

Contact: Rachel Boon

**REQUEST FOR NEW PROGRAM AT IOWA STATE UNIVERSITY: BACHELOR OF SCIENCE  
IN INTEGRATED HEALTH SCIENCES**

**Action Requested:** Consider approval of the request by Iowa State University for a Bachelor of Science in Integrated Health Sciences in the College of Liberal Arts and Sciences with other collaborating colleges.

The Council of Provosts and Board office support approval of this program.

**Description of proposed program.** The proposed Integrated Health Sciences (IHS) program at Iowa State University (ISU) will be a pioneering initiative designed to prepare graduates for a broad spectrum of healthcare and public health careers, while addressing the urgent challenges of the 21st-century health sciences landscape. An interdisciplinary endeavor, the IHS program fuses insights from life sciences, behavioral and social sciences, data science, and the humanities to provide a holistic view of healthcare and its societal impact. Five distinct IHS tracks have been developed, catering to specialized areas of study: a.) the science of health and disease; b.) human health and nutrition; c.) data science and human studies; d.) public policy, ethics, communications and human health; and e.) behavioral and mental health studies. Students are trained through a balance of rigorous, multidisciplinary academic coursework, track-specific specialized courses, hands-on learning experiences, and interprofessional collaborations, making them highly competitive candidates in the healthcare sector.

IHS is not merely another health sciences program, but an innovative educational initiative designed to fill unmet needs in Iowa and the nation's healthcare landscape. Offering a multidisciplinary, and interdisciplinary, curriculum, IHS enables graduates to excel as holistic healthcare professionals who understand the biological, behavioral, environmental and social determinants of health. The program's five tracks offer flexibility and adaptability, creating highly personalized educational experiences that can be tailored to a student's individual career goals. Moreover, IHS aims to establish partnerships with medical schools and other healthcare institutions for students who choose to seek advanced training, creating a mutually beneficial educational pipeline. IHS broadens the educational opportunities for aspiring healthcare professionals in Iowa and beyond, thereby enhancing healthcare access and quality.

**Academic objectives.** The Integrated Health Sciences (IHS) program at Iowa State University aims to provide a comprehensive, interdisciplinary education that prepares graduates for a broad range of careers in the health sciences and related fields. Drawing upon the expertise and educational philosophies of the College of Liberal Arts and Sciences (LAS), the College of Agriculture and Life Sciences (CALS), and the College of Human Sciences (CHS), the IHS program is designed to cultivate well-rounded, informed, and ethically responsible professionals. The overarching academic objectives are to develop graduates who can adapt and contribute meaningfully to the rapidly evolving landscape of healthcare, who understand the complex interplay of biological, psychological, and social factors affecting health, and who are committed to evidence-based solutions and community service. These objectives are captured in the following interdisciplinary academic outcomes developed for the program.

The IHS program is designed to meet an array of academic objectives that align with the healthcare sector's current and future needs. By fusing the strengths and priorities of three major colleges within Iowa State University, the IHS program has formulated program outcomes that set the stage for transformative education in healthcare. The program outcomes are as follows:

1. **Effective Communication:** Empower graduates to articulate health-related information professionally, adapting to different audiences through various media forms.
2. **Critical Thinking and Problem Solving:** Equip graduates with the skills to dissect complex health issues, employing evidence-based approaches and statistical reasoning to propose effective solutions.
3. **Cultural Competence and Global Citizenship:** Foster sensitivity towards varied populations and advocate for health equity on both local and global scales.
4. **Information Literacy:** Instruct graduates to adeptly locate, evaluate and utilize credible health related sources for informed decision-making and practice.
5. **Ethical Conduct:** Instill a foundation of ethical principles to guide graduates in decision-making, research, and healthcare practices, underscoring accountability and integrity.
6. **Leadership and Teamwork:** Cultivate leadership and collaborative skills, preparing graduates to be valuable contributors to interdisciplinary healthcare teams.
7. **Entrepreneurial Spirit and Creativity:** Inspire graduates to think entrepreneurially, developing innovative health initiatives, products or services that address gaps in healthcare and improve outcomes.
8. **Environmental Awareness:** Highlight the interconnectedness between human health and the environment, enabling graduates to identify and address relevant environmental factors.
9. **Understanding of Socioeconomic Impacts:** Provide a nuanced understanding of how socioeconomic factors affect human health, along with strategies to minimize disparities and promote health equity.
10. **Psychological and Behavioral Considerations:** Educate graduates on the role of psychological and behavioral factors in human health and appropriate evidence-based interventions.
11. **Fundamental Health Science Knowledge:** Establish a foundational understanding of human biology, genetics and nutrition and their role in health and disease.
12. **Scientific Methodology:** Imbue graduates with a thorough comprehension of the scientific method, particularly its application in health sciences research, from study design to interpretation.

