

Cost Analysis for Expansion of The Wright School

Session Law 2018-5, SECTION 11F.6



**Report to the
Joint Legislative Oversight Committee on Health and Human
Services**

and

Fiscal Research Division

By

North Carolina Department of Health and Human Services

February 14, 2019

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Executive Summary

Background and Overview

In March 2018, the Department of Health and Human Services (DHHS) submitted a report to the Joint Legislative Oversight Committee on Health and Human Services and the Fiscal Research Division to study the statewide expansion of the Wright School as required by S.L. 2017-57, Section 11F.12. As a follow-up to this report, S.L. 2018-5, Section 11F.6 required DHHS to report the following regarding expanding the Wright School Program to two additional locations in western and eastern N.C. The DHHS workgroup led by DSOHF to study the statewide expansion of the Wright School per S.L. 2017-57 was reconvened and included DHHS subject matter experts and external advocates. The following describes the workgroup's findings based on gathering and analyzing data and cost estimate resources.

Cost

DHHS Property and Construction (P&C) estimates the cost to build new facilities at \$12.7 million per facility. One-time startup costs for outfitting each new building are projected at \$625,000. The total operational cost for each of the two additional Wright School programs is estimated at approximately \$4 million annually, including both personnel and non-personnel operating costs. An additional \$310,000 for cross facility staff will also impact operating costs.

Cost Savings

To project potential cost savings, the workgroup examined groups of Wright School students use of behavioral health services before and after admission, as verified by paid claims, and found a decrease in the use of intensive services after discharge from Wright School. Several separate analyses were done as many factors may impact value: 1) as described in the 2017 Wright School Report, a group of 100 students who attended Wright School from 2012 to 2017 demonstrated a decrease in the use of Emergency Department (ED) and Inpatient Psychiatric Hospitalizations that results in a \$2.8 million savings. 2) Medicaid expenditures for students on the wait list for Wright school in FY2016/17 totaled \$1.83 million in services. 3) Cost savings were identified when comparing students prior to going to Wright School and after discharge on the use of behavioral health services. A group of 43 students showed a \$1.26 million decrease in behavioral health spending from the year prior to going to Wright School and the year after their discharge. All this combined leads to financial savings and improvements in the lives of NC children and families that are presumed to have long lasting positive social impacts. Please note the figures summarized here cannot be added to produce a total cost savings estimate as there is overlap in the data and analysis.

Summary

The total cost to expand the Wright School program to two additional locations would include one-time funding for construction and start-up of \$26.6 million. Annual operating costs for the two locations combined, inclusive of personnel and non-personnel costs, are projected to be \$8.02 million. Over three years, the total operating costs for the two programs are projected to be \$24.3 million. Extrapolating from data gathered from the current Wright School, operational costs would be offset by approximately \$2.6 million annually or \$7.7 million over three years as students utilize less behavioral health services after discharge from Wright School than before admission.

A. Background and Introduction

In March 2018, the Department of Health and Human Services (DHHS) submitted a report to the Joint Legislative Oversight Committee on Health and Human Services and the Fiscal Research Division to study the statewide expansion of the Wright School as required by S.L. 2017-57, section 11F.12. The report, completed by a workgroup that was convened by the DHHS and Division of State-Operated Healthcare Facilities (DSOHF), suggested the need for additional state-operated facilities at two unspecified locations – one (1) each in the western and eastern parts of the state. The Wright School, located in Durham, N.C. is a state-wide facility-based service for children ages six (6) to thirteen (13) who have a serious emotional or behavioral health diagnoses that have not responded to home based and other facility-based therapies. Serving up to 24 students when at capacity, the intensive program requires significant family involvement including weekend home visits and in-home interventions. For a comprehensive description of Wright School philosophy and programming, please see “Study of Wright School Expansion Statewide” required by S.L. 2017-5, section 11F-12 and submitted to the NC General Assembly in March 2018. As a follow up to this report, Session Law 2018-5 required the DHHS to report the following regarding expanding the Wright School Program to two additional locations in western and eastern N.C.

- (1) A detailed cost estimate for planning, site development, and construction of one new State-operated facility located west of Interstate 77 and one new State-operated facility located east of Interstate 95.*
- (2) Projected operating costs for each of the new facilities referenced in subdivision (1) of this section over a three-year period. The projection for each facility must include estimated occupancy, estimated revenues by payer source, and detailed estimated operating expenses.*
- (3) A projected analysis of how expansion of the Wright School to the new facilities referenced in subdivision (1) of this section will impact spending by the Medicaid program over a three-year period, including expenditures for emergency department utilization and inpatient hospitalizations to address behavioral health crises among the children to be served by these facilities and any associated cost savings to the State over the three-year period.*

The DHHS workgroup led by DSOHF to study the statewide expansion of the Wright School per S.L. 2017-57 was reconvened and included DHHS subject matter experts and external advocates. This report describes the workgroup’s findings based on gathering and analyzing data and cost estimate resources.

It should be noted that the Department of Health and Human Services (DHHS) is currently reviewing the continuum of behavioral health services for children and adolescents. The contents of this report will be considered during the evaluation of the continuum of services.

B. Cost Estimates

- (1) “A detailed cost estimate for planning, site development, and construction of one new State-operated facility located west of Interstate 77 and one new State-operated facility located east of Interstate 95.”*

Construction Costs

The DHHS Division of Property and Construction (P&C) estimates expansion of the Wright School to two additional facilities to cost \$12.6 million dollars per facility. The following is a summary of the considerations and components of this estimate.

DHHS P&C considered but ruled out the use of existing State-owned buildings in the two locations because at the time of this report none were available that would meet program requirements. The option to lease a building could not be fully explored without fund allocation to research availability within a price range. Furthermore, a leased building would likely require extensive renovations to meet program requirements.

Therefore P&C focused their cost estimate on new construction.

The following assumptions were applied:

- 1.) The facility is will be placed on a parcel of State-owned property.
- 2.) The property is within 1,000 feet of utility connections.
- 3.) The site does not require major imported fill soils or require major grading to achieve proper drainage.
- 4.) The project will take 14 months for designer selection and preparing all documents for design, bidding and construction.
- 5.) The construction is based on a twelve (12)-month schedule.
- 6.) No IT equipment, phone system equipment and video equipment are included in the estimate. All backbone cabling for these systems is included.

