body mass index • hemoglobin levels • systolic blood pressure • blood glucose	**Clinical Metrics** • percentage of births that are preterm birth (less than 37 weeks) • percentage of births in which the newborn has a low birthweight (less than 5 pounds, 8 ounces) • percentage of births in which the newborn has a very low birthweight (less than 3 pounds, 4 ounces)
Behavioral Metrics (utilize self-reported survey results) • percent reduction in depression among participants with depression at baseline • percent reduction in anxiety among participants with anxiety at baseline	**Behavioral Metrics (utilize self-reported survey results)** • percentage of participants who quit smoking during the intervention • percentage of alcohol users who stopped drinking during the intervention
Cost-Savings Metrics • percent reduction in diagnostic costs (radiology, laboratory, pathology) billed to Medicaid relative to control group • percent reduction in behavioral health costs billed to Medicaid relative to control group	**Cost-Savings Metrics** • cost savings attributed to the mother by reducing incidences of preterm births • cost savings attributed to the child by reducing incidences of preterm births

SOURCE: PEER review of the Center for Community Research and Evaluation's annual/semi-annual Project updates of the Project issued between 2017 and 2020.

The following sections evaluate the Center for Community Research and Evaluation's efforts to evaluate the Project.

DHA's Contracted Evaluator Has Not Determined if the Project Has Achieved its Overarching Goals

Neither DHA nor the Center for Community Research and Evaluation has attempted to determine if the Project has reached its overarching goal, or what progress each program has made to date.

As stated in DHA's grant proposal, the overarching goal of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program was to reduce prediabetes and preterm births "each by five percent by demonstrating the value of population health management and the patient-centered medical home model."

Additionally, DHA specified goals for Phase One of the Delta Medicaid Prediabetes Program and the Healthy Pregnancy Program. These are as follows:

> *Goal 1 – Reduce the incidence of Type II Diabetes in* [the Project's initial] *five Delta counties by the identification and treatment of prediabetes, resulting from the 5 percent decrease in the number of patients who progress to Type II diabetes.*
>
> *Goal 2 – Improve pre-term birth rates in* [the Project's initial] *four Delta counties by at least five percent over 18 months.*

In reviewing the annual reports compiled by the Center for Community Research and Evaluation, PEER could not determine if DHA achieved the Project's overarching goals to reduce the incidences of prediabetes and preterm births by at least 5%. PEER inquired to see to what extent this has been tracked as part of the annual reports from 2017 to 2020.

The Center for Community Research and Evaluation explained to PEER that the evaluation of the Project's effectiveness to meet the overarching program goals for each program was explored the first year of the intervention. However, the Center for Community Research and Evaluation stated this assessment was not included in the evaluation reports or tracked over time. Neither DHA nor the Center for Community Research and Evaluation has determined if the programs have reached the overarching goals, or what progress each program has made to date.

The Project was also intended to achieve cost savings in providing care for Medicaid patients related to prediabetes and preterm birth. The Center for Community Research and Evaluation reported actual cost savings in 2017 and 2018 pertaining to the mother but was unable to report actual savings pertaining to the child. This was due to data being unavailable from DOM to assess this measure. Although the parties involved have worked to develop a method to link the child's cost data, actual cost savings were not included in the Center for Community Research and Evaluation's most recent evaluation report (December 2020). Furthermore, the annual/biannual evaluation reports indicate that actual cost savings data for preterm birth mothers were only measured and reported once in the approximately four-and-a-half-year history of the

intervention program (i.e., the December 2018 evaluation report).

CCRE Staff Contend Their Evaluation Focused on and Prioritized Service Delivery Rather than Strict Research and Evaluation

PEER found the Center for Community Research and Evaluation did not develop and document a comprehensive preregistered research plan detailing its research methodology for evaluating the Project. Such a preregistered research plan is critical in adhering to the best practices for reporting randomized and non-randomized control trials. CCRE staff contend their evaluation focused on and prioritized service delivery rather than strict research and evaluation, though their documentation and analyses show that their efforts involved a randomized controlled analysis of the effectiveness of the Delta Medicaid Prediabetes Program.

PEER requested the Center for Community Research and Evaluation's research strategy and research methodology. The Center for Community Research and Evaluation provided a five-page document outlining their research strategy, but without detailing the steps they took, or how they reached the conclusions they made.

In providing information to PEER, the Center for Community Research and Evaluation stated:

> *…there is not a single document that explains our research methodology. This is due to the technical complexity of the Project. Our model is that we conduct analyses throughout the year; sometimes these analyses identify concerns that warrant investigation into certain data issues (particularly with respect to the Medicaid claims data), or DHA may request exploration of new research questions; this leads to additional analysis and the cycle continues.*

Such methods do not adhere to best practices for documenting reporting of trials/evaluations of interventions established by the Consolidated Standards of Reporting Trials (CONSORT) Group for reporting of randomized controlled trials and the CDC's Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) group for standardized reporting of nonrandomized controlled trials. It is possible to perform analyses focused on other aspects of a program rather than its effectiveness at achieving its goals, but by definition, such analyses are not evaluations of effectiveness. See Appendix E on page 55 for a discussion of best practices.

Developing preregistered research documentation is important for two reasons. One, it allows an outside evaluator to independently trace the researcher's steps and reach the same conclusions. Two, the absence of such documentation draws into question whether such research

methods changed during the research process, why such methods may have changed, and if the researcher sought, even inadvertently, to influence the research to obtain favorable outcomes.

It is important to note that a preregistered research plan and contemporaneous documentation of changes (e.g., documentation of changes in real-time) to that plan are important in this context; post hoc documentation of presented results is not adequate. It is important that a research plan be made and registered with external stakeholders ahead of time, and that changes to that plan along with the reasons for those changes (e.g., scope limitations such as data concerns), be documented and registered as they occur.

While CCRE staff contend that their evaluation focused on and prioritized service delivery rather than strict research and evaluation, their documentation and analyses show that their efforts involved a randomized controlled analysis of the effectiveness of the Delta Medicaid Prediabetes Program. In June 2018, CCRE provided clarification information on questions posed by DOM regarding the CCRE analysis of the effectiveness of the Project. For example, DOM inquired about the statistical analysis utilized by CCRE. The information provided by CCRE stated:

> *Patients were placed into different strata based on sex, race, and age group (ten-year increments). Patients were excluded from the sample if they did not have a recent clinic encounter (approximately 14 months prior to randomization) or did not have complete data regarding their demographic characteristics. Then, patients were randomized into the control group or into the group of patients eligible for treatment.*

Specifically, the CCRE staff noted that the Healthy Pregnancy Program does not utilize a randomized control trial for its analysis. The information provided by CCRE stated:

> *Because of the decision by DOM to enroll all eligible patients, the preterm birth research design does not employ a randomized design like the prediabetes outcomes.*

The information provided in June 2018 by CCRE to DOM also states the use of a one-tailed t-test to be the most appropriate statistical test in evaluating the effectiveness of the Delta Medicaid Prediabetes Program, particularly in obtaining the results for reductions in body mass index (BMI).[17]

[17] CCRE claims, with a p-value of <.001, that their intervention had an effect in reducing BMI for the treatment group analyzed in 2018. In statistics, the p-value is the probability of obtaining results

PEER does not question the fact that the CCRE conducted multiple analyses using the available data provided by Cerner to attempt to measure the effectiveness of the Project for DHA. However, the more statistical analyses one conducts, the more one's risk of a false positive increases.[18] This fact can be compensated for, but only if one knows the exact comparisons that were made. Therefore, PEER notes potential concerns in the context of the many analyses conducted by CCRE on the Project with such a heavy emphasis on post hoc documentation of evaluation results.[19]

Using the evaluation results reported by CCRE, at no other evaluation period is the difference in BMI between the treatment and control group as great as it is noted by CCRE in its January 2018 report, and despite a well-established link between BMI and diabetes, no long-term difference in incidence of diabetes or death was observed by CCRE. In addition, CCRE staff had concerns that the data provided by Cerner are flawed. PEER cautions that both this lack of improvement in long-term clinical outcomes and the flaws reported in the data utilized in the analysis by CCRE leads to greater concern that the reported effects on BMI represent a statistical anomaly.

