

NIEHS Worker Training Program Small Business Innovation Research E-Learning for HAZMAT Evaluation

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Photo courtesy of Mitch Rosen

Introduction

The National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP) awards Small Business Innovation Research (SBIR) grants to further the development of e-learning products that support the health and safety training of hazardous materials workers, emergency responders, and skilled support personnel.

In 2009, an evaluation of the NIH SBIR program was conducted by the National Research Council to review if the NIH was meeting the four objectives of the SBIR program:

- (1) to stimulate technological innovation
- (2) increase private sector commercialization of innovations
- (3) to use small business to meet federal research and development needs
- (4) foster and encourage participation by minority and disadvantaged persons in technological innovations; and best practices and can management be made more effective.

A 2015 follow-up found most SBIR program goals were being met but needed emphasis in addressing participation among minority and women owned businesses.

In 2022, WTP reviewed their history and found no evaluation of the WTP SBIR program.

Methods of Evaluation

Evaluated the WTP SBIR training program by reviewing data:

- Pilot interviews with selected WTP SBIR grantees
- Based on pilot findings, a revised survey to overall remaining WTP SBIR grantees
- NIH Query, View, Report System:
 - Applications and awards
 - Publications and patents

Interviews and Survey Results

| Table 1. Participants in the Worker Training Program Small Business Innovative Research Program Evaluation (n=8). | |
|---|-------------------------------|
| Organization | Date of Interview |
| Q-Track | April 6 th , 2022 |
| inXsol | April 6 th , 2022 |
| Gryphon Scientific -Opioids | April 8 th , 2022 |
| Metamedia | April 11 th , 2022 |
| Spectral Labs | April 12 th , 2022 |
| Cell Podium | April 19 th , 2022 |
| Gryphon Scientific COVID | April 29 th , 2022 |

A total of six (n = 6, response rate = 18.8%) participated in the **survey**

Interviews and Survey

The responses provided some evidence that the WTP SBIR program has contributed to:

- Patents
- Commercialization
- Securing further funding
- Creation of jobs
- Collaboration with other NIEHS WTP funded organizations
- Conducting hazardous material and emergency response training

Interviews and Survey Selected Quotes and Summaries Commercialization

“We have not (applied for a patent), a lot of our work has been content driven and **less about developing novel technology and we made use of freely available technologies** and when possible we have collaborated”

“We gladly **give our technology freely to WTP grantees** as long as we can as long as we are funded”

“Our **biggest challenge** has been **commercialization**”

Interviews and Survey

Selected Quotes and Summaries

Training and Collaboration

“We’ve had a **couple of hundred folks go through the training** and give feedback on it and that **feedback has led us to believe we’ve been successful** in developing an immersive trainer that folks can use”

“The **WTP programs tries to socialize SBIR grantees with traditional grantees**. That you won’t find anywhere else, inside or outside NIH”

