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Opening Doorways: Connecting Petersburg Students to the World of Health Science Professions

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OPENING DOORWAYS: CONNECTING PETERSBURG STUDENTS TO THE WORLD OF HEALTH SCIENCE PROFESSIONS

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Project Sponsor: Keith Baker, Assistant Dean for Admissions, VCU School of Medicine

PROJECT ABSTRACT

This project creates a strategy to build a pipeline that begins in elementary school and is reinforced through middle and high school. This early exposure and understanding of health career opportunities is needed. Too many communities in Virginia experience critical health care inequities in services and information. To address those inequities, we need to open doorways to investigate health careers. By inspiring students from these communities to enter medical and health sciences professions, there is better representation and services to these underrepresented communities. VCU not only can provide exposure to various health careers, experiential learning and mentoring on how to navigate through academia into a chosen field but also strength community engaged.

RACIAL EQUITY

There is well established evidence that disparities in health outcomes by race and ethnicity exist and persist. Access to healthcare, including healthcare facilities and providers are among the chief reasons contributing to disparities. Further, research supports diversity among clinical providers as essential to helping close the gap. Black physicians are disproportionately underrepresented in the medical field. Whereas Black Americans comprise 13% of the population, they only represent 5% of physicians. This is not by accident - public policies and physician lobbyists historically took steps that resulted in an exclusive field that is largely designed to reduce the racial and geographical diversity within the profession. The Flexner Report which is credited with standardizing and elevating the medical profession, also included recommendations to exclude Black physicians. It is estimated that there are 30,000 fewer Black doctors (1). A 2021 study found that Black, Hispanic, and Native American populations were underrepresented in 10 health professions: advanced practice registered nurses, dentists, occupational therapists, pharmacists, physical therapists, physician assistants, physicians, registered nurses, respiratory therapists, and speech-language pathologists (2).

Racial and ethnic minorities tend to receive a lower quality of healthcare even when factors such as patients' insurance status and income are accounted for (3). However, when healthcare teams are more diverse, patients receive better care (4, 5). One strategy to address the lack of diversity among physicians and more broadly, the health professions, is to develop pipeline programs designed to attract and increase interest among historically underrepresented communities. Pipeline programs have demonstrated success in increasing academic performance and increasing the likelihood of enrolling in a health professions school among underrepresented minority students (6).

This project aims to add to the momentum and complement of pipeline programs that VCU currently has - including the VCU pipeline program designed for undergraduates to medical school, the Summer Academic Enrichment Program, and the School of Nursing Diversity Program. Whereas VCU's existing programs focus on high school and college students, this project will focus on earlier educational opportunities to provide exposure and opportunity to connect with health sciences professionals before high school.

This proposed program relies on the premise that providing exposure to health professions and incorporating experiential learning in the early stages of student education will likely encourage greater numbers of students to consider future careers and opportunities in the health sciences, which will lead to greater health outcomes, higher quality education opportunities, and innovative workforce opportunities. There is also an incredible diversity of career opportunities within health professions, many of which are not emphasized in everyday conversations about healthcare careers, which often focus on medicine or nursing. This project aims to change the conversation by bringing intentionality to the presentation of the variety of careers and pathways that students have available to them within health professions.

QUEST 2025

Theme III: Urban and Regional Transformation – Mobilize VCU's human capital and economic resources, collaborating with the community to address social and health inequities.

Goal III.1 Advance innovations for high-quality education and workforce development

Key Strategy: Prepare students to be career-ready for innovative and emerging industry sectors

Opening Doorways is a strategy to build exposure to and interest in health science professions at an early age which aligns effectively with VCU's Theme III of Quest 2025. Pipeline programs at the undergraduate level are effective in recruiting and retaining underrepresented minority students to be successful in the health sciences but the number of underrepresented minority students applying to and entering these programs is limited. Why? It may be that school systems at the elementary and middle school levels in these areas are not equipped with financial or human resources to provide the level of readiness skills and support needed to drive students toward career opportunities in the health sciences (7). The desire is in the schools but the resources are not. That is where VCU can help.

