NC AHEC | RECRUIT TRAIN RETAIN

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January 31, 2025

Katherine Martin
Vice President of Health Affairs
University of North Carolina System

Dear Katherine,

I have attached the study of community preceptors requested of NC AHEC by the North Carolina General Assembly pursuant to Session Law 2023-134 Section 8.4.(b).

We are grateful for, and could not have completed this work without, the dedicated support of many membership associations, boards, and state government agencies as well as two advisory committees to shape the study. I am grateful for my colleague Adam Zolotor, MD, DrPH for his commitment in leading this work and the excellent work he has done.

At the highest level, we found that although community-based clinical preceptors are not primarily motivated by payment, payment (in the form of more time or more money) would allow current preceptors to take on more students and bring more clinicians into the role of preceptor.

We appreciate the opportunity to perform and report on this study as well as the support of the UNC System Office.

Please let us know if you have any questions or need any additional information prior to providing this to the NC General Assembly.

Thank you,

Hugh H. Tilson, Jr.

Hugh Tilson, JD, MPH
Executive Director
NC AHEC

Cc: Adam Zolotor, MD, DrPH

NC AHEC | RECRUIT TRAIN RETAIN

Today's Teachers of Tomorrow's Healthcare Professionals

A Study of Community-Based Precepting

January 2025

Community preceptors play a crucial role in helping health professions students to bridge the gap between theory and practice. These community-based clinicians are essential in preparing the next generation of healthcare providers.

However, the rising demand for healthcare services across all sectors has outpaced the supply of qualified preceptors. This ongoing shortage has created a significant barrier for health professional schools, limiting their capacity to graduate the additional providers needed to meet the growing healthcare demands.

In response to this ongoing challenge, and at the request of the North Carolina General Assembly, the NC Area Health Education Centers Program (NC AHEC) conducted a study of (i) the availability of community preceptors in North Carolina and nearby states and (ii) the demand for those preceptors, including factors that influence the supply and barriers that community-based outpatient clinicians face in teaching healthcare professional students.

This report presents NC AHEC's findings and offers recommendations to address the preceptor shortage for medical, physician assistant, nurse practitioner, and nursing students across the state.

NC AHEC could not have accomplished this work without our partners representing the NC Nurses Association, NC Academy of Family Physicians, NC Academy of Physician Assistants, NC Healthcare Association, NC Independent Colleges and Universities, NC Medical Society, NC Pediatric Society, The University of NC, NC Board of Nursing, NC Medical Board, NC Community Health Center Association, NC Office of Rural Health, and the NC Community College System. Thanks also to Alyson Culin of Blue Hill Strategies for support with preparing this report.

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Executive Summary

NC AHEC conducted a study at the request of the NC General Assembly to explore strategies for improving the capacity of community-based primary care preceptors in North Carolina. Please refer to our main report, Today's Teachers of Tomorrow's Healthcare Professionals: A Study of Community Precepting, *for details and citations.*

Objectives:

Identify the best, innovative, and effective approaches to address the preceptor shortage.

Research schools' current approaches to identifying, engaging, financing, and evaluating clinical training sites as well as the use of tuition funding to cover costs related to clinical placements.

Assess primary care sites' current and potential precepting capacity as well as the impacts of precepting on finances and efficiency.

Focus:

The study limited its focus to preceptors of the following students:

- Medical students (MD, DO)
- Physician Assistant students (PA)
- Nurse Practitioner students (NP)
- Pre-licensure nursing students (RN, LPN)

Defn. *Community Preceptor*

Clinician who mentors and supervises students during clinical practice in off-campus, primary care settings

Methods:

Interviews of **12** National Experts in clinical education and primary care work force.

Survey of **45** schools & departments with health professional training programs.

Survey of **122** preceptors in North Carolina and nearby states.

Survey of **65** primary care sites who employ clinicians that may serve as preceptors.

Recommendations

State:

- Implement a payment or tax credit in the range of $1,000-$2,000 per month for full-time precepting.
- Take steps to address the administrative burden on clinicians, such as reducing paperwork, streamlining prior authorizations, and increasing funding for primary care.

Schools:

- Allocate more resources to preceptor compensation.

Health Systems:

- Require clinicians to precept and/or offer financial incentives for precepting.
- Allot work time to precepting, and reduce productivity targets for those who precept.

Key Findings

North Carolina needs more preceptors.

97% of schools reported a need for more sites and higher capacity.

75% of experts named the availability of preceptors as a major challenge for health professional programs.

And schools report a lack of stability with preceptor sites.

Schools report high preceptor turnover,

losing ▼ **3.1 sites**

and

adding ▲ **4.1 sites**

on average over the last 12 months.

Preceptors are motivated by a desire to give back.

The motivations most frequently ranked as important by current preceptors are:

- *giving back to profession*
- *investing in learners' future*
- *joy of teaching*

But the main barriers to precepting are time and money.

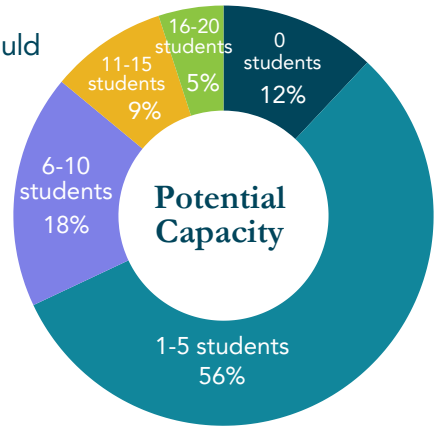
The most frequently reported reasons for NOT precepting are:

- *not enough time*
- *practice is too busy*
- *want financial compensation*

When asked how many additional students they could host *if adequately compensated*,

88% indicated they could take more.

32% said they could take on **6+** students.



Financial compensation was the most frequently suggested **strategy** for addressing the preceptor shortage.

The compensation range most frequently reported as fair was

$1,000 - $1,999

per month of full-time precepting.

BACKGROUND

In 2023, the North Carolina General Assembly charged the North Carolina Area Health Education Center (NC AHEC) with assessing the availability and demand of community preceptors in North Carolina and neighboring states.[1] The study focused on community-based precepting for medical, nurse practitioner, physician assistant, and prelicensure nursing students. It examined the most effective strategies to address the preceptor shortage; current methods for identifying, engaging, financing, and evaluating clinical training sites; and how tuition funds are allocated to cover students' clinical placement costs. Additionally, the study evaluated precepting capacity and its financial and operational impacts.[1]

Over the past two decades, national healthcare demand has grown significantly due to population growth, an aging and increasingly insured population, and the rise of chronic conditions.[2–4] With increased demand comes the need for the expanded workforce to meet that demand. In 2020, the healthcare sector employed 16.5 million workers, making it the largest employment sector in the country.[5] Further, the U.S. Bureau of Labor Statistics projects 12.6 percent job growth in healthcare from 2021 to 2031, adding approximately 2 million new jobs.[6] However, the Health Resources & Services Administration estimates a current shortage of over 43,000 primary care physicians, which is expected to grow by nearly 25,000 by 2036.[7] North Carolina alone faces a projected shortage of more than 12,000 registered nurses.[8]

To meet these workforce demands, both the number of health professional schools and their class sizes have expanded, especially among programs for physicians, physician assistants,

SESSION LAW 2023-134

… As part of its study, NC AHEC shall do at least the following:

(1) Survey other states to identify the best innovative and effective approaches to address preceptor shortages for medical students, nurse practitioner students, physician assistant students, and prelicensure nursing students.

(2) Research and report on the current approaches to identifying, engaging, financing, and evaluating clinical training sites and how schools use tuition funding to cover their students' costs related to clinical placements and training….

(3) Assess the capacity of North Carolina and nearby states for clinical training sites… including the following information:

a. The number and percentage of independent and health system practices that are currently clinical training sites in this State.
b. The number and percentage of independent and health system practices that could become clinical training sites in this State.
c. The impacts on the efficiency of clinical practices when or if they become clinical training sites.
d. The financial impact on an independent or health system practice if it precepts students in clinical rotations.

nurses, and nurse practitioners.[6,9–11] In North Carolina, eight new graduate health professional schools have opened since 2011, leading to a 27 percent enrollment increase, or an additional 400 students annually.[12] And while medical student enrollment increased nationwide by nearly 18 percent from 2012 to 2022,[13] it increased in North Carolina by over 30 percent from 2011 to 2017. This was primarily due to class size increases in the four existing medical schools and the addition of a fifth medical school in the state.[12] A sixth medical school and an additional campus are set to open soon, which will further increase the statewide need for preceptors.

