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## Chapter

# Perspective Chapter: “You Can’t Be What You Can’t See” - A Longitudinal Health Sciences Mentorship Program for Rural Schools

*Kenneth P. Roberts, Jessica L. Gerdes and Kristin E. Courtney*

## Abstract

Most rural communities in Washington state are medically underserved. Without health care providers in the community to serve as role models, most rural youth do not envision themselves pursuing health care careers. Increasing the number of students from rural communities pursuing health care careers is arguably the best way to increase the number of providers returning to rural communities to practice. This chapter is a review of an ongoing longitudinal mentorship program designed to expose students in rural and underserved communities to health science careers and to help them develop the academic skills and personal traits needed for success. The program builds across all years of middle and high school and is designed to equip high school graduates for immediate employment or for post-secondary education in the health sciences. The program also has positive effects on the mentors and educates them on the challenges faced by rural and underserved communities. While the impact of the program is being qualitatively assessed, the outcomes on career choices will not be fully known until students graduate and ultimately enter the workforce. There is a high level of confidence that the program will increase the number of ‘home grown’ health care professionals to serve these communities.

**Keywords:** rural, underserved, mentor, school, health care

## 1. Introduction

The health disparities that exist in rural communities are well documented [1]. About 20% of the country’s population lives in a rural area while only 9% of the nation’s physicians practice in rural communities [2]. Lacking in population and economic opportunities, it is difficult for rural communities to attract and support healthcare professionals. As a result, under resourced rural communities have poorer health outcomes [3]. In addition, schools in distressed or at-risk rural communities

have below average educational outcomes [1]. Consequently, rural students often lack the academic preparation needed to be successful in health sciences or other STEM fields. Most students that gain acceptance to health professional education programs come from more urban and/or affluent communities and tend to practice in these same communities upon completion of their training [4, 5]. As a result, rural communities continue lack healthcare providers and many in the healthcare workforce are unaware of the healthcare access challenges faced by residents of rural communities.

Washington State University (WSU), a Land-Grant university, has a tradition of service to Washington residents, particularly those in rural communities and underserved areas. The WSU Elson S. Floyd College of Medicine, founded by an act of the state legislature in 2015, is Washington's community-based medical school. It was founded to address the physician shortage in the state with emphasis on the shortage in rural and urban underserved communities.

Most counties in Washington are medically underserved with less than the national average number of physicians in 30 of 39 counties [5]. King County, which includes the Seattle metro area, has over 40% of the state's physicians but only 29% of the state's population. The number of physicians per population in King County is nearly 5 times greater than that in Stevens County, a rural county in eastern Washington where this longitudinal mentorship work began (**Figure 1**). These statistics point to the need to invest in developing a healthcare workforce in rural counties



**Figure 1.** Map of counties in Washington State. Stevens County (green) is situated northwest of the city of Spokane (red circle) in Spokane County. Inset lower left is shows the location of Washington State (red) in the northwest corner of the contiguous United States. (Figure adapted from public domain map available at Picryl.com).

which the Elson S. Floyd College of Medicine believes can happen through a “home grown” approach. The College is focused on equipping students to become health care leaders of the future, ready to serve in communities where they are needed most; like in Stevens County.

## **2. Inception**

This idea of fostering “home grown” health care professionals first began with one-touch outreach engagements in 2017, the year the College of Medicine started. The purpose was to offer fun and engaging hands-on learning opportunities for middle and high school youth to learn about health care and in turn, health care careers. Activities such as suturing lessons, anatomy experiences with human organs from the WSU anatomy labs, ultrasound imaging demonstrations, making bath bombs with pharmacy faculty to understand compounding, stethoscopes to listen to hearts and lungs, and a dress up station with scrubs, lab coats, booties, and gloves were brought to the schools. These activities were engaging and exposed youth to a variety of health care careers and concepts.

Over three years, from 2017 through 2019, over 20,000 students, from schools in 20 counties across Washington state, were engaged. Although these one-touch engagements were well received by the schools and youth, it became apparent that follow up in the form of consistent connections and relationship development was necessary to impact the trajectory of a youth’s career pathway. A more systematic approach was determined to be needed to grow future health care professionals in rural communities.

