CSUCI Health Science Program Review: Self-Study

Preliminary Studies

In the Spring of 2020, four faculty members (the writing team) started the process of preparing the program review self-study with some groundwork around the notion of competencies in general, and public health workforce competencies in particular. Embracing backward design as a process, the first task was to explore best practices and current trends in workforce development for public health, that could be used as a benchmark for our program (see list of resources). Students were also queried regarding competencies in healthcare. This enquiry resulted in a list of competencies that the program aims to have the graduates leave with. The document was circulated to program faculty for review; feedback received was incorporated into the document detailing the competencies as dynamic combinations of knowledge, skills and attitudes.

Once the list of competencies was agreed upon, the writing team set out to identify the specific objectives that would operationalize those competencies; the second step was to distribute the objectives into three tiers of progression: an introductory level (I), a development level (D) and a mastery level (M). This process brought to light some gaps, redundancies and inconsistencies in our set of competencies, and thus another revision followed, resulting in a much tighter set of competencies and a detailed list of objectives that would act as Program Learning Objectives (PLOs) and connect the competencies to the Student Learning Objectives (SLOs). This new document was also circulated among program faculty and discussed at program meetings. Feedback was incorporated into the current draft which was labeled *Health Science Educational Blueprint(in-progress)*.

The third task involved initiating curriculum mapping and ensuring proper alignment between competencies, objectives and SLOs. Intentionally, this process has not been completed. To date, faculty in the program have identified which courses would fulfill each objective (and thus contribute to the acquisition of each competency). However, the first review of the SLOs currently included in each course brought to light many gaps. The writing team felt that it was preferable to wait to receive overall program feedback from this review process, and use it to inform this third phase of curriculum review.

Executive Summary and Recommendations for Improvement

This document is a self-study of the Program in Health Science at California State University Channel Islands (CSUCI), prepared following the institutional Guidelines for Program Review.

The Health Science program officially began in 2015. Since then, it has grown in size to about 700 majors, and has matured from a pre-nursing focus into a broad pre-professional health education program. The growth in student numbers has not been accompanied by a proportional increase in the number of tenure-track faculty, and the program relies on a group of extremely dedicated lecturers to meet its instructional goals. The Health Science program offers 25 sections of classes each semester, in fulfillment of the requirements for the B.S. degree.

The program actively contributes to the University mission by offering a major that emphasizes international and multicultural perspectives, interdisciplinarity, and experiential learning. Faculty members in the program engage in scholarly research and dissemination, and are practitioners of current and innovative technologies. The program also plays an important role in the local community via service-learning courses and community-based participatory

research. At this time, the program in Health Science is ready to explore enhancements to the current curriculum, to better serve the academic and career needs of its students.

Preliminary conclusions from this self-study suggest the following 7 points for improvement, to address during the next cycle:

1. Improve communication channels with students through a more robust social media presence.
2. Strengthen and streamline program assessment.
3. Increase opportunities for students' research. Work with the Dean's office to find ways of compensating faculty who lead HLTH 494: Independent Research sections.
4. Increase and facilitate opportunities for study abroad and paid internships.
5. Continue to expand the number of courses that use no-cost materials.
6. Implement mandatory advisement of first-time native and first semester transfer students.
7. Engage in the process of curriculum review to update course content and SLOs, map those SLOs to program objectives to the University mission, and to the competencies that constitute the *educational blueprint* of the program.

SELF-STUDY: ELEMENT 1

A. PROGRAM MISSION AND OPERATING PRACTICES

Inquiry: *Does the program have a mission statement or statement of program goals that is appropriate? Does the program have an organizational structure and procedures for its key activities such as advising, scheduling, chair selection and review?*

Evidence and Comments: The writing team, composed of Kristen Linton, Lydia Dixon, Sonsoles de Lacalle and Ronald Berkowsky, began work on drafting a new mission and vision statement for the program in Spring 2020. This work began with a review of the program's then-current self-description and a detailed discussion on the various qualities (i.e., knowledge, skills, attitudes) faculty wanted and expected students to attain by graduation. From this, mission and vision statements were drafted to reflect the goals of the program with regards to (a) undergraduate education and (b) impact on the larger community. Mission and vision statements from similar programs at other universities were reviewed for guidance on language, structure, and content. The drafted mission and vision statements were revised based on this guidance and presented by Ronald Berkowsky to all faculty and staff of the program for review and comment. The statements were revised a final time based on these comments (e.g., inclusion of language addressing health disparities), and both were voted on, approved, and adopted by the program on October 14th, 2020. The approved statements, which are published on the program website, are as follows:

> "The mission of the Health Science Program at CSUCI is to prepare future health professionals who are competent, compassionate, creative, and critical thinkers, and whose work addresses health disparities in the community. Our vision is a just and equitable world of physically, mentally, and socially healthy people living in healthy communities."

In addition to reflecting program goals, the new mission and vision statements also support the content and emphases of current coursework in the program. The Bachelor of Science degree in Health Science requires 120 units of coursework: 33 units in lower division, 42-22 units in upper division, and 43-45 general education and graduation requirements. The current catalog (AY 2022/2023) is available online. The Program offers each semester several sections of all major classes, as well as 3-4 major electives.

Regarding organizational structure and procedures, the program recently approved and adopted bylaws to address expectations and responsibilities in activities such as advising, scheduling, and chair selection. Work on the bylaws, utilizing the bylaws of the Nursing program as a starting template, began several years ago but was extended in part due to a change in program chairs in 2019. The drafted bylaws were continuously amended with input from Sonsoles de Lacalle, the new Chair, and continued discussion among all faculty (i.e., tenured/tenure-track and lecturer faculty) and staff between 2019-2020. These discussions included referencing the approved operating bylaws of several programs across CSUCI for guidance. On December 9th, 2020, a final version was voted on, approved, and adopted by the program. Bylaws were approved by the Dean of Arts and Sciences and the Provost on March 22, 2022, and this document is published on the Academic Affairs website.

The Health Science faculty — including tenured, tenure-track and both full and part-time lecturers-- meet on a monthly basis over an agenda initiated by the Chair with additional items suggested by the faculty. The program follows the Collective Bargaining Agreement and University policies for hiring and evaluating faculty, and all decisions in terms of recommendations for promotion and tenure are made in accord with the Health Science Program Personnel Standards. The program's faculty evaluation process is in line with the University's policy on student evaluations as well as CSU policy.

Inquiry: *Is the program supportive of the University's mission and strategic goals? Is the program integrated and supportive of the campus's four mission centers, its general education program, and Academic Affairs and University's strategic priorities?*

Evidence and Comments: The Health Science program is in full support of the University's primary mission of *centering students' educational experience*. This is evident in how the program has designed the curriculum and integrated tools outside of the classroom to help students succeed.

The curriculum supports the needs of CSUCI students as reflected from survey data collected in Fall 2021. The Health Science program is designed as a generalist program aimed at thoroughly preparing students for a range of post-graduate options, including pursuing careers in the healthcare field and applying to graduate programs related to nursing, physicians' assistant, or public health (see Table 1). Given the range of students' interests, program decisions are primarily made based on data and feedback from students on career interests and what knowledge, skills, and experiences they need to succeed after graduation.

Table 1. Career Goals as Described by Health Science Students (N = 159) in Fall 2021

Clinical Professions	**55 (33.33)**	
Physician's Assistant	15 (9.09)	
Physical Therapy	10 (6.06)	
Social Work/Behavioral Interventionist	8 (4.84)	
Medical Technician	9 (5.45)	
Nutrition	1 (.60)	
Pharmacy	1 (.60)	
Radiology	2 (1.21)	
Occupational Therapy	3 (1.81)	
Dietician	1 (.60)	
Paramedic	5 (3.03)	
Nursing	**54**	**(32.72)**
Don't Know Yet	**30**	**(18.18)**
Public Health/Epidemiology/Health Education	**10**	**(6.06)**
PhD/Graduate School/Research- Broadly	**8**	**(4.84)**
Health Administration/Electronic Health Records/Law/Data Analytics	**4 (2.42)**	

As the Health Science program progresses through its first full program review, we have made a conscious effort to integrate student voices through survey data to determine what areas our students want to see expanded and/or added to help them meet their career or graduate training goals.

In addition to a curriculum that aims to reflect students' needs, the program also provides many other services for students to help them succeed. One such service is a committed hands-on approach to student advising within the major. Rather than appoint a single advisor, the Health Science program divides student advisees among the tenured/tenure-track (T/TT) faculty; in delegating advising this way, *all* T/TT faculty remain informed and current

on student needs and issues as they arise. This helps the program, overall, be better at guiding students, whether such students are our individual advisees or students we see in class or office hours. Of note is that all faculty advisors regularly meet with the University Advising staff to make sure that University Advising and faculty advisors are continuously working together to address and solve student issues as they arise. Regarding future adjustments to advising, one innovative idea we are considering is to make advising mandatory for native ('first-time freshmen') and incoming transfer students by putting a block on their registration until they visit a major advisor; we feel that this would help us to catch a variety of student issues early, while encouraging students to build relationships with their advisors.

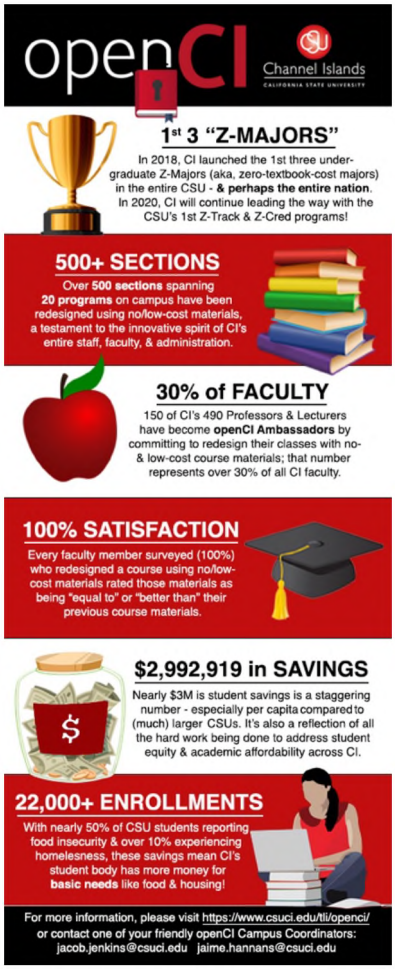
We also offer additional opportunities to students to help them succeed through career and skills development inside and outside of the classroom. For example, Sonsoles de Lacalle offered a seminar course in the fall of 2020 and Spring of 2021 introducing students to a wide range of professional pathways in the healthcare field which involved bringing in guest speakers to describe their academic journey, obstacles faced and overcome, and specific details about their day-to-day professional work (sample syllabus). In the Spring of 2022, the program collaborated with the Graduate Studies Center to host a workshop for students interested in clinical graduate programs such as physical therapy, speech pathology, medicine, etc. Sonsoles de Lacalle recently accepted an invitation to collaborate, as faculty advisor, in the development of the U-GROW (Undergraduates Gaining Research Opportunities for the Cancer Workforce), a training program for students interested in cancer and health disparities. This project, spearheaded by Dr. Darrah Kuratani (California State University Dominguez Hills) has been made possible through a partnership with Cedars-Sinai Cancer Center. One CSUCI student participated in the first year of the program (the cohort included a total of 10 participants).

We also frequently encourage our students to attend health-related career fairs locally and at other California universities to expose them to the diverse professional and educational pathways they may consider. In addition, our faculty provide many opportunities for students to get hands-on experiences working in health-related fields. For example, Kristen Linton has referred many students who have been hired at the Brain Injury Center of Ventura County; Billy Wagner has taken students abroad on a UNIV 392 course to learn about healthcare systems in Taiwan; Ron Berkowsky and Lydia Dixon have led students in community-based projects (research- and service-based) with local healthcare organizations; and Tom Clobes, Melissa Gutierrez and Blair Barker have led students in multiple service learning projects across Ventura County. These kinds of experiences allow our students to gain valuable skills, build their professional resumes, and determine the next steps in their professional trajectories.

