It Takes a Village: Finding Common Ground Among Stakeholders
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The Problem
The proliferation of science outreach in the past decade has led to increased participation in STEM fields and strengthened community-university ties (1-3). While this growth is encouraging, it must occur in a way that is sustainable and equitable. While this growth is encouraging, it must occur in a way that is sustainable and equitable. In our work with graduate students at universities across the country through NCSE’s Graduate Student Outreach Fellowship, we have noticed three consistent issues: Many outreach efforts 1) attempt to reinvent the wheel, 2) rarely persist for longer than five years, and 3) are often not rooted in understanding community needs. In particular, as illustrated by Figure 1, the most effective way to broaden participation in STEM may not be by solely increasing the number of outreach efforts, but instead, through a participatory research approach that focuses on local systems of science outreach and incorporates community stakeholders early in the process.

Effective community outreach requires:
1. Early incorporation of diverse community stakeholders
2. Partnerships with pre-existing networks
3. Evaluation at all stages of planning and implementation

How can we help graduate students across the country connect with pre-existing infrastructure instead of creating outreach de novo?

How can we apply these lessons to national implementation of partnership projects?
In an effort to increase genetic literacy and to provide accurate and accessible genetics content, a meta-analysis of museums (n = 600) was conducted to identify areas of the country were lacking genetics content. Large areas of the country were identified where non-genetics content was available (genetics deserts). A traveling genetics exhibit is currently being designed to address this need (https://ncse.ngo/traveling-exhibit-promotes-greater-understanding-real-world-genetics-knowledge). A front-end assessment was performed to assess community interest. The front-end assessment was sent to library patrons at three libraries in communities identified as genetics deserts and the responses are being used to inform content design.

Identifying Genetic Deserts: Making Genetic Content More Accessible

Graduate Student Outreach Fellowship

Participatory Research Framework where knowledge is not shared with the community through vertical transmission (e.g., deficit model) but co-created, first by understanding community needs and then by developing relevant programming with community stakeholders (4).

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NCSE’s Graduate Student Science Outreach Fellowship program (https://ncse.ngo/breaking-down-barriers) trains graduate students through formal training in science communication, informal science education, and community outreach. Thus far, fifteen graduate students across eleven universities have participated in the program and highlighted the diverse, often competing programs occurring in their community. This further validated the need for outreach programs that privilege a community-based perspective.

Before - Deficit Model

After - Participatory Model

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