Increasing Access and Success for Underrepresented Students in STEM and the Health Sciences

2022 Illinois 60 by 25 Network Annual Conference
Equity First: Building Toward a Better Future and Revitalizing Learning

Wednesday March 2, 2022
Increasing Access and Success for Underrepresented Students in STEM and the Health Sciences

Panel Introductions

Rukiya Curvey Johnson, MBA
Executive Director, Rush Education and Career Hub
Interim Vice President, Community Health Equity
Rush University Medical Center

Natalia Gallegos, MPH
Director, Impact and Engagement
Rush Education and Career Hub
Rush University Medical Center

Jayline Perez
REACH Alumna
College Graduate
Roosevelt University B.A.
Biology ’21

Angela Freeman, MPH
Data Analyst, Rush Education and Career Hub
Moderator
Rush University Medical Center
OUR IMPERATIVE FOR ACTION
Economic and Health Disparities

Life Expectancy Gap

Aurora
81

Oak Park
82

West Garfield Park
70

Loop
82

Economic disparities in Chicago

Median household income

- White residents: $70,960
- Latinx residents: $41,188
- Black residents: $30,303

Children who live in low child-opportunity areas*

- 50% Black & Latinx
- 2% White

*Chicago Department of Public Health's Child Opportunity Index = composite scores for neighborhoods' educational, health/environmental and social/economic opportunities
THE CHALLENGE:
Inequitable Outcomes in Education, Health, and Wealth

- Large gaps in educational attainment and aspirations
- Lack of diversity among active physicians; high-skilled STEM professionals
- Disparities in education, employment and earning potential affect health and economic outcomes

Source: New Findings Confirm Predictions on Physician Shortage, AAMC
How Do We Create the Next Generation of Community Problem-Solvers; the Healthcare Workforce of the Future?
Provide innovative, hands-on STEM learning for underrepresented students from cradle to career to increase postsecondary achievement and diversity in health care and STEM professions.
OPPORTUNITY: CHICAGO’S WEST SIDE
Cross-Sector Collaboration for Education, Health, and Tech

- Google
- Groupon
- 1871
- mHub

- City Colleges of Chicago - Malcolm X
- Univ. Illinois- Chicago
- Rush University
Who We Serve

80% Black & Latinx
72% Female
70% Low-Income
65% 1st Generation College
OUR APPROACH: Supports Occupational Identity Development in STEM & Healthcare

- Access to high quality STEM learning experiences from PreK-to College
- Paid work-based learning experiences paired with professional & personal development
- Articulated career pathways aligned to labor market demand and ability to earn industry-recognized credentials
- Wraparound supports and mentoring to facilitate student and family participation and engagement
WHAT WE PROVIDE
Cradle-to Career Pipeline of STEM/Healthcare Programs

Early Childhood & Primary
- STEMagineers
- Community OutREACH
- Educator Learning Labs

Middle School
- Future Ready Learning Labs
- Vitals for STEM Success
- Future Health Professionals (HOSA Jr)

High School
- MedSTEM Explorers
- MedSTEM Pathways & Mentoring
- MedSTEM Careers *(New)

College & Beyond
- College Career Pathways
- Community Health Equity
- Rush Career Care Plan
- MedSTEM Careers (new)

Programs
- Early Exploration in STEM and Career Awareness
  Key Outcomes:
  - Interest in STEM
  - Foundational academic skills
  - Awareness of own interests
  - Early career aspirations
  - Enrichment experiences

- Career Awareness, Skill and Attitude Building
  Key Outcomes:
  - Ability to collaborate
  - Planning, goal setting
  - Career awareness, aspirations
  - Connections between school and work
  - College-going attitude

- Career Exploration, Exposure, Strengthening Skills
  Key Outcomes:
  - Employability and life skills
  - College preparatory
  - Self-efficacy
  - Occupational identity

- Career Pathway Training and Development
  Key Outcomes:
  - Technical training
  - Workplace experiences
  - Social capital
  - College persistence and graduation
  - Employment in healthcare or STEM