In addition to supporting the primary University Mission, the Health Science program also addresses the commitments of the university's **Four Pillars** (i.e., the central components on which CSUCI's educational priorities rest)**: Community Engagement, Integrative, International, and Multicultural**. The program emphasizes **community engagement** by connecting students to local issues through case studies, guest speakers, and opportunities to do service learning and community-based research, as exemplified above. The program is **integrative and interdisciplinary**, drawing on the expertise of diverse faculty and requiring a range of coursework from across disciplines. Our faculty come from a variety of fields including medicine, anthropology, sociology, social work, and public health. Our students are required to take coursework in various departments, from biology to communication to anthropology, to instill in them an interdisciplinary understanding of health issues; it is vital to us that students recognize health as something tied not only to biology and genetics, but also to society, history, culture, economics and politics. To illustrate this, our curriculum can be broken down as follows: of the 11 lower division required courses, 8 are from 7 different disciplines, and 3 belong to Health Science; of the 10 upper division required courses, 7 belong to Health Science and 3 can be taken from 8 different disciplines; of the 4 elective courses required by the major, 2 must come from the Health Science program and 2 can be chosen from an extensive list that includes 15 different fields. Even within our core classes, students are given materials from multiple areas so that they become familiar with reading across disciplines; this is important because our students may work and pursue graduate degrees in various fields, and we want them to be able to read the relevant literature in their fields. Our classes incorporate **international perspective**s related to health, healing practices, and healthcare systems (for example, in Health 101 during a comparative healthcare systems project or in medical anthropology when students

learn about health in different cultural contexts). Furthermore, since 2018, 18 students have participated in study abroad through programs affiliated with CSUCI or UNIV 392. Finally, the program emphasizes the **multicultural pillar** by integrating diverse perspectives related to health throughout the courses. This reality is now highlighted by the extensive list of learning outcomes that we aim to operationalize in our courses, as described in the introduction to this document.

Our faculty support the mission pillars of the university through their service outside of the classroom as well. For example, Ron Berkowsky serves on the Center for Multicultural Engagement advisory committee; Lydia Dixon on Center for International Affairs advisory committee, and Kristen Linton on the Mission Centers Committee. Sonsoles de Lacalle has worked to increase the visibility of international faculty perspectives on campus, by co-leading a FIP on Spanish food and culture and by helping start the new IFSA (International Faculty and Staff Association).



The Health Science Program is also actively involved in supporting many of the **University's strategic priorities and initiatives.** For example, in Summer 2021, Fall 2021, and Winter of 2022, Kristen Linton served in the Inclusive Excellence Action Plan led by President Yao. Also, four faculty members in Health Science participated in the *Charting our Course: Planning for CSUCI's Future*. Kristen Linton has held the role of Academic Assessment Director for the University since 2019 as well as served on the team that drafted the University's mid-review accreditation report. She also served as a lead for the University-wide OpenCI initiative, which saved CSUCI students millions of dollars in course materials as Health Science now provides a pathway to obtain the degree without spending $1 on course materials, such as textbooks (see the flyer on the left). As the largest of the three Z-majors, Health Science contributes to most of the savings.

Relatedly, Tom Clobes serves as the Chief Resource Officer for the California Alliance of Open Education. At the level of the College of Arts and Sciences, Ron Berkowsky participated in drafting the Collective Vision, which will guide the College in the coming years. Additionally, Lydia Dixon co-founded the WISE (Women for Inclusivity in the Sciences and Engineering) faculty group and has organized various networking events among CSUCI faculty and with the US Navy Base at Port Hueneme, to increase the visibility of women's scholarship and leadership across the region.

In support of university-wide assessment accreditation requirements, Kristen Linton (in her role as Academic Assessment Director) uploaded into Canvas Outcomes all GE rubrics that were developed by CSUCI faculty based on accreditation requirements. In the Fall of 2021, Kristen encouraged and trained all faculty with a focus on General Education or teaching UNIV courses to use the rubrics in Canvas Outcomes. Several faculty teaching UNIV courses and the Health Science program adopted Canvas Outcomes for GE assessment and program-level assessment. Canvas Outcomes provides capabilities for administrators to run aggregate reports on CSUCI GE and other learning outcomes. This is essential for accreditation reports. Kristen Linton published a blog explaining why to use Canvas Outcomes and an instructional guide outlining steps to use Canvas Outcomes linking to GE outcomes, which is posted as a TLI Knowledgebase article.

Despite our success to date, one area where the Health Science program can improve is in offering more international perspectives, such as through a Global Health course (one such class will be offered in the Fall 2022, as HLTH 490: Special Topics) and through additional UNIV 392 classes that take students abroad. For example, Melissa Gutierrez is currently working on developing such a course focused on nutrition and the Mediterranean

diet in Italy. Further, the program could work more with the International Programs office to coordinate pathways for our students to study abroad more easily while completing their required coursework. As indicated above, the number of students that have taken advantage of the university's study abroad program has been small to date, but successful. This video by one of our students is an example of the value that studying abroad brings to our program and our students.

The Health Science faculty is eager to contribute to the University mission by developing lower division Health Science courses as GE options, to bring students into the program and offer opportunities for all students to learn about health issues. In conversations during formal meetings and at other times, program faculty have been exploring a variety of options, some almost ready and others to be developed. One such option is HLTH 101 — Overview of Healthcare Industry and Its Delivery; this class teaches students about the US healthcare system, empowering them to navigate the complexities of health care. For example, students leave the class understanding qualifications, and able to apply for health insurance for themselves and their family members. Another option for a Health Science GE course could focus on Sex and the Body to educate students about sex, gender and sexuality, their own sexual anatomy and reproductive health and related health education methods. Another Health Science GE course could focus on Mental Health and Wellness to train students in approaches to address common mental health issues through interventions such as mindfulness, meditation, etc.

C. Dissemination of Program Mission and Goals

Inquiry: *Has the program disseminated information about itself to key constituencies, including faculty, professional colleagues, current and prospective students, and the community?*

Evidence and Comments: The Health Science program widely publicizes its goals in a variety of ways. The Health Science program website includes the mission at the top of the page, which is accessible to all faculty, professional colleagues, current and prospective students, and the community. The following words are bolded: "competent, compassionate, creative, and critical thinkers" to highlight attributes of our students and our values as a program. Health Science faculty refer to these as the 4Cs. Following our mission is a link to a "Testimonials" page including written and video testimonials by current students and alums speaking to the mission of our program and evidence of their 4C attributes.

The Health Science program has published a Canvas page which provides students with advising- and career-related resources. The program also has its own Instagram page where alumni and current students can connect, post job ads, and even "takeover" the account. An Instagram "takeover" includes students posting to the account themselves. The "takeovers" are saved to Instagram stories, which is an archive so anyone can view the information shared. This platform has been an innovative and positive way to connect alum and current students. Additionally, many other majors, clubs, and community organizations on and off campus follow the Health Science Instagram page – this has greatly enhanced our communication and connections with other organizations.

CSUCI Health Science faculty have participated in multiple community and university events sharing information about the program. University events included student orientations, major fairs, recruitment events, and presentations, and others. For example, Sonsoles de Lacalle presented to CSUCI peer mentors about the Health Science major in Spring 2022. Health Science faculty have guest lectured at other program courses both at CSUCI and at other universities (e.g., Ronald Berkowsky guest lectured at the University of Oregon Center for Translational Neuroscience in Summer 2021). While guest lecturing may typically focus on faculty presenting on their own expertise, as a new program, guest lectures provide a space to inform CSUCI students about the major and inform outside organizations about our work – all in all, such lectures help build awareness. Multiple Health Science faculty members attended recruitment events at nearby cities across Southern California in Spring, 2022. Additionally, faculty have presented at a local Oxnard Union High School on CSUCI and the Health Science major.

Faculty and students have also participated in community events at hospitals, school health fairs, and job fairs. Health Science faculty have used these events to provide information on the Health Science major and attract attention to the program – as an example, Benito Rumbo (a Health Science alum who graduated in fall 2020) and Sonsoles de Lacalle offered a workshop during a local high school career fair. Additionally, many CSUCI Health Science faculty have consistently served on boards or as consultants of local organizations including (but not limited to): the Community Memorial Hospital's Residency Program, the Brain Injury Center of Ventura County, the Ventura County Area Agency on Aging Advisory Council, the LGBT+ Aging Coalition, and the Coalition for Family Harmony. Sonsoles de Lacalle and Ronald Berkowsky also increased the local community-presence of the Health Science program through local news pieces, and through participation in the Osher Lifelong Learning Institute curriculum. Similarly, Ron Berkowsky has given multiple presentations to local Rotary Club chapters and has been interviewed by the VC Reporter and on the KVTA morning show. Akin to guest lecturing, these activities enhance the presence of our program to the community.

The Health Science faculty have coordinated service-learning opportunities so students can learn while they provide service at multiple hospitals, schools, and non-profit organizations. Melissa Gutierrez, Thomas Clobes, and Kristen Linton have been recognized for their service learning projects by CSUCI Center for Community Engagement. Additionally, Kristen Linton received the "2020 Health Champion" Award from the Ventura County Board of Supervisors for "her leadership and vision, through collaboration with the Oxnard Union High School District (OUHSD) Wellness Program, university students completed public health service-learning research projects, inspiring thousands of high school age students, reaching 7,500 with information about mental health, nutrition and physical fitness, while also enlightening their youth peers on the many important academic opportunities in the field of health." Kristen Linton continues to facilitate near peer mentoring between CSUCI Health Science students and OUHSD students. In Spring 2022 Kristen Linton's HLTH 309 Research Methods students mentored OUHSD students from Pacifica High School collecting hundreds of surveys and focus group data for the Ventura County Community Health Needs Assessment.

SELF-STUDY: ELEMENT 2

A. CURRICULUM REQUIREMENTS AND EXPECTATIONS FOR LEARNING

Inquiry: *Do the program's curriculum and degree requirements reflect high expectations of students? Is that curriculum reflective of current standards in the discipline?*

Evidence and Comments: To graduate with a B.S. in Health Science students must complete a minimum of 120 units (prefix: HLTH). The curriculum, contained in the 2022/2023 catalog, includes the following:

- 33 units in lower division requirements, of which 6 (3 courses) have a HLTH prefix
- 42-44 units in upper division requirements, of which 28 (9 courses) have a HLTH prefix, and
- 43-45 units in General Education and Graduation requirements.

Over the past three academic years (2019-2020, 2020-2021, and 2021-22), the writing team were provided course release time to engage in Program Review work – this work started with conversations specifically on developing overall competencies that the Health Science faculty hoped our students would obtain whilst completing their degree at CSUCI. Health Science faculty consulted Health Science and Public Health program Chairs from other CSUs to determine what their program learning outcomes were (to be used as a guide). Discussions with the entire program faculty at multiple Health Science faculty meetings focused on the overall vision of the Health Science program. During this time, the faculty selected the "4Cs," characteristics that we want our graduates to exemplify: competent, compassionate, creative and critical thinkers. Health Science faculty voted against becoming a public health-specific program and chose to remain a "generalist" Health Science program to reflect the multiple career goals that our students have. In other words, to continue being a major for students with a variety of health science careers (see also Element 4). Nonetheless, using as a working template the competencies developed by the Council on Education for Public Health (CEPH), we agreed on a set of overarching competencies for our undergraduates. These overarching competencies were used to start the development of new Program Learning Outcomes, as the Health Science faculty felt that the current PLOs were outdated and lacked meaningful specificity.

Health Science majors can choose from two culminating experiences, HLTH 492: Service Learning and HLTH 499: Capstone, both of which are designed to help students integrate their knowledge and apply it to real life scenarios. The more traditional HLTH 499 provides students an opportunity to explore research; in this class students also participate in career development activities. In HLTH 492 students participate in supervised community-based service learning with an agency or organization focused on an area of health care. Through this experience they develop communicative skills, cultural awareness, and civic responsibility while also strengthening their writing skills and critical thinking as they reflect on their experiences.