Community preceptors – clinicians who mentor students in off-campus, primary care settings – are critical to preparing the next generation of healthcare professionals.[12] They provide hands-on, real-world learning experiences while helping students develop clinical skills and professional competencies.[14–17] Preceptors must be adept at conveying knowledge to learners; helping learners develop skills; and providing learners with socialization, coaching, counseling, and feedback.[18]

DEFN. *COMMUNITY PRECEPTOR*

Clinician who mentors and supervises students during clinical practice in off-campus, primary care settings

But precepting typically increases clinicians' workloads and administrative demands. And in a broader environment where clinicians are already facing burnout due to increasing workloads, administrative demands, and productivity expectations from other sources, they are frequently reluctant to take on precepting as well.[19–21] Indeed, a 2024 national AHEC survey found that 58 percent of preceptors believe precepting contributes to burnout.[22] Additionally, a previous NC AHEC study found that nearly half of surveyed preceptors reported negative impacts on both patient flow and work hours.[12]

The rising demand for community preceptors is driven by an increasing number of training programs, larger class sizes, and evolving curricula that require more community-based experiences and interprofessional education.[13] This increased demand has created a severe shortage of community-based clinical preceptors across the state and the country.[23] Since 2014, demand for preceptors in North Carolina alone has grown by nearly 40 percent.[9]

To address the precepting shortage, literature suggests the following strategies:

- Offering financial incentives such as direct payments or tax credits.[24,25]
- Streamlining requirements across schools to reduce administrative burdens.[4,9]
- Improving preceptor training and ongoing support.[23,26]
- Preparing students to better assist in clinical practice operations.[24]
- Implementing recognition programs to spotlight preceptors' contributions.[24–27]
- Providing continuing education credit in exchange for precepting.[23,25,27]
- Monitoring workloads and exploring strategies to reduce the burden on preceptors.[26]

Several states have implemented financial incentives to attract and retain preceptors. In 2014, Georgia introduced a tax credit program to support precepting, which has since been expanded to allow physicians up to $8,500 and advanced practice nurses or physician assistants up to $6,375 in tax credits.[28,29] Between 2021 and 2022, the number of preceptorship rotations claiming the tax credit increased from about 10,000 to more than 16,000.[30,31]

Encouraged by Georgia's success, other states have adopted similar measures aimed at bolstering precepting capacity, including tax incentives and grant programs.[29] For example, in 2022, Arizona and Washington introduced grant programs to support advanced practice registered nursing (APRN) preceptors.[32,33] Arizona offers $1,000 per fiscal year for preceptors who meet a minimum four-week precepting requirement.[33] Washington provides $500-$1,000 per student, up to eight students annually.[34,35] Washington's program also supports Licensed Practice Nurse (LPN) and Registered Nurse (RN) preceptors, while Arizona has a similar program to support physician and physician assistant preceptors.[34,36–38]

These programs align with findings from the 2012-2018 Graduate Nurse Education Demonstration Project, which demonstrated that funding hospitals to collaborate with nursing schools and clinics – especially by compensating preceptors – boosted student enrollment by an average of 93 students per year through expanded faculty, clinical sites, and resources.[39] The structure, eligibility, and potential compensation from these programs varies widely. See Table 1 for a summary of state legislative initiatives to address preceptor shortages.

Despite their effectiveness, financial incentives for precepting have been implemented erratically. In a 2013 national survey of schools and programs, 71 percent of Doctor of Osteopathy (DO), 15 percent of Medical Doctor (MD), and 4 percent of Nurse Practitioner (NP) programs reported using payment incentives for clinical training sites. Yet more than 70 percent of overall respondents assumed their competitors were paying for sites, and more than half felt moderate to extremely high pressure to initiate or increase compensation to sites.[23] Preceptor compensation has remained piecemeal in the decade since. From 2013 to 2021, the number of programs paying Physician Assistant (PA) preceptors went from 22 to 50 percent.[40,41] But in 2020, only 3 percent of Nurse Practitioner (NP) programs reported paying preceptors.[42]

While financial incentives are gaining traction as a solution, questions remain about funding sources and administration. Stakeholders must determine whether the state, schools, students, or health systems should bear the costs. Despite differing opinions, addressing the preceptor shortage is crucial to ensuring the continued growth and stability of North Carolina's healthcare workforce.

RECOMMENDATIONS

The shortage of preceptors is not a new challenge, but recent factors have worsened the issue. The expansion of health professions education programs has increased demand for clinical training, while available precepting sites have declined due to financial pressures, administrative burdens, clinician burnout, and retirements. Additionally, primary care shortages across the state force potential preceptors to juggle patient care with teaching responsibilities.

Compensation for Precepting

Key informants emphasize that financial compensation and dedicated teaching time are the most critical factors influencing clinicians' decisions to precept. Rising clinical workloads and administrative demands have made *voluntary* precepting increasingly difficult.

Compensation is widely considered the most straightforward way to increase the number of preceptors. Potential funding sources include state or federal resources, tuition dollars from schools, or financial support from health systems. Each approach presents challenges:

- *Government funding* through tax credits or grants increases taxpayer costs and requires oversight.
- *School funding* would likely lead to increased tuition, potentially discouraging students from pursuing primary care careers. For example, a program requiring 12 months of precepted rotations at $2,000 per month would cost likely students an additional $24,000.
- *Health systems* could provide financial incentives or allocate dedicated time for precepting, and the increased presence of students would likely benefit their recruitment efforts. However, systems may be reluctant to absorb these costs independently, especially those without embedded academic programs.

Currently, 97 percent of schools and departments report a need for more preceptors, with moderate turnover. Schools, on average, lose 3.1 sites and add 4.1 new sites annually. While a minority offer compensation, the median payment range is $1,000-$1,999 per month – an amount most preceptors consider fair.

Most current preceptors are motivated by non-financial reasons such as giving back, investing in students, and enjoying teaching, but financial incentives would unlock significant untapped capacity. Indeed, 88 percent of sites that currently precept report that they would be able to take on more students if they were compensated more.

With a wide variety of funding structures, it remains difficult to discern exactly who is paid how much for precepting. In some cases, payment goes to the practice or the system, and in other

cases payment goes directly to the individual preceptor. But our findings do show that most schools do not offer financial compensation, and most preceptors report not receiving any. Establishing fair compensation models would help sustain precepting and expand capacity.

Policy Recommendations to Address Preceptor Shortages

State:

- Implement a payment or tax credit in the range of $1,000-$2,000 per month for full-time precepting.
- Take steps to address the administrative burden on clinicians, such as reducing paperwork, streamlining prior authorizations, and increasing funding for primary care.

Schools:

- Allocate more resources to preceptor compensation.

Health Systems:

- Require clinicians to precept and/or offer financial incentives for precepting.
- Allot work time to precepting, and reduce productivity targets for those who precept.

State Contributions

Many states have addressed preceptor shortages by offering financial incentives, such as tax credits, to encourage participation. Based on our findings, we recommend a state-funded payment or tax credit of $1,000-$2,000 per month for full-time precepting. This amount is a reasonable incentive for primary care providers to offset productivity losses and/or extend their workday.

Some states have targeted incentives to specific needs, such as rural areas, high-demand specialties, or preceptor quality. However, any tax credit or grant system requires an investment of administrative resources. To maximize participation, it is essential to design simple and accessible programs for healthcare professionals. Because clinicians already face a massive administrative burden, any program that involves substantial application or reporting requirements will be unsuccessful.

Beyond financial incentives, addressing administrative burdens can also increase clinician participation in precepting. Reducing paperwork, streamlining prior authorizations, and increasing primary care funding can alleviate stress and free up time to take on precepting roles.[43]

In 2023, healthcare providers processed 50 million prior authorizations for prescriptions or services – a 26 percent increase from 2021. Physicians report spending an average of 12 hours per week managing 43 unique authorization requests, with a denial rate of 6.4 percent. This growing administrative burden reduces professional satisfaction, increases costs, and

lowers productivity. (And for patients, it also delays or denies necessary care, leading to increased hospitalizations and adverse health outcomes.)[44]

Addressing these inefficiencies could create more time and willingness for precepting. Some states have taken legislative action such as limiting the number of services requiring prior authorization, simplifying paperwork, mandating maximum response times, and requiring peer-to-peer consultation by appropriately trained professionals (i.e., insurance company employees with similar training and expertise). Such reforms could support clinicians and enhance their capacity to serve as preceptors.

School Contributions

Schools could allocate more resources to preceptor compensation, ensuring that tuition dollars are used to support those providing clinical training. One survey respondent highlighted this concern, stating in all caps, "IF STUDENTS PAY SCHOOLS, SCHOOLS SHOULD PAY THE PEOPLE WHO TEACH STUDENTS."

However, financial limitations and tuition caps restrict public schools' ability to significantly increase compensation. Currently, only a third of schools report paying preceptors, with most payments below $2,000 per month. The frequency and distribution of these payments across settings remain unclear.

Health System Contributions

Health systems, which employ a growing number of primary care providers, could help by requiring their clinicians to precept, by offering financial incentives, and by reducing productivity targets and/or allotting work time to precepting. This approach aligns with their workforce development goals and recruitment efforts. Further, with most large health systems in North Carolina being affiliated with health professions training institutions, this approach also offers mission alignment.

However, such initiatives come at a cost, and not all clinicians are interested in or suited for precepting roles.