## **3. The power of mentorship**

Young people who have a mentor are 55% less likely to skip school, 78% more likely to volunteer, and 130% more likely to hold a leadership position [6]. And they are 90% more likely to become a mentor themselves [6]. In a survey of 1418 teachers across the county, over 80% said mentoring improved academic performance and increased confidence to direct their own learning [7]. A program of one-on-one mentorship of high school students by medical students resulted in increased interest in health sciences that persisted into college [8]. A hospital-based mentorship program in Atlanta, GA that exposed high school students to several healthcare careers had a 100% subsequent enrollment in college with 87% of the students pursuing a health science degree, demonstrating the importance of experiences in the healthcare setting as part of the mentoring experience [9]. Student mentees also value mentors with whom they can identify based on similar life experiences and shared values [10]. These studies leave little doubt that mentorship has a profound effect on student academic and social development.

Mentorship also has a positive effect on those who engage as mentors and in fact, many students choose to become mentors so that they can make an impact [11]. Medical students in a peer mentoring program were four times as likely to report that mentorship was valuable than those who were not mentors, and over 80% would choose to mentor again [12, 13]. The authors’ experience with mentors drawn from various health science professional programs are consistent with these reported observations.

#### **4. A case study**

In the Fall of 2017, one of the authors (JLG) learned of a young woman in Stevens County that had intended to become a pharmacist. She had secured enough funding to start college, but life circumstance led to her leaving school and taking a job in a retail store. Representatives of the College of Pharmacy reached out but were unsuccessful in recruiting her back to college. It is likely that with mentorship and continual guidance that this young woman may have been successful on a pharmacy pathway.

There are countless similar stories in rural communities in Stevens County, across Washington State and the nation. Many youth are unaware of the opportunities in healthcare and those who are aware do not pursue this goal because of limited exposure and mentorship. After getting to better know the Stevens County community, barriers experienced by students and community members began to be identified. It was recognized that mentoring was a critical element needed in engaging and connecting middle school students in early career exploration and awareness. It is through these youth stories and community need, that the Stevens County Mentorship Program was developed.