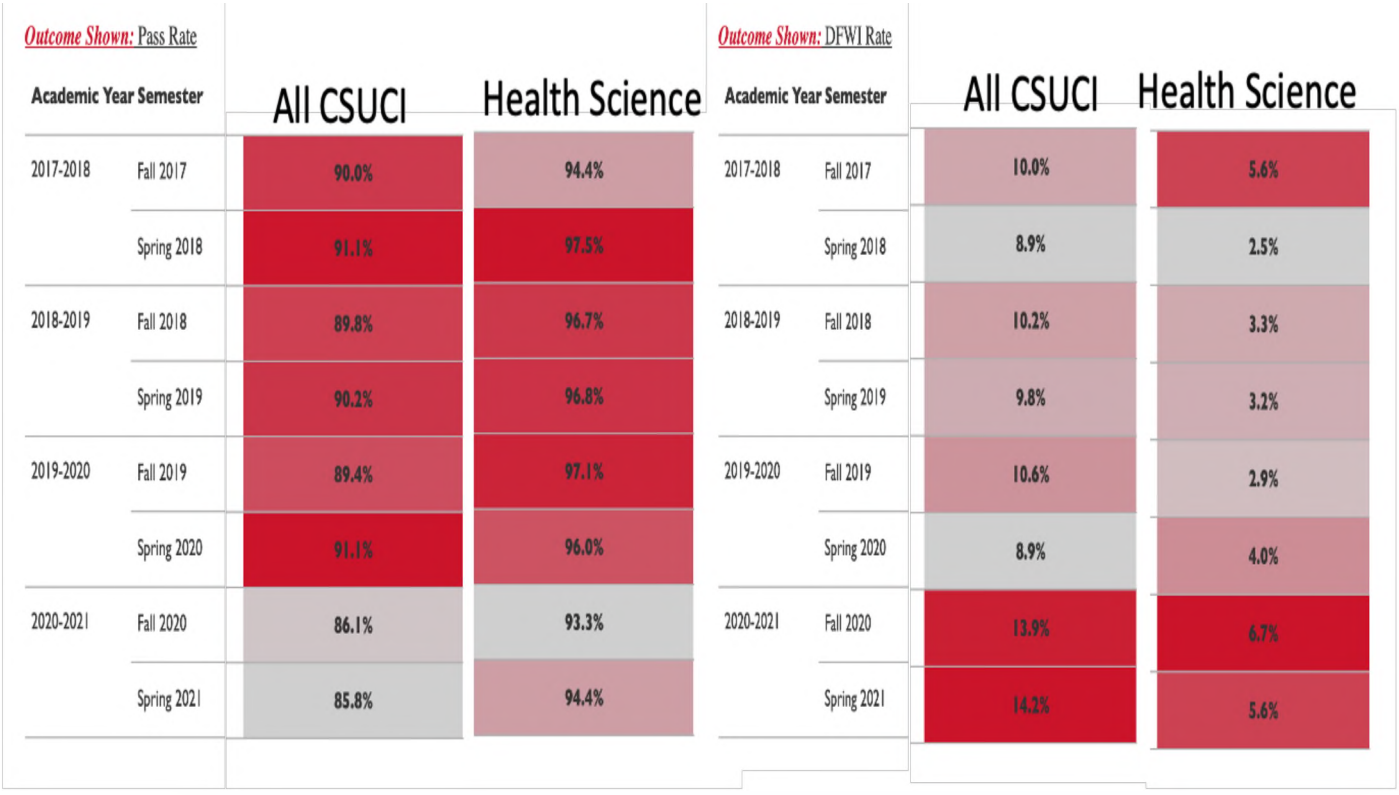
Our Health Science majors also pursue the 15-units Certificate in Healthcare Interpreting offered by the Spanish Program. This Healthcare Interpreter Certificate prepares students to become effective English-Spanish interpreters in medical settings, following the standards of practice established by the National Council on Interpreting in Health Care, the International Medical Interpreters Association, and the California Standards for Healthcare Interpreters. This Certificate contains all the necessary elements to meet the eligibility requirements to take any of the nationally recognized certification exams (by the National Board of Certification for Medical Interpreters, or by the Certification Commission for Healthcare Interpreters). To date, 24 Health Science students have graduated with the certificate, but we know that the interest is growing as the number of students that are currently completing those courses has grown from 6 in the fall of 2018 to 25 in the fall of 2021.

In the fall of 2021, we explored academic success and compiled some historical data. For context, we first report on the number of Health Science degrees conferred since program inception (as evidence of academic success). We

also include a comparison of CSUCI totals and Health Science numbers, showing that despite the decrease in campus enrollment in the last 2 years, the number of majors in Health Science has remained steady at 9.2% of the campus total.

Academic year	Health Science grades conferred as evidence of academic success	Health Science majors enrolled as of fall of AY	Annualized headcount for Health Science (% of CSUCI)	Annualized headcount for CSUCI (stateside)
2021-22	234	593	578 (9.27%)	6,233
2020-21	222	639	620 (9.21%)	6,732
2019-20	242	639	622 (8.92%)	6,967
2018-19	166	632	561 (8.05%)	6,971
2017-18	108	434	409 (5.91%)	6,925
2016-17	43	288	277 (4.23%)	6,548
2015-16	2	136	132 (2.15%)	6,130

In terms of outcomes, Health Science pass rate is consistently above the all-campus mean, which correlates with a significant reduction in DWFI rates in Health Science, compared to the campus average. The following table presents data for the last 4 years.



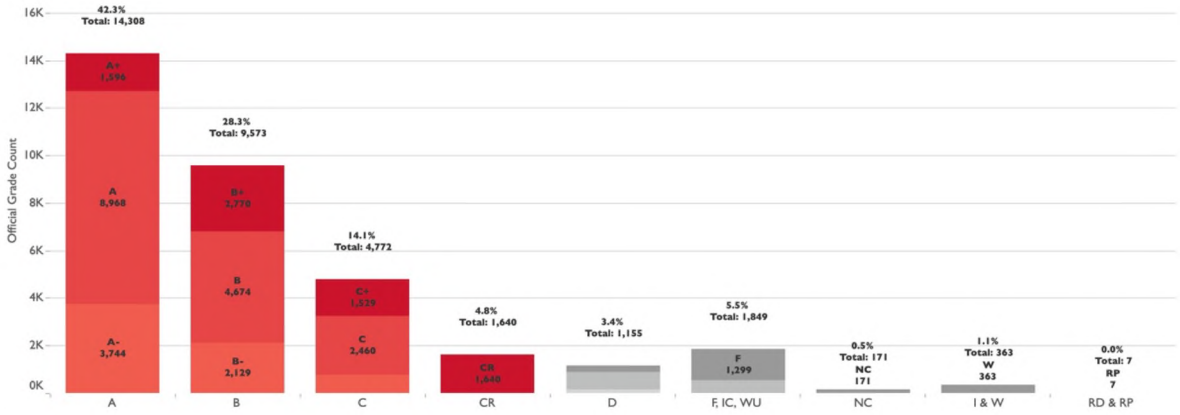
Nonetheless, although the program has been successful in regard to graduation outcomes (see section D below), students' performance in specific courses does show an equity gap that needs to be addressed. As an example, the following is a report from the FALL 2019 semester. Average grade is shown broken down by demographics, and restricted to our low-income students, which are the majority.

AVERAGE GRADES BY STUDENT DEMOGRAPHICS

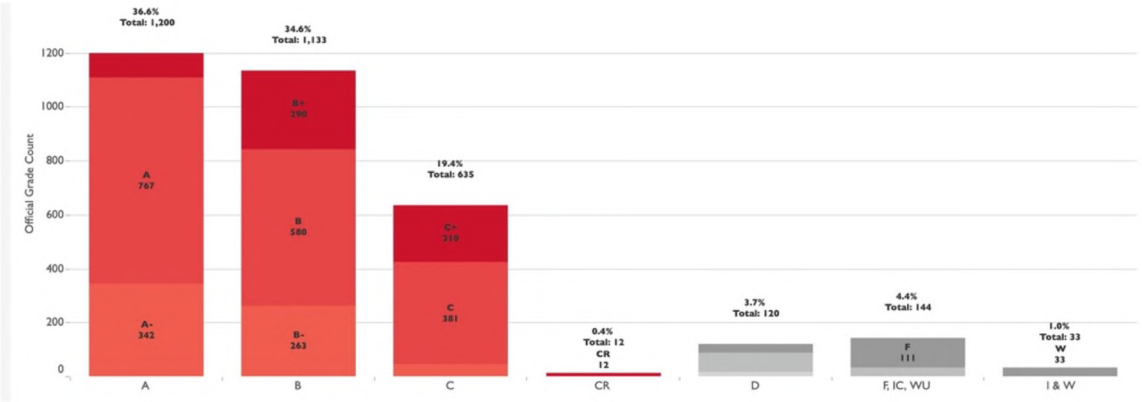
Fall 2019	Hispanic and low income		not Hispanic and low income	
	First Gen	Rest	First Gen	Rest
HLTH 100	3.62	3.34	3.73	3.58
HLTH 101	3.4	3.34	3.62	3.52
HLTH 102	3.74	3.83	3.56	3.8
HLTH 300	3.46	3.79	3.76	3.79
HLTH 301	3.41	4	3.7	3.67
HLTH 302	3.63	3.78	3.94	3.94
HLTH 307	3.77	3.8	3.8	4
HLTH 309	3.26	3.48	3.45	3.5
HLTH 310	3.49	3.62	3.4	3.83
HLTH 405	3.58	4	3.9	3.58
HLTH 499	3.93	4	3.92	3.91
HLTH 348	3.53	3.85	3.66	3.59
HLTH 304	3.35	3.4	3.46	3.8

Grade distribution across the program as a whole suggests Health Science has a slight bias towards higher grades, compared to both the all-campus average (A) and the comparison major (B, Psychology) analysis. Data from the Fall of 2019 (pre-pandemic) is shown below, as an example. All data is extracted from the DAADA class dashboard.

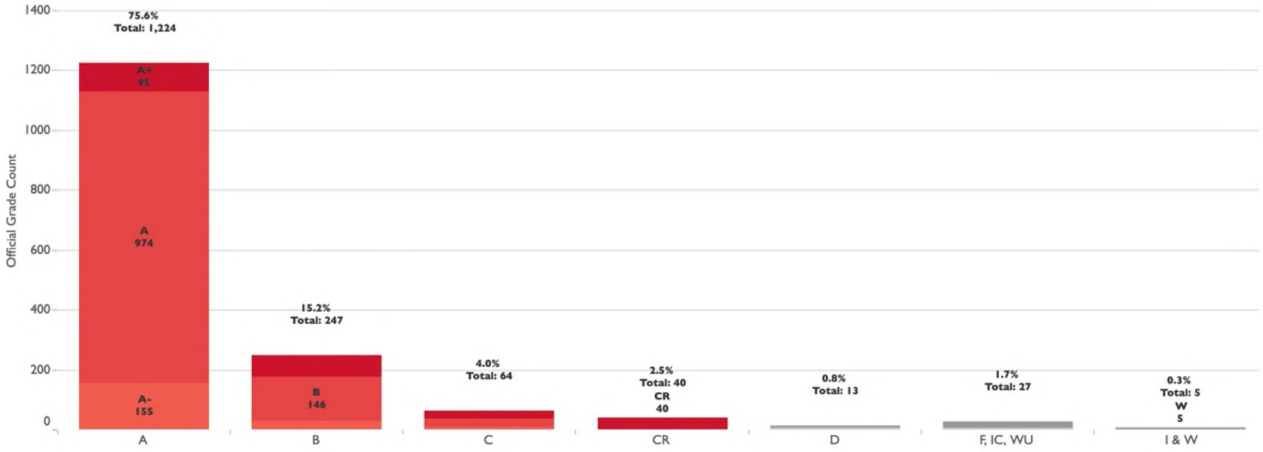
A. All-campus data



B. Data from the comparison major (Psychology)



C. Data from Health Science



Health Science faculty have been extremely responsive to these data. For example, one instructor concerned about under-performance decided to include more assignments in the course, with the goal of having more points to measure performance (not more possibilities to come up short on points!); another suggested exploring the impact of class size (smaller class sizes allow for more intensive follow-up of each student, and hence a skewed curve to A's); another suggested that non-science courses are expected to be high scoring courses with high levels of engagement; and another commented on how high frequency and intensity of formative assessment can lead to appearance of grade inflation/overperformance. Finally, another commented on the application of many objective assessments in courses (exams, quizzes, and strict rubric criteria) to balance out the more subjective project-based assessments and discussions.

B. Course and Program Learning Outcomes

Inquiry: *Has the program developed assessable learning outcomes for its courses and for the program? Are course learning outcomes aligned with program outcomes?*

Evidence and Comments: When it was approved as a major in the fall of 2014, the Health Science program also received approval for a set of 6 Program Learning Outcomes (PLOs):

1. Identify issues and trends in health care delivery systems and public health areas and implement solutions to better health care services to individuals and ethnically and culturally diverse populations.
2. Analyze the nature, transmission, pathologic processes, prevention, and control of human diseases from a public health perspective.
3. Demonstrate an understanding of health care information systems that affect service delivery with agencies and in the public.
4. Demonstrate an understanding of the aging population and the ability to apply knowledge and skills in gerontology in fields from disease prevention and life extension to policy planning and social reform.
5. Apply research skills in organizational and personal health settings, and in health education practice.
6. Integrate and apply current management concepts and skills in areas of health care personnel, organizations and agencies, emphasizing problem-solving techniques and group communication skills.

In the following years these PLOs remained unchanged — for the sake of clarity, these will be referred to as *Heritage PLOs*.