Extent of Service Overlap for Project Participants

Neither DOM, DHA, or the Center for Community Research and Evaluation tracked the extent to which Project participants received prediabetes or preterm birth intervention services from another source during the evaluation process. Given such, it is unknown to what extent such Project services overlapped with services provided by managed care providers, the Perinatal High-Risk Management/Infant Services System program (PHRM/ISS), or other applicable prediabetes- and pregnancy-related services.

PEER sought data from DHA and DOM/managed care companies to determine to what extent Project participants receive similar services from state-funded or managed care programs. PEER discusses its methodology for obtaining such in Appendix F starting on page 56.

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at least as extreme as the observed results of a statistical hypothesis test, assuming that the null hypothesis is correct. A smaller p-value means that there is stronger evidence in favor of the alternative hypothesis. In other words, the report asserts that we are at least 99.9% certain that the observed effect could not have occurred by chance.

[18] A typical standard of statistical certainty is that there is only a 5% chance of the observed result occurring by chance alone. The more comparisons made, the more likely it is for that 5% chance to occur. In other words, the actual chance of error may be much higher than the reported degree of confidence in the results.

[19] CCRE tested at least six hypotheses, only one of which was significant with at least the 0.05 level in two-tailed tests. The probability of achieving at least one false positive at that level in that many tests is 27%. This probability only increases if other years' data were analyzed; if the same analysis was conducted once per year from 2016 to 2020, the probability of at least one false positive rises to 79%. It increases further if other hypotheses are added; if one incorporates the eleven hypothesis tests conducted under the RAND survey instrument, the odds of at least one false positive during the entire evaluation period rises to 99%.

What areas of program overlap exist in relation to prediabetes and preterm birth programs offered in Mississippi to Medicaid recipients?

Although DHA offers prediabetes- and pregnancy-related programs, programs exist at the state level for participants to enroll that attempt to address issues related to prediabetes and preterm birth, to which any Medicaid participant may be referred.

Medicaid managed care recipients also have access to prediabetes- and pregnancy-related programs, but only those programs offered by the provider they enrolled with.

According to DOM, all Medicaid managed care members must first be enrolled with Medicaid fee-for-service. However, not all Medicaid fee-for-service members are eligible to receive managed care. See Appendix G on page 59 for a breakdown, by population category and age, of the Medicaid recipients who are mandated to participate in MSCAN versus those who have the option to do so.

Fee-for-Service Screening Efforts Related to Prediabetes and Preterm Birth

Medicaid beneficiaries are encouraged (not required) to visit their doctor or clinic for a free annual health screening.[20] Although DOM does not offer a particular program under fee-for-services geared toward addressing prediabetes intervention, Medicaid members would be screened for health conditions such as prediabetes as part of their free annual adult wellness health screening. Such could be utilized by their doctor in follow-up office visits in recommending more targeted health interventions. Medicaid fee-for-service participants may be referred to the Mississippi State Department of Health's (MSDH) Diabetes Prevention and Control Program (DPCP), discussed on page 41.

Medicaid fee-for-service participants at risk of preterm birth may be screened during visits with their OBGYN during their pregnancy. The participant's OBGYN or general doctor may refer the Medicaid participant to the state's Perinatal High-Risk Management/Infant Services System program (PHRM/ISS), which is discussed beginning on page 41. Between pregnancies, Medicaid participants may also receive preterm birth prevention services and family planning assistance (including contraception options) through the Medicaid Family Planning Waiver Program. For more on the Medicaid Family Planning Waiver Program, see the discussion on page 41.

[20] This physical examination is not used to determine their eligibility for Medicaid. The beneficiary does not have to pay for this health screening and it does not count as one of their office visits.

Overlap with State Programs that Attempt to Reduce the Incidences of Prediabetes/Diabetes

There is potential for Delta Medicaid Prediabetes Program participants to be dual enrolled in the Diabetes Prevention and Control Program (DPCP).

MSDH's Diabetes Prevention and Control Program (DPCP) is a federally funded state-based program established for the purpose of reducing the incidence and prevalence of type 2 diabetes in Mississippi and increasing the quality of life for all persons. The Diabetes Prevention and Control Program's target population includes all Mississippi residents with an emphasis on areas with the highest prevalence of diabetes, obesity, and cardiovascular disease. Services are provided through a network of healthcare providers.

Overlap with State Programs that Attempt to Reduce the Incidences of Preterm Births

There is potential for DHA Healthy Pregnancy Program participants to be dual enrolled in a Medicaid managed care program targeting at-risk pregnancy and/or the PHRM/ISS. UnitedHealthcare reported they attempt to dual enroll such members flagged for case management in both their pregnancy programs and the PHRM/ISS.

Medicaid recipients have access to two programs that attempt to reduce the incidences of preterm births: DOM's PHRM/ISS and the Family Planning Waiver program.

DOM's Family Planning Waiver program attempts to intervene between pregnancies to reduce incidences of preterm birth by encouraging birth spacing among women with a history of prior preterm births. The Family Planning Waiver program is for women and men who receive Medicaid benefits limited solely to family planning services. This includes contraception and family planning services, including one annual visit and subsequent visits related to birth control methods.

Operated by MSDH and funded by Medicaid per MISS. CODE ANN. § 43-13-117 (a) (19) (1972), the PHRM/ISS attempts to address high risk pregnancies and infants. Per MISS. CODE ANN. § 43-13-117 (a) (19) (1972), DOM shall:

> *… implement a comprehensive perinatal system for risk assessment of all pregnant and infant Medicaid recipients and for management, education and follow-up for those who are determined to be at risk. Services to be performed include case management, nutrition assessment/ counseling, psychosocial assessment/ counseling and health education.*

Medicaid beneficiaries are eligible to participate in this program when a physician, nurse practitioner, or certified

nurse-midwife identifies one or more positive risk factors on the PHRM/ISS perinatal screening form. This is a voluntary program; it is not mandatory for a beneficiary to participate in this program.

PHRM/ISS services include but are not limited to:

- finding doctors for maternity/child care;
- assisting with referrals to specialists;
- reviewing delivery plans;
- providing health education/counseling that is risk-appropriate;
- home visits; and,
- referring to outreach services such as family planning and preventative health services.

DOM's Family Planning Waiver program attempts to intervene between pregnancies to reduce incidences of preterm birth by encouraging birth spacing among women with a history of prior preterm births.

Overlap with Medicaid Services Available under Managed Care

There is potential for DHA Healthy Pregnancy Program and Delta Medicaid Prediabetes Program participants to be dual enrolled in a similar Medicaid managed care program targeting at-risk pregnancy populations or those with obesity, hypertension, or other like indicators of prediabetes/diabetes.

Medicaid participants enrolled in managed care have access to programs related to prediabetes, diabetes, and pregnancy.

As discussed previously on page 40, all Medicaid managed care members must first be enrolled with Medicaid fee-for-service and all adult Medicaid recipients must be enrolled in managed care unless meeting the exception criteria previously discussed (e.g., Medicare recipient, resides in an institution, or partakes in a Medicaid waiver program).

Such programs vary by managed care provider, including (a) how the managed care provider identifies those in need of such services, (b) what types of services are provided, and (c) what incentives the managed care provider offers to encourage participation in such programs. The Medicaid managed care member must choose one of the three contracted managed care providers (Magnolia, Molina, and UnitedHealthcare) to receive services.

In relation to targeting those at risk for prediabetes/diabetes, Magnolia Health provides disease management services for diabetes, asthma, obesity, hypertension, heart problems, and weight management. Like Magnolia Health, UnitedHealthcare does not specifically offer a prediabetes program but does target indicators of prediabetes/diabetes. Molina Healthcare's

Weight Watchers™ program enrolls eligible members in up to 12 weeks of online Weight Watchers service vouchers.

Pregnancy intervention programs vary by managed care provider. Magnolia Health offers Start Smart for your Baby®, a program for expecting and new mothers. Quarterly baby showers are held throughout the state where expecting and new mothers can receive information about having a healthy pregnancy, postpartum care, and infant care. Molina Healthcare's Pregnancy Program is intended to help high-risk mothers avoid premature birth, and provides tools for a healthier pregnancy. UnitedHealthcare offers its Healthy First Steps Program™, which is available for expecting and new mothers to receive ongoing maternal health education, care coordination, and community resources.

