



COLLEGE OF ARTS AND SCIENCES
Public Policy



Public Policy Capstone Final Portfolio

myFutureNC

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Executive Summary

As of 2016, there were 1.3 million people in North Carolina's workforce with high-quality post-secondary degrees or credentials. myFutureNC estimates that by 2030, the economy will need 2 million people with the same qualifications. With the state's current growth rate, there will be roughly 1.6 million people with post-secondary degrees by 2030, leaving the state 400,000 degrees short. To help meet their goal, myFutureNC tasked the UNC Public Policy Capstone Team with identifying the non-financial, non-academic barriers to post-secondary education and recommending policy solutions to address them.

The team approached this problem in four stages:

- 1) Literature Review
 - To assess the most prominent and up-to-date research on various non-financial, non-academic barriers to post-secondary education
- 2) Survey and Focus Group
 - To collect qualitative and quantitative data on the most impactful barriers for students
- 3) Research of Policy Solutions
 - To inform myFutureNC of potential policy solutions to guide future policy actions
- 4) Final Recommendations
 - To provide evidence-based policy recommendations with policy matrix and determine action items for myFutureNC

Some identified barriers included food insecurity, housing insecurity, access to technology, technology literacy, access to transportation, involvement in the justice system, mental health, citizenship status, quality of academic advising, and access to childcare. The team identified these barriers while conducting the literature review, survey, and focus group.

After researching some potential policy solutions, the team evaluated the most promising solutions using a policy matrix. The matrix considered three criteria: efficiency, cost-effectiveness, and equity. These policies were assessed with myFutureNC's goal of 2 million post-secondary degrees by 2030 at the forefront.

The team's final recommendation for myFutureNC was to focus their efforts on promoting access to dual enrollment programs across North Carolina. This policy performed the best in the three criteria of efficiency, cost-effectiveness, and equity, and it addresses many different barriers such as transportation and citizenship status. Other potential policy solutions that performed very well in the matrix included implementing a state-level childcare grant for student parents and offering affordable housing emergency grants.

About the Authors

The following report was written by six undergraduate students in the Department of Public Policy at the University of North Carolina at Chapel Hill – Lauren Collins, Isabel Cosby, Michael Grigsby, America Juarez-Maldonado, Ashley Huff, and Katie Hopkins – as a part of their Senior Public Policy Capstone Program. The team worked with myFutureNC to identify and propose potential solutions to the most impactful non-academic and non-financial barriers to post-secondary education in North Carolina.

Acknowledgements

The Capstone Team would like to acknowledge the dedicated support and guidance from Cory Biggs and the entire myFutureNC team throughout this process. We would also like to thank Professor Jessica Anderson of the University of North Carolina at Chapel Hill for her work this semester as our project advisor and for her exceptional knowledge and experience that guided us in our work.

Client Background

History of myFutureNC

myFutureNC aims to have 2 million people in North Carolina with high-quality credentials/degrees by 2030. The organization also set two foundational goals: expanding broadband access, affordability, and adoption; and analysis of data. They think internet access is a key component of educational infrastructure that equalizes attainment opportunities for more students.

In January 2017, leaders at the John M. Belk Endowment and the University of North Carolina System recognized they had similar goals to increase post-secondary attainment and improve access to disadvantaged students in North Carolina. They wanted input from North Carolina leaders and therefore reached out to leaders in education, business, faith-based and nonprofit communities, and representatives from the Governor's Office and North Carolina General Assembly. Those leaders became the myFutureNC (mFNC) Commission. They spent much of 2017 and 2018 researching lifelong learning in North Carolina from preschool through post-secondary education. In 2019, the organization transitioned from a commission to a nonprofit and released its goal that 2 million North Carolinians have a high-quality credential or post-secondary degree by 2030.

mFNC's founding funders are the John M. Belk Endowment, the Bill & Melinda Gates Foundation, and the Goodnight Educational Foundation. In addition to these founding funders, mFNC has added the following organizations to their list of main contributors: Greg Alcorn, Bank of America, Belk Foundation, C.D. Spangler Foundation, Dogwood Health Trust, Duke Energy Foundation, L. David Mounts Foundation, and the NC GlaxoSmithKline Foundation. mFNC also accepts individual donations.

mFNC has 13 leading staff members. These positions include directors of policy and advocacy, finance, data analysis, development, communications, and impact managers. They have a 19-member board of directors, which mainly consists of representatives from their sponsors and local education and government leaders. Finally, they have 62 members of their Advisory Board of Commissioners, which is made up of county commissioners and local business and education leaders.

mFNC is not part of a larger organization but partners with multiple organizations in education. They work closely with school systems in North Carolina, including local K-12 public school systems, the UNC System, and the North Carolina Community College System. They also work with other educational nonprofits to conduct research and institute their projects. Their nonprofit partners include the John Locke Foundation, the Hunt Institute, James G. Martin Center for Academic Renewal, and the NC Rural Center. mFNC has also partnered with The Public School Forum of North Carolina, a policy think-tank with a mission of influencing

education policy such that NC students receive an equitable and meaningful public education. They also partner with the North Carolina Association of School Administrators, which advocates for school leaders.

Relevant Context

While working on an education policy project, we need to define a few key terms often used in the field. **Stakeholders** are the people and/or organizations who have a vested interest in our project and its outcomes. In our context, stakeholders include students, parents, teachers, politicians, and educational organizations, among others. **Barriers** are the complex set of reasons why a prospective student chooses not to or is unable to pursue post-secondary education. Since these tend to be individual to each student, no two students' barriers will look the same. Lastly, **post-secondary** refers to the education level after high school, including four-year universities, trade schools, and community colleges.

Educational attainment is an ongoing problem within North Carolina, especially in certain areas where students cannot access post-secondary education. Our partner has focused on collaborative efforts with FAFSA and other local organizations and other listed actions:

- Engages local, regional, and statewide stakeholders to communicate the need for both greater educational attainment and deeper economic alignment.
- Better aligns and coordinates systems to support students at all levels, from pre-K education through high-quality certificate, associate, and higher-degree programs.
- Catalyzes innovative, effective ideas and identifies best practices that can be applied to cities, towns, and rural areas across North Carolina.
- Monitors progress to improve our efforts each year.

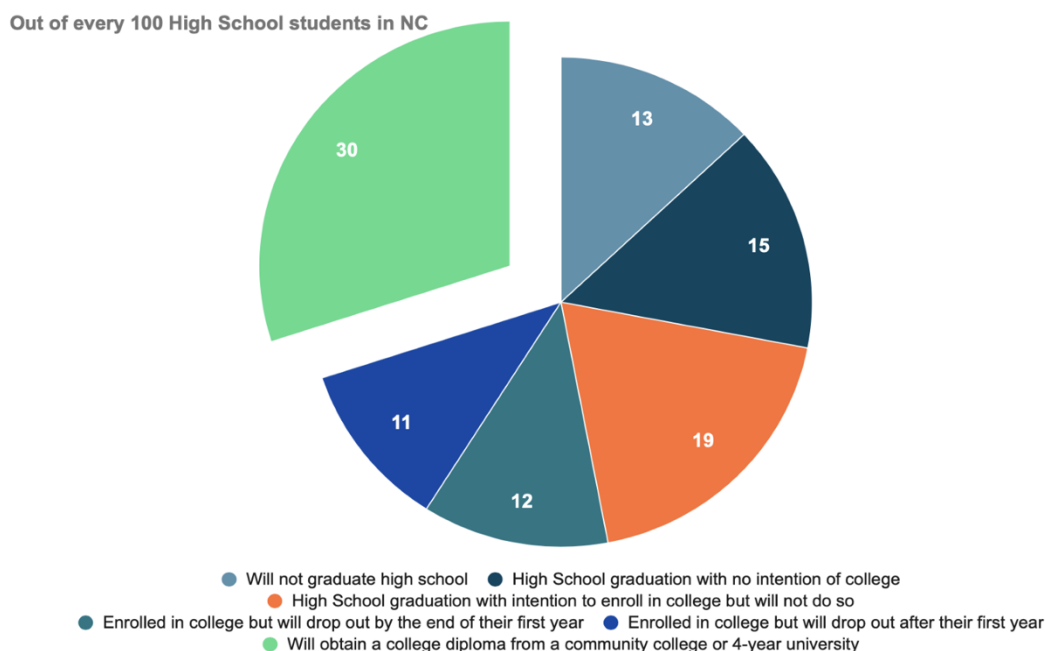
Based on their "Call to Action Final Report," myFutureNC uses a recommended source, ECONorthwest, which suggested collecting nine educational attainment indicators and five workforce indicators to illustrate the current status of the North Carolina educational pipeline. They regularly track the reports of education indicators (both in aggregate and by subgroup). In addition, they follow labor markets' supply and demand outcomes measures. If our solution works, we predict that the education indicator will increase enrollment in post-secondary and change the workforce indicator.

Addressing the Current Issue

In 2019, mFNC released a call-to-action report for the state of North Carolina to improve the accessibility and acquisition of post-secondary education ([myFutureNC](#), 2019). This report includes key data describing the issue which is outlined in Figure 1 below. According to their report, out of every 100 high school students in North Carolina, 13 will not graduate, and 15 will graduate but have no plans to enroll in college. Out of the 72 students left with college ambitions, 19 of them will not end up enrolling, and 12 will enroll but end up dropping out after their first year, and 11 will make it past their first year but end up not graduating, which leaves

30 students who will obtain a college diploma from a community college or 4-year university. mFNC asserts that not enough students in North Carolina are obtaining a college degree due to individual and systematic barriers.

Figure 1



mFNC followed up on this report by releasing an executive summary (footnote 2) in 2021 which analyzes North Carolina's progress in reaching their goal of 2 million North Carolinians with college degrees or high-level certifications ([myFutureNC](#), 2021). According to this report, in 2019, North Carolina had 1.4 million adults aged 25-44 meeting their goal. This is 44,000 below their benchmark to ensure North Carolina is on track to meet the 2 million by 2030. The report discusses how COVID-19 might be negatively affecting these numbers by discouraging students from pursuing post-secondary education. This will be crucial in our project to understand the pandemic's influence on disproportionately impacted populations including students of color and students of low-income backgrounds.

The lack of higher education completion is an issue because in the coming years, 2/3 of jobs will require higher education beyond high school, and a more educated workforce will attract business to and retain current businesses in North Carolina. Higher education equates to higher salaries for workers (almost twice as much) and a more economically successful state.

Our Mission

Our client asks that we identify barriers to students in completing their post-secondary degrees or credential programs and propose varied strategies to mitigate these barriers. The focus of our project is to identify common barriers that are not simply academic or financial, but

barriers that lack ready-made solutions such as a lack of childcare or reliable transportation. These issues are more complex than a simple lack of money; they represent the real-life problems that are often ignored. Our motto for this task is “complex problems require complex solutions.” To measure these barriers, we will use the most recent demographic and performance data on students across the state, accompanied with surveys and interviews to contextualize the data we gather.

Our project will help mFNC advance its overall mission by preparing them to prioritize interlinked policy priorities when advocating with the NC General Assembly in the future. Our identified solutions will also be included in mFNC’s advocacy strategies to accompany their policy work ahead of the 2023 NC legislative session. Lastly, the interviews we conduct will provide greater insight into the barriers students face in deciding to obtain a post-secondary education which will aid policymakers to implement innovative solutions to lessen these barriers.

Work Plan

Scope

We will be identifying barriers to students in completing their post-secondary degrees or credential programs and propose varied strategies to mitigate these barriers. Our project's focus is to identify common barriers that are not simply academic or financial, but barriers that lack ready-made solutions such as a lack of childcare or reliable transportation. These issues are more complex than a simple lack of money; they represent real-life problems that are often ignored. Our motto for this task is "complex problems require complex solutions." To measure these barriers, we will use the most recent demographic and performance data on students across the state, accompanied by surveys and interviews to contextualize the data we gather. By doing so, we will be able to better understand the complexity of these issues and their specific barriers tied to post-secondary degree attainment in North Carolina.

To keep the scope of our project manageable for the given timeframe, our research will focus on community colleges. We chose to narrow our focus to community colleges because one of mFNC's primary policy concerns is increasing their completion rates. According to Mr. Biggs, the reasons why students drop out of community colleges are not necessarily tied to financial or academic reasons. mFNC and our group will work through and analyze these factors so that we will be able to find longer-term, higher-impact solutions.

There are three main priorities which mFNC addresses as initiatives in raising the degree completion rates. These include programs that allow for career planning in high school, improving high school graduation rates by raising the dropout age from 16 to 18, and providing no-cost pathways at the community college level for high-demand fields. While these initiatives could raise post-secondary rates in North Carolina, they only focus on bridging the gap between high-school and college. In contrast, we will focus on solutions that help students complete their degrees once they have already enrolled in community college. We do not expect this complex problem to be completely solved with one project. Instead, we aim to use this project as a starting point for future analysis and to begin to uncover solutions.

