

Introduction

The College of Health Sciences (CHSE) at Misericordia University houses over 15-degree programs including bachelor, masters, and clinical doctorate degrees; as well as 12 entry and post-professional certificates. Additionally, CHSE facilitates clinical, service, and research opportunities, allowing students to present findings at local, national, and international conferences. Among Misericordia University and other healthcare education programs, they share a common goal to provide quality education to students leading to patient-centered care in the workplace.

Patient-centered care focuses on the "presence of recognition, respect, and trust" with components to facilitate an environment that works "with the beliefs and values of patients, ... shared decision-making, having a sympathetic presence, and providing for physical needs" (Park et al., 2022). In both, healthcare organizations and educational programs, accreditation standards are put into place to achieve these goals. The Joint Commission is the most recognized accreditation organization for healthcare, and visits healthcare organizations to ensure they are complying with the accreditation standards created on "how to provide quality care" (Chassin, 2013). When it comes to accreditation, the Joint Commission modernizes standards "every year to keep up with changing science and practice," and they pass a healthcare organization or healthcare educational program if they comply with the standards at the time of a visit (Chassin, 2013).

Over time, healthcare education has transitioned from on the job and hospital-based training programs to formal education in accredited academic institutions. Formal education is a structured education system that runs from primary school to university (post-secondary education), and includes specialized programs for vocational, technical, and professional training; which often leads to recognition and certification (Council of Europe, n.d.). Formal education is important, because it often follows a curriculum or set of standards to ensure students are learning all of the information necessary to enhance knowledge and skills in a particular area. With this in mind, quality patient-centered care can be achieved through education that teaches students to listen to patients voices and have respect for their individual needs, as opposed to learning to address "specific problems/issues" (Park et al., 2022).

Glossary

- Accreditation
 - An official review process that allows organizations to demonstrate their ability to meet official regulatory requirements and standards.
 - Institutional: The whole educational institution shows that all of the sections of the post-secondary institution are contributing to the achievement of the institution's goals, though not all at the same level of quality, can be national or regional.
 - Programmatic: Higher education accreditation that focuses on educational programs offered through the school. Specialized accrediting agencies evaluate the program to see if it meets certain guidelines, and is of standing quality. (*About accreditation*, 2021) and (What is accreditation?, n.d.) and (*What is accreditation?*, 2021)
- Certification
 - The action or process of providing someone with an official document attesting to a status or level of achievement of the minimum knowledge or skill to perform the professional duties and responsibilities required. (What is accreditation?, n.d.)
- Licensure
 - Enacted by each state from the state licensing boards, allowing permission to perform the acts of the job held.
 - Individual Licensure: Person seeking the licensure must meet standards for practice as established by the state licensing statutes.
 - Institutional Licensure: An agency provides a particular service to the public, such as at hospitals and clinics. (Farlex, n.d.)

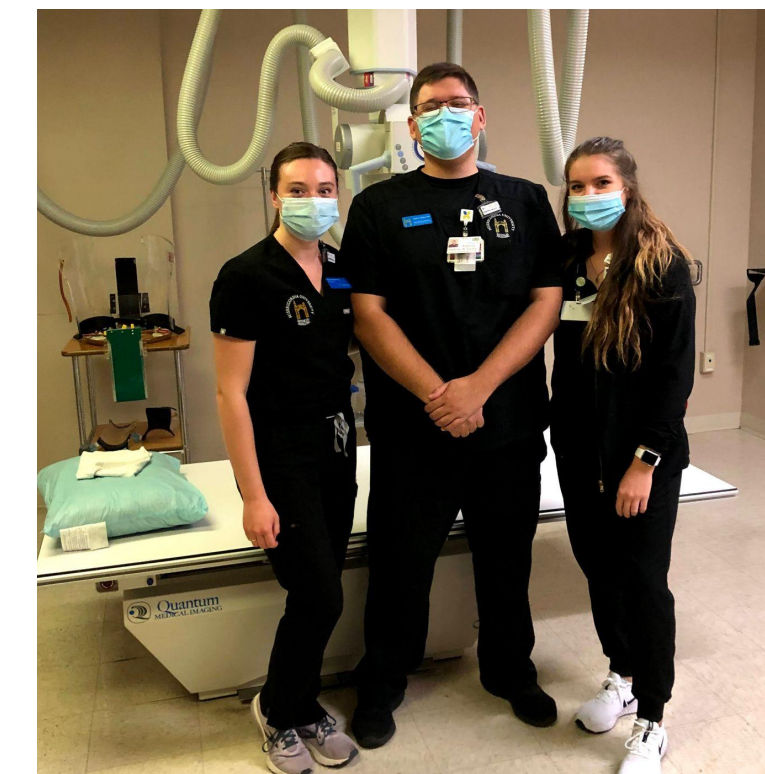
Methods

Information found in the table to the right was gathered by two senior students in the Diagnostic Medical Sonography program at Misericordia University by performing an internet search, leading to the various accreditation organizations, as well as the Misericordia University program catalogs and program handbooks for each health care profession researched. Students also utilized the Diagnostic Medical Sonography program department chair for assistance in receiving responses from other department chairs for information in their respective field that could not be gathered via an internet search.