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- Interest in STEM
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- Employment in healthcare or STEM
MedSTEM Explorers
• Intro to Community Health
• Healthcare Fundamentals
• Writing
• Career Exploration
• Community Service
• Industry-credential
• 6 weeks – 120 hours

MedSTEM Pathways
• Career Pathways (Medicine, Nursing, Allied Health, IT, Administration & Entrepreneurship)
• Writing (educational & professional)
• Pathway-focused Industry Credential
• Community Service
• Department Placement *
• Capstone
• 6 weeks – 120 hours

MedSTEM Careers
Nursing Assistant
IT Pathways (new for SY22)
Cybersecurity
Health IT
Artificial Intelligence

College & Beyond
Internship & Apprenticeship

Multiple Programs
College Career Pathways (internship)
Center for Community Health Equity (research internship)
Rush Career Care Plan (apprenticeship)
-Nursing Assistant
MedSTEM Careers II (apprenticeship)
-IT Pathways (new)
<table>
<thead>
<tr>
<th>Industry Credentials provided by REACH &amp; Partners*</th>
<th>Entry-Level Job*** (based on Certifications earned + HS)</th>
<th>Postsecondary Degrees (2 or 4 year)</th>
<th>Typical Jobs</th>
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</thead>
<tbody>
<tr>
<td>CPR, First Aid BLS, Phlebotomy, EKG Tech</td>
<td>EKG Tech, Phlebotomist</td>
<td>Bachelor’s Degree</td>
<td>Family Physician</td>
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<tr>
<td>Nursing</td>
<td>Registered Nurse (AAS)</td>
<td>Respiratory Therapist</td>
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<td>Allied Health</td>
<td>Respiratory Therapy (AAS)</td>
<td>Respiratory Therapist</td>
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<tr>
<td>IT/ Health IT** (in development)</td>
<td>Applied Computer Science (AAS)</td>
<td>Software Developer</td>
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<tr>
<td>Health Administration &amp; Innovation</td>
<td>Associate’s Degree</td>
<td>Health Services Manager</td>
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*These credentials are offered via MedSTEM Pathways and College Career Pathways programs

**IT Pathways is in development to include multiple apprenticeship options for select scholars (EPIC, Cybersecurity, IT Tech Support)

***REACH scholars have internships of 6-10 weeks each year of participation. All scholars are positioned and supported with identifying entry-level jobs to gain additional experience and financial support. Some scholars may qualify for apprenticeship opportunities, which are for 2 years in conjunction with postsecondary studies.
BALANCED EFFORTS to REACH OUR GOALS

**Enrichment.** Spark interest and awareness of STEM/healthcare careers through experiential learning

**Credentials.** 70% of participants will earn industry-recognized credentials that will place them on high-wage, high-demand regional career pathways;

**Academic Skills.** Strengthen academic readiness; boost high school and college graduation

**Paid Internships.** Aligned to student-selected pathway and coursework, includes 120-240 hours of training and work

**Success Skills.** More graduates will demonstrate employer validated, career-ready success skills; 65% Move into careers in STEM and Healthcare
PARTNER FOR IMPACT
Strength through Collaboration

3,000+ students, teachers, and families through programming and outreach in school communities
PREPARING YOUNG PEOPLE FOR SUCCESS IN STEM AND HEALTHCARE FIELDS

SPOTLIGHTS PROGRAMS
VIDEO INTRODUCTION
Rush Education & Career Hub

MedSTEM Pathways (COVID19 Update) -
https://youtu.be/gA34dPWWoRI
COVID-19 UPDATE - REACH shifted programming to provide virtual learning experiences for Summer 2021 – Impact #: 180

Wraparound supports
REACH provided a Health Equity Assessment to understand its students’ needs

Shift to virtual environment
REACH converted its programming to virtual

Changes in curriculum
REACH shifted some of its curriculum to ensure it is relevant and engaging for students in the new environment.

Staff support
REACH provided staff virtual training and ongoing support through weekly staff meetings and newsletters.