Key Project Dates:

Deliverable 1 - Literature Review: September 23rd - October 28th

Deliverable 2 - Survey and Survey Analysis: October 1st – November 21st

Deliverable 3 – Research of Viable Policy Solutions: October 19th – November 14th

Deliverable 4 – Final Recommendations: October 25th - November 18th

Oral Presentation – November 28th

Final Portfolio – November 30th

Overarching Objectives:

- We will conduct qualitative research through interviews and quantitative research through surveys. Because our partner wants us to focus our research on community college attainment, we will classify our focus group as adults (18+) enrolled in community college who have graduated high school, community college admissions officers, high school guidance counselors, and community organizations who work with students after high school graduation.
- We will transcribe and analyze the interviews we conduct to identify overlapping themes, helping us to identify the barriers students face to obtaining a community college degree.
- Following this, we will write and send out a survey to members of our focus group across North Carolina with the help of our partner organization leader, Mr. Biggs. This survey will allow us to conduct simple quantitative analyses on the prevalence of the barriers the students face.
- Finally, we will conduct a research study on existing strategies to mitigate the most prevalent barriers we identify.
- The compiled research and data analyses will be combined into a final presentation and portfolio shared with myFutureNC in November.

Objective 1: Analysis of existing literature on the barriers that impact college attainment

To fully understand the issue we are addressing, we need to conduct a broad analysis of the existing literature on the barriers to college for students across the United States and in North Carolina. This literature review will focus on the reasons students choose not to attend college, focusing primarily on the non-financial, non-academic reasons.

We will create a document outlining the existing literature on this topic. This deliverable will be crucial in informing mFNC about the direction of our research and the analysis we will conduct during the project. This research will also help us prepare our surveys by building off existing studies that have investigated a similar topic.

Internal Tasks:

1. Complete preliminary source and data gathering – **September 23rd**
 - a. The team will decide on roles for data collection in the literature review by Friday, *September 9th*
 - b. The team will finish assigned sections of the literature review by Friday, *September 16th*
 - c. The team will submit the literature review to Dr. Anderson for initial review by Monday, *September 19th*
 - d. The team will revise the product to ensure it is ready to submit by Monday, *September 26th*
2. Complete product and share it with mFNC – **September 27th**
 - a. The team will send Mr. Biggs the completed literature review on Monday, *September 26th*

- b. The team will spend *September 28th* and *30th* revising our literature review with Mr. Biggs and Dr. Anderson's input
- c. The team will delegate task responsibilities and complete a final version of the literature review by Monday, *October 3rd*
- d. Katie will submit our final product to the mFNC staff and coordinate a meeting time to present our findings by Wednesday, *October 5th*
- 3. Present key takeaways and how they inform our project work to mFNC staff – **October 7th**
 - a. The team will have rehearsed our presentation and finalized the content by Wednesday, *October 5th*, and we will log onto the meeting 15 minutes before to ensure everyone is prepared and ready to meet with the mFNC staff on Friday, *October 28th*

Deliverable 1: Literature Review (due September 27th) and presentation of findings to mFNC (October 28th)

Objective 2: Conduct a survey of major stakeholders to determine the most common non-academic, non-financial barriers to post-secondary education.

To help myFutureNC contextualize the issue of degree attainment in North Carolina, we will need to conduct a survey to gather data from the individuals and organizations that could have the largest grasp on the reasons why students do not complete a post-secondary degree or certificate.

We will use the connections Mr. Biggs has offered to us to obtain many responses instead of us cold calling the 58 community colleges across North Carolina. We will analyze the data to determine the prevalence of each barrier we identify so we can focus our research on the mitigation of barriers to the most common ones.

Internal Tasks

- 1. Develop survey methods and draft questions – **October 1st**
 - a. The team will begin delegating assigned roles for creating and deploying the survey on Wednesday, *September 28th*
 - b. The team will submit our draft of questions and methods to Dr. Anderson by Monday, *October 3rd*
 - c. The team will complete the revisions of the survey methods and data to submit to mFNC on Wednesday, *October 5th*
- 2. Obtain approval of survey by mFNC – **October 6th**
 - a. The team will look to make sure that mFNC has approved survey methods and data to submit the finalized version to Mr. Biggs to deploy on Friday, *October 7th*
- 3. Deploy the survey with the help of Mr. Biggs or other mFNC staff due to their large network of contacts – **October 24th**

4. Analyze survey results – **November 29th**
 - a. The team will begin data analysis when mFNC sends over the results so we can complete a product that conveys the major findings to myFutureNC by Tuesday, November 29th
 - b. If needed, we will reach out to our professors to aid us in the data analysis process or we will consult the statistics department

Deliverable 2: Survey (October 24th – November 11th) and Survey Analysis (due November 29th)

Objective 3: Conduct research on mitigation strategies to the barriers we identified to be most prevalent in our data collection from Objective 2

We will conduct research on the innovative solutions for the barriers we identified to compile strategies that have been successfully developed and deployed to serve as solutions to the identified barriers. This research will not be restricted to North Carolina as other states might have programs in place that could be useful to North Carolina to adopt.

Internal Tasks

1. Design and conduct a study of potential solutions nationwide – **October 19th**
 - a. Team will draft methods and potential avenues to research successful strategies on Wednesday, *October 12th*
 - b. Team will receive feedback and revise strategy on Friday, *October 14th*
 - c. The team will have delegated responsibilities of research and each member will begin completing their assigned sections on Wednesday, *October 19th*
2. Evaluate research results – **October 26th**
 - a. The team will work on a draft of our research to submit to Dr. Anderson for review on Monday, *October 24th*
 - b. Team will revise the draft from Dr. Anderson to make a conclusion of recommended strategies that is ready to present to mFNC staff on Wednesday, *October 26th*
3. Determine promising potential solutions in North Carolina – **October 31st**

Deliverable 3: Research of Viable Policy Solutions (due October 31st)

Objective 4: Produce a final product containing the most viable solutions to mitigating the barriers to community college and certificate completion in North Carolina

We will provide our client, myFutureNC, with recommended strategies that will provide innovative solutions for the identified barriers based on our data analysis. These solutions will

aid mFNC in developing strategies in both policy and practice, that will solve the complex barriers facing North Carolinians in community college degree and certificate completion.

Internal Tasks

1. Present our findings to mFNC staff – **October 28th**
 - a. Katie will coordinate with Mr. Biggs to set up a meeting on Wednesday, *October 28th* for the team to present our findings.
2. Research strategy development of successful solutions employed across North Carolina and the country – **October 28th**
 - a. Final version of recommendations will be completed by Wednesday, *October 28th*
3. Provide mFNC with a detailed report containing our initial recommendations of the most promising solutions – **November 15th**

Deliverable 4: Final Recommendations (due November 15th)

Final Portfolio and Oral Presentation

We will conduct an oral presentation based on our research for the semester and our recommended strategies for myFutureNC. Our final portfolio will contain final revised version of our deliverables and present our policy recommendations to myFutureNC for final considerations. This will compile our work throughout the semester.

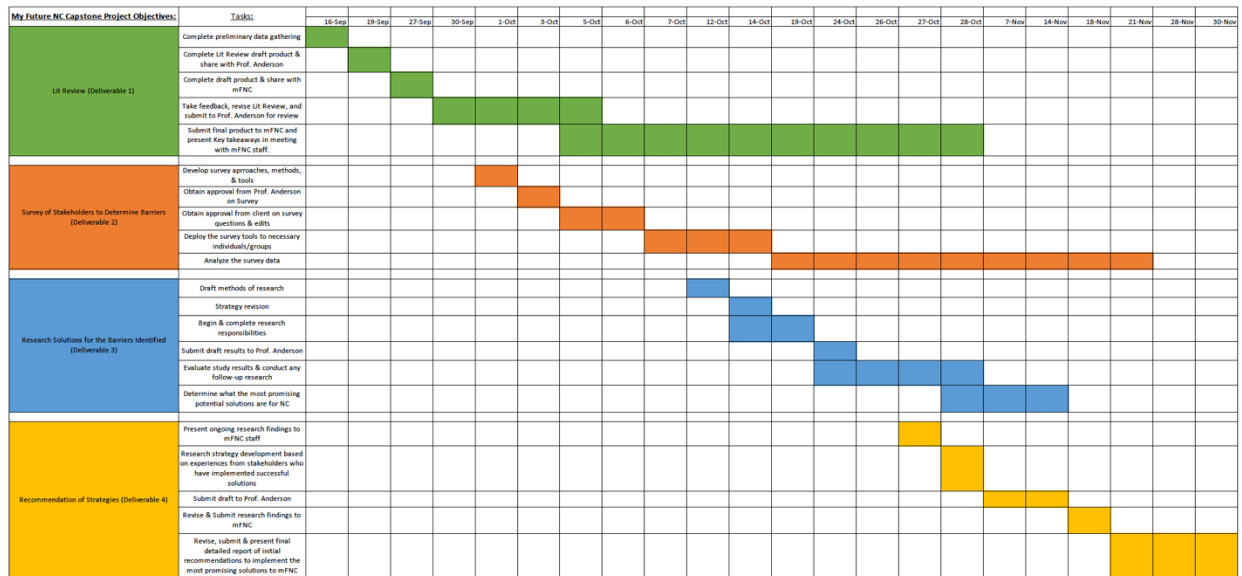
Final Portfolio Outline:

- Executive Summary
- Client Background and Scope of Research
- Work Plan
- Literature Review
- Methods of Data Collection
- Survey Results
- Analysis of Potential Solutions
- Final Project Summary in a One-Pager format

Final Oral Presentation November 28th

Final Portfolio Due November 30th

Gantt Chart



Literature Review

Abstract

This literature review synthesizes multiple sources pertaining to post-secondary educational attainment barriers in North Carolina; specifically at the community college level. While financial and academic barriers make an impact on post-secondary degree attainment, they do not act alone. This literature review will aid myFutureNC in understanding the existing academic literature about non-financial, non-academic barriers, such as location and transportation, access to technology, childcare, food insecurity, mental health, institutional support, and citizenship.

According to the current literature, a lack of transportation was found to have a negative impact on post-secondary educational attainment in rural areas, but limited research has been conducted to directly correlate transportation with a lack of attainment. Food insecurity and technology access within rural areas were also identified as barriers. A lack of childcare poses a major barrier to post-secondary attainment for student parents. Mental health, institutional support, and citizenship are also found to be barriers; however, they are relatively unresearched barriers in which there is a lack of data. We review this literature to improve college access and completion rates by delving into studies and data that have already been completed and build an understanding of what else needs to be addressed.

Key words: post-secondary; barriers; non-financial; non-academic; college; university; community college; North Carolina; United States; food insecurity; rural; childcare; transportation; technology; rural areas in NC; student-parent.

Introduction

myFutureNC understands that many new jobs in North Carolina's growing economy require more than a high school degree. Currently, less than half of North Carolinians aged 25-44 have a post-secondary education. myFutureNC is aiming to increase this rate from 1.3 million in 2019 to 2 million post-secondary degrees by 2030. Due to this ambitious goal, it is vital to understand existing findings about non-financial and non-academic barriers that impact educational attainment. This review examines relevant literature about post-secondary degree attainment and barriers faced within the United States. The literature that has been selected pertains to three main categories of barriers in post-secondary educational attainment: the impact of location, the impact of being a student-parent, and the impact of miscellaneous barriers like advising and counseling, mental health, and citizenship status.

Research Methodology

We used several search engines and databases to find articles for review such as Google Scholar, Sociological Abstracts, and the PAIS Index. We started our search with broad phrases about the topic and found that many of the sources generated within the search engine pertained to financial or academic barriers. To narrow down our search to more pertinent articles, we

included keywords such as non-financial, non-academic, community college, North Carolina, rural, and childcare. By using these keywords, we found supportive literature that helps address the barriers at hand.

Some of the issues we initially believed would be major barriers were shown to have a small negative impact on post-secondary education attainment. However, these studies lacked an abundance of data supporting causality. We were also mindful of when articles were published, and we did not use any source published before 2010. We chose to keep our literature recent to ensure that findings are relevant to current problems and rely on the most up-to-date research.

Impact of Location on Post-Secondary Educational Attainment

Location-related barriers have been identified as variables that influence post-secondary educational attainment. Specifically, several barriers to educational attainment are related to rurality. These barriers include food insecurity, access to the internet and technology, and access to reliable transportation.

The impact of these barriers is relevant to North Carolina's rural populations. According to NC's Office of State Budget and Management (OSBM), most NC counties are rural. In almost 1/3 of counties, at least 80% of the population live in rural areas; and 4.6 million people live in unincorporated areas. However, OSBM also said that NC has shifted in favor of urbanization and is becoming an increasingly urban state overall (NC Office of State Budget and Management). Despite recent urbanization, a significant portion of NC's population remains rural and may be influenced by rural-specific barriers to post-secondary education, like those to be discussed in this section.

Food Insecurity

One potential barrier to post-secondary educational attainment related to rurality is food insecurity. The United States Department of Agriculture defines food insecurity as "a household-level economic and social condition of limited or uncertain access to adequate food." Both anxieties about obtaining food and hunger related to food insecurity are likely to take precedence over learning and educational goals for many students. Areas with the highest rates of food insecurity are disproportionately rural and southern, both classifications that apply to many students in NC (Feeding America, 2019).

One study released by the Wisconsin HOPE Lab examined the prevalence of mental health challenges for community college students. Partnering with 10 community colleges in seven states, they disseminated a modified version of the Healthy Minds Study survey to random samples of students. The survey included questions about mental health and several other topics, including food insecurity. They found that 53% of the community college students in rural areas faced food insecurity. Their research indicated that community college students face a higher prevalence of mental health problems, food insecurity, and housing insecurity than four-year universities, and community colleges often have fewer resources for dealing with these obstacles. Community college students typically have higher needs with fewer resources than the traditional four-year college student, which might contribute to low graduation rates.

