

Health Sciences - Multicultural and Community Affairs

HEALTH SCIENCES-MULTICULTURAL AND COMMUNITY AFFAIRS

Annual Report

2023-2024





Mission

To promote Creighton University as a recognized leader in the training and development of a multicultural health care workforce that serves to reduce health disparities in under served and diverse communities through research, culturally proficient education, community interaction and engagements with Ignatian values.

Vision

To be recognized and respected as an innovative department that pioneers and synthesizes community, education, research and the development of future healthcare professionals who are culturally aware and work toward the elimination of health disparities.

Goals

- 1. To recruit underrepresented or disadvantaged students and faculty in the health sciences schools who will provide heath and health equality to a diverse population
- 2. To provide and promote retention activities for culturally competent underrepresented students and faculty
- 3. To promote, expand and cultivate cultural awareness to campus and community
- 4. To address health disparities through teaching, research, and community advocacy
- 5. To seek funding opportunities for innovative, integrative, and coordinated approaches for the continued and expanded training of diverse health care professionals

"MACA is the Mecca for Diversity and A Place where Excellence is Expected and Achieved." SM







from the

Associate Vice Provost Health Sciences' Multicultural and Community Affairs (HS-MACA)

The year 2023-2024 was a great year for all. We graduated twelve predental and premedical Postbaccalaureate and Prematriculation students with majority having gone on to professional schools of medicine and dentistry. The new class of 2024-2025 students, a selection of thirteen students from a pool of eighty applicants, matriculated in June 2024.

In September 2023, together with our affiliate, Center for Promoting Health, and Health Equity (CPHHE), we secured our second Racial and Ethnic Approaches to Community Health funding from the Center for Disease Control and Prevention (CDC) with over six million dollars of funds for a five-year period. The plan is to address the following strategies: Nutrition (through Food Services Guidelines; Fruit and Vegetables programs), Physical Activities (increasing through Community Design), Breastfeeding Support (through Continuity of Care) and adult vaccination (through promotions of Flu, RSV, and other vaccines).

Our community partners have provided us the unwavering support and dedication, needed for success. We appreciate their input in all aspect of our programming.

We recognize that the path to success may be challenging but the resilience of our students, faculty and staff continue to motivate us to achieving the best for the department of HS-MACA.



Sade Kosoko-Lasaki, MD, MSPH, MBA Associate Vice Provost, HS-MACA Professor, Creighton University

"Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do." - Pele



The Post Baccalaureate and Pre-Matriculation Program

176 Students

Since the year 2000, **176 students** have successfully completed the **Post-Bac Pre-Medical Program** and **88%** of Pre-Medical students have matriculated into medical schools.

\$135,833+ Post Baccalaureate Program Scholarship Endowment Fund raised and counting

Thank you to our alumni and friends!

111 Students

Since the year 2000, **111 students** have successfully completed the **Post-Bac Pre-Dental Program** and **95%** of Pre-Dental students have matriculated into dental schools.



For more information visit: www.creighton.edu/healthsciences/diversity

The Center for Promoting Health and Health Equity (CPHHE)

\$225,000

Awarded funding from **LB692 Nebraska Tobacco Settlement** to sustain **CPHHE** for 2023-2024

\$2.996 Million

Health Resources and Services Administration (HRSA)

CHW-TAP Program to train 240 Community Health Workers in Nebraska.

Now in its second year! (2023 - 2025)

Creighton

\$1.861 Million for Years 1&2

Racial and Ethnic Approaches to Community Health (REACH)

Centers for Disease Control and Prevention (CDC)

2023-2028

Targeting African American and Hispanic populations in Douglas County, Omaha, Nebraska.

\$25,000

Healthy Home Project

2023-2024

Mid-America Pediatric Environmental Health Specialty Unit-Environmental Justice Grant

Community-Oriented Primary Care Program

957 Students

in 2023-2024, 115 health sciences

students learned Cultural and

Ethnic Approaches to Health

with Case Studies through

Common Ground in collaboration

with the Center for Interprofessional

Education Research (CIPER).

Total of **957** since 2014.

\$1.8 Million NIH Endowment

19th year of Community Oriented Primary Care Program with

- 50+ Public Health Researches
- \$398,100 scholarship to 122 recipients
- 101 medical students in 16 specialties in 29 states
- 67% of residents are in Primary Care specialties

Since 2008, 122 diverse medical

students (78 female (66%) and 44 male (34%)

were awarded a total of **\$398,100.00**

Scholarship Fund

Since 2020-2024, 59 medical students participated in one or two COPC programs while in the CU-SOM, 33 (56%) graduated and **100%** matched in their choice of specialization.



Health Careers Opportunity Program

HS-MACA Pipeline Programs

\$2.1 Million for HCOP (2018-2023)

514 students, with 94% completion rate have successfully completed the Health Careers Ambassadors Program (HCOP), a grant funded by the Health Resources and Services Administration (HRSA)

1565 Students

534 students in the Middle and High School students exposed to the health sciences through the Focus on Health Professions
Pipeline Program, including the Middle School Initiatives.
1565 students in the pipeline since 2017

97 Students

Joined the 4th **MINI HEALTH SCIENCES SCHOOLS (2024)** Project in collaboration with Creighton University Schools of Dentistry, Pharmacy and Health Professions, including the Physical Therapy, Occupational Therapy and Pharmacy departments.

2000 - 2024

The Impact of HS-MACA in the US

Spot Map showing where the HS-MACA students are residing







Postbaccalaureate Program

The Postbaccalaureate and Prematriculation Programs continue to provide training that will prepare individuals for success in health professional programs and increase the diversity in those same programs and in the U.S. workforce. These programs are an essential component of Creighton University's Jesuit mission.

The Postbaccalaureate (Postbacc) Program

Overview

For over 40 years, Creighton University has offered a Postbaccalaureate Program for students facing other impactful life experiences. In the last two decades, this program has been offered as part of federally funded pipeline programming for economically or educationally underserved individuals from junior high through the post-baccalaureate year. The current fee-based model was created in 2005 to continue identifying, training, and counseling individuals from disadvantaged backgrounds, preparing them for medical programs with guaranteed admission and financial assistance upon successfully completing the program and earning the required GPA and MCAT scores. After the fee-based program began, programming was expanded in 2006 to also initiate a fee-based Postbaccalaureate Program to prepare students for dental school with similar guaranteed admission criteria and financial assistance upon successful completion of the program. Both the Premedical and Predental Postbaccalaureate Programs are non-degree, graduate, certificate-granting programs. These two programs provide important opportunities

The Postbaccalaureate Program is a thirteen-month, intensive certificate program that combines preparatory academic coursework with standardized exam preparation opportunities, mentoring and clinical skills training, and a summer prematriculation session (see description below). According to recruiting information (found on-line and in program brochures),

"HS-MACA in collaboration with the Schools of Medicine and Dentistry administers the Postbaccalaureate Certificate Program, while Creighton College of Arts and Sciences professors teach most of the classes. The program is designed to assist disadvantaged students by providing them with a comprehensive review of coursework, clinical experiences, and support for preparation and admission to a health science professional program." The Premedical and Predental Postbacc Programs consist of the following components:

1.Diagnostic Summer Session (8 weeks)

- □ Academic skills assessment.
- Curricular review sessions in Academic Excellence, Analytical Reading, Behavioral Science, Biology, Chemistry, Cultural Awareness in Literature, Cultural Connections, Mathematics, Perceptual Ability (predental students), Physics (for premedical students), and Writing Skills.
- Training in study skills, test taking, time management, library resources, and personal wellness.
- □ Computer skills training (with laptop that is used throughout the program year).





- 2. Academic Year Program (2 semesters)
 - Intensive coursework in Academic Excellence, Analytical Reading, Biology, Biomedical Science, Chemistry, Cultural Awareness in Literature, Cultural Connections, Physics (for pre-medical students), Perceptual Ability (for predental students), Social Science, Mathematics, and Writing. This coursework is intended for curricular review to provide a solid academic foundation for future medical and dental studies.
 - Materials from Kaplan, Nextstep and DAT Boot camp are used for MCAT/DAT test preparation.

3. Prematriculation Summer Program (see detailed program description below)

- 4. Clinical Opportunities
 - **D** Training in academic and personal clinical skills.
 - Physician shadowing (for premedical students) or dentist shadowing (for predental students) providing rich clinical experience for prehealth professionals.
- 5. Mentoring and Support Services
 - D Office of Health Sciences, Multicultural and Community Affairs



(HS-MACA).

- Diversity Training Opportunities.
- Common Ground Weekly Seminar Series with speakers from a variety of health professions, schools, and community organizations.
- Individual and Group Mentoring.
- **D** Tutoring.
- Social and support group opportunities.
- Computer facilities within the Health Sciences and Creighton's library systems.

Prematriculation Programs

Two HS-MACA sponsored programs in the School of Medicine and School of Dentistry run concurrently during the summer before participants matriculate into the health professional program. The goal of these programs is to ensure even greater preparedness for success in the professional schools. These prematriculation programs run for 8 weeks and are taught by professional school faculty. According to information brochures, the shared goals for these non-degree programs include:

- **D** Exposure to relevant graduate program coursework
- Building content knowledge
- Introducing students to Creighton University's unique *cura* personalis culture focusing on Jesuit principles for developing the whole person to serve others.
- □ Acclimating participants to the support systems available to health professional students.
- Mentoring and tutoring activities.

Medical Prematriculation Program

The Prematriculation Program provides an eight-week program overview for premedical students. Content includes a preview of medical school curriculum taught by medical school faculty including: Academic Excellence, Anatomy, Host Defense, Microbiology, Molecular and Cell Biology (Genetics & Biochemistry), Neurosciences, and Pharmacology. Having completed the postbacc program, premed prematric students experience a Creighton University School of Medicine (CUSOM) classroom setting and classes are taught at an accelerated pace to following year.





Dental Prematriculation Program

Similarly, the eight-week Prematriculation Program for predental students provides a preview of dental school curriculum with instructors from the dental school. Courses offered include: Academic Excellence, Dental Anatomy, Biochemistry, Dental Materials, Gross Anatomy (Lecture/Lab), and Histology and Embryology. These pre-dental students also will have just completed the postbacc program and preview the upcoming D1 year during the summer prematric session.

Recruitment

Recruitment for students in the 2023-2024 cycle was accomplished mainly through online efforts through the HS-MACA website, social media, and the application link to yield 40 premedical applicants and 50 predental applicants. The review committee interviewed 12 premedical and 20 predental students. From this pool, a class of 17 (10 premedical and 7 predental students was selected to begin the 2023-2024 academic year. The number of students who matriculated into the program was very low, however (4 premedical and 7 predental students). Many students could not find co-signers for their loans due to the COVID-19 pandemic on families and job opportunities. One additional premedical student joined the class halfway through the first semester, bringing the premedical number to 5 students. Overall 11 total students completed the program (4 premedical and 7 predental students), as one premedical student withdrew before the Prematriculation Program to complete those courses the following year.

Academic Coursework

Programs GPA

The criterion for success in the postbacc program is for students to achieve a GPA of at least 3.5 on a 4.0 scale. We are pleased to report that 83% (10 out of 12) of the students achieved this desired GPA. Figure 1 depicts a summary of program GPA score.