Did DHA or DOM Track Service Overlap in Relation to Project Participants?

Neither DOM, DHA, or the Center for Community Research and Evaluation tracked whether project participants received similar intervention services from the participant's Medicaid managed care provider or another source.

Neither DOM, DHA, or the Center for Community Research and Evaluation tracked whether project participants (or in the case of the prediabetes program, members of the control group) received prediabetes or preterm birth-related intervention services from the participant's Medicaid managed care provider or another source.

The lack of such pertinent information could hinder the evaluation of the program. This is for two reasons. One, the Project parties did not determine what other external factors impacted the program—i.e., whether or not the Project participant received similar intervention services. Two, the Project parties did not assess what impact such intervention services had.

For example, neither DOM, DHA, or the Center for Community Research and Evaluation know how many of the 1,055 unique enrollees in the Healthy Pregnancy Program are Medicaid managed care participants and therefore, how many received pregnancy-related services through their managed care provider during the time they received services from DHA.

Extent of Service Overlap between Medicaid Managed Care and DHA

DHA and DOM have not tracked the extent of service overlap between Medicaid managed care and Project participants. Due to data issues between DOM, Cerner, and DHA, DHA and Cerner were not able to provide a comprehensive data set to DOM for Project enrollees (e.g., Medicaid ID numbers). DOM and DHA are not able to determine the extent of service

overlap between Medicaid managed care and the Project's programs at this time.

Due to data issues between DOM, Cerner, and DHA, DHA and Cerner were not able to provide a comprehensive data set to DOM for Project enrollees (e.g., Medicaid ID numbers). DOM reported the absence of certain data impeded its ability to expedite the data request. Therefore, DOM and DHA are not able to determine the extent of service overlap between Medicaid managed care and the Project's programs at this time.

Because each of the Project's programs requires members to be at least 18 years of age and Medicaid eligible, participants are likely Medicaid managed care members. Approximately 65% of Mississippi Medicaid population receive Medicaid through MSCAN.

Medicaid beneficiaries not eligible for managed care services include those who are part of a Medicaid waiver program, those who also receive Medicare, and/or those who are in institutions (e.g., nursing facility, correctional facility).

What Is the Future of the Project?

During the 2021 Legislative Session, the Mississippi State Legislature passed House Bill 1400 (i.e., DOM's appropriation bill). House Bill 1400 significantly reduced the funding allocated to DHA for the Project from $4,161,095 in FY 2021 to $1,000,000 in FY 2022.

The Project is allowed to retain any unused funds for the next year. DHA projects the Project will have $1,173,938 in previously allocated funding remaining as of June 30, 2021.[21] With the appropriation of the $1 million for FY 2022, DHA projects the Project will have $2,173,938 in which to operate through June 30, 2022.

Given the reduction in funding, DHA reported it has taken the following actions "in order to have an orderly shutdown of the project and continue services to existing patients":

- Reduced the counties served by the Healthy Pregnancy Program to the ten Delta counties comprising Phase One and Phase Two; and,
- On May 19, 2021, DHA issued a letter to Cerner formally terminating the contract with Cerner, effective July 1, 2021.

In response to that letter, Cerner responded on June 8, 2021, that effective July 1, 2021, all Cerner services cease, and Cerner's HealtheIntent™ database would only be available in read-only mode. Cerner would then terminate all access to the HealtheIntent™ database effective September 1, 2021.

DHA expects to continue to provide services to existing participants already engaged in the Delta Medicaid Prediabetes Program through May 2022. Because DHA terminated the Cerner contract, DHA no longer has access to the Cerner-produced recruitment reports to identify new program participants.

DHA expects to continue the Healthy Pregnancy Program through June 30, 2022. The Healthy Pregnancy Program was not able to utilize items produced by Cerner.

Future Reporting Required of DHA by Legislature

House Bill 1400 requires DHA to provide a progress report on the Project to the Chairmen of the Senate and House Public Health Committees, Medicaid Committees, and

[21] DHA has not concluded its 2021 fiscal year, which ended June 30, 2021. This is in part because DHA utilizes accrual accounting. Given such, some FY 2021 Project expenses may not have been received and approved through DHA's accounting system.

Appropriations Committees on or before December 31, 2021.

House Bill 1400 also includes other prior language governing the Project, such as the condition requiring DHA to submit to DOM on an annual basis the following:

- Number of persons served by DHA;
- Amount of funds expended by DHA on approved activities;
- Names of staff employed by DHA by position title and annual salary; and,
- Names of contractors used by DHA to provide services, including the amounts paid and a description of services rendered.

Recommendations

1. DOM should report to the Legislature (e. g., Chairmen of the Senate and House Public Health Committees, Medicaid Committees, and Appropriations Committees) by December 31, 2021, alternatives for how DOM would utilize such funding if not allocated to the Project and the reasons why.
2. In order for PEER to evaluate the Project's evaluability in future years, DHA should implement the following steps:
    a. Develop a documented research methodology for how the program is evaluated;
    b. Develop performance measures, as required by the Legislature, including not only identifying outcome measures in which to report on the Project but identifying what levels are to be achieved. Additional performance measures might include but are not limited to:
        i. Number of participants completing each program each year;
        ii. Program completion rate; and,
        iii. Program non-completion rate.
    c. Document Project performance. This includes source data, metrics, and dates in Project evaluations.
3. The Legislature should require DOM to oversee the Project and report its findings in conjunction with DHA's annual progress report. This includes:
    a. assessing the efficacy of such performance metrics established by DHA;
    b. monitoring the Project's process toward achieving established performance metrics;
    c. evaluating DHA's compliance with developing a documented written methodology in which to evaluate and assess the Project's performance;
    d. determining, in conjunction with DHA, the extent of program overlap/service overlap with other state-funded programs; and,
    e. establishing and enforcing oversight mechanisms on holding DHA accountable (e.g., authority to assess liquidated damages).

Appendix A: DHA Programs, by County

Delta Health Alliance Grants

IMPROVING HEALTH CARE

1. Leland Medical Clinic (LMC) operated by DHA since 2013, is the only officially recognized Patient-Centered Medical Home in the Delta. Certified staff provides quality clinical services, behavioral health care and telehealth visits.

2. Mobile Medical Clinic, staffed by LMC's clinicians, brings convenient and quality medical care directly to local communities and employees.

3. Delta Heart Health Network is designed to reduce cardiovascular disease, connecting three rural healthcare providers using electronic health records and outreach workers to improve patient care.

4. Deer Creek Behavioral Health Network uses telemedicine partnerships to create access for mental health services not otherwise available in the Delta.

5. Delta STAR - Delta Systems of Treatment And Rehabilitation is a cooperative network with DHA and three rural health clinics to integrate alcohol addiction treatment programs between care settings in coordination with criminal justice systems in Sunflower and Washington counties.

6. Delta Opioid Taskforce Initiative DOT-3 develops drug treatment programs, expands recovery support services, alternative strategies for pain management and workforce training programs to combat the misuse of opioids in rural communities.

7. Delta Opioid Treatment Network SAMSHA expands screening, assessments, comprehensive treatment, early intervention, and recovery support services for individuals with opioid use disorders and co-occurring mental health disorders.

8. Youth Delta Opioid Taskforce DOT-Y connects our youngest victims of opioid crime to services and developing an ongoing strategy to provide relief to area youth affected by the opioid crisis in the Mississippi Delta.

9. BUILD Health Challenge is supporting LMC's efforts to become a Federally Qualified Health Center.

10. COMPASS - Commitment to Partnership in Addressing HIV/AIDS in Southern States meets the health education and medical service needs of rural, low-income, minority communities that have been disproportionately affected by HIV/AIDS.

11. Delta BLUES - Better Living Utilizing Engagement Strategies improves efficiencies, increases access to care, and strengthens rural health systems for residents of the Mississippi Delta who have been diagnosed with or are at risk for developing diabetes.

12. Delta Stroke Collaborative establishes a network of providers to prevent and treat stroke in rural communities of the Delta.

13. Delta Rx - Partnership between LMC and local groceries to provide cooking classes, workshops, home gardening assistance and 50% off store bought fruits and vegetables for patients with chronic health conditions.