In another study, Dickinson (2020) conducted 22 interviews with food insecure college students at the City University of New York as they attempted to navigate the Supplemental Nutrition Assistance Program (SNAP). One important finding was that, due to federal policies, many food insecure students would qualify for SNAP if they were not enrolled in college. This indicates that the need for governmental assistance in obtaining food might hinder educational attainment. Students who are food insecure and seek assistance encounter institutional barriers, which are likely to interfere with their studies.

Troester-Trate (2020) conducted a qualitative, quasi-experimental research method to test the effect of non-academic barriers to education. The study involved a rural community college, Jefferson Community School in northern New York. Troester-Trate created a program for low-income students that included food pantry access, transportation, and childcare services at no cost to enrolled students. She matched samples of 45 students in the control and treatment group by enrolled credit hours, age, gender, and Pell Grant status.

Based on a comparison of retention rates between samples, the results suggest that providing non-academic resources to low-income students may equalize their chances of being retained and persisting in community college when compared to their peers who have more resources of their own. Providing food pantry access could reduce the issue of food insecurity for participants in the treatment group. These results indicate that a reduction of food insecurity might improve educational attainment. The consideration of Pell Grant status to match samples helps control financial differences between students. However, a downside of this study is that three variables were manipulated at once, so none of their effects can be isolated. Specifically, this means that the effect of food pantry access cannot be isolated.

The consensus of the literature is that food insecurity likely impedes post-secondary educational attainment, and that food insecurity is especially pervasive in rural areas. There is no clear consensus on how exactly this issue should be addressed. The literature is also limited because it does not establish a causal relationship between food insecurity and educational attainment. This is because there are few studies, and particularly few quantitative studies, focusing exclusively on food insecurity as an independent variable. Qualitative studies, especially interview data, indicate that students feel food insecurity is a hindrance to their education.

Access to Technology and Internet

A paper by Wilson (2012) asserts that students today must be proficient in computer use and have Internet access due to the exponential growth of technology in society and educational institutions. Wilson explains that students need to know how to use technology upon arriving on campus. This is problematic for community college students in rural areas as they frequently lack access to high-speed internet (Anderson 2020).

Scott et al. (2016) surveyed first-year English students to examine the perceived barriers to college enrollment for rural community college students at two community colleges in the mid-southern United States. The results showed Internet or home computer access was ranked second among perceived barriers to attending college when students were deciding whether to

enroll. This indicates that rural areas may not have adequate access to technology for college students.

Fairlie and Grunberg (2014) did a field experiment where free computers were given to low-income community college students to assess the relationships between access to home computers and enrollment in transferable courses and actual transfers to four-year colleges. The results indicate the treatment group of students receiving free computers had a 4.5 percentage point higher probability of taking transferable courses than the control. There was no significant effect on transfers to four-year college. This study suggests one variable preventing students from enrolling in transfer courses may be their ability to access technology.

Croker and Mazer (2019) collected survey data and found the saturation of technology in the learning environment makes some community college students who are not technologically savvy feel apprehensive. This result contradicts other studies on the subject. While many scholars believe that technology and internet access are essential to learning, it might not be helpful for all students. Given the frequent use of technology in classrooms, it still seems beneficial for students to access technology and the Internet when necessary.

Access to Reliable Transportation

A final barrier related to location and rurality is access to reliable transportation. Transportation access is largely dependent on location and rural locations often do not have reliable public transportation.

The Troester-Trate (2020) study in which a treatment group of students was given food pantry access, childcare services, and transportation is relevant to the discussion of transportation access. The study showed the retention rates of low-income students in the program were comparable to the control group, indicating an equalizing effect in mitigating a lack of resources. However, transportation is not an isolated variable, so it is impossible to know if transportation access and improved educational outcome have a causal relationship.

Weiss et al. (2018) conducted a randomized controlled trial where the treatment group received a tuition waiver, free use of textbooks, and a monthly transportation benefit. The program had a positive impact on graduation rates for the treatment group. This study shows the potential benefit of ensuring students receive reliable transportation for their educational attainment. This study is particularly helpful for our research in that it looks at a quite definitive indicator of post-secondary educational attainment, which is graduation. However, like the previous study, transportation is not an isolated variable. It is possible that the free textbooks and/or tuition waiver increased graduation rates.

Scott et al. (2016) was also mentioned in the technology portion of this literature review. Their survey data on first-year English students identified that rural community college students considered perceived distance from their school and subsequent transportation needs as a barrier to their enrollment. Over 50% of respondents agreed the number of miles they had to drive to and from school affected their choice of enrolling in college. Students also indicated they weighed gasoline and car maintenance costs with the benefits of earning a college degree.

Scholars seem to agree that reliable access to transportation has a positive impact on postsecondary educational attainment. However, studies thus far fall short in establishing a clear causal relationship. Despite a lack of research on the exact nature of this relationship, students clearly consider transportation a barrier to their education.

Impact of Being a Student-Parent on Post-Secondary Educational Attainment

Student-parents enrolled in post-secondary degree programs face a variety of conflicting demands when navigating between academic, financial, and family responsibilities. Parents who have dependent children are most likely to enroll in two-year community college programs when looking to receive a post-secondary education. Community colleges are critical for student parents to achieve higher education and student-parents comprise one-third of all community college students in the US (Sallee, 2019).

These institutions are not currently funded at the capacity to support non-traditional students, such as student-parents, to degree completion. Of students ages 22 to 30 who had completed some college coursework, 53% of those studied cited family commitments as the major reason why they could not complete their degree (Long, 2017). When assessing the multidimensional barriers student-parents face, it is necessary to further analyze the gendered-economic strain of education, lack of visibility as a non-traditional student, and dwindling childcare resources for students with dependents.

Student-parents are confronted with the “work-family-schooling dilemma”, a phenomenon where more time, effort, and money spent on academic responsibilities results in less money to provide for one’s household and family expenses. (Sallee, 2019) This economic strain is unjustly placed on student mothers who face social expectations and norms to be involved parents, bearing a greater responsibility to provide emotional labor than the child's father. One study found that while the majority of mothers and fathers in college report spending over 30 hours a week on caregiving, only the majority of mothers will spend more than 30 hours a week caregiving. (Long, 2017).

This association of female care for children makes it increasingly difficult for mothers to navigate higher education as they effectively have two full-time jobs, parenting and school, on top of providing for their family financially if needed (Baugus, 2019). Among women who entered a four-year college program in 2003–04 without dependents, about 60% graduated with a credential (degree or certificate) within six years, and fewer than 30% dropped out with no credentials. Among those with a dependent, the success rate was significantly lower. Most student-mothers dropped out with no credentials, and less than one-third attained any credential at all (Long, 2017). While welfare reform programs have historically encouraged low-income mothers to attend post-secondary schools, colleges lack social and emotional resources to support student-mothers.

While it is difficult for student-parents to afford to complete college, one barrier is the lack of Free Application for Federal Student Aid (FAFSA) information and resources for student-parents when applying. Financial aid criteria penalize student-parents by requiring a certain amount of credit enrollment in credential-seeking programs, where student-parents are

likely to take skill-based courses without seeking a credential completion or not enroll in enough credit hours per semester due to a lack of excess time away from parenting and financial duties (Long, 2017).

The FAFSA also fails to accurately measure the financial need for nontraditional students, with most student-parents balancing some form of part-time employment along with their parenting and academic responsibilities, with 55% of student-parents having full-time jobs. (Sallee, 2019) Student-mothers face the greatest economic strain when attempting to pursue postsecondary education as they also must navigate more time spent on caregiving than the average student-father, along with the financial strain all student-parents face.

The campus-based resources provided by community colleges function on a “care-blind” standard, where it is the responsibility of the non-traditional student to seek out resources and aid from the institution. These resources are rarely offered in coherent or easily accessible ways, and non-traditional students such as student-parents, face the burden of making time and effort to understand what resources are offered and acquire them independently. The students who benefit from college services are those who have a high level of social and cultural capital and possess the time, awareness, and confidence to advocate for their needs to a school administration (Moreau, 2012).

Beyond the lack of tangible support for advising student-parents, these students face the additional barrier of being invisible in the policies and physical spaces of colleges. Very few universities explicitly consider student-parent needs in general policies such as accommodations for instruction modes, course scheduling, and even spaces to breastfeed or entertain children (Moreau, 2012). Colleges reinforce the idea of a “normative student” who is childfree, stigmatizing student-parents with the implication that their caregiving responsibilities do not align with the college’s conception of an ideal student. This is evidenced by limited access to childcare centers, a lack of suitable space for mothers to pump breast milk, or even banning children from certain study spaces (Sallee, 2019). The lack of resources, acceptance, and accommodation of student-parents leaves them feeling isolated, signaling that they must manage their caregiving identities independently and far away from college to succeed in the normative student identity.

Providing on-campus childcare is necessary to student-parent success as almost 80% of student-parents surveyed said on-campus childcare was the most or second most important factor in facilitating college attendance (Sallee, 2019). These on-campus childcare services are dwindling, and as more low-income student-parents attend community colleges they are less likely to have accessible childcare (Long, 2017). Only 44% of US community colleges now offer childcare on-site, down from 53% in 2003–4 (Sallee, 2019).

The scarcity of affordable, convenient childcare is a critical problem for student-parents, especially student-mothers who already face greater economic burdens than student-fathers. Childcare is also imperative for student success as financial aid programs do not consider the costs of childcare in calculating need-based aid, so student-parents without on-campus childcare

must allocate money towards the cost of childcare to make time for classes and school-related assignments (Long, 2017).

It is important to support student parents in the completion of post-secondary degrees as higher educational attainment results in increased expected wage earnings and a lower likelihood of unemployment. This results in a positive outcome for the children of student-parents, who then grow up in households with more stable employment, additional income, and non-monetary benefits relating to the health, education, and well-being of children growing up in homes with parents who have post-secondary degrees (Long, 2017).

Miscellaneous Barriers to Post-Secondary Educational Attainment

There were many other personal and structural barriers identified within the literature that are unrelated to location or childcare and do not fall within neat categories. Three barriers that we will especially focus on in this section are mental health, counseling and advising services, and citizenship status because there was the most written about them. Other barriers referenced in many of these sources, but were not expanded upon in-depth, included lack of motivation, lack of representation, gender and race-based discrimination, and feelings of alienation or exclusion. We believe that these barriers are also worth further investigation.

Mental Health

A paper by Waters-Bailey and McGraw acknowledges mental health as a barrier to community college attendance and retention. According to the paper, almost half of community college students suffer from a mental health problem and less than half of those students receive any type of mental health support. The authors suggest some strategies for addressing this crisis including providing students with counseling resources, raising awareness about mental health, and giving students information about local resources. They also point out that addressing this problem at rural community colleges is particularly important because many rural areas are underserved by mental health professionals (Waters-Bailey, 2019).

The Waters-Bailey paper was the only piece of literature we found that directly addresses mental health as a barrier to community college access. We find this surprising, especially considering the claim that almost half of community college students struggle with a mental health issue. We believe that this is an important area for future study.

Advising and Counseling

Another barrier that we found addressed in the literature is the general lack of advising and counseling services available to community college students. An article by Brock expresses that community college students need better access to advising services to help them with simple tasks like figuring out which courses to take or applying for graduation. Because funding for community colleges is usually less than for public four-year universities, advising services are often substandard. Brock proposes that the best solution for this is to increase community college funding, citing a study demonstrating a direct link between community college budget cuts and the average time it takes students to complete their degree (Brock, 2010).

A report from Brookings identifies the same barrier to community college completion. The report states that “completing a credential or degree requires students to sort through an overwhelming amount of information to make complicated decisions” with very little support in doing so (Levesque, 2018). Rather than simply increasing budgets for community colleges, the author of the report advocates for switching community colleges from a “cafeteria model” to a “guided pathways model.” This means that instead of leaving it up to students to navigate a frustrating and confusing system, “guided pathways models feature clearly structured programs and extensive advising support” (Levesque, 2018).

Citizenship Status

A final barrier identified in the literature is citizenship status. An article by Terriquez investigates the difficulties undocumented students have staying continuously enrolled in community colleges. The author asserts that undocumented students are disproportionately likely to drop out of community college compared to the average student. According to the article, the reasons behind this include, “corresponding financial hardship, sub-standard employment options, the precarious legal status of other undocumented family members who rely on their earnings, and excessive stress” (Terriquez, 2015). The paper offers no explicit policy recommendations. Rather, it suggests that further scholarship on this topic could inform future immigration policy decisions.

Conclusion

Throughout this review, an abundance of literature pertaining to barriers to postsecondary degree attainment was examined. Barriers such as lack of transportation, rurality, and lack of childcare for student-parents were found to have a negative impact on one's ability to gain a post-secondary degree. Also included within the literature review were methods and proposed practices that could be implemented in North Carolina to raise the post-secondary degree rates. These methods include childcare programs at the institutions for student parents, more accessible transportation for people residing in rural areas, and the acknowledgement of the conflict governmental food assisting programs have with enrolled students. Other barriers, such as mental health, advising and counseling, and citizenship status are not directly causal in terms of data.