Interviews and Survey

Selected Quotes and Summaries

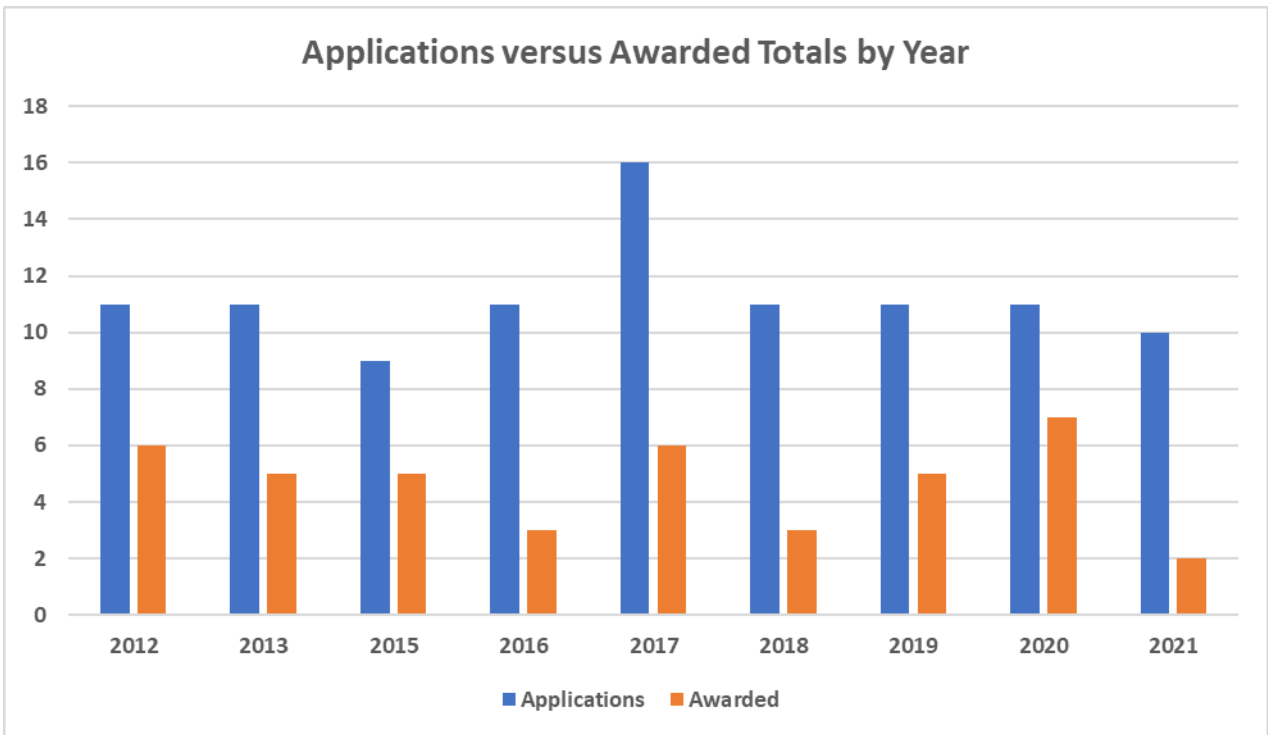
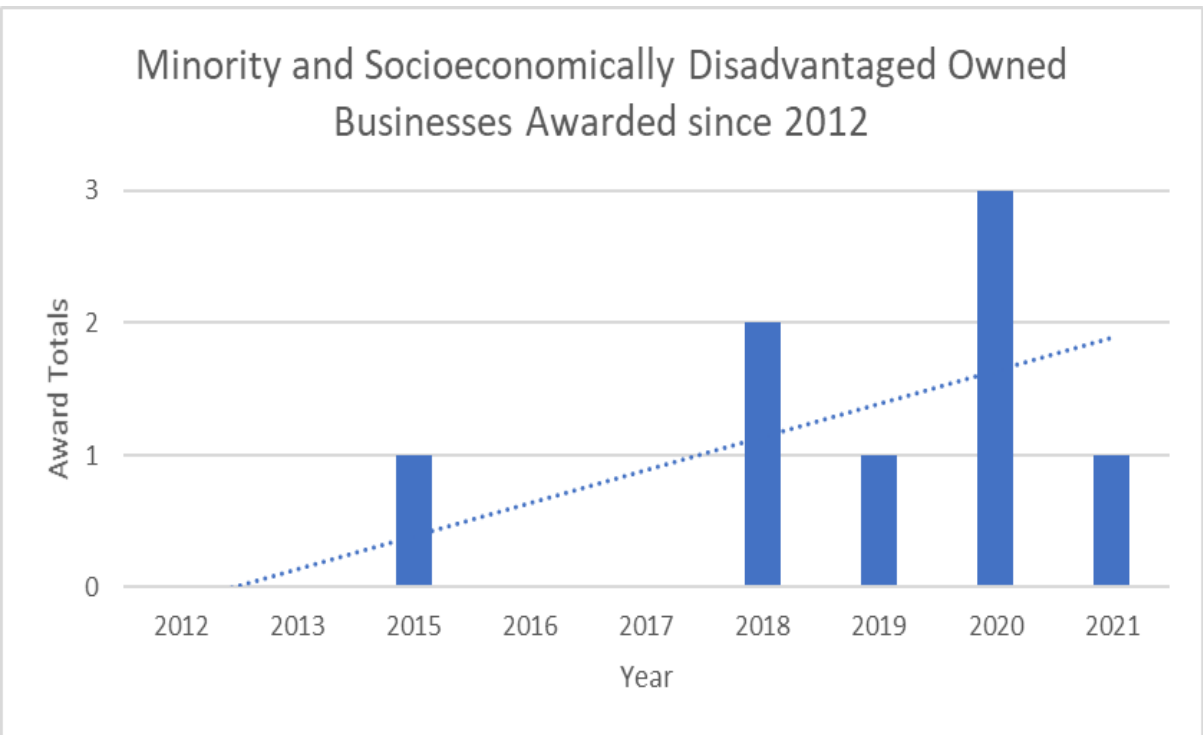
Challenges