INCREASING HEALTH INFORMATION TECHNOLOGY

14. Electronic Health Record (EHR) Services supports 78 providers in 12 counties across the Delta with more than 290,000 patient records in the system, assisting with hands-on training, long-term service, and meaningful use certification.

15. Delta Healthcare Service - Development of health care services & development and expansion of public health-related facilities in the Delta region

16. Delta Health Information Network provides upgrades to our EHR network that improve clinical workflows and the ability of providers to communicate quickly and securely with each other and their patients.

17. Medicaid Population Health Demonstration Project uses population health management tools and patient-centered interventions through EHRs to reduce pre-term births and to decrease the number of patients who develop diabetes.

EXPANDING EDUCATIONAL OPPORTUNITIES

18. Delta Futures Teen Pregnancy Prevention Program TPP1 and TPP3 implement an evidence-based program in public schools and rural health clinics that provides education to reduce teen pregnancy and promote safe sex practices.

19. Delta Futures 2 is an exetension of the Teen Pregnancy Prevention program now targeting college students.

20. Tobacco-Free Coalition provides education outreach and strategies for risk avoidance throughout the Delta, recognized by the state Department of Health for its exemplary service and outcomes.

21. Imagination Library is a partnership with the Dolly Parton Foundation to improve school readiness of children by delivering, free of charge, up to 60 developmentally-appropriate books to their homes. Readiness tests show that children enrolled in the program are significantly more prepared to begin kindergarten.

22. Delta EATS - Edible Agriculture Teaching Students - is a partnership that enables DHA to build community gardens in partnership with local schools, creating access to fresh foods and enabling students to gain educational knowledge for healthy lifestyles.

23. Whole Kids Foundation Delta EATS targets childhood obesity by implementing school programs to increase nutrition education, increase physical fitness activity, provide weekend meals to children, and build community gardens to improve access to fresh foods.

24. Farm2School engages students and families in the design, development and maintenance of school gardens, operated in partnership with area farmers to increase access to fresh produce while improving agricultural education.

25. DHA Head Start / Early Head Start program promotes school readiness of young children and support the mental, social, and emotional development of children birth to 5.

26. Early Head Start Childcare Partnership is a community-driven program addressing the critical need for high quality, affordable early childcare. The program has upgraded private daycare facilities and funds Early Head Start for 150 children. In addition, staff coordinate health and nutritional services, vision, oral, and health screenings, and support parental involvement.

27. Delta DREAMS provides low-income families with financial literacy education and incentives for savings to enable them to purchase assets and build wealth.

28. DART - Delta Assault Response Team Network is the network of partners Delta Health Alliance is creating to combat violence against women and provide services to victims of domestic violence, dating violence, sexual assault, and stalking.

29. WORC - Workforce Opportunity for Rural Communities - Training programs and industry partnerships to support growth of rural workforces in the fields of childcare and healthcare.

HELPING FAMILIES

30. Parents As Teachers works with families enrolled in Head Start to provide regular home visits by trained case workers, using the Parents As Teachers® curriculum.

31. U.S. Department of Health and Human Services Healthy Start Collaborative expands DHA's home visiting program to address infant mortality and poor maternal and infant health outcomes. This project also includes a fatherhood initiative using the 24/7 Dad® curricula.

32. Universal Parenting Place (UPP), located at LMC, provides a wide variety of services to support parents who need help with their child's development. The therapists on staff engage directly with parents and their children to overcome challenges, break destructive patterns, and ensure healthy families.

33. Sesame Street In Communities, a partnership between DHA and Sesame Workshop that brings free tools and resources to support parents and families addressing developmental, physical and emotional needs and to provide Comfy-Cozy Spaces as safe havens for families with children birth to 6.

34. Delta Families First expands access to wellness programs, dental services, vaccinations and EPSDT screening for low-income families.

35. The Delta Wellness Center is a state-of-the-art fitness center offering classes and programs for local residents.

BUILDING PROMISE COMMUNITIES

36. Indianola Promise Community (IPC) was one of the early promise community grants funded by the U.S. Department of Education. Working with the Sunflower County School District, the Indianola public schools, and local partners, DHA coordinates the delivery of a pipeline of services for children and families to ensure that area children have greater opportunities for success through a data-driven approach emphasizing educational milestones.

37. Deer Creek Promise Community (DCPC) connects the Leland and Hollandale school districts with a similar pipeline of services for children and families, replicating and expanding the programs implemented in Indianola to ensure that additional children have greater opportunities for success.

38. Phil Hardin Early Childhood Initiative funding will extend IPC's most successful programs addressing Kindergarten Readiness and 3rd Grade Reading Proficency (Promise School, Literacy Fellows) into South Sunflower Consolidated School District elementary school in Ruleville.

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SOURCE: PEER compiled from information provided by the Delta Health Alliance.

Appendix B: Participating Clinical Providers

DHA entered into MOAs with clinical providers to obtain their EMR data for the Project. Such information was used in the development and utilization of the HealtheRegistries for the Project.

In Phase One, DHA entered into MOAs with five clinical providers beginning February 1, 2015, and two additional clinical providers beginning June 30, 2015. The seven initial clinical providers were as follows:

- Aaron E Henry Community Health Center – February 1, 2015;
- Dr. Andrea L. Smith – February 1, 2015;
- Dr. Gus D. Berryhill – February 1, 2015;
- Gough's Family and Pediatric Clinic – February 1, 2015;
- Leland Medical Clinic – February 1, 2015;
- Dr. Arenia C. Mallory Community Health Center (includes five clinics) – June 30, 2015; and,
- Cummings Healthcare – June 30, 2015.

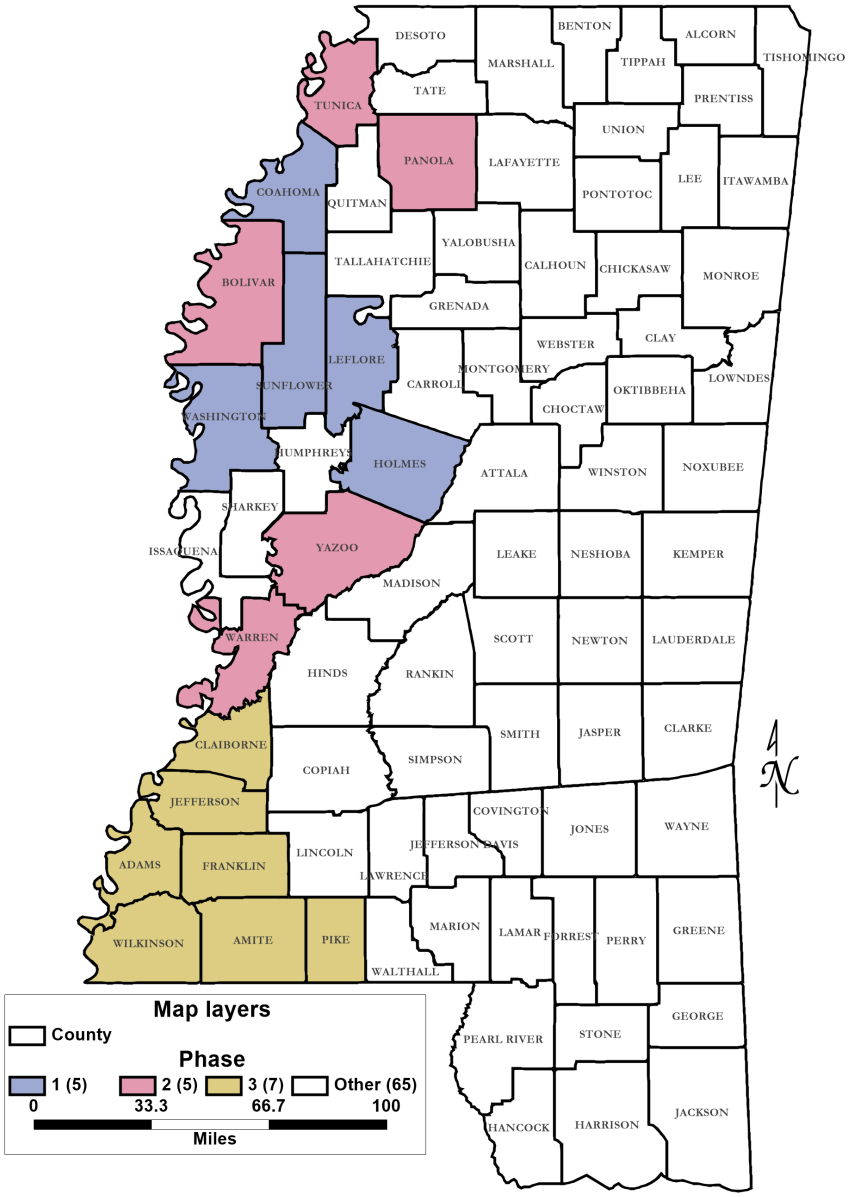
DHA later entered into MOAs with six more clinical providers to provide electronic medical record data, as follows:

- G.A. Carmichael Family Health Center (includes four clinics) – February 1, 2017;
- Healthy Living Family Medical Clinic – November 12, 2018;
- Shaw Family Medical Clinic – November 12, 2018;
- The Woman's Clinic – No date provided;
- Southwest Mississippi Regional Medical Center – December 19, 2019; and,
- Merit Health Natchez – October 27, 2020.