Despite the lack of casual data, the reviewed literature provides us with useful models in terms of remediating advising and counseling, and the need for further research on topics that are relevant and impactful to today's society, such as mental health. It is important that we acknowledge the existing data available and understand the areas in which there is a lack of data 10 so that we may adequately address the non-financial, non-academic barriers to post-secondary education in North Carolina.

Survey Introduction and Methodology

Introduction

The research team conducted a survey to identify the most prevalent non-academic and non-financial barriers to post-secondary and certificate degree completion in North Carolina. The groups surveyed include (1) current and former students, (2) high school guidance counselors, (3) community organization leaders, (4) NC State and County Board of Education Members, and (5) Higher Education Advisors, Staff, and Faculty. The groups were chosen to provide the research team and myFutureNC with a wide range of perspectives and firsthand experiences to pull from when crafting and lobbying future policy.

Methodology

The researchers utilized Qualtrics for the development and distribution of the survey. The survey utilized skip logic where participants were redirected to different questions in the survey based on their responses throughout. The survey was completed entirely online and consisted of a mix between multiple choice, Likert scale, and short-answer questions.

To improve survey responses, the team decided to limit any combination of survey questions to under ten, which made the time-commitment of the survey between five to ten minutes. The groups chosen to complete the survey are (1) current and former students, (2) high school guidance counselors, (3) community organization leaders, (4) NC State and County Board of Education Members, and (5) Higher Education Advisors, Staff and Faculty.

In beginning the survey, the research team found that it would be difficult to reach the population that could provide the most insight into the barriers to higher education in North Carolina: former students. The difficulty in reaching this group stems from their lack of belonging to a particular organization or school that provides a central database of contact information and data available for research. These people formerly belonged to a school, but many schools rightfully keep contact and identification information concealed to protect the privacy of former students.

To better reach these populations, the research team utilized the resources made available through myFutureNC's connections across North Carolina. The survey was sent to and distributed by the myFutureNC team on October 24, 2022 and remained open until November 10, 2022.

The survey was limited to people of at least 18 years of age. Any respondents under 18 who attempted the survey were redirected to the exit page and not granted access.

Survey Results and Analysis

Results

The survey received 70 responses, with the most significant respondents being current or former students (25). A breakdown of the number of survey respondents for each category is below in Table 2. In table 1, the survey is separated by the completion of the survey, where the ‘False Survey’ had only 2 to 0 questions answered, and the ‘True Survey’ had more than four questions answered. This is important because the report results are based on the ‘True Survey’ responses. Figure 1 shows the survey locations taken, which can provide insight to further research based on regional education solutions.

Total Number of Survey	Number of False Survey	Number of True Survey
70	21	49
Percentage of Survey	30.00%	70.00%

Table 1

Group of Respondents	Number of Survey	Percentage
Current or Former Student	21	42.9%
Community Organization Leader	12	24.5%
High school Guidance Counselor	2	4.1%
Higher Education Advisor/Staff/Faculty	3	6.1%
NC State/County Board of Education Members	11	22.4%
Total True Survey	49	100%

Table 2

Survey Map

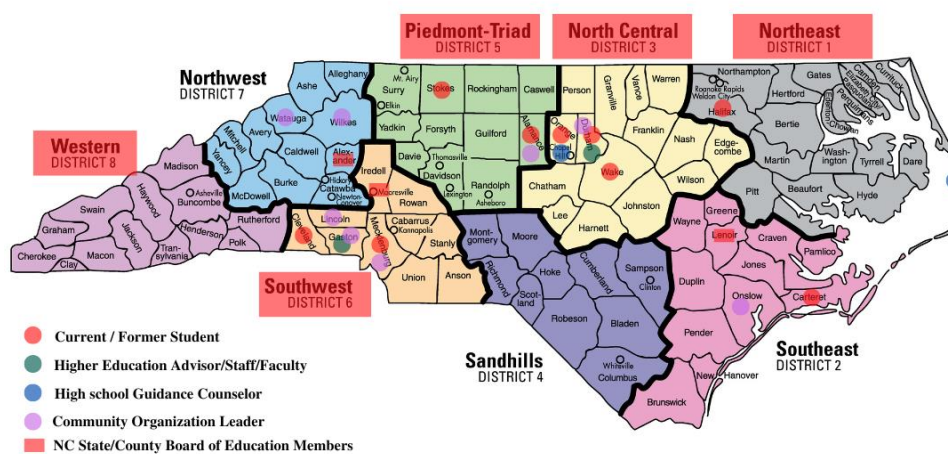


Figure 1. *Description of Respondent Locations*

Current or Former Students

Students Demographic	
Age	
19	2
20	3
21	6
22	4
23	1
40+	4
Race/Ethnicity	
White, non-Hispanic	13
Black or African American, non-Hispanic	2
Asian, non-Hispanic	2
Hispanic/Latinx	3
viii. Multiracial, non-Hispanic	1
Degree Beyond High School	
Yes	No
12	9

Table 3

Table 3 shows the demographic of Student response. Students were asked to identify the barriers that impacted their ability to graduate high school and barriers that impacted their ability or desire to attend college. Notably, several respondents described that housing insecurity was a barrier to their ability to graduate high school. Other responses indicated that students struggled with adjusting to US culture after moving from another country, and several respondents shared that having to work to support their family provided a barrier to graduation. However, most respondents shared that they experienced no barriers to graduating from high school.

Students were then asked to share any barriers that impacted their ability or desire to attend college. Several respondents shared that a lack of finances and financial aid information inhibited them from applying to schools. Some participants were tasked with looking after their younger siblings and were unable to leave home for college. Another respondent shared that transportation posed as a barrier since they did not have access to a car and there is limited public transportation available to them.

High School Guidance Counselors

The survey team obtained two responses from high school guidance counselors, who both work primarily with 11th and 12th grade students. The counselors shared that the most impactful non-academic and non-financial barriers students face in completing or continuing their education are poor mental health, a lack of awareness of alternative avenues to attain higher education and financial aid, a lack access to technology and internet, family obligations, food insecurity, and citizenship status.

Community Organization Leaders

The community organization leaders shared their experiences working with high school and college aged student populations. Many respondents proposed increasing the number of resources available to students to widen the number of potential college applicants and limit only a select few having the awareness to apply. Also, some respondents advocated for greater outreach efforts beginning in Middle School to introduce them to post-secondary education at an early age. Most respondents shared the sentiment that many people are simply unaware of the educational opportunities available to them and the benefits that higher education can provide. They recommend increasing financial support for better community involvement and training opportunities throughout North Carolina.

NC State and County Board of Education Members

The NC State and County Board of Education Members echoed similar sentiments to the community organization leaders, proposing to increase funding to meet student needs both in schools and their communities. Interestingly, several respondents shared that a stable home and parents earning a living wage is an incredibly impactful barrier to higher education that the research team had not considered.

Several respondents recommended investing in the expansion of free community college programs that allow students to attend community college for free for two years and then transfer to a four-year university. However, some respondents advocated for focusing on trade programs and encouraging students to obtain certificates instead of degrees.

Higher Education Advisors, Staff, and Faculty

The higher education advisors, staff, and faculty respondents identified that many students who abstain from attending college want to begin earning an income and live a stable life. They recommend advertisements for students on the different types of programs that can offer short term career opportunities through government subsidies and funds that colleges have set aside. The respondents also identified home environments as a major barrier to students' higher education attainment, as well as technology access and transportation being important.

Analysis

The survey results mirrored the research team's expectations based on our findings in the literature and previous knowledge. There are many barriers to postsecondary degree and certificate completion that are often more than just financial or academic in nature. The respondents of the survey highlighted housing insecurity, citizenship status, transportation, mental health, family obligations, food insecurity, technology access, and information on alternative avenues to higher education and financial aid assistance as impactful barriers to many students across the state. These barriers need to be addressed through innovative and intersectional solutions, many of which respondents described in their responses.

On table 4, each role has a different educational average rank between Community Organization Leader, High School Guidance Counselor, Higher Education

Advisor/Staff/Faculty, and NC State/County Board of Education Members. Figure 2 shows each role's question that led to the average responses. Table 4 shows the average rank of each barrier between the different roles. There is a difference between them which can be seen more in Figure 3, where the averages are in a line graph. Although the survey is skewed, Figure 3 shows similar correlations between the barriers they ranked as most impactful. However, the overall rank gave an estimate of the top barriers between all, shown in Figure 4. It's interesting to see the difference between them because they all play a role in educational attainment.

Figure 4 shows the top 3 barriers ranked. The highest are lack of higher education awareness, access to technology and internet, and poor mental health. This observation correlates to the lit review as we came to similar conclusions on the barriers.

Q7 💡 ...

What are the most harmful/impactful non-academic and financial aid barriers that your students face in completing/continuing their education? (rank them in order of most impactful)

Access to reliable transportation	1
Access to technology and Internet	2
Food insecurity	3
Lack of awareness of alternative avenues to attain higher education and opportunities for financial aid	4
Family obligations	5
Poor mental health	6
Citizenship status	7
Other <input type="text"/>	8

Figure 2

Average Education Barrier Rank							
Roles	Average Rank for Each Barrier						
	Access to Reliable transportation	Access to Technology and Internet	Food Insecurity	Lack of awareness of alternative avenues to attain higher education and opportunities for financial aid	Family obligations	Poor Mental Health	Citizenship Status
Community Organization Leader	2.2	2.6	4.5	3.4	3.9	5.7	5.7
High school Guidance Counselor	4.5	4.5	6	1.5	3.5	1.5	6.5
Higher Education Advisor/Staff/Faculty	4	3	4.5	3	4	3.5	6
NC State/County Board of Education Members	5.6	3.4	2.9	2.8	4.7	3.7	6.3
Weighted Average Rank	4.075	3.375	4.475	2.675	4.025	3.6	6.125

RANK	5	2	6	1	4	3	7
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Table 4

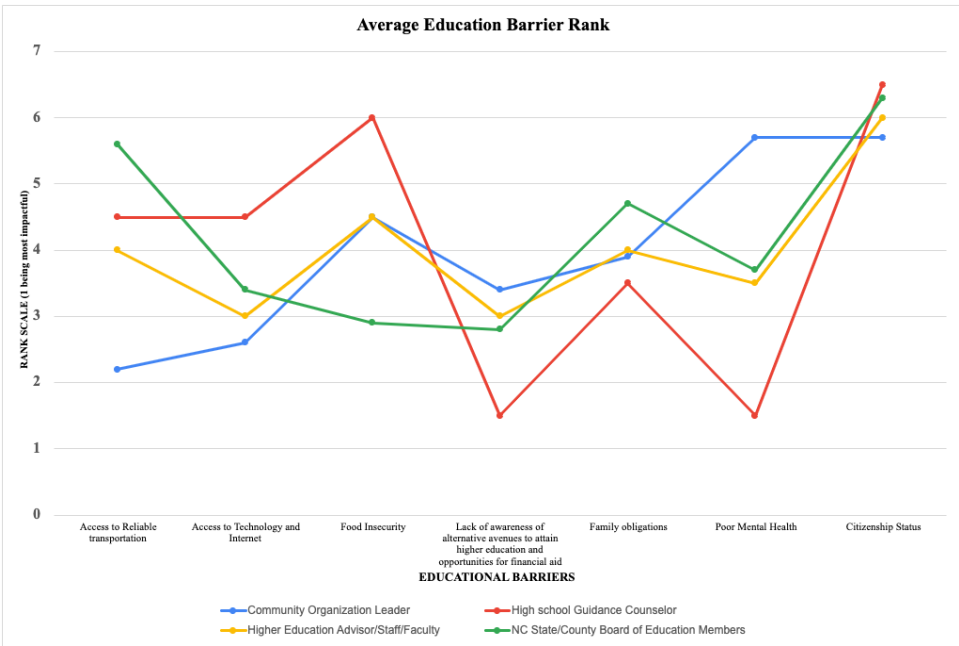


Figure 3

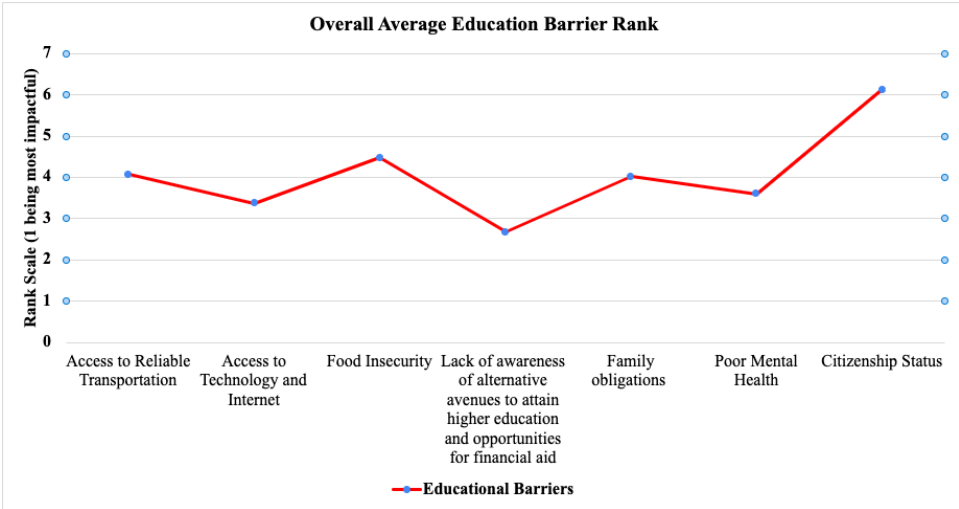


Figure 4

Limitations and Recommendations

The research team faced restrictions on how long the survey could remain open to analyze the survey results for the final recommendations deliverable. If the survey remained

open longer, the team hypothesizes that the survey would receive more responses from each category of respondents, providing greater validity to the results collected in this survey.

