Update on Coverage of Nurse Home Visits for Pregnant Women and Families with Young Children

Session Law 2018-5, Section 11H.3.(b)

Report to the

Joint Legislative Oversight Committee on Medicaid and NC Health Choice

By

North Carolina Department of Health and Human Services

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Update on Coverage of Nurse Home Visits for Pregnant Women and Families with Young Children
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Report to the Joint Legislative Oversight Committee on Medicaid and NC Health Choice by
North Carolina Department of Health and Human Services
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Legislative Reporting Requirement

Session Law 2018-5 states:[1]

> **MEDICAID COVERAGE FOR NURSE FAMILY PARTNERSHIP MODEL PILOT**
>
> **SECTION 11H.3.(a)** No later than August 1, 2018, the Department of Health and Human Services (DHHS) shall submit to the Centers for Medicare and Medicaid Services any State Plan amendments or waivers necessary to draw down a Medicaid federal match for coverage of the services provided under the County Pilot A design contained in the DHHS report to the Joint Legislative Oversight Committee on Medicaid and NC Health Choice dated January 24, 2018, entitled "Plan to Implement Coverage for Home Visits for Pregnant Women and Families with Young Children." Coverage of the services provided under the County Pilot A design shall be expanded statewide upon the conclusion of the pilot. The State Plan amendment or waivers submitted under this section shall provide for the Medicaid federal match effective July 1, 2018, as well as for the future statewide implementation.

[1] https://www.ncleg.net/EnactedLegislation/SessionLaws/HTML/2017-2018/SL2018-5.html

SECTION 11H.3.(b) No later than November 1, 2018, the Department of Health and Human Services (DHHS) shall report to the Joint Legislative Oversight Committee on Medicaid and NC Health Choice on the expected savings associated with the County Pilot A design contained in the DHHS report to the Joint Legislative Oversight Committee on Medicaid and NC Health Choice dated January 24, 2018, entitled "Plan to Implement Coverage for Home Visits for Pregnant Women and Families with Young Children." The report shall also include an expected time line for statewide implementation and expected outcomes and savings associated with the statewide expansion.

No later than six months after the conclusion of the County Pilot A program, DHHS shall report to the Joint Legislative Oversight Committee on Medicaid and NC Health Choice and the Fiscal Research Division on the actual outcomes and savings achieved through the County Pilot A program.

For the purposes of this subsection, the term "savings" shall include, but is not limited to, savings based on outcomes related to the health status of pregnant women and babies, the utilization of services based on cost, savings generated due to a decline in hospitalizations, and savings associated with future health care costs of the mother and child.

Executive Summary

The North Carolina Department of Health and Human Services (DHHS) has a longstanding collaboration among its Divisions and community providers across the state to deliver maternal and child health services. Based on provisions included in the 2017 Appropriations Act, DHHS previously outlined a plan for implementing pilot projects in two counties for Medicaid coverage of nurse home visiting (NHV) services, including one pilot providing services that are consistent with the model used by the Nurse-Family Partnership (NFP) that targets first-time, low-income mothers.[2] In response to provisions included in the 2018 Appropriations Act (Section 11H.3 of Session Law 2018-5), this report provides an update on the pilot operating in Cleveland County (also referred to as "County Pilot A") and a discussion of issues regarding statewide implementation of Medicaid coverage of NFP services.

Key points include the following:

- The Cleveland County pilot began operating in July of 2018 and is planned to run for one year. Given that the pilot has been operating for less than six months and has enrolled a very small number of women to date, DHHS is currently contemplating an analysis to examine selected outcomes for first-time Medicaid mothers and children who have received NFP services along with their standard Medicaid benefits, comparing them to those whose Medicaid coverage reflects standard benefits alone.
- Statewide implementation of Medicaid coverage of NFP services requires a consideration of issues that include but are not limited to costs, service availability, and the implications for managed care. It is not currently possible to implement Medicaid coverage of NFP services as a statewide benefit in light of workforce shortages.

