

sHaPe (*Summer Health Activities and Professions Exploration*)
Camp for Middle School Students

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INTRODUCTION

The Grand Valley State University *Summer Health Activities and Professions Exploration* (sHaPe) summer day-camp program provides area middle school students, mostly from urban Grand Rapids, hands-on exposure to various health professions.

The sHaPe program is designed for students entering eighth or ninth grade - a key time when students are exploring careers. The camp is entering its fourth year and one hundred students have completed camp to date. In 2010 and 2011, 32 students attended each year. In 2012, the number increased to 36 students.

In 2002, the Regional Math and Science Center (RMSC), in partnership with the GVSU Seymour & Esther Padnos College of Engineering and Computing, developed the STEPS (Science, Technology, and Engineering Preview Summer) day-camp to encourage middle school girls to enter the field of engineering. That camp is now in its thirteenth year. Since its inception, over 800 girls have attended STEPS. Based on this successful model of career exposure, the RMSC developed sHaPe in collaboration with the GVSU College of Health Professions.

LITERATURE REVIEW

As supported by the 2010 Report to the President by the President's Council of Advisors on Science and Technology:

“The success of the United States in the 21st century – its wealth and welfare – will depend on the ideas and skills of its population.... As the world becomes increasingly technological, the value of these national assets will be determined in no small measure by the effectiveness of science, technology, engineering, and mathematics (STEM) education in the United States.

“To meet our needs for a STEM-capable citizenry, a STEM-proficient workforce, and future STEM experts, the Nation must focus on two complementary goals: We must *prepare* all students, including girls and minorities who are underrepresented in these fields, to be proficient in STEM subjects. And we must *inspire* all students to learn STEM and, in the process, motivate many of them to pursue STEM careers.

“STEM education is most successful when students develop personal connections with the ideas and excitement of STEM fields. This can occur not only in the classroom but also through individualized and group experiences outside the classroom and through advanced courses.

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“The Federal Government should...support the development of a wide range of high-quality STEM-based after-school and extended day activities (such as STEM contests, fabrication laboratories, summer and afterschool programs, and similar activities).”

The current challenge is to inspire students to pursue health (and other STEM) professions. According to a 2011 online survey conducted by Harris Interactive for University of the Sciences, the results show that half (49 percent) of all high school-aged students are not interested in pursuing these careers. (Kirschner, 2011)

“Students not considering a career in healthcare and science cite numerous reasons for their lack of interest in these fields:

- 24 percent feel they don't know enough about careers in these fields
- 18 percent feel they're not good enough at science
- 12 percent are not prepared for a career in healthcare/science”

sHaPe Camp was developed to address these crucial issues of exposing minority and underrepresented students to STEM careers and building their confidence in STEM subjects to pursue those careers.



PROGRAM COMPONENTS

The main purpose of sHaPe Camp aligns with the **ASQ Advancing the STEM Agenda Conference** focus area of *College-Ready in STEM and Transition to College*. The majority of the participants of sHaPe Camp are from homes where no one has previously attended college nor have professional careers. Hopefully through the camp, students will be inspired to earn their high school diploma, attend college, and pursue a rewarding career in the health professions field.

Students attend a one week (four day) camp on campus, where sessions are taught by university health professions faculty. The students actively learn about the professions of physician assistant, radiology and athletic training; explore therapies and develop compassion for disabled

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patients through occupational therapy, physical therapy, recreation therapy and speech-pathology; and use state of the art equipment that introduce them to the field of medical lab science.

Each day the students are served healthy lunches and snacks. They also exercise in fun ways (including a Zumba aerobics lesson), and participate in other activities which teach them the importance of living a healthy lifestyle and making informed personal health choices.

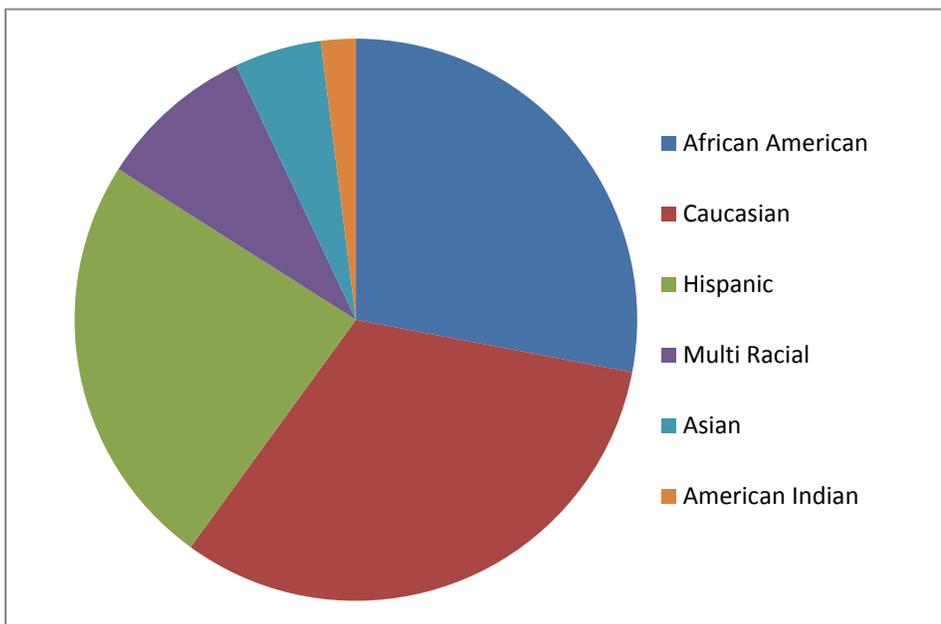
A highlight of the week is a field trip to Saint Mary’s Health Care. While there, the Saint Mary’s professional staff lead the students in putting on HazMat suits, making sunscreen, learning nutrition, practicing endoscopy on a mannequin (while wearing surgical scrubs), suturing hot dogs and bananas, identifying surgical equipment, and preparing a patient for an EKG.