Need for program. The necessity for an Integrated Health Sciences (IHS) program was identified through a multipronged approach, combining labor market analysis, stakeholder interviews, and consultations with industry professionals. The analysis led to conclusions about educational gaps in our state and emphasized the large size of the market for health sciences undergraduate programs.

According to data from the Bureau of Labor Statistics, healthcare occupations are projected to grow by 15% between 2021-2031, much faster than the average for all occupations. In addition, Iowa Workforce Development (January 2023) reported healthcare professions projections ranging from 2 to 5.8% annual growth for a large range of common healthcare occupations. The need for the IHS program at ISU is underscored by pressing healthcare challenges unique to the state of Iowa: according to the 2021 Iowa Physician Workforce Profile from the Association of American Medical Colleges (AAMC), Iowa ranks 44th out of 50 states in healthcare provider-to-patient ratio, indicating a critical shortage of healthcare professionals. Additionally, the state faces an urgent need for workforce replenishment in healthcare sectors, particularly in rural areas. These factors have escalated the demand for specialized training in healthcare and public health careers, making it imperative to expand educational opportunities in these disciplines. According to recent market analysis by Hanover Research, positions for medical and health services managers and community health workers should increase 21.6 % and 11.6 % in the Midwest region through 2032, respectively.

Preliminary interviews conducted among prospective students, current students in related fields, and parents of students in pre-health disciplines helped to structure the curriculum of this major. In follow-up interviews, respondents overwhelmingly indicated strong support for the IHS program. Over 90% of respondents expressed an interest in enrolling in the IHS program or were highly supportive of the HIS program's novel structure.

Discussions with local healthcare providers at Mary Greeley Medical Center, Story County Medical Center, Broadlawns Medical Center, Guthrie County Hospital and Mahaska Health Partnership as well as regional employers in the health care industry such as Iowa Department of Health and Human Services, UCS healthcare and Avera Health, have corroborated the need for an academic program that creates a pool of job candidates who are adept in a wide range of health sciences topics. Importantly, discussions emphasized the urgent need for healthcare workers capable of handling Iowa-specific challenges, such as rural healthcare and an aging population.

A survey of existing degree programs in the state revealed that no program in the State of Iowa offers a highly similar fully integrated, interdisciplinary approach to health sciences at the undergraduate level. Existing programs focus on traditional science-loaded pre-medical tracks, specialized training in pre-health professional fields, or offer training limited to public health. The need for medical school applicants to not only meet science pre-requisites, but to also master a discipline area the student is passionate about, and have a strong foundation in the humanities, social sciences, and communication is recognized by the American Medical Association. The highly personalized, flexible and integrated IHS curriculum, which generally incorporates the specializations encountered in other university's majors, may be of interest to students exploring a pre-medical track, but it will not penalize students for deciding to take a different pathway to their healthcare career. Students with highly diverse healthcare interests and career goals will all find an academic home in the IHS major, encouraging an expedient pathway to healthcare careers.

The robust demand for healthcare professionals in Iowa and the US suggests there is ample room for additional, complementary educational offerings. The National Center of Education Statistics (NCES) has consistently ranked "health professions and related programs" as the second most popular university major, making up 17% of degree conferrals in the country. The popularity of the major has been steadily on the rise since 2010, with significant traction since 2019.