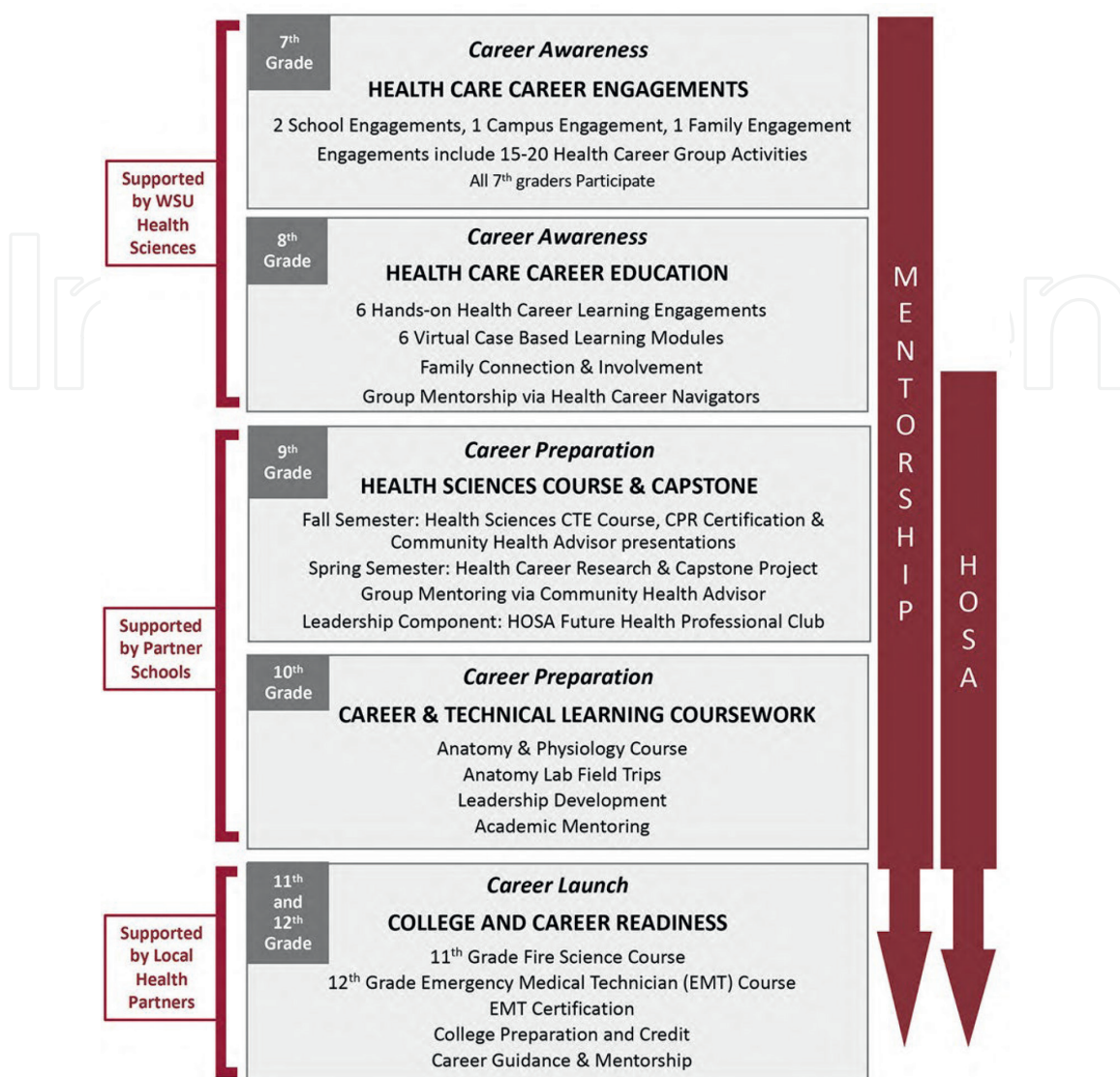
#### **5. Why Stevens County**

Stevens County is just north of Spokane with several rural communities within an hour's drive of the WSU Health Science campus in Spokane (**Figure 1**). The proximity, combined with demographics, made it an ideal location to launch a longitudinal mentoring program. Four towns were chosen that shared many features of rural communities in need of additional support. Two of the towns were rated as 'at risk' and two as 'distressed' according to criteria in the Distressed Communities Index [14]. All four towns were at or below the national poverty rate, had median household incomes between \$12,000 and \$31,000 below the national median (\$65,000), and between 40% and 60% of residents had no education beyond high school [14].

#### **6. The Stevens County Mentoring Program**

The Stevens County Mentoring Program aims to cultivate career awareness, provide career connected learning opportunities, and create pathways for young people in rural underserved communities through continuous and intentional mentorship. To this end, a program was envisioned that had touch points with the students in each year of middle and high school. The year-to-year programs were not predetermined but were developed from ideas put forward by the outreach and mentorship team. The first year's programming was a structured version of the outreach activity described above. This led to ideas that were developed and implemented in the 8th grade program, and so on. The program now consists of programming in grades 7th through 10th, with an 11th grade component launching in the fall of 2023, and a 12th grade component under development. See **Figure 2** for a schematic representation of the entire program.

The program has several educational components described in the following sections. But the relational aspects of the program are equally important. The program builds several layers of relationships.



**Figure 2.** Organization of the Stevens County Mentorship Program as described in the text. (Figure created by authors.)

- 1. Connecting with the middle and high school students.** Students were engaged in early career connected learning opportunities that match their interest and skills. This helps youth develop positive mindsets and habits that will help them get the most out of their education in high school and beyond.
- 2. Connecting with family members.** The program is built on continuous and intentional mentorship to help students and their families understand community needs and health care career options, while supporting each child's educational journey. The program is committed to supporting their chosen career pathway with the skills and knowledge they need to reach their goals.
- 3. Connecting with community members.** Mentors were recruited from the community to model healthcare careers and to interact with the students as they progress through the curriculum of the program.
- 4. Connecting with health science professional students on the WSU Health Science campus.** Students in healthcare professional programs were recruited

and trained to work as mentors in the various aspects of the Stevens County Mentorship Program. In doing so, these health science students, many of whom are from rural and underserved communities, model the health science education pathway for the middle and high school students in Stevens County.