SOURCE: PEER compiled from information provided by the Delta Health Alliance.

Appendix C: Counties Served by the Project

This map provides an illustration of the counties served by the Mississippi Delta Medicaid Population Health Demonstration Project, including the phase in which the county was added.



*Phase One included Holmes County for the Delta Medicaid Prediabetes Program only; Holmes County was added for the Healthy Pregnancy Program as part of Phase Two.

SOURCE: PEER compiled from information provided by the Delta Health Alliance.

Appendix D: Cerner's Three HealtheRegistries™

In the document *Registry Requirements*, dated September 26, 2014 (version 0.5), DHA and Cerner identified the registry inclusion and registry exclusion criteria for the HealtheRegistries for the Prediabetes Screening Registry, the Prediabetes Registry, and the Pre-Term Birth Registry.

The Prediabetes Screening Registry was never utilized. PEER does not discuss the details of the registry in this appendix.

The Prediabetes Registry contained all adult patients who meet the inclusion criteria for prediabetes as demonstrated by the ADA, AACE, NIDDK, and NIDC.[22] Those included in the Prediabetes Registry population are excluded from the Prediabetes Screening Registry population. Exhibit D1 on page 52 lists the Prediabetes Registry exclusion and inclusion criteria.

Exhibit D1: Prediabetes Registry Exclusion and Inclusion Criteria

Patients excluded from the registry meet one of the following criteria:

- Diagnosis of Diabetes Type I, Diabetes Type II, or Diabetes Other[23] during the measurement period or 2 years prior to the measurement period;
- On Palliative Care during the measurement period;
- Deceased; or,
- Are Manually Excluded.

Patients included in the registry meet the following criteria:

- ≥ 18 years of age as of the last day of the measurement period; and,
- Patient:
    - Was diagnosed with:
        - Prediabetes during the current measurement period or the prior two measurement periods;
        - Polycystic Ovarian Syndrome any time prior to the end of the current measurement period;
        - Acanthosis Nigricans any time prior to the end of the current measurement period;
        - Morbid Obesity during the current measurement period or the prior two measurement periods; or,
        - Metabolic Syndrome during the current measurement period or the prior two measurement periods; or,
    - Has at least three of the following factors identifying Metabolic Syndrome:
        - Waist Circumference ≥ 102 cm if Male during the current measurement period or the prior two measurement periods;

[22] ADA - American Diabetes Association, AACE - American Association of Clinical Endocrinologists, NIDDK - National Institute of Diabetes and Digestive Kidney Disease, NIDC - National Diabetes Information Clearinghouse.

[23] The Diabetes Other concept contains other types of diabetes such as latent autoimmune diabetes in adults (LADA) and maturity onset diabetes of the young (MODY) but does not contain Gestational Diabetes or Polycystic Ovary Syndrome (PCOS).

        - Waist Circumference ≥ 88 cm if Female during the current measurement period or the prior two measurement periods and has no diagnosis of Pregnancy during the current measurement period or within 300 days prior to the beginning of the current measurement period;
        - Most recent Triglycerides ≥ 150 mg/dL during the current measurement period or prior two measurement periods;
        - Most recent HDL Cholesterol < 40 mg/dL for a Male during the measurement period or prior two measurement periods;
        - Most recent HDL Cholesterol < 50 mg/dL for a Female during the current measurement period or prior two measurement periods;
        - Blood pressure ≥ 130/85 mmHg during the current measurement period or 2 years prior to the measurement period as defined by the following:
            - Consider the most recent date that the patient has both a Systolic Blood Pressure value and a Diastolic Blood Pressure value, without an Emergency Visit or an Inpatient Visit on the same date; and,
            - If multiple values exist on that date, use the lowest Systolic Blood Pressure and Diastolic Blood Pressure values from that date; and,
            - The Systolic Blood Pressure ≥ 130 mm Hg; and,
            - The Diastolic Blood Pressure value ≥ 85 mm Hg.
        - Diagnosis of Hypertension during the current measurement period or prior two measurement periods; or,
    - Body Mass Index ≥ 40 kg/m2 during the measurement period or prior two measurement periods;
    - Takes or is prescribed one of the following anti-psychotic medications during the current measurement period:
        - Clozapine;
        - Olanzapine;
        - Quetiapine; or,
        - Risperidone.
    - Had at least one of the following during the current measurement period or prior two measurement periods:
        - HbA1c ≥ 5.7% at any time;
        - Fasting Plasma Glucose of ≥ 100 mg/dL; or,
        - Oral Glucose Tolerance Test ≥ 140 mg/dL.

SOURCE: *Registry Requirements*, dated September 26, 2014 (version 0.5). Cerner Corporation and Delta Health Alliance.

The Preterm Birth Registry contains only patients with an active pregnancy. For the purposes of the registry, preterm birth was defined as a birth between 24 weeks, 0 days, and 36 weeks, 6 days gestation. The registry was driven by evidence-based practice from National Quality Forum, American College of OB/GYN, Centers for Disease Control, et al. Exhibit D2 on page 54 lists the Pre-Term Birth Registry exclusion and inclusion criteria.

Exhibit D2: Pre-Term Birth Registry Exclusion and Inclusion Criteria

Patients excluded from the registry meet one of the following criteria:

- are male;
- has had a complete hysterectomy at any time prior to the end of the current measurement period;
- deceased; or,
- are manually excluded.

Patients included in the registry meet the following criteria:

- has a diagnosis of pregnancy or a pregnancy test positive documented during the current measurement period; and,
- does not have a live birth, stillbirth, or a pregnancy termination documented after the most recent pregnancy or pregnancy test positive.

SOURCE: *Registry Requirements*, dated September 26, 2014 (version 0.5). Cerner Corporation and Delta Health Alliance.

Appendix E: Research Best Practices

There are two sets of best practices for documenting reporting of trials/evaluations of interventions.

CONSORT Group Statement

The CONSORT Group established best practices for reporting of randomized controlled trials. CONSORT stands for Consolidated Standards of Reporting Trials. The CONSORT Group developed various initiatives to alleviate the problems arising from inadequate reporting of randomized controlled trials. The main product of CONSORT is the CONSORT Statement, which is an evidence-based, minimum set of recommendations for reporting randomized trials. It offers a standard way for authors to prepare reports of trial findings, facilitating their complete and transparent reporting, and aiding their critical appraisal and interpretation. The CONSORT Statement comprises a 25-item checklist and a flow diagram. The checklist items focus on reporting how the trial was designed, analyzed, and interpreted; the flow diagram displays the progress of all participants through the trial.

CDC's Trend Group Checklist

The Centers for Disease Control and Prevention's (CDC) Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) Group established best practices for standardized reporting of nonrandomized controlled trials. According to the CDC's TREND Group, evidence-based public health decisions are based on evaluations of intervention studies with randomized and nonrandomized designs. Transparent reporting is crucial for assessing the validity and efficacy of these intervention studies, and it facilitates synthesis of the findings for evidence-based recommendations. Specifically, the TREND statement has a 22-item checklist developed to guide standardized reporting of nonrandomized controlled trials.

SOURCE: The websites of the CONSORT Group and the CDC's TREND Group.