As briefly addressed in the introduction, while preparing for this self-study we developed new PLOs that better align with the competencies desired for all graduates of the program (see section A above). The new PLOs were shared

with all Health Science faculty and were revised based on feedback received. A list of modified PLOs is included in the draft for Curriculum Mapping bolded in the first column. Additionally, we initiated the development of course-level learning outcomes for each PLO; they are listed below each bolded PLO. With collaboration and contribution from all Health Science program faculty that typically teach each course, the draft curriculum map was created to match each new PLO, new course-level learning outcome, and existed course-level learning outcomes to the Health Science courses required for our majors. We took notes on the document to highlight potential course revisions or additions that are needed to ensure that students can meet the new PLOs. Before turning these drafted changes into permanent curricular elements of the Health Science program, the Health Science faculty is eager to receive substantial feedback from external reviewers.

C. Learning Outcome Data and Analysis

Inquiry: *Does the program regularly collect course and program learning data? Is that data analyzed, available, and used for program improvement?*

Evidence and Comments: For the purpose of this 7-yr review, which is a reflection of the program to date, we will comment only on some of the *Heritage PLOs*.

Learning Outcome "Apply research skills in organizational and personal health settings, and in health education practice"

Lydia Dixon and Kristen Linton have conducted several different analyses of the Health Science Program Learning Outcome "Apply research skills in organizational and personal health settings, and in health education practice" on the HLTH 309 Health Science Research Methods course.

These studies include an initial assessment of differences in learning outcomes based on teaching modality prior to covid-19, a follow-up analysis of differences in learning outcomes based on the covid-19 pandemic virtual teaching, and a study using Canvas Outcomes across course sections in Fall 2021. The initial report, "Comparison of Connectedness in Online, Blended, and Face-to-Face Research Methods Courses among Hispanic and Low-Income Students" was published in the peer-reviewed journal, Hispanic Educational Technology Services, HETS Online Learning Journal by Kristen Linton, Lydia Dixon, Jaime Hannans, and Megan Eberhardt-Alstot. The results show lower grades and levels of connectedness for students who took the course fully online, compared to those who took the course fully face-to-face or blended (50% face-to-face and 50% online).

The follow-up assessment of covid-19 pandemic teaching found that students' learning was dependent on the teaching modality, ethnicity, and pandemic time. This published assessment was conducted by Kristen Linton applying a General Education rubric in Canvas Outcomes to four sections (fully asynchronous online, fully synchronous online, fully face-to-face, and blended including synchronous face-to-face and asynchronous online) of HLTH 309 Health Science Research Methods that used different teaching modalities including one section taught in Spring 2021 (fully synchronous online) during the covid-19 pandemic. Students were asked to write a methodological literature review, and their scores on this assignment were used as a measure of their ability to apply research skills, the program learning outcome under investigation. Students in the face-to-face synchronous section had statistically significant lower synthesis writing proficiency scores than those in all three of the other sections. It should be noted that the fully synchronous face-to-face section was the first time that the instructor taught that course (and due to this finding, she focused more on teaching synthesis in future sections of the course). A t-test was run to assess differences by Hispanic ethnicity on synthesis writing scores; no differences were found. Hispanic students did have lower final course grades than non-Hispanic students on average during the fully synchronous online course taught during the covid-19 pandemic and the fully online asynchronous course taught prior to the pandemic. There was no difference in students' learning outcome assessed, which was based on the

final assignment in the course. Hispanic students did worse on objective weekly quizzes, which also contributed to the final course grade, thus explaining their lower course grades than the other students. Hispanic families were hit harder by the covid-19 pandemic according to research. Our research indicates that our Hispanic students fared worse in courses that did not include face-to-face interaction, and this is one of the reasons that our program favors teaching modalities that offer in-person options, with the goal of ensuring equity in learning outcomes, as well as in grades.

A program-level assessment of the program learning outcome "Apply research skills in organizational and personal health settings, and in health education practice" in HLTH 309 Health Science Research methods began in fall 2021. Two faculty, Kristen Linton and Lydia Dixon, used a shared rubric assessing students' application of research knowledge in a Methodological Literature Review. Inter-rater reliability of the rubric was calculated with faculty members' use of the rubric separately of two literature reviews prior to the assessment. Rubric scores were on a scale from 0 = poor to 3 = excellent. Students did the best on the following outcomes: writing the introduction and conclusion, identifying appropriate literature, and writing quality. Students needed improvement on synthesizing analyses and sampling of studies. With these results, both faculty reworked and improved their lectures on sampling to emphasize those concepts, and also provided more examples of concrete applications in class. We have discussed in program meetings the need to offer our students additional statistical training, and a new elective course HLTH 311: Statistics for Health Science will be offered in the Fall of 2022.

Learning Outcome "Identify issues and trends in health care delivery systems and public health areas and implement solutions to better health care services to individuals and ethnically and culturally diverse populations"

Kristen Linton conducted an analysis of the Health Science Program Learning Outcome "Identify issues and trends in health care delivery systems and public health areas and implement solutions to better health care services to individuals and ethnically and culturally diverse populations" using a Virtual Reality assignment for students in HLTH 101: Overview of Healthcare Industry and Its Delivery. A section of 46 students from fall 2019 HLTH 101 class utilized Embodied Labs' (2021) immersive patient scenarios by donning headsets for VR in individual sessions. Students were assigned a VR session to improve learner knowledge, empathy, emotions, and self-efficacy to support patients with various health conditions or disabilities: Alzheimer's Disease, vision impairment, and/or in end-of-life. The VR method used was Embodied Labs, which includes 3D video and audio using an Oculus headset in which students experienced ("embodied") life as a patient with a health condition from a specific ethnic and cultural background.

- Methods: Students were randomized in semester week 1 to an intervention (VR) and control group (independent active learning assignment). In semester weeks seven (Study Week 1), eight (Study Week 2), and nine (Study Week 3) of the 15-week semester, students participated in VR or an active learning assignment at home. Those who did not get to complete Virtual Reality in Study Week 1 were scheduled to complete VR in Study Week 2 or 3 as a delayed intervention. Each student was assigned a patient scenario, associated with one of the following health conditions: Alzheimer's Disease (the Beatriz scenario), sensory impairment (the Alfred scenario), or end-of-life (the Clay scenario). In the Clay End of Life Scenario students were asked, "How would you feel if you had a disease that was incurable?" The response options were ranked by negative (i.e., angry) to positive emotions (i.e., peaceful).
- Results: Students in the VR group reported fewer negative emotions towards end-of-life in the post-survey than the control group. Knowledge was measured for the Clay End of Life and Beatriz Alzheimer's Disease scenarios. While there were slight changes in students' ability to recognize symptoms of end-of-life and Alzheimer's Disease, no significant differences between the VR and control groups were observed. Empathy was measured for the Alfred sensory loss and Beatriz Alzheimer's Disease scenarios. Students in the VR group were more likely to report that they understood older adults in the post-survey among the VR group compared to the control group. VR group students were more likely to empathize with the severity of symptoms of the two health conditions than control group students. The VR students' report of confidence to support individuals at the end of life or with Alzheimer's was typically less than the control group's reported self-efficacy in the post-survey. Since participating students were taking an introductory course in Health Science, this result could be interpreted to indicate that students in the VR group gained a deeper

understanding of the symptoms of each health condition and felt unprepared to support individuals with those conditions at that time in their education.

Learning Outcome "Integrate and apply current management concepts and skills in areas of health care personnel, organizations and agencies, emphasizing problem-solving techniques and group communication skills"

In 2019 the Health Science program was designated as a Z-Major, which means that students are able to obtain their degree without purchasing course materials, such as textbooks. Tom Clobes conducted a learning outcome analysis of the effects of using no-cost course materials, by comparing two sections of the same course during the same semester: he used a textbook in one section and no-cost course materials in the second section. He found that the no-cost textbook group numerically outperformed the traditional textbook group in every grading category and overall course performance, indicating that using no-cost course materials did not negatively impact students' learning.

D. Timeliness and Degree Attainment

Inquiry: *Do students in the program attain the degree in a timely fashion?*

Evidence and Comments: All data presented below has been obtained from CSUCI institutional-provided data sets.

Enrollment. The earliest available data for the program is from fall of 2015. Since that date, the program has grown to six times its initial size. In these years, the program has attracted many students from historically under-represented groups (HUGs).

The following table shows enrollment data in Health Science:

		Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
HUGs	N	62	143	230	318	404	420	417
	percent	57%	59%	59%	61%	65%	67%	67%
not HUGs	N	47	99	159	201	219	205	202
	percent	43%	41%	41%	39%	35%	33%	33%
Grand Total	N	109	242	389	519	623	625	619
	percent	100%	100%	100%	100%	100%	100%	100%

Demographics. In order to extract meaningful results that will inform our analysis of how well we are accomplishing our mission, we have chosen to analyze our data using the following three student characteristics: identifying as Hispanic/Latino, and/or low-income background, and/or first in the family to graduate. In the educational outcome literature this is called the "triple opportunity group", and we will use the acronym TOG for short (and NTOG for the rest of the cohort). For this assessment, we have chosen Psychology as our comparison major, based on the major's content (limited STEM courses required for the major), overall clinical interest of the student body, and student demographics. We reasoned that the perceived difficulty of STEM classes, as well as students' background, could play a substantial role in program outcomes.

Legend for the next two tables: Enrollment data in comparison major, by demographics: TOG: students in the Triple Opportunity Group; NTOG: rest of the students in the cohort. For each cohort, N reports actual numbers, and under it we report the percent of the cohort included in each category.

Enrollment data from Health Science, according to our demographic criteria:

		Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
TOG	N	89	208	326	454	553	557	551
	percent	82%	86%	84%	87%	89%	89%	89%
NTOG	N	20	34	63	65	70	68	68
	percent	18%	14%	16%	13%	11%	11%	11%
Grand Total	N	109	242	389	519	623	625	619
	percent	100%	100%	100%	100%	100%	100%	100%

Enrollment data from the Psychology program, according to our demographic criteria:

		Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
TOG	N	799	815	871	837	865	928	939
	percent	84%	83%	85%	85%	87%	88%	87%
NTOG	N	149	160	151	149	124	124	139
	percent	16%	16%	15%	13%	12%	12%	13%
Grand Total	N	948	975	1022	986	989	1052	1078
	percent	100%	100%	100%	100%	100%	100%	100%

Trends in graduation rates and number of degrees conferred. Institutional data on graduation rates showed a strong differential between native and transfer students, so we present our data accordingly. We compare our percentages with those from Psychology, as described above. Our data shows that in the first 3 years, very few of the students enrolled in the Health Science program graduated within the program. That may have been due, among other factors, to the following: (1) students entered the major hoping to transfer into the Nursing program, and they left the major when accepted; (2) students entered the major hoping to transfer into the Nursing program, and they left the major (and the institution) if they were not accepted into nursing; (3) in the first 3 years of the program the number of faculty was small and the class caps were quite high (50 and above) which could have contribute to student disengagement. Note, however, that at present we do not have anything but anecdotal data in support of these explanations. Nonetheless, as shown in the table below, by the second/third cohort, graduation rates for Health Science native students were already quite similar to those of our comparison major. By 2016, the transfer cohort was graduating with a degree in higher numbers (percentage) than for the comparison major.

The following tables report data on time to graduation in half-year intervals, starting with 4 years for native and 2 years for transfer students (4/2). This is cohort data, and therefore it reports outcomes (% of each cohort) for students that entered the university as declared Health Science majors, but not necessarily maintaining that academic choice until the end of their academic journey. For this reason, we also report data on degrees conferred at the end of this section.

When analyzing the graduation rates by demographics at the last time point, native TOG students graduated in higher percentages than the rest of their cohort, namely 75 vs 33.3% in 2014, 62.5 vs 57.1% in 2015, 51.5 vs 33.3% in 2016, and 37 vs 25% in 2017. By contrast, transfer TOG students consistently graduated at slightly lower rates than the rest of their cohort (33.3 vs 100 in 2014, 85.7 equal in 2016, 87.5 vs 100 in 2017, 86.8 vs 91.7 in 2018, 78.3 vs 85.7 in 2018) except in 2019 (71.7 vs 58.3), the last time point. This data stresses the need to assess the outcomes of those two types of students separately, and also suggests the need to implement different strategies to increase their success.

Legend for all tables: N, native; T, transfer; HS, Health Science; PSY, Psychology. Cohort data in numbers; graduation data shown as percent (%) of the cohort by each time point (cumulative data).