[2] https://www.ncleg.net/documentsites/committees/BCCI-6660/Reports%20to%20the%20LOC/Reports%20Received%20in%202018/SL%202017-57%20Sec%2011H.14%20Home%20Visits%20for%20Pregnant%20Women%201.24.18.pdf

- As North Carolina transitions its Medicaid and NC Health Choice programs from a predominately fee-for-service (FFS) delivery system to prepaid health plans (PHPs) under managed care, existing specialized programs for pregnant women and at-risk children will change. The primary role of DHHS in a managed care environment is to hold PHPs accountable for providing high-quality care and improving outcomes by setting clear priorities and objectives. Under this paradigm shift, plans are given discretion—within designated boundaries—on the means they use to achieve those end goals. Any new coverage of specialized services, including those provided in accordance with the NFP model or other evidence-based NHV programs, must be examined in this context. To date, NFP services have not been contemplated as a benefit that PHPs must offer. If NFP is made mandatory, new policy guidance would need to be drafted and capitation rates revised to account for the additional costs that PHPs would incur for payments to NFP providers. Any health care cost savings associated with the provision of NFP services would accrue to PHPs in the short run, as capitation payments to the PHPs would not immediately be adjusted to reflect their lower claims costs.

Acronyms Found in this Document

ACRONYM	DEFINITION
CC4C	Care Coordination for Children
DHHS	Department of Health and Human Services
DMA	Division of Medical Assistance
DPH	Division of Public Health
FFS	Fee-for-service
FPL	Federal poverty level
HVS	Home visiting services
JLOC	Joint Legislative Oversight Committee
MIECHV	Maternal, Infant, and Early Childhood Home Visitation Program
NFP	Nurse-Family Partnership
NICU	Neonatal intensive care unit
NHV	Nurse home visits
OBCM	Pregnancy Care Management
PHP	Prepaid health plan
PMH	Pregnancy Medical Home
SPA	State plan amendment

Background

The mission of North Carolina's Department of Health and Human Services is to provide essential services to improve the health, safety, and well-being of all state residents. For pregnant women and children in particular, the Divisions of Medical Assistance (DMA) and Public Health (DPH) oversee a wide range of services and specialized programs. These currently include but are not limited to Medicaid's Pregnancy Medical Home (PMH), Pregnancy Care Management (OBCM), and Care Coordination for Children (CC4C) programs. Home visiting services (HVS) are another strategy employed to improve health, safety, economic, and other outcomes for children and mothers. As national models have evolved, supported in part with federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) funds, DHHS has participated in a variety of evidence-based home visiting programs currently implemented in North Carolina. These include:

- Nurse-Family Partnership
- Healthy Families America
- Parents as Teachers
- Child First
- Early Head Start Home Visiting
- Family Connects

A recent study that included a survey of organizations providing HVS in North Carolina reported more than 70,000 home visits statewide in 2017, with more than 5,300 families served and a workforce of more than 400 home visitors and supervisors.[3] The same study noted that North Carolina recorded more than 120,000 births in 2016, and that the state had an estimated 723,800 children in 572,800 families who could benefit from home visiting services. Depending on who is targeted for participation, these figures indicate a potentially large difference between the need or demand for services and their availability.

In 2017, to further support home visitation efforts, North Carolina passed state legislation directing Medicaid to pay for evidence-based home visits that are consistent with the NFP model, with coverage implemented statewide or through a pilot program. In a January 2018 JLOC report by DHHS, plans were outlined for pilot Medicaid coverage in two counties.[4] Subsequent 2018 state legislation required a JLOC report that contains:

- Expected savings associated with Medicaid coverage of services provided under the pilot operating in Cleveland County (i.e., "County Pilot A"), which adheres closely to the NFP model.[5]
- An expected timeline for statewide implementation of Medicaid coverage of NFP services.
- Expected outcomes and savings associated with the statewide expansion of Medicaid coverage of NFP services.

County Pilot A

The NFP program has been operating in Cleveland County since 2008, and the county is 1 of 25 currently served out of 14 NFP locations in the state.[6] NFP is an established, evidence-based model that provides regular home visitation to first-time, low-income pregnant mothers. Depending on when a woman enrolls, approximately 58 home visits are provided from pregnancy through the child's second birthday by nurses trained in accordance with the NFP model. (Additional background on the NFP model is provided later this report.)

