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A K20 Center Research Brief

Career Exploration Through Experiential Learning - Health Sciences

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2023

Introduction

The authors consider how social and economic conditions shape students' access to educational and career opportunities. The article highlights persistent disparities in healthcare access, infant mortality, and representation in health professions. The authors argue that early exposure to healthcare careers can help young people envision themselves in fields they may not otherwise encounter. The study also highlights that women are less represented in certain higher-paying or leadership-oriented medical professions. Early programming that highlights a wide range of healthcare careers can help students see multiple pathways into the field.

Future MEDIC was created to provide hands-on, interprofessional healthcare career exploration for middle school students in an underserved community, addressing a gap in accessible, community-rooted programming that introduces youth to diverse health careers.

Methodology

Research Design:

The study is a program evaluation of the 2022-23 Future MEDIC program. It documents how the curriculum was developed, implemented, and assessed through a community-based research partnership. Data were collected using pre- and post-surveys and informal exit interviews. The authors emphasize that the program was co-designed with the Hill District Community Engagement Center (CEC) and UPrep educators to ensure alignment with community needs.

Sample:

Participants: 26 students

Grade level: 8th grade

Setting: University Preparatory School at Margaret Milliones (UPrep), a public 6-12 school in Pittsburgh's Hill District

School characteristics (as reported):

- 88% Black
- 84% low income
- 30% of students have IEPs
- 65% chronically absent



- 64% graduation rate (2021)

All eighth-grade students participated as part of their regular science class.

Intervention Descriptions:

The Future MEDIC program is a medical student-led healthcare career exploration curriculum designed to spark interest in health and science through hands-on, interactive learning.

What students did:

- Participated in five classroom sessions focused on:
 - Introduction to health professions (nursing, dentistry, medicine, pharmacy)
 - Practical healthcare skills (e.g., physical examination)
 - Real-world applications (e.g., medical equipment, practice settings)
- Engaged in hands-on activities such as:
 - Physical examination workshops
 - Group role-playing
 - Demonstrations with a SimMan patient simulator

Academic/developmental focus:

- Exposure to diverse healthcare careers
- Practical healthcare skills
- Building confidence and curiosity in health-related learning

Delivery method:

- Embedded in regular science class
- Small-group instruction across two classrooms
- Hands-on, interactive activities

Who implemented the intervention:

- Four medical students supported by two school teachers, guided by Pitt faculty mentors, and the Hill District CEC

Dosage:

Number of sessions: 5

Session length: 45 minutes - 105 minutes

Total instructional time: Approximately 8 hours

Data Analysis:

The authors analyzed pre- and post-survey responses using a Mann-Whitney U test to examine changes in students' knowledge and interest in healthcare careers. They also conducted informal classroom discussions and exit interviews to gather qualitative feedback.



For practitioners, the key point is that the study assessed changes in attitudes and interest before and after the program.

Results

Key Findings

- Students showed a significant increase in agreement with “I enjoy learning about how the body works.” ($p = .01$).
- Students showed a significant decrease in agreement with “In the future, I am interested in working in healthcare or medicine.” ($p = .03$)
- Students enjoyed the hands-on activities, field trip, and interactive demonstrations.
- Students expressed interest in learning more about topics like surgery, CPR, women’s health, and sports medicine.

Interpretation for Educators

- Hands-on, interprofessional activities can increase engagement and curiosity about health and science.
- Programs should consider how students’ broader experiences and perceptions shape their views of healthcare careers.

Application into Practice

Schools can use this model to provide meaningful, community-engaged healthcare career exploration for students.

Action Steps for Schools

1. Partner with local medical or health programs to co-develop hands-on career exploration activities.
2. Embed sessions into existing classes (e.g., science) to ensure full participation.
3. Use small-group instruction to support engagement and relationship-building.
4. Include interprofessional perspectives (nursing, pharmacy, dentistry, medicine).
5. Incorporate real-world exposure, such as field trips or simulations.
6. Collaborate with community organizations to ensure programming aligns with local needs and histories.
7. Plan for sustained programming, as short-term exposure may not shift long-term career interest.



Work Cited

Sharp, S., Mehta, M., Weger, R., Omenyi, C., Bui, T., & Rebitch, C. (2023). Future MEDIC: Medical student-led healthcare career exploration program for underserved middle school students. *Journal of Community Engagement and Scholarship*, 16(1), 1-12.