Relationship to existing programs at the institution. The proposed IHS major at ISU complements but does not duplicate existing programs in the biological and health sciences. While ISU does offer traditional pre-health majors such as Biology, Biochemistry, Psychology, Genetics, Nutritional Science, and Kinesiology and Health, the IHS program occupies a unique educational space that complements these existing offerings. This proposed major is unique in its focus on health and wellness from an interdisciplinary perspective to uniquely prepare students for a variety of health-related careers. For example, unlike the traditional pre-health majors, IHS offers a well-rounded curriculum that encompasses life sciences, health and wellness as well as social sciences, humanities and data science. This interdisciplinary approach provides students with a rich and nuanced understanding of health-related issues, including biological, behavioral, environmental and social determinants of health. For example, IHS students will be well prepared to understand the complexities of rural healthcare, which comprises both a high importance and high needs subset of the healthcare sector in our state. IHS students will also obtain the data science skills necessary to critically evaluate programs addressing these complexities. As a result, IHS graduates will be uniquely positioned to become industry leaders who can address complex healthcare challenges from multiple perspectives. The addition of the IHS major will not only broaden the scope of health science education at ISU.

Relationship to existing programs at other colleges and universities.

1. The Bachelor of Science in Health Sciences at Drake University is likely the most similar degree program to IHS at ISU, focusing on both science and business proficiency as a part of the healthcare curriculum. Students are required to declare an emphasis in entrepreneurship, business management, or accounting. This program seems more geared toward producing healthcare managers.
2. The Bachelor of Science in Health Sciences at Mercy School of Health Sciences. This is a traditional pre-medical degree track, focusing on science/laboratory coursework.
3. Loras College offers a Bachelor of Science in Health Sciences. This is a four-year degree for students interested in a range of health or pre-health studies. This program does not provide extensive coursework opportunities outside of traditional health science areas (e.g., social sciences, humanities).
4. The Integrated Health Studies major at the University of Illinois at Chicago (UIC) is similar to the proposed IHS major at ISU and offers a Bachelor of Science in Liberal Arts and Sciences, emphasizing an alternative and holistic approach to health science.
5. The Integrated Health Studies (IHS) secondary major at Kansas State University offers a comprehensive interdisciplinary, liberal arts training designed to complement a primary major for students interested in pursuing careers in health and health-adjacent fields.

Resources to establish a high-quality program. A dedicated recruitment and advising person at the University level to represent all three colleges involved in this interdisciplinary degree with administration by an interdepartmental committee with representation from all three colleges.

Most of the courses proposed in the IHS major are already developed and currently offered by different departments in each of the five tracks. Several new courses can mostly be developed by current faculty members in involved departments. If the enrollment reaches 200-300 in three or four years as expected, additional faculty members will be needed to cover the teaching (including experiential learning opportunities) and build research strengths in the IHS program. The need for new faculty members should be determined by the enrollment number in the tracks and workforce demand in specific areas.

Student demand. The pandemic has changed the way we prioritize healthcare systems and has drawn critical attention to the need for a robust healthcare workforce. Rapid advancements in healthcare disciplinary areas demand the development of responsive educational programs capable of training our future practitioners. Despite the national trend of declining enrollment, some health-focused programs have experienced higher than average applications in the last few years. The National Student Clearinghouse Research Center Term Enrollment Estimates Report for Spring 2022 showed undergraduate enrollment at 4-year institutions for Health Professions and Related Clinical Sciences held relatively steady throughout the pandemic despite steep enrollment declines in almost all other disciplines. Health Sciences is one of the most in-demand majors at US undergraduate institutions with a nation-wide enrollment of 1,024,849 students. ([https://nscresearchcenter.org/wp-content/uploads/CTEE\\_Report\\_Spring\\_2022.pdf](https://nscresearchcenter.org/wp-content/uploads/CTEE_Report_Spring_2022.pdf))