Appendix F: PEER's Methodology for Determining Extent of Program Overlap and Service Overlap

PEER sought to determine to what extent Medicaid participants receiving prediabetes intervention services or preterm birth intervention services as part of the Project were also receiving services from another state-funded program, particularly those funded through DOM.

Since the two programs operated under the Project only provide services to Medicaid-eligible recipients 18-years-old or older, PEER sought to determine what would happen if the Legislature discontinued funding for the Project?

PEER needed to answer the following questions:

- How do Medicaid-eligible recipients ages 18 or older receive services under the state Medicaid system?
- How does the provision of services differ if you are a managed care Medicaid recipient versus a fee-for-service Medicaid recipient?
- Did Project participants receive case management services related to prediabetes or pregnancy through one of the state's three MSCAN providers?

Extent of Program Overlap

PEER sought to identify state-funded programs seeking to provide similar prediabetes and pregnancy intervention/support services to the same population.

PEER sought to determine to what extent there is program overlap by answering the following questions:

- Who is eligible for managed care services under MSCAN?
- Who is not eligible for managed care services as part of MSCAN?
- How does access to Medicaid services differ between fee-for-service Medicaid participants and managed care Medicaid participants accessing services through one of three separate managed care providers?
- What areas of program overlap exist in relation to prediabetes and preterm birth programs offered in Mississippi to Medicaid recipients?

Extent of Service Overlap

PEER sought to determine to what extent Medicaid participants receiving prediabetes intervention services or preterm birth intervention services as

part of the Project were also receiving services from another state-funded program, particularly those funded through DOM.

Problem Statement

PEER sought to determine to what extent Medicaid participants receiving prediabetes intervention services or preterm birth intervention services as part of the Project were also receiving services from another state-funded program, particularly those funded through DOM.

PEER's intent in seeking such information was three-fold: (a) determine the extent of program overlap; (b) identify likelihood of provision of services if such DHA programs did not exist; and, (c) determine the effect of not tracking service overlap on evaluating the Project.

PEER also sought to know if participants in the Project were receiving overlapping services through Medicaid. Given such, PEER sought to know to what extent Project participants were receiving Medicaid-provided services for pregnancy or prediabetes intervention (e.g., those from a managed care provider).

In contrast, PEER sought to determine to what extent members in the prediabetes program control group were or were not receiving intervention services related to prediabetes. On one hand, such individuals met similar criteria as the treatment group but were not receiving intervention services from DHA. PEER sought to determine if these individuals were being cared for by the existing Medicaid system (i.e., either through their managed care provider or some other Medicaid or state program).

Methodology

PEER requested DHA directly provide DOM a list of Delta Medicaid Prediabetes Program participants. This list identified the participant, whether or not the participant was in the Treatment Group or Control Group, and if in the Treatment Group, if they received services under the Delta Medicaid Prediabetes Program, and the time such services were received. Those in the Control Group would have been identified by the Prediabetes Registry Criteria as being Medicaid eligible and candidates for the program, but were not included in the program and instead used as the comparison (nonintervention) group.

PEER also requested DHA directly provide DOM a list of the Healthy Pregnancy Program participants, identifying the participant and the time period in which the participant took part in the program. The Healthy Pregnancy Program only included program participants, and therefore did not have a separate treatment group and control group.

This information was provided directly to DOM due to the Personal Health Information (PHI) data involved, and

because both parties already had a data use agreement pertaining to the Project.

Using such data, DOM determined to what extent each participant received services via fee-for-service or managed care under MSCAN.

If a person received services from managed care, DOM determined which managed care provider. DOM then requested each managed care provider to identify whether their participants received prediabetes/diabetes intervention services or pregnancy-related services during the time period at which such services were provided by DHA (or in the case of the prediabetes control group, not provided by DHA).

PEER requested the numbers be reported in total, as reflected in Exhibit 3 on page 23 and Exhibit 4 on page 24, not individually. Again, this was due to the PHI data involved.

SOURCE: Methodology developed by PEER, in conjunction with applicable DOM and DHA personnel.

Appendix G: Mandatory versus Optional MSCAN Populations

Managed care encompasses two types of populations: optional and mandatory. See Exhibit G1 on page 59 for a breakdown, by population category and age, of the Medicaid recipients who are mandated to participate in MSCAN versus those who have the option to do so. The mandatory Medicaid population is required to utilize managed care. The optional categories include certain categories of children and Native Americans.

Exhibit G1: Mandatory versus Optional MSCAN Populations

Population Category	Mandatory	Optional
Supplemental Security Income (SSI)	Ages 19-65	Ages 0-19
Working disabled	Ages 19-65	
Breast/cervical cancer	Ages 19-65	
Pregnant women – below 194% Federal Poverty Line (FPL)	Ages 8-65	
Newborns – below 194% FPL	Ages 8-65	
Parents and Caretakers on the Temporary Assistance for Needy Families (TANF)	Ages 19-65	
Children		
Transition children – beginning state fiscal year 2015	Ages 1-19	
TANF	Ages 0-19	
Below age 6, below 143% FPL	Ages 1-5	
Below age 19, below 100% FPL	Ages 6-18	
Quasi-CHIP – previously qualified for CHIP, age 6-19, 100-133% FPL	Ages 6-19	
Age 0-19, below 209% FPL	Ages 1-19	
Department of Human Services (DHS) foster care children (IV-E)		Ages 0-19
DHA foster care children (CWS)		Ages 0-19
Disabled child living at home		Ages 0-19

*Native Americans also have the option to enroll in managed care or remain with Medicaid Fee-for-Service.

SOURCE: DOM website, (https://medicaid.ms.gov/who-qualifies-for-mississippican/).

Both optional and mandatory populations may choose their own managed care provider. The three current providers include Magnolia Health, UnitedHealthcare, and Molina Healthcare.

Division of Medicaid Agency Response

OFFICE OF THE GOVERNOR
Walter Sillers Building | 550 High Street, Suite 1000 | Jackson, Mississippi 39201

MISSISSIPPI DIVISION OF
MEDICAID

September 9, 2021

James Barber
Executive Director
Mississippi Joint Legislative PEER Committee
PO Box 1204
Jackson, MS 39215
Via Hand Delivery

Director Barber,

The Division of Medicaid appreciates the work that the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER) Committee has performed on the Mississippi Delta Medicaid Population Health Demonstration Project. Lonnie Edgar and Matthew Holmes, as well as the rest of the PEER staff, conducted exemplary work in performing this evaluation. This independent evaluation of the program will no doubt aid the Legislature in making the most cost effective and outcome driven decisions that improve healthcare in Mississippi.

As PEER stated in its report, I have previously raised concerns over whether this program has provided the most cost-effective use of taxpayer dollars in improving healthcare outcomes for the Medicaid populace. If the Legislature determines to continue this program, I agree with PEER's recommendations that the Legislature should grant more oversight authority to the Division in order to ensure that this program operates in the most cost-effective manner that promotes the mission of the Division of Medicaid by ensuring outcome driven results for Medicaid beneficiaries.

If the Division can be of any further assistance, please do not hesitate to contact Cody Smith at Cody.Smith@Medicaid.ms.gov.

With Regards,

Drew Snyder
Executive Director

Toll-free 800-421-2408 | Phone 601-359-6050 | Fax 601-359-6294 | medicaid.ms.gov

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Delta Health Alliance Agency Response

DELTA HEALTH ALLIANCE

September 7, 2021

James Barber
Executive Director
Joint Committee on Performance Evaluation and Expenditure Review
Woolfolk Building, Suite 301-A
501 N. West Street
Jackson, MS 39201

Re: **Delta Health Alliance (DHA) Response to PEER Report on Delta Medicaid Population Health Demonstration Project**

Dear Mr. Barber:

DHA appreciates the opportunity to have reviewed the PEER report on the Medicaid Population Health Demonstration Project. PEER Staff did an outstanding job of collecting and analyzing the documentation and efficiently completing the report. In addition, we appreciate the opportunity to submit our accompanying written Response to the report.

DHA respectfully submits our Response in hope that the readers may gain a more complete picture of the successes and challenges of the Medicaid Population Health Demonstration Project. DHA believes this project to be of great importance and value to the Division of Medicaid and to Medicaid recipients statewide in terms of reducing the incidence of diabetes and the number of pre-term births so prevalent in the Medicaid population.