The following table details the cost estimate the total cost inclusive of all fees is \$346 a square foot. Please See Appendix A for the complete P&C Proposal.

Construction Cost Summary	
Land	\$ 551,000.00
Construction	\$ 9,407,180.22
Fixed Equipment	\$ 300,000.00
Design	\$ 1,025,818.02
Commissioning	\$ 102,581.80
Special Inspections/materials	\$ 51,290.90
Contingencies	\$ 307,745.41
Escalation Costs	\$ 930,252.82
Total Cost Per Facility	\$ 12,675,869

One Time Start-up Costs

Expansion of Wright School to two (2) new programs will require complete outfitting of the new buildings. The broad categories of items needed include furnishings, equipment, information technology (IT) equipment and educational items. The total projected cost per facility for these items is \$625,000 and includes the following:

Category	Projected Cost	Examples
Furnishings	\$375,000	Bedroom furniture (beds, mattresses, wardrobes), office furniture (desk, chairs, file cabinets), common area seating, outdoor furniture (picnic tables, gazebo with seating), classroom furniture (student/teacher desks, tables), etc.
Equipment		All non-built-in kitchen equipment, copiers/printers/faxes, student athletic equipment (basketballs/hoops, soccer balls)
IT Equipment		Staff/student computers, phones, video cameras, smart boards
Educational Items	\$125,000	Textbooks, workbooks, library books, content learning for all subjects in elementary and middle school, speech and language materials, classroom supplies
Soft Items	\$75,000	Linens, tableware, office supplies

Operating Costs

(2) “Projected operating costs for each of the new facilities referenced in subdivision (1) of this section over a three-year period. The projection for each facility must include estimated occupancy, estimated revenues by payer source, and detailed estimated operating expenses.”

a. Personnel Costs – Per Facility

Personnel costs (See Appendix B) are a significant portion of operating costs and are estimated based on the personnel costs at the current Wright School, including additional FTEs for positions that are contracted or filled by temporary employees. Full Time Employee (FTE) cost, including salary and benefits, is estimated at approximately \$3.4 million per facility. The positions are required to ensure program components, behavioral health and educational, are met and health and safety needs are ensured. The positions needed at each facility are categorized as follows:

Category	Number of FTEs
Administrative	5
Social Work	7
Educators	7
YPEA (Direct residential care)	15
Other Clinical	3
Clerical and Support Services	12
Total	49

b. Personnel Costs –Cross Program Staffing

Specific staff positions shared by all three programs are necessary for implementation and guidance for ongoing fidelity to Wright School’s program model. This includes teaching and maintaining the model and cultural factors necessary at all three schools. Cross program positions will work for all three schools and will be necessary as the first new school is constructed and opens. Salary and benefits for cross-program staffing is just over \$310,000 annually and includes:

- Quality Assurance Standards Supervisor
- Staff Development Coordinator
- Business Officer
- HR Technician

c. Operating Costs – Non-Personnel

Projections for non-personnel operating costs at each of the new facilities, just over \$290,000 annually, were based on Wright School’s FY18/19 certified budget. Projections were increased by fifteen thousand dollars (\$15,000) to assist families with travel expenses associated with the weekend home visits, thereby increasing access to the program.

Total (Non-Construction) Costs

The total operating cost is estimated \$4.8 million and \$4.5 million at the two facilities or \$9.3 million combined for the first year and just over \$8.1 million annually thereafter. The following details the costs per facility, including one-time start-up costs for a 3-year period:

Total Non-Construction Costs			
1st Facility Cost	1st Year	2nd Year	3rd Year
Personal Services	\$ 3,894,192.80	\$ 3,894,192.80	\$ 3,894,192.80
Purchasing Services	\$ 205,807.56	\$ 221,243.13	\$ 243,367.44
Supplies	\$ 55,285.97	\$ 59,432.41	\$ 65,375.66
Property Plant Equip.	\$ 23,465.57	\$ 25,225.49	\$ 27,748.04
Other Expenses	\$ 7,907.11	\$ 8,500.14	\$ 8,500.14
Start Up	\$ 625,000.00	-	-
Total	\$ 4,811,659.00	\$ 4,208,593.97	\$ 4,239,184.07

2nd Facility Cost	1st Year	2nd Year	3rd Year
Personal Services	\$ 3,580,598.33	\$ 3,580,598.33	\$ 3,580,598.33
Purchasing Services	\$ 205,807.56	\$ 221,243.13	\$ 243,367.44
Supplies	\$ 55,285.97	\$ 59,432.41	\$ 65,375.66
Property Plant Equip.	\$ 23,465.57	\$ 25,225.49	\$ 27,748.04
Other Expenses	\$ 7,907.11	\$ 8,500.14	\$ 8,500.14
Start Up	\$ 625,000.00	-	-
Total	\$ 4,498,064.54	\$ 3,894,999.51	\$ 3,925,589.61

Combined 1st & 2nd Facility Cost	1st Year	2nd Year	3rd Year
Personal Services	\$ 7,474,791.13	\$ 7,474,791.13	\$ 7,474,791.13
Purchasing Services	\$ 411,615.12	\$ 442,486.26	\$ 486,734.88
Supplies	\$ 110,571.93	\$ 118,864.82	\$ 130,751.32
Property Plant Equip.	\$ 46,931.14	\$ 50,450.98	\$ 55,496.08
Other Expenses	\$ 15,814.22	\$ 17,000.28	\$ 17,000.14
Start Up	\$ 1,250,000.00	-	-
Combined Total	\$ 9,309,723.54	\$ 8,103,593.47	\$ 8,164,773.54

NOTES:

1. Personal Service includes the Administration Shared Position in Facility 1 costs only;
2. Personal Service for 1st and 2nd Facilities includes Teacher Supplement, Shift Premium, Longevity and Workers Comp Medical Claims (using the current Wright School All Costs);
3. Purchase Services includes increase amounts for 2nd and 3rd year based on Contracts and Maintenance Contracts

- for IT equipment (used 7.5% 1 year and 10% 2nd year);
4. Supplies increase includes increase amounts for 2nd and 3rd year based on Data Supplies and Equipment repairs (used 7.5% 1st year and 10% 2nd year);
5. Property Plant and Equipment includes increase amount for 2nd and 3rd year based on IT and other equipment replacement (used 7.5% 1st year and 10% 2nd year);
6. Other Expense includes increase amounts for 2nd year due to Medical Supplies and Educational Supplies needed (used 7.5% 1st year and 2nd year);
7. Costs in Appendix B are representative of the 2-additional (expanded) facilities only.