Results

Based on the information gathered and placed in the chart to the right, the various healthcare education programs each require a different level of completed education to begin an entry-level position ranging from minimally a certificate to a clinical doctorate degree. Diagnostic Medical Sonography and Medical Imaging have the most similarities in their programs, as neither one requires a specific number of clinical hours or state licensure to work in Pennsylvania. In addition, students can be credentialed by the ARRT for both programs. For Diagnostic Medical Sonography, formal education is the preferred and recommended pathway, however, cross-training or on-the-job training continues to occur to learn various specialties. Among the healthcare programs at Misericordia University, a high school background in math and science is recommended. For the undergraduate programs, such as Diagnostic Medical Sonography, Medical Imaging, Nursing, Occupational Therapy, Physical Therapy, and Physician Assistant: anatomy and physiology courses are a requirement of the undergraduate curriculum.

	Diagnostic Medical Sonography	Medical Imaging	Nursing	Occupational Therapy	Physical Therapy	Physician Assistant	Social Work	Speech-Language Pathology
Accreditation standards	Commission on Accreditation of Allied Health Programs (CAAHEP) through the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS)	Joint Review Committee on Education in Radiologic Technology (JRCERT)	Commission on Collegiate Nursing Education (CCNE)	Accreditation Council for Occupational Therapy Education (ACOTE) and Accreditation Department American Occupational Therapy Association (AOTA)	Commission on Accreditation in Physical Therapy Education (CAPTE)	Accreditation Review Commission on Education for the Physician Assistant (ARC-PA)	Council on Social Work Education (CSWE)	Council on Academic Accreditation (CAA) through American Speech-Language-Hearing Association (ASHA)
What are the required prerequisites for the Misericordia University program?	Minimum three years high school math (algebra) and two years high school science (physics recommended). Requisite courses: Anatomy and Physiology, Physics, Philosophy core, University Writing Seminar, and Math core.	Minimum three years high school math and one year of high school biology. Requisite courses: Anatomy and Physiology.	One year of high school chemistry, biology, and math (including one semester of algebra).	A high school science background required in biology and mathematics; physics is also recommended.	Completion of at least three years of mathematics, one year of biology, and one year of chemistry in high school.	Completion of a baccalaureate degree or graduate degree (from a regionally accredited college or university) prior to matriculation A&P I (w/ lab), A&P II (w/ lab) Microbiology (w/ lab), Biochemistry, Genetics, Statistics, Medical Terminology, Overall GPA = 3.2 or higher. Completion of a minimum of 250 hours of (acceptable) direct patient care experience.	Personal interview with a member of the full-time social work faculty; Completion of a minimum of 45 credit hours, including all first year and sophomore social work core courses listed in the university catalog; A personal statement and narrative response.	The student must provide a typewritten essay of no more than 500 words indicating why the student wishes to pursue a career in speech-language pathology.
Is on the job training allowed as opposed to formal education?	Yes- formal education is the standard and is preferred, however, on the job or cross training into another specialty is permitted if the individual has minimally an Associate's degree in Allied Health, plus one year of on the job clinical education	No	No	No	No	No	No	No
Program director minimum degree requirements per accreditation standards	Bachelor's degree	Master's degree	Doctoral degree	Doctoral degree	Doctoral degree	The program director must be a certified and licensed PA or a physician licensed in the state the program exists	Master's degree in social work	Academic doctorate degree
What are the minimum number of clinical or fieldwork hours?	N/A	N/A	675 clinical hours	Completion of 90 hours of Level I Fieldwork, Minimum of 24 weeks Level II Fieldwork	Minimum of 30 weeks, 1,050 hours	One full year of clinical rotations	600 hours	400 hours of fieldwork
What are the end degree requirements of the program?	Entry-Level Bachelor's degree program requires 125 credits, while the certificate option includes 18 months completion of 48 Diagnostic Medical Sonography specific credits. Both must have completion of required clinical competencies, passing of either mock certification exams or ARDMS exams (Physics, abdomen, and OB/GYN).	A cumulative GPA of 2.5, as well as a minimum GPA of 2.5 in Medical Imaging coded courses; minimum of 120 credits, depending on the track chosen; a minimum score of 74% on the Assessment test, administered in MI 415, Senior Seminar; and satisfactory completion of all Misericordia University's requirements (both financial and academic).	Overall GPA of 2.75 126 credits	Completion of Fieldwork Requirements, 120 credits (BS) degree plus 44 credits (MS) degree, plus 33 credits (OTD) degree.	Completion of requirements for baccalaureate degree. Completion of required prerequisite courses with a grade of at least C for each course. Cumulative GPA of at least 3.2	Total Didactic Course Credits: 55 Total Clinical Course Credits: 48 Master's Project Course Credits: 2 Grand Total PA Program Course Credits: 105	Attainment of a minimum grade of C (2.00) in all Social Work (SWK) courses required for the Social Work major. Attainment of an overall G.P.A. of 2.50 and a minimum of 2.50 in SWK core courses	Complete all academic coursework. Complete all clinical practicum requirements. Pass a comprehensive examination or complete a thesis during the last semester of graduate study. Show evidence of having taken the Praxis SLP
Is there a minimum degree required to enter the profession?	Certificate in Diagnostic Medical Sonography	Associates degree	Associates degree	Master's degree or Clinical Doctorate	Bachelor's degree	Master's degree	Bachelor's degree	Master's degree
Certification organizations	American Registry for Diagnostic Medical Sonography (ARDMS), American Registry of Radiologic Technologists (ARRT), Cardiovascular Credentialing International (CCI)	American Registry of Radiologic Technologists (ARRT)	National Council Licensure Examination for Registered Nurses (NCLEX-RN)	National Board for Certification in Occupational Therapy (NBCOT) and licensure per state	National Physical Therapy Examination (NPTE) and licensure per state	Physician Assistant National Certifying Examination (PANCE)	BSW licensing exam through the Pennsylvania Licensure System (PALS)	American Speech-Language-Hearing Association (ASHA) Praxis Examination
Is state licensure required in Pennsylvania?	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Starting and median salary in Wilkes Barre, PA	Start: \$62,635 Median: \$76,390	Start: \$47,540 Median: \$57,388	Start: \$70,489 Median: \$77,992	Start: \$71,569 Median: \$85,237	Start: \$84,477 Median: \$86,101	Start: \$87,371 Median: \$103, 018	Start: \$59,480 Median: \$61,677	Start: \$78,408 Median: \$79,590



