

**Indiana University School of Medicine
Health Professions Programs**

2018 – 19 Assessment Report

The Health Professions Programs include the *undergraduate* programs that reside within the School of Medicine. These include:

<u>Program</u>	<u>Degree Awarded</u>
Clinical Laboratory Science	B.S.
Cytotechnology	B.S.
Histotechnology	Cert., A.S. <i>(not included in the 2018-2019 report)</i>
Paramedic Science	A.S. <i>(not included in the 2018-2019 report)</i>
Respiratory Therapy	B.S.
Radiologic Sciences	A.S., B.S.
Radiation Therapy	B.S.

Please note that in addition to the IUPUI PRAC report each Health Professions Program is required annually to submit a report of current status to their accrediting agency. Although they vary somewhat in format per specific program accreditation guidelines most reports must include an analysis and action plan for each of the following:

- Board exam results
- Employer surveys (cognitive, affective and psychomotor domains)
- Graduate surveys (cognitive, affective and psychomotor domains)
- Attrition/retention
- Job placement

Additionally, we asked each program to assess how satisfied their program was with student advising for their Health Professions Program. Results are below:

Very Satisfied	<u>100%</u>
Adequate	_____
Needs Improvement	_____
Not satisfied	_____

**Indiana University School of Medicine
Health Professions Programs
2018 – 19
Assessment of the Health Professions Programs Goals**

Goal 1: To build upon sound principles of general education by preparing students to communicate effectively, exhibit quantitative skills, think critically, integrate and apply knowledge, exhibit intellectual depth and breadth, be intellectually adaptive, appreciate societal and cultural diversity, and apply ethical standards and values to professional practice.

Goal / Principle	Program Competency	Teaching Strategy	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
1. Communication and Quantitative Skills	Write effectively	Research, Case Study, and other papers	Scores and feedback on papers	At least one HPP student will present or publish at Undergraduate Research Opportunities Program or at state or national level	67% (4/6) of students in the nuclear medicine program published papers	Met	None Required
	Comprehend, Interpret, and Analyze Text		Student published papers				
	Demonstrate Effective oral Communication Skills	Case study presentations and other presentations	Scores & feedback on presentations	At least one HPP student will present or publish at Undergraduate Research Opportunities Program or at state or national level	38% (3/8) of students in the cytotechnology program applied and were accepted to present case studies at a national meeting	Met	None Required
	Solve quantitative problems	Practical Exams	Scores and feedback from classroom assessments	HPP will have at least 90% pass rate on completed clinical experiences	Students in CLS program have multiple classroom assessments focused on laboratory math including dimensional analysis, concentration/dilutions, etc. 100% (13/13) of students demonstrated competency by earning grades of at least 75% on each assessment.	Met	None required
Use information resources and technology for personal and professional needs	Clinical Experiences Laboratories	Ratings on clinical experiences Graduate Surveys Employer surveys	For employer surveys, HPP will receive summative evaluation rating of at least 3 on a 5 point scale.	100% (64/64) of students in the Radiologic and Imaging sciences programs completed and pasted their entire clinical education experiences including final practical exams. 9 of 13 students in the CLS program completed the 1 year post graduation survey. 100% (9/9) report at least a 3 out of 5 summative evaluation rating 5 out of 13 potential employers of students in the CLS program completed the 1 year post graduation employer survey. 100% (5/5) report at least a 3 out of 5 summative evaluation rating 4 out of seven potential employers of students in the cytotechnology program completed the 1 year past graduation employer survey. 100% (4/4) report at least a 3 out of 5 summative evaluation rating			

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/ Unmet	Actions Taken	
2. Critical Thinking	Use knowledge to explore new questions from multiple perspectives	Class discussions	Feedback on class participation	HPP will have at least 90% pass rate on final clinical experience	All students from all reporting HPP programs passed their entire clinical education experience	Met	None required	
				HPP will have at least 95% pass rate on final practical exams	All students from all reporting HPP programs passed their practical exams.	Met	None required	
	Solve challenging problems	Case Studies	Ratings on clinical experiences	For employer surveys, HPP will receive summative evaluation rating of at least 3 on a 5 point scale.	9 of 13 students in the CLS program completed the 1 year post graduation survey. 100% (9/9) report at least a 3 out of 5 summative evaluation rating	Met	None required	
					5 out of 13 potential employers of students in the CLS program completed the 1 year post graduation employer survey. 100% (5/5) report at least a 3 out of 5 summative evaluation rating			
	Analyze complex issues, make informed decisions, evaluate decisions made	Practical Exams	Final Practical Exam Scores	Graduate Surveys	Employer surveys	4 out of seven potential employers of students in the cytotechnology program completed the 1 year past graduation employer survey. 100% (4/4) report at least a 3 out of 5 summative evaluation rating		
Synthesize information to arrive at reasoned conclusions					All students (13/13) in the Radiation Therapy program are performing article critiques during their senior year as part of a Journal Club with physicians. The students are assessed formally and informally; they are performing at a satisfactory level			
Evaluate logic, validity, and relevance of information					All students in the CLS successfully completed PBLs, case studies, and case study reports in the successful completion of their coursework and portfolio projects (capstone course)			