METHODS

To assist in this study, we convened two advisory committees: a practice advisory committee of educational and clinical practitioners and a research advisory committee of experts in relevant topics and methodologies. Advisory committee members were nominated by stakeholder organizations, regional AHEC directors, and AHEC program office staff, ensuring representation across regions and professions. Each committee met four times to guide the work of the study and assist in the interpretation of results.

We also sought advice from a broad range of stakeholder organizations named in the legislation requesting this study. In addition to two formal meetings, these stakeholders provided advice and input as needed. A full list of committee members and contributing organizations is available in Appendix C.

This mixed-methodology study involved a key informant interview and three surveys. This study was exempt from review by the UNC Institutional Review Board. Table 2 provides an overview of study components and their legislated objectives.

All surveys were distributed via Qualtrics after pilot testing by the research team and advisory committee members. Consent for participation was obtained electronically at the onset of the survey after explanation of the study's purpose. Survey responses were converted to Microsoft Excel for analysis, including both means and frequency responses.

Key Informant Interviews

The research team developed a semi-structured interview guide, informed by literature, to explore strategies for addressing preceptor shortages for medical, nursing, physician assistant, and nurse practitioner students. The complete interview guide, which was reviewed and refined by both advisory committees, is available in Appendix D.

The research team and advisory committees collaborated to identify and recruit 13 national experts, with additional experts recommended during interviews, resulting in 19 sampled experts. Recruited experts included professionals from education, workforce policy, and national/state associations. Their names, titles, and affiliations are listed in Appendix E.

Participants were interviewed via Zoom, and recordings were securely stored. Interviews were transcribed and analyzed manually in Microsoft Word. Responses were reviewed, coded, and categorized by theme in Microsoft Excel.

Survey of Schools and Departments

To assess current and future preceptor needs; current approaches to identifying, engaging, financing, and evaluating clinical training sites; and the use of tuition funding to cover costs

related to clinical placements, we conducted a study of NC schools and departments training medical students, nursing students, physician assistant students, and nurse practitioner students. The 22-item survey was adapted from a 2016 NC AHEC study.[45] See Appendix G for the survey instrument.

We used two sampling frames to survey schools and departments. First, we emailed the contact list of NC AHEC coordinators who work with schools to provide housing for health professions students during away rotations. Nearly all the target North Carolina four-year schools and departments are represented on this list. Non-respondents were emailed two more times at one-week intervals.

A second approach to reaching schools and departments used a listserv of nursing student coordinators at community colleges. The listserv owner emailed the survey on our behalf and emailed the listserv with reminders on two occasions at one-week intervals.

Survey of Individual Preceptors

This survey targeted preceptors in primary care medicine (family medicine, general internal medicine, general pediatrics, and obstetrics/gynecology), nursing, and physician assistant programs across North Carolina and nearby states. Adapted from prior national and North Carolina AHEC studies,[12,46–48] the 28-item instrument collected data on preceptor motivations, barriers, capacity, and impacts on efficiency and finances. See Appendix H for the survey instrument.

The sampling frame for the preceptor survey involved asking the professional association staff of the NC Academy of Family Physicians, NC Pediatrics Society, NC Medical Society (representing general internal medicine and obstetricians/gynecologists), NC Academy of Physicians Assistants, and NC Nurses Association (representing registered nurses and nurse practitioners) to identify 10 members from each field (70 total) who are known or thought to precept. We also asked the professional association staff to ask sibling chapters representing the same professions to identify 10 members each for the surveys of Georgia, South Carolina, Tennessee, and Virginia.

We asked directors to email the survey to these identified members three times at one-week intervals to maximize responses.

Survey of Practice Sites

We developed a survey of practice sites to assess primary care sites' current and potential precepting capacity as well as the impacts of precepting on finances and efficiency. Adapted from prior national and North Carolina AHEC studies,[12,46–48] the final study instrument consisted of 17 items. See Appendix I for the survey instrument.

The list of practice sites was obtained from the Sheps Center for Health Services Research - NC Responds Project. This database was created in 2020 to help with rapid assessment and dissemination of information with all clinical practice sites in North Carolina during the early days of the Covid-19 pandemic. The list was compiled through data sharing partnerships with the NC Medical Board, NC Medical Society, NC Office of Rural Health, NC AHEC, Community Care of NC, NC Pharmacy Board, NC Nursing Board, NC Secretary of State, Centers for Medicare & Medicaid National Provider Identifier, NC Free and Charitable Clinics, and NC Community Health Center Association. All partners were contacted to request agreement of participation in this study.

This database includes approximately 22,000 distinct practice sites. Approximately 4,600 of the sites are listed as primary care practice sites, and less than one-fourth are associated with email addresses. As the database has not been updated since 2020, new sites may have been added, some sites may have been closed, and contact information may be out of date for some sites. Additionally, because the survey was fielded just weeks after a massive natural disaster that affected Western North Carolina, practice sites in the 13 most impacted counties were excluded from the survey email list.[49] In the final tally, the survey was emailed by the Sheps Center for Health Services Research to 863 sites. The unit of inquiry and analysis is the survey site. Non-respondents were contacted two additional times at one-week intervals to maximize participation opportunity.

Challenges

This study was conducted under tight timelines to meet legislative deadlines. Including prelicensure nursing students added complexity, and response rates varied across surveys.

- The survey of schools and departments had the most valid sampling frame, including the student coordinators of nearly all community colleges and health professions schools and departments.
- The preceptor survey was a convenience sample and may not fully represent all preceptors in the region, with a higher participation rate among physicians.
- The site survey had the most rigorous sampling frame. However, only three respondents came from health system practices, and the overall low response rate (9.4 percent) makes generalizability difficult.
- The exclusion of disaster-affected counties in western North Carolina further limited the scope.

Despite these limitations, consistency across study components supports the validity of the findings.

RESULTS

Key Informant Interviews

Nearly two-thirds of the identified experts agreed to be interviewed (12/19), while three declined to participate and four did not respond to multiple contact attempts. Most participants (10/12) relayed that preceptorship numbers were limited by staffing constraints. Themes identified included strategies to mitigate shortages, barriers, success measurements, and influences on precepting quality. See Appendix F for codes and definitions.

Participants recommended the following strategies for addressing the preceptor shortage:

- *Compensation:* All participants (12/12) recommended renumeration, and most (9/12) specifically suggested the use of a tax incentive.
- *Dedicated time:* Most participants (8/12) recommended allotting dedicated time to precepting, and a lack of time was mentioned as a barrier by two additional participants.
- *Educational development:* Most participants (7/12) recommended strategies related to educational development, including suggestions such as providing preceptors with continuing medical education (CME) credit, library access, and better training.
- *Stakeholder partnerships:* In addition to most participants (7/12) recommending better support from programs, one participant reported the lack of support from programs as a barrier. This participant also discussed long-term repercussions of insufficiently supporting preceptors, observing that "students have a bad training experience."
- *Organizational backing:* In addition to half of participants (6/12) who suggested organizational backing as a strategy, two additional participants highlighted the lack of organizational support as a barrier.

In terms of measuring the success of strategies, half the participants (6/12) recommended utilizing standard evaluations of preceptors and/or learners.[50] A third of participants (4/12) suggested assessing preceptor availability to determine the success of strategies, that is, simply assessing if educational programs have more preceptors or enough preceptors. See Table 3 for a summary of themes emerging from key informant interviews.

Survey of Schools and Departments

We surveyed 116 schools and departments, including 36 university student coordinators and 80 community college student coordinators. With a response rate of 39 percent, we had 45 total respondents.

The reported average enrollment of a school or department was 81 students, and they required an average of 12.4 weeks of rotational experience in outpatient/ambulatory settings.

Nearly all schools (97 percent) stated a need for more preceptor sites or sites with more capacity. In the last 12 months, schools and departments dropped an average of 1.3 sites and 1.8 sites stopped accepting students. Also in the last 12 months, schools and departments used an average of 9.7 sites and added an average of 4.1 sites. See Table 4 for a summary of findings, broken down by university programs and community college programs.

Over one-third of schools and departments report compensating preceptors financially, and 21 percent report other kinds of incentives, such as continuing education, appointments, certificates, appreciation dinners, and library services. Schools offering compensation most commonly report monthly compensation of $1,000 to $1,999 (64 percent), with 18 percent reporting less than $1000 and 18 percent reporting more than $2000. See Table 5 for a summary of findings regarding compensation.

Survey of Preceptors

The preceptor survey received 122 responses, with an estimated 72% response rate. Challenges in engaging out-of-state membership associations limited the initial sample, which included 170 potential respondents (70 from North Carolina and 100 from nearby states). Table 6 provides a detailed sample description.