Course Grades

If a criterion for success in the postbacc program is for students to earn at least a 3.5 GPA, one could expect grades \geq 85% in each academic course, though Creighton University's health professional schools use a Pass/Fail system so technically any grade \geq 70 would satisfy program criteria as long as the cumulative GPA is at least a 3.5. Table 1 provides information on students' academic performance averaged across the first diagnostic session, fall and spring sessions.

Figure 1. Distribution of Program GPA scores for Premedical and Predental Postbacc Participants



Table 1. Premedical and Predental Student Performance in Core Content Postbaccalaureate Courses

	Premedical	(N=5)	Predental	(N=7)
	Α	ď	Α	ď
Academic Excellence	96.65	2.33	96.71	1.66
Analytical Reading	91.66	93.83	92.64	1.08
Psychology	94.44	0.33	93.88	1.17
Sociology	94.3	2.04	93.99	1.76
Biology	87.4	6.4	88.4	7.91
Biomedical Science	85.87	0	84.15	0
Chemistry	92.05	1.38	91.32	2.32
Cultural Awareness	100	0	100	0
Cultural Connections	100	0	100	0
Mathematics	93.01	0.02	93.11	1.59
Perceptual Ability	N/A	N/A	93.93	1.59
Physics	94.81	1.87	N/A	N/A
Writing	97.77	0	97.2	0
Summary	93.9966667	9.016667	93.7775	1.59

Physics class was taken by premedical students. Perceptual Ability was taken by predental students.

Across all twelve courses, the premedical students earned 93.99% overall while the predental students earned 93.77% overall. This positive performance during the 2023-2024 program year was consistent with previous years.





Notes:

MCAT and DAT Examination

MCAT

The Postbacc Program description stipulates that, in addition to coursework and professional conduct, a successful premedical student will achieve a minimum score of 500 on the MCAT sub-tests of biological sciences, physical sciences, social sciences, and verbal sciences. The average score for MCAT is a 125 (+/-1) in each of the subsections. The 2023-2024 Postbacc premedical class had over 1000 hours dedicated to test preparation and used 20 full length exams to prepare. Table 4 and Figure 3 provide details and score differentiation for the 2014-2015 premedical postbacc class. Table 2 and Appendix A provide details and score differentiation for 2023-2024 premedical postbacc class.

Overall participants did show a statistically significant improvement on the MCAT over the course of the program year in all sections. The greatest improvement was in the social science section. The aggregate beginning score of 492 improved to 497 which is also statistically significant. The program continues to reflect on the postbacc curriculum to meet the challenges of the new MCAT format with the program faculty continuing to dialogue with one another and program staff about how courses may or may not need to be adjusted to include research skills and knowledge about the social sciences.

Table 3. Premedical Students Individual MCAT Statistics

h i i i i i i i i i i i i i i i i i i i	Student A		Student B		Student C		Student D		Student E	
	PRE	POST								
Chem. & Physical Foundations	122	123	121	123	123	122	124	127	126	129
Critical Analysis & Reasoning	122	122	120	120	124	122	125	124	125	123
Biological & Biochemical Foundations	119	125	121	121	123	122	125	126	127	126
Psychological, Social & Biological Foundation	122	125	121	125	123	126	125	127	126	128
Total	485	495	483	489	493	492	499	504	504	506
*Change		10		6		-1		5		2

Significance Test μPre μPost (Pre to Pro)^A (O) (O) t (5) = -2.13^B Chem. & Physical 123.2 124.8 Foundations (1.92)(3.03)Critical 123.2 122.2 t (5) = 2.23^B Analysis & Reasoning (2.16)(1.48)t (5) = -0.76^B **Biological &** 124 123 Biochemical (3.16)(2.34)Foundations Psychological, Social & t (5) = -7.48^B 123.4 126.2 **Biological Foundations** (2.07)(1.30)Summary Score t (5) = -2.36^B 497.2 492.8 (8.95)(7.46)

Table 2. Premedical Postbacc Class MCAT Score Overview

Notes:

^A No adjustment made for multiple statistical analyses as these paired-<u>sample</u> t tests were computed for program review information only.

[₿]p >.05



Table 4. Predental Postbacc Class DAT Score Overview

MCAT and DAT Examination

continuation

DAT

Program criteria for success guidelines stipulate a successful predental student will score 17 or higher on the DAT in perceptual ability, scientific knowledge average, and the academic average. Table 5 and Table 4 illustrate the change in DAT scores over the course of the program year for three DAT categories: perceptual ability, scientific knowledge average, and academic average. Program participants demonstrated significant improvements across all sub-sections of the DAT over the course of the program year.

µMidway A Significance μPre Test^B (O) (O) t (7) = -3.54^c Academic Average 16.71 19 (2.57)(1.41)t (7) = -2.97^c Perceptual Ability 19.85 19.71 (3.18) (1.97)Scientific Knowledge t (7) = -3.87^c 16.42 19.28 (2.57)(0.95)

Notes:

^A Though the predental Postbacc program allows students to take the DAT mid-year and at the end of the program year, six (6) students achieved scores that met program requirements on the DAT in February 2024.

⁸ No adjustments made for multiple statistical analyses as these paired-sample t tests were computed for program review information.

^c p > .05.

Table 5 Predental Students Individual DAT Statistics

			2023-2	2024 Post	bac Der	ntal DAT	Scores								
	Student A		Student B		Student C		Student D		Student E		Student F		Student G		
	PRE PB	Post PB	PRE PB	Post PB	PRE PB	Post PB	PRE PB	Post PB	PRE PB	Post PB	PRE PB	Post PB	PRE PB	lst Attempt	2nd Attemp
Perceptual Ability	20	23	20	21	17	17	20	20	14	20	14	19	13	18	16
Quantitive Reasoning	19	21	20	19	14	14	21	19	16	19	15	17	12	13	13
Reading Comprehension	22	26	26	22	17	20	18	20	16	19	17	20	16	19	17
Biology	20	21	22	21	16	20	19	23	15	19	17	19	14	16	19
General Chemistry	15	19	19	21	16	17	20	21	17	22	13	18	13	15	18
Organic Chemistry	16	20	20	18	13	18	16	16	17	18	14	15	10	12	16
Total Science Average	17	20	21	20	15	19	18	20	16	20	15	18	13	15	18
Academic Average	18	21	21	20	15	18	19	20	16	19	15	18	13	15	17
Total Average	18.375	21.375	21.125	20.25	15.375	17.875	18.875	19.875	15.875	19.5	15	18	13	15.375	16.75
Improvement		3		-0.87	-	2.5		1		3.63		3	1		3.75

The predental postbacc class did well on the DAT examination(s) with 80% achieving program criteria scores on the DAT. One student missed the minimum score by one point in the Perceptual Ability section.The student will retake the exam with hopes to matriculate into dental school for the 2025-2026 school year. Predental postbacc students did show a statistically significant improvement over the course of the program in all three sections of the DAT.

Taken together, the postbacc program participants improved their scores on important field-relevant standardized examinations over the course of the program year. Participants' GPA MCAT and DAT test results provide clear verification that the current postbacc programs are adequately preparing participants for health professional graduate programs as shown above.

Clinical Opportunities

The clinical experience aspect of the Postbacc and Prematric programs provides an opportunity to experience health professions and help students meet the criteria for applying to health professional programs. For many students the clinical opportunities afforded during the postbacc year are their first in depth exposure to the actuality of working in a health professional setting instead of a more show-and-tell shadowing approach without direct patient contact. These clinical sessions allow students the opportunity to gain richer clinical experience, make connections with professionals in the Omaha area that they will be able to cultivate during their training in health professional programs, and provide students the opportunity to confirm their commitment to the health professions.

The clinical experiences, primary care exposure, and diagnostic training of premedical students previously took place in a local Federally Qualified Health Center (FQHC) that serves predominantly minority population in Omaha. This provided students a great opportunity to interact in real-world settings and experience the diversity present in the Omaha community. The program developed a detailed schedule in order to maximize the opportunity to interact with a variety of doctors in different specializations at different clinics for each student.

Premedical students engaged in virtual clinical experiences and Body Interact sessions. These Body Interact sessions are a vital part of our Premedical Postbacc program, offering students a comprehensive and immersive learning experience. By simulating real-life clinical scenarios, providing immediate feedback, and exposing students to a wide range of medical cases, these sessions greatly enhanced premedical students' readiness for clinical immersion and their future success in the medical field.

In the previous years, predental students had the opportunity to be in a dental clinic at Creighton Dental School for three hours each week. Predental students were able to practice hand skills with a Batik wand and a carving knife. This exercise is consistent with content in the dental materials course. All clinical exposure for the predental students took place at Creighton University's Dental School.

Support Services

As in previous years, 100% of the Prematric and Postbacc participants

benefited from formal and informal counseling and support activities. All students are screened for learning disabilities, depression, anxiety and other cognitive and behavioral diagnostics at the Creighton University Counseling Center. The schools of medicine and dentistry both have academic success counselors on staff. In their professional roles these academic success staff work to support students personally and professionally in each individual health professional program.All Prematric and Postbacc students can meet and work with academic success support staff from CUSOM and CUSOD during the Prematriculation Program.

Student Development

Since 2011, HS-MACA has employed an in-house Academic Success Counselor/Learning Specialist geared to help students identify personal strengths and areas of improvement and lead Academic Excellence courses for the Postbacc and Prematric students. This remains a critical position for HS- MACA and provides a front-line opportunity for students to gain a meta-cognitive awareness of their strengths and weaknesses in the supportive setting of the Postbacc and Prematric programs. The Academic and Learning Specialist collaborates with the Counseling Center to provide students a battery of tests during the summer diagnostic session and review individual student files with a local academic success psychologist. During the Fall of 2023, Postbacc students were also required to meet individually with this academic success psychologist, Dr. Tomkins. The purpose of these sessions was to quickly address and provide a plan to reduce/eliminate student anxiety or other concerns that might negatively impact performance in the program.

The Academic Success Counselor has fostered a positive, collaborative environment that allows the predental and premedical students to develop important skills. In addition to the important duties listed above, the Academic Success Counselor organizes presentations periodically to increase student resilience and confidence. For example, during every academic year, Dr. Kavan from CUSOM gave 2 presentations on Reducing Anxiety and Healthy Living Habits. In addition, the students also participated in a spiritual retreat with one of the Jesuit priests every semester.







The Postbacc Premedical students, 5 completed the program.

The Postbacc Predental students, 7 students completed the program.



Mentoring

Another component of successful student support is the mentoring provided by non-program staff for program participants and the reciprocal mentoring Postbacc students provide to others further down the health professional pipeline. All Postbacc and Prematric participants received informal mentoring from previous students, program staff, the program director, and the learning specialist.

The HS-MACA mentoring program continues to grow and benefit students, faculty, and staff at Creighton University. The program is promoted throughout the university and its larger community. It provides both formal and informal opportunities for counseling and support, enabling students to succeed in their academic and professional careers.