During the IHS program development phase, a series of interviews with prospective and current ISU students revealed an overwhelming interest in an interdisciplinary approach to health sciences education. Students expressed a desire for a program that not only serves as a robust foundation for those aiming for medical school but also accommodates a broader spectrum of interests such as health-related social sciences, data analytics and humanities. Quantitative data affirming these qualitative insights reveal that over 90% of students interviewed explicitly cited the

value of an integrated curriculum as a decisive factor for enrollment. Moreover, both students and parents highly valued the program's flexibility, particularly the ability to transition from a science-heavy 'pre-medical' track to other areas without sacrificing academic credits. This feature addresses a significant concern for student retention and graduation rates, aligning with university objectives for efficient time-to-degree metrics.

Workforce need/demand. An analysis conducted by the de Beaumont Foundation and the Public Health National Center for Innovations in October 2021 found that state and local public health departments require the hiring of 80,000 additional full-time employees to establish a sufficient foundational workforce to deliver a minimum set of public health services to the nation. The analysis emphasizes the urgent need for increased staffing in the public health sector to address current and future public health challenges, such as the ongoing COVID-19 pandemic.

The U.S. Bureau of Labor Statistics (2023) projects the overall employment in healthcare occupations will grow 13 percent from 2021 to 2031, which is much faster than the average for all occupations. The predicted increase will result in about 2 million new jobs over the next decade. In addition to new jobs from industry growth, the need to replace workers has recently increased. Overall, approximately 1.9 million annual openings, on average, are projected to come from growth and replacement needs in healthcare occupations. Finally, while jobs in public health are diverse, job growth from 2019 to 2029 for medical and health services managers, which is associated with a bachelor's level degree in public health areas, is projected to be a robust 32%.

Iowa is generally low compared to other states for healthcare provider to patient ratio; thus, the state is high-need regarding staffing and replenishment of the workforce. Iowa Workforce Development reports (January 2023) show healthcare professions areas are expected to experience high to moderate annual growth in Iowa, including a very large 5.8% annual increase for nurse practitioners, 3.7% annual growth for medical and health service managers, 3.5% growth for physician's assistants, and approximately 3% growth for home healthcare aides and medical assistants. From April 2023-September 2023, 854 jobs were posted by employers in the region seeking candidates with bachelor's degrees in health sciences. Most of these jobs are in clinical research coordination. Top employers include higher education, healthcare systems and state or city governments.

Funding and Cost. The initial cost for the development of the IHS program is supported by ISU Provost Office's "Degrees of the Future" Initiative. The long-term cost of the program will be shared by involved colleges (LAS, CHS and CALS) through shared governance.

Projected student enrollment. Data projections based on Integrated Health Science degree programs suggest a potential increase in enrollment of 325 students over seven years due to the program's interdisciplinary nature and focus on both urban and rural healthcare needs. The numbers in the table below are based on the average number of graduating students per year in established programs from a Hanover Research analysis of Integrated Health Science degree programs across the nation.

Graduate	Y1	Y2	Y3	Y4	Y5
Majors	35	85	150	220	270
Non-majors					

Accreditation. No programmatic accreditation is required for this program.

Date of implementation. Fall 2025.

Letter of Support



February 4, 2025

To the Board of Regents:

The Council of Provosts discussed the Iowa State University proposal for a Bachelor of Science in Integrated Health Sciences and reviewed associated documentation. The university has the resources and expertise for this interdisciplinary program already in place, and there is evidence of student demand and workforce benefit in the state of Iowa and throughout the Midwest. The plan indicates due diligence with the other Regent universities regarding related programs and the possibility for future collaborations in research and opportunities for students. Based on the evidence and documentation, this program is likely to benefit the Iowa State University and the state of Iowa.

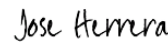
The Council of Provosts is supportive of the program and wishes Iowa State the best in its implementation.

Signed by:  
  
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2/4/2025

Jason Keith  
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