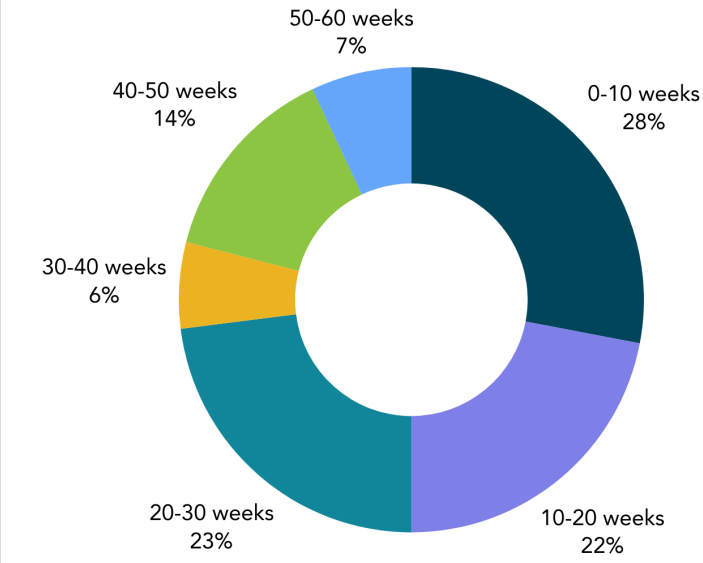


Figure 1. Weeks of Precepting in the Past Year

Respondents were primarily physicians, reflecting the survey design, which aimed to include 10 representatives from each group: family physicians, general internists, general pediatricians, obstetrician-gynecologists, registered nurses, nurse practitioners, and physician assistants. Of the 122 respondents, 69 were from North Carolina, and 53 were from nearby states. Fifty respondents worked in health system-owned practices, and 43 worked in private practices. Over half (58 percent) had served as preceptors for more than 10 years. Additionally, half (50 percent) reported precepting 20 or fewer weeks per year (see Figure 1).

The motivations of current preceptors were consistent across regions. Top-rated motivations, each rated as important or very important by 91 percent of respondents, included "giving back to the profession," "investing in learners' future," and "joy of teaching." Other important factors included "serving as a role model" (90 percent), "keeping knowledge current" (83 percent), and "recruiting for our region or specialty" (70 percent). The least frequently cited

motivation for current preceptors was "financial compensation" (19 percent), likely reflecting that most preceptors are not receiving substantial (or any) compensation (see Figure 2).

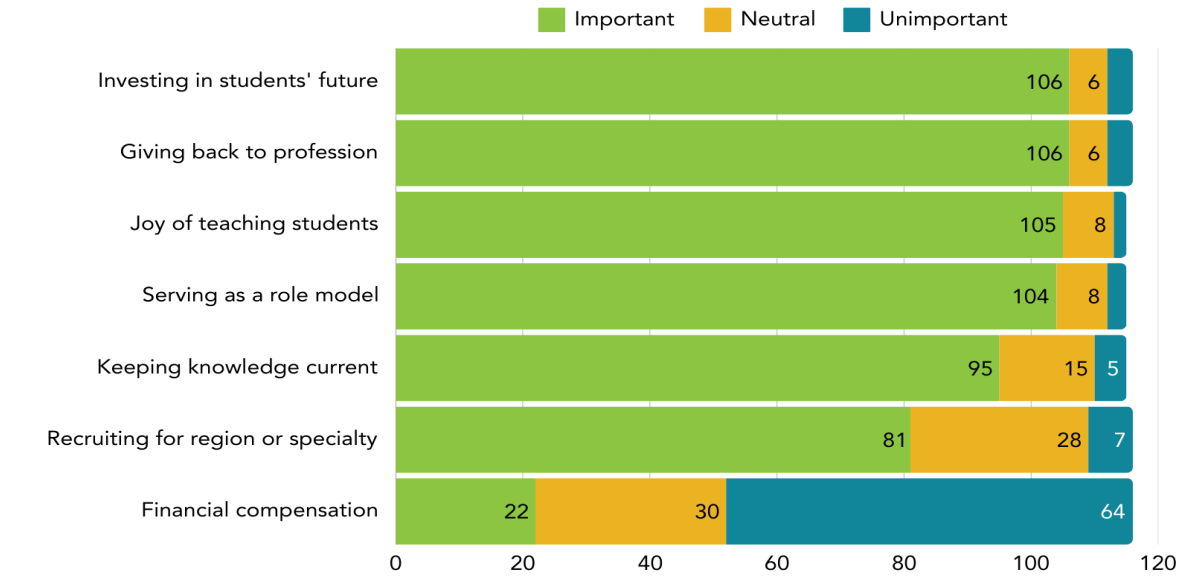


Figure 2. Motivations to Precept

In terms of renumeration, 50 percent of respondents from North Carolina and 41 percent from nearby states reported receiving financial compensation. When asked about fair compensation for one month of full-time precepting, nearly half (49 percent) considered $1,000–$1,999 fair, 20 percent favored $2,000 or more, and 30 percent regarded less than $1,000 as fair. Table 5 shows a side-by-side comparison of compensation paid by schools and received by preceptors or sites.

Survey of Sites

The site survey was sent to 863 practices, with 184 emails returned as undeliverable. Sixty-four sites responded, yielding a 9.4 percent response rate. The majority (71 percent) were private practices, while 5 percent were hospital-owned, and most others were community health centers. Nearly half (46 percent) of the sites were rural.

Regarding students from the health professions targeted in this study, most responding sites reported precepting in the last year (69 percent), with an average precepting history of 13 years. Sites hosted an average of 6.5 students annually, breaking down into 2.2 medical students, 1.5 nursing students, 1.4 physician assistant students, and 2.1 nurse practitioner students.

Among sites that had *not* precepted within the past year, 79 percent had done so in the previous five years. The most frequently reported reasons for not precepting included "not

enough time" (n=10), "practice is too busy" (n=8), "would like financial compensation" (n=6), and "not enough space" (n=9).

Motivations for precepting mirrored those of individual preceptors, with key factors including "giving back to the profession" (86 percent), "investing in students' futures" (77 percent), and "joy of teaching" (74 percent). Other motivators were "recruiting for our region or specialty" (71 percent), "keeping knowledge current" (70 percent), and "serving as a role model" (67 percent). Like preceptors, "financial compensation" ranked lowest as an important motivator (19 percent), likely reflecting that most preceptors are not currently receiving substantial (or any) financial compensation. (see Figure 3).

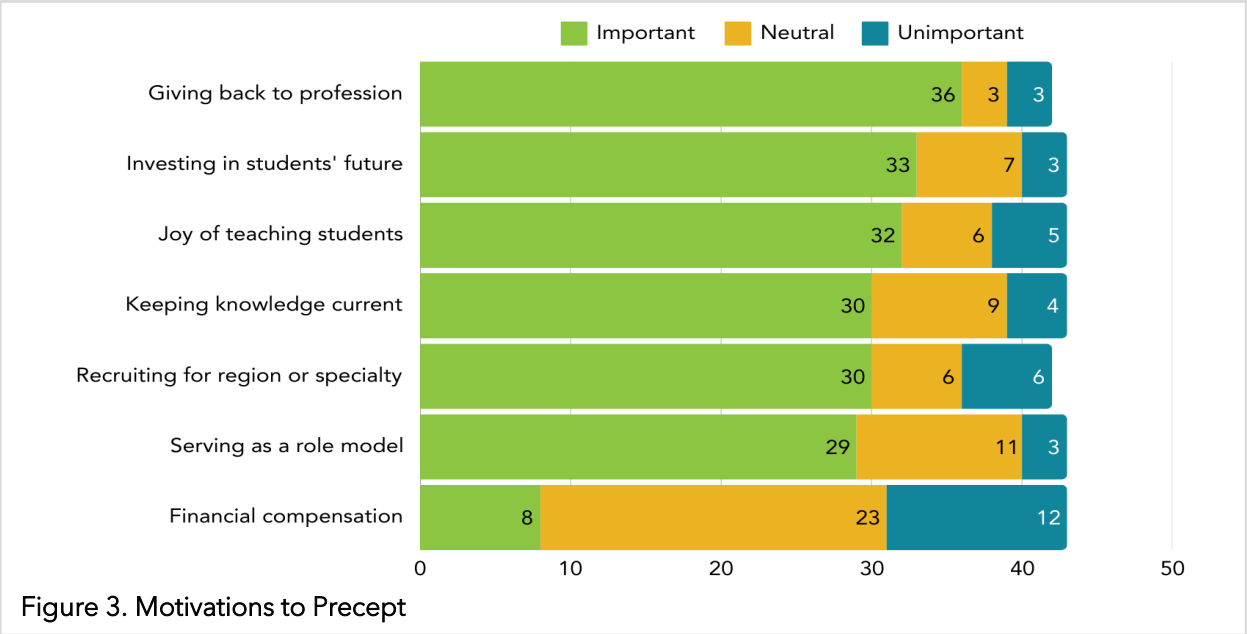


Figure 3. Motivations to Precept

Eighteen respondents who precepted in the last year (40 percent) reported receiving financial compensation. Of those, they reported a median compensation of $500–$999 per month.