PROJECT GOALS

1. Review named stakeholders' needs in collaboration with those stakeholders: current VCU undergraduate pipeline programs and Petersburg City School system's educational opportunities for career development in health sciences.
2. Create and steward connections between VCU Health Science Diversity and Petersburg School System to develop experiential learning opportunities for students.
3. Create strategies and deliverables to make the working relationship between VCU Health System and Petersburg School System sustainable; and a proof of concept for replication of this project in other Virginia school systems to increase reach to more underrepresented student populations.

PROJECT STRATEGIES

To complete this project, Team Network first looked at the current pipeline programs at VCU. These current programs work well once the students get to VCU, but the pool of students coming into the programs is not very diverse. Which students are finding their way into these pipeline programs? A common shared experience of these students is a lifelong exposure to healthcare professions either via family members or external role models, and the priority of personal health care is modeled by their immediate communities as well. Through review of literature, Team

Network determined that the best strategy to reach a more diverse pool of students is to provide exposure to health careers earlier in a students' learning (6,7).

With this understanding in hand, Team Network's goal is to facilitate connections between VCU and elementary and middle schools in the Petersburg city school system with a high underrepresented minority student population, to facilitate experiences that will generate interest in the health sciences at a young age. As a pilot program, Team Network used VCU School of Education's long-standing working relationship with Petersburg City School System (PCPS), and connected them with VCU's Division for Health Sciences Diversity whose mission is to diversify the health care workforce through pipeline programs and initiatives. Together, they can combine the resources and programs available at the Division for Health Sciences with the career development initiative in health sciences at PCPS to lead to richer engagement for students.

Virginia Department of Education data shows 88.8% of students identify as Black, 6.9% as Hispanic, 2.6% as White, 1% as multiple races, and .5% as Asian. PCPS implemented a new Health and Medical Science Exploratory (HMSE) course that was offered for the first time in 2020 to middle school students. In this first year of teaching the curriculum, teachers and administrators noted areas where hands-on resources and expertise from health care professionals would greatly enhance the experience for the students. Team Network hosted multiple group meetings between VCU and PCPS to discuss needs in the student curriculum and resources the Division for Health Sciences Diversity could offer in support. In addition, we turned to our own Team Network members in the medical and health sciences to consider experiential learning opportunities already occurring at VCU that would boost the effectiveness of the PCPS curriculum.

ACTION STEPS

- Reach out to elementary and middle school systems in the region that may be interested in partnering with VCU's Division for Health Sciences Diversity and discuss implementation of the Health and Medical Science's exploratory course
- Facilitate connections and conversations between school systems and the Division for Health Sciences Diversity, multiple meetings to determine needs of both partners, understand resources, and clarify goals
- Obtain and maintain records of VCU health care professionals, residents, and students willing to volunteer in elementary and middle school health care curriculum courses
- Facilitate the connection between PCPS administration and a VCU faculty member (cardiologist Dr. Sangeeta Shah) who has been developing a novel blood pressure experiential learning program, "Teach BP", specifically for 4th grade students. Provide school and community metrics for use as preliminary data in grant applications to fund the program.
- Work with the school system to select dates and schedule volunteers.
- Devise deliverables to enhance student learning and promote the exploratory course
    - Possible options:
        - Health and Medical Science Card game, concept and design (HealthUP)
        - Promotion to public about exploratory course (leave behind)
- Provide future strategy to help Division for Health Sciences Diversity to build relationships with other Virginia local and regional school systems

OUTCOMES

The anticipated outcome of the project is to create a long-lasting partnership between VCU and PCPS that will lead to greater awareness of health science career opportunities among Petersburg youth. Additionally, since it has been shown children can influence the knowledge of their caregivers [8-10] we hope this partnership will increase community awareness of health concerns in general, leading to improved health outcomes in the Petersburg community. To achieve this, we expect VCU's Division for Health Science Diversity and PCPS to continue to

work together to provide enhanced learning experiences and opportunities to the middle and high school student population. For the elementary school population, the “Teach BP” experiential learning program about blood pressure will be piloted at one of the four Petersburg elementary schools. The intention is to provide the program to the other elementary schools over time. Team Network expects more collaborations to occur now that introductions have been made. This will build a relationship between VCU and Petersburg with the long-term goal of increasing diversity in health science careers and medical school at VCU. These outcomes align with the key strategy of Theme III, Goal III.1 of preparing students to be career-ready for innovative and emerging industry sectors.