Revenue

The Wright School is a unique program that does not fit into either behavioral health managed care revenue sources or educational revenue sources and is funded entirely with State appropriations. DSOHF has explored changing the program to become a Medicaid and insurance billable program but found this would significantly increase costs while eliminating core features of the program that would not be allowed per the service definitions for a managed care service. For example, in 2011 converting to a Psychiatric Residential Treatment Facility (PRTF) was studied and found not viable. Therefore, revenue is projected as entirely State appropriations.

C. Medicaid and State Cost Savings

“A projected analysis of how expansion of the Wright School to the new facilities referenced in subdivision (1) of this section will impact spending by the Medicaid program over a three-year period, including expenditures for emergency department utilization and inpatient hospitalizations to address behavioral health crises among the children to be served by these facilities and any associated cost savings to the State over the three-year period.”

Introduction and Study Design

Students admitted to the Wright School have often utilized behavioral health resources in their communities paid for by Medicaid, Health Choice and/or State funds. To project potential cost savings to these programs the workgroup examined Wright School students’ use of these services, as verified by paid claims.

The previous report, “Study on Statewide Expansion of Wright School”¹, included data analysis for a group of students who had attended Wright school showing a reduction in the utilization of community emergency departments for behavioral health diagnoses after discharge from Wright School as compared to prior to attending Wright School. This data included 100 students with Medicaid, who attended Wright School from 2012-2017. The study showed the ED and inpatient hospital utilization costs decreased by 35% and 44% respectively in the two (2) years after discharged compared to the two (2) years before admission for an overall savings for the

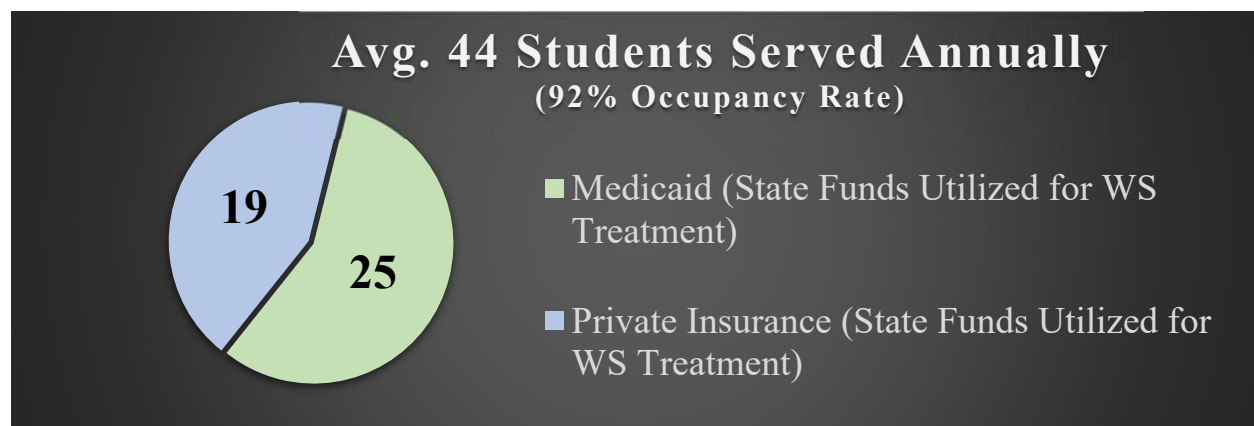
¹ Data provided in S.L. 2017-57, Section 11F.12 will not match nor can it be cross walked with data included in this report as the study was expanded (all services) and the cohort was narrowed from 100 to 43. Each analysis is accurate and complete with consideration given to its cohort and focus.

cohort of \$2.8 million. This report expands upon the previous study to include all behavioral health services by examining data for students before and after attending the Wright School from Medicaid, Health Choice and State Funds by verified paid claims also called encounter data (Refer to Appendix D for a full description of data collection, analysis and limitations).

Encounter data reporting and quality improved significantly in SFY 2016-2017 due to strengthening of reporting rules and requirements by the Centers for Medicare and Medicaid Services (CMS) and the NC Medicaid. Due to this, the group of 100 from the 2017/2018 study was narrowed to students with Medicaid who were admitted in calendar years 2016 and 2017. This resulted in a group of 43 students verified as having Medicaid.

The purpose of looking at this specific group is to study potential impact of the Wright School expansion on Medicaid expenditure. Any relationships reported here are correlational, meaning for this group of students there is a correlation between attending Wright School and usage of other behavioral health services paid for by Medicaid. Causation cannot be inferred from this type of analysis.

Students admitted with Medicaid account for 57% of admissions, thus the remaining 43% (38 students admitted in 2016 and 2017) may have had private insurance coverage.² This report bases its analysis on the premise that when enhanced mental health services are needed and are not covered by private insurance, state funds are utilized.



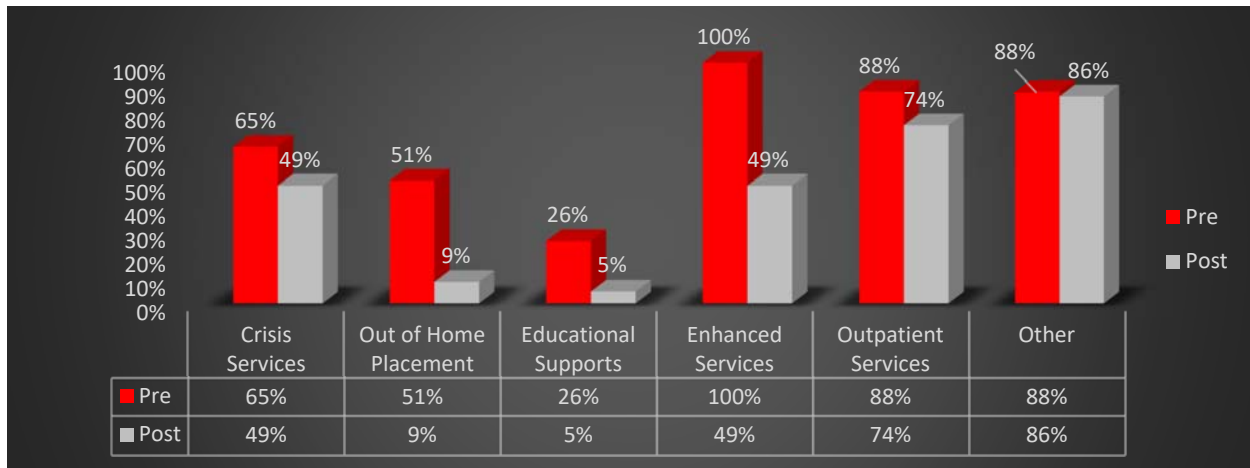
This report uses a 92% occupancy rate because the complexities of transitioning students in and out of the program results in fluctuations in census. For the past three (3) calendar years, occupancy has averaged a census of 22 students (Capacity = 24) which calculates to a 92% occupancy rate.