Open Door: During the academic year, the program Director, Dr. Sade Kosoko-Lasaki mentored an average of 5 current students and prospective students per week. This translates into over 800 students in the academic year. In addition, she had a one-hour combined mentoring class per month for all 12 post baccalaureate students. All the twelve students were assigned individual mentors from the upper class of the medical and dental schools. In addition, the students participated in three formal mentoring group gatherings during the academic year. External guest speakers were invited to these events.

Formal Mentoring. All students attended a first Friday session at Creighton University led by Fr. Gillick which emphasized the importance of mentoring for both support and encouragement. Additionally, the program, Dr. Kosoko-Lasaki met with students regularly and periodically to review their performance in the program. The program director also holds office hours where Postbacc/Prematric students are always welcome to attend and discuss any professional development and advancement topics they desire. Finally, students meet regularly (formally and informally) with the Learning Specialist both during and outside of the Academic Excellence meeting times. He conducts individual education plan (IEP) reviews and is available for more casual problem-solving conversations. Mentoring activities are well organized by the HS- MACA staff and are unique to Creighton University's Postbacc and Prematric programs.

Organized Activities

Common Ground HS-MACA at Creighton University organizes a weekly Friday series for the health professional schools with funds from the NIH. Several speakers from Creighton University and the community were invited during 2023-2024 to speak on topics intended to broaden the knowledge of Postbacc and Prematric participants on public health and health disparities. This allows the students to experience diversity and discuss public health topics in an academic setting. Virtual Common Ground sessions included medical case studies, environmental justice, and environmental health, achieving academic success, dismantling racism, LGBPTQIA+ preventive care, and financial planning for the future. The seminars also provide opportunities for informal mentoring and cross-socialization.

Social Activities

Postbacc and Prematric participants also had the opportunity to experience several planned activities intended to help them optimize their Postbacc and Prematric experience. First, each Postbacc class elected a class leader who was responsible for communicating program information (e.g. meetings, location changes, etc.) to his/her colleagues and planning several social events. Second, at the start of the program year students attended an orientation session. At the orientation session students naturally learned about the program, Creighton University facilities, and each instructor introduced both their course and their role in the program, and students received a Tablet PC to use for the duration of the program. Students will likely benefit from a similar retreat session mid- way through the program-year.

Students Organizations

Student National Dental Association (SNDA), Student National Medical Association (SNMA), Multicultural Health Sciences Student Association (MHSSA), Minority Association of Pre-Health Students (MAPS), Latino Medical Student Association (LMSA), Ophthalmology Interest Group (OIG).

Social Media

Postbacc and Prematric participants are made aware of current events concerning health disparities, student interests, and the success of the HS-MACA programs via Facebook posts, X (Twitter), and photo sharing. These platforms are utilized to keep students informed, engaged, and connected with the broader community, enhancing their overall experience in the program.





Faculty Development

Program faculty have been a program strength over time and were generally described as a program highlight by program staff and participants. During 2023-2024, program faculty meet several times each semester and worked with the Program Director and program staff to maximize student learning and experience. These meetings allow for professors to exchange ideas and discuss how classes interact.

Matriculation into Medical and Dental Schools

Premedical Students

One student from the 2023-2024 premedical class will matriculate into the Creighton University School of Medicine in Fall 2024. One student withdrew from the program after the spring semester, and three students will take a gap year and apply to other MD and DO schools next application cycle.

Two Postbacc alumni students from the Premedical Postbaccalaureate Program graduated with an MD degree in May 2024, with one matching into her respective residency/specialty of choice and the other student will participate in next year's match.

Predental Students

Six students from the 2023-2024 predental class will matriculate into the Creighton University School of Dentistry in Fall 2024.

Five alumni students from the Predental Postbaccalaureate Class of 2019-2020 graduated with a DDS degree in May 2024 from Creighton University's School of Dentistry.

Retention Activities

During the 2023-2024 academic year, the Postbaccalaureate Premedical and Predental students participated in several activities inside and outside the classroom that helped foster academic and student support as well as increased retention.

Tutoring

HS-MACA offered a tutoring program for students who needed extra assistance in their postbacc classes, in dental and medical schools, and in the "pipeline" programs. Other health professions students are provided individual tutoring as needed. Students are referred by HS-MACA coordinators for tutoring in subject areas of biology, chemistry, physics, or math. The following services are offered:

- Individual meeting with an instructor for an assistance.
- Individual and peer-tutoring with classmate(s).
- Access to academic resources offered through the university.

In the year 2023-2024, HS-MACA provided over a hundred (100) hours of supplemental peer tutoring to Postbaccalaureate students.

Learning Lab

HS-MACA continued the operations of the learning laboratory in the 2023-2024 academic year as an extension of the Academic Success course and to enhance the existing tutoring program. Under the guidance of the Assistant Director of Education and the Learning Specialist, twelve postbacc students received over seventy hours of Learning Lab experience to improve learning strategies in course content as follows: cooperative learning, content experts to provide guidance, MCAT/DAT preparation, error analysis, and review with group tutoring.

Scholarships

In 2017 Postbaccalaureate Alumni Scholarship Endowment Fund was established by HS-MACA Postbacc alumni. Currently the fund amounts to more than a Hundred Thirty Thousand and growing from donations of alumni, supporters, and friends of the program.

Drs. Gbolahan and Sade Kosoko-Lasaki Family Scholarship Award was established in 2008. This award is \$750 per student for two students in the current postbacc program who improved the most in the pre and post-medical and dental (MCAT and DAT) admission test scores. For 2023-2024 school year, Samuel Esters (Predental) and Chanelle Roegler (Premedical) received this award.

Programs GPA

The criterion for success in the Postbacc program is for students to achieve a GPA of at least 3.5 on a 4.0 scale. We are pleased to report that 83% (10 out of 12) of the students achieved this desired GPA. Figure 1 depicts a summary program GPA score.





Graduation of Postbacc <mark>alumni from professional School</mark>s of Dentistry and Medicine

Student Organizations

The 2023-2024 Postbacc premedical students were active members of the Student National Medical Association (SNMA). The Student National Medical Association, established in 1964, is the oldest and largest independent student-run organization focused on the needs and concerns of African American students in the United States. It was established as a subsidiary of the National Medical Association in the 1964 by medical students from Howard University and Meharry Medical College. SNMA is committed to supporting current and future underrepresented minority medical students, addressing the needs of underserved communities, and increasing the number of clinically and culturally competent physicians.

The 2023-2024 postbacc predental students were active members of the Student National Dental Association (SNDA). The SNDA connects, supports, and advances the needs of underrepresented dental students nationwide. SNDA also has as its mission the cultivation of a strong academic and social environment for its student members.

Community Engagement

During the 2023-2024 academic year, the postbacc students participated in group activities outside of the classroom to help foster community engagement, teamwork, and volunteerism.

On Saturday, June 17th, 2023, postbacc students participated in and engaged in the Omaha Juneteenth Parade. Juneteenth is an annual celebration that marks the time when the last slaves in Galveston, Texas heard the news of the Emancipation Proclamation and that they had been set free by executive decree. Students walked along in the parade, gave away items to those in the community, and engaged with the community by sharing about the importance of physical activity.

On Saturday, September 30th, 2023, Creighton University's Health Sciences Multicultural and Community Affairs Department, HS-MACA- hosted its 6th Annual Let's Move Let's REACH Physical Activity Day in the North Omaha Community. *REACH Physical Activity* Day is an annual event that occurs every September to promote wellness and the reduction of cardiovascular disease and its risk factors like obesity, diabetes, and hypertension in the community, particularly among the African American population. Postbacc students volunteered to help make the event a success, and the day was an enjoyable way to celebrate the community spirit of Omaha and learn more about the value of physical activity and improving the quality of life.

On Tuesday, February 20th, 2024, postbacc students visited a local historical site as a part of Black History month. In the heart of Omaha, Nebraska, lies the Malcolm X Memorial Foundation, a beacon of historical significance and educational enlightenment. Students took part in a tour of the Malcolm X Memorial Foundation and learned about Malcolm X's impact in the region, country, and the world.

Conclusion

Creighton University's HS-MACA administered Postbaccalaureate (Postbacc) and Prematriculation (Prematric) programs continue to provide a model for training diverse individuals from economically or educationally disadvantaged backgrounds. The long term success rate is indicative of a well thought out, quality program that is successfully preparing individuals for rigorous health professional graduate programs.

Feedback from both students and faculty further validates the effectiveness of these programs. Students consistently express feeling supported and challenged, with many expressing gratitude for the personalized attention and resources provided by the program. Faculty members commend the dedication and resilience of the students, noting their contributions to classroom discussions and their commitment to academic excellence.

The program participants not only increase the diversity of their respective programs but also enhance the quality and cultural sensitivity for all Creighton University medical, dental, pharmacy, and occupational therapy students. The collaborative and inclusive environment fostered by these programs ultimately benefits the entire university community.



Multicultural and Community Affairs





Match Day 2024

Daniela Hinchman-Dominguez, a Postbacc 2020 alumna. She recently graduated at Creighton University School of Medicine and matched in Urology at the State University of New York at Buffalo, NY. Daniela also was accepted in the COPC Summer Research Program in 2021 and she presented her research paper along with her mentor, Dr. La Shaune Johnson on "Traveling Mercies on the Road to Health: Journey-Mapping after Acute Care".

Daniela with Posbacc staff at Matching Day 2024



Community Oriented Primary Care Program (COPC)

Over the past twenty (20) years, (2004-2024) the National Institutes of Health (NIH) supported Creighton University (CU) Community Oriented Primary Care (COPC) Endowed Research Grant. Under the direction of Omofolasade (Sade) Kosoko-Lasaki, MD, the CU-HS-MACA-COPC has developed, maintained and advanced the aims and objectives of the program.

The COPC Research Endowment Grant has specific aims to increase medical students' exposure to and an awareness of issues related to cultural competence and health disparities, to develop an endowed tutoring program to increase the success rate of medical students, and to increase the enrollment of students interested in participating in health disparity research. The program was successful in establishing an endowed summer research program and an endowed, longitudinal public health research experience for medical students. Additionally, Common Ground was formalized as a student-faculty forum used to present and discuss issues related to cultural competence and health disparities from local physician-instructor/researchers' practices.

Specific Aims and Objectives:

The 5 specific aims and objectives of the COPC Research Endowment Grant are presented below. A summary of the progress toward each aim/objective is presented after each objective.

Objective 1-1: Establish an endowed summer research program to support 3 pre-clinical medical students per year in an eight-week COPC public health research assistantship during the summer following their first year of medical school to increase the students' knowledge of and expose them to health disparities issues.

Objective 1-2: Establish an endowed community research elective to support 2 fourth-year medical students per year in a longitudinal COPC public health research experience to increase the students' knowledge of and expose them to health disparities issues.

Objective 2-1: Formalize the existing Common Grounds program and establish it as an endowed student/faculty forum for discussing health disparities research in a "shared inquiry" format to increase the students' knowledge of and expose them to health disparities issues and to increase students' cultural proficiency skills.

Objective 2-2: Establish an endowed program for training medical student tutors to increase the academic success rate of medical students.

Objective 3-1: Increase medical school enrollment of health disparity students interested in participating in health disparity research dolor sit amet.