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[3] These figures reflect only those programs responding to the survey, which were primarily delivering intensive "evidence-based" models. The number of families receiving any home visiting services is likely much higher. http://jordaninstituteforfamilies.org/wp-content/uploads/2018/09/NC-HV-Study-09_07_18-FINAL.pdf

[4] https://www.ncleg.net/documentsites/committees/BCCI-6660/Reports%20to%20the%20LOC/Reports%20Received%20in%202018/SL%202017-57%20Sec%2011H.14%20Home%20Visits%20for%20Pregnant%20Women%201.24.18.pdf

[5] The design for nurse home visits with Medicaid coverage under "County Pilot B" (operating in Johnston County) differs from the NFP model.

[6] https://www.nursefamilypartnership.org/locations/north-carolina/

Pilot Medicaid coverage of NFP services began in Cleveland County during July of 2018. Because the Cleveland County pilot was designed to operate for one year only and Medicaid coverage is being phased in as slots open up, children born to mothers in the pilot will all be under age 1 during the pilot period. Medicaid coverage of NFP services under the pilot is provided in addition to services under the existing Medicaid PMH, OBCM, and CC4C programs in North Carolina. For certain high-risk Medicaid beneficiaries, medically oriented NHV services are also covered.

Nurses with the local health department provide NFP services in Cleveland County, and Medicaid payment is made on a FFS basis using a designated billing code.[7] This Medicaid payment amount does not cover the total cost of the NFP program for Medicaid beneficiaries, because it does not include any provision for administrative or overhead costs. Medicaid funding for the pilot currently consists of state dollars alone, with no federal matching funds.

NFP Model

The NFP is a voluntary program aimed at first-time, low-income pregnant women, many of whom are very young (e.g., with a median age of 20 in North Carolina[8]). Those with incomes below the federal poverty level (FPL) are a key target group, but other populations may be included as well. In North Carolina's Medicaid program, for example, pregnant women are covered up to 196 percent of the FPL. The NFP visit schedule includes:

- Weekly visits in the first month (with enrollment by 28 weeks pregnant)
- Every other week until the child is born
- Weekly for the first six weeks after the child is born
- Every other week through the child's first birthday
- Every other week until the child is 21 months
- Monthly until the child is 2 years old

Home visits are provided by NFP-trained nurses whose caseloads are limited to 25 families per nurse and one masters prepared nurse supervisor. When home visits are provided by paraprofessionals the caseload is limited to fewer than 25 families and two supervisors per paraprofessional. As noted earlier, North Carolina has 14 NFP program sites that serve 25 counties. Nurses are from the local health department or partnering non-profits. Nationwide, the 2015 cost of the program was $9,403 per family for an average duration of enrollment (including those who drop out), or $6,640 per family per year.[9] In North Carolina, the average cost is $11,583 for a family that remains enrolled from pregnancy until the child is 2 years old.[10]

[7] While the pilot only included a provision for billing by local health department nurses, other entities can provide NFP services. If Medicaid coverage of NFP services were expanded beyond the pilot, these entities would need to be eligible to enroll with Medicaid and do so in order to bill the program.

[8] https://www.nursefamilypartnership.org/wp-content/uploads/2018/05/NC_State-Profile.pdf

[9] https://homvee.acf.hhs.gov/Implementation/3/Nurse-Family-Partnership--NFP--Estimated-Costs-of-Implementation/14/5

[10] https://www.ncleg.net/documentsites/committees/BCCI-6660/Reports%20to%20the%20LOC/Reports%20Received%20in%202018/SL%202017-57%20Sec%2011H.14%20Home%20Visits%20for%20Pregnant%20Women%201.24.18.pdf

County Pilot A Medicaid Coverage

Status

Cleveland County began enrolling first-time low-income pregnant mothers into Medicaid pilot coverage of NFP services during July of 2018. As noted earlier, Medicaid coverage is being phased in for new entrants as slots open up. Among approximately 100 women receiving NFP services in the county (i.e., the program cap that can be currently be served with available staffing and resources), approximately 10 had Medicaid pilot coverage of those services as of September. Medicaid currently uses state-only dollars to pay for the services on a FFS basis using CPT code 99600, at a rate of $83.72 per visit. Cleveland County estimates that based on current eligibility in the pilot, they will receive approximately $40,000 in Medicaid reimbursement for NFP services (approximately 8 percent of their total annual operating budget of $490,622). In a year where all Medicaid eligibles were billable, the county projects Medicaid revenue of approximately $70,000. Medicaid does not pay for NFP program costs that extend beyond the direct provision of services (e.g., fees charged by the NFP National Service Office and travel expenses).