UNDERREPRESENTED POPULATIONS

One of the main goals of sHaPe is to make this opportunity available to minority students in Grand Rapids Public Schools. These students typically do not have the opportunities to be exposed to professional careers and are not knowledgeable about them.

Due to sponsorships from donors, students are able to attend the camp free of charge. In addition, transportation is provided to and from camp, based on need. In the first three years, sixty-eight percent of the participants have been from minority populations, including African American, American Indian, Asian, Hispanic, and Mixed Race.

Figure 1: sHaPe Camp Demographics 2010 - 2012



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Table 1: sHaPe Camp Demographics 2010 - 2012

African American	28	(28%)
Caucasian	32	(32%)
Hispanic	24	(24%)
Multi Racial	9	(9%)
Asian	5	(5%)
<u>American Indian</u>	<u>2</u>	<u>(2%)</u>
Total Participants	100	(100%)

To recruit the target audience, brochures are mailed to Grand Rapids Public Schools middle schools. New for 2013, the brochure is available in Spanish, so that non-English speaking parents can be informed about the camp. Additionally, each year sHaPe camp staff have presented the camp directly to the students in their classrooms as well as after school events, including an information night through the Grand Rapids Community Foundation. Selection for the camp is not based on grades; rather on interest and potential in the health professions. Any student that meets the age and grade level requirements may apply, although preference is given to Grand Rapids Public School students.

COMMUNITY PARTNERSHIPS

One of the accomplishments of the sHaPe camp is the partnerships that have been developed with organizations that are also committed to seeing this youth population succeed.

The camp is made possible through generous financial donations from Meijer, Saint Mary’s Health Care, Abbott Vascular, Kent County Medical Society Alliance, and Lake Michigan Credit Union. In addition to financial support, the lead dietician for Meijer has attended camp and taught the students about choosing healthy foods in the grocery store.

Since 2012, Harrison Park Elementary (with Grand Rapids Public Schools) has worked with the RMSC to assure that a number of their students attend sHaPe. The camp is listed as part of their strategic plan. Another other new partner for that year was Saint Mary’s Health Care. Their Outreach Coordinator met with their professionals to deliver an outstanding program for the participants that they would not experience anywhere else.

The greatest allies of the camp have been school counselors who understand the potential impact of sHaPe Camp on their students. They promote the camp to their students and parents and have faithfully followed up on them, assuring that they complete and submit the application and required paperwork.

Without volunteers, this camp would not be possible. Each year over 100 volunteers (that include university faculty and student, Meijer staff, and Saint Mary’s professionals) share their expertise and time with the students attending and have reported the experience to be highly rewarding.



RESULTS OF THE CAMP

One hundred students have attended the camp since the first year in 2010. Each year, students are given subject matter tests before and after the camp on areas of healthy living and the health professions. In 2012, the students' scores improved by an average of 23% over the week. Students were also asked attitudinal questions regarding their personal health and career interests. At the end of camp, participants are always more interested in improving their personal health and have a greater interest in specific health careers. A longitudinal study is following the students through the years to determine if the camp affects their college and career choices.

The camp has been an overwhelming success. Students are excited to learn and experience the health professions hands-on and make new friends. Student comments from 2012 included:

"Thank you for a fun week."

"Thank you so much for allowing me to come to this amazing camp."

"This was a great experience and I'm glad I was able to come."

"What I like most about sHaPe is getting the opportunity to explore the many different jobs in the health field."

"I learned so much cool stuff I never knew."

"What I like most about sHaPe Camp was being able to explore all of the interesting health careers, one of which I hope to pursue."

"What I like about sHaPe Camp was the experience to learn about the different types of jobs in the medical field while having fun doing it."

"What I like best about camp was the ability to spend my summer having so much fun learning."

Over 40 students have registered to attend sHaPe Camp 2013, which will be held in July. Modifications are being considered to increase the capacity of camp, however, the number of participants is currently limited by facilities and faculty/staff. Brochures and current sHaPe Camp information may be found on the GVSU Regional Math and Science Center website at www.gvsu.edu/rmsc.

REFERENCES

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AUTHOR'S INFORMATION

Kathy Agee is the Science Program Coordinator at the Regional Math and Science Center (RMSC) at Grand Valley State University. She has B.S. in Secondary Education/Biology and M.A. in Science Education degrees, both from Western Michigan University. After teaching science for 12 years at Rockford Middle School, she joined the RMSC in 2009 and is currently the co-director of sHaPe Camp, along with Assistant Professor, Dr. Ranelle Brew, GVSU College of Health Professions.