COPC Progress Report for 2023-2024



Objective 1.1

In June 2023, there were two students who were accepted into the Summer Research Program. Kurt Parker who was mentored by Dr. Yusi Fu on a topic "Characterization of Mutation Signatures in Endometrial Serous Carcinoma" and Olivia Verventloh from the Phoenix campus was mentored by Dr. Hermananda Kumar Muniraman on the "Prevalence of COVID-19 Pandemic Maternal Drug Use and Impact on Health Outcomes." Both students presented at Common Ground on the Spring of 2024.

Currently, three students are doing the Public Health Summer Research and are being mentored by three Creighton University Public Health and School of Medicine professors. The names, topics and mentors are listed on Table 1.

Objective 1.2

The COPC Longitudinal Public Health Research in 2023 has accepted one M4 student, Youssef Chalitta. He used to be a COPC Scholarship recipient while in M2 and has done prior reserach with Dr. Srinagesh Mannekote Thippaiah at Phoenix campus. Youssef while enrolled in FAP 481 as part of his fulfillment to the COPC scholarship requirement, was further mentored by Dr. Kosoko-Lasaki and Dr. Laeth Nasir of Family Medicine department and he and his other researchers led by his mentor was able to publish their research on "The Severity of Burns and Associated Psychiatric Risk Factors in Self- Immolation" at the Journal of Psychiatry. The student matched in Psychiatry, his choice of specialization at the University of Southern California in Los Angeles.

Currently, there are two students who are accepted into the program. Eileen Ouyang and Xinxin Wu and both will start the course in September. Possible financial assistance will be provided to these students in case they submit their paper for publication or presentation to a national conference.

Year	Student's Name	Topic/Title of Research	Mentor's Name
2024	Sarah Snyder	Psychiatric and Cognitive Symptoms of Parkinson's Disease	Dr. Rajesh Tampi
	Ashleigh Miller	Attention Deficit disorder Treatment Disparities in Minority Children Populations	Dr. John Stone
	Kiely Nelson	An Evaluation of How Healthcare Systems are Screening Patients for Social Determinants of Health	Dr. Anne O'Keefe
2023	Kurt Parker	Characterization of Mutation Signatures in Endometrial Serious Carcinoma	Dr. Yusi Fu
	Olivia Venvertloh	Prevalence of COVID-19 Pandemic Maternal Drug Use and Impact on Health Outcomes	Dr. Hemananda Kumar Muniraman

Objective 2.1

Common Ground is a formalized interprofessional forum of Creighton University students and faculty. This activity spanned 7 months between September 2023 to April 2024. A total of 22 sessions occured with various experts, reseachers and practitioners were invited to lead the discussions on health disparities and cultural competency. A total of 645 students from different health sciences school attended the sessions. Lunch was also served to students who are on campus. Common Ground is done via Zoom since the pandemic.

All sessions were successfully implemented as planned and objectives were achieved. Overall approval by the participants was high and impact ratings were excellent. The objectives were fully met.



Weekly Zoom Link: https://creighton.zoom.us/j/92651533134 Common Ground is funded by National Institutes of Health, COPC Endowment Fund (NIH#152MD001102-01)

"MACA IS THE MECCA OF DIVERSITY AND A PLACE WHERE EXCELLENCE IS EXPECTED AND ACHIEVED"

Weekly Zoom Link: https://creighton.zoom.us/j/92651533134

Via Zoom

Common Ground is funded by National Institutes of Health, COPC Endowment Fund (NIH#5521MD001102-03)

"MACA IS THE MECCA OF DIVERSITY AND A PLACE WHERE EXCELLENCE IS EXPECTED AND ACHIEVED"



Objective 2.2 Tutoring Services

COPC Tutoring continue to support tutoring services in the School of Medicine. As of 2023-2024 academic year, the program has thirteen trained tutors with a total an average of 150 hours spent in tutoring medical students in various subjects. Eleven of these tutors have graduated from the School of Medicine this 2024 and have matched in their choice of specialization. The two others are still in the medical school.

A review of the process is recommended to get a good analysis of the program and a report will be made for action as needed.

Objective 3.1 COPC Scholarship

COPC Scholarship Program in 2023 had 13 students who availed of the scholarship program. The total amount dispersed for such scholarship was Forty Five Thousand Dollars (\$45,000), the highest amount so far awarded since the program started in 2007.

Students applied and were selected and provided with scholarship ranging from \$1,000 to \$10,000 based on previous research in health disparity. Students were also encouraged to present their research at Common Ground These students were tracked to determine their specialties of interest and location in the country.

Tracking of COPC program recipients

Another look of the numbers from 2020-2021 to 2023-2024 will give us a better grasp of how the program runs

and impacts the lives of many medical students at Creighton University. From this four-year period, a total of fifty-nine students participated in the program: 13 in the Summer Research, 6 in Longitudinal Public Health Research, 35 students availed of the Scholarship and 13 students committed to tutor hundred of medical students in various subjects/courses. Out of the 69, 9 students have participated in two programs and 1 student left in the course of 4 years. For a difference of 59 students in the current year (2024), 21 of them graduated this year and 12 of them graduated in 2023. Twenty-five students are still in the medical school.







- No of students graduated and matched in their choice of specialization
- No of students still in the Medical School
- No of students left school



List of COPC Program Recipients and their Program of Specialization in Residency during the Match Day 2024

No.	Name	COPC Program/s	Program	Residency
1	Bodlak, Andrew	Summer Research, Scholarship and Medical Electives	Univ of Colorado SOM, Denver, CO	Psychiatry
2	Challita, Youssef	Scholarship and Longitudinal Research	Univ of Southern California, Los Angeles, CA	Psychiatry
3	Hinchman-Dominguez, Daniela	Summer Research	State Univ of New York at Buffalo, Buffalo, NY	Urology
4	Segismundo, Arthur	Summer Research	Univ of Texas at Austin Dell Med School, Austin, TX	Internal Medicine
5	Griffin, Julie	Scholarship and Medical Electives	Medical College of Wisconsin Affi Hosp's, Milwaukee, WI Univ of Utah Health, Salt Lake City, UT	Prelim Medicine Dermatology
6	Craven, Sarah	Scholarship and Medical Electives	Oregon Health & Science Univ, Portland, OR	Pediatrics
7	Manickavelu, Pranavya	Summer Research and Scholarship	Baylor Univ Medical Center, Dallas, TX	Emergency Medicine
8	Sidhu, Suhail	Scholarship and Medical Electives	UC Irvine Medical Center, Orange, CA	Internal Medicine
9	Watts Clayton	Tutoring Services (Trained Tutor)	Utah Valley Regional Med Center, Provo, UT	Family Medicine
10	Smith, Michaela	Tutoring Services (Trained Tutor)	Creighton University, Omaha, NE	Obstetrics & Gynecology
11	Burdyny, Michael	Tutoring Services (Trained Tutor)	Summa Health/NEOMED, Akron, OH	Orthopedic Surgery
12	Cutrow, Spencer	Scholarship and Medical Electives	Loma Linda University, Loma Linda, CA	Internal Medicine
13	Drexelius, Julia	Scholarship and Medical Electives	Rhode Island Hosp./Brown Univ, Providence, RI Urology	Urology
14	Kaczynski, Donna	Scholarship and Medical Electives	Univ of Washington Affi Hosp's, Seattle, WA	Pediatrics
15	Nelson Anjali	Tutoring Services (Trained Tutor)	Univ of Louisville SOM, Louisville, KY	Internal Medicine
16	Stokes Laura	Tutoring Services (Trained Tutor)	Mayo Clinic School of Grad Med Educ, Phoenix, AZ	General Surgery
17	Keley Ray	Tutoring Services (Trained Tutor)	University Hospital, Columbia, MO	General Surgery
18	Gabriel Beeler	Tutoring Services (Trained Tutor)	Loma Linda University, Loma Linda, CA	Obstetrics & Gynecology
19	Darby Keirns	Tutoring Services (Trained Tutor)	Mayo Clinic School of Graduate Medicine Education, Phoenix, AZ	Otolaryngology
20	Samuel Shrestha	Tutoring Services (Trained Tutor)	Creighton University, Omaha, NE	General Surgery



Pipeline Program - Focus on Health Professions

Since its inception in 2000, the Health Sciences Multicultural and Community Affairs Office (HS-MACA) has introduced over ten thousand young individuals to careers in the Health Sciences through pipeline programs that serve area students beginning in the 4th grade and continuing through their middle school, high school, college, and professional school years. The program exposes young people of diverse backgrounds to career opportunities they might not otherwise consider and helps them envision a possible profession in the Health Sciences. Mentors encourage students to establish short-term and long-term educational and professional goals that will foster an ongoing interest in science. Pipeline programs lay the groundwork that can assist students in becoming competitive applicants to professional schools of medicine, dentistry, and other health sciences.

Focus on Health - Afterschool Program

The HS-MACA Focus on Health Afterschool Program was created in 2009 as a sustainability program for the Health Careers Opportunity Program (HCOP). Through a collaborative agreement we established a partnership with the City of Omaha's Middle School Learning Initiative (MSI) to provide Science, Technology, Engineering, and Math (STEM) programming to their afterschool and summer programs. The schools partnered with were Marrs Middle School and the King Science and Technology Magnet Middle School. Additionally, HS-MACA partnered with Liberty Elementary School, Buffett Middle School, Marrs Middle School, Omaha Central High school, and the Girls, Inc. of Omaha to expand the STEM education to elementary and high school students. A STEM curriculum was developed by HS-MACA, in which educational and career presentations were given in seven-week sessions during the academic school year. In total, 354

students were impacted by the afterschool program classes in the 2023-2024 academic year, with many of them participating in other programs offered by HS-MACA, such as SRI, EASE, HCOP and the Mini Health Sciences School.

Pipeline Programs with the Omaha Community

HS-MACA attended the Cinco de Mayo Festival on May 11, 2024, in which Creighton University HS-MACA Staff and Creighton University School of Medicine student volunteers met with Hispanic and Latinx community and their families in south Omaha. HS-MACA and CPHHE Staff brought promotional items, flyers, pamphlets, and interactive models to provide students and their families with information about Creighton. The Healthy Home Project also presented its platform and campaigned for folks to take the survey. The medical students did the Cow-Eye Dissection Lab Experiment that gathered kids and parents in the vicinity.



Mini Health Science School

On April 18th, 2024, the middle schools and high schools participating in the Focus on Health -Afterschool Program were invited for a one-day tour of the undergraduate science departments and health science schools at Creighton University. Working in collaboration with the College of Arts and Sciences Department of Chemistry, the School of Dentistry, and the School of Pharmacy and Health Professions, HS-MACA organized the Mini Health Sciences School in which precollegiate students would visit the Creighton science programs and perform interactive activities that would allow them to envision themselves in health science careers. Students walked to each of the health science programs, rotating every hour to see dentistry work benches, physical therapy wheelchairs, occupational therapy log swings, and a simulated occupational therapy room led by the Occupational Therapy department in the School of Pharmacy and Health Professions. After visiting the health science schools, they ate a buffet lunch at the Brandeis Dining Hall. Students were then taken to the Rigge Science Auditorium where they watched the "Chem Show" in which Creighton faculty and students performed engaging chemistry demonstrations, such as lighting hydrogen balloons on fire and freezing objects with liquid nitrogen, to entertain and educate the precollegiate students. After the show was concluded, health science students and faculty sat in on an interview panel where participants were free to ask questions about the rigors of education and the path that people took to become health science professionals.