Expected Outcomes and Savings

Given that the Cleveland County pilot has been operating for less than six months and has enrolled a very small number of women to date, DHHS is currently contemplating an analysis that will compare selected outcomes for first-time Medicaid mothers and children in three Cleveland County groups: (1) those receiving NFP services;[11] (2) those with Medicaid payment of other NHV services under an existing Medicaid benefit that is for medical assessment and limited to individuals meeting state-specified clinical coverage criteria; (3) those with no Medicaid payment of NHV services. Paper records must be pulled to identify many of the NFP participants, which is a time-intensive process. To appropriately isolate impacts, it will be necessary to adjust the estimates for these groups to account for differences in their underlying health risk. All groups have coverage that includes the existing Medicaid PMH, OBCM, and CC4C programs. Outcomes being considered for examination include overall Medicaid spending, emergency department visits, and hospitalizations (each derived from claims), as well as low birth weight (less than 5 pounds, 8 ounces) and preterm births (less than 37 weeks) derived from birth certificate records.

While not specific to Cleveland County, the general research literature on NFP suggests that some of the program's costs could be offset by savings to the state and federal governments, program participants, and society more broadly. However, there are a variety of issues for consideration with regard to savings, including: which outcomes are chosen for monetization, how estimates are derived, the variability in costs and savings for mothers and families with different risk characteristics, demographics of population served, and differences in program implementation and fidelity in past studies versus current on-the-ground operations.

[11] Individuals with Medicaid can be included in this group regardless of whether their NFP services are paid by Medicaid under the pilot. NFP has been operating in the county since 2008, and similar impacts could be expected for any Medicaid beneficiary regardless of their NFP funding source.

A recent publication examining multiple studies on NFP program impacts (i.e., a meta-analysis) identified 39 evaluation reports and extracted information on 24 outcomes.[12] The impacts were then monetized to calculate a nationwide average return on an investment, with $9,403 in program costs per family compared to a federal and state government benefit over 18 years totaling $26,898 and overall benefits to society (e.g., including higher incomes for participants) exceeding $60,000.[13] A study for New Hampshire that applied broadly similar techniques also found societal benefits well in excess of costs, but the dollar amounts were somewhat lower and did not separate out the portion specifically attributable to government versus program participants and society at large.[14] While a meta-analysis and associated benefit-cost summary specific to Washington State found much smaller government and societal benefits, its modeling did not monetize several of the outcomes included in other studies.[15] Yet another study highlights the fact that findings can vary substantially by population, with benefits for higher-risk NFP participants estimated at more than four times that of lower-risk participants.[16] With regard to the outcomes for which NFP has demonstrated impacts, Exhibit 1 reflects a summary from the U.S. Department of Health and Human Services.

Exhibit 1. Summary of Effects Found in Research on the NFP Program, by Outcome Category

Outcomes	Primary Outcome Measures	Secondary Outcome Measures
Child Development and School Readiness	Favorable: 6	Favorable: 1
	No effect: 65	No effect: 17
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 1
Child Health	Favorable: 5	Favorable: 5
	No effect: 26	No effect: 45
	Unfavorable or ambiguous: 1	Unfavorable or ambiguous: 1
Family Economic Self-Sufficiency	Favorable: 4	Favorable: 17
	No effect: 16	No effect: 78
	Unfavorable or ambiguous: 1	Unfavorable or ambiguous: 1
Linkages and Referrals	Favorable: 0	Favorable: 0
	No effect: 0	No effect: 0
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 1
Maternal Health	Favorable: 8	Favorable: 18
	No effect: 18	No effect: 61
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 0
Positive Parenting Practices	Favorable: 5	Favorable: 1
	No effect: 18	No effect: 7
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 0
Reductions in Child Maltreatment	Favorable: 7	Favorable: 0
	No effect: 18	No effect: 1