The research team also lacked the credentials to request information from high schools and community colleges to contact students who either did not attend college or did not finish. This would have allowed a broader range of current and former students to be reached in the data collection process.

The findings from this survey mirror the results of our literature review and prior knowledge. Survey data proved to be a helpful tool to provide validity to lawmakers when proposing policy changes and back up the proposed changes with evidence. Many methods can help target individuals like current/past students. However, to see a successful response rate, it may need more incentives, time, strong outreach (phone bank, text bank, interviews, and email), and flexible capacity within your team. Also, if the survey is divided based on the NC Board of Education representatives map, the barriers and solutions can be more effective due to barriers varying among regions. In the future, myFutureNC should conduct a wider-scale survey and gather more perspectives by outreach to community-serving organizations, such as the community leaders who filled out the survey or cold-call individuals.

Durham Technical Community College Focus Group

Date: Monday, Oct. 31, 2022

Participants:

- Abraham Dones, Vice President of Student Services (donesa@durhamtech.edu)
- Stéssha Little, Director of Gateway to College Program (littlest@durhamtech.edu)
- Patricia Johnson, Education Navigator (johnsonp@durhamtech.edu)
- Maggie West, Coordinator of Student Wellness and Basic Needs/Student Engagement (westm@durhamtech.edu)

Purpose

The purpose of this focus group is to supplement our findings from the literature review and survey data collection. Because of our particular interest in educational outcomes at community colleges, we decided to recruit four staff members from Durham Technical Community College for this focus group. Dr. Dones, Ms. Little, Ms. Johnson, and Ms. West all have firsthand experience navigating non-financial, non-academic barriers to post-secondary education. We believe that their insights add important depth to the other survey data we have collected for myFutureNC.

Summary

The focus group began with participants sharing the non-financial, non-academic barriers to post-secondary education that they have most frequently observed while working at Durham Tech. Many of the barriers they mentioned were the same as what we uncovered in our literature review, including food insecurity, access to technology, access to childcare, and citizenship status. However, there were many other barriers they mentioned that were not uncovered in our literature review, including non-child-related family caregiving responsibilities, housing insecurity, technology literacy, scheduling conflicts, and prior involvement with the justice system. These barriers represent either a gap in our research or a gap in the literature itself, and they are barriers we have highlighted for further investigation as we move forward with our research of policy solution recommendations.

Next, participants shared the barriers they have faced as employees trying to assist students in navigating these barriers. Two of the primary concerns they raised were inadequate financial resources and inadequate human resources. Regarding inadequate financial resources, the participants expressed that they were not receiving enough funding to effectively implement programs targeted toward addressing non-financial, non-academic barriers. For instance, their on-campus childcare services do not normally receive the funding necessary to support a significant number of their students because the funding is based only on full-time enrollment, with no consideration for part-time students. Additionally, they expressed that some grants come with stipulations for usage that prevent Durham Tech from financially supporting students due to restrictions beyond their control.

Regarding inadequate human resources, the participants expressed that they experience time scarcity because there are too many student needs to properly address them all. They also mentioned that academic advisors are assigned way too many students. Additionally, many staff members lack the proper training and developed skill set to engage with students and provide a support system. The participants conveyed that another struggle associated with addressing students' needs is that it is difficult to provide them with sustainable, long-term solutions.

Lastly, participants spoke about some of the ways Durham Tech is currently working to address non-financial, non-academic barriers to post-secondary education and what they might want to see implemented in the future. Durham Tech currently provides many types of financial assistance to its students including emergency one-time grants and funding for books and supplies. The school also has a free on-campus childcare center offering part-time daycare. Currently, Durham Tech is also looking to build affordable housing on some of the college's land to help alleviate housing insecurity. Additionally, the focus group participants have kindly provided us with [this](#) comprehensive list of the resources that Durham Tech provides to its students to address non-financial, non-academic barriers.

One of the changes the participants said they would like to see at Durham Tech to address non-financial, non-academic barriers to post-secondary education is having more community involvement with the school. For instance, this could include having mental health resources within the community working more closely with the school.

Takeaways

- Non-financial, non-academic barriers to post-secondary education pose significant roadblocks to many Durham Tech students in completing their degrees
- Our team should do further investigation into barriers that were not mentioned in our literature review including non-child-related family caregiving responsibilities, housing insecurity, technology literacy, and prior involvement with the justice system
- Durham Tech employees face barriers when serving their students due to inadequate financial resources and inadequate human resources
- Durham Tech has already taken significant steps toward addressing the non-financial, non-academic barriers to post-secondary education
- When working to address barriers students are facing, the primary barrier Durham Tech encounters is inadequate funding

Policy Solutions and Recommendations

Introduction to Solutions

This review synthesizes research of policy solutions to guide final recommendations of state-level policies aimed toward addressing non-financial and non-academic barriers to postsecondary education in North Carolina. Our review will aid myFutureNC in understanding the current landscape of policy solutions in other states that address barriers such as lack of transportation, lack of access to technology, lack of childcare, food insecurity, mental illness, lack of institutional support, citizenship status, housing, and involvement in the justice system.

Our review of policy solution identifies multiple different solutions that our team has researched from across the country to target the barriers stated above, and this document is intended to aid the myFutureNC team to find unique solutions to the complex problems students face. Our team has developed a complementary document that provides a comparison of policy solutions in the form of a policy matrix, along with our final recommendations for the myFutureNC team. This document will be included later in this final portfolio.

Food Insecurity

The United States Department of Agriculture defines food insecurity as “a household-level economic and social condition of limited or uncertain access to adequate food.” Students’ anxieties about obtaining food and hunger related to food insecurity are likely to take precedence over educational goals (Feeding America, 2019). Food insecurity impedes postsecondary educational attainment and is especially pervasive in rural areas.

Food insecurity is a complex issue because it can affect students from early childhood and adolescence and have lasting impacts through adulthood. If students experience food insecurity during adolescence, it can impact their family functioning, mental health, and cognitive functioning, all of which impact students’ education outcomes (Heflin, 2022). This makes it imperative for policymakers to address food insecurity during students’ K-12 education. One way to do this is through providing school meal programs like a school food pantry or an after-school meal program.

A school pantry provides meals for income-eligible students. After-school meal programs provide adequately nutritious meals for children after school. A great example of these programs is No Kid Hungry NC. They work to end child hunger by connecting children to effective but underutilized federal nutrition programs such as school breakfasts, summer meals, and after-school meal programs (*No Kid Hungry NC*, 2022). Investing in programs like these could have positive long-term impacts on educational attainment by investing in the food security of children from a young age.

An important consideration is that many students facing food insecurity have already gone through the K-12 education system and would not benefit from investments in programs

like No Kid Hungry NC. Also, the effects of these programs could take years to be seen, potentially long after 2030. So, addressing food insecurity for college-age students takes priority.

One way to address food insecurity among college students is to invest in food pantries on college campuses that provide students with access to nutritious food throughout the school year. The University of North Carolina at Asheville currently has a weekly food distribution program for students who need access to meals. At community colleges, however, students often do not live in the same area and come to campus more infrequently. So, an alternative solution would be to set aside funding for food insecure students that provides them with gift cards or grants for the purchase of groceries at local stores. Massachusetts Bay Community College (MassBay) has this program in place and has seen improvements in attendance and graduation rates, especially for students with children or students who come from low-income households. MassBay coupled this scholarship program with weekly meal distributions, a monthly on-campus farmers market, and snack bins in different buildings across campus, all of which come at no cost to students (*MassBay Addresses Food Security [...] Students are Hungry*, 2017).

Access to Technology and Internet

Another barrier to postsecondary education is unreliable access to technology and the internet. Literature suggests that grants to expand broadband access and give students computers are the most common solutions to this problem. In North Carolina, the Growing Rural Economies with Access to Technology (GREAT) program will provide \$30 million to ensure 11 counties have high-speed and affordable internet access (The Stokes News). As the implementation is ongoing, there is still a need for further expansion. Some private internet providers are also working to expand broadband access for students. T-Mobile's Project 10 Million partners with school districts to provide free and low-cost internet options for students like unlimited data passes (T-Mobile). Taking advantage of such grants and expanding partnerships would likely increase postsecondary educational attainment.

Grants are also used for directly providing students with technology like computers and tablets. In Fairlie and Grunberg's field experiment, they gave community college students in California free computers (Fairlie and Grunberg, 2014). In this study, the treatment group had a greater probability of taking 4-year transferable courses than the control group. Many K-12 schools provide free computers, but this does not extend as broadly to postsecondary institutions (Office of Educational Technology). Some colleges have been successful in providing students with free laptops and/or tablets, though it is more common at private institutions (Sealey-Morris).

Colleges have also used loaner programs, which might allow students to borrow a computer for the duration of a class, semester, or academic year (Sealey-Morris). The University of the District of Columbia has a semester-long laptop loaner program where devices are disseminated on a first-come, first-served basis ("Success Laptop Loaner Program," 2021). This program is unique in that it does not require students to prove financial need, which makes it more accessible for students with shorter-term financial woes or those with non-financial

impediments (“Success Laptop Loaner Program,” 2021). East Central University in Oklahoma has a Laptop Lender Program consisting of 100 laptops that can be checked out for 24-hour periods to complete an exam or coursework (“Laptop Lending Library,” 2020). This program is accessible to students with various needs but is too short-term to have a meaningful impact on educational attainment.

In North Carolina, two four-year universities have substantial computer grants or loaner programs. The University of North Carolina at Chapel Hill has the Carolina Computing Initiative (CCI). Students who receive CCI grants are given laptops that they can use throughout their time at UNC and beyond (Carolina Computing Initiative). To be eligible for CCI, students must be first-time undergraduates, be eligible for federal financial aid, and must have applied for financial aid by the deadline (Carolina Computing Initiative). This program benefits recipients but qualifying for federal aid does not guarantee that students will obtain the grant. Additionally, it is only available to first-year students. Meredith College has a loan pool for students with a “computer crisis,” like broken computers, transportation problems, and underpowered computers (Allen, 2022). This program allows students to be loaned a computer for the full academic year and connects them with other resources to aid their crisis (Allen, 2022).

Piedmont Community College in Roxboro, North Carolina began a program in the 2022-23 academic year where 200 students received free laptops (Statum, 2022). Students must be new to the school, full-time students, and enroll and pay tuition and fees by a deadline set a couple of weeks before the start of the semester (Statum, 2022). This program could be helpful as eligibility requirements are minimal, but it is new, so it is difficult to judge the program’s success.

Laptop grants and loaner programs are becoming more common but are certainly not standard practice. These programs are more common in K-12 education but could be useful at the postsecondary level. Such programs mitigate the financial barrier associated with purchasing a laptop for school. Laptops can also reduce transportation and student-parent barriers as more work can be done from home if needed. While these programs do not help those without access to broadband internet, they help mollify the technology barrier. One disadvantage of this solution is that technology investments are not one-time endeavors as maintenance and updates are ongoing (Office of Educational Technology). These programs overall seem like a good start in reducing the technology barrier and could be paired with broadband expansions to provide the most benefit to students.

Another solution that arose during the COVID-19 pandemic was providing Wi-Fi hotspots to students. North Carolina had a program where buses acted as hotspots and traveled to locations without internet to provide drive-up Wi-Fi access (North Carolina Department of Information Technology). Similarly, a Virginia county built trailers equipped with solar-powered Wi-Fi hotspots (Southern Regional Education Board). Libraries and local businesses also allowed patrons to access their internet from specified locations.

Researchers proposed several decentralized approaches to wireless infrastructure (Community Wireless Broadband Project). For instance, the Southern Connected Communities Network was a project which included a series of broadband towers that would serve community members in rural Appalachia and the South who are typically underserved by Internet providers (Community Wireless Broadband Project). Some cities and communities, like Los Angeles, are working to provide community-wide Wi-Fi networks (Gleason). This would allow anyone in the area to access the Wi-Fi for free. Several other innovative projects exist to provide decentralized Wi-Fi opportunities, but little research currently exists.

While providing increased accessibility to laptops and Wi-Fi will address some of the barriers associated with postsecondary education, technological literacy is an important issue. Technological literacy is defined as the understanding of technology at a level that allows for effective functioning in a modern technological society (Garmire and Pearson, 2006). Many educational programs today are centered around technology, especially since the COVID-19 pandemic. Students are expected to take exams, submit assignments, and use programs all on a computer. If students wish to return to school after being out of the education system for a few years, they may be more likely to struggle with technological literacy. A potential solution may be for community colleges and universities to offer courses aimed at improving technological literacy.