Mini Health Sciences School Orientation



Mini Health Sciences School Rotation at the School of Pharmacy



Center for Promoting Health and Health Equity (CPHHE)



The Center for Promoting Health and Health Equity (CPHHE, "Center") aims to advance health equity, especially for communities with disadvantages in Omaha and the region. CPHHE will continue reducing health disparities and improving the health of minority populations through community-university collaborative research, education, and implementation. The latter involves the translation of evidence-based interventions to the targeted communities. The Centers for Disease Control and Prevention (CDC) funded CPHHE-REACH (Racial and Ethnic Approaches to Community Health) is a premium example.CPHHE employs a triple-core approach of 1) Intervention, 2) Training and Development, and 3) Research.

Specific Aims

- To enhance and sustain the core administrative infrastructure of the Center for maintaining program effectiveness.
- 2. To expand and sustain career development opportunities for faculty and students that will help support their interests in improving minority health, including new pilot research funding.
- 3. To strengthen the Center's intervention core through present and new programs to promote community health and reduce health disparities, considering community priorities and needs.
- 4. To develop and promote research that addresses health equity by targeting the elimination of health disparities.
- 5. To grow and sustain community-academic collaboration for successful community interventions and investigations to improve community health.

Key Highlights By Core

I. Intervention Core

- CPHHE was awarded the Community Initiative Capacity Building Pathways from United Healthcare in the amount of \$250,000. The objectives for this award were to:
 - To promote health equity by addressing COVID-19 and influenza vaccination hesitancy among the minority populations in Omaha, Nebraska
 - b. To train 8 Community Health Advocates in vaccine education on influenza, COVID-19, Infant-related diseases, elderly-related diseases, and Monkey Pox.
 - c. To guide Community Health Advocates (CHA's) to provide education on vaccines at various community events and outings.





s student organizat

The funding ended on August 31, 2023.Overall, the 8 CHAs held 635 community and individual education sessions, totaling 5186 individuals educated and impacted by their intervention.

- CPHHE employed social media to disseminate information regarding access to healthy food, physical activity, obesity, and tobacco. The CPHHE Facebook page started in March 2015, has reached more than 13,411 (with some multiple and duplicate) individuals, promoting an understanding of health disparities and health equity.CPHHE's page currently has 115 followers and 107 Page Likes on Facebook.
- CPHHE's Lyrics, Life & Lessons (LLL) Program continued within the Omaha community. This innovative method of public health and social justice education uses hip-hop music lyrics to educate youth. Public health topics include violence, crime, healthy neighborhoods, and alcohol and drug prevention..
- The Racial and Ethnic Approaches to Community Health Grant from the Center for Disease Control (CPHHE-REACH) was first funded from 2014–2018 to increase access to physical activity in the African American North Omaha community through environmental changes and community partnerships and linkages.Since then, CPHHE has continued promoting and hosting the <u>CPHHE-REACH Physical Activity Day (PAD)</u> annually in the North Omaha community.The PAD was last held on September 30, 2023, featuring 5 physical activity trainers and about 12 vendors. Overall attendance was 160 participants. The event is an outdoor community event and was participated in by different health sciences

schools at Creighton, and various student organizations such as the Student National Medical Association of the School of Medicine, where the students and their faculty offered PT demonstrations, Dental screenings, and First Aid/Vital Signs screenings, respectively. Recently REACH has received another funding to serve the African American and Hispanics in Omaha with focus on Nutrition, Physical Activity, Breastfeeding Support and Adult Vaccination. The project is still on its first year.

Dr. Jeffrey M. Smith was a tenured faculty member at Creighton University in the College of Education and a founding partner in CPHHE.Dr. Smith was also the HS-MACA department's evaluator on nearly all programs and grants.Dr. Smith passed in the Fall of 2021.Thus, in his honor, CPHHE started the <u>Dr. Jeffrey M. Smith</u> <u>Memorial Lecture Series</u>. CPHHE honors the life work and legacy by engaging the community and academia by providing a speaking engagement and reception. On June 1, 2023, a second event honored Dr. Jeffery Smith featuring University of Illinois Chicago Professor of Black Studies, Criminology, Law and Justice, Dr. David Stovall. There were 46 individuals in attendance The 3rd lecture series is set on June 20, 2023 with Dr. Storall as guest speaker.

II. Training and Development Core

The **18th Annual Addressing Health Disparities Seminar** was held both virtually and in person to maximize





"Community Health Workers: A Sustainable Workforce for Health and Business"

attendance and outreach. The Seminar is a collaborative activity of the Center with HS-MACA and Health Sciences'Continuing Education Department. The 2024 Seminar topic was "Collaborative Necessity: Obesity, Related Diseases, and Health Equity Across the Lifespan" and featured our keynote speaker, Dr. Bob Rauner, MD, MPH, FAAFP, President of Partnership for a Healthy Nebraska, an organization committed to improving the health of all Nebraskans via a health data driven collaborative approach. Our opening speaker, Dr. Anne O'Keefe, MD MPH, is a faculty member with the Creighton University School of Medicine in the Department of Clinical Research and Public health who was the Senior **Epidemiologist for the Douglas County Health** Department (DCHD) in Omaha, Nebraska for 15 years. Twelve students from the Post-Baccalaureate program attended the Health Disparities Seminar and wrote reflection papers about what they learned from the presenters and discussion. General attendees had the opportunity to provide feedback and evaluation through paper and electronic forms. We had a total of 144 participants registered and 46 participants attended the virtual seminar. CPHHE partners will review evaluation results to identify how participants will apply the information, including how they might change their professional practices.

- To encourage pursuit of careers promoting health equity, the Center continues providing summer research opportunities for underrepresented high school and undergraduate students interested in health disparities and research through the <u>Summer</u> <u>Research Institute (SRI).</u> High school students participate in community-based participatory research with a community, public health organization, and undergraduate students participate in biomedical bench research with a Creighton faculty researcher. In the summer of 2023, CPHHE hosted 6 undergraduate students who participated in biomedical research.
- The Health Disparities Research Training Program (HDREP) a collaboration between CPHHE and the University of Alabama-Birmingham, provided another year-long program of mentoring, career development, grant writing, and research training for one Creighton University faculty scholar. Drs. Stone and Kosoko-Lasaki continue mentoring HDREP scholars Dr. Kate Nolt (Health Disparities and Internet Gaming Disorder), Dr. Sarbinaz Bekmuratova (Health Disparities in Sex Trafficking), Dr. Carolina Landeen, MD (Addressing Disparities in Lung Cancer Screening & Incidental Lung Nodule Tracking) and Dr. Julia Shin, EdD (To Evaluate a Capacity Building Program for Children's Racial-Ethnic Minority Caregivers to Enhance Their Culturally **Effective Collaboration and Partnership with Pediatric Rehabilitation Service Providers; Community Based Participatory** Action Research). This past year, we onboarded Dr. Joy Doll, OTD from Creighton University School of Health Professions, Occupational Therapy (To develop a better understanding of the impact of e-referral systems on healthcare outcomes and the lived experiences of those experiencing the new bridges between healthcare and social care).





The Engaging African American Students in STEM Education (EASE) Program was implemented in 2021 in partnership with Hampton University to provide a two-week education session on disease epidemiology, physiology, and biology to African American students from 8th to 12th grade in the Omaha Public School system and the Hampton, VA Public School system virtually. In 2022, 8 high school students participated. In the inaugural year of 2021, 18 students participated. Another two-week EASE program has been organized for 2024 exploring the intersection of STEM and AI in promoting health.

III. Research Core

- The CPHHE Research Committee guides The <u>Annual Dr.</u> <u>Frank T. Peak Health Disparities Essay Writing</u> <u>Competition</u>, designed to encourage students at the intersection of public health, healthcare, and the social sciences to address how to promote health equity in the lives of ethnic/racial minorities, and other disadvantaged populations. The <u>6thAnnual Dr. Frank T. Peak Health</u> <u>Disparities Essay Writing Competition</u> only had one (1) submission in 2023. Thus, no award given. In 2024, <u>the</u> <u>7th Annual Dr. Frank T. Peak Health Disparities Essay</u> <u>Writing Competition</u> received 9 applications, of which 4 student abstracts and essays were eligible for evaluation. The winner of the essay competition presented at the Spring 2024 Health Disparities Seminar.
- CPHHE's Health Disparities <u>Journal Club</u> examines biomedical and public health publications regarding evidence and analyses germane to CPHHE's mission and research aims. Eight sessions were held from August

2022 to May 2023, and 6 sessions from October 2023 to April 1, 2024. This makes 64 sessions since its inception in January 2015. Participants in the Journal Club meetings are former and current HDRTP faculty, CPHHE partners, and HS-MACA staff. Participants review and discuss articles from peer-reviewed journals related to health disparities and health equity and consider how the information can apply to our local communities. Future Journal Club invitations and announcements will be disseminated to a broad Creighton University audience interested in reducing health disparities and promoting health equity.

Center for Promoting Health and Health Equity

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HS-MACA/CPHHE - Summer Research Institute

The Health Sciences Multicultural and Community Affairs (HS-MACA) and the Center for Promoting Health and Health Equity (CPHHE) collaborate to create the Summer Research Institute (SRI). This institute aims to increase interest in biomedical and health sciences professions among underrepresented minority groups. The specific objectives of the program are to:

- 1. Enable students to better understand the nature and applicability of scientific methods in research
- 2. Instill confidence in students pursuing careers in biomedical research and other health professions
- 3. Provide minority students exposure to opportunities inherent in research careers

The program funding and support is sponsored, in part, by:

- The Nebraska Health Care Funding Act (LB692) Nebraska Tobacco Settlement Biomedical Research Development Fund
- Nebraska EPSCoR FIRST Award (A subaward of the National Science Foundation Award Number 2044049)
- Dr. Shashank Dravid, Dr. Jian Zuo, Dr. Tal Tietz
- Creighton University Health Sciences-Multicultural and Community Affairs
- Center for Promoting Health and Health Equity





Judges

- D. Roselyn Cerutis, PHD.,
 Associate Professor, School of
 Dentistry, Creighton University
- Olivia Loh, MS,., Dept. of Genetics, Cell Biology and Anatomy, University of NE Medical Center
- Tembi Patrick Kuwong, BS.,
 MD/PhD Student, School of
 Medicine, Creighton University
- Daniel Afolabi, BS, Graduate
 Student, School of Medicine,
 Creighton University



Alyssa Bilski, SO Creighton University Mentor: Dr. Laura Hansen

Flower Protein Regulates S100 Expression in Skin Cells



Background: Cutaneous squamous cell carcinoma (cSCC) is one of the most common cancers detected in humans.