Time to graduate in half year intervals, for each cohort (starting at the year on the left first column) of Health Science and comparison Psychology majors.

		Entering Cohort (N)		% graduate in 4 or 2 yrs		% graduate in 4.5 or 2.5 yrs		% graduate in 5 or 3 yrs		% graduate in 5.5 or 3.5 yrs		% graduate in 6 or 4 yrs		% graduate in 6.5 or 4.5 yrs	
		HS	PSY	**HS**	PSY	**HS**	PSY	**HS**	PSY	**HS**	PSY	**HS**	PSY	**HS**	PSY
2014	N	**15**	96	**6.7**	27.1	**20**	43.8	**60**	53.1	**66.7**	57.3	**66.7**	58.3	**66.7**	1.5
	T	**11**	231	**18.2**	48.5	**18.2**	63.6	**27.3**	79.7	**36.4**	80.5	**45.5**	82.7	**45.5**	83.1
2015	N	**23**	94	**26.1**	24.5	**34.8**	30.9	**56.5**	54.3	**60.9**	55.3	**60.9**	56.4		
	T	**28**	191	**60.7**	46.1	**75**	57.1	**85.7**	72.8	**85.7**	74.3	**85.7**	77	**85.7**	78
2016	N	**36**	98	**27.8**	31.6	**33.3**	41.8	**50**	52						
	T	**38**	196	**52.6**	54.1	**65.8**	62.2	**81.6**	77	**81.6**	79.6	**86.8**	81.1	**89.5**	81.6
2017	N	**31**	96	**35.5**	36.5										
	T	**65**	246	**56.9**	59.8	**66.2**	67.1	**80**	78.5	**80**	80.9	**87.7**	83.3		
2018	N														
	T	**76**	202	**68.4**	52.5	**75**	68.3	**78.9**	75.2						
2019	N														
	T	**104**	210	**70.2**	53.8										

Time to graduate in half year intervals, for each cohort of Health Science students, analyzed by demographics.

		entering cohort (N)		% graduate in 4 or 2 yrs		% graduate in 4.5 or 2.5 yrs		% graduate in 5 or 3 yrs		% graduate in 5.5 or 3.5 yrs		% graduate in 6 or 4 yrs		% graduate in 6.5 or 4.5 yrs	
		TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG
2014	N	12	3	8.3	0	25	0	66.7	33.3	75	33.3	75	33.3	75	33.3
	T	9	2	11.1	50	11.1	50	22.2	50	22.2	100	33.3	100	33.3	100
2015	N	16	7	18.8	42.9	31.3	42.9	56.3	57.1	62.5	57.1	62.5	57.1		
	T	21	7	61.9	57.1	76.2	71.4	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
2016	N	33	3	27.3	33.3	33.3	33.3	51.5	33.3						
	T	32	6	53.1	50	62.5	83.3	78.1	100	78.1	100	84.4	100	87.5	100
2017	N	27	4	37	25										
	T	53	12	54.7	66.7	62.3	83.3	77.4	91.7	77.4	91.7	86.8	91.7		
2018	N														
	T	69	7	66.7	85.7	73.9	85.7	78.3	85.7						
2019	N														
	T	92	12	71.7	58.3										

These data suggests that our native cohorts are more likely than transfers to leave without a degree. Thus, it reinforces the program's decision to institute mandatory advisement for all native students within the first year, and for transfer students within the first semester.

To obtain a better sense of graduation timeliness in the Health Science program, we also compared our data with the outcomes from Psychology (table below), applying the same demographic criteria (TOG vs NTOG). The data shows that initially (2015-2016) the Health Science program graduated less native students on time (4 years) than Psychology, but graduation rates became similar by 2017 (PSY TOG = 36.8% and NTOG 33.3%; HLTH TOG = 37% and NTOG = 25%). Health Science had over 10% lower graduation rates of NTOG native students in the 2017 cohort

compared to TOG. The comparison data also shows that Health Science graduation rates for transfer students on time (2 years) was similar to, or higher than the Psychology programs' graduation rates for TOGs and NTOGs. TOG transfer students specifically had higher graduation rates in the 2019 cohort, that is 91.7% Health Science graduation rate compared to 53.6% for Psychology transfer students in the same cohort. NTOG transfer students in that same 2019 cohort graduated at similar rates for Health Science (58.3%) and Psychology (55.6%). NTOG transfer students had lower graduation rates than TOG students similar to native students. NTOG transfer students had over 30% lower graduation rates compared to TOG students for Health Science in the 2019 cohort.

Time to graduate, in half year intervals, for each cohort of Psychology students, analyzed by demographics.

		entering cohort (N)		% graduate in 4 or 2 yrs		% graduate in 4.5 or 2.5 yrs		% graduate in 5 or 3 yrs		% graduate in 5.5 or 3.5 yrs		% graduate in 6 or 4 yrs		% graduate in 6.5 or 4.5 yrs	
		TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG
2014	N	80	17	27.5	23.5	43.8	41.2	53.8	47.1	57.5	52.9	58.5	52.9	62.5	52.9
	T	195	37	47.7	51.4	62.6	67.6	81.0	73.0	82.1	73.0	83.1	81.1	83.1	83.8
2015	N	81	13	23.5	30.8	29.6	38.5	50.6	76.9	51.9	76.9	53.1	76.9		
	T	158	33	41.1	69.7	53.2	75.8	70.9	81.8	72.2	84.8	75.3	84.8	75.9	87.9
2016	N	85	13	32.9	23.1	43.5	30.8	52.9	46.2						
	T	165	32	55.2	46.9	62.4	59.4	77.0	78.1	80.0	78.1	81.8	78.1	82.4	78.1
2017	N	87	9	36.8	33.3										
	T	199	47	56.8	72.3	64.8	76.6	76.4	87.2	78.4	91.5	81.4	91.5		
2018	N														
	T	178	24	51.1	62.5	67.4	75.0	73.6	87.5						
2019	N														
	T	183	27	53.6	55.6										

This data is making us question how well we understand who our students are, and particularly what makes the NTOG group less successful in graduation rates than the rest. The challenges that our students face to graduate on time are not captured in the data, and this question, therefore, will be at the forefront of our discussions as a program in the upcoming years.

Perseverance. We looked at perseverance data to understand graduation rates, and we further explored whether our selected student demographics had an impact on those outcomes.

First, we looked again at degrees awarded. The program in Health Science started to award the B.S. in 2017/18, and since then the number of degrees conferred has more than doubled, as follows:

AY	# degrees	# cum laude	# magna cum laude	#summa cum laude
2017/18	108	21	3	3
2018/19	166	28	6	4
2019/20	242	42	15	4
2020/21	222	51	18	9
2021/22	234	59	10	5

Overall, our students have done quite well, with 25% graduating with honors in 2018, 23% in 2019, 25% in 2020, 35% in 2021 and 32% in 2022.

Next, we tried to understand our students' *pathway to graduation*, by looking at persistence data, that is, the percent of each cohort that continues from one year into the next.

Perseverance data: percent of each cohort, by demographics, that continues from one year into the next

		Enrollment entering cohort (N)		Perseverance into spring YR1 (%)		perseverance into Fall YR 2 (%)		perseverance into fall YR 3 (%)		perseverance into Fall YR 4 (%)		perseverance into fall YR 5 (%)		perseverance into fall YR 6 (%)	
		TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG	TOG	NTOG
2015	N	16	7	100	100	87.5	57.1	75	57.1	69	57.1	75	57.1	69	57.1
	T	21	7	100	100	86	100	86	100	86	86	86	86	86	86
2016	N	33	4	97	100	91	50	73	25	67	25	73	25	70	25
	T	34	7	100	86	94	86	91	100	94	100	91	100		
2017	N	27	4	100	100	89	100	78	100	74	100	74	100		
	T	53	13	98	92	89	85	85	85	83	85	87	85		
2018	N	32	1	97	100	87.5	100	69	100	66	100				
	T	69	7	96	86	88	86	86	86	87	86				
2019	N	24	3	92	100	87	100	67	100						
	T	92	12	98	75	92	75	89	67						
2020	N	27	2	93	50	63	50								
	T	88	17	91	82	82	88								
2021	N	29	0	100	0										
	T	81	7	93	86										

As we see in the table above, our native cohorts persisted into their second semester, but then started to leave the program. Importantly, among native cohorts, TOG students consistently showed a higher persistence rate than the rest. In the case of transfers, a larger number of TOG students persisted into their second semester, but beyond that time point there is no clear pattern, and it seems to depend on the cohort.

In 2015, the California State University (CSU) launched *Graduation Initiative 2025* (GI 2025), an ambitious plan to increase graduation rates, eliminate equity gaps in degree completion, and meet California workforce needs. The GI 2025 goals include eliminating the achievement gap and:

- Increasing 2-yr graduation rate for transfer students to 45%
- Increasing 4-yr graduation rate for transfer students to 85%
- Increasing 4-yr graduation rate for native students to 40%
- Increasing 6-yr graduation rate for native students to 70%

Given how young our program is, to compare our data in relation to the GI 2025 goals, we have chosen to use as a benchmark or reference point the average of the graduation rates in the last 3 years for which we have data (cohorts from 2015, 2016 and 2017). Our results indicate the following:

1. Our benchmark 2-yr graduation rate for transfer students is 51% for TOG and 63% for NTOG, both exceeding the 45% goal of the GI 2025.
2. Our benchmark 4-yr graduation rate for transfer students is 79.5% for TOG and 84.8% for NTOG, both very close to the 85% goal of the GI 2025.
3. Our benchmark 4-yr graduation rate for first-time native students is 31% for TOG and 29% for NTOG, both below the 40% goal of the GI 2025. We do not have 6-yr graduation rates for those cohorts.

Inquiry: *Are students active participants in the learning process? Does the program provide opportunities for students to participate in curricular-related activities, such as clubs, fieldtrips, competitions, research and creative opportunities, service learning experiences, performances, and internships?*

Evidence and Comments: Many Health Science faculty conduct mid-semester evaluations within courses. Also, in fall and spring semesters we encouraged students to provide feedback about the program in a Google Forms survey. The results as stated in this report revealed the following themes: Health Science majors reported multiple career interests but 18% indicated that they did not know what they wanted to do yet. Future professional pathways included: pre-professional health careers (33%), nursing (32%), public health/epidemiology/health education (6%), graduate school/PhD in general (4%), and health administration (2%). When students answered the question, "What is something you would like to STOP doing in the Health Science program?," many students responded with frustration over taking classes that they felt they did not need, such as UDGE courses. Students also desired courses that directly applied to career options they were interested in, such as clinical courses, health law, or disability courses. When students answered the question, "What is something you would like to START doing in the Health Science program?," an overwhelming number of students reported that they wanted more career-related opportunities, such as internships and hands-on experiences in the community. When students answered the question, "What is something you would like to CONTINUE doing in the Health Science program?," many discussed the current curriculum, modality, and teaching methods. Specifically, students reported that they liked the service learning, capstone, research methods, anatomy, medical terminology, psychology, anthropology, and chemistry courses. Students reported desiring both online *and* face-to-face instruction. Teaching methods that students enjoyed included peer interactions, real-world applications of concepts, quizzes on readings, use of no-cost course materials, use of novels, and Canvas for course material organization. When students answered the question, "Is there anything else you would like to add?," many reported a desire to have emphases or concentrations especially for pre-clinical professionals. Some students wanted more information on career pathways.

Some of the students' feedback is outside the control of the Health Science program, such as taking UDGE courses. Other feedback will be incorporated into future program changes, such as offering both online and face-to-face courses (as accreditation constrains allow) and more applied, practical health experiences in the community. For example, as a result of this feedback, and in collaboration with the Advisement Office, we will be offering a workshop to explore Careers in Health Science on August 27, 2022. Another element that was implemented following this feedback was obtaining from IT a listserv of our majors, to provide fast dissemination of internship opportunities. A student recently wrote: *My name is [removed], and I am a Health Sciences student enrolled at CSUCI anticipating to graduate next semester Fall 2022. I wanted to say thank you for sending the announcement about the California Department of Public Health Internship Program back in May of this year. After three months of anticipation, and two interviews with the CDPH internship team, I am delighted to say that I have been selected as a paid intern for the Fall 2022 cohort under the CDPH's Office of Health Equity! Without your announcement of this internship experience to the Health Science program, I would not have been aware of this incredible opportunity. Again, thank you so much for your help, and time in reviewing this email. I hope you have a great rest of your day.*

Health Science students are given many opportunities to apply their learning in service learning, independent research, summer research, internships, and clubs. Health Science students can choose between HLTH 492: Service Learning or HTLH 499: Capstone in their last semester. Students can also take HLTH 494, a supervised Independent Research course, as an elective. Health Science offers HLTH 492, a Service-Learning course, each semester. Additionally, many other courses throughout the Health Science curriculum integrate service projects into course learning activities. The HLTH 492 course has partnered with many community agencies, such as the Camarillo Health Care District, St. John's Hospital, and Food Share, to provide students with hands-on community-based experience applying learning objectives in the field. Students even remained in the field conducting community service at Food Share in HLTH 492 during the pandemic. Examples of service learning in other courses includes HLTH 102

Community Health Organizations, HLTH 301 Public Health, and HLTH 309 Research Methods collaborating with the OUHSD on various health fairs and the Ventura County Health Needs Assessment, since 2015. The last example is a mix between service learning and research experience as students in HLTH 309 conducted Community Based Research.