The vision of the program is to expand career opportunities for students from rural communities and underserved areas through these different types of mentor relationships. The aim is to bring the idea of medicine and health careers, as well as inspiration, hope, and vision to achieve these goals, to the minds of young people.

## **7. Components of program**

### **7.1 7th grade program**

The 7th grade program consists of four engagements across the school year: two engagements with students at the school, one family night held at each school, and one field trip to the WSU Health Sciences in Spokane, WA. The in-school engagements are held in the fall and winter, the family night in the early spring and the field trip to the WSU campus in the later spring.

#### *7.1.1 In school engagements*

Engagements at the schools are typically held in the gymnasium or other large open space at the school. The program is conducted during the school day, typically from 9 to 11, so that transportation does not become a barrier for student participation. Students are typically randomized into groups, the size of which is based on the number of rotations, so that students learn to work together as a team, as would be expected on a healthcare team. Students assembled into groups in this way typically exhibit better attention and behavior. The schools have endorsed this method of grouping students.

The presenters are recruited from the health science graduate, undergraduate, and professional programs on the WSU Health Science campus in Spokane. The presenting health science programs create age-appropriate, hands-on activities that illustrate health care careers. A summary of activities presented by the various health science programs is shown in **Table 1**. Within the groups of students, the soft skill of teamwork and leadership are prioritized. The health science student presenters have the opportunity to share their backgrounds and how they decided on their chosen field. Youth are incentivized with small prizes to share what they liked about the activities, and to ask questions about health science careers.

The in-school engagement ends with a game that involves each team writing down as many health care professions as they can think of, in limited amount of time. The group with the most professions listed wins a prize. The game is followed by a brief question and answer session with all students together.

#### *7.1.2 Family nights*

The family night brings together 7th graders and their parents, and in some cases extended families. If the family has students in other years of the program, they are encouraged to participate as well. The family night engagements are held from 5:30 to

College of Medicine	College of Nursing	College of Pharmacy & Pharmaceutical Sciences
Heart anatomy	Cardiopulmonary Resuscitation (CPR)	Compounding bath bombs
Heart circulation ball game	Stop the bleed	Compounding lip balm
Heart anatomy plinko game	Stethoscopes and blood pressure	Genetics testing (how it works)
Vaping station	Forensics swab	<b>Nutrition &amp; Exercise Physiology (NEP)</b>
How to break a bad habit	Birthing mother and infant care	Diabetes management through nutrition and exercise
Dress Up	<b>Speech &amp; Hearing Science (SHS)</b>	<b>Occupational Therapy</b>
Saw Bones Kit	Dysphasia (Thick It)	Adaptive task game
Germ Station	Silent board game	<b>Dental Hygiene</b>
Phlebotomy		Tooth scraping

Table created by authors.

**Table 1.**

Activity topics used in 7th grade program. An active learning station is designed for each topic area. All the activities below have been used in the 7th grade program.

7 pm at the school and include informal light dinner (typically pizza and salad). The team conducting this event includes one of the College of Medicine program leaders, two to four medical or other health science students, and one or two faculty members that are responsible for 8th grade modules.

In this session, the mission of College of Medicine and the need for healthcare leaders in rural and underserved regions of the state is shared as being the basis for the mentorship program. An overview of the whole Stevens County Mentorship program is given, with emphasis on the 8th grade programming that their students may opt to join the following year. These sessions provide a forum for discussion of all aspects of the program. After dinner, parents are invited to experience rotations (typically 3) that illustrate how the 8th grade program works. The parents and youth work together at these stations and have another opportunity to ask questions about the program.