Although no two Wright School students needs are the same, they often report similar struggles in their home, school and community environments. Some have been suspended or expelled from school or placed into alternative learning environments when the exacerbation of their mental health symptoms precludes them from succeeding academically in a traditional classroom. Others experience lengthy stays in an inpatient facility, ED visits and even out of home placements.

² Calculated using historical data with the understanding that exceptions to these figures do occur.

The following looks at the level of service following treatment at Wright School. Services that occur outside of the home can be assumed to have cost financially and socially as the primary family structure and support are lacking. Some of these would include PRTF, crisis, ED and Inpatient services that quickly drive up the cost of treatment. It is presumed that a decrease in these levels of services would also demonstrate a healthier mental state.

Service Levels Pre-Admission and Post-Discharge



(Examples of Services Included above, by category)

Crisis Services (<i>ED Visits, Facility-Based Crisis, Mobile Crisis, Inpatient, etc.</i>)	Out of Home Placement (<i>Foster Care, Residential Level II, III & IV, etc.</i>)	School/Educational Supports <i>Day Treatment</i>	Enhanced Services <i>Intensive In-Home, Community-Support Team, Partial Hospitalization, etc.</i>	Outpatient Services <i>Individual Therapy, Family Therapy, Medication Management, etc.</i>	Other <i>Coordinated Care Fees, Utilization Management Fees, etc.</i>
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Some of the significant findings related to service-levels include the 42% reduction in out of home placements and a decrease by 51% in the use of enhanced services. The study revealed that all 43 students (100%) in the group received at least one (1) enhanced mental health service prior to their admission to Wright School, compared to 21 (49%) who received at least one (1) in the year following discharge.

Cost-Savings Analysis

There are many possible ways data can be configured to reflect cost-savings, several of which were completed but, for the sake of brevity, not included in the final report. The analysis included were identified as the most comprehensive and reliable. Both are reviewed separately and presented with specific details to clarify what is and is not included in the analysis. (Refer to Appendix D for detailed description of data collection, analysis and limitations.)

a. Cost for Services While Students are Waiting for Admission

As discussed more thoroughly in the SL- 2017-57, section 11F.12 report, Wright School maintains a wait list of students who have been referred by their Local Management Entity /Managed Care Organization (LME/MCO). Once identified as needing Wright School, a specific higher level of care, they must wait until a “bed” is available. The disruption to the student’s education and academic progress, home life, social interactions and mental health symptoms continue and must be managed in the community.

During calendar years 2016 and 2017, 43 students spent an average of 185 days (approx. 6 months) on the waiting list. Claims for the 43 students during their wait prior to admission totaled approximately \$1.9 million. This included intensive outpatient services, psychiatric hospitalization and other high cost community behavioral health interventions. The average cost per wait listed student was \$41,585.00.

The Cost of Services for 43 Students while on the Wait List (Avg. 185 days)		
Average cost per student	\$41, 585.00	
	Cohort Total³⁴ (N=43)	\$1,788,155.00

Projected Cost-Savings for Students on Wait List (92% occupancy)		
Average cost per student	\$41, 585.00	
	1-year Projected Cost-Savings (N=44 Students)	\$1,829,740.00

The availability of additional Wright Schools will presumably eliminate the wait time. At the 92% occupancy rate, 44 youth annually, one-year potential cost-savings for students while on the wait list for Wright School, would be \$1.83M (\$41,585.00 x 44 students). As these calculations

³ Total excludes any payments by private insurance, family members, or other payor sources.

⁴ Total excludes monthly payments to LME/MCO per member, per month (PMPM) reimbursement rates and fees

were derived from paid claims, they represent actual cost-savings that had the potential to be realized if Wright School had the capacity to admit students once identified appropriate for that level of care. With improved accessibility the cost to support students while waiting could be expected to be reduced or eliminated. However, this cannot be guaranteed as many factors may drive future need for this type of program.

b. Cost-Savings Following Discharge from Wright School

The following tables summarize the use of behavioral health services in the community by the same group of 43 students from the above analysis who were admitted during FY 2016/2017 a full year prior to admission to Wright School and a full year following discharge from Wright School.

Paid claims were reviewed with the following results:

N=43	<366 Days Prior to Admission	<366 Days Following Discharge	Total
Number of Encounter Claims	4,810	2,248	7,058
Number of Fee For Service Claims	856	526	1,382
	1 Year "PRE"	1 Year "POST"	Difference
Total Paid	\$2,082,724	\$ 823,361	\$ -1,259,363.00
Avg./Student	\$ 48,435.	\$ 19,147.	\$ -29,288.00 (-60%)

In the year prior to admission, services cost Medicaid and/or the State an average of \$48,435 per student. In the year following discharge, this decreased 60% to an average of \$19,147 per student. Therefore the 43 students with Medicaid demonstrated an approximate cost-savings of \$1.26 million in the first year following their discharge from Wright School.

This was used to project potential cost savings that may occur with expansion of the Wright School by two additional schools. Assuming the average 92% occupancy rate (44 students/year) and the average 6-month length of stay, the projected cost-savings for mental health services following Wright School compared to costs for mental health treatment services before Wright School, projected over three (3) years are reported below:

New Facilities	# Served by Expanded Facilities Operating at Avg. Occupancy Rate 92%	Potential "Post Treatment" Cost Savings
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1 Facility	Annual	44 Students	\$1,288,672
2 Facilities	Annual	88 Students	\$2,577,344
2 Facilities	3- Years	264 Students	\$7,732,032

When separated by funding source:

Cost Savings by Payor	Potential Cost Savings
Medicaid (57%)	\$ 4,407,258
State-Funds (43%) ⁵	\$ 3,324,774
Total	\$ 7,732,032

Adding the current Wright School to the two expanded facilities (totaling 3 facilities), the potential cost-savings following treatment at Wright School (estimated at \$29,288/student) is projected to be \$3,866,672 annually or \$11,598,048 over three years.