“I talk to other SBIR grantees, and you have some who are very much implanted into the WTP organization, and I imagine it’s a lot easier to be in-sync and have continuous interaction. But for me **being in a state** where I think you have grantees like Arizona State or something like that but **there is no one local that I can interact with regularly**. So, it takes some effort”

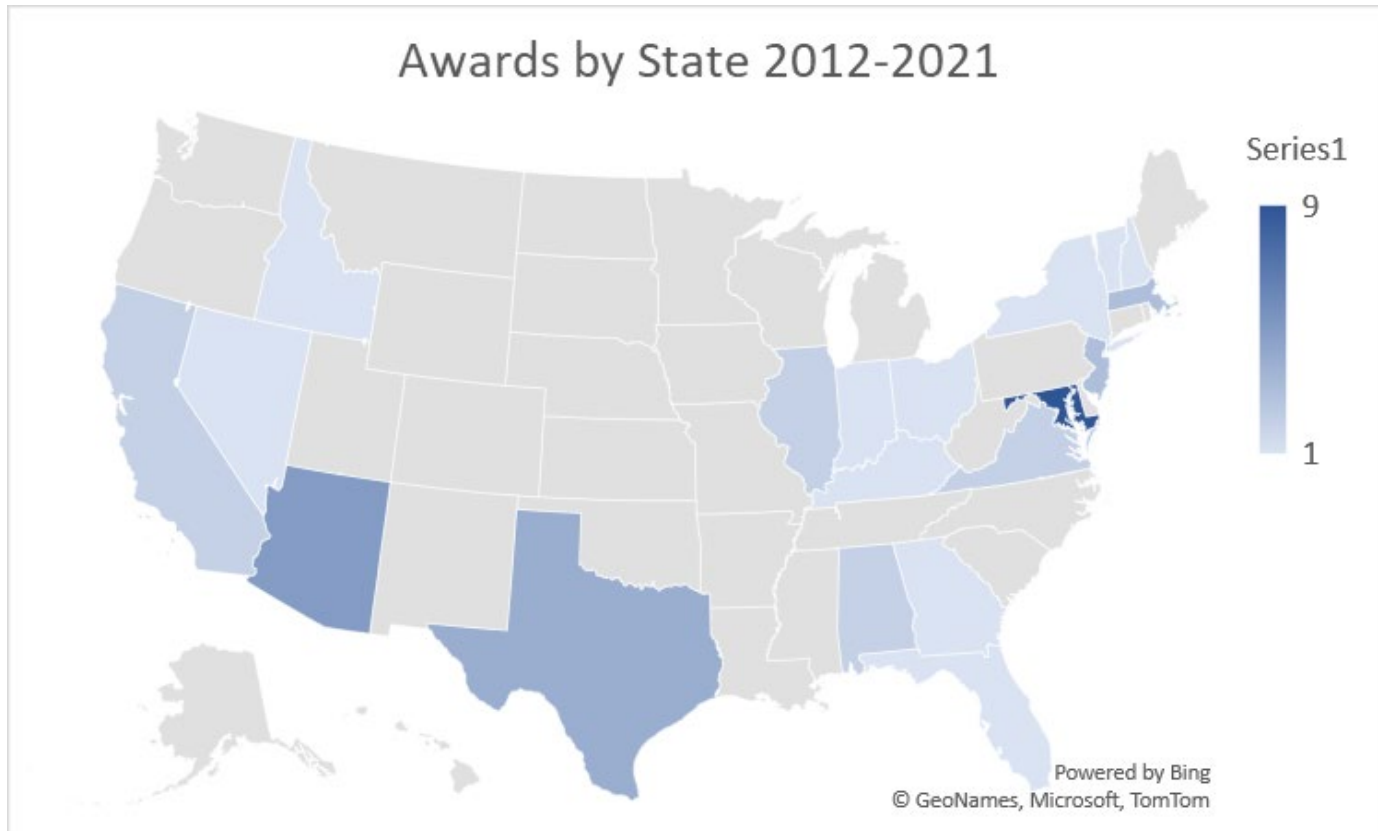
“**Recruiting a diverse cross section in terms of gender, geography distribution and racial and ethnic demographics** and being able to go to the grantee meeting and say that is one of the things that helps me overcome that cause it gives me access to a broader consortium of people...you want everyone to feel heard, **its hard-to-get women and minority participation**”