Discussion

The research conducted was organized into a table for side by side comparison of several healthcare programs at Misericordia University. Each healthcare program in this study is accredited by a different programmatic accreditation agency which develop and write the educational standards. "Accreditation systems provide oversight and guidance to health professions training programs and articulate a model of quality training to produce practitioners to meet societal health needs" (Frank et al., 2020). The standards are written broadly to allow for flexibility for programs to design their curriculum to meet the needs of the communities they serve. Commonalities among the standards are the academic institution must be accredited by an agency recognized by the U.S. Secretary of Education.

Further research was completed to determine the year of the first formal education program for each field. In the table below, the years are listed for the newest formal education program to the oldest. Although Diagnostic Medical Sonography has not been around as long as other imaging modalities, it is increasing in its application in the medical field. "Its contribution to the improvement of diagnosis' efficiency radically changed medical practice, due to its affordability, reliability, and practicality" (Oteri et al., 2020). Because of these characteristics, sonography has become more widely used over time.

Healthcare Profession	Year or First Formal Education Program
Diagnostic Medical Sonography	1985
Physicians Assistant	1965
Medical Imaging	1958
Physical Therapist	1936
Speech-Language Pathologist	1924
Occupational Therapist	1915
Nursing	1909
Social Work	1904

Of the eight healthcare majors researched, Medical Imaging and Diagnostic Medical Sonography are the only two that do not require state licensure, they also have the lowest degree requirement, along with Nursing. Program director certification for each program was minimally a bachelor's degree, with few requiring a master's degree. The starting salaries for the selected programs ranged from 57K to 103K. Most of the health care programs required a minimum GPA to graduate from the program but these varied among majors. Another difference between these programs that wasn't listed in the table is the terminology used. For Physical Therapy, Occupational Therapy, and Speech-Language Pathology they use the term fieldwork instead of clinical experience and refer to the people they see as clients not patients, which is used in other fields of healthcare.

Conclusion

Misericordia University offers a variety of healthcare education programs to prepare students becoming healthcare professionals. The research conducted compared educational requirements for eight of the health science majors offered by Misericordia University. This was done to compare and contrast the differences and similarities in entry degree requirements. Imaging has the lowest degree requirement with Medical Imaging only requiring an associate's degree and Diagnostic Medical Sonography only requiring a certificate. Formal imaging programs have not been around as long as some of the other programs included in this research. Despite this, the imaging programs at Misericordia University prepare students to be successful in whichever field they choose.

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