### 7.1.3 WSU Health Science Campus Fieldtrip

The campus visit field trip incorporates the same basic flow as the two sessions held at the host schools with one very important difference—it takes place on the WSU campus. Most of the students involved in the program have never been on a college campus, much less taken part in activities that utilize the laboratories and other teaching facilities of a research-one institution like WSU. Giving these youth the opportunity to envision themselves in this higher education setting is extremely important to their visioning process, as they consider what the future could hold for them.

The visit begins with students gathered for a session with the campus Student Affairs staff to discuss health science careers and information about admissions. The students are then divided into groups that rotate through the various labs set up with activities for them. The schools bring chaperones to accompany the youth, per



standard procedures for the school districts. Group leaders, who are WSU faculty, staff, or students, are provided to accompany the groups and guide them between locations. The day concludes with lunch and a question-and-answer session before students board their busses back to their schools.

The 7th grade program is now delivered to students from six middle schools: four in Stevens County, one in Spokane county, and one in Benewah County, Idaho. These schools opt all their 7th graders into participation in the outreach events. The activities of this year are meant to stimulate excitement about the health sciences and to generate interest in the 8th grade mentorship program. In most of the schools, 8th grade families must opt their student into the 8th grade program. The 7th grade programming plays an important role in generating enrollment in the 8th grade program.

## **7.2 8th grade program**

The 8th Grade Mentorship program is the most intensive component of the Stevens County program. It consists of 6 engagements per year. Each engagement includes Case-Based Learning (CBL) with accompanying active learning exercises to reinforce the content and to illustrate the types of activities undertaken by healthcare providers delivering care in the clinical settings depicted in the case. Faculty from the WSU Colleges of Medicine and Nursing developed cases on the following topics: (1) Diabetes, (2) Zoonotic Disease, (3) COVID-19, (4) Dental, (5) Healthy Relationships, and (6) Marijuana.

Each of the cases has two parts, with one part being delivered per session, and schools choose 3 or 4 cases for their students. If they choose 4 cases, then one part of two of the cases are presented, for a total of 6 sessions. The faculty leads for these curriculum modules and rotations, accompany the mentors to these engagements for setup and oversight of content delivery until the team has fully embedded the lessons. Each engagement starts with a CBL session led by the mentors, followed by rotations through 3 or 4 hands on rotations.

The mentors are health science students (medical, nursing, speech & hearing, etc.) and they choose the school where they want to work. To provide continuity and build relationships, the mentors stay with the students at that school through the whole year. School staff, usually the principal and the site coordinator, divide the participating 8th grade students into groups of 6 to 8 students. Students and mentors wear nametags to encourage conversation and discussions by name. The school provides appropriate space for the sessions and each engagement of mentors with students is supervised throughout by teachers and the site coordinator.

### *7.2.1 Focus on soft skills*

With mentor guidance, the 8th grade students set up a code of conduct at the beginning of the first mentoring session. The students are then expected to behave according to their code of conduct. The mentoring sessions are also intended to develop leadership skills. Each group of 8th grade students is asked to define 5 important leadership qualities. These qualities are recorded and serve as a standard for engagement in the CBL and hands-on learning sessions. The students are given punch cards and when mentors observe students actively engaged in leadership behavior, they punch their card. Teachers can also punch cards when students exhibit these behaviors in class. Once the punch card is filled, the student will receive a prize and be recognized for their achievement by the rest of the team.

### 7.2.2 Mentor recruitment and training

Volunteer mentors for the 8th grade program are drawn from students in the health science degree programs on the WSU Health Science campus. Faculty and staff are also welcome to be mentors. All health science student mentors undergo background checks. A mentor database is used to track mentor applications, volunteer hours, programs, schools, parent, and student information and all the liability forms to deliver these programs.

The volunteer mentors attend a required training program that includes coverage of program objectives, techniques for leading CBL sessions, learning to deliver the hands-on activities, how to set-up for mentoring engagements, transportation protocols, and student safety. Instruction on techniques for youth mentorship is also provided. Each mentor is given a copy of the mentor handbook, and each must sign the mentor contract covering their obligations to fully complete the mentorship series.