[12] Miller et al. (2015) Projected Outcomes of Nurse-Family Partnership Home Visitation During 1996-2013, United States, Prev Sci. 16 (6): 765-777. https://www.ncbi.nlm.nih.gov/pubmed/26076883

[13] https://www.nursefamilypartnership.org/wp-content/uploads/2017/02/Miller-State-Specific-Fact-Sheet_US_20170405-1.pdf

[14] https://www.rand.org/pubs/research_reports/RR1890.html

[15] http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/35/Nurse-Family-Partnership

[16] https://www.rand.org/pubs/monographs/MG341.html

Outcomes	Primary Outcome Measures	Secondary Outcome Measures
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 0
Reductions in Juvenile Delinquency, Family Violence, and Crime	Favorable: 0	Favorable: 9
	No effect: 5	No effect: 62
	Unfavorable or ambiguous: 0	Unfavorable or ambiguous: 1

Source: https://homvee.acf.hhs.gov/Model/1/Nurse-Family-Partnership--NFP--sup---sup-/14/1

While such analyses provide useful background on the potential impacts of NFP, estimates for Cleveland County and for North Carolina overall should ideally account for the specific characteristics of programs and populations in the state. As noted earlier, NFP impacts can vary substantially by subgroup. In addition, because the baseline level of services available to North Carolina Medicaid beneficiaries (e.g., PMH, OBCM, and CC4C) may differ from what is reflected in the NFP literature, estimates of NFP impact for the state could also differ. At least one recent analysis does in fact examine impacts that are specific to North Carolina for 2011-2013, finding that NFP participation reduces pre-term births and neonatal intensive care unit (NICU) admissions and has larger effects for African American women. Nearly all of the NFP participants included in the analysis (564 out of 633) had Medicaid coverage at birth.[17]

Statewide Medicaid Coverage

Costs

DHHS estimates that there are approximately 17,000 first-time mothers in North Carolina's Medicaid PMH program. If all of these women and their children were to receive NFP services financed by Medicaid from pregnancy until age 2 (i.e., over a period of 2.25 years) at a cost of $11,583 per family, the annual state costs would be approximately $197 million.[18] However, with an average duration of services at 1.7 years in practice,[19] the cost per family is $8,752 and the annual total would be $149 million. If a further assumption is made that only half of eligible women (8,500) would choose to participate in the NFP program, the annual figure would be $74 million.

Since 2000, there have been 6,921 families served by the NFP program in North Carolina,[20] and the number in any given year would be very small relative to the potentially eligible Medicaid population. Because the demand for NFP services would increase with a statewide Medicaid coverage policy, there would also be new state and local infrastructure costs. As noted in a recent review of HVS in North Carolina, adding home visiting programs in additional areas of the state would likely require support for pre-implementation activities such as development and planning.[21] DPH in particular would require additional resources (e.g., for state NFP nurse consultants at a ratio of one nurse consultant to every

[17] The authors indicate that their next stage of evaluation will use Medicaid claims to examine the effects of NFP participation on health outcomes and Medicaid expenditures, including the financial implications of averted poor birth outcomes and NICU admissions. https://dukeendowment.org/sites/default/files//evalutaion-reports/Executive%20Summary%20Nurse%20Family%20Partnership.pdf and http://www.unc.edu/~gholmes/NFPmarch2016.pdf

[18] Because the per family costs are spread over more than two years, the total annual amount of $197 million would not be reached until year three.

[19] https://www.blueprintsprograms.org/program-costs/nurse-family-partnership

[20] https://www.nursefamilypartnership.org/wp-content/uploads/2018/05/NC_State-Profile.pdf

[21] http://jordaninstituteforfamilies.org/wp-content/uploads/2018/09/NC-HV-Study-09_07_18-FINAL.pdf

eight local implementing sites, operating funds, NFP National Service Office fees) given that it currently plays a key role in administering NFP programs in most of the counties where NFP has a presence. Local infrastructure costs not covered by Medicaid reimbursement would need to be accounted for as well (e.g., supervision and administrative support, operating costs, medical and educational supplies, training fees, NFP National Service Office fees).