Operating Costs Minus Potential Savings

The following summarizes operating costs minus potential savings to Medicaid for a true cost to the State to expand Wright School by two additional facilities:

Estimates Based on 2 Expanded Facilities, Assuming a 92% Occupancy Rate	Year 1	Year 2	Year 3
Annual Operating Cost (See Appendix B for Breakdown)	\$8,059,723.54	\$8,103,593.47	\$8,164,773.54
Per-Student Cost-Savings for Services While on Wait List	(\$3,658,600.00)	Cost-Savings likely to decrease if capacity increased; No accurate way to project savings.	
Potential Cost-Savings Following Treatment	(\$2,577,344)	(\$2,577,344)	(\$2,577,344)
Total Estimated Cost-Savings	(\$6,235,944.00)	(\$2,577,344)	(\$2,577,344)
Estimated Annual Operating Costs minus Potential Cost-Savings	\$1,823,779.54 cost	\$5,526,249.47 cost	\$5,587,429.54 cost

⁵ Breakdown does not include the 3/1 cost share North Carolina incurs for Medicaid billing or any amounts paid by private insurance.

F. Summary

Expansion of the Wright School from its current state-wide location in Durham, N.C. to two additional facilities in the east and west requires an investment in State funds. This study sought to look at the costs in the most realistic light possible so as not to underestimate the need for State appropriations. DHHS P & C focused their cost model on new construction as existing and available State-owned buildings were not available and leasing options could not be explored without additional detailed budget information. The cost for new construction alone is projected at \$12.6 million per facility with an additional \$645,000 in start-up costs. Operating costs for each facility are estimated at approximately \$4 million in the first year with slight inflationary increases thereafter. Funding is entirely State appropriations since no Medicaid billable service would maintain the critical program elements. This is essential as it has been demonstrated in the 2017 report that the unique features of Wright School set it apart from other residential treatment programs for children and their families.

Yet, cost savings to NC Medicaid and other behavioral health State funds were found to be significant. The examination of groups of Wright School students use of behavioral health services before and after admission to Wright School showed great reductions in spending per student. Several separate analyses were done that demonstrated this. Medicaid expenditures for a group of students waiting to get into the Wright school in FY2016/17 totaled \$1.83 million in services. Having no wait could both save financially but also help the student and family with the type and intensity of service they need rather than the potentially traumatizing involvement of psychiatric hospitals, EDs, police assisted commitments and at times court involvement.

Cost savings were identified when comparing students prior to going to Wright School and after discharge on the use of behavioral health services. A group of 43 students showed a \$1.26 million decrease in behavioral health spending from the year prior to going to Wright School and the year after their discharge. A group of 100 students who attended Wright School from 2012 to 2017 demonstrated a decrease in the use of Emergency Department (ED) and Inpatient Psychiatric Hospitalizations that results in a \$2.8 million savings. Overall this also corresponded to a decrease in the use of intensive services after discharge from Wright School. All this combined leads to financial savings and improvements in the lives of NC children and families that are presumed to have long lasting positive social impacts.

REFERENCES

S.L. 2017-57, section 11F.12 “Study of Wright School Expansion Statewide”: Report to the North Carolina General Assembly March 2018.

Medicaid Request #: 2019-6835; Run Date: 10/25/2018

Data extraction per data sharing agreement (IMOA executed 10/10/2018)

Pulled data from Data Warehouse tables - sav_claim_line, claim_line_cur

***Note:** While claims were received from both the Division of Health Benefits and the Department of Mental Health, all analysis of these claims was conducted by DSOHF.*

Data Request, North Carolina Department of Mental Health, Developmental Disabilities and Substance Abuse Services, Information Systems. Received on 11/4/2018.

North Carolina Medicaid and NC Health Choice Annual Report, State Fiscal Year 201

(https://files.nc.gov/ncdma/documents/AnnualReports/AnnualReport_SF2017_20171230.pdf).

Medical Assistance Payments, by category of service (exhibit 4 - pg. 9)

LME Def. (pg. 47)

Rates Paid by LME/MCO for State/Block Grant Funded Services in State FY2018 (July 1, 2017- June 30, 2018): May 2018 Report.

(<https://files.nc.gov/ncdhhs/documents/files/NCDMHDDSAS-Summary-of-Rates-Paid-by-LME-MCOs-2018-05.pdf>). Prepared by NC DHHS DMH/DD/SAS Quality Management Section 9/20/2018.

ICD10Data.com: <http://ICD10Data.com>; Update October 2018.

HEARTS (Hospital Enterprise Accounts Receivable Tracking System) – HEARTS produces Medicaid, Medicare, third party insurance and patient bills. HEARTS maintains patient account details for the DMH/DD/SAS institutions.

Annual Report Tables Dashboard: NC Medicaid and Health Choice Report Tables Dashboards 2010-2016 <https://medicaid.ncdhhs.gov/reports/dashboards#Provider>

State-funded Enhanced Mental Health and Substance Abuse Services, April 1, 2017:

<https://files.nc.gov/ncdhhs/State-Funded%20Enhanced%20MH%20SA%20Services%204-1-17-final%20for%20posting.pdf>

Enhanced Mental Health Services Fee Schedule Effective January 7, 2017; last report update:

<https://medicaid.ncdhhs.gov/providers/fee-schedule/enhanced-mental-health-services-fee-schedule>

NCCCN, Inc. Information Support for Patient-Centered Care, analyst access: <https://ic.n3cn.org/> CCNC, 2300 Rexwoods Dr., Suite 200, Raleigh NC 27607 (877) 650-3765;

APPENDIX A

STATE OF NORTH CAROLINA - DEPARTMENT OF ADMINISTRATION
STATE CONSTRUCTION OFFICE
PROPOSED REPAIR & RENOVATION OR CAPITAL IMPROVEMENT PROJECT
BIENNIUM 2017 - 2019

Form OC-25
(Rev 07/17)

DEPARTMENT and DIVISION: Department of Health & Human Services / DSOHF DATE: 9/24/2018
PROJECT IDENTIFICATION: Wright School Expansion - Pitt County
PROJECT CITY or LOCATION: Pitt County

PROJECT DESCRIPTION & JUSTIFICATION: (Attach add'l data as necessary to indicate need, size, function of improvements as well as a master plan.)