SUSTAINABILITY

Key stakeholders to make the project viable include Petersburg City Public School Staff and Administration; VCU Health Science Diversity; VCU Health; VCU Schools of Medicine, Pharmacy, Nursing, Dentistry and Health Science Professions

FINANCING AND RESOURCES

The middle school program will require volunteer time commitments from VCU health professionals. The elementary school program will require volunteer time commitments from VCU faculty, and students (a high level of interest has already been indicated among students). The program will require funding for program supplies (i.e. blood pressure cuffs, student workbooks, experiment supplies). Dr. Shah is actively working to submit grant proposals to fund this program. Finally, for the project to be sustainable long-term, it must have a strong framework and commitment from stakeholders, regardless of who holds a particular title currently.

RECOMMENDATIONS

Avenues for Successful Implementation

- Continue to build and maintain a strong relationship between Petersburg school system and VCU’s Division for Health Sciences Diversity.
- Begin to establish relationships with other elementary and middle school systems in the region.

Possible Barriers

- Developing deep and trusted relationships in K-12 school systems can be challenging when there is not already a relationship in place. The PCPS pilot program has the benefit of a previous developed relationship with VCU.
- The pandemic makes it difficult to offer in-person experiences at this time.

Cost and Resources

- Funds will be needed to help with the costs of Dr. Shah’s Teach BP program. She is in the process of submitting a grant proposal.
- The volunteer list of VCU health professionals, residents, and students has been created and is growing. This will need to be further developed.

FINAL PITCH

Connecting the resources of VCU to local and regional students is an excellent way to operationalize VCU’s mission to serve the community. By exposing young people to the wide array of options for careers in health sciences, VCU increases their student base but also begins to create a more diverse pool of health care workers. Having all types of communities, cultures and races represented in health care professions is critical in order to bring the needs of all communities to the table of health.

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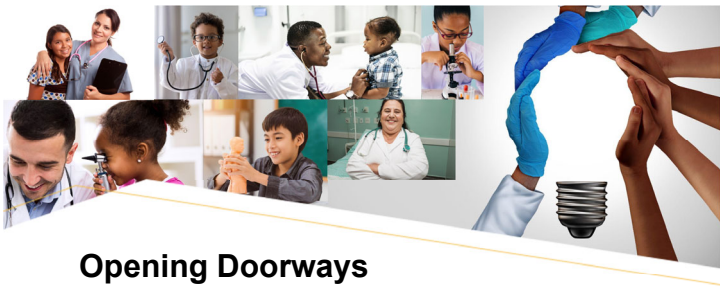

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VCU The Grace E. Harris Leadership Institute

Team Network

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Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

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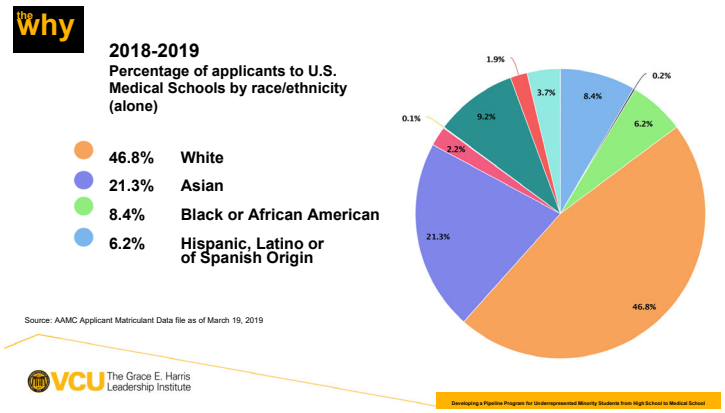