Exposure to the field
REACH provided students field exposure through career pathways speaker panels and postsecondary planning with college experience and financial aid panels.
Program Goals:
✔ Increase awareness of and interest in STEM/health care career options
✔ Achieve positive impact in youth development, identity development, achievement, and social capital
✔ Provide youth with hands-on practical experience that will help prepare them to pursue careers in health sciences, IT, and other STEM-related fields.
✔ Provide youth with opportunities to earn industry-recognized credentials
✔ Increase postsecondary success in college and career for health care and STEM-related fields

MedSTEM Target Impact #: 150 Youth (HS Students)

- 6-8 week- Paid internships (120-140 hrs)
- Articulated career pathways/ Academic enrichment
- Professionalism/success skills
- Industry-recognized credentials (ECG Tech, Phlebotomy, Cybersecurity)
- Mentoring (peer and professional)
- Community service

EQUITY FIRST: BUILDING TOWARD A BETTER FUTURE AND REVITALIZING LEARNING
Program Goals:
✔ Gain hands-on learning and training by working alongside medical students, nurses, and doctors
✔ Strengthen identity development, achievement, and social capital through mentoring with STEM and healthcare students and professionals
✔ Provide community engagement experience through volunteering and health equity research field visits and com
✔ Provide young people with hands-on practical experience and industry-recognized certifications that will prepare them to pursue careers in health sciences, IT, and other STEM-related fields.
✔ Increase postsecondary success in college and career for health care and STEM-related fields for Black and Latinx students

• Work-Place Experience: 8 week-Paid internships (256 hrs)
• Weekly Seminars (faculty presentations, book club, career panels)
• Personal/Career Development (college & career advising)
• Professionalism/Work-Readiness (ECG Tech, Phlebotomy, Cybersecurity)
• Mentoring (peer and professional)
• Community service

College Career Pathways Target Impact #: 30 (College Students)
MAKING AN IMPACT

KEY PROGRAM OUTCOMES
2020–2021 Impact

180+ High School and College students with paid work-based learning and internships

Secured Phase II – Building Equitable Pathways grant from The Bill & Melinda Gates Foundation

100% of REACH high school graduates enrolled in college, compared to 83% of CPS graduates

85+% Participating High School students earned industry recognized certification

95% College Persistence

4000+ Students and community members impacted by REACH programming

95% College students with STEM/Healthcare majors

8500+ Students and community members impacted by REACH programming

EQUITY FIRST: BUILDING TOWARD A BETTER FUTURE AND REVITALIZING LEARNING
CLARITY ABOUT INTEREST AND PATH FORWARD
Developing Occupational Identity

**Strengthened commitment to health careers**

Most students started their internship already strongly interested in a health career. By giving students exposure to the range of health careers and clarifying their specific interests, the REACH internship made most students even more committed to working in health care.

- **82%** said the program made them more committed to a health career.
- **88%** said the program gave them a clearer idea of next steps they need to take for a STEM or health career.

EXPOSING them to a broader range of health career options

Helping them CLARIFY their specific interests in the health field
"I brag so much about the support system, the learning opportunities, and the mission of the internship itself. I realized who was my fuel to continue my career path in medicine. It is REACH, MedSTEM Pathways, my cohort, Rush University Medical Center. I cannot describe the life changing impact [REACH has had on] me and all of the other REACH students. I tear up every time I speak about REACH, it literally changed my life."
GUIDANCE FOR IMPACT

Comprehensive counseling and post-secondary planning
• Active research and engagement of programs focused on career exploration and post-secondary success

Engage advising models that incorporate non-traditional approaches
• Advising for post-secondary success in changing environments
• Alignment with labor market and industry demand

Leverage school-based resources to support college and career readiness
• Resources to explore and access educational and employment opportunities (career fairs, career days, industry partnerships)
• Understanding career pathway entry points and methods for connecting students with resources to start them on their journey

Inclusion of traditional and non-traditional modes of career progression

EQUITY FIRST: BUILDING TOWARD A BETTER FUTURE AND REVITALIZING LEARNING
For more information, please contact:

Natalia Gallegos
Director, Impact and Engagement
Natalia_A_Gallegos@rush.edu

Rukiya Curvey Johnson
Executive Director
Interim Vice President
Rukiya_CurveyJohnson@rush.edu