This project is to expand the State offered services to youth who are frequent utilizers of crisis services, cycling in and out of Emergency Departments and Inpatient Hospitals. The facility is for 24 students ages 6 - 13 who stay at the facility from Monday through Friday each week and has a fully accredited school program to keep the students in a total re-education environment. The facility will contain living areas including bedrooms, dining areas, educational areas and resources, and recreational areas. The facility will have staff offices, conference rooms, dietary and housekeeping services, and maintenance support.

Do NOT enter any quantities, costs per unit or totals in the area below. ALL amounts are to be entered in the sheet titled "COST ESTIMATE".

(Definitions/explanations are provided on pg 2 to assist in completion of this form.)

CURRENT ESTIMATED CONSTRUCTION COST

	QTY	UNIT	COST PER UNIT	TOTAL
A. Land Requirement	1	LS	\$ -	\$ -
B. Site Preparation				
1. Demolition	1	LS	\$ -	\$ -
2. Site Work	1	LS	\$ 551,000.00	\$ 551,000
C. Construction				
1. Utility Services	1	LS	\$ 225,000.00	\$ 225,000
2. Building Construction (new space)	33,954	SF	\$ 145.43	\$ 4,937,930
3. Building Construction (existing)	1	LS	\$ -	\$ -
4. Plumbing (new space)	33,954	SF	\$ 22.00	\$ 746,988
5. HVAC (new space)	33,954	SF	\$ 48.50	\$ 1,646,769
6. Electrical (Includes TV & Radio Studio)	33,954	SF	\$ 46.00	\$ 1,561,884
7. Fire Suppression and Alarm Systems	33,954	SF	\$ 8.50	\$ 288,609
8. Telephone, Data, Video	1	LS	\$ -	\$ -
9. Associated Construction Costs	1	LS	\$ -	\$ -
10. Other:	1	LS	\$ -	\$ -
D. Equipment				
1. Fixed - Kitchen Equipment	1	LS	\$ 300,000.00	\$ 300,000
2. Moveable	1	LS	\$ -	\$ -
Total Cost of Work				\$ 10,258,180

Enter in the percentage amount to services that are needed.

DESIGN FEE	10 %	(% of Estimated Construction Costs)	\$ 1,025,818
PRECONSTRUCTION COSTS	0 %	(% of Estimated Construction Costs [1% for CM@Risk])	\$ -
COMMISSIONING	1 %	(0.5% simple; 1.0% moderate; 1.5% complex)	\$ 102,582
SPECIAL INSPECTIONS/MATERIALS	0.5 %	(1.25% estimated)	\$ 51,291
SUSTAINABILITY	0 %	(3% LEED Gold, 2% LEED Silver)	\$ -
ADVANCE PLANNING	0 %	Includes programming, feasibility, analysis	\$ -
CONTINGENCIES	3 %	(% of Estimated Construction Costs [3% New or 5% R&R])	\$ 307,745
ESTIMATED COSTS		(% of Estimated Construction Costs + Contingencies + Design Fee)	\$ 11,745,616

Escalation = percent per month multiplied by number of months

(From Est. Date to mid-point of construction) = 24 months 0.33 % per month

General Bldgs: 0-17 mos = 0%; 18-23 mos = .04%; 24-35 mos = .12%; 36-47 mos = .16%; 48-60 mos = .18%

Health Bldgs: 0-5 mos = .18%; 6-11 mos = .22 %; 12-17 mos = .26%; 18-23 mos = .29%; 24-35 mos = .33%; 36-47 mos = .36%; 48-60 mos = .38%

ESCALATION COST INCREASE (Total of Estimated Costs x Escalation %)

\$ 930,253

TOTAL ESTIMATED PROJECT COSTS (Estimated Costs + Escalation Cost Increase)

\$ 12,676,000

APPROVED BY: _____

TITLE _____

DATE _____

(Governing Board or Agency Head)

STATE OF NORTH CAROLINA - DEPARTMENT OF ADMINISTRATION
STATE CONSTRUCTION OFFICE
PROPOSED REPAIR & RENOVATION OR CAPITAL IMPROVEMENT PROJECT
BIENNIUM 2015 - 2017
DEFINITIONS OR EXPLANATIONS

Form OC-25

(Rev 09/16)

(Items not listed below are presumed to be self-explanatory. Questions may be directed to the State Construction Office.)

Item on Form	Definition/Explanation
CURRENT ESTIMATED CONSTRUCTION COST	Attach basis and justification for estimate. Include description, quantities, units, special
A. Land Requirement	Includes purchase and acquisition costs (title search, filing fees, other legal fees, etc.)
B. 1. Demolition	Includes but may not be limited to lead and/or asbestos testing and removal, building or interior space demolition in whole or part.
B. 2. Site Work	Includes but may not be limited to grading, excavating, poor soils and/or rock removal, utilities relocation, roads, walks, parking, streambank repairs, stormwater management, retaining walls, rainwater harvesting systems, landscaping.
C. 1. Utility Services	Attach explanation of any special building, mechanical, or electrical service requirements with appropriate distance to existing buildings, water, gas, electrical or other utility service.
C. 9. Associated Construction Costs	Includes but may not be limited to construction fire alarm testing, utility shut downs, utilities, signage, security, displaced parking, staging, lock cores, keys, State Construction Office charges.
C. 10. Other	List other significant sources of cost not included elsewhere. Additional lines may be added if needed.
PRECONSTRUCTION COSTS	Includes but may not be limited to land surveys, lead/asbestos surveys, environmental assessments, copying, postage, costs of print advertising, and destructive testing. For CM at Risk, preconstruction costs are consistent with the requirements of the preconstruction services agreement.
CONTINGENCIES	Unanticipated or unforeseen conditions including but not limited to design error and omissions, concealed site conditions, utility conflicts, and extended overhead resulting from weather or other delay.