Existing Data Results



Awards by State 2012-2021



| States | Count |
|----------------|-------|
| Alabama | 2 |
| Arizona | 5 |
| California | 2 |
| Florida | 1 |
| Georgia | 1 |
| Idaho* | 1 |
| Illinois | 2 |
| Indiana | 1 |
| Kentucky* | 1 |
| Massachusetts | 3 |
| Maryland | 9 |
| New Hampshire* | 1 |
| New Jersey | 3 |
| Nevada* | 1 |
| New York | 1 |
| Ohio | 1 |
| Texas | 4 |
| Virginia | 2 |
| Vermont* | 1 |

Summary table of states awarded totals from 2012 to 2021

States listed as Institutional Development Award (IDeA) Program states have an asterisk (*)

The IDeA program’s goal is to broaden the geographic distribution of NIH funding



Existing Data Results

Patents and Publications

Reviewing the internal NIH iSearch system found no results for patents and publications

In the course of interviews, at least one patent and publication were discussed

Follow-up about why these were not found during the search is needed to better inform future inquiries.

Recommendations from SBIR Program Evaluation Results

Recommendations for the WTP SBIR program based on evaluation findings

| Topic | Recommendations |
|--|--|
| Outreach | |
| States | Promote applications from less awarded states and regions. |
| Women and Minority owned businesses | Promote applications from women and minority and socioeconomically disadvantaged small businesses. |
| Communication | |
| Collaborations | Provide opportunities for formal and informal collaboration between SBIR and other grantees that can be supported by WTP. |
| Trainers Exchange | Update all present and prior SBIR grantees on the Spring 2023 WTP Trainers Exchange. |
| Administrative | |
| Email list | Expand the SBIR mailing list to include past and current grantees. |
| Clearinghouse Curricula Catalog | Investigate with Clearinghouse and WTP staff if SBIR grantees can submit to the curricula catalog. Promote MUSTID to SBIR grantees as a forum for infectious disease resources and publications. |
| Patents and Publications | Investigate how the currently known WTP SBIR patent and publication were not caught by the NIH systems or evaluators. Ensure grantees know how to properly cite the funding in their publications and patents. |

Next Steps

- Publishing the findings in a report and paper
- Implementing the recommendations from report
- Conducting an evaluation of HWWTP



Photo courtesy of InXsol



Thank you!

Please feel free to reach out with questions and comments at:

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