Teachers and/or administrators from the school districts are asked to attend the first two hours of the mentor training session to connect with the mentors and share about their students and their community. These school representatives help to identify any challenges particular to their school and advise the team on best practices for working with them. A Native American cultural training session is also provided as some of the schools enroll Native American students. These sessions have been led by the Office of Native American Health Sciences on the WSU Health Sciences campus.

### 7.3 9th grade program

The 9th grade component of the Stevens County mentoring program is a year-long Career & Technical Education (CTE) course, titled *Foundations of Health Sciences and Careers*. The school district provides CTE certification training to their teacher who will lead the course. This course meets the State of Washington requirement for the 9th grade health course while it also provides curriculum that introduces students to health professions related to the material being covered. A very practical component of the course is embedded training, provided by a regional health system, that results in CPR/AED/First Aid certification of students in the course.

A key component of the course is the involvement of mentors, recruited from healthcare-related organizations in the community or in nearby communities. These mentors present to the class on their areas of work, providing examples of careers the students might pursue in Stevens County. The mentors also provide support and guidance for the 9th grade students as they undertake a capstone project in the final 6 weeks of the course. The capstone project is an opportunity for the students to research a health-related issue or social determinant of health in their local community. The students propose a solution to the issue that, if implemented, might help solve the problem. The students then prepare a final report and a poster presentation to be unveiled at an end of year Capstone Celebration event.

The curriculum for the 9th grade course was written by a physician who taught school for several years prior to attending medical school and thus had experience creating curriculum. A database of curriculum resources was created and made available to the CTE teachers in each school. The course framework, a document required by the Office of the Superintendent of Public Instruction (OSPI), was created and the course approved for CTE credit. Once approved, the school district then receives additional funding from the State of Washington for delivery of the course.

This mechanism makes the 9th grade component of the Stevens County Mentorship program completely sustainable.

Community mentors, referred to as Community Health Advisors, are key to achieving the goal of promoting health science careers. Mentors are given training for their role and a comprehensive Mentor Handbook was prepared to serve as a resource for the mentors to guide their work with students. Community mentors included a physician, several nurses, a physical therapist, two clinical lab personnel, and administrators. Building relationships with clinical providers in the county is essential to recruiting health care professionals in mentor roles. These providers share our goal of developing healthcare professionals from the local community.

In addition to the mentors, faculty from the College of Medicine other health science programs, also present to the 9th grade class. The presentations are designed to reinforce the health science career content of the course. Topics include orthopedic surgery, general surgery, addiction and mental health, dental hygiene, home health-care, and a suturing workshop.

### *7.3.1 The leadership component*

CTE courses are required to offer a leadership component in association with the course. In the Stevens County schools, HOSA (Health Occupations Students of America) clubs were created to fulfill this requirement. A HOSA Start Up Guide was created as a resource for the clubs. Medical students have engaged in developing club activities and other support components for the new HOSA clubs. To engage the developing leadership skills of the HOSA club members, the College of Medicine Outreach program invites the HOSA club members in the Stevens County mentorship program to outreach and mentoring events on the WSU Health Science campus, as well as to the 7th and 8th grade events within their own school.

One of the schools is implementing a 4-H club focused on health science projects. 4-H is already an active component of the school's extra-curricular offerings, and the school has a strong partnership with the WSU Extension office that provides support for this club.

### *7.3.2 Capstone event*

At the end of the school year there is a Capstone Celebration. This is a dinner event bringing together the students and their family members, teachers and school administrators, and key community leaders, to celebrate the accomplishments of the students. The Capstone Celebration program features students' accomplishments and a poster session where all the projects are showcased. This is a moment of immense positive feedback for these youth. The event was designed to inspire lasting motivation to excel in school and future academic training.

## **7.4 10th grade program**

The 10th grade component of the Stevens County mentoring program is a year-long Anatomy & Physiology course (A&P) taught by the schools' science teacher. The curriculum for the 10th grade course was written by a Professor of Anatomy in the College of Medicine at WSU. Drawing on experience with medical educations, the course has a focus on medically relevant anatomy and physiology. The course includes

clinical correlations for the various anatomical systems and reference to health professional careers that rely on anatomical knowledge for their work. The curriculum also includes segments on medical imaging modalities such as X-rays, 3-D scans such as MRI and CT, and ultrasound imaging. Custom course resources were created and made available to the teachers in the schools.