Access to Transportation and Rurality

Lack of transportation was also identified as a barrier to postsecondary education, especially in rural areas. Most North Carolina counties are considered rural counties. Many urban counties provide reliable public transportation to and from community colleges, whereas rural counties have less money for public transportation. These rural counties also tend to have more mileage between the locations of county residences and the local community colleges, causing even those with personal vehicles to face financial barriers in gas and upkeep (Scott et al., 2016). While reliable public transportation is one solution to decreasing the barrier to postsecondary educational attainment, not all counties have the resources to provide reliable transit. One potential policy solution is to provide high school students more access to community college-level classes through dual enrollment.

In early 2010, the state of Oklahoma's Tulsa P-20 Council had discussions with local superintendents hoping to address the high drop-out rates in Tulsa County. Through these discussions, they decided to focus on increasing high school dual enrollment at the local community college. The council members acknowledged many barriers, including admission standards, financial ability, and transportation. At the time, dual enrollment was only available on college campuses. Since many high school students in rural areas rely on public school buses for transportation, they cannot drive to a community college to complete these dual enrollment courses. As a solution to this issue, Tulsa Community College agreed to offer college courses at high school locations if a collegiate environment was implemented and maintained (Roach et al.,

2015). Through this program, students without transportation to the community college can progress in their postsecondary education while remaining at the high school.

The findings from this program and research in Oklahoma are favorable for continuing the program. The rates of dual enrollment for those on the high school campus became comparable to students who drove to the community college to take the classes (Roach et al., 2015). Findings also showed that many more minority students were now completing community college-level courses. The students participating in this program had higher course retention rates, which correlates to a higher level of success. Starting postsecondary educational attainment in high school can minimize transportation barriers for rural students until a concrete solution is identified. We believe that North Carolina would greatly benefit from a similar policy given the number of rural counties within the state and the circumstances of our public transportation systems.

NC Community College's Career and College Promise offers three dual enrollment pathways: college transfer pathways (CTP), career and technical education (CTE), and cooperative innovative high schools (NC Career & College Promise). CTPs allow high school students to take tuition-free course credits that transfer to 4-year universities (NC Career & College Promise). They are specifically meant to transfer smoothly to participating UNC System colleges and universities (NC Career & College Promise). CTEs also provide tuition-free courses, but those courses go toward a diploma, certificate, or state/industry-recognized workforce credential (NC Career & College Promise). Cooperative innovative high schools are on university or community college campuses and allow high school students to take tuition-free course credits (NC Department of Public Instruction, "*Cooperative Innovative High Schools*"). These high schools target three groups of students: first-generation college students, students at risk of dropping out, and students who would benefit from accelerated learning opportunities. (NC Department of Public Instruction, "*Cooperative Innovative High Schools*").

Eighty-three North Carolina counties have at least one cooperative innovative high school (NC Department of Public Instruction, "*Cooperative Innovative High Schools*"). It might be beneficial to expand the use of such schools so that every county has one. Given their already broad reach and the relatively narrow targeted students, focusing on expanding the other two pathways might be more conducive to increasing the state's overall educational attainment.

CTPs allow students to get a head start on their 2-year or 4-year college general education classes (NC Department of Public Instruction, "*College Transfer Pathway*"). This allows students to take a lot of their college curriculum tuition-free and lets them finish postsecondary education faster. As of 2019, 9th and 10th graders can participate in CTPs, which allows students to begin their pathway sooner (NC Department of Public Instruction, "*College Transfer Pathway*"). CTPs are accessible to most high schools, especially with online options. It would be beneficial to ensure students know about this option and that there are sufficient class options at the high schools. Encouraging greater use of CTPs is overall a good option for reaching the degree attainment goal in North Carolina.

CTE pathways are likely the best to pursue in terms of reaching the goal of 2 million postsecondary degrees or credentials. Students can take high school CTE courses aligned with their career pathway which might also count for college credit (NC Department of Public Instruction, “*Career and Technical Education Pathway*”). This entails actual high school classes, in addition to taking college courses in high school, which could expedite students’ credential attainment. Further, many CTE programs take less time to complete than degree or credential attainment via CTP or cooperative innovative high schools (NC Department of Public Instruction, “*Career and Technical Education Pathway*”). CTE pathways could also be available based on the location of the high school. CTE pathways exist for different fields, so areas with a high economic interest in a field may want more CTE courses available to feed into that market. For instance, an area that derives a lot of support from tourism might provide more Hospitality and Tourism CTE options in its schools (NC Career and Technical Education Course Management System).

Childcare for Student Parents

One of the greatest barriers student parents face when completing a post-secondary education is the lack of affordable, accessible childcare. Providing on-campus childcare is necessary for student-parent success as almost 80% of student-parents surveyed said on-campus childcare was the most or second most important factor in facilitating college attendance (Sallee, 2019).

The only federal grant funded by The U.S. Department of Education to support student-parents is The Child Care Access Means Parents in School (CCAMPIS) program. CCAMPIS provides both placement and financial support for childcare services for low-income student parents with children who are either under the age of 12 or have special needs. (USC Lancaster) As a federal program, CCAMPIS provides grants to any post-secondary institution to create or supplement childcare centers on campus. (Fredman, 2019) CCAMPIS helps higher education institutions provide child-care-related services by supplying grants to post-secondary institutions looking to offer child-care on-site, contract childcare out to community partners, or provide childcare subsidies for parents using a separate childcare provider of their choice (Bipartisan Policy Center).

While promoting the CCAMPIS grant is a potential solution, one key barrier is that institutions can set criteria for receiving CCAMPIS resources. The accessibility and efficacy of CCAMPIS resources for student-parents are thus dependent on the institution the student enrolls in. Another concern is that CCAMPIS is a highly competitive grant, only awarding 266 awards to colleges and universities in 2019 (Bipartisan Policy Center). The universities that received CCAMPIS funding were able to create educational workshop programs for student-parents, provide accessible and low-cost childcare to student-parents, and overall minimize the cost of childcare for all student-parents.

One example of implementing a CCAMPIS model grant program for student-parents is found in Oregon. In Oregon, the Oregon Student Child Care Grant Program helps student-parents who are actively enrolled in post-secondary education to obtain, “safe, dependable care that supports their children's development while allowing completion of the parent's academic programs.” (Oregon Student Aid) Any Oregon resident enrolled in or planning to enroll as an undergraduate student at an eligible post-secondary institution who has a child or legal dependent aged 12 or under or with special needs is eligible for a financial grant award if they “maintain satisfactory academic progress.” The amount of the award is calculated per student based on the actual childcare costs for the eligible students or the average childcare cost per child based on the local area. One stipulation is that a grant amount cannot exceed \$10,000 per student per academic year. (Oregon Student Aid)

North Carolina would greatly benefit from creating a grant program for student parents modeled after the federal CCAMPIS program. By replicating the Oregon Student Child Care Grant Program, a state-based grant option for student parents gives money directly to the student parent instead of relying on institutional programming. For student-parents who already face difficulties navigating complex academic policies, it would be most beneficial for the state of NC to directly administer grants for student-parents.

Mental Health

As of 2016, almost half of community college students suffer from a mental health problem and less than half of those students receive any type of mental health support (Waters-Bailey, 2019). This problem has only gotten worse since the onset of the COVID-19 pandemic, with many students reporting increased levels of stress and anxiety since the pandemic began (Son 2020). This growing problem requires increased attention and effective policy solutions.

To implement good policies, we must start with data about the scale of the mental health crisis in community colleges and who the vulnerable populations are. The Waters-Bailey paper suggests that military veterans and single parents are two populations with higher instances of mental illness. The paper suggests looking at health trends on a campus-by-campus basis so that community college administrators can appropriately target their efforts to address mental health. To implement this on a state level, we recommend that the state of North Carolina provide resources and funding to community colleges for gathering data on mental health. The state could also provide resources for local organizations to assist community colleges in data collection.

While there are many potential policy solutions for this barrier, we would like to focus on providing counseling options at community colleges and increasing awareness of mental health issues on campuses. As of 2016, 58% of four-year colleges offered psychiatric services on campus as compared to only 8% of community colleges (“Addressing Community College Mental Health,” 2019). Therefore, an obvious solution would be for North Carolina to increase funding for community colleges to hire mental health professionals so they can offer psychiatric

services. Unfortunately, this is the most resource-intensive of all our proposed solutions, and it may be impossible to secure funding for this in the current political climate while community colleges are already running on tight budgets.

In the absence of funding for psychiatric services, another potential policy solution is to increase awareness of mental health issues on college campuses. This may include providing students with information on local mental health resources and educating community college faculty, staff, and students on mental health and suicide. Requiring mental health training for all staff, faculty, and students can equip them with “the knowledge and skills required to recognize a student in psychological distress and respond appropriately” (“Addressing Community College Mental Health,” 2019). Training can also help raise awareness for off-campus mental health services. This solution is far less resource-intensive than providing counseling services and could help reduce the stigma surrounding mental health issues on community college campuses. However, we are concerned that it may place an unrealistic burden on community college faculty, staff, and students to be expected to act as their own mental health professionals.

Academic Advising and Counseling

Over-burdened academic advising and counseling departments at community colleges create barriers for students pursuing post-secondary degrees because they are unable to provide proper support to their students. The literature reviews show a mix of structural and institutional barriers that advisors and counselors face. Many expressed concerns about work capacity and supporting students’ identities (first-generation, undocumented, culture, and mental health), exemplifying the need for proper resources and funding.

The first potential solution starts by observing the capacity of advisors or counselors, as some counselors are assigned to 300 or more students each. The capacity can vary depending on the institution's size but reducing the number of students assigned to them can optimize the impact for each student. The institution would need to staff more advisors and counselors to resolve this issue, which requires extra funding. It is proven that students who were advised most likely graduated high school and applied to college; in a survey, 9% of students indicated counselors were the most helpful persons in deciding their post-secondary educational plans (Knox, Pratto, and Mann Callahan 1974). Also, college advisors fall behind in providing resources to incoming students (Brock 2010). A similar solution was suggested by Brock that the best solution for this is to increase community college funding, citing a study demonstrating a direct link between community college budget cuts and the average time it takes students to complete their degree (Brock, 2010).

The second potential solution is to provide advisors and counselors with equitable training that will teach them to adequately support students from different backgrounds. For example, counselors should understand the needs of first-generation students (a group that requires more support due to their family's lack of educational background). Hence, equitable training can prepare advisors and counselors to give students the correct information and

resources to succeed. This requires a change in their training or duties as advisors and counselors. One possible solution is to hold training every semester or academic year and collaborate with organizations such as College Advising Corps that provide information about diversity, equality, and inclusion.

Citizenship Status

Lack of citizenship in North Carolina is a barrier to some students and can prevent them from pursuing postsecondary degrees. Undocumented students fall into two categories: Deferred Action for Childhood Arrivals (DACA) and undocumented with no legality. Although students have the ambition and motivation to pursue education, the legality of their status makes it impossible for them to achieve postsecondary degrees. North Carolina has about 27,500 Deferred Action for Childhood Arrivals (DACA) recipients and roughly 3,000 in high school (Zong and Batalova 2019). Based on the literature, there are solutions to combat undocumented students' barriers in NC by increasing scholarships and policy changes for DACA recipients to pay in-state tuition and receive financial aid throughout all of NC. However, the reality of being undocumented is some students will not get the chance to pursue a postsecondary degree.

Affordable Housing

The Durham Tech focus group identified housing insecurity as a barrier seen by their students. Housing, like several other identified barriers, is a necessity that will come before school when lacking resources. The focus group highlighted the lack of affordable housing options in Durham and other regions of North Carolina. Affordable housing near college campuses would likely increase educational attainment as it would reduce housing insecurity and ameliorate other barriers, like transportation.

The focus group offered one compelling solution to housing insecurity. They said Durham Tech is building affordable housing on some of the school's unused land. Ms. West, the Coordinator of Student Wellness and Basic Needs/Student Engagement, said many college campuses have land that is not actively serving a purpose. She suggested using this land to provide housing for students. Four-year universities have residential options on and near campus, but this does not usually extend to community colleges. If community colleges had better residential options, students could live closer to school and have more financial resources available for their education or other needs. Ms. West said Durham Tech's housing would even allow students to live there for a time after graduating. This provides them stable housing until their degree leads to enough income for more permanent housing options. It also means the cost of housing versus early post-graduate earnings should not deter them from pursuing postsecondary education.

Another substantial solution to housing insecurity was provided by Tacoma Community College (TCC) in Tacoma, Washington. Having a high number of housing insecure students inspired the Tacoma Community College Housing Assistance Program (US Department of Housing and Urban Development). Eligible students received housing choice vouchers and other

support services, which were available until the student graduated or for three years (US Department of Housing and Urban Development). They found many participants were parents and/or worked while attending school, which could have a broader influence on some of our target groups (US Department of Housing and Urban Development). The program was successful as it led to high retention and GPAs amongst participants (US Department of Housing and Urban Development).

Some potential obstacles with the housing assistance program are sustainable funding and that some students could not find apartments with their vouchers because they could not afford the security deposit (US Department of Housing and Urban Development). The program intends to help students with security deposits in the future (US Department of Housing and Urban Development). Housing vouchers, like the one in Tacoma, give students the freedom to select their housing. Vouchers are also a quicker way to increase degree attainment than providing on-campus housing due to the initial set-up requirements of the latter. The ongoing costs compared to on-campus housing might be higher as it is a continual investment whereas on-campus housing would mainly include upkeep, which rent could cover.

