Alabama Support Team for Evidence-Based Practices

Addressing Health Outcomes through Health Networks

Poor health outcomes continue to drive a costly bus throughout the United States. In Alabama, where health outcomes in any given category typically rank in the bottom ten of states, the current infrastructure weaves between multiple agencies and is heavily dependent upon a network of private providers. This ASTEP report identifies two of those poor health outcomes and outlines the Alabama Medicaid Agency's (Medicaid) proposed plan to address them. This report is not an all-inclusive inventory of all healthcare interventions, but rather a focused report on two select health outcomes and select evidence-based practices that are designed to impact those outcomes. Alabama has historically struggled with infant mortality and has seen its rate of obesity increase by over 300% in less than 30 years.*

- While Alabama saw a significant decline in its infant mortality rate in 2017 (from 9.1 to 7.4 per 1,000 live births), it was not enough to move the state out of the 2nd worst spot nationally.

- In just the last six years, Alabama's obesity rate has increased by 13%. Obesity is also a significant risk factor for other chronic disease outcomes such as cardiovascular disease (the leading cause of death in Alabama) and diabetes.

10-Year Infant Mortality Rate

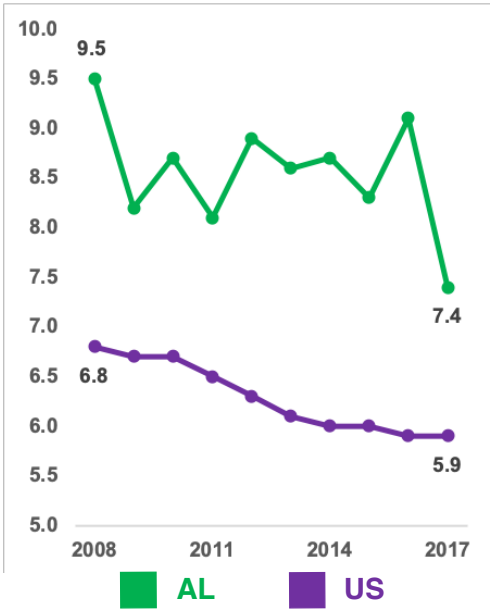

Figure 1.
Source: ADPH and CDC

10-Year Obesity Rate

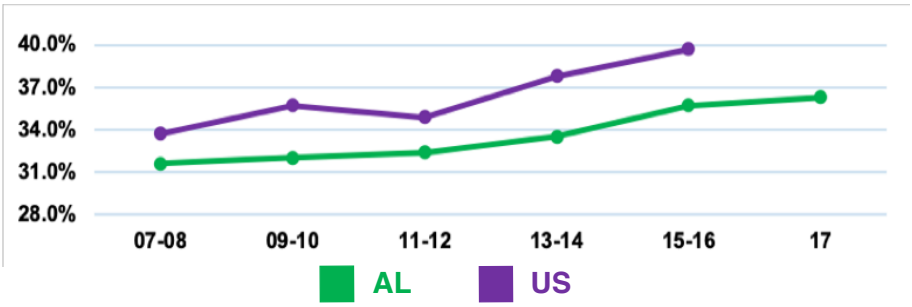

Figure 2
Source: State of Obesity and CDC

Both of these health outcomes could cost the state millions of dollars if they are not addressed; and both of these outcomes are among those targeted under Medicaid's plan to implement a care-management structure known as the Alabama Coordinated Health Network (ACHN). Under the plan, ACHN providers will be required to implement a pre-approved Quality Improvement Plan to address childhood obesity and infant mortality in their regions.

Under its proposed RFP, Medicaid will combine the Health Home, Patient 1st, Maternity, and Plan First waiver programs into a single care coordination delivery system, known as ***ACHNs,*** that incentivizes outcomes. A single ACHN will be responsible for waiver patients within one of seven proposed regions and will receive bonus incentives for meeting the region-specific benchmarks associated with about 20 different quality measures. Medicaid is currently planning to implement ACHNs beginning October 1, 2019.

The Weight of Obesity in Alabama

Obesity is one of the costliest health conditions in the United States and Alabama, leading to billions of dollars in healthcare costs, lost wages, and lost tax revenue. As of 2017, the obesity prevalence rate among adults in Alabama was 36.3%, ranking fifth worst among the states. It also makes Alabama one of only seven states to ever have an obesity rate above 35%. In addition, there is heightened concern when considering that this figure could be underestimated by at least 10% due to data collection methods dependent on telephone surveys where participants tend to overestimate height and underestimate weight. A tangible example of this can be shown in the national rate of obesity, which is calculated using actual participant metrics, typically being higher than that of most states (39.7% in 2016). The compounding negative effects of obesity can also be felt when it comes to Alabama's already high infant mortality rate. Obesity is linked to higher prevalence of pregnancy related conditions such as gestational diabetes, preeclampsia, and increased risk of the cesarean section delivery. This is of particular concern because Alabama has the second lowest rate of reproductive age women with a normal body weight according to the CDC – just 36.9%.