Thanks for the opportunity to submit this Response.

Sincerely,

Karen Matthews

Karen Matthews, Ph.D
President and CEO

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RESPONSE OF DELTA HEALTH ALLIANCE (DHA) TO PEER REPORT ON DELTA MEDICAID POPULATION HEALTH DEMONSTRATION PROJECT

I. Introduction and Overview of DHA's Response

The data collected during the Medicaid Population Health Demonstration Project shows that thousands of Medicaid participants received health benefits that were cost-effective for the taxpayer. Despite initial delays inherent in the complexities of establishing a new pilot program, when funding was curtailed the program was making progress toward its stated goals based on health measures continuously tracked by DHA and its partner, CCRE.

Because the Medicaid Population Health Demonstration Project was a pilot program, systems had to be created, data transmission procedures had to be established, and project leaders had to evolve and modify the program continuously to account for changing circumstances. Lack of high-quality data from DOM and Cerner proved to be a constant hindrance to program implementation and health outcomes tracking.

Despite the complex challenges of creating a new program, the data DHA has collected clearly demonstrates the benefits of the program. For example:

- The State likely received a **Positive Return on Investment** from the program. Pairing estimates from literature on benefits and program impacts with program data on enrollments and grant costs, DHA estimates savings from reducing the frequency and complications of preterm births in the tracked population and the improved health indicators for the Prediabetes participants resulted in a **net program benefit to DOM of $5,107,042**, or **$2,706.44 per participant**.

- Eighty-three percent (83%) of program participants in the Health Pregnancy program and seventy-eight percent (78%) of Prediabetes program participants completed at least 5 visits. We find these rates to be promising given dropout rates typically observed in lifestyle interventions. With implementation of lifestyle interventions, the first several visits within the sequence generally have the most impact. For the Healthy Pregnancy Program, the initial set of visits are when the most critical needs of a mother are identified and solved to the extent practicable. Likewise, for the Prediabetes Program, patients are generally most motivated in the earliest interactions with the health coach.

- DHA rigorously tracked program participants for progress toward the stated goals of the program, subject to data limitations. Despite contract negotiations with DOM and program start-up complications that consumed the first two years of the program, DHA believes that progress was being made toward program goals once the programs were fully running. As of June 23, 2021, over 4,500 individuals were served either by direct enrollment in a Project-funded intervention or in related community outreach efforts. Babies served by the Healthy Pregnancy intervention were less than half as likely to be born very low birthweight as those born to Black women statewide, while Prediabetes

Program participants were consistently found to have greater reductions in body weight relative to non-participants.

The lack of readily available data and incomplete datasets substantially interfered with documenting outcomes or meeting expectations. For example:

- DHA was not notified of at-risk expectant mothers until months into their pregnancies, diminishing the potential effectiveness of the program.
- Until late 2020, Cerner and DOM did not establish a methodology to connect mothers' data with that of their babies to determine the baby-related cost savings and clinical outcomes related to the intervention.
- DHA never received correct costs data relating to the patients tracked in the intervention, distorting the cost-savings analysis of the programs.
- In 2018, unexpected changes were made to Cerner's algorithm for identifying patients at risk of diabetes, resulting in the inclusion of less at-risk patients into the intervention.
- Clinical outcomes were only measurable using data from a limited set of electronic health records systems rather than Medicaid claims, reducing the number of data points available to assess. This was aggravated due to COVID-19, when the shift to telehealth for chronic care reduced the ability of providers to collect clinical data points.
- Data extracts provided by Cerner for evaluation of the Project often did not include the full populations of individuals served by or relevant to the Project; datasets provided to DHA were often pulled under different parameters and without full documentation.

II. Responses to Specific PEER Findings and Recommendations

PEER Finding:

CCRE Staff Contend Their Evaluation Focused on and Prioritized Service Delivery Rather than Strict Research and Evaluation

PEER found the Center for Community Research and Evaluation did not develop and document a comprehensive preregistered research plan detailing its research methodology for evaluating the Project. Such a preregistered research plan is critical in adhering to the best practices for reporting randomized and non-randomized control trials. CCRE staff contend their evaluation focused on and prioritized service delivery rather than strict research and evaluation, though their documentation and analyses show that their efforts involved a randomized controlled analysis of the effectiveness of the Delta Medicaid Prediabetes Program.

DHA Response:

DHA 's confidence and satisfaction in the services and evaluations provided by CCRE is extremely high. CCRE was put in the unfortunate situation of evaluating a project beset with substantial data limitations, including incomplete cost data, insufficient documentation and changing parameters in data files provided by Cerner. In addition, the project emphasized

flexibility in order to maximize its reach, rather than sacrificing the quality of participant services to adhere strictly and rigidly to a set of research protocols. CCRE has been a vital partner in informing DHA's decisions, following a systematic and standardized process despite the adaptations needed to account for these limitations.

The key goals of the Population Health Demonstration Project's evaluation were focused on supporting DHA's service delivery efforts to reduce the incidence of preterm birth and diabetes. The intent of DHA and CCRE reporting was not to conduct an academic randomized or non-randomized controlled trial.[1] Instead DHA and its partners conducted an evaluation on a continuously adapting intervention that would provide stakeholders with feedback to aid in improving the intervention, communicated in a way that non-technical readers could understand. That difference highlights a common tension between research and evaluation.[2]

DHA and CCRE agree with PEER that transparent documentation of methodological practices is important. Over the course of the project, CCRE did document methodology contemporaneously. However, efforts to follow a preregistered, non-adaptive methodology were complicated because the data provided by Cerner was pulled under parameters that were changing constantly. This was in part due to ongoing data challenges. For example, in 2020, CCRE evaluated the grant mid-year, and calculated a battery of findings that raised several data concerns. Upon further evaluation of these data concerns, CCRE learned that some of the data it received and used to build the report was incorrect. In fact, nearly all of CCRE's evaluations identified significant flaws within the data provided to CCRE that hindered evaluation. These challenges forced CCRE to use a "data-driven" approach to its evaluations, focusing first on a thorough examination of the available variables and data quality within a particular dataset. Data-driven approaches to evaluations using secondary data and adaptive evaluations consistent with a project's theory of change are both common and accepted practices in the field of evaluation.[3] Nevertheless, the evaluation and analysis of the interventions followed a systematic and standardized process: CCRE strived as much as possible to follow the methodology documented in its five-page research methodology that CCRE provided to PEER, evaluating the grant holistically with respect to the project's theory of change.

DHA also emphasizes that the evaluation of this project was supervised at various points by three independent Institutional Review Boards (Delta State University, University of Tennessee Health Science Center. and the Mississippi Department of Health).

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[1] The original project design of the Prediabetes Program, which predates CCRE, randomized individuals into a cohort of individuals eligible for recruitment into the study and a cohort of control participants. While randomization occurs that can potentially be leveraged to assess impact, this is not a randomized controlled trial. A research study would enroll all participants and randomize the intervention received (possibly one intervention being a placebo), rather than randomizing pre-enrollment. In addition, a true trial has rigorous methods to collect data, but in this study, evaluators were reliant on secondary data collected during clinical practice as patients sought medical care.

[2] For more discussion, see, for example: M Levin-Rozalis. 2003. "Evaluation and Research: Differences and Similarities." *The Canadian Journal of Program Evalaution*, 18.2: p.1-31.

[3] For more discussion, see, for example: E Breuer, L Lee, M de Silva, and C Lund. 2015. "Using Theory of Change to Design and Evaluate Public Health Interventions: A Systematic Review." *Implementation Science* 11.63; and AK Smith et al. 2011. "Conducting High-Value Secondary Dataset Analysis: An Introductory Guide and Resources." *Journal of General Internal Medicine* 26, p.920-929.