Involvement with the Justice System

During our focus group, another barrier was discussed that we have not previously considered. Justice-involved students face unique barriers that are often purposefully designed to hinder their ability to complete a postsecondary degree. The term “justice-involved” mainly refers to those who have prior felony convictions, and the term is not exclusive to formerly incarcerated people (Custer, 2018).

A paper by Bradley Custer compiles, for the first time, barriers that justice-involved students face while seeking postsecondary education. First, justice-involved students face barriers in admissions because most colleges consider criminal history in admissions decisions. Colleges in the University of North Carolina system conduct background checks on all applicants whose applications contain “triggers” or “red flags” (Custer, 2018).

Second, justice-involved students, especially those convicted of drug offenses, face significant barriers to receiving financial aid (Custer, 2018). Third, justice-involved students are often denied access to public and private housing, including on-campus housing. Therefore, housing insecurity is an issue that is amplified for justice-involved students (Custer, 2018). Fourth, justice-involved students are likely to face discrimination in employment, including at their college or university (Custer, 2018). Lastly, justice-involved students face stigmatization when attempting to participate in various aspects of campus life and are sometimes outright restricted (Custer, 2018).

While policymakers and campus administrators may argue that policies that put these barriers in place are necessary to maintain campus safety, the available policy research does not support this claim (Custer, 2018). Therefore, we should advocate for the removal of these barriers to open postsecondary educational opportunities to more students. While the best

solution for removing the barriers that justice-involved students face would be to remove the policies that cause them, there are ways that postsecondary educational institutions can work around them.

According to Custer, one of the primary ways postsecondary educational institutions can mitigate the barriers that justice-involved students face is to ensure that their staff is knowledgeable about alternatives to programs and services from which those students might be denied. For example, career services professionals should know which employers in their community will hire people with criminal backgrounds and financial aid professionals should be able to inform students about scholarships or alternative sources of funding (Custer, 2018). Additionally, colleges and universities can take steps to reduce the stigma that justice-involved students face. One way they can do this is by delaying or eliminating the collection of criminal background information in the admissions process (Custer, 2018).

Conclusion of Solutions

Throughout this research of viable policy solutions, we identified several compelling options. Notable solutions include on-campus food pantries, laptop grants and loaner programs, dual enrollment to address transportation deficiencies, grants for student parents, and on-campus housing. Further, there is a need for more advising, counseling, and mental health services on campuses. Solutions for barriers related to both citizenship status and being justice-involved are limited thus far, but providing funding and resources is helpful. The underlying theme across the researched barriers is a need for additional funding. Many schools have programs in place to help students but need resources to support them. Identifying and funding such programs is an essential step in increasing educational attainment. Finally, expanding existing programs to reach all North Carolina schools would create the broadest impact.

Introduction of Recommendations

This document builds upon the Capstone Team's previous deliverable outlining the potential solutions for overcoming the non-financial and non-academic barriers to post-secondary degree or credential completion. The goal is to provide a final policy recommendation for myFutureNC based on three criteria for implementation: effectiveness, cost-efficiency, and equity. To evaluate these criteria, the team created two matrices for evaluation: one with detailed projected outcomes for each policy solution and one with a standardized comparison mechanism. The Capstone Team recommends myFutureNC to advocate for increased dual enrollment programs throughout North Carolina with specific focus on the College Promise Program.

Criteria for Matrix

Effectiveness

The first criterion of our analysis is the effectiveness of the policy in maximizing the number of post-secondary degrees in North Carolina. Effectiveness will be determined with

quantitative data including the number of North Carolinians with post-secondary degrees, the number of people unenrolling from post-secondary programs before degree completion, and the number of people enrolled in post-secondary education in North Carolina. The matrix will show whether the policy results in higher, lower, or equal rates of post-secondary matriculation, premature unenrollment, and degree program enrollment.

Cost-Efficiency

The second criterion is the cost-efficiency of the policy. We will compare the benefit of increasing the number of post-secondary degrees in North Carolina as compared to the cost of implementation. For policies where cost is an inference, a qualitative analysis of cost vs. benefit (high cost and low benefits, high cost and high benefits, equal cost and benefits, high benefits and low cost, low cost, and low benefits) will be sufficient. In these cost-benefit analyses, the costs of policy implementation should be lower than the benefit of the outcome.

Equity

The third criterion measured will be equity. To accurately account for the multi-dimensionality of equity we will include three measurements of equity in the matrix. The first measurement (equity 1) considers whether students in all parts of NC have equal access to the benefits of the policy. It will indicate the ease of receiving benefits (treatment) from the policy as very easy, easy, difficult, very difficult, or impossible.

The second measurement (equity 2) considers whether post-secondary degrees are increasing in all areas of the state at a similar pace. This is measured in the matrix through equity in implementation across the country as being very fair, fair, unfair, or very unfair.

The third measurement (equity 3) considers each policy solution on a scale of how effectively they target historically marginalized groups. We define these groups as degree seeking individuals with backgrounds and identities that face discrimination and additional barriers to degree completion. We measure this on a scale of very fair, fair, unfair, or very unfair, with a very fair policy having the most benefits for underrepresented students.

We focused on the four policy recommendations that demonstrate intersectional solutions to the non-financial and non-academic barriers we discovered in our research.

Policy Matrix: Projection of Outcomes

Principal Objective: Increase the quantity of North Carolinians with high-quality post-secondary degrees or certificates by 2030.					
	Evaluative Criteria				
Policy Choice and the Measurements of Criteria	Effectiveness: Is there a substantial increase in post-secondary graduation and retention rates?	Cost - Efficiency: Is the policy cost effective?	Equity: Are all persons able to receive benefits from the policy regardless of socioeconomic identity?		
	Measurement: Increased Graduation and Retention Rates	Measurement: Cost-Benefit Analysis	Equity 1: Ease of student's receiving benefits from policy	Equity 2: Equity in implementation across NC	Equity 3: Demonstrating benefits for marginalized students
Solution	Evaluation				
Increasing support for Dual Enrollment Programs	Increased %	Moderate cost and High benefit	Very Easy	Unfair	Very Fair
Implementing a State-Level Childcare Grant for Student-Parents	Increased %	High cost and high benefit	Difficult	Fair	Fair
Laptop Grants for Post-Secondary Students	Increased % Dependent on Extraneous Factors	High cost and Low – Moderate benefit	Difficult	Fair	Unfair

Affordable Housing Emergency Grants	Increased %	Moderate Cost and Moderate Benefit	Easy	Unfair	Fair
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To determine that our final recommendation was the most effective, efficient, and equitable compared to other solutions, we created a continued matrix with a standardized comparison mechanism. Each criteria measurement options were translated to a 1-10 scale, with 10 always representing the optimal outcomes and 1 being non-optimal. The scale of measurement of each criterion is below:

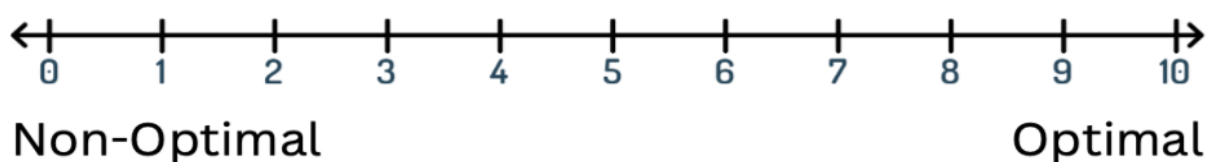


Figure 1. in the appendix explains the measurement scale in more detail.

To evaluate the three criteria of effectiveness, efficiency, and equity on a standardized scale, the scores from the matrix are found below. Because of the three measurements for equity, the raw scores for effectiveness and efficiency are multiplied by 3.5. This calculation results in the final comparison scores being compared with the ratio of priority being as follows: effective = 35%, efficient = 35%, equity = 30%. We chose to prioritize the effectiveness and efficiency scores because these criteria best promote mFNC's goal of 2 million post-secondary degrees in NC by 2030.

Policy Matrix Continued: Outcome Comparison

	Evaluative Criteria Findings					Matrix Findings Comparisons	Final Ranking Comparison
	Effective	Efficient	Equitable				
			1	2	3		
Weighting	Matrix score X 3.5	Matrix score X 3.5	Matrix score				
Policy Choice	Solution Comparison						
Increasing support for Dual Enrollment Programs	(10 x 3.5) = 35	(10 x 3.5) = 35	10	4	10	94/100	#1 Solution

						Highly effective, efficient, and high equity	
Implementing a State-Level Childcare Grant for Student-Parents	$(10 \times 3.5) = 35$	$(7 \times 3.5) = 24.5$	5	7	4	75.5/100 Highly effective and equitable in implementation not as highly equitable in targeting marginalized students or ease in student's receiving benefits, not highly efficient	#3 Solution
Laptop Grants for Post-Secondary Students	$(7 \times 3.5) = 24.5$	$(1 \times 3.5) = 3.5$	7	4	4	43/100 Moderately effective and equitable, not very efficient or equitable in benefitting marginalized students	#4 Solution
Affordable Housing Emergency Grants	$(10 \times 3.5) = 35$	$(10 \times 3.5) = 35$	4	7	7	88/100 Highly effective and efficient, only moderately equitable compared to other solutions	#2 Solution

Tradeoffs and Recommendation

Policy 1: Increasing support for dual enrollment programs

This policy will directly lead to an increase in the retention rates of community college students. This policy is also highly equitable as it increases post-secondary educational attainment for minority students and mitigates transportation barriers. Students can capitalize on high schools' free and reduced meal programs, addressing food insecurity as well. This policy also introduces students to post-secondary education earlier in their high school curriculum which will increase retention.

There are some concerns with equity because school districts with nearby or well-funded community colleges will have an easier time setting up satellite locations. Also, some high schools do not have a nearby community college which limits students' access to dual enrollment programs and poses transportation barriers. It would be critical that government oversight ensures high schools in every county have an appropriate number of satellite programs available to students.

Policy 2: Implementing a state-level childcare grant for student-parents

This policy would increase enrollment and student retention due to decreased pressure on parents for childcare and support. It will allow students to focus on their education without worrying about finding or paying for childcare which can be extremely expensive. Furthermore, this policy could help address food insecurity if the grants are also able to be used for purchasing food. Typically, these programs come with GPA requirements to maintain the grant, which will incentivize students to succeed in their classes.

Luckily, a program like this has political viability in North Carolina given Governor Roy Cooper's previous support for Child Care Stabilization Grants during the COVID-19 pandemic for working families (Child Care Stabilization Grants, n.d.). This program could be extended to include grants for student parents as they navigate higher education.

A major drawback of this policy is its high cost, which could exceed traditional childcare programs. However, some programs like Oregon's childcare system implemented a cap of \$10,000 per academic year which could be effective at keeping costs down. However, this could be limiting to student parents who live in cities and urban areas where childcare is abnormally expensive compared to other areas.

Policy 3: Laptop grants for post-secondary students

This policy would increase access and enrollment to higher education by limiting technological barriers. It also decreases the financial burden of renting or buying new technology to complete online classes or assignments outside of class. Furthermore, this policy can address transportation and childcare barriers by allowing students to take online courses from home.

A drawback of this policy is that even if students are provided with technology, they might not have access to an internet connection, so the effectiveness of this policy is dependent on if students have access to reliable internet. One way to mitigate this barrier is to provide Wi-Fi hotspots in areas surrounding community colleges which will provide free and stable internet connectivity. This was done in many areas during the COVID-19 pandemic while all classes were virtual.

Also, allowing students to rent laptops decreases the financial cost compared to giving them away, but there is still a large upfront cost to buy laptops, offer repair services, and cover other extraneous expenses. However, the return on investment has great potential since technology access is critical to student success both now and in the future.

Policy 4: Affordable Housing Emergency Grants

Addressing housing insecurity can have an immense impact on the retention of students. Supplying housing grants can help to address food insecurity since students will have to worry less about their living situation and have more funds for purchasing food. Also, transportation barriers will be reduced if students can live closer to a community college or move into housing accommodations that have Wi-Fi access. Lastly, student parents will be able to attend school more consistently knowing their children have a safe and secure place to live.

There are drawbacks to be considered in adopting this policy. Firstly, most policies that institute housing grants do not provide funding for security deposits which limits the housing available to students who cannot pay the upfront cost. It would be crucial for North Carolina to include this money to allow for flexible housing options. Secondly, justice-involved students may find it difficult to be accepted into public or private housing. Lastly, the program could lack reliable funding since housing alone could become expensive. Compared to a policy like providing laptop grants, giving students funding for housing is much more expensive. However, looking at the results of Tacoma's Housing Grant program, there could be significant gains in retention and enrollment rates.

Final Recommendation

The Capstone Team recommends focusing efforts on increasing the number of and access to dual enrollment programs across North Carolina. Increasing dual enrollment programs has the potential to target the most barriers to higher education including transportation, barriers to getting financial aid, and citizenship status. This solution also has the lowest cost with highest impact, making it highly cost-effective.

Also, this solution is easier to implement than other programs due to existing models of dual enrollment programs in the state such as North Carolina's Career and College Promise (CCP) program. Qualified students who take part in Career and College Promise can pursue a post-secondary education, tuition-free, while they are still enrolled in a high school. The benefits

of this program will allow some students to complete an associate's degree and for other students to have a tuition-free start to obtain college credits.