APPENDIX B									
DHHS - Wright School									
Position Description	Pay Grade	FTE	Salary Grade Midpoint	Extended Salary Total	Social Security	Retirement	Medical Insurance	Total Salary & Fringes	Position Type
					0.0765	0.1855	6,104.00		
Human Services Facility Director I	GN16	1.00	81,716	81,716	6,251	15,158.32	6,104	109,230	Administrator
Human Services Program Mgr I	GN14	3.00	70,058	210,174	16,078	38,987.28	18,312	283,552	
Human Services Program Mgr II	GN15	1.00	75,663	75,663	5,788	14,035.49	6,104	101,591	
School Educator II		6.00	66,000	396,000	30,294	73,458.00	36,624	536,376	
School Educator IV		1.00	68,820	68,820	5,265	12,766.11	6,104	92,955	
Social Worker - Clinical	GN12	6.00	60,063	360,378	27,569	66,850.12	36,624	491,421	Social Work
Social Worker Program Manager	GN14	1.00	70,058	70,058	5,359	12,995.76	6,104	94,517	
Speech And Lnge Pathlog *	GN13	1.00	73,278	73,278	5,606	13,593.07	6,104	98,581	Other Clinical *salary placed at end of 3rd quartile
Occupational Therapist*	GN15	1.00	85,471	85,471	6,539	15,854.87	6,104	113,968	
Psychologist*	GN13	1.00	73,278	73,278	5,606	13,593.07	6,104	98,581	
Youth Program/Education Asst I	GN05	13.00	34,725	451,425	34,534	83,739.34	79,352	649,050	YPEA
Youth Program/Education Asst II	GN06	2.00	36,850	73,700	5,638	13,671.35	12,208	105,217	
Cook	GN02	2.00	31,200	62,400	4,774	11,575.20	12,208	90,957	Clerical & Support Services
General Utility Worker	GN03	2.00	31,663	63,326	4,844	11,746.97	12,208	92,125	
Housekeeper	GN01	2.00	31,200	62,400	4,774	11,575.20	12,208	90,957	
Maintenance/Construction Technician I	GN06	2.00	37,850	75,700	5,791	14,042.35	12,208	107,741	
Maintenance/Construction Technician II	GN07	1.00	40,878	40,878	3,127	7,582.87	6,104	57,692	
Administrative Associate I	GN03	1.00	32,100	32,100	2,456	5,954.55	6,104	46,614	
Administrative Associate II	GN05	2.00	34,725	69,450	5,313	12,882.98	12,208	99,854	
Positions Needed for Each Program		49.00		2,426,215	185,605	450,063	299,096	3,360,979	
Administrative Positions shared across 3 Programs									
HR Technician II	GN08	1.00	44,148	44,148	3,377	8,189	6,104	61,819	Shared Administrative Positions
Supervisor	GN12	1.00	60,063	60,063	4,595	11,142	6,104	81,904	
Staff Development Coordinator	GN12	1.00	60,063	60,063	4,595	11,142	6,104	81,904	
Business Officer II	GN13	1.00	64,869	64,869	4,962	12,033	6,104	87,969	
		4.00		229,143	17,529	42,506	24,416	313,594	
Totals:		53	-	2,655,358	203,135	492,569	323,512	3,674,574	
NOTES: 1. Fringe Rates Used were those established by Office of State Budget Instructions for 2019-21 (dated 09/18); 2. Position Listing/Requirements as of August 17, 2018									

APPENDIX C

Definitions

Encounter Data: Encounter data are records of the health care services for which MCOs pay and – in many states, the amounts MCOs pay to providers of those services. Encounter data are conceptually equivalent to the paid claims that state Medicaid agencies create when they pay providers on a Fee-For-Service (FFS) basis. States that contract with MCOs to deliver Medicaid services typically require those MCOs to report encounter data to the state so that the state has a full record of all the services for which the state is paying, either directly through the FFS system or indirectly through MCOs.

Cohort Study: A cohort study is a type of longitudinal study that analyzes a group of individuals who share one or more defining characteristics (in this case, all included in the study attended Wright School). Cohort studies are often the go-to design for studies that are reliant on “difficult to reach” conclusions – including answers based on evidence, statistics or outcomes that are difficult to ascertain.

Capitation: Capitation is a pre-established rate or amount of money per patient and per period paid in advance for the delivery of services. When a provider signs a capitation agreement, all services to be provided are included in the payment. As such, these services are not billed separately and may not be included in this report’s counts or consideration if claims were not submitted and paid.

NC Medicaid statement related to Encounter Data: On April 21, 2016, CMS introduced expanded Managed Care rules that strengthen Enrollee Encounter data reporting requirements for all states operating a Managed Care Waiver. Per 42 CFR 438.818, all states are required to submit validated encounter data to CMS in a standardized format in a "complete, timely, and accurate" manner. North Carolina strengthened its reporting requirements in its SFY 2016-2017 and SFY 2017-2018 MCO contracts in response to the Managed Care rule changes. Encounter data submitted to the state prior to SFY 2016-2017 may be limited in quality and completeness due to the changes to the Managed Care rules.

Claims processed in NC Tracks: excludes denied claims; excludes services with less than 10 paid events; excludes inpatient bed day rates as 3-Way Inpatient rates are set by DHHS, and currently there are inaccuracies in reported state funded inpatient (YP820)

NCDMHDDSAS Summary of Rates Paid by LME-MCOs shows the rates LME-MCOs reimburse providers for services covered by NCDMHDDSAS. Rates shown reflect the amount paid per unit of service. Units of service are prescribed in the service definition, and the unit may be 15 minutes, an hour, an event, or per diem (day).

Effective July 1, 2017, LME-MCOs can set rates for services reimbursed with DMHDDSAS state and federal dollars. LME-MCOs are to establish rates that are necessary and appropriate; these may be specific to the provider or consumer.

The service definitions can be found at:

<https://www.ncdhhs.gov/divisions/mhddsas/servicedefinitions>

Software

Microsoft Access (Relational Database Management Software) and Excel were utilized to store and separate mental health claims prior to the student's admission to the Wright School and following their discharge from Wright School. Using ICD-10, update October 2018 (specifically "PSY" and NRI diagnostic group), relational and formulaic capabilities were applied. Included claims were then analyzed for their level of service, relation to the student's admission and discharge dates and to calculate costs as a method of generating results for the data-related responses required by this report.