PEER Recommendation #1:

> *In order for PEER to evaluate the Project's evaluability in future years, DHA should implement the following steps:*
>
> a. *Develop a documented research methodology for how the program is evaluated;*
> b. *Develop performance measures, as required by the legislature, including not only identifying outcome measures in which to report on the project, but identifying what levels are to be achieved. Additional performance measures might include but are not limited to:*
> i. *Number of participants completing each program each year;*
> ii. *Program completion rate; and,*
> iii. *Program non-completion rate*
> c. *Document project performance. This includes including source data, metrics and dates in project evaluations.*

DHA Response:

To be clear, a research methodology has been in place since the inception of the project. It has not, however, been formalized in the manner recommended by PEER. DHA concurs with recommendation 1 above by implementing steps a and b, with the following observations:

a. DHA has already taken action to document more thoroughly (in accordance with PEER's description) a research methodology for how the program is evaluated. PEER's recommendations are appropriate and the research methodology will be refined to more closely follow the models cited by PEER. DHA will work with CCRE to describe, clearly and explicitly, the key research questions, methods, and data sources to be used in the end-of-year evaluation of the Project. This will include information on source data, metrics, and dates. The evaluation plan, to be completed no later than October 15, 2021, will adhere to the TREND checklist and reflect the anticipated data available, taking into account new limitations due to the expiration of DHA's contract with Cerner Corporation. The plan shall be contemporaneously published on the website of the CCRE. Following this plan, the evaluation shall be completed no later than December 31, 2021. A technical report that takes into account this evaluation plan, consistent with PEER's recommendations, shall report the findings of the evaluation. The technical report will provide full documentation of statistical findings and list any deviations from the evaluation plan and shall also be published on CCRE's website. This technical report shall accompany DHA's end-of-year annual report to DOM and the Legislature. A similar process of preregistration and documented evolution of evaluation procedures will be adhered to in future iterations, if any.

b. DHA appreciates PEER's recommendations to specify clear targets with respect to Project performance measures. However, the curtailing of Project funding and the cancellation of DHA's contract with Cerner Corporation is likely to significantly affect DHA's ability to track performance measures moving forward. In its December 2021 evaluation, CCRE will make recommendations to DHA to reassess the feasibility of tracking the performance

measures mentioned by DHA in its reports to the Legislature, including number of enrollments, number of program activities, body mass index, cholesterol, blood pressure, blood glucose, hemoglobin A1c, preterm birth, low birthweight, costs, and other metrics of maternal and child health, as well as those metrics proposed in PEER's recommendation. If determined to be feasible, CCRE will specify in this evaluation a technical definition for each measure and a proposed level. DHA will use this information as guidance to finalize proposed measures no later than February 28, 2022. These measures shall be shared with DOM for input, with the final measures to be published on CCRE's website. Progress on measures shall be tracked at least annually, or along the timeframe decided by DOM.

PEER Recommendation #2:

The Legislature should require DOM to oversee the project and report its findings in conjunction with DHA's annual progress report. This includes:

a. *Assessing the efficacy of such performance metrics established by DHA;*
b. *Monitoring the projects progress toward achieving established performance metrics;*
c. *Evaluating DHA's compliance with developing a documented written methodology in which to evaluate and assess the Project's performance; and,*
d. *Determining, in conjunction with DHA, the extent of program overlap/service overlap with other state funded programs.*

DHA Response:

DHA concurs with recommendation 2 above. DHA will work with DOM and the Legislature to assess and improve the performance metrics for evaluating the program as drafted by DHA and CCRE, as described previously. DHA also recognizes the importance of an assessment and evaluation methodology that is written, well documented and supported by project stakeholders. DHA has taken action to ensure that such documentation is implemented and updated to best reflect methodological changes and evolution. We will continue to work with DOM and PEER so that such documentation is kept updated and meets project oversight needs.

DHA will also cooperate and collaborate with DOM to determine the extent of program overlap/service overlap with other state funded programs. While the premise on which the project was proposed and approved did not exclude Medicaid enrollees participating in other state programs or managed care, DHA will work with DOM and CCRE to determine the extent to which service overlap can be meaningfully detected. While DHA does not now and never had the necessary data to address that issue, DHA will work with DOM to attempt to determine a methodology and data source to evaluate it. Without administrative data, DHA will be unable to evaluate this issue for anyone other than active enrollees who self-report program overlap in the Future.

III. Additional Comments

The information provided below is offered to give a broader understanding of the benefits and successes of the project by clarifying and supplementing certain sections of the report, providing information about the start-up, implementation and operation of the project.

Project Delays and Lack of Timely Data Impacted the Ability of DHA/CCRE to Evaluate Long Term Goals.

DHA and CCRE tracked population-level preterm birth and diabetes outcomes throughout the intervention. However, not all examinations specifically referred to a 5% goal because of the delay in startup of the two interventions and the duration of the initial pilot period (18 months) that the initial goals referred to. Moreover, CDC surveillance data on diabetes lags by at least three years; consequently, previous examination of the achievement of Prediabetes Program goals has been delayed. While population-level preterm birth data is more timely, these measures are only available through 2019, so only a limited assessment of such a goal could have been conducted as the interventions did not approach population scale until that year. Because of the limited usefulness in these goals to evaluate project effectiveness, DHA and CCRE prioritized the tracking of measures that are both continuous rather than dichotomous and predictive of diabetes prevention, such as body mass index, blood glucose, and blood pressure. CCRE's evaluations have generally found positive impacts on these measures: for example, all CCRE evaluations identified statistically significant reductions in body mass index for enrolled participants relative to control participants.

Program Enrollment

The completion rates cited in PEER's analysis could benefit from additional information explaining the status of participants that "Did NOT Complete the Program". In reality, participants have to discontinue participation in a program for many reasons (including loss of Medicaid coverage, termination of a pregnancy, moving, etc.) but may have stayed in the intervention for a significant amount of time, thereby benefitting from the intervention protocol.

In more closely reviewing the number of participants who had to drop out before completion, we determined the following:

Program	**# of Dropouts**	***Completed at least 5 visits**	****Completed at least 8 visits**
Healthy Pregnancy	365	196	106
Program	**# of Dropouts**	***Completed at least 5 visits**	****Completed at least 12 visits**
Prediabetes	469	242	123
*This is the median value for each group, incompletes only. **This is the 75% percentile for each group, incompletes only.			

For the Healthy Pregnancy intervention, we found that on average that participants that did not complete the program had 5.9 visits while participant completing the program had 7.6 visits. Likewise, for the Prediabetes intervention, we found that on average that participants that did not complete the program had 14.3 visits while participant completing the program had 22.5 visits. In both cases, this represents a significant proportion of the program having been completed. With respect to lifestyle interventions, the first several interventions within the sequence generally have the most impact. For the Healthy Pregnancy Program, the first few visits are when the most critical needs of a mother are identified and solved to the extent practicable. Likewise, for the Prediabetes Program, patients are generally most motivated in the first few visits. Given recent research reporting similar projects with dropout rates as high as 80%,[4] we interpret these results as positive.

In addition, in terms of return-on-investment (ROI), it is likely that savings were realized by the Mississippi Medicaid program. DHA updated a return-on-investment (ROI) analysis conducted by CCRE in 2018 to reflect actual costs expended by DHA on the grant and enrollment. Using these updated assumptions, the analysis estimated a net benefit of the program to date of **$5,107,042**: the net benefit per individual in the program to date is **$2,706.44**. This represents a rate of return of **38%**.[5] These numbers would have been much higher if the state had pursued Federal matching to fund the Project. We note that this analysis uses theoretical benefits relating to the prevention of diabetes and preterm birth; DHA is unable to determine a precise return-on-investment using actual benefits due to continued inability to obtain valid, reliable data on the costs of Medicaid claims from Cerner Corporation.

Table 1: Return on Investment 2021			
	Benefit	Costs	**ROI**
Total	$18,502,393.00	$13,395,351.00	**$5,107,042.00**
Individual	$9,805.19	$7,098.76	**$2,706.44**

RESPECTFULLY SUBMITTED, this 7th day of September, 2021.

DELTA HEALTH ALLIANCE, INC.

By: Karen C. Matthews

Karen C. Matthews, President & CEO

[4] For example, see Lie, S. S., Karlsen, B., Oord, E. R., Graue, M., & Oftedal, B. 2017. Dropout from an eHealth intervention for adults with type 2 diabetes: a qualitative study. *Journal of Medical Internet Research, 19*(5), e187.

[5] Rate of return shows the ROI as a percentage. A rate of return of zero would indicate breaking even. A positive rate of return indicates a favorable investment.

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