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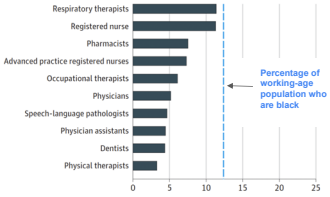
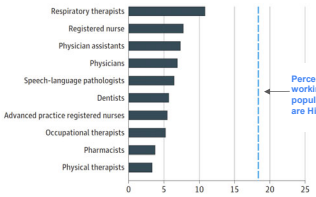
the why

2019 Black and Hispanic Individuals in the Healthcare Workforce

Black health care workers by profession only **12.1%**



Hispanic health care workers by profession only **18.2%**



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Source: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2777977

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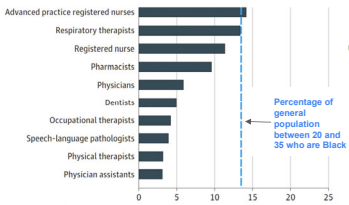
the why

2019 Black and Hispanic Health Care Profession Graduates

Black graduates by profession only **13.7%**



Hispanic graduates by profession only **21.3%**

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Source: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2777977

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the why

- Patient satisfaction and perceived outcomes **increase** when provider-patients have race, ethnic, and language concordance
- Providers from underrepresented backgrounds in medicine are **more likely to serve** underserved populations
- Diverse care teams associated with **improved clinical decision making**

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Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

at VCU

Theme III — Urban and Regional Transformation – Mobilize VCU's human capital and economic resources, collaborating with the community to address social and health inequities.

Goal III.1 — Advance innovations for high-quality education and workforce development

Key Strategy — Prepare students to be career-ready for innovative and emerging industry sectors

Quest 2025: Together We Transform
Excellence and Access AY 2019-25

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Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

at VCU

What is VCU already doing?

VCU

1) **Guaranteed admissions** program for medical school

2) **Division for Health Sciences Diversity**
Mission = diversify the healthcare workforce through pipeline programs and initiatives

3) VCU has a **multiple areas of education** in health
School of Dentistry
School of Nursing
School of Pharmacy
School of Medicine
College of Health Professions

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in VA

Source: https://www.petersburg.k12.va.us/

PETERSBURG CITY PUBLIC SCHOOLS

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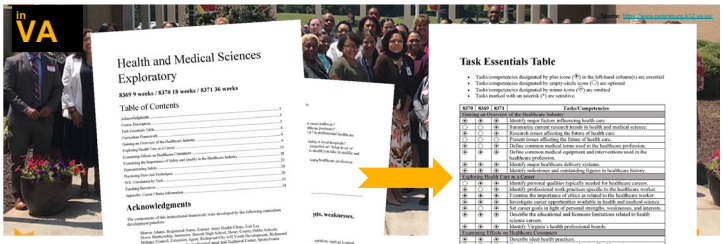
Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

in VA



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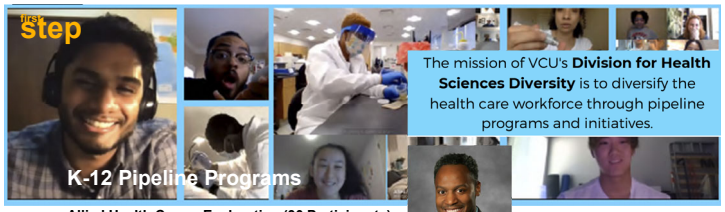
Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

first step



The mission of VCU's **Division for Health Sciences Diversity** is to diversify the health care workforce through pipeline programs and initiatives.

K-12 Pipeline Programs

- **Allied Health Career Exploration (30 Participants)**
- **Health Sciences Academy (100 Participants)**
- **Healthcare Quest (29 Participants)**
- **Virtual Field Trip (22 Participants)**

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first step

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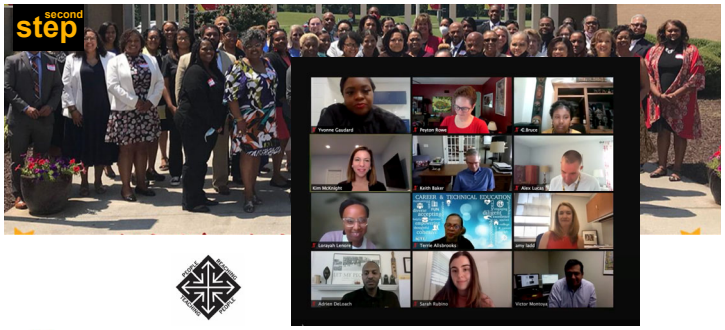
second step



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first step

Big takeaways from VCU and PCPS

- Kids don't know what they don't know
- Experiential learning makes the difference
- Plant the seed early then reinforce throughout school career

second step ideas

How can we add to the collaborations between PCPS and DHSD?