HLTH 494 Independent Study is an unpaid course taught by voluntary instructors. Many Health Science faculty have offered this course since 2015. It has been offered each semester with typically more than one course section. This course allows students opportunities to customize their experience; faculty mentor students on their own research projects. Health Science faculty (Tom Clobes in 2021, and Ronald Berkowsky in 2022) and students have also engaged in the Summer SURF (summer research opportunities). Typically, Health Science students present at the SAGE Student Research Conference annually with mentorship by Health Science faculty.

Over the past six years, Kristen Linton has offered six paid research assistant positions to Health Science students, approximately one position per year. These positions included experience collecting data in the field, analyzing data, and co-publishing peer-reviewed articles. Five out of six attend/ed graduate school; one is a supervisor of a local non-profit.

Many Health Science students participate in clubs, such as the Physician's Assistant club and Red Cross Club. These clubs offer service project experience as well as career readiness experience. The Health Science faculty felt quite strongly that the major would benefit from a Health Science club, and this club is a reality as of summer 2022 (the directory can be found HERE).

Many Health Science students have also participated in a clinical internship with COPE Scholars, which provides students with clinical internships in hospital settings. In addition, Health Science students participate in on-campus sites that help their fellow students and the broader campus community. For example, Health Science students have worked with the Counseling and Psychological Services (CAPS) to better inform faculty about what CAPS can offer, and with the Wellness Promotion and Education as Peer Wellness Educators.

Data from the Graduation RSVP Survey administered on campus shows that, compared to the entire campus student population at CSUCI and to the psychology program, Health Science students are less likely to indicate that lack of participation in a research project was due to not finding an advisor. However, like other students across campus, in many instances Health Science students did not participate in an internship due to family commitments and financial concerns (shown in the table below). Health Science faculty is committed to searching for internship opportunities that may accommodate students' financial and family needs.

Equity in Advising and Access to Internships and Research Projects:

	CSUCI	Health Science	Psychology
	%		
Q: What best explains why you did not complete a research project at CI?			
A: I sought but was unable to acquire advisors for my project/an internship.	2.1	0.8	5.9
Q: What best explains why you did not complete an internship at CI?			
A: Family commitments took a priority.	11.6	13	13.5
A: Financial concern	16.4	16.8	18.1

F. Advising and Academic Support

Inquiry: *Does the program provide adequate student advising? Are its students supported in other venues such as EOP, career services, and disability accommodation?*

Evidence and Comments: When the Health Science major was first established in 2015, the Program Chair took full responsibility for advising. As the program grew quickly from 40 students in 2015 to over 100 in 2016 and beyond, advising by the Chair of Health Science and Nursing (at that time), with so many other responsibilities, was not possible. Health Science began providing advising within the major, with each tenure-track faculty member assigned as a faculty advisor to a select number of students in 2017. The number of students assigned to each faculty member has been around 100 each. We analyzed the outcomes of this change by reviewing data received from Program Review Dashboards at CSUCI. The numbers from 2014, 2015 and 2016 (prior to faculty advising) were compared to those from 2017 and 2018 (faculty advising implemented). The data (as seen in this report) shows improved retention among native students and increased retention and graduation among transfer students. Data also showed an improvement in the retention of underrepresented native and transfer students.

Since that report was written, faculty have aimed to increase graduation rates for TOG in two ways. First, the program endorsed and submitted a proposal to obtain funding to implement mandatory first semester advising appointments with faculty advisors. The funds requested would used to compensate lecturers dedicating time to advising; the anticipated benefit would be to spread the increased demand for advising across more faculty (this proposal was not selected for funding on the first round, but was re-submitted to the Dean for funding in the summer of 2022, and a response is pending). Second, we were also taught to improve graduation rates through improved mentoring. With funding from an NIH grant, four Health Science faculty received a semester-long training on Inclusive Mentoring. The NIH grant also included a semester-long training on developing CURES (Course-based Undergraduate Research Experiences), which is a high-impact teaching practice shown to improve connectedness, engagement and retention. Four Health Science faculty have now received this training, with one pilot CURE course implemented in Spring 2022.

Health Science faculty meet each semester at least once with members of the Academic Advising team to discuss advising and curriculum to improve consistency across academic and faculty advising sessions.

Lastly, another intervention recently adopted to increase academic performance has been to incorporate embedded peer tutors, through the Writing and Multiliteracy Center. These tutors are assigned to work closely with students in a specific course (usually upper-division, writing intensive and/or communication intensive course). The objective is to be the "go to" or dedicated tutor for the class whenever it is possible, because the tutor has learned about the assignment and course goals in advance.

G. Articulation, Transfer, and Retention

Inquiry: *Does the program have policies and procedures that facilitate articulation with community colleges? Are transfer students accommodated and integrated into the program? Are native and transfer students in the program being retained in the major and by the University?*

Evidence and Comments: Our program has been articulated for transfer. In fact, as shown in section D, most of our entering students are transfers from the local community colleges, and elsewhere. Data on persistence and graduation rates of these transfer students was also included in section D above.

Students who have completed the approved Health Science AS-T Transfer Degree program are eligible to graduate in 60 units. The exact pathway to complete the major is dependent on the specific AS-T curriculum. To meet this goal, we encourage our students to contact Academic Advising for assistance with following the Transfer Model Curriculum (TMC). Faculty advisors use the information posted on assist.org routinely to provide accurate information to the students.

Information is also posted on the program's website.

SELF-STUDY: ELEMENT 3

A. FACULTY RESOURCES AND SCHOLARSHIP

Inquiry: *Does the program have faculty in sufficient number, and with appropriate rank, qualification, and diversity, to support its academic program in a manner consistent with its objectives? Is there evidence of the faculty involvement in scholarship and creative activities at a level appropriate to the discipline and university?*

Evidence and Comments: Until Spring of 2022, the Health Science program has been home to four full time tenured/tenure track faculty and one full professor shared with the Sociology program. Tenure density in Health Science is one of the lowest in the School of Arts & Sciences, and the instructional mission of the program has been met thanks to the contributions of ten lecturers.

NAME	HIGHEST DEGREE	RANK AS OF MAY 2022
Barker, Blair	MPH, California State University Northridge	Lecturer
Berkowsky, Ronald	PhD, U. of Alabama Birmingham	Assistant Professor
Betancourt, Juan	MPH, California State University San Diego	Lecturer
Burris, Jennifer	PhD, New York University	Lecturer
Clobes, Thomas	PhD, Rutgers University	Lecturer
De Lacalle, Sonsoles	MD/PhD, University of Navarra (Spain)	Professor
Dixon, Lydia	PhD, University of California, Irvine	Assistant Professor
Gutierrez, Melissa	MA, Fresno Pacific University	Lecturer
Hammond, Belinda	EdD	Lecturer
Irobi, Edward	PhD, Walden University	Lecturer
Linton, Kristen	PhD, Arizona State University	Associate Professor
Mack, Carol	PhD, University of California, Los Angeles	Associate Professor, retired
Park, Ashley	DrPH, University of California, Los Angeles	Lecturer
Wagner, William	PhD, University of Illinois at Chicago	Professor
Winans, Ashley	DrHSc, A.T. Still University	Lecturer

The Health Science faculty are very diverse in their academic backgrounds, scholarly pursuits and professional experiences. The academic *curriculum vitae* for each of them can be found HERE. Of the tenure track faculty, two have their doctorates in sociology, one in anthropology, one in social work, and one in medicine & cell biology/neuroscience. The lecturer faculty are also incredibly diverse in their training, including degrees such as an RN who is also a lawyer, a PhD in nutrition, Master of Public Health, and various certificates in specialized fields related to health. This breadth of academic backgrounds enriches the Health Science program and exposes the students to a wide range of career opportunities. Furthermore, all faculty teach a variety of classes at all levels, ensuring that the faculty remain involved in the planning and execution of all levels of the curriculum, contributing to ensure the stability and quality of our program. The range of expertise represented by our different specializations allows the faculty to cover all areas of study included in the program.

The Health Science faculty is very productive in terms of scholarship and has published in well-respected journals, presented at national conferences, and authored books, as evidenced in their CVs. Much of the faculty's scholarship has sought to create actionable change in the local and global communities in which they work. In parallel, Health Science faculty have been extremely active in seeking resources to support their scholarship, and between 2016 and 2022 they obtained $1,113,191 in external funding and $19,916 in internal funding (about $171,376 per year). The summary report of this activity (provided by the Office of Research and Sponsored Programs) can be found HERE and is further described in the next paragraphs.

Ventura County and the CSUCI community have benefitted greatly from the work of our Health Science faculty. For example, Kristen Linton's research on *Trabajadora de Salud* and Care Transitions has resulted in the adoption of these interventions by a local nonprofit, Brain Injury Center of Ventura County, and resulted in multiple journal articles. Blair Barker has written multiple articles for the Camarillo Health Care District's quarterly magazine "Healthy Attitudes," which is sent to all Camarillo area residents, doctors/hospitals/clinics/public health/county program departments (countywide). Tom Clobes' projects on instructional support for first-generation Hispanic students during the pandemic, and his research on the pandemic's impact on faculty development, both led to publications that have direct applications for our campus community. Lydia Dixon worked with faculty from the Communication program to design a local project examining student perspectives on covid during the early months of the pandemic. Almost immediately after joining CSUCI, Sonsoles de Lacalle wrote and received a $1.1 million grant to fund an "Initiative to Enhance Diversity in the Biomedical Research Workforce at CSU Channel Islands" to encourage students from diverse backgrounds to pursue careers in bio-behavioral fields and resources for faculty mentorship of diverse students. Ron Berkowsky is currently consulting with the Coalition for Family Harmony on research focused on transgender and nonbinary patient care in Ventura County (with a manuscript, based on early focus group data, currently in preparation). In addition, work Ron Berkowsky has done funded by the CSUCI Center for Multicultural Engagement helped identify LGBTQ+ needs on campus – a report generated from this work has been used to advocate for LGBTQ+ programs and services (including institutional funding mechanisms for the campus SAFE training) that benefit faculty, staff, and students.

Faculty scholarship has examined issues beyond the local community as well in ways that address health disparities and health concerns. Lydia Dixon's research on midwifery and reproductive health in Mexico led to multiple articles and a book about the intersection of health and global development. Jennifer Burris' recent article, "The relationship between dietary intake and dietary-focused lifestyle interventions on risk factors associated with cardiovascular disease in firefighters," drew from her work consulting as a nutritionist with the Ventura County Fire Department. Ron Berkowsky's work, published in peer-reviewed journals and presented at academic conferences, has examined diverse elder issues including the impacts of elder abuse on psychological well-being, eudamonic trajectories among LGB older adults, and disparities in eHealth literacy among older California residents; the latter project involved analyzing data available through the CALSPEAKS Fellowship offered through the CSU Social Science Research and Instructional Council, and Ron Berkowsky will further analyze this data with CSUCI students as part of the 2022 Summer SURF Program.

While the scholarship of the faculty is very diverse, it all shares a commitment to addressing the broader goals of the Health Science program and the University mission pillars. Taken collectively, the work Health Science faculty produce is deeply committed to being community engaged, integrative, international and multicultural. Students can see in their faculty members' scholarship opportunities to engage productively through research in these areas.

External funding has been obtained by Sonsoles de Lacalle, Kristen Linton, William Wagner, and Lydia Dixon, bringing funds to CSUCI to support scholarship, professional development, community work and high-impact teaching practices.

One major source of funding brought in by Health Science faculty focuses on student success. In collaboration with an interdisciplinary faculty team, Sonsoles de Lacalle wrote CSUCI's first National Institutes of Health (NIH) grant, "Initiative to Enhance Diversity in the Biomedical Research Workforce at CSU Channel Islands." The $1.1 million-dollar, three-year grant aims at encouraging students from diverse backgrounds to pursue careers in bio-behavioral fields. The project will expose students to the broad spectrum of biomedical careers, design new curriculum and faculty development programs, and examine how those interventions contribute to student success.