When asked how many additional students they could host *if adequately compensated*, 88 percent of responding sites indicated they could take more. More than half (56 percent) said they could add 1-5 students, and about a third (32 percent) reported they could handle six or more additional students. See Figure 4 for potential precepting capacity.

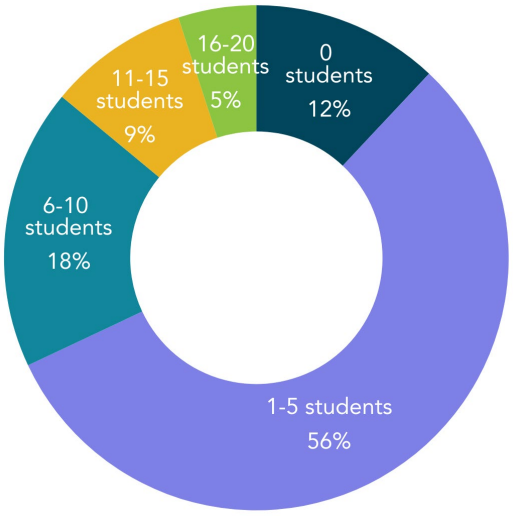


Figure 4. Unused Potential Capacity

NEXT STEPS

This report was conducted at the request of the NC General Assembly, recognizing that community-based clinical experiences are critical to developing the health professional workforce, particularly in rural communities. The next step is to confirm this priority and take meaningful action to address the challenges.

The findings provide clear evidence that North Carolina needs more preceptors. While financial incentives are not the primary motivation for those currently precepting, they are likely to both attract more clinicians to precepting and to encourage existing preceptors to take on additional students. Based on compensation trends in North Carolina and other states, $1,000-$1,999 is a reasonable rate for full-time precepting.

A key decision now is determining who should bear the cost of these incentives: the state/taxpayers, schools/students, health systems, or a combination of these stakeholders. Policymakers, professional associations, and educational institutions must collaborate to identify fair and sustainable funding solutions. Any approach should avoid creating competition among schools and should ensure that policies do not inadvertently increase student debt. Incentives could be applied broadly or could be targeted to address specific challenges, such as increasing preceptors in rural areas or those serving underserved populations.

Another potential strategy is expanding rural interprofessional teaching hubs, which were recently funded by the General Assembly and are currently in the pilot phase. While promising, more data is needed before scaling these initiatives further.

Despite significant insights gained from this study, further research is needed to address limitations, particularly regarding the representation of different practice settings. Discussions are underway with the North Carolina Healthcare Association to enhance understanding of precepting within health systems and to expand data collection to include more system-owned practices.

Additionally, the study focused on a limited scope of students: medical, pre-licensure nursing, physician assistant, and nurse practitioner students. Challenges in recruiting and retaining preceptors also exist in other fields such as social work, pharmacy, and other health professions that rely on clinical mentorship.[51] NC AHEC will continue working with partners to explore these broader needs and may expand future studies to include additional disciplines.

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Appendix B: Tables

Table 1: State legislation to compensate preceptors of MD/DO, PA, NP, and RN programs[52]

State	Year Passed	Bill Ref.	Funding Source	State AHEC Involved	Training Programs	Payment per Rotation	Max paid per year	Funds interdisciplinary preceptorship
Alabama[53]	2023	HB 133	PTIP	Yes	MD/DO	$500	$6,000	MD/DO, NP, PA
					NP, PA	$425	$5,100	No
Arizona[38]	2022	HB 2691	Grant	No	MD/DO, NP	N/A	$1,000	No
					NP, RN	N/A	$1,000	Unspecified
Colorado[54]	2022	HB 22-1005	PTIP	Yes	MD/DO, NP, PA, RN	N/A	$1,000	Unspecified
Georgia[55]	2019	HB 287	PTIP	Yes	MD/DO	$500 (rotations 1-3) $1,000 (rotations 4-10)	$8,500	Unspecified
					NP, PA	$375 (rotations 1-3) $750 (rotations 4-10)	$6,375	Unspecified
Hawaii[56]	2018	SB 2298	PTIP	Yes	MD/DO, NP	$1,000	$5,000	MD/DO, NP
Maryland[57]	2021	SB 102	PTIP	No	MD/DO	$1,000 (3 rotations min)	$10,000	No
					NP	$1,000 (3 rotations min)	$10,000	MD/DO, NP
					NP, PA	$1,000 (3 rotations min)	$10,000	MD/DO, NP, PA
Missouri[58]	2022	HB 2331	PTIP	No	MD/DO, PA	$1,000	$3,000	MD/DO, PA
South Carolina[59]	2019	SB 314	PTIP	No	MD/DO	$1000*	$4,000	No
					MD/DO	$750**	$3,000	No
					NP, PA	$750*	$3,000	MD/DO, NP, PA
					NP, PA	$500**	$2,000	MD/DO, NP, PA
Washington[60]	2023	SB 5582	Grant	No	NP, RN	$500-$1,000	$8,000	NP, RN

* If at least 50% of the practice consists of Medicaid insured, Medicare insured, and self-pay patients

** If at least 30% of the practice consists of Medicaid insured, Medicare insured, and self-pay patients

Table 2. Study Objectives and Component Descriptions

North Carolina Study of Community Preceptors				
Objectives	Identify best, innovative, and effective approaches to address preceptor shortage	Research schools' current approaches to identifying, engaging, financing, and evaluating clinical training sites and their use of tuition funds to cover students' clinical placement and training costs.	Assess capacity for clinical training sites in NC and nearby states: determine the number and percent of NC practices currently precepting; determine the number and percent of NC practices that could precept; determine the effect of precepting on practice efficiency and finances	
Study Component	Key Informant Interviews of National Experts	Survey of Schools and Departments	Survey of Preceptors	Survey of Sites
Data Collection Tool	16-item semi-structured interview guide	22-item Qualtrics survey	28-item Qualtrics survey	17-item Qualtrics survey
Sampling Frame	19 national experts identified by advisory committee members and snowballing efforts	1) Coordinators of North Carolina health professions schools and departments that use NC AHEC housing. 2) Nursing student coordinators at North Carolina community colleges	1) Ten each: family physicians, general pediatricians, general internists, obstetricians/ gynecologists, physician assistants, registered nurses, and nurse practitioners identified by membership association executives. 2) These executives requested their sibling chapters in GA, SC, TN, and VA to identify 10 members each.	863 North Carolina primary care practice sites identified by the Sheps Center for Health Services Research from a 2020 database
Response Rate (%)	63%	41%	72%	9.4%
Data Collection Timeline	09/30/24 – 11/30/24	10/08/24 – 11/17/24	10/10/24 – 11/17/24	10/22/24 – 11/20/24

Table 3: Frequency of codes, categorized by theme (Key Informant Interviews)

North Carolina Study of Community Preceptors							
Strategies	*Tally*	**Barriers**	*Tally*	**Measures of Success**	*Tally*	**Influences on Quality**	*Tally*
Renumeration	12	Staffing Constraints	10	Evaluation	6	Intrinsic Desire to Precept	4
Dedicated Time	8	Financial Blocks	7	Preceptor Availability	4	Effective Teacher	3
Educational Development	7	Lack of Time	6	Talent Pipeline	3	Learning Environment	3
Stakeholder Partnerships	7	Geographical Constraints	5	Professional Fulfillment	2		
Organizational Backing	6	Administrivia	4				
Administrative Coordinators	5	Lack of Organizational Support	3				
Scholarly Recognition	4	Academic Institution Failings	3				
Work-life Balance	4	Burnout	3				

Table 4: Summary findings from Survey of Schools and Departments

North Carolina Study of Community Preceptors						
	Community Colleges (N=32)		Universities (N=13)		Combined (N=45)	
		Range (Std. Dev)		Range (Std. Dev)		Range (Std. Dev)
Response Rate	*40%*		*36%*		*39%*	
Average Student Enrollment: '24-'25	88.9	15-268 (67.37)	61.9	19-204 (57.36)	81.0	15-268 (64.88)
Average Projected Enrollment: '25-'26	96.9	20-308 (67.59)	65.2	20-230 (65.28)	86.4	20-308 (67.31)
Average Projected Enrollment: '26-'27	104.2	20-348 (76.05)	68.9	20-230 (68.79)	93.3	20-348 (74.39)
Average weeks required for ambulatory clinical rotations	10.2	0-40 (9.92)	16.3	0-50 (16.02)	12.4	0-50 (12.52)
Average number of sites dropped by school	1.1	0-6 (1.50)	1.9	0-5 (1.37)	1.3	0-6 (1.49)
Average number of sites that stopped accepting students	0.2	0-1 (0.39)	5.5	0-25 (7.26)	1.8	0-25 (4.66)
Average number of sites used by school	1.5	1-4 (0.98)	27.0	4-100 (30.26)	9.7	1-100 (20.54)
Average # of new sites added	0.9	0-3 (1.06)	10.8	0-20 (6.92)	4.1	0-20 (6.12)