Medicaid providers are not currently reimbursed for calculating a patient's BMI, but with its inception of the ACHNs, Medicaid intends to incentivize the collection of BMI measurements for the adult and child populations. The rationale for this careful monitoring of BMI is that it will help healthcare providers to identify adults and children who are at-risk and provide focused advice and services to help them reach and maintain a healthy weight. While identifying those who are at-risk is a good first step, the current proposed plan does not incentivize providers to actually reduce the rate of obesity in the Medicaid population. And, as there is little evidence that recording BMIs results in positive healthcare outcomes, additional measures are required to positively impact and potentially reduce Alabama's high rate of obesity.

Service Name	Evidence Rating	Break-Even Cost of Delivery	Typical Benefit-Cost Ratio
Behavioral interventions to reduce obesity for adults: Remotely-delivered programs	Evidence-Based	$1,045	$10.77
Behavioral interventions to reduce obesity for adults: Low-intensity, in-person programs	Evidence-Based	$810	$4.31
Behavioral interventions to reduce obesity for adults: High-intensity, in-person programs	Evidence-Based	$3,421	$5.40

Figure 3. Evidence-based practices that reduce obesity in adults.

Interventions targeted to reduce obesity among adults are cost-beneficial. Using the resources made available by Pew-MacArthur Results First and meta-analysis performed by the Washington State Institute for Public Policy, ASTEP has identified three evidence-based practices that target obesity among adults. All of these services result in a positive return on investment where the benefits exceed the cost of delivering the service. One particularly cost-beneficial type

Body Mass Index (BMI) is an inexpensive and easy to use proxy to calculate the percentage of body fat of an individual. BMI uses a formula that includes the patient's weight and height as variables to produce a number on the index. A BMI number above 25 is considered overweight, while a BMI number above 30 is considered obese. Research has demonstrated strong correlations between elevated BMI and negative health outcomes, but the correlations do vary among ethnic groups.

Break-Even Cost of Delivery is the projected cost to deliver a service at which point the service would cease to produce a positive net benefit.

The **Typical Benefit-Cost Ratio** is the projected return on investment based on the average cost to deliver the service in other jurisdictions.

Evidence-Based means the service has demonstrated effectiveness through scientifically based research. This is the highest ASTEP evidence rating.

Decrease in Obesity 10-Year Savings

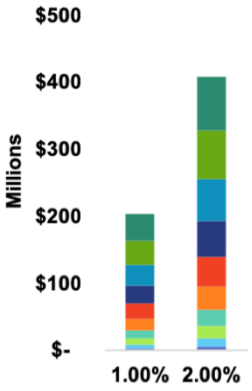

Figure 4.

Smoking During Pregnancy

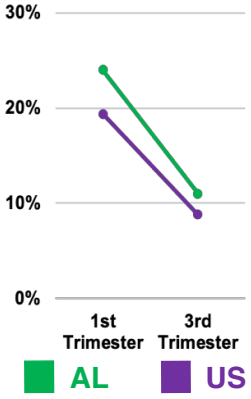

Figure 5.
Source: PRAMS

Medicaid has a Memorandum of Understanding (MOU) with DMH to provide the state share for SBIRT services. There are currently two providers enrolled that provide SBIRT services. They have provided services to recipients who reside in Pike, Barbour, Mobile, Houston, Geneva, Henry, Dale, and Coffee counties.

of service for adults is Remotely Delivered Behavioral Interventions. (See Figure 3) These interventions can typically be delivered for less than $100 per participant, but could be delivered for up to $1000 per participant and still be cost-beneficial. These services are usually delivered to obese adults via email, text messaging, online, and coaching calls. The interventions normally last about one year and focus on educating individuals about the health risks associated with obesity and what lifestyle changes they can implement to lose weight.

Over a 10-year period, one avoided case of obesity could result in over $22,000 of benefits from reduced healthcare costs, increased productivity resulting in wages, and increase tax revenues (over $4,000) to the state and other governmental entities. Taking into account Alabama-specific economic information, ASTEP estimates the cost of an Alabama resident becoming obese to be over $87,000. Over $70,000 of this is from decreased earnings over that lifespan. Reducing Alabama's rate of obesity by just 1% over the next 10 years through avoided instances could garner over $200,000,000 in benefits. (See Figure 4) It is also important to consider that avoiding obesity would also impact the economic burden of obesity-related diseases, such as diabetes and cardiovascular disease, creating potential for combined benefits by reducing the prevalence of obesity among Alabama's population.