However, there is a lack of non-invasive treatment options, shifting the focus of the research to the mechanisms that promote cSCC. The human gene Flower (hFWE) can be spliced into four isoforms, with hFWE3 and hFWE4 being the predominant isoform within human tissues based on publicly available data. Preliminary data suggest hFWE can play a role in cancer progression and regulation of skin differentiation and proliferation. A previous experiment suggests hFWE3 and hFWE4 may interact with S100 proteins, which are found within cells and secreted. They are known to be involved in cell proliferation, differentiation, and other cellular processes.

Purpose: Investigate the abundance of S100 proteins in whole cell lysates and secreted media of skin cells over-expressing hFWE4.

Methods: For the cell culture, cSCC patient derived cells (HaCaT and SCC12-B.2) grew in DMEM with 10% FBS (fetal bovine serum) and 1% antibiotic at 37°Cat 7% CO2, allowing for normal conditions.<u>Secreted</u> Media: After cells reached confluency, cells were washed and refed with FBS free media. 2 days later, media was taken off, filtered through .44-micron filter, and concentrated with Pierce[™] Protein Concentrators PES. After pulling the media, cells were washed with PBS then lysed with RIPA buffer. For the western blot analysis, 30ug of whole cell and 10-20ug of secreted media were loaded onto a gel. After transfer, a Ponceau S stain was done. Blots were blocked with 5% milk in 1X TBST for 1 hour. Primary antibody was put on overnight. Blots were incubated in secondary for 1 hour. Blots were then developed using Bio-Rad's Clarity and Clarity Max ECL Blotting Substrate for 5 minutes and exposed in Chemidoc Imaging System for 50 seconds.

Results: S100A7 over-expression was low in HaCaT with little difference between the control, EGFP, and hFWE4. In HaCaTs, there

was no significant difference in S100A7 expression in either EGFP or hFWE4. However, there was a slight increase in over-expression, with the secreted media S100A7 over-expression was increased compared to the control. In SCC12-B.2 cells, S100 expression in whole cell lysates and secreted media is similar between EGFP and hFWE4, having over-expression not affecting S100 expression.

Conclusions: FWE4 over-expression did not impact S100A7 levels in both normal and skin cancer cells.

Aya Williamson, SO

Kansas University Mentor: Dr. Marissa Zallocchi



The Effects of Kanamycin on the Kidneys

Kanamycin is a type of aminoglycoside

antibiotic that typically is used to cause damage to the DNA bases of Escherichia coli, or E. coli as most people know it. However, many antibiotics, while helping fight infection in one part of your body, will cause damage elsewhere. I worked on the kanamycin piece of the experiment, studying how treatment with kanamycin can lead to proteinuria in zebrafish due to proximal tube dysfunction in the kidney. I also worked with piperlongumine; a natural product derived from the long pepper with the potential to treat a variety of illnesses. Our null hypothesis is that increased levels of kanamycin do not affect kidney function in zebrafish, and our alternative hypothesis is that higher concentrations of kanamycin will cause nephrotoxicity, while piperlongumine can rescue this phenotype.

In this experiment, we followed a screening, a dosage, and later a testing process. For the screening process, when the fish are between 4-6 days post fertilization, we use fluorescent microscopy to see whether certain aspects of the fish illuminate. We look for a glowing red of the liver, and we also see whether the heart glows green. Both green and red, or only red indicate a positive fish, and only green or neither of the two indicate a negative fish. For the

dosages, experiments with both kanamycin alone and a combination of kanamycin and piperlongumine were performed. Different concentrations of the drugs were used. The fish were incubated in water that contained this drug treatment, then the water containing their urine was collected. For the testing, an ELISA assay was performed on the samples to test the amount of mCherry in their urine, indicating the amount of proteinuria in each fish. A cell culture on HELA and HEI cells was also performed with differing concentrations of kanamycin in order to measure cell death due to the drug.

The results of the experiments showed marginal nephron damage by kanamycin (shown by the increased mCherry concentration in the urine) compared to the control animals. It also showed the same marginal results when the animals were co-treated with piperlongumine. In the cell cultures, no significant difference was found between cells treated with vehicle or different concentrations of kanamycin. It is likely, however, that these cells are resistant to kanamycin.see whether the heart glows green. Both green and red, or only red indicate a positive fish, and only green or neither of the two indicate a negative fish. For the dosages, experiments with both kanamycin alone and a combination of kanamycin and piperlongumine were performed. Different concentrations of the drugs were used. The fish were incubated in water that contained this drug treatment, then the water containing their urine was collected. For the testing, an ELISA assay was performed on the samples to test the amount of mCherry in their urine, indicating the amount of proteinuria in each fish. A cell culture on HELA and HEI cells was also performed with differing concentrations of kanamycin in order to measure cell death due to the drug.

The results of the experiments showed marginal nephron damage by kanamycin (shown by the increased mCherry concentration in the urine) compared to the control animals. It also showed the same marginal results when the animals were co-treated with piperlongumine. In the cell cultures, no significant difference was found between cells treated with vehicle or different concentrations of kanamycin. It is likely, however, that these cells are resistant to kanamycin. Niki Li, SO Boston College Mentor: Dr. Shashank Dravid

The Effects of GluN2D Receptor Subunit Ablation and Synaptogenic Protein Hevin on Cocaine Behavior



Background: The circuit thought to play critical role underlying drug addiction is

the mesolimbic dopamine system which involves dopamine neurons in the ventral tegmental area (VTA) innervating neurons in the nucleus accumbens (NAc).1Individuals with substance use disorder form a memory when the drug is associated with environmental stimuli.2Finding mechanisms behind memory formation and reducing its strength could have therapeutic implications in preventing cue-induced seeking and addiction. Researchers in the field of drug addiction have been drawn to the extensive presence of N-methyl-D-aspartate (NMDA) receptors, one of three types of ionotropic glutamate receptors, but less is known about the roles of specific receptor subunits underlying addictive behaviors. The GluN2D-containing receptors exhibit unique properties such as lower Mg2+sensitivity, lower Ca2+permeability, and slower deactivation rate.3lt has also been found that astrocytes regulate synaptic plasticity and synaptogenesis, a key mechanism for learning and memory.4Hevin, an astrocytic-secreted matricellular protein, promotes the formation and maintenance of excitatory synapses by linking presynaptic neurexin-1a and postsynaptic neuroligin-1B, but its role in the maintenance of cocaine memory is understudied.5

Research Questions

What are the effects of GluN2D receptor subunit ablation on cocaine behavior?

What are the effects of synaptogenic protein hevin on cocaine behavior?

Hypothesis

After conditioning, GluN2D KO animals will spend less time in cocaine-paired chambers than control and hevin-injected animals will spend more time in cocaine-paired chambers than control.

Issabelle "Izzy" Shehan SO Creighton University Mentor: Dr. Peter Steyger

Effect of CAT2B Levels on Inflammation-Mediated Drug Uptake



Background: Ototoxic drugs, such as aminoglycosides, tend to be more damaging during periods of acute infection. Aminoglycoside antibiotics are crucial for treating life-threatening bacterial infections despite the known risk of permanent hearing loss via damage to the more susceptible sensory cells of the inner ear. Previous research has shown that systemic inflammation increases the cochlear uptake of aminoglycosides, like gentamicin, exacerbating the degree of hearing loss.Encoded by SLC7a2b, CAT2B is a protein that regulates macrophage activation and enables transmembrane transport of L-amino acids, especially L-arginine, into the cell. L-arginine is critical in the formation of nitric oxide in macrophages to break down pathogenic bacteria. L-arginine has a similar structure to aminoglycosides.

Understanding the cause of why these drugs are more damaging during periods of acute infection will enable us to make the drugs safer during their period of use in infection, and potentially give some insight into the mechanism by which aminoglycosides damage hearing. Hypothesis: We hypothesize that CAT2B facilitates the cellular uptake of aminoglycosides into cells to potentially exacerbate drug-induced hearing loss. We also hypothesize that cochlear CAT2B is upregulated in response to systemic inflammation. 33

Methods: MDCT cells and AML12 cells were passaged, cultured, and kept in medium until needed for experimentation. The cells were exposed to LPS for varying amounts of time. Cells were then lysed, and proteins extracted, and their protein concentrations measured. Some cell samples were fractioned into their nuclear, mitochondrial, and cytoplasmic and membrane components, and the proteins were extracted, and their protein concentrations measured. Western blot analyses were done to assess the relative expression of CAT2 levels in each sample.

Gagandeep Kaur, SO

Los Angeles Peirce Community College Mentor: Dr. Catherine Opere



Mitigation of Excitotoxicity by Hydrogen Sulfide Donor, Diallyl Tetrasulfide in Bovine Retina, ex vivo

Background: There are currently no FDA-approved treatments for noise-induced hearing loss. Tizaterkib (AZD0364) is a specific ERK1/2 kinase inhibitor and phase-1 clinical trial anticancer drug for a wide variety of tumors. Recently, our lab showed that the drug provides 20-25 dB protection against noise exposure of 2 h, 100 or 106 dB, 8-16 octave band, in adult mice at three different frequencies. Tizaterkib was given orally for three consecutive days, twice daily, and the protection measured was permanent at 2 weeks after the noise exposure.



Dose-response of the drug in mice showed that it had an excellent therapeutic index above 50, and a dose of 0.5 mg/kg/body weight, equivalent to the dose currently tested in humans, was protective. Noise exposure in the current literature is known to increase inflammation and the innate immune response. Studies have shown that the MAPK pathway affects inflammatory signaling and immune responses. Here, we hypothesize that inhibition of ERK1/2 could reduce the innate immune response to noise exposure and will test whether treatment with tizaterkib will result in a reduced number of immune cells in the cochleae of noise-exposed mice.

Hypothesis: Tizaterkib, an ERK1/2 inhibitor, is lowering the number of immune cells in the cochleae following noise exposure.

Results: Mice treated with tizaterkib that were exposed to noise had significantly fewer CD45-positive cells in their cochleae compared to noise-alone treated mice. Imaging the total cochleae revealed that mice exposed to noise had an average of 34±5 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 19±2 CD45-positive cells per section 4 days after noise exposure. Zooming specifically to the stria vascularis region of the inner ear, a highly vascularized tissue in which infiltrating monocytes can enter the inner ear, showed that noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 7±1 CD45-positive cells per section 4 days after noise exposure.

Conclusions: Tizartekib treatment lowered the number of CD45-positive cells in the mice cochleae 4 days following noise exposure in the stria vascularis region and in the total cochleae. This suggests that the protective effects of the drug can be through a reduction in the levels of the CD45-positive immune cells in the cochleae following noise exposure. The study further supports the hypothesis that high levels of innate immune response exacerbate hearing loss following noise damage. Vishaal Arupprasad SO Millard North High School Mentor: Dr. Taping Yu

Investigating the Molecular Mechanisms of Glucocorticoid Resistance in Asthma: Unraveling the Puzzel



Research Question(s): Our Research on glucocorticoid resistance (GCR) in asthma aims to understand the underlying molecular mechanisms that contribute to this phenomenon.1. How is the glucocorticoid receptor function altered? 2. How can we identify biomarkers that can predict glucocorticoid responsiveness and explore therapeutic targets and treatment approaches?

Aim: To investigate the GR function specifically in potential GCR induced environments. Testing different molecular targets to better understand how the GR function changes in accordance with those targets. This could uncover different therapeutic targets and treatments by establishing links between FDA approved drugs and their known role in the biological pathways in GCR.

