

Regenerative Medicine Minnesota Progress Report

Grant Title: HealthForce MN K-12 Outreach

Grant Number: RMM-2016-312ED-01

Requester: Misun Bormann/Valerie DeFor

Project Timeline: June 1, 2016 – May 30, 2017

Brief Description of Project

HealthForce Minnesota utilized grant funds to support three key areas in partnership with Minnesota Regenerative Medicine Education and Outreach Program (MRMEOP) and Dr. Randy Daughters:

- integrate regenerative medicine content and sessions into 5 of its middle and high school summer camps
- support teacher education related to regenerative medicine
- incorporate regenerative medicine content into other K-12 outreach projects

Where did this project take place?

This project took place at Scrubs Camps held in Winona, Rochester, Saint Paul, Cloquet, and Mankato; at Girls ConnectZ Scrubs Day held in Rochester; at Camp Explore held in Winona.

People impacted by project and where they are from?

2016/17 RMM Health Sciences Camp Survey Results

We directly reached ~590 students through faculty-led regenerative medicine sessions and activities in 2016. Of those students, 511 completed student evaluations/ surveys on the sessions. Below are the breakdown of student demographics as well as average scores for each evaluation question assessed for basic student learning outcomes. Percentages are calculated from total responses to the survey given at the end of RM sessions at Scrubs Camps, Girls ConnectZ, and Camp Explore.

Student Demographics

1. Grade in School

- | | |
|----------------------------|-----|
| a. Middle school: | 15% |
| b. 9 th Grade: | 11% |
| c. 10 th grade: | 16% |
| d. 11 th grade: | 32% |
| e. 12 th grade: | 26% |

2. Ethnic Background

- | | |
|-------------------------------------|-----|
| a. American Indian/ Alaskan Native: | 3% |
| b. Asian: | 14% |

- | | |
|-----------------------------|-----|
| c. Black/ African American: | 29% |
| d. Hispanic/ Latino: | 8% |
| e. White/ Caucasian: | 46% |
3. *Gender*
- | | |
|------------|-----|
| a. Male: | 41% |
| b. Female: | 59% |
4. *Qualified for free/reduced Lunch program* 38%
5. *First in my family to attend college* 41%
6. *Reason for attending regenerative medicine session*
- | | |
|-------------------------------------|-----|
| a. Friend encouraged you to attend: | 19% |
| b. Wanted to learn more about RM: | 68% |
| c. Interested in a career in RM: | 13% |

Student Learning Outcomes/Impact

- | | |
|--|-----|
| 7. <i>Overall I was satisfied and would recommend this RM session to others:</i> | 94% |
| 8. <i>I am interested in pursuing a career in RM after the session:</i> | 88% |
| 9. <i>I feel more knowledgeable about regenerative medicine after the session:</i> | 96% |
| 10. <i>The session has increased my likelihood of pursuing a college degree in STEM:</i> | 98% |

2016/17 Teacher Training in Regenerative Medicine

A core objective of the 2016/17 RMM budget period was to identify, contact, and train K-12 teachers throughout the state, on how to incorporate foundational concepts in regenerative medicine. As part of our outreach activities in 2016/17 we significantly expanded the database of potential K-12 teachers by having students in Camps nominate teachers from their home schools. Through this process we now have identified and contacted over 190 teachers/educators in 5-12th grades throughout Minnesota in an effort to expand the impact of RM.

Additionally, in collaboration with program partners, we have worked with and trained 11 teachers/ educators through either small working groups, or on an individual basis, to develop regenerative medicine related activities and/or curriculum for their specific student demographics. Below is a list of the teacher training sessions conducted in 2016/17, the number of teachers trained at each session, and their associated school and/or public school district number.

List of small group or individual teacher/education training sessions

- 2 training sessions reaching 4 high school teachers/educators associated with the Leech Lake Band, Fond Du Lac Band, and the Center for American Indian and Minority Health at the University of Minnesota Duluth in public school district #709.

- 1 training session reaching 3 middle school teachers/educators associated with Rochester Public School district #535 and the Mayo Center for Regenerative Medicine.
- 3 training sessions reaching 2 high school teachers/educators associated with the Wayzata Public School District #284 and the Minnesota Department of Education STEM Scholars Program.
- 1 training session reaching 1 middle school teacher/educator associated with Saint Johns Preparatory School in School District #742.
- 1 training session reaching 1 middle school teacher/educator associated with Laura Jefferies Academy in School District #625.

What was the outcome of the project?

From the feedback received, it is clear that the middle and high school students learned about regenerative medicine in a very hands-on method. Many students identified the Stem Cell sessions as among their favorites at the camps. From observing the camp sessions, students were very engaged, excited, and intrigued by the field.

Dr. Daughters reports that the teachers were similarly enthusiastic about stem cell and regenerative medicine following his training sessions.

Originally, regional teacher training sessions were planned. This approach proved difficult to schedule so the trainings were done on a more individual, smaller geographic scale.

Please list any of the following that have resulted from your Regenerative Medicine Minnesota grant funding: Publications and/or manuscripts submitted for publication; disclosures/patents; other grant applications and/or awards

None of the above resulted from the grant. We were able to disseminate the grant work through meetings of the Healthcare Education Industry Partnership and through other networks within the Scrubs Camp planning teams.

Responsible Spending

Funds were spent in accordance with the grant’s budget.

Item	Budget	Spent
<i>Direct Costs</i>		
PI/Project Director	\$8455	\$8455
Scrubs Camp Curriculum	\$1850	\$1850
Teacher Training Workshops	\$5000	\$5000
Other Outreach	\$1850	\$500
<i>Subtotal Direct Costs</i>	<i>\$17,155</i>	<i>\$15,805</i>
Indirect Costs	\$2756	\$2756
TOTAL	\$19,911	\$18,561