North Carolina's Career and College Promise program allows for three tuition-free pathways that participating students can use to advance their success after high school: College Transfer, Career and Technical Education, and Cooperative Innovative High Schools (Career & College promise, 2014). The first pathway, College Transfer, gives students the opportunity to transfer dual enrollment credits to any UNC System or any participating private colleges and universities. The second pathway, Career and Technical Education, offers students the opportunity to earn credits toward a certificate, diploma, or state or industry-recognized workforce credential. The third pathway, Cooperative Innovative High Schools, allows students to earn post-secondary credits in high school at their approved Cooperative Innovative High School. An early college high school would fall under this pathway (Career & College promise, 2014). Dual enrollment programs are effective for students who might be at risk of dropping out. This program is also equitable because it is effective at improving retention and graduation rates for non-white students.

Conclusion and Implementation

There are several steps that can be taken to successfully increase the dual enrollment programs offered at North Carolina public high schools. First, high schools will have to implement dual enrollment programs and maintain a college environment in the high schools. There would need to be oversight to establish relationships between local community colleges and high schools. This oversight, whether from myFutureNC, the county school board, the high school, state government, or an outside entity, must be maintained to ensure the success and longevity of the dual enrollment programs. New programs should collaborate with existing dual enrollment programs to increase support for implementing the policy and allow them to take inspiration on the most effective methods to retain and graduate students.

An additional policy to implement alongside dual enrollment programs would be to raise the high school dropout age to 18 from 16. This will prevent students from dropping out of high school before having any exposure to higher education through dual enrollment programs. A benefit of this solution is that even if increasing the legal dropout age does not contribute to a higher number of post-secondary degrees, more students graduating from high school will still benefit the economy through increased work-force participation, preparation, and education.

Our policy matrix used effectiveness, efficiency, and equity to compare the three most promising policy recommendations for myFutureNC. Based on these criteria, increased support for dual enrollment programs would be most effective and equitable to aiding myFutureNC achieve the goal of 2 million North Carolinians with a high-quality degree or credential by 2030. Affordable housing emergency grants and state-level childcare grants are also notable solutions which scored highly in the matrix. Laptop grants scored moderately in terms of effectiveness and equity for ease of students receiving benefits. However, this policy lacked cost-efficiency,

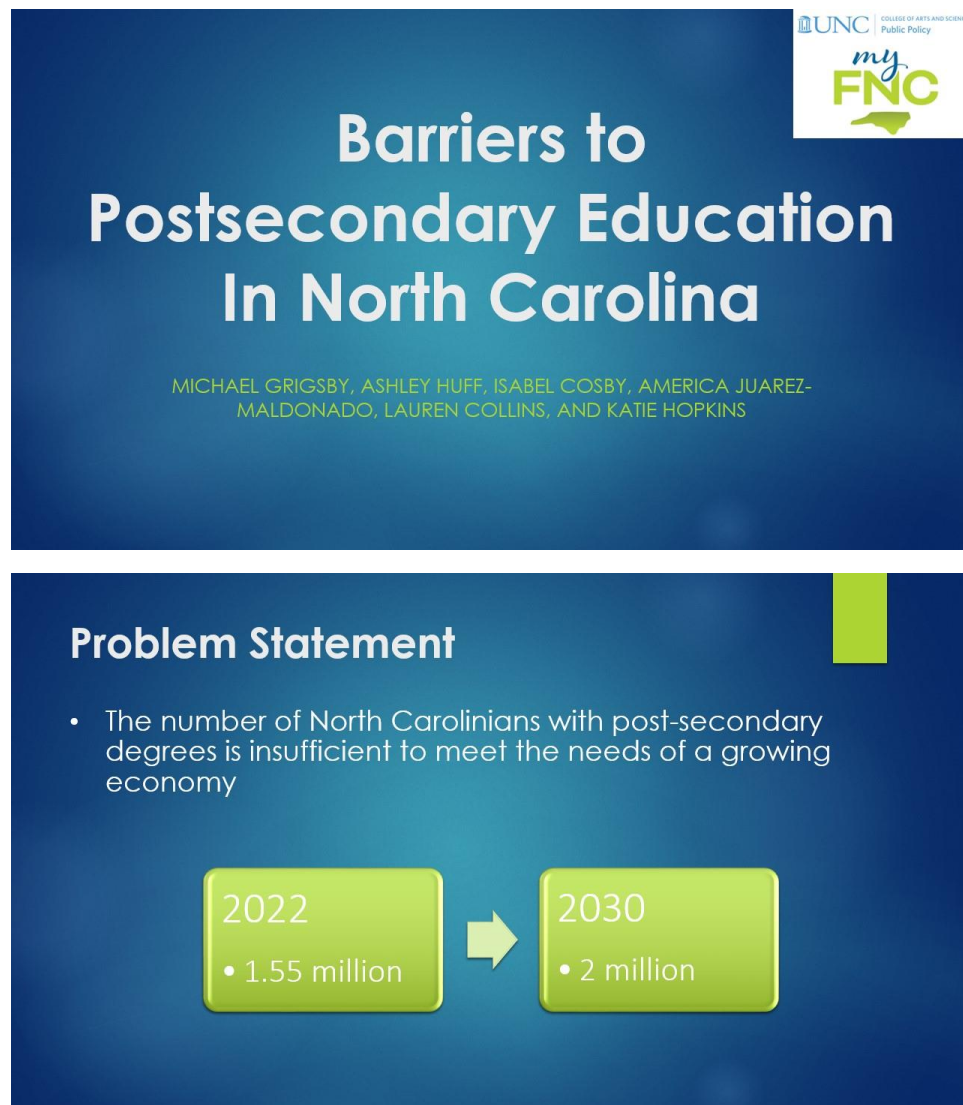
geographic equity, and did not significantly benefit marginalized students. In conclusion, myFutureNC should advocate for increasing financial support to implement more robust dual enrollment programs across North Carolina.

Appendix

Figure 1.

Criteria	Measurement Scale
Effectiveness	Higher: 10 Equal: 5 Lower: 1
Efficiency	Moderate to Low Cost to High Benefits: 10 Equal cost to Equal Benefits: 7 Low Cost and Low Benefits: 4 High Cost and Low Benefits: 1
Equity 1	Very Easy: 10 Easy: 7 Difficult: 5 Very Difficult: 3 Impossible: 1
Equity 2	Very Fair: 10 Fair: 7 Unfair: 4 Very Unfair: 1
Equity 3	Very Fair: 10 Fair: 7 Unfair: 4 Very Unfair: 1

Visual Aids



Approach:



Our Focus:

Identify the most impactful non-financial, non-academic barriers to post-secondary degree completion in NC and propose mitigating strategies.

Literature Review

Findings

Location

- Food Insecurity
- Transportation
- Internet and Technology

Student Parents

- Financial aid
- Childcare
- "Working-family-schooling dilemma"

Miscellaneous

- Mental Health
- Advising and Counseling
- Citizenship Status

Survey of Stakeholders

Breakdown of Survey Responses



Group of Respondents	Number of Survey	Percentage
Current or Former Student	21	42.9%
Community Organization Leader	12	24.5%
High school Guidance Counselor	2	4.1%
Higher Education Advisor/Staff/Faculty	3	6.1%
NC State/County Board of Education Members	11	22.4%
Total True Survey	49	100%

Findings

- ▶ Similar to findings from the literature review
 - ▶ Financial
 - ▶ Childcare
 - ▶ Transportation
- ▶ Additional Barriers
 - ▶ Stable home and parents making a living wage
 - ▶ Housing insecurities

Survey Recommendations

- ▶ Solutions from survey responses
 - ▶ Expansion of free community college programs
 - ▶ Identify alternative pathways to college
 - ▶ Outreach efforts beginning in middle school
- ▶ Future Research
 - ▶ Wider scale survey
 - ▶ Build off what we have done

Focus Group

Methodology

- ▶ **Durham Technical Community College**
- ▶ **Focus Group Participants:**
 - ▶ **Abraham Dones** - VP of Student Services
 - ▶ **Stéscha Little** - Director of Gateway to College Program
 - ▶ **Patricia Johnson** - Education Navigator
 - ▶ **Maggie West** – Coordinator of Student Wellness and Basic Needs/Student Engagement

Findings

- ▶ Additional barriers:
 - ▶ Housing insecurity
 - ▶ Justice involved persons
 - ▶ Non-child related family caregiving responsibilities
 - ▶ Technology literacy
- ▶ Existing solutions
- ▶ **Bottom line:** targeted financial investment

Research of Viable Solutions

Identified Barriers

Food Insecurity

Access to Internet and Technology

Access to Transportation

Identified Barriers (Cont.)

Student Parents

Mental Health

Academic Advising Resources

Identified Barriers (Cont.)

Citizenship Status

Housing Insecurity

Justice Involved Persons

Recommendation of Strategies

- ▶ Increasing Support for Dual Enrollment Programs
- ▶ Implementing a State-Level Childcare Grant for Student Parents
- ▶ Laptop Grants for Postsecondary Education Students
- ▶ Affordable Housing Emergency Grants

Measurement Criteria

Effectiveness

- Increased Graduation and Retention Rates
- **35%**

Cost-Efficiency

- Cost-Benefit Analysis
- **35%**

Equity

- Ease of student's receiving benefits from policy
- Equity in Implementation across NC
- Demonstrating benefits for marginalized students
- **30%**

Final Recommendation

#1 = 94%	Increasing support for Dual Enrollment Programs
#2 = 88%	Affordable Housing Emergency Grants
#3 = 75.5%	Implementing a State-Level Childcare Grant for Student-Parents
#4 = 43%	Laptop Grants for Post-Secondary Students

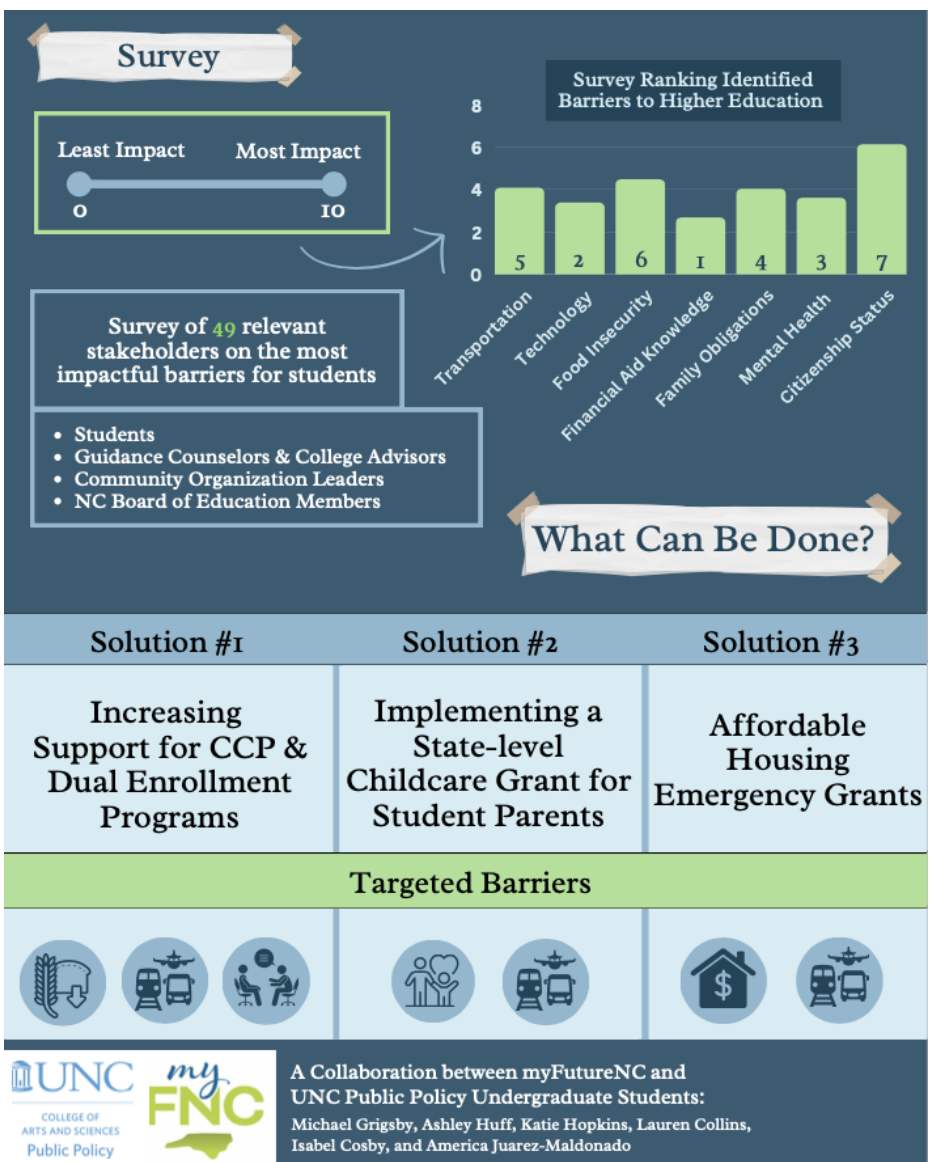
Next Steps

- ▶ Wider-scale survey
- ▶ Advocate for dual enrollment programs
- ▶ Investigate local vs. statewide initiatives

Questions?

Infographic





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