Like the 9th grade course, the Anatomy & Physiology course is certified for CTE credit. The HOSA club created for the 9th grade CTE course also provides the leadership component for the 10th grade course. Given that this course was more medically focused than most high school A&P courses, a teacher training was developed for the course.

Like all other components of the Stevens County Program, this course also incorporates mentorship. The mentors are recruited from the WSU College of Medicine first-year medical student class, during their Gross Anatomy & Embryology course. Mentors are selected based on previous experience working with high school students and availability for the scheduled sessions. Mentors are invited to the teacher training and given a mentor handbook created specifically for the 10th grade A&P course. Two or three mentors are assigned to each school. They meet monthly with the students in the course, either in person or by zoom, and provide help with the course material, clinical correlations for the systems under study, and relate their own experiences using anatomy in their training. The entire mentor encounter is supervised by the classroom teacher.

In addition to the mentoring that occurs in the A&P classroom at the school, the 10th grade students are invited to the WSU Spokane Health Science campus 4 times during the year for experiences in the College of Medicine anatomy labs. These sessions are led by the mentors and are designed to reinforce the material being learned in the course. The sessions are overseen by the teacher and other school staff that accompany the students on the visits, and by anatomy faculty from the College of Medicine. In addition to anatomy, these sessions on campus typically include a session with a health care professional that uses anatomy or anatomical imaging in their practice, such as a radiologist, a radiology tech, a physical therapist, a surgeon, or other physician (cardiologist, pulmonologist, etc.).

## **7.5 11th–12th grade career readiness program**

The programming being created for 11th and 12th grade students is designed to further the goal of healthcare career awareness and preparation and to also leave students with real skills and qualification for employment upon graduation for High School. This programming in 11th and 12th grades will equip students with emergency medical support skills and certification as an Emergency Medical Technician (EMT). This will be accomplished with an elective Fire Science course in 11th grade and an EMT training course in 12th grade.

### *7.5.1 Fire Science course*

A Fire Sciences course is being created for launch in the fall of 2023 for 11th grade students. Though Fire Sciences is not a healthcare specialty, it contains first aid and emergency medical care components. The Fire Science course is also a relevant precursor to Emergency Medical Technician (EMT) training. The Fire Science course will be CTE certified and taught in collaboration with Stevens County Fire District 1. The course may qualify for college credit.

A secondary, but important, benefit of this course will be the increased numbers of individuals trained in Fire Science who can then join the staff of the Stevens County Fire District, either as volunteers or as paid employees. The Fire District is chronically short of trained staff to respond to emergencies and this program may contribute to decreased emergency response times in the county.

#### *7.5.2 Emergency Medical Technician (EMT) Course*

The EMT course, slated for delivery in 2024, will be developed in collaboration with the Stevens County Fire District. This course will prepare students for employment as soon as they turn 18 years old. EMTs are in short supply in most rural counties, Stevens County being no exception, and thus employment possibilities are high. EMT certification is also a gateway to further education in the health sciences. Many medical students have gone through this training and practiced as EMTs prior to being accepted to medical school.

### **8. Important considerations working with schools and minor students**

The in-school engagements and the field trips to the WSU Health Science campus occur in all years of the program. WSU follows an internal policy for all activities involving minor students especially those events which take place on WSU campuses. This policy includes required background checks for all individuals working with minors, specified training for individuals working with minor students, and policies designed to minimize one-on-one interactions of WSU faculty, staff, or students with minor students. The policy also specifies the number of chaperones required for a given number of minor students.

The in-school engagements and the field trips to the WSU Health Science campus are considered school events. Thus, the events are also supervised by school staff and the schools follow their procedures regarding oversight such as determining appropriate number of chaperones that accompany the students through the engagements.