Methods A549 cell lines were used as an experimental model due to its derivation from a type II pneumocyte lung tumor since little research exists in epithelial mesenchymal cell mechanisms. TGF β , a well-known anti-inflammatory factor, was hypothesized as a positive control to induce GCR. Simultaneously other molecular targets, Platelet-derived growth factor beta (PDGF β), Sphingosine-1-phosphate (S1P), and Cigarette Smoke Extract (CSE)



were tested as alternative factors in inducing GCR and were hypothesized to play a role in EMT/GCR.

Qualitative analysis was also done through photos taken of cells at low and high confluency at both 20x and 40x magnification. Pictures were analyzed for changes in morphology, growth pattern, size, etc...

Ulyana Romanova, SO West Side High School Mentor: Dr. Eric Haas



CPT II Deficiency in Spodoptera Frugiperda (Fall Army Worms)

We are studying Fatty Acid Oxidation Disorders (FAOD) engineered in the fall Army worm, Spodoptera frugiperda. Our interest is on Carnitine Palmitoyltransferase II (CPT II) deficiency. CPT II is a transport protein that brings fatty acids across the inner mitochondrial membrane for beta-oxidation [3]. We hypothesize that disruption of this transport will lead to observable differences in lipid levels throughout the organism. To test this hypothesis, we designed morpholinos to block either splicing (SB) or translation (TB) for the CPT II gene product in RNA coding. Morpholinos will be injected at egg stages or put into food, then the caterpillars will be grown to different stages of development. We have already catalogued fatty acid levels in the wild-type organism from first instar to sixth instar stages. The caterpillars are homogenized in Folch's solution and lipids are extracted according to Folch, Lees, and Stanley as modified by Bligh and Dyer [1,2]. Extracted lipids are then either separated into phospholipid and neutral lipid fractions by thin-layer chromatography (TLC) or directly saponified to free individual fatty acids. Free fatty acids are converted for analysis by gas chromatography-mass spectrometry (GC-MS) by acid catalyzed esterification in methanol. Absolute quantities are determined by inclusion of a standard

(heptadecanoic acid; 17:0). Results suggests that relative abundance of common lipids remains consistent for each instar. Future work will consist of injecting designed morpholinos to further analyze the effects of the CPT II protein on metabolism of fatty acids.treatment approaches?

Mansi Singh, JR **Millard North High School** Mentor: Aja Anderson (Well Being Partners) Mental Wellness in the New Workplace Environment: The Importance of Nonprofits for Workplace Wellbeing



Background: The WHO says there was a 25% increase in anxiety and depression after the Covid-19 pandemic. Since the Covid-19 pandemic, mental wellness in the workplace has become a new priority, and one non-profit interested in helping these companies is the Wellbeing Partners. The Wellbeing Partners are fighting against this issue by providing programs to combat this and by helping to spread awareness of the new mental health movement.

Purpose: The purpose of my research is to recognize the importance of nonprofits focusing on workplace wellness, and to investigate why companies work with such companies.

Methods: I will be interviewing companies that the Wellbeing Partners work with. In addition to this, there will also be a survey sent out. To do this, I had to create the questions to ask during the interview, and a separate list of the questions for the survey. For the interview aspect, all the companies had to be emailed beforehand to communicate times that would work. After the interview, I collected the data to use to help my research. The survey form was sent out to the companies in addition, and the data from the survey was also collected and used.

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The survey questions were more quantitative; the questions focused more on scales, and ratings using numbers. The interview questions were focused on qualitative answers and focused more on the conversation. I used the data in excel spreadsheets to create the diagrams for my presentation.

Conclusion: From the data, we can see that the need for mental health resources is growing, which we can see from the number of companies with paid volunteer hours. The Wellbeing Partners are the place to go when you need these resources, because of the highly-rated reviews. In addition, since the trustworthiness of the WellBeing Partners is so high it shows why companies chose this company. With the changing work environment, we can see how companies like WellBeing Partners are thriving due to the need for companies for these new mental health resources.

Dominika Kouassi, SO Marian High School Mentor: Dr. Dr. Keyonna King (University of NE Medical Center, Center for Reducing Health Disparities



How Can community Involvement Affects Rate of Colon Cancer Testing in Black Residents in North Omaha

Purpose: The purpose of this research is to receive feedback on how to effectively cultivate screening processes and materials to increase the number of Black residents screened for colon cancer in North Omaha.

Hypothesis: If Black Americans are involved in the process of reviewing colon cancer screening processes and materials to ensure cultural appropriateness, then more Black Americans will be screened for colon cancer. Methods: We will host two, 90-minute community listening sessions that consist of Black residents and cancer survivors who will give their feedback on the screening materials and process. We will develop a semi-structured interview guide to ask questions about recruitment, enrollment, and colon cancer screening. In addition, we will ask residents to provide feedback on the recruitment and screening materials (e.g., consent forms, brochure, screening instructions).

The listening sessions will be digitally recorded and transcribed verbatim. We will use line-by-line coding to identify common discussion points and categorize the codes into themes related to answering the discussion question. All themes will be described and reported back to a subset of the community residents who participated in the community sessions for data validation.

Conclusion: Analyzing qualitative data provides a unique and insightful perspective into people's experiences. By delving into the rich narratives and emotions expressed in qualitative data, researchers can grasp the nuances and complexities of individuals' lived realities. This approach enabled a deeper understanding of the broader societal, cultural, and psychological factors that shape the participants' colon cancer experiences, leading to a more comprehensive view of African Americans lives and perspective. Emphasizing qualitative analysis complements quantitative methods, allowing for a more inclusive and empathetic exploration of the human condition, ultimately enriching our comprehension of diverse human experiences.

Alena Thotam, SO Hampton University Mentor: Dr. Tal Tietz

The Role of the Innate Immune Response in Protection from Acoustic Trauma by the ERK1/2 Inhibitor Tizaterkib





Background: There are currently no FDA-approved treatments for noise-induced hearing loss. Tizaterkib (AZD0364) is a specific ERK1/2 kinase inhibitor and phase-1 clinical trial anticancer drug for a wide variety of tumors. Recently, our lab showed that the drug provides 20-25 dB protection against noise exposure of 2 h, 100 or 106 dB, 8-16 octave band, in adult mice at three different frequencies. Tizaterkib was given orally for three consecutive days, twice daily, and the protection measured was permanent at 2 weeks after the noise exposure. Dose-response of the drug in mice showed that it had an excellent therapeutic index above 50, and a dose of 0.5 mg/kg/body weight, equivalent to the dose currently tested in humans, was protective. Noise exposure in the current literature is known to increase inflammation and the innate immune response. Studies have shown that the MAPK pathway affects inflammatory signaling and immune responses. Here, we hypothesize that inhibition of ERK1/2 could reduce the innate immune response to noise exposure and will test whether treatment with tizaterkib will result in a reduced number of immune cells in the cochleae of noise-exposed mice.

Hypothesis: Tizaterkib, an ERK1/2 inhibitor, is lowering the number of immune cells in the cochleae following noise exposure.

Results: Mice treated with tizaterkib that were exposed to noise had significantly fewer CD45-positive cells in their cochleae compared to noise-alone treated mice. Imaging the total cochleae revealed that mice exposed to noise had an average of 34±5 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 19±2 CD45-positive cells per section 4 days after noise exposure. Zooming specifically to the stria vascularis region of the inner ear, a highly vascularized tissue in which infiltrating monocytes can enter the inner ear, showed that noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section while noise-exposed mice treated with tizaterkib had an average of 14±2 CD45-positive cells per section 4 days after noise exposure.

Conclusions: Tizartekib treatment lowered the number of CD45-positive cells in the mice cochleae 4 days following noise exposure in the stria vascularis region and in the total cochleae. This suggests that the protective effects of the drug can be through a reduction in the levels of the CD45-positive immune cells in the cochleae following noise exposure. The study further supports the hypothesis that high levels of innate immune response exacerbate hearing loss following noise damage.



For more information visit: www.creighton.edu/healthsciences/diversity

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(via Zoom).



Center for Promoting Health and Health Equity Organizational Chart



*

Community Health Workers -Training, Apprenticeship and Placement Program (CHW-TAPP)

In January 2023, HS-MACA began it's Community Health Worker Training and Apprenticeship Placement Program (CHW-TAPP), a project to train 240 community members to become certified Community Health Workers (CHWs) and place 45 as apprentices.*During this first year, HS-MACA began training 80 people and for 11 weeks, community members met online twice a week for three hours each session. Often these students came straight from work, as they picked up children from sports practice, or after preparing their family dinner. They came again and again, craving the health knowledge HS-MACA had to share so that they could go out to serve their communities. These communities are some of the most vulnerable or overlooked in Omaha. and the students bring the challenges these communities face to class through their stories and through their lives. HS-MACA is dedicated to both educate these students with the knowledge they need to serve and advocate their communities as well as support the student in their whole being. That is to say, HS-MACA not only cultivates community members to serve the most vulnerable, but cares for the whole person in the process.

In the first six months of this program, HS-MACA has trained students in basic health issues and prepared them to enter the workforce. Students learned about health models, chronic disease, and how to support people in their health needs. The curriculum builds on HS-MACA's years of experience training dozens of Community Health Advocates. Trainers from across the country have helped students think about their roles as CHWs and how capable they are to assist those around them. As one student describes, during her son's recent hospital stay, "I was able to ask very detailed questions and became an advocate for the care of my son.... he developed some complications and there was some confusion between the... I was able to instruct the nurses on what care I wanted them to do and what I things I wanted the doctors to look for." Our students are learning health information that they can immediately apply, are growing more confident in their abilities to care for others, and are becoming advocates for those around them.







While students engage in the training and care for the communities. HS-MACA makes sure to care for the whole person as well. Students receive ongoing mentorship throughout the program to make sure no one falls behind, that everyone has someone they can ask additional questions, or receive support in their goals. The training also consists of a workforce development portion where students learn valuable job skills and grow in a deeper understanding of themselves. One student shared that she has learned more about herself and has grown to appreciate the different personalities she encounters in her family and at work. She feels this has helped her in interactions with others. What's more, students receive a new laptop, funds for internet, childcare, or other resources to help them attend the sessions, and they receive a monthly stipend for their participation. Over the course of the year,

students will receive \$7,500 of support through the training, not including the technical help, mentoring, and other services that HS-MACA provides.

The initial intensive training period has ended for the first year, but HS-MACA's work continues. Currently, 11 apprentices have been placed at sites across the metro and Northeast Nebraska. HS-MACA supports these student-apprentices and their organizations. Additionally, all the students are participating in an advanced training, teaching students about specific health issues such as maternal and child wellness. emergency preparedness, and mental health. These sessions continue through September. HS-MACA is also preparing for a September 8thseminar on CHWs and how to bring them in to an organization. There is much to do as HS-MACA works with apprentices, continues

to train CHWs, prepares a seminar for the community, and gets ready for two more years of training CHWs in this way. Students are already using their new knowledge in their communities, and HS-MACA feels excited to see how 240 well-trained and certified CHWs including 45 Department of Labor certified CHW apprentices can reduce health disparities in Omaha and across Nebraska.