Service Availability

Because NFP services are not available in all areas of North Carolina, it is not currently possible to implement Medicaid coverage of NFP services as a statewide benefit. In addition, shortages of appropriately trained nurses would make it difficult to ensure future availability. NFP services must be provided by an NFP-trained nurse home visitor, with support from a local implementing agency that provides for supervision and infrastructure. Because the NFP nurse home visitor requires special training, and home visiting is taxing on the nurse, higher pay scales must be considered for retention.

In order to draw down federal matching funds for a given Medicaid benefit, state plan amendment (SPA) or waiver authority is required. In the case of NFP services, a waiver of "statewideness" under Section 1115 or Section 1915(b) of the Social Security Act is required because the benefit would not be available to Medicaid beneficiaries in all geographic areas.[22] As noted earlier, only state dollars are currently used to fund Medicaid pilot coverage of NFP services.

Managed Care

As North Carolina transitions its Medicaid and NC Health Choice programs from a predominately FFS delivery system to PHPs under managed care, existing specialized programs for pregnant women and at-risk children will change. The primary role of DHHS in a managed care environment is to hold PHPs accountable for providing high-quality care and improving outcomes by setting clear priorities and objectives. Under this paradigm shift, plans are given discretion—within designated boundaries—on the means they use to achieve those end goals. Any new coverage of specialized services must be examined in this context. For example, to the extent that NFP or any other evidence-based home visiting services have a proven track record of positive impacts on health and cost outcomes, PHPs would have an incentive to offer them as part of their covered benefits. The strength of this incentive would depend in part on the time horizon for the impacts, and the extent to which they accrue to the PHP versus another program or entity.

To date, NFP services have not been contemplated as a benefit that PHPs must offer. If NFP is made mandatory, its overall design and targeting of low-income, first-time mothers without regard to other risk factors means that plans would not be allowed to apply medical necessity or other utilization management criteria to these services. New policy guidance would need to be drafted and capitation rates revised to account for the additional costs that PHPs would incur for payments to NFP providers.

[22] South Carolina, for example, has a 1915(b) waiver cover NFP services in 29 of its 46 counties. https://www.scdhhs.gov/sites/default/files/2-16-16-SC-NFP-PFS-Fact-Sheet_3.pdf and https://govlab.hks.harvard.edu/files/siblab/files/south_carolina_nfp_pfs_project.pdf

Expected Outcomes and Savings

As noted earlier, the general research literature on NFP suggests that some of the program's costs could be offset by savings to the state and federal governments, program participants, and society more broadly. The state is currently contemplating an analysis of expected outcomes and savings for the Cleveland County pilot, which has been operating for less than six months and has enrolled a very small number of women to date. The pilot-specific analysis in turn could be used to extrapolate a statewide estimate for North Carolina.

Regardless of the amount, the manner in which any Medicaid savings would accrue to the state will differ under FFS versus managed care. Under FFS, if health care expenditures are reduced (e.g., via healthier births with fewer NICU stays and lower use of other costly health care services), the benefits will accrue directly to the state through lower claims costs. Under managed care, the benefits accrue to PHPs in the short run, as their claims costs go down and their capitation payments from the state remain level. While the state would adjust capitation payments to the PHPs over time to reflect their lower claims costs, the lagged effect means that not all savings will be captured immediately. Additionally, given that PHPs are expected to generate savings through better care management techniques overall, it is possible that the incremental impact of NFP services—at least with regard to Medicaid program savings—could be lessened to some extent in a managed care environment.

Future Considerations

If the state wishes to proceed with statewide implementation of Medicaid coverage of NFP services, a variety of actions are required, including:

- Drafting and submission of a Medicaid waiver of statewideness to secure federal matching funds.
- Development of Medicaid policies governing both FFS and PHP coverage of NFP services.
- Refinement of the estimated costs to Medicaid and to DPH, for appropriations purposes.
- Revision of managed care contracts and capitation rates.
- Development of a request for budget appropriations.

As described earlier, DHHS will also continue to monitor implementation of the Cleveland County pilot and contemplate the data needed to examine the outcomes and savings associated with Medicaid coverage of NFP services under the pilot.