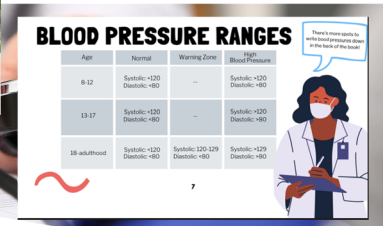
second step ideas

How can we add to the collaborations between PCPS and DHSD?

second step ideas

"TEACH BP"

Experiential learning program to teach 4th grade students about blood pressure and a leading health concern: ***Hypertension***



second step ideas

- **Health and Medical Science Card game, concept and design** (HealthUP)
- **Promotion to public about exploratory** (leave behind)
- **SAT prep support**
- **Partner with community colleges and HBCU's**

our vision

Outcomes we want

- **Long-lasting relationship** between VCU and Petersburg City Public Schools based on the groundwork we created
- **Create a template** for how VCU can build partnerships in the region with school communities that most need support
- **Exposure to and excitement about** health careers early in education and the rich experience VCU has to offer in those careers

our guide

How does VCU maintain this relationship?

1

Long-lasting relationship between VCU and Petersburg City Schools based on the groundwork we created

- Petersburg City Public School Administration
- VCU Health Science Diversity
- VCU School of Medicine, Dr. Sangeeta Shah, Cardiology faculty
- The middle school program will require volunteer time commitments from VCU health professionals.
- The elementary school program will require volunteer time commitments from VCU faculty, and students (a high level of interest has already been indicated among students).
- The program will require funding for program supplies (i.e. blood pressure cuffs, student workbooks, experiment supplies). Dr. Shah is actively working to submit grant proposals to fund this program.

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our vision

How does VCU build a relationship with other schools?

2

Create a template for how VCU can build partnerships in the region with school communities that most need support

- Key contacts in a school system - administrators, likely from VCU School of Education to help "speak the language of education"
- Is there a list of VCU School of Education faculty/staff who have these relationships?
- Continued commitment by DHSD - to "speak about VCU resources"
- Contacts in VCU Health that can recruit VCU students/faculty to offer experiential learning to schools at various levels - elementary, middle, high - volunteer hours

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our vision

How does VCU build a relationship with communities?

3

Exposure to and excitement about health careers early in education and the rich experience VCU has to offer in those careers

- VCU enters communities as a partner not "the big university" coming into save - communities know themselves best and what they need
- Regular and respectful communication - listening not telling
- Experiential learning at an early age about the huge variety of health and medical careers

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Developing a Pipeline Program for Underrepresented Minority Students from High School to Medical School

our vision

How will we know if we succeeded?

1+2+3

Long-lasting relationship

Create a template

Exposure to and excitement about health careers

- Collaborations continue to occur in Petersburg
- DHSD continues the outreach to schools to find curriculum, programs, initiatives in the health sciences occuring at not only the high school but middle and elementary school levels
- School of Education continues to actively seek opportunities for VCU to share knowledge about health professions with their partners
- Increase in number of underrepresented minorities enrolling in programs at VCU leading to health careers

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our vision

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next steps

Next steps

- Rollout "Teach BP" program
- Invest in the HealthUP game
- Invest in developing promotional strategies and materials
- Invest in SAT prep support

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our team

Lessons learned

- Leverage diversity of disciplines
- Keep the common goal as your north star
- Communicate, communicate, communicate
- Know it is hard and acknowledge it
- Flexibility, understanding and grace
- Understand complexity of schedules, particularly of those who are patient facing during a pandemic
- Work smarter not harder
- Google docs

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our team

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