Another major grant focuses on professional development and promotion of scholarship among diverse faculty. Billy Wagner is the PI on a $796,858 Build and Broaden 2.0 NSF grant in collaboration with UC and CSU colleagues, which includes $260,740 going directly to the CSU. With his collaborators, Billy Wagner formed the California

Alliance for Hispanic-Serving Social Science Advancement (CAHSSA) and has implemented professional development opportunities for a large number of faculty members across both the CSU and UC, aimed at strengthening their grant proposals for external funding.

Some of this external funding went towards collaborative local partnerships. For example, Kristen Linton received $16,050 from Ventura County Community Foundation for program evaluation. Additionally, as the program evaluator, she co-wrote a grant to continue Trabajadora de Salud and Care Transitions and develop partnerships for providers of homeless people with brain injuries with the Brain Injury Center of Ventura County, for which she was awarded a $437,500 grant from California Department of Rehabilitation. CSUCI is a sub awardee on this grant and will receive $59,000 to fund a student assistant for two years.

Lydia Dixon was awarded an NSF grant as Co-PI entitled, "Structural and Individual Predictors of Variation in Cesarean Incisions." The project will entail ethnographic fieldwork in Mexico and is done in collaboration with her long-time co-author from the University of Notre Dame. The total amount of this NSF that will go towards CSUCI is $39,736.

Taken together, these achievements represent an impressive array of funding sources and demonstrate the Health Science faculty's commitments to research, teaching and service. It is important to note that Health Science faculty apply consistently to major external funding sources, even if their proposals are not always awarded.

B. Professional Staff

Inquiry: *Does the program employ professional staff --support coordinator, technicians, lab assistants --sufficient to support the academic program?*

Evidence and Comments: Until 2019, Health Science was part of the Nursing program and shared the same staff support. When the programs were separated in the fall of 2019, Health Science was not assigned a dedicated Analyst, and continued to receive staff support from the Nursing program analyst and a support coordinator. In the summer of 2021, the analyst transitioned to another position. In addition, the support coordinator moved her residence away and could not return to campus work in person; for that reason her employment was terminated, after working remotely for two years. The program has been without dedicated staff support since August 2021. This has placed a burden on the Program Chair and faculty. In this time there have been two searches for a program analyst. The position was filled in early June 2022.

With over 700 students in the major, it would be ideal to have a dedicated analyst for the Health Science program. This need has been raised with the appropriate administrators in the last 3 years, and we are told that it is under consideration.

C. Faculty Workload and Evaluation

Inquiry: *Is faculty workload aligned with the program's goals for effective teaching, scholarship, and University and community service? Are part- and full-time faculty evaluated regularly and according to university policies and practices?*

Evidence and Comments: The Health Science faculty workload, incentives and evaluation practices are aligned with institutional practices governed by the collective bargaining agreement (CBA) between the California State University and the California Faculty Association (CFA). In most cases, the majority of the faculty workload in the

Health Science program is comprised of teaching, which is consistent with the values of a student-centered University as stated in our Program Personnel Standards. Tenure-track faculty are generally expected to teach an average of 12 units per semester, in addition to university service and scholarly activities. Course releases for both service (such as writing this report) and scholarly activities (e.g., Mini-Grants for research projects) have been granted to our program, as described above. Reassigned time has been provided to faculty serving school and university needs, such as developing the WISE project (Lydia Dixon, 3 WTUs) and serving as assessment coordinator (Kristen Linton, 6 WTUs). Six units of reassigned time are regularly provided to the faculty member serving as program chair, and 2 WTUs are provided to each tenured/tenure-track faculty member serving as advisor.

Full-time lecturers are typically expected to teach up to 15 hours per semester, and part-time lecturers' teaching loads vary from semester to semester based on budgetary considerations and reassigned time provided to tenure-track faculty.

The value placed on scholarship and teaching excellence in the Health Science program is clearly stated in our Program Personnel Standards (PPS) and the CSUCI policy on Retention, Tenure and Promotion (RTP). The main incentive provided to faculty is in the form of promotion and tenure, based upon successfully meeting the published expectations of the program and the University at large. Faculty are also encouraged to seek release time through the Mini-Grant program to advance their research agenda and/or to improve their teaching. Faculty can apply for sabbaticals when eligible, as another way of assisting them in further developing their scholarship and/or pursuing teaching innovations.

Evaluation. The Health Science program makes a concerted effort to support the success of its faculty and to ensure that the faculty are evaluated in a fair and consistent manner. To meet this goal the Program relies on the PPS, approved by the Provost in 2019, and the Health Science Bylaws approved by the Dean and the Provost in 2022. The PPS document was written to help faculty succeed in the RTP processes, detailing the standards to be applied when faculty apply for promotion and/or tenure. In addition, the program Bylaws address chair evaluation stating that the "Program Chair will be evaluated in the spring semester of their second year in office. Evaluation methods will follow the Chair Evaluation Policy as approved by the Academic Senate."

Per the program bylaws, a Lecturer Evaluation Committee is constituted *ad hoc* when lecturers require evaluations per the CBA. Lecturers are evaluated on a regular basis in accord with the CBA and the CI Policy on Lecturer Evaluation, with at least one formal evaluation per contract period. Lecturers typically serve on a one-year contract until they have successfully taught in the program for six years, at which time they are typically offered a three-year contract. In addition to observations of their teaching, lecturers are evaluated by way of the portfolio they submit (syllabi, course materials, CV, etc.) and through analysis of their student evaluations.

Regarding evaluation of teaching, Health Science program bylaws estipulate that "Student evaluations of teaching shall be administered in all classes, according to the University's policy on student evaluations". Furthermore, "All faculty will follow the University RTP policy regarding peer observations. Lecturers will be evaluated according to the CBA and Academic Senate Policy on Evaluating Lecturer Faculty." Since faculty use student feedback to improve their courses on an ongoing basis, we encourage our students to complete these online evaluations with care. Instructors receive the results after the submission of grades at the end of the semester.

RTP. Tenure-track faculty are evaluated in keeping with university policies on Retention, Tenure and Promotion and Post-Tenure Review, according to which the three major areas of evaluation are 1) Teaching Effectiveness, 2) Research/Scholarship/Creative Activity, and 3) Service. Assistant Professors typically apply for promotion during their sixth year of service, and Associate Professors during their fifth year. All faculty prepare a Professional Development Plan (PDP) at the beginning of their review period. As described above, and documented in the corresponding CVs, Health Science tenure-track faculty demonstrate a high level of achievement in scholarly activity and service to the program, the institution, and to the profession.

Inquiry: *Do faculty have and use professional development plans (PDPs)? Does the program support faculty development opportunities sufficient to improve teaching, learning and scholarship?*

Evidence and Comments: The program supports appropriate faculty development experiences designed to improve teaching and learning. In consequence, all Health Science faculty engage in a high level of faculty development, taking advantage of opportunities that reflect their diverse backgrounds and professional goals. In accordance with Senate policy, all tenure track faculty have and use PDPs, which help set up some of their goals for faculty development. The most notable achievement during this period was the promotion of Kristen Linton to associate professor with tenure, effective August 2021.

Faculty engage in development opportunities through campus and off-campus avenues. Many faculty have taken courses to develop their teaching practices through TLI at CSUCI. These courses have included trainings on accessibility, Canvas, and humanized online teaching. In addition, multiple faculty members have received training on the creation of no-cost courses, an effort that aligns with the Health Science Z-Major initiative.

Through the pandemic, many faculty participated in additional development opportunities unique to that time and situation. Kristen Linton was trained in TLI's Online Teaching Preparation Program. Ashley Winans, Thomas Clobes, and Kristen Linton completed the Blended Learning Preparation Program together. Several faculty completed the OpenCI course. Kristen Linton taught a mini course in the summer of 2020 in THRIVE, a summer program for all CSUCI faculty to prepare them for online teaching facilitated by TLI, and Lydia Dixon participated as a leader of a THRIVE faculty group.

Faculty seek out other development opportunities as well. For example, Lydia Dixon participated in the National Center for Faculty Development and Diversity Faculty Success Program, which helped her learn more about balancing her teaching, scholarship and service and ultimately helped her finish her book. Kristen Linton received several grant writing trainings provided by NIH and the CSU Chancellor's Office. Additionally, several tenure-track and lecturer faculty have attended a mentoring and student research training facilitated by a NIH grant received by Sonsoles de Lacalle (described above). In June 2022, Lydia Dixon and Ron Berkowsky received training in Community Based Participatory Research (CBPR) at the University of New Mexico, and will be sharing that information with the program, to integrate CBPR into the Health Science curriculum.

Faculty are also encouraged to stay current in their field by attending conferences and workshops offered locally, nationally and internationally by professional organizations. However, until the Spring of 2022, only tenure-track faculty hired before 2015 were provided an annual budget of $1,200 for travel to attend conferences and present their research. Nonetheless, we are grateful that the Dean's and the Provost's Offices have provided support to those faculty not assigned travel funds. The program has also contributed part of its CERF funds (Continuing Education Reserve Funds) and operating budget to help program faculty to advance their teaching effectiveness and scholarly agenda for the benefit of their students, the campus, and the profession at large.

The Health Science program encourages its faculty to apply for competitive internal Mini-Grants to promote their teaching and scholarly activity at CI. The Mini-Grants provide course releases and/or the purchase of supplies and technology, pay student salaries, and cover the expenses related to travel or other project-related activities. A list of these activities is found HERE, and described above.

Finally, since 2019 the Health Science faculty has been meeting as a group once a month each semester to discuss program issues, enrollments, assessment, events, curriculum, program review, pedagogy, textbook adoption and other topics. These meetings allow us to reflect on the areas of our curriculum that need improvement, plan events and look ahead to the direction we want the program to take.

E. Fiscal and Physical Resources

Inquiry: *Does the program have the budgetary resources needed to support its educational program? Are its facilities, including offices, labs, practice and performance spaces, adequate to support the program?*

Evidence and Comments: Between 2015 and 2019, the Health Science program was administered as part of the Nursing program. Separate budgets were generated starting AY 2019-2020 and can be found HERE. For AY 2019-2020 the program received in September 2019 an operating budget of $425. For AY 2020-2021 the program received in May 2020 (revised in September 2020) an operating budget of $1,625, of which $1,200 were set aside for Billy Wagner's travel. For AY 2021-2022 the program received in May 2021, from the dean's office, an operating budget of $1,625, of which $1,200 were set aside for Billy Wagner's travel. However, in AY 2021-22, the actual amount that was allocated to Health Science operating expenses was $11,956, of which $1,200 were earmarked for Billy Wagner's travel. At the time of writing, the program has not received an operating budget for AY 2022-2023.

Other funds. In AY 2020/21, following the closing of campus in-person instruction, the program used its TH920 funds (CERF or Campus partners) to purchase any equipment the faculty needed for a successful virtual teaching (tablets, microphones/headsets, furniture at home), as well as professional development resources. We also purchased graduation cords, and mailed a cord with a congratulations card to each of the graduating seniors. In AY 2021/22, in addition to supporting faculty professional development and research activities, the program used remaining CERF funds and some of the operating budget to host the first-ever graduation celebration. The invitation went out to the 270 students expected to graduate and their families, and 250 people participated in the event, which took place the day before graduation. Over tacos and ice cream, students received the Health Science cords, took pictures with the faculty, and scribbled their messages on posters that we have saved to display on our website.

The classroom spaces assigned to Health Science Program are in most cases adequate and are always well-equipped in terms of instructional technology. Most, if not all, have smart projectors. The physical layout of some of the classrooms is not ideal (shape of classroom, pillars, furniture), but most have flexible seating arrangements that allow different types of student interactions. In several instances, lack of video technology has prevented a class from maximizing access, such as facilitating remote participation of guest speakers, or recording seminars delivered by experts.

With regard to office space, all tenure-track faculty offices are located on the first floor of Solano Hall, where there is also a shared space available as an office for the lecturers.

F. Developing External Resources

Inquiry: *Does the program seek and receive extramural support, including grants, gifts, contracts, alumni funding?*

Evidence and Comments: While the faculty have been actively pursuing external funding, these endeavors have focused on obtaining resources for research, and have been discussed above, with the scholarship section (Element 3. A). Health Science has been very active] seeking intramural support for programmatic activities, applying for IRA funding as well as UNIV 392 funding. However, there are few (if any) resources available for other activities geared towards creating a welcoming and warm environment for our diverse student population.