The High Cost of Low Birth Weights

The long-term cost of poor birth outcomes can extend into various systems including healthcare and social services. Besides contributing to Alabama's historically high infant mortality rate, studies have found preterm and low birth weight infants are significantly more likely to be re-hospitalized; have higher rates of neurosensory and cognitive disability; and increased needs for later life development support such as day programming, case management, respite care, and residential care. All of these costs could be mitigated by reducing the risk of poor birth outcomes through evidence-based practices.

Medicaid has targeted low birth weight births as an outcome to impact under the ACHNs. Medicaid will provide incentive payments to providers that successfully avoid infant birth weights of less than 2500 grams. While it is difficult to determine the actual long-term costs avoided by improving the rate of low birth weight births and ultimately decreasing the infant mortality rate in Alabama, ASTEP was able to analyze 6 different evidence-based practices proven to have positive impacts on low birth weight births and other birth outcomes.

Smoking during pregnancy contributes to various poor health outcomes from mother and child, including preterm birth, low birth weight, and increased risk of cardiovascular disease and cancer for the mother. Smoking during pregnancy is another area where Alabama ranks behind the national average. Based on the *Pregnancy Risk Assessment and Monitoring System's* (PRAMS) 2015 data, approximately 24% of Alabama women smoked during the first three months of pregnancy and 11% smoked during the last three months of pregnancy. (See Figure 5.) One evidence-based practice available to Medicaid providers is Smoking Cessation Services for Women: Intensive Behavioral Interventions. Medicaid providers are able to provide these services in one of two ways; **SBIRT** and Tobacco Cessation Counseling.

> **SBIRT (Screening, Brief Intervention, and Referral to Treatment)** services are designed to identify individuals who are at risk for development of substance use disorders, assist individuals in implementing strategies to reduce the potential for development of substance use disorders, and refer individuals who have identified needs for substance abuse treatment to specialized substance abuse treatment providers.

There is underutilization of tobacco cessation counseling services for expectant mothers by Medicaid providers. ASTEP analyzed Medicaid data for FY15-16 on pregnant women that would be covered under ACHNs today. Based on that data, less than 2.5% of pregnant women received tobacco cessation counseling services. However, 12.4% of women that received SBIRT services, which are designed to identify individuals who are at risk for development of substance use disorders, also received tobacco cessation counseling. This rate is more consistent with the identified 11% of women that smoked during the last three months of pregnancy. The state is currently taking an initiative to increase SBIRT outreach and training for providers in three pilot counties. Based upon SBIRTs current average cost per participant of just $31.10 and anticipated benefits of over $400, other opportunities to further expand SBIRT utilization beyond the targeted counties where it is currently provided should be considered by policymakers.

Service Name	Outcomes Impacted	Break-Even Cost of Delivery	Typical Benefit-Cost Ratio
Enhanced prenatal care programs delivered through Medicaid	LBW PTB INM	$1,135	$2.69
Other Prenatal Home visiting programs	LBW PTB INM	$705	$0.92
Smoking Cessation programs for pregnant women: Contingency management	LBW PTB	$2,421	$11.31
Smoking Cessation programs for pregnant women: Intensive behavioral interventions	LBW	$443	$4.61
Smoking Cessation programs for pregnant women: Nicotine replacement treatment	LBW PTB	$719	$6.09
Nurse Family Partnership	LBW INM	$10,603	$0.88

Outcomes Impacted refers to outcomes where evidence has demonstrated a statistically significant improvement.
LBW = Low Birth Weight PTB = Preterm Birth INM = Infant Mortality

Figure 6. Evidence-based practices that impact LBW.

Nurse Family Partnership is an effective but comparatively expensive service to deliver. At the beginning of FY19, Medicaid began a pilot project in collaboration with the Department for Early Childhood Education to implement Nurse Family Partnership (NFP) in a targeted area including Montgomery, Macon, and Russell counties. While NFP has been rigorously evaluated, it requires the use of registered nurses (RNs) – making home visits – to partner with first-time expectant mothers during their pregnancy and the first two years of an infant's life. This makes NFP a comparatively expensive service to deliver and requires a resource – RNs – that Alabama is in short supply of (28th nationally). However, other states have found that NFP positively affects a multitude of outcomes for both an expectant mother and child ranging from reduced involvement in the criminal justice system and increased high school graduation rates; to decreases in substance abuse and the need for food assistance services. Based on ASTEP's review of NFP in other states – if results in Alabama return similar benefits – NFP could still be cost-beneficial over a participant's lifetime if the service is delivered for an average cost of less than $10,000 per person.

*A list of citations is available upon request.