Table 5: Compensation provided to or received by surveyed participants

North Carolina Study of Community Preceptors						
	Survey of Schools & Depts		*Survey of Preceptors*		*Survey of Sites**	
	N	*%*	*N*	*%*	*N*	*%*
<$500	0	0%	32	48%	10	56%
$500-$999	2	18%	17	26%	8	44%
$1000-$1999	7	64%	15	23%	6	33%
$2000-$2999	0	0%	1	2%	0	0%
$3000-$3999	1	9%	1	2%	0	0%
$4000-$4999	0	0%	0	0%	0	0%
≥$5000	1	9%	0	0%	0	0%
TOTAL	11	100%	66	100%	18	100%

*A single site may house preceptors of multiple professions

Table 6: Demographics of surveyed preceptors and sites

North Carolina Study of Community Preceptors								
	Survey of Preceptors - in NC		*Survey of Preceptors - outside NC*		*Survey of Preceptors - Combined*		*Survey of Sites*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Practice Area								
Family Medicine	29	42%	36	68%	65	53%	22	34%
Gen. Internal Medicine	15	22%	0	0%	15	12%	10	15%
Obstetrics & Gynecology	4	6%	0	0%	4	3%	1	2%
General Pediatrics	14	20%	11	21%	25	2%	15	23%
Multispecialty	4	6%	0	0%	4	3%	8	15%
Other	3	4%	6	11%	9	7%	7	11%
Practice Site								
FQHC	11	16%	4	8%	15	12%	2	3%
Private practice	26	38%	17	32%	43	35%	45	69%
Health department	3	4%	2	4%	5	4%	9	14%
Owned by hospital or health system	26	37%	24	45%	50	41%	3	5%
Rural health center	0	0%	3	6%	3	2%	0	0%
Other	7	10%	9	17%	16	13%	5	8%
Health Profession								
Nurse	3	4%	5	9%	8	7%	47*	72%
Physician	41	59%	46	87%	87	71%	51*	78%
Physician Assistant	9	13%	2	4%	11	9%	26*	40%
Nurse Practitioner	16	23%	0	0%	16	13%	49*	75%
Geography								
Rural	25	36%	14	26%	39	32%	29	45%
Urban	24	35%	20	38%	44	36%	13	20%
Suburban	18	26%	17	32%	35	29%	16	25%
Not sure	2	3%	2	4%	4	3%	5	8%
Total								
Total	**69**	**100%**	**53**	**100%**	**122**	**100%**	**64**	**100%**

*Number of sites that employ at least one specified health professional

Appendix C: List of Advisors & Stakeholders

Advisory Committee Members

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- NC Academy of Physician Assistants
- NC Board of Nursing
- NC DHHS Office of Rural Health
- NC Healthcare Association
- NC Independent Colleges and Universities
- NC Medical Board
- NC Medical Society
- NC Nurses Association
- NC Pediatric Society
- UNC Board of Governors

Appendix D: Semi-Structured Interview Guide Referenced to Interview Key Informants

1. What is your role within your organization?
    a. Rationale:
        i. To establish rapport.
        ii. To provide context to perspective of participant.
2. Based on your personal experience and expertise, what are your thoughts on the number of available or availability of preceptors?
    a. How urgent is this issue?
    b. Rationale:
        i. To establish baseline perspective on whether precepting is in dire straits.
3. What are your thoughts on the quality of current preceptors? (possible prompts a,b,c)
    a. What makes a quality preceptor?
    b. In the context of our preceptor shortage, how would you describe the availability of quality preceptors?
    c. How do you determine if a preceptor is a quality preceptor?
    d. Rationale:
        i. To understand how precepting is evaluated.
4. What strategies have you seen used to improve preceptor availability?
    a. Could you describe the most successful strategy(ies) you've seen?
    b. Could you describe the most innovative strategy(ies) you've seen?
    c. Rationale:
        i. To elicit what participants understood and learned from observed efforts to address the preceptor shortage.
5. How have these strategies differed from previous efforts? (possible prompts a,b,c,d)
    a. Context surrounding the effort: ie, institutional need
    b. Focus of the effort: retention, recruitment, quality
    c. Targeted area/sector: rural vs urban; physical vs virtual (brick&mortar vs telemed)
    d. Effectiveness of the effort
    e. Rationale:
        i. To establish historical context and contrast prior precepting zeitgeist with the modern day shortage and solutions.
6. What challenges have you faced or seen others face in implementing strategies? (possible prompts a,b)
    a. Had these challenges been foreseen?
    b. What kind of plans, if any, has been set into place to address these challenges?
    c. Rationale:
        i. To elucidate areas where strategies can be improved.
        ii. To better anticipate potential and unforeseen consequences.

7. What, if any, disparities have you noticed in the recruitment of community-based preceptors between different health professions? e.g., Pre-licensure nursing preceptor recruitment numbers compared to physician assistant preceptor recruitment numbers?
    a. If any, why do you think such disparities exist?
    b. Rationale:
        i. To ascertain whether some professions are more or less in need of preceptor supply due to factors external to an overall shortage.
8. What recruitment and/or retention strategies have been successful? (note for prompt, may include strategies they have implemented or that they have known of)
    a. How do you judge success (possible prompts i, ii)
        i. Have you done a formal evaluation?
        ii. Do you have a report you can share?
    b. Rationale:
        i. To elicit strategies most likely to improve the preceptor shortage.
        ii. To understand how participants measure success.
9. What other strategies have you considered? (possible prompts a,b)
    a. If you haven't tried that, why haven't you?
    b. If you have, what did you learn?
    c. Rationale:
        i. To elicit seemingly viable strategies and understand their drawbacks.
10. If resources were unlimited, how would you best address the preceptor shortage?
    a. Rationale:
        i. To elicit the upper limit of strategies that might work.
11. On the other hand, if resources were scarce, what are the most important, cost-effective strategies?
    a. Rationale:
        i. To ascertain which strategies would always be feasible no matter the competing interests.
12. What strategies would you suggest to state policymakers to help address this shortage?
    a. What are the benefits and drawbacks to strategies like these?
    b. Rationale:
        i. To ascertain which strategies have gained traction and would be most compelling to legislators.
13. Who else might we interview to inform us about the preceptor shortage and strategies to address it? (possible prompts a,b)
    a. Can you share an email or phone number?
    b. If you'd like time to think about it, I'd like to provide you with my (or Adam's) email address for you to follow up with at your convenience.
    c. *Rationale:* Concluding the interview with snowballing effort.
14. Is there anything else you would like to add, or any topic you anticipated that we haven't addressed?

a. *Rationale:* Conclude the interview by giving participant the last word, reasserting rapport and expressing value of their ideas.

During the first interview onward, the following question was included to bolster the study's conceptual framework.

15. What strategy would you not recommend be used?
    a. Rationale:
        i. To discover the boundaries where strategies may induce problems.

As early as the 3rd interview, participants began to mention unique geographical considerations for precepting, and from the 5th interview onward, the following question was posed.

16. Are you aware of how geographical differences may have led to unique approaches to precepting?
    a. Rationale:
        i. To ascertain whether geography can be a targeted as a modifying factor of preceptor availability.

Appendix E: List of Key Informant Interview Subjects

Name	Title	Organizational Affiliation
Cragin Greene, MHS, PA-C	Academic Director of Center for Advanced Practice	Advocate-Atrium Health
Deb Kangisser, PA-C	Director of Education for PA Services	The Cleveland Clinic
Gayle Bodner, DHSc, MMS, PA-C	Department chair for the Department of PA Studies	Wake Forest University School of Medicine
Gerianne Babbo, Ed.D, MN, RN	Director of Nursing Education	Washington State Board of Nursing
Jenny Hartlaub, DNP, APNP, FNP-BC	Advanced Practice Director Professional Excellence	Advocate Health Midwest Medical Group
Julie Byerley, MD, MPH	EVP and Chief Academic Officer; Dean	Geisinger; Geisinger Commonwealth School of Medicine
Karen Mitchell, MD, FAAFP	Vice President of Student and Resident Initiatives	American Academy of Family Physicians
Mary Beth Bigley, DrPH, ANP-BC, FAAN	CEO	National Organization of Nurse Practitioner Faculties
Nancy Spector, PhD, RN, FAAN	Director of Nursing Education	National Council of State Boards of Nursing
Neil Mackinnon, PhD	Provost	Augusta University
Tom Morris, MPA	Associate Administrator; Director	Rural Health Policy at the Health Resources and Services Administration; Federal Office of Rural Health Policy
Tyler Smith, MPH	Senior Director of Government Relations	PA Education Association

Appendix F: Code Definitions Categorized by Theme

Theme: Strategies

Renumeration: compensating preceptors i.e., direct payment, tax incentive, stipend, grant

Dedicated Time: Patient scheduling changes that allot preceptors more time with learner

Organizational Backing: Demonstration of preceptorship value by organizational leadership e.g., preceptor transition program, inclusion of preceptorship in performance review, etc.