G. Information Technology

Inquiry: *Does the program have access to information resources, technology, and expertise sufficient to deliver its academic offerings and advance the scholarship of its faculty?*

Evidence and Comments: Health Science faculty members have personally and collectively embraced a range of technologies in their teaching, and continue to take trainings to keep up with new methods, including Canvas, Zoom, Padlet, VoiceThread, Hypothesis, Mentimeter, Kahoot, and Polleverywhere. Many of these classes have been offered through Teaching and Learning Innovations (TLI) here at CSUCI. These different platforms and applications help keep classes interesting and increase opportunities for student engagement.

Faculty report using diverse technologies purposefully as part of their pedagogy. For example, podcasts and TED Talks are used to supplement readings. Some faculty have embraced technologies to help cement concepts or give students practice with skills. For example, one faculty member uses an online diet analysis program for one of the major assignments. This allows the students to analyze their own dietary patterns and come up with some solutions to improve nutrient intake. Another faculty member uses Embodied Labs virtual reality scenarios in which students "embody" a person with a particular health condition and navigate their health condition and the health care system. Another has successfully implemented the Jamboard app to increase student' in class participation.

One lesson from the shift to online learning during the pandemic has been the value of retaining some technologies even for in-person classes. For example, some faculty continue to use Google docs/sheets and other engagement apps, such as Jamboard, in their classes to get students to collaborate on responses or projects.

The Health Science Program is well served by the staff of the John Spoor Broome Library, who provide expert support to classes with a research component. Faculty make regular use of the services offered by the library staff, particularly the information sessions in which students are given an orientation regarding appropriate research techniques and an overview of the resources available for a particular project or class. While our library's physical collection of books is small (given the size and age of the University), the library subscribes to multiple science and medical databases to support the scholarly research of the Health Science faculty. The library also provides an excellent interlibrary loan service that faculty regularly make use of. Program faculty can also easily receive support when questions arise regarding our CI Learn system, Canvas, through the FIT Studio. All faculty offices are equipped with a campus computer and all faculty have access to printing and copying services.

However, support for other key programmatic needs such as computer set up, access to video recording, and website management has been largely missing or ineffective.

H. Community Involvement and Liaison

Inquiry: *If appropriate, does the program have an advisory board or other links to community members and professionals? Does the program maintain a relationship with its alumni?*

Evidence and Comments:
Community Members and Professionals. As documented throughout this report, Health Science faculty not only are employed by (most lecturers) or voluntarily serve on Board of Directors of local community organizations, but many community organizations also choose to hire new employees from CSUCI Health Science students and/or alumni: for example, the Brain Injury Center of Ventura County employs two current Health Science students and two alumni; three Health Science alumni work for the Ventura County Department of Public Health. An epidemiologist from VC Department of Public Health, Erin Slack, regularly provides guest lectures for students and fosters

collaborations with classes to conduct service-learning projects. Additionally, the OUHSD has collaborated with the Health Science program since 2016 on near-peer mentor relationships between high school and CSUCI students on nutrition and other wellness service-learning projects. The Health Science faculty regularly receive feedback from local community organizations on the skills that they need in graduates to help shape our program to meet the needs of our community.

One aspect we need to consider as we grow is the development of an External Advisory Board that would solidify our community contacts, provide input to maximize the preparation of our students towards employment, and offer help in finding internships for our students.

Alumni. Health Science program faculty remain in contact with many alumni. Health Science has an Instagram page with over 600 alumni. We have had alumni present in courses to current students to discuss jobs and real-world health applications of course content. Several alumni also created written and video Testimonials, which are posted on the Health Science Program website.

In 2019 Kristen Linton conducted interviews with three Health Science alumni who were working in the health field and/or attending graduate school. Students reported needing specific courses, such as epidemiology if they obtained a career in public health and more content on theory. Epidemiology remains a part of the Health Science curriculum. Another graduate who obtained a job as a supervisor reported needing more training on conflict resolution. Theory and conflict resolution techniques have now been integrated more into the Health Science curriculum based on this feedback.

In 2020 Kristen Linton gathered Graduation Exit Interview survey data from our CSUCI Data Analytics. She compared graduate school interests between Health Science graduates and CSUCI graduates overall. The table below shows that Health Science students desired to attend graduate school at higher rates than other students at CSUCI. In 2020 students were accepted to graduate programs at higher rates than other CSUCI graduates.

Graduating Students' Commencement RSVP Survey from Career Services

Note. This data is prior to graduation; many students do not yet know if they have been accepted into those programs.

	Health Science		All CI Students	
	2019 (n = 163)	2020 (n =159)	2019 (n =1891)	2020 (n =1228)
	Frequency(percentage)			
Applying to Graduate School				
Any Graduate School	88 (53.9%)	106 (66.67%)	709 (37.49%)	497 (40.47%)
Master's Program	59 (36.19%)[a]	83 (52.20%)[a]	516 (27.28%)[b]	357 (29.07%) [b]
Doctoral Program	3 (1.84%)	5 (3.14%)	75 (3.96%)	56 (4.5%)
Other	18(11.04%)	8 (5.03%)	71 (3.75%)	49 (3.99%)
Medical School/Health Related Field	8 (5.88%)	10 (6.28%)	30 (1.58%)	23 (1.87%)
Law School	0 (0.0%)	0 (0.0%)	17 (0.89%)	12 (.97%)
Accepted to Graduate School at Graduation RSVP				
Any Graduate School	4 (2.45%)	10 (6.28%)	67 (3.54%)	72 (5.86%)
Master's Program	3 (1.84%)	6 (3.77%)	33 (1.74%)	46 (3.74%)
Doctoral Program	1 (.61%)	1 (.62%)	8 (.42%)	11 (.89%)
Other	0 (0.0%)	3 (1.5%)	21 (1.11%)	13 (1.05%)
Medical School/Health Related Field	0 (0.0%)	0 (0.0%)	2 (.10%)	1 (.00%)
Law School	0 (0.0%)	0 (0.0%)	3 (.15%)	1 (.00%)

In 2020 Kristen Linton also requested survey participation of the CSUCI Instagram page, which includes followers that are alumni and current students. Their career interests varied extensively, supporting our decision to maintain a generalist Health Science program at this time: Public health/health education, n = 25 (20.32%); clinical healthcare other than nursing, n = 33 (26.82%); other careers (specified by students: radiology, social work, biotechnology, and physical therapy), n= 28 (22.76%); nursing, n = 21 (17.07%); and administration/informatics, n = 16 (13%).

Alumni relations is an area where we hope to grow. We are actively working to collect better data and contact information from alumni, so that we can track their progress and retain connections that might help our current students.

SELF-STUDY: ELEMENT 4

A. PROGRAM PLANNING

Inquiry: *Does the program engage in planning activities which identify its academic priorities and examine the alignment of its core functions with those of the institution?*

Evidence and Comments: Program planning is a regular part of monthly Health Science faculty meetings. The Health Science program currently discusses program planning and other matters as a group during the monthly meeting. The Program Chair provides updates provided by the Dean related to institutional priorities. Other faculty members engaged in university committees provide reports during faculty meetings. For example, updates to the GI 2025, accreditation, OpenCI, etc. have been provided regularly at faculty meetings. Several faculty served on Charting our Course initiative to identify new CSUCI programs. While at the time of this writing there are no formalized plans, Health Science faculty are supportive of the new programs that relate to the Health Science, such as MPH, Speech Language Pathology, MBA in Health Administration, and will advertise these programs to their students.

Course-level challenges are discussed and addressed in faculty meetings. For example, faculty teaching the HLTH 499 capstone noticed that students were having a difficult time with research projects and had "never conducted a literature review" before. Thus, faculty proposed that students take the HLTH 309 research methods course prior to capstone to give them the skills needed to complete the culminating project. Faculty also collaborate often on course-level modifications or teaching strategies. For example, Lydia Dixon and Kristen Linton both teach HLTH 309 research methods consistently. They touch base almost every semester to discuss what's working and not working. Both make changes to teaching strategies as needed based on discussions. One outcome of these conversations was the decision to keep HLTH 309 teaching modality blended. The rationale for the decision was that in the blended version of the class, students are exposed to and engage with tools they can practically use in the future. Due to limited labs on campus, it is not possible to have all students utilize these online tools while in a face-to-face environment. Furthermore, when they are alone learning, they can pause and play a tutorial video and proceed at their own pace. Initially, this process was facilitated by Kristen Linton's participation in TLI's Blended Learning Preparation Program.

In 2018-2019, then Program Chair, Dr. Landry, engaged all faculty in a retreat to discuss goals for the program, and subcommittees were developed to prepare program concentrations. The program concentration idea was not supported by the Dean. A new program Chair began the following year and the program decided to pursue a generalist approach for the time being.

As discussed in Element 3 on Program Learning Outcomes, weekly meetings by four Health Science faculty members began in 2019-2020 to prepare for Program Review. This Program Review is the first holistic evaluation of the Health Science program.

B. INTEGRATION OF PLANNING RESOURCES

Inquiry: *Does program planning successfully align its curricular, personnel, and budgetary resources? Are its planning goals informed by student learning outcome data? Is program planning integrated into the Academic Affairs budgeting process?*

Evidence and Comments: In AY 2021-22, Sonsoles de Lacalle was invited to participate in a compensated activity, the "Data Champions," aimed at providing targeted data and information to several programs engaged in program review. Participation in this activity was extremely helpful to understand the program's academic performance. Besides this activity, there has been no budgetary investment in program planning, and the time and work of researching, analyzing and writing this self-study has been a labor of love, applying some units of release time to the writing team, to facilitate protected time.

The program's use of assigned resources has been dictated by working to maintain academic integrity, excellence, and opportunities in the context of managing a WTU-based budget (see Element 3.E). The documentation is provided HERE.

The program has struggled to overcome the negative impact of the current misalignment between academic planning and resource planning. For example, while the program is asked to generate the next fall schedules in February, budget is not released until several months later. To solve this time lag, the program is told to use the prior year as a reference. However, this is inefficient at best: awarding release time to faculty *after* the schedule has been approved requires finding lecturers to cover the courses that faculty are released from (and within the constrains of the already-published schedule). This last-minute scramble to identify and hire lecturers is not the best approach, and in the past has resulted in an increase in the number of sections offered online, defying pedagogical best practices.

In regard to personnel needs, over the last 7 years the program has conducted several faculty searches that resulted in filling one tenure-track position in 2015 (Kristen Linton), two tenure-track positions in 2018 (Lydia Dixon and Ron Berkowsky), one tenured position in 2019 (Sonsoles de Lacalle) and one tenure-track position in 2022 (Tom Clobes). Academic Affairs reports that tenure density for CSUCI in the Fall of 2021 was 46.2%, and for Health Science (data from Fall of 2020) was 0%. While acknowledging that disparities in data may be the result of error and/or different formulas applied, a recalculation based on the CSU Academic Senate resolution of 2017 suggests that, rather than zero, Health Science tenure density at the end of this period report (Spring 2022) is 32%. This percentage is still lower than CSUCI overall, and substantially lower than that of the CSU.

With regards to SFRs, historical data is found HERE and also included in the budget reports provided by the Dean's office. In the first 5 years (2015/16 to 1019/20) the program exceeded target FTES with very high FSRs. Data for AY 20/21 and 21/22 reflect the disruption brought about by the COVID-19 pandemia and the implementation of virtual teaching. In the summary table below, numbers in parenthesis reflect discrepancies found in different reports.

		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
	FTES	15	50	70	135	252 (330)	289	259
Targets	SFR	22	22	24	24	32 (31)	30	29
	FTES	46.2	87.5	165.4	285.8	300	267 (272)	224 (234)
Actuals	SFR	31.3	36.2	32.2	30.3	36	30.5	26.2

Our program is not dependent on special physical facilities, with the exception of an elective, HLTH 311, that requires use of a computer laboratory.

C. Professional Accreditation

Inquiry: *If the program holds or is seeking professional accreditation, are its practices and resources consistent with that objective?*

Evidence and Comments: Not applicable. The Health Science program is not accredited nor is it seeking CEPH accreditation at this time.

An intense discussion among Health Science/Public Health department chairs from across the CSU brought to light the limitations of obtaining CEPH accreditation for a BS program: reduction in curricular flexibility and innovation; constrained resources; increased workload; and lack of added value for the students, as they found no evidence to suggest that employers favor a CEPH-certified program among their BS-level applicants. When discussed at the program level, the faculty was in support of maintaining our program as a generalist in health science/health education.