

UMB CURE Scholars Program



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Abstract

The University of Maryland Baltimore Continuing Umbrella of Research Experiences (UMB CURE) Scholars program provides STEM enrichment for middle school (MS) students from severely disadvantaged West Baltimore communities. A holistic approach leverages the resources of UMB professional schools to integrate robust mentoring, family support, STEM curricula and community outreach components. To foster the scholars' continued engagement in science through high school (HS) and college, UMB CURE Connections (C2) was developed to provide HS curricula that connects MS with college programs in a minority STEM education pipeline. C2 goals, components, outcomes and lessons learned in six months of implementation are presented.

Program Overview

> West Baltimore Demographics

- Median family incomes among the lowest in the nation (\$18,000)
- 26% unemployment rate
- Underperforming schools with 40% dropout rate
- > Participants
 - Scholars: UMB CURE middle school scholars provide a strong applicant pool for C2.
- *Mentors:* Mentors are primarily students from UMB professional schools. Scholars are matched with mentoring teams comprised of 5 mentors/scholar.
- Families: C2 engages families, schools, and community leaders to address the complex factors that pose barriers to scholars' success.



UMB CURE Connections: An Integral Link in a Baltimore Minority STEM Education Pipeline

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Curriculum

Programming Overview (School Year)

Sessions every Saturday from 9a-3p led by two UMB CURE C2 Program Coordinators >Mentors play important roles in program implementation and as scholar role models

C2 STEM

Curriculum

- Saturdays Personal Education Plan (PEP) • A Bridge to Academic Excellence (ABAE) PSAT/SAT Preparation Mentor Mornings C2 Council • Upper-class STEM enrichment Success stories from West Baltimore Minorities in STEM Lunch & 'Find ings' Journal Club Learn (LNL) SciTech Learning Lab • STEM College Immersion (SCI)
- Longitudinal Research Projects 9th Grade 10th Grade Afternoon Health Disparities in | Resource Disparities Exploration Baltimore: obesity | and Relationship to diabetes & nutrition 📜 Crime in Baltimore

SEPA Goals Fulfilled

- Dedicated mentoring
- Career exploration STEM skill
- development
- NGSS alignment
- Critical thinking
- Communication skills
- Culturally relevant topics
- Hands-on research
- Capacity building partners
- Community education
- Public health focus

Figure 2. Overview of C2 STEM Saturdays curriculum.

Programming Overview (Summer)

Scholars participate in a 5-week summer internship in partnership with YouthWorks

C2 Mission Thrive Summer

| Monday - Thursday | Friday |
|---|--|
| MTS Mornings | (Trips and Projects) |
| Introduction Activity Plant Science and Farming Nutrition and Culinary Art Lunch (Scholar Prepared) MTS Afternoons Leadership and Life Skills Exercise Physiology and Wellness Community Health Expo. | USDA Tour and Talk McCormick Science Institute Visit University of MD Nutrition and Food Science and Exercise Physiology Visit Working Farms Functional Agricultural-Art Project Community Cook-off |
| | |

Figure 3. Overview of Mission Thrive Summer (MTS) for rising 9th graders.



Left: Scholars participating in a SciTech activity



Above: Scholars learning about nutritious meals from Chef Christopher Vocci



Curriculum



Figure 4. Overview of C2 Transition Summer for rising 10th graders.



- cohort

Funding Acknowledgement: This project was supported by the National Institute of General Medical Sciences, the National Institutes of Health (NIH) under Award Number R25GM129875-01. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.



Figure 5. C2 Logic Model.

> 24 of the 29 Scholars remained active in 9th grade > 21 Scholars expressed continued interest in STEM-focused careers

> The overall GPA for our Scholars is a 2.53

Lessons Learned

> Formal commitment process necessary for entry into C2 will be implemented starting with next

Social and emotional learning training would be beneficial for staff to better support scholars

Stronger connections between C2 staff and each scholar's school are needed to ensure scholar progress

Increased need for academic support outside of Saturday programming

> Expansion of mentor recruitment needed for high schoolers

Earlier engagement with families is crucial to maintain relationships