APPENDIX D

Data Collection, Analysis and Limitations

Projecting a potential financial impact from a treatment program such as Wright School requires scrutiny of multiple complex and interrelated factors. To provide the most accurate projections, the following were taken into consideration:

- North Carolina Medicaid/Health Choice, North Carolina's cost-share for Medicaid services, state-funded mental health services, block grant funding, private insurance and the complexities of how each of these are separate and yet interrelated;
- Reimbursement models such as Fee-For-Service (FFS) and Managed Care including how these have evolved over time;
- Reimbursement rates that change between contract periods and amongst providers and their Local Management Entities/Managed Care Organizations (LME/MCOs); in addition to the differences in the reimbursement rates for Medicaid and state-funded services;
- What mental health services are paid for by private insurance, and the alternate funding sources available in the absence of coverage by private insurance. This report bases its analysis on the premise that when enhanced mental health services are needed and are not covered by private insurance, state resources (funds) are utilized.

To conduct this study, data was acquired from multiple sources including:

- 1) North Carolina Medicaid, Medicaid Fee-For-Service (FFS) claims.⁶
- 2) North Carolina Department of Mental Health/Developmental Disabilities/Substance Abuse Services (DMH/DD/SAS), paid encounter claims, including the amounts paid by North Carolina's LME/MCOs for services delivered by providers within their networks. Results from DHM included claims matched against encounters in NC Tracks.
- 3) Wright School, detailed information pertaining to their students including basic demographics, dates of referral to the program, admission and discharge and their self-identified payor source.
- 4) HEARTS Billing, Affinity Client @ Quadra Med.
- 5) CCNC, the Information for Patient-Centered Care available from NCCCN, Inc.
- 6) Multiple other sources, as cited under references.

Upon receipt of the Medicaid FFS claims and DMH/DD/SAS Encounter Claims, data was scrubbed and sorted. Claims related to physical health, laboratory services, drug tests/drug levels, pharmacy, substance abuse services,⁷ optometry, dental, coordinated care fees, radiology (x-ray, MRI, CT scans) etc., were removed from the raw dataset. Claims for ED visits and Inpatient services were individually reviewed and matched against CCNC to determine if the claim was for a mental health service. Where dates of service matched and the primary diagnosis at discharge was related to mental health, the claim was included in the analysis. Claims were excluded when

⁶ While data was provided by both DHB and DMH/DD/SAS, all analysis was completed by DSOHF.

⁷ As Wright School does not provide specific Sub. Abuse services, Sub. Abuse claims were excluded; this would not translate into cost-savings if SA-Specific services were needed and received elsewhere.

- The date of service did not match
- The primary diagnosis at discharge was not known
- The primary diagnosis at discharge was not related to mental health
- The claim was found not in the CCNC Portal (Inpatient or ED claims)
- The claim did not include a billing code or a procedure description
- The service occurred while the student was enrolled at Wright School
- The service occurred >366 days prior to date of admission or >366 days following date of discharge (pre/post analysis)

Several considerations must be given as to the completeness of the data set reviewed:

- Students may have received services for which claims were submitted, but not paid – or for which no claim was submitted;
- Students may have received services funded by alternative funding sources such as private insurance and Block Grants, for which no claims were available for this analysis;
- Students may have received treatment for a service that the Managed Care Organization, per their contract with the providing agency, utilized a capitation rate (see Appendix C for definition).⁸
- Private insurance coverage varies across insurance plans and even yearly benefit packages. While it is common for private insurances to cover basic mental health services (outpatient therapy, medication management, etc.), there is no standardized mental health benefit package.
- Private insurances do not typically cover enhanced mental health services; likewise, they do not ordinarily cover the cost for out of home placement (foster care, PRTF, group homes, etc.).

The likelihood exists that claims were excluded from the overall calculation that were in fact related to mental health treatment, however, the analysis sought to err on the side of caution by only including claims that were unquestionably valid. As such, the results represent the minimum of potential cost-savings.

According to NC Medicaid, “On April 21, 2016, CMS introduced expanded Managed Care rules that strengthen Enrollee encounter data reporting requirements for all states operating a Managed Care Waiver. Per 42 CFR 438.818, all states are required to submit validated encounter data to CMS in a standardized format in a ‘complete, timely, and accurate’ manner. North Carolina strengthened its reporting requirements in its SFY 2016-2017 and SFY 2017-2018 MCO contracts in response to the Managed Care rule changes. Encounter data submitted to the state prior to SFY 2016-2017 may be limited in quality and completeness due to the changes to the Managed Care rules.”

Because of this uncertainty surrounding historical encounter data, the cohort from the 2017/2018 study (N=100) was narrowed to students with Medicaid admitted in calendar years 2016 and 2017. According to Medicaid and NC Tracks records, there were 43 students admitted to Wright

⁸ Capitated payment: services are not billed separately and may not be included in this report’s counts or consideration if claims were not submitted and paid.

School in 2016 and 2017 who were verified⁹ to have Medicaid. While this creates a substantially smaller group for the current study (N=43), it increases the reliability of the cost-analysis for the students included in the study. Students admitted with Medicaid account for 57% of admissions, thus the remaining 43% (38 students admitted in 2016 and 2017) would have likely had private insurance coverage.¹⁰

To achieve a confidence level of 95% (the level most frequently used in research), a sample size of 40 would be necessary to fairly represent an annual population of Wright School students (calculating an annual cost-savings requires one to estimate the population served annually).¹¹ For this study a sample size of 43 (N=43) will be utilized. It should be noted that as the sampling of students was not randomized,¹² instead the cohort was selected by their date of admission and because they had Medicaid, a margin of error (confidence interval) is not able to be calculated. While this type of study can speak to the savings that were realized with the selected cohort, it limits the ability of this study to ensure representation of the entire population. While data will be presented and extrapolated to project a cost-savings, these limitations must be considered

Explanation of Wright School Capacity

When operating at full capacity, Wright School can provide services to 24 students at a time and the average length of stay in the program is approximately six (6) months.¹³ Given the time, planning and the number of moving parts necessary to successfully transition one student back into their home, community and school, while preparing to transition another into student into Wright School, achieving a 100% occupancy rate is not realistic. For these reasons, over the past three (3) calendar years, occupancy has averaged a census of 22 students (44 students annually) which calculates to a 92% occupancy rate. As such, this analysis will calculate all potential cost-savings using the historical 92% occupancy rate.

⁹ Several students self-reported as having Medicaid but could not be verified or did not have MH claims in the pre/post time ranges. These students were not used in the analysis.

¹⁰ Calculated using historical data with the understanding that exceptions to these figures do occur.

¹¹ Calculating an annual cost-savings requires one to estimate the population served annually

¹² Due to the stated limitations with encounter data

¹³ Using the historical average length of treatment approximately 6 months