Educational Development: Access to preceptor training, library services, or CME credit

Scholarly Recognition: Formal recognition by academic institution of ties to preceptor

Work/Life Balance: Improving preceptor wellbeing by rewarding work and allowing time off

Stakeholder Partnerships: Any partnership encouraging goal alignment between/among preceptor's employer, academic institutions, and AHEC.

Administrative Coordinators: Dedicated staff who streamline learner placement, onboarding, coordination, and/or documentation to preceptor

Learner Readiness: Ability of a learner to engage with preceptor and improve workflow

Theme: Barriers

Burnout: State of physical, mental, and/or emotional exhaustion among preceptors

Administrivia: Coordination and compliance pre-requisites for preceptor to engage learner

Lack of Organizational Support: Values of organization vie with preceptor's desire to teach

Academic Institution Failings: Institutions insufficiently train or support preceptors

Financial Blocks: Monetary limitations from view of health system, preceptor, or program

Lack of Time: Increasing clinical demands placed on preceptors

Geographical Constraints: Housing or transportation limits on precepting in rural areas

Staffing Constraints: Dearth of available preceptors or office staff

Theme: Measuring success

Evaluation: Assessment of preceptor, learner, or faculty experience and impressions

Talent Pipeline: Recruitment of a graduated precepted learner by a health organization

Professional Fulfillment: Contentment, well-being, and achievement from precepting

Preceptor Availability: Health organization's staff stability and program's ability to recruit

Theme: Influences on quality

Intrinsic Desire to Precept: Preceptor motivated to share breadth of practice with learner

Learning Environment: Space, workload, and community a preceptor exposes learner to

Effective Teacher: Preceptor's ability to patiently educate and offer feedback to learner

Appendix G: Survey of Schools & Departments

1. What are the current and projected new student enrollments for your program? If your program is new, please start with the first year that clinical rotations begin.
   - o 2024-25 _____ (current year)
   - o 2025-26 _____
   - o 2026-27 _____
2. Think about clinical rotation requirements for a new student starting in 2024-25 (for new programs, first year of rotations). How much time (in weeks) will be required in each setting to complete your program? (round up)
   - o Ambulatory/outpatient settings (Private practices, FQHCs, health departments, community settings…) (slider bar 1-50)
   - o Inpatient/hospital settings (slider bar 1-50)
3. What are your needs for precepting sites over the next 5 years. Check all that apply:
   - o More sites
   - o Sites able to accommodate larger numbers of students
   - o More specialty preceptors (list clinical areas needed) _____
   - o Other _____
4. During the last 12 months, how satisfied have you been with the overall quality of preceptors that teach your students? Preceptors = any healthcare providers (e.g., physicians, pre-licensure nurses, physician assistants, nurse practitioners) who teach students in their practice settings.
   - o Extremely satisfied
   - o Very satisfied
   - o Moderately satisfied
   - o Slightly satisfied
   - o Not at all satisfied
5. Currently, what do you do to prepare preceptors to teach?
   - o Require specific preceptor training
   - o Offer training/materials to preceptors (not required)
   - o None of the above
6. How many precepting sites have you intentionally stopped using in the last 12 months? (slider bar 0-50)
7. What were the most common reasons for dropping a site? Check all that apply:
   - o Concerns about the quality of teaching
   - o Safety of students
   - o Did not meet curriculum requirements (e.g., insufficient patient population)
   - o Logistical issues (e.g., lack of adequate student housing, too long of a drive for students)
   - o Site is difficult to work with
   - o Other _____
8. How do you assess site quality?
   - o Student evaluation
   - o Site visits
   - o Other_____

9. To your knowledge, how many precepting sites decided to stop accepting your students in the last 12 months? (slider bar 0-50) (if 0, skip to questions 11)

10. What were the reasons they gave for not accepting your students? Check all that apply:
    - o They committed to take students from other schools
    - o Teaching students is not valued/encouraged by their site
    - o Feeling burnt out from teaching
    - o Incentives not adequate
    - o Other _____

11. What type of outpatient preceptor sites have been difficult to secure in the last 12 months? Check all that apply:
    - o Behavioral health/psychiatry
    - o Family medicine
    - o General surgery
    - o Internal medicine
    - o OBGYN
    - o Pediatrics
    - o Other _____
    - o No difficulties securing sites

12. What type of inpatient preceptor sites have been difficult to secure in the last 12 months? Check all that apply:
    - o Behavioral health/psychiatry
    - o Family medicine
    - o General surgery
    - o Internal medicine
    - o OBGYN
    - o Pediatrics
    - o Other _____
    - o No difficulties securing sites

13. How many community primary care sites have you used for precepting in the last year? (slider bar 1-100)

14. How many new sites (a site your program has not used for one year) have you begun to use within the past 12 months? (slider bar 0-20)

15. What AHEC student/preceptor services does your program currently utilize? Check all that apply:
    - o AHEC Digital Library or other Information Technology services
    - o Preceptor development or recognition activities
    - o Student housing
    - o Other _____
    - o None of the above

16. Aside from AHEC services, what incentives does your program currently offer preceptors/sites? Check all that apply:
    - o Appreciation dinners, recognition events, awards
    - o Continuing Professional Development at a reduced fee/no charge
    - o Direct FTE support (support all/part of the annual salary of an FTE in exchange for teaching students)
    - o Faculty appointments
    - o Information/Library/Technology services
    - o Payments to preceptors or sites based on the number of weeks/months of teaching
    - o Other _____
    - o None of the above

17. What is the maximum range of payments your school currently provides to sites/preceptors?
    - Less than $500/month
    - $500-$999/month
    - $1,000-$1999/month
    - $2,000-$2,999/month
    - $3,000-$3,999/month
    - $4,000- $4,999/month
    - More than $5,000/month
18. What are the other costs to your school or program associated with community rotations? (select all that apply)
    - Onboarding
    - Preceptor training
    - Specialized student orientation
    - Student housing and transportation/logistics
    - Student equipment costs
    - Other (text box)
19. To your knowledge, in the last 12 months, have students rotating from out-of-state programs prevented your students from securing preceptor sites? Yes/No. If yes, please describe. (text box)
20. To your knowledge, in the last 12 months, have students chosen out-of-state rotations due to a lack of availability of sites in NC? Yes/No. If yes, please describe. (text box)
21. Thinking of your program's precepting needs over the next 5 years, what solutions, strategies, or resources would be most helpful?
22. To complete the survey, please enter any comments about your precepting needs in the space below and select "Submit" when finished.

Appendix H: Survey of Preceptors

Demographic Characteristics

1. How old are you?
    a. < 30 years old
    b. 30-39 years old
    c. 40-49 years old
    d. 50-59 years old
    e. 60-69 years old
    f. > 70 years old
2. What is your gender?
    a. Male
    b. Female
    c. Other
    d. Prefer not to say
3. What race or ethnicity best describes you?
    a. Alaska Native, Native American or Pacific Islander
    b. Asian
    c. Black or African American
    d. Hispanic or Latino
    e. White
    f. Biracial or multiracial
    g. Prefer not to say
4. What is your health profession?
    a. Physician (MD, DO)
    b. Physician Assistant (PA)
    c. Nurse (LPN, RN)
    d. Nurse Practitioner (NP)
5. What do you practice?
    a. Family Medicine
    b. General Internal Medicine
    c. Obstetrics and Gynecology
    d. General Pediatrics
    e. Medicine and Pediatrics
    f. Other (please specify): _____
6. Where do you practice?
    a. Rural
    b. Suburban
    c. Urban
    d. Not sure
7. How would you describe the type of practice in which you work? (check all that apply)
    a. FQHC
    b. Private practice
    c. Health department
    d. Owned by hospital or health system
    e. Rural Health Center
    f. Other (please specify): _____

Precepting

8. Do you currently precept students?
    a. Yes
    b. No, but I did in the past
    c. Other (please specify): _____
9. How many years have you taught (or did you teach) students as a preceptor? (slider bar 1-20)
10. On average, how many weeks per year do you precept students? (slider bar 1-50)

11. What are the health professions of the students that you have precepted? (select all that apply)
    - o Physician (MD, DO)
    - o Physician Assistant (PA)
    - o Nurse (LPN, RN)
    - o Nurse Practitioner (NP)
    - o Other (please specify): _____

12. Why do you teach?

	Very important (1)	*Important (2)*	*Neutral (3)*	*Unimportant (4)*	*Very unimportant (5)*
Giving back to profession	o	o	o	o	o
Joy of teaching students	o	o	o	o	o
Investing in students' future	o	o	o	o	o
Serving as a role model	o	o	o	o	o
Recruiting for our region or specialty	o	o	o	o	o
Keeping knowledge current	o	o	o	o	o
Financial compensation	o	o	o	o	o

13. Have you ever faced challenges in maintaining patient care while precepting?
    a. Yes (please specify): _____
    b. No

14. What is the most significant barrier you face as a preceptor?
    a. Lack of time
    b. Insufficient support from academic programs
    c. Financial constraints
    d. Lack of clear guidelines for student expectations
    e. Other (please specify): _____
    f. None of the above