*A \$2.9 million grant through the Health Resources and Services Administration (HRSA) makes this training and additional student support possible.

Of the students who responded, 97% agreed that they learned valuable information to help them better serve their community.







Racial and Ethnic Approaches to Community Health (REACH)

Creighton University through its Department of Health Sciences' Multicultural and Community Affairs (HS-MACA) and the Center for Promoting Health and Health Equity (CPHHE) was awarded a five year (5) cooperative agreement of over \$2 million dollars in Years 1 and 2, titled Racial and Ethnic Approaches to Community Health (REACH), by the Center for Disease Control and



Prevention in September 2023. The award is a five-year commitment from the CDC.



CDC Site Visitors in Omaha

CDC and Creighton University REACH personnel in discussion /June 2024



This is an expansion of a current model for reducing health disparities in racial and ethnic communities. This multi-component program is a second award to Creighton University, and aims to improve health, prevent chronic disease, and reduce health disparities. The focus is on African Americans/Black and Hispanic populations in Douglas County, Nebraska.

There are two broad components for the initiative:

•Component A will focus on nutrition, physical activity, and breastfeeding support

•Component B will focus on adult vaccinations like COVID-19, and other viruses such as flu, and RSV (Respiratory Syncytial Virus).

CPHHE has a rich history of successfully working with established community coalitions to address issues related to health. Memorandums of understanding/agreements have been secured with several organizations including, Omaha faith-based organizations, in North and South Omaha. Other community partners include the Nebraska Center for Healthy Families, Omaha Housing Authority (OHA) Federally Qualified Health Centers, such as Charles Drew Health Center and OneWorld Community Health Centers, and the Douglas County Health Department.Collaborations will be established with Parks and Recreation, Omaha Public Schools, Department of Transportation, and other groups, to implement the initiative.

Driven by mission, vision and unbridled enthusiasm, the dedicated staff of REACH (Racial and Ethnic Approaches to **Community Health)**Cooperative Agreement award are proud to continue to serve the needs of Omaha African American/Black and Hispanic communities. Leadership will be provided by (1) Sade Kosoko-Lasaki, MD. MSPH, MBA, Associate Vice Provost, Health Sciences-Multicultural and Community Affairs, Professor at Creighton School of Medicine, and Principal Investigator; (2) Dr. John Stone, MD. Ph.D., Ethicist and Expert Core Lead; (3) Dr. Richard Brown, Ph.D., Executive Director, (4) Mark E. Patten Sr., Program Manager; (5) Lizeth Mejia Narciso, Bilingual Specialist; (6) Christian Griffin, Communications and Data Manager; and a number of Community Health Workers. An expert evaluation team has been contracted to ensure that performance measures and expected goals and outcomes are achieved.

Staff has developed a detailed work plan to conduct a health needs assessment, for both individuals and organizations, utilizing CDC specific methods, including questionnaires, focus groups, observations, and historical review during the first year.

Subsequent years will focus on implementation of interventions where gaps are found, through policy encouragement, system change, environmental improvement, and broad community education.



Creighton University Center for Promoting Health and Health Equity Racial and Ethnic Approaches to Community Health

Community Partners and Activities





Health Careers Opportunity Program (HCOP) - 2018-2023

The Pipeline to Success Health Careers Opportunity Program (HCOP) is one of the pipeline programs offered through Creighton University's Health Sciences Multicultural and Community Affairs (HS-MACA) Office. Since being awarded the five-year HCOP grant through the Health Resources and Services Administration (HRSA) in 2018, HCOP has impacted 552 (252 high school, 249 undergraduate, and 51 health professional) students, with 514 of them successfully completing the program for a 93.11% completion rate. HCOP's mission is to provide students from economically and educationally disadvantaged backgrounds the skills needed to successfully compete for, enter, and ultimately graduate from health professional school. We aim to provide our students with the access, education, and training necessary to become health care professionals with the overarching goal of increasing diversity in the healthcare workforce and reducing health disparities.

The 2023 Online Structured Summer Session was held between June 20th, 2023, and July 28th, 2023, concluding along with the fifth year of the grant. The HCOP Team, along with our devoted instructors, facilitators, and presenters helped create a new community of 63 students (36 high school and 27 undergraduate) for the six-week summer program. Students engaged in enrichment courses like Psychology, Genetics, Gross Anatomy, ACT Prep. Organic Chemistry, and more. They also took part in informative and immersive virtual experiences like Virtual Clinical Shadowing using Body Interact software, Cultural Competency Training, and a session with the Creighton Career Center on Resumes, Personal Statements, and Interviews during our Friday Fun Day activities. On July 28th, 2023, at the Virtual Awards and Recognition Ceremony, we celebrated the achievements of our students and were joined by Mr. Mark E. Patten, Sr., MPA, the first HCOP Program Supervisor, as our keynote speaker. He gave an inspiring speech and touched on the importance of mentors and giving back to others. We are

incredibly proud of our summer students and are looking forward to the impact they will have in the healthcare field and their communities.

While we were not funded for the next five years, we were awarded a no-cost extension to the HCOP grant to utilize funds through August 31, 2024.

On Saturday, January 13, 2024, we successfully kicked off the 2024 Virtual HCOP Extension Health Careers Ambassador Session with a new cohort of 25 undergraduate students. The HCOP Extension Health Careers Ambassador Program was a 4-month program in which former HCOP students who are current undergraduates participated in workshops, took part in clinical shadowing, met with mentors, and more. Students also participated in seminars on HIPAA and Professionalism, Question, Persuade, Refer (QPR) Suicide Prevention Training, Community Mental Health, and Mindfulness and Self-Care. Besides the above-mentioned activities, all participants had the benefit of meeting with an academic success counselor, accessing tutoring and test preparation resources, and were paid a stipend for their participation in the program!

The 2024 Online HCOP Extension Structured Summer Session is scheduled to kick off on Monday, June 17, 2024. This year's 6-week summer program will focus on test prep as 25 former HCOP students who are now undergraduates will spend the summer preparing to take the Medical College Admissions Test (MCAT), Dental Admissions Test (DAT), or the Graduate Readiness Examinatino (GRE). Students will engage in enrichment courses like Chemistry, Physics, Biology, and more. They also took part in informative and immersive virtual experiences like Virtual Clinical Shadowing using Body Interact software and Kaplan Test Prep. We are looking forward to an amazing summer!



Quick Look at 2023-2024 HS-MACA Events

Physical Activity Day 2023

It was a fantastic day in North Omaha's Dreamland Park Area during the annual Creighton University Physical Activity Day (PAD) hosted by the Health Sciences-Multicultural and Community Affairs (HS-MACA), and the Center for Promoting Health and Health Equity (CPHHE) – Racial and Ethnic Approaches to Community Health (REACH). On Saturday, September 30th, the day started off strong with the Walk-Run Race beginning on the intersections of 24thand Cumming. Students and community members listened to Councilwoman Juanita Johnson rile them up to do their best and focus on getting physically active. Dr. Sade Kosoko-Lasaki - Associate Vice Provost and Dr. Richard Brown-Executive Director of the REACH program in the HS-MACA Department, lead the charge toward Dreamland Park.





Quick Look at 2023-2024 HS-MACA Events



Femtoring 2024

Health Sciences-Multicultural and Community Affairs (HS-MACA) department held its 4th Femtoring Event where female community health workers and the academic and community partners from the Center for Promoting Health and Health Equity (CPHHE) gathered last April 20, 2024 at the Warde Conference Center in Omaha.



7000 Mercy Road, Omaha, NE 68124

Femtoring is an annual gathering with an overarching goal of training and empowering the Community Health Workers/Advocates in femtoring other ladies in the community by matching them with academic and community partners of the Center of Promoting Health and Health Equity to act as their femtors to help them become one for their own communities. Join us for an afternoon of delicious tea, delightful treats and a hat competition.

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All Ladies. All for Service and Community.

For more information: Please call 402.280.2124 or 855.770.2700 or email at hs-maca@creighton.edu, Thank you, The theme for this year's Femtoring is "The Impact of Human Trafficking on Women, Children and the Marginalized Populations." Dr. Sarbinaz Bekmuratova, PhD, MS was invited as the guest speaker. Dr. Bekmuratova is an Associate Professor in the School of Pharmacy and Health Professions, Occupational Therapy Department.

A group of more than forty ladies came and gathered to learn more about Femtoring, personally met with their mentors and connect with other Community Health Workers.

As in the past, Dr. Richard Brown graced the occasion with his beautiful rendition of Jazz music playing his awesome saxophone melodies.

Femtoring Event 2024

Grants, Presentations, Publications

Grants

a.Funded

- Nebraska Tobacco Settlement: Center for Promoting Health and Health Equity (CPHHE) –2023-2024, \$225,000
- National Institute of Health, Center for Minority Health Development NCMHD/NIH Endowment Program for Community Oriented Primary Care Program –2005-Perpetuity, \$1.8 Million
- Community Health Worker Training and Apprenticeship Placement Program (CHW-TAPP) –2022-2025, \$2.974 million
- Racial and Ethnic Approaches to Community Health (REACH) Centers for Disease Control and Prevention (CDC)/Division of Nutrition, Physical Activity, and Obesity (DNPAO) –2023-2028 Collaborative Agreement. Approved for Year 1- \$1.02 million
- Healthy Home Project Mid-America Pediatric Environmental Health Specialty Unit(MAPEHSU) Environmental Justice Grant. 2023-2024, \$25,540.00

b.In-Progress

- Nebraska Tobacco Settlement: Center for Promoting Health and Health Equity (CPHHE) –2024-2025, \$250,000
- Robert Wood Johnson Foundation: Center for Promoting Health and Health Equity Childhood Obesity and Health Inequities Project (CO-HIP) 2025-202029, \$4.0 Million

Presentations

• Kosoko-Lasaki, O., 2023 *Progress Report: Nebraska Tobacco Settlement Biomedical Research Development Fund*; presentation during the Annual Health Disparity Seminar, April 2023.

Publications

 Santiago-Stommes, I., Nolt, KL., Stone, JR., Kosoko-Lasaki, O., Brown, R., Ejike, E., "The Latino Community Experience Promoting COVID-19 Vaccination through Community-Academic Partnership." Journal of Community Medicine and Health Education 14:857. Open access ISSN"2161-0711. Vol 14, Issue 01, 1000857. DOI: 10.4172/2161-0711.1000857. February 2024

HS-MACA Staff | December 2023

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The HS-MACA Staff 2023 - 2024

Sade Kosoko-Lasaki, MD, MSPH, MBA

Associate Vice Provost, HS-MACA

Dave Madsen Sr. Finance Director

Richard Brown, PhD *Exec. Director, REACH*

Razia Seible, PhD, MBA *Associate Director, CPHHE*

Mark Patten, MPA Associate Director, REACH

Jonathan Saffold, MBA Assistant Director, Recruitment and Retention

David Benefo, PhD, MBA Assistant Director, Education and Learning Specialty

Phebe Jungman, MBA Assistant Director, Programs and Operations

Philip Lomneth, MDiv Program Manager, CHW-TAPP

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Lizeth M Narcisco, BS *Project Specialist, REACH*

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