WSU has agreements in place with each school to protect the schools and WSU from liabilities that arise from these engagements. These agreements also address FERPA regulations that come into play if any information on students is exchanged, including information that can identify students. An Interagency contract is signed with each school to support a school administrator or staff member to coordinate engagements across all years of the program. This individual is referred to as the Site Director for the program. The Site Director takes care of all logistical needs and ensures that there are school officials present to monitor all interactions of WSU personnel with the students.

### **9. Outcomes**

#### **9.1 Long term outcomes**

The central goal of our mentorship programming is to increase the number of healthcare professionals working in rural and underserved communities. This central goal is consistent with the overall goal of the College of Medicine at Washington State University which is to improve health care access across the state. Given that the

oldest students in our program are high school sophomores, assessment of this goal for professions that require a college degree cannot be done until 2029, until 2031 for professions that require a post graduate degree, and until 2036 for physicians. This project is pursuing truly long-term outcomes.

## 9.2 Near term outcomes

There are several near-term outcomes that are ancillary to the long-term goal that will be measured in the coming years. These outcomes are important and beneficial even for students that do not pursue careers in health sciences. Measuring these outcomes will require collaboration with the school districts this program serves and with the K-12 educational infrastructure in Washington state. These outcomes include:

1. Improved school performance (attendance, grades, etc.).
2. Increase in high school graduation rates.
3. Increase in the number of students pursuing health science related jobs directly out of high school (emergency medical technician, certified nursing assistant, medical assistant, etc.).
4. Increase in application and admission to college, and college graduation rates.
5. Increase in students pursuing post-secondary health science related degrees or certificates.

All the outcomes above can be measured with data collected by the schools and by OSPI. Improved performance can be measured against historical trends within each school. Since some elements of the mentoring program are elective, trends in student performance can potentially be compared internally between participating and nonparticipating students. Student performance can also be compared between schools with similar student populations, with and without this mentorship programming.

## 9.3 Other benefits of the Mentorship Program

The Stevens County Mentorship Program is now a formalized program that includes structured outreach programming for 7th grade students and a longitudinal, multi-touch mentorship curriculum for 8th grade students. These programs will be made available to any college of health science professional program with the volunteer base necessary to implement them. Two CTE courses have been developed, a 9th grade *Foundations of Health Sciences and Careers* course and a 10th grade *Anatomy & Physiology* course. These are now approved by OSPI and can be sustainably funded through the CTE funding mechanism and can be adopted by any school in Washington state.

A very important benefit of this program is the development of a cohort of health science professional students that are engaged in mentorship of youth in rural communities. Currently over 100 post-secondary students from the WSU Health Sciences campus are involved including medical, pharmacy, nursing, speech & hearing, and

nutrition & exercise students. The experience of mentoring in a rural, underserved community will undoubtedly raise awareness among these mentors of the challenges faced by residents and students of these communities. The hope is that some of them choose career paths that allow them to contribute to better health outcomes in these communities, whether through practicing there or being an advocate for healthcare delivery for these communities. Finally, the cohort of community mentors developed by this program become the visible examples of healthcare careers to middle and high school students in these communities.

## **10. Conclusions**

This review has summarized the development of a program of longitudinal mentorship and educational programming that will expose students in rural and underserved communities to careers in the health sciences and will help develop both the academic and soft skills needed for success. It will soon be possible to measure the key outcomes for the program and there is a high level of confidence that they will be positive. The program is readily exported to other communities and the academic components in 9th and 10th grade are sustainably funded through the CTE support mechanism. The program also promises to raise awareness of the needs and challenges faced by rural and underserved communities in the minds of those health science students participating as mentors in the program. Based on the reported success of mentoring programs, it is very likely that this program will increase the number of 'home grown' health care professionals because students in these communities will in fact be able 'to see what they can be'.

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### **Author details**

Kenneth P. Roberts\*, Jessica L. Gerdes and Kristin E. Courtney  
Department of Translational Medicine and Physiology, Elson S. Floyd College of  
Medicine, Washington State University, Spokane, WA, USA

\*Address all correspondence to: [kenroberts@wsu.edu](mailto:kenroberts@wsu.edu)

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