15. In which area would you like to see students better prepared before starting their clinical rotations?
    a. Basic clinical skills
    b. Basic pharmacology knowledge
    c. Professionalism
    d. Charting and reporting, use of EMR
    e. Understanding patient flow and team member roles

Preceptor Well-being and Satisfaction

16. Have you ever experienced symptoms of burnout while precepting?

	Never (0)	*A few times per year (1)*	*Once a month (2)*	*A few times per month (3)*	*Once a week (4)*	*A few times per week (5)*	*Every day (6)*
I feel emotionally drained by my work	o	o	o	o	o	o	o

Working with people all day long requires a great deal of effort	o	o	o	o	o	o	o
I feel frustrated by my work	o	o	o	o	o	o	o
I feel I work too hard at my job	o	o	o	o	o	o	o
It stresses me too much to work in direct contact with people	o	o	o	o	o	o	o
I feel like I'm at the end of my rope	o	o	o	o	o	o	o

17. What is your overall DEGREE OF SATISFACTION with the following:

	N/A or not received (0)	*Very dissatisfied (1)*	*Dissatisfied (2)*	*Neither satisfied or dissatisfied (3)*	*Satisfied (4)*	*Very satisfied (5)*
Overall satisfaction with precepting	o	o	o	o	o	o
Your familiarity with rotation learning objectives and curriculum	o	o	o	o	o	o
Quality of preceptor development	o	o	o	o	o	o
Frequency of preceptor development	o	o	o	o	o	o

18. How likely are you to continue as a community preceptor over the next five years?
    a. Very unlikely
    b. Unlikely
    c. Not sure
    d. Likely
    e. Very likely

Preceptor Compensation

19. How does precepting impact your overall compensation?
    a. Increase
    b. Decrease
    c. Unsure

20. Are you paid for precepting? (response required)
    a. Yes (please specify by whom): _____
    b. No

If yes, proceed with the following question. If no, skip to question 24.

21. How much per month are you being paid for precepting? (Please select only one box by placing an X in it).

Nursing ☐ <$500 ☐ $500-$999 ☐$1000-$1999
☐$2000-$2999 ☐$3000-$3999 ☐$4000-$4999 ☐≥$5000

Medicine ☐ <$500 ☐ $500-$999 ☐$1000-$1999
☐$2000-$2999 ☐$3000-$3999 ☐$4000-$4999 ☐≥$5000

Physician assistant ☐ <$500 ☐ $500-$999 ☐$1000-$1999
☐$2000-$2999 ☐$3000-$3999 ☐$4000-$4999 ☐≥$5000

Nurse Practitioner ☐ <$500 ☐ $500-$999 ☐$1000-$1999
☐$2000-$2999 ☐$3000-$3999 ☐$4000-$4999 ☐≥$5000

22. What is fair compensation to precept per student per month?
    a. $0
    b. $1-$499
    c. $500-$999
    d. $1000-$1999
    e. $2000-$2999
    f. $3000-$3999
    g. $4000-$4999
    h. ≥ $5000

23. How would you like programs to demonstrate appreciation?
    a. Tax credit
    b. Direct payments
    c. Stipends for continuing education credits (CE/CME)
    d. CME/CNE/continuing education
    e. Academic appointments
    f. Recognition for teaching excellence
    g. Other

Preceptor Productivity

24. How many patients do you expect to see in a ½ day clinic session WITHOUT precepting a student? (sliding bar 0-50) (Select 0 if you do not have a patient schedule).
25. How many patients do you expect to see in a ½ day clinic session WITH precepting a student? (sliding bar 0-50) (Select 0 if you do not have a patient schedule).
26. How does precepting affect the length of your workday? (response required)
    a. Shorter (skip to item 28)
    b. Longer (skip to item 27)
    c. No change (end survey)
27. By how many minutes (approximately) does precepting LENGTHEN a typical full workday? (slider bar 0-90 in 15 minute increments) (end survey)
28. By how many minutes (approximately) does precepting SHORTEN a typical full workday? (slider bar 0-90 in 15 minute increments) (end survey)

Appendix I: Survey of Sites

We'd like to know a little about your practice. For the purpose of this survey, a practice is a single clinical site.

1. Practice area (check all that apply):

☐ Family Medicine
☐ General Internal Medicine
☐ Obstetrics and Gynecology
☐ General Pediatrics
☐ Multispecialty (specify): _____
☐ Other (specify): _____

2. How would you describe the type of practice in which you work? (*check all that apply)*

☐ FQHC
☐ Private practice
☐ Health department
☐ Owned by hospital or health system
☐ Rural Health Center
☐ Other (specify): _____

3. How many of the following work in your practice?

☐ Nurse (LPN/RN): (number wheel 1-20)
☐ Physician (MD/DO): (number wheel 1-20)
☐ Physician Assistant: (number wheel 1-20)
☐ Nurse Practitioner: (number wheel 1-20)

4. Which of the following describes your practice?

☐ Rural
☐ Urban
☐ Suburban
☐ Not sure

Preceptor Definition: A preceptor is a community-based clinician who provides teaching for health professional students.

5. In the past 12 months, has your practice hosted students of **nursing** (LPN/RN), **medicine** (MD/DO), **NP** students, or **PA** students for precepted clinical experiences?

☐ Yes
☐ No

Force required answer
If no, continue
If yes, skip to question 10

6. Has your practice hosted other types of students within the past 12 months?

☐ Yes (please specify): _____
☐ No
☐ Don't know

7. Has your practice hosted students of **nursing** (LPN/RN), **medicine** (MD/DO), **NP** students, or **PA** students for precepted clinical experiences in the past 5 years (but not in the past 12 months)?

☐ Yes
☐ No
☐ Don't know

8. Do health care professionals in your practice want to precept?

☐ Yes ☐ No ☐ Don't know

9. Why don't health care professionals in your practice currently precept? (*check all that apply*)

☐ Nobody has asked
☐ Not enough time
☐ Not enough space
☐ Practice is too busy
☐ Would like sufficient financial compensation
☐ Would like non-financial compensation (e.g. academic appointment, free CME, free clinical resources)
☐ Other (specify): _____

End survey

Thank you for participating in this important study. The results will be used to inform educators and policymakers of the ways that we can recruit and retain sufficient preceptors.

If yes to item 5, resume here

10. Approximately how many years has your practice precepted students? (slider bar 1-20)

11. Approximately how many clinical learners has your practice hosted within the last 12 months? (slider bar 1-20)

12. Approximately how many clinical learners of each profession has your practice hosted over the last 12 months?

Nursing (LPN/RN) (slider bar 1-20)
Medicine (MD/DO) (slider bar 1-20)
Physician assistant (slider bar 1-20)
Nurse Practitioner (slider bar 1-20)

13. Think about why health care professionals in your practice choose to precept students. How important are each of the following in their decision to precept?

	Very important (1)	*Important (2)*	*Neutral (3)*	*Unimportant (4)*	*Very unimportant (5)*
Giving back to profession	o	o	o	o	o
Joy of teaching students	o	o	o	o	o
Investing in students' future	o	o	o	o	o
Serving as a role model	o	o	o	o	o
Recruiting for our region or specialty	o	o	o	o	o
Keeping knowledge current	o	o	o	o	o
Financial Compensation	o	o	o	o	o

14. Are there other reasons?
☐ Yes (please specify): _____ ☐ No

15. Is the practice or are the preceptors paid to precept?
☐ Yes (please specify by whom): _____ ☐ No

Force required answer
If yes, continue to Q16
If no, skip to Q17

16. How much does the practice or preceptor get paid for a month of roughly full time precepting. Feel free to estimate or convert shorter and longer rotations into one month equivalents (e.g. $1000 for two weeks is equivalent to $2000 for one month). If you work with multiple schools that pay differently, feel free to average/approximate (Please select only one box per profession if applicable by placing an X in it).

Nursing	☐ <$500	☐ $500-$999	☐$1000-$1999	
	☐$2000-$2999	☐$3000-$3999	☐$4000-$4999	☐≥$5000
Medicine	☐ <$500	☐ $500-$999	☐$1000-$1999	
	☐$2000-$2999	☐$3000-$3999	☐$4000-$4999	☐≥$5000
Physician Assistant	☐ <$500	☐ $500-$999	☐$1000-$1999	
	☐$2000-$2999	☐$3000-$3999	☐$4000-$4999	☐≥$5000
Nurse Practitioner	☐ <$500	☐ $500-$999	☐$1000-$1999	
	☐$2000-$2999	☐$3000-$3999	☐$4000-$4999	☐≥$5000

If no to item 15, resume here

17. If your practice were adequately compensated for lost productivity, how many more student(s) would you take each year? Consider factors such as the number of clinicians, interest in teaching, and space.

☐ None ☐ 11-15
☐ 1-5 ☐ 16-20
☐ 6-10 ☐ >20

NC AHEC | RECRUIT TRAIN RETAIN

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