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/ Unmet	Actions Taken
3. Use information and concepts from multiple disciplines in intellectual, professional and community lives	Enhance personal lives	Clinical experiences	Ratings on clinical experiences	HPP will have at least 90% pass rate on clinical experiences	All students from all reporting HPP programs passed their entire clinical education experience	Met	None Required
	Meet academic and professional competencies	Capstone courses	Capstone course grades				
	Further goals of society	Summative Examinations	Comprehensive Exam Scores	Average score of program cohort will be at or above national mean on total and content scores	All students from all reporting HPP programs passed their national certification exam. Each of these students had scores above the national mean; therefore each program's cohort had a mean above the national mean.	Met	None Required
		Employer Surveys	Certification Examination Scores				
	Community Service	Ratings on Employer Surveys	HPP will have average summative rating of at least 3 or greater (5 point scale)	9 of 13 students in the CLS program completed the 1 year post graduation survey. 100% (9/9) report at least a 3 out of 5 summative evaluation rating 5 out of 13 potential employers of students in the CLS program completed the 1 year post graduation employer survey. 100% (5/5) report at least a 3 out of 5 summative evaluation rating	Met	None Required	
				All students from all reporting HPP programs passed their final written exams (summative exams). All students (13/13) in the CLS program successfully completed their capstone course with the associated portfolio project. 100% of students in the cytotechnology (8/8), radiation therapy (13/13), and respiratory therapy (5/5) programs completed service activities. Lower percentages were reported for the other HPP programs.			

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
4. Intellectual Depth, Breadth, and Adaptiveness	Demonstrate substantial knowledge of at least one field of study Compare / contrast approaches to knowledge in different disciplines Modify approach to issue / problem based on contexts / requirements of situations	Clinical experiences	Ratings on clinical experiences	HPP will have at least 90% pass rate on clinical experiences	All students from all reporting HPP programs passed their entire clinical education experience	Met	None Required
			Practical Exams	Final Practical Exam Scores	HPP will have at least 95% pass rate on final practical exams	All students from all reporting HPP programs passed their practical exams.	Met
		Capstone Courses	Summative Exam Scores	HPP will have at least 90% pass rate on final exam rate	All students from all reporting HPP programs passed their final written exams (summative exams).	Met	None Required
			Certification Exam Scores	Average score of program cohort will be at or above national mean on certifying exams	All students from all reporting HPP programs passed their national certification exam. Each of these students had scores above the national mean; therefore each program's cohort had a mean above the national mean.	Met	None Required
		Student Employment	For HPP graduates seeking employment, at least 90% placed in jobs within 12 month of graduation	100% (13/13) of CLS students, 80% (4/5) of Respiratory Therapy students, 100% (13/13) of Radiation Therapy, 100% of Cytotechnology students were either employed or in graduate/professional school within 12 months of graduation.	Met	None Required	
			HPP will receive summative rating of at least 3 on a 5 point scale from employer evaluations	5 out of 13 potential employers of students in the CLS program completed the 1 year post graduation employer survey. 100% (5/5) report at least a 3 out of 5 summative evaluation rating 4 out of 7 potential employers of students in the cytotechnology program completed the 1 year past graduation employer survey. 100% (4/4) report at least a 3 out of 5 summative evaluation rating	Met	None Required	
		Ratings on Employer Surveys					

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
5. Society and Culture	<p>Compare / contrast range of diversity and universality in human history</p> <p>Analyze and understand inter-connectedness of global and local concerns</p> <p>Operate with civility in a complex social world</p>	<p>Clinical experiences</p> <p>Problem-based learning exercises</p> <p>Expectations for professional behavior embedded in curriculum</p>	<p>Written papers</p> <p>Written exams</p> <p>Ratings on clinical experiences</p> <p>Graduate surveys</p> <p>Employer surveys</p>	All HPP students follow appropriate professional code of ethics.	All students from all reporting HPP programs report that their students followed the professional code of ethics as represented by each program's affective objectives	Met	None Required
6. Values and Ethics	<p>Make formal and principled choices in conflicting situations / foresee consequences of choices</p> <p>Recognize importance of aesthetics in personal lives and to society</p>	<p>Class discussions</p> <p>Case study reports</p> <p>Clinical experience</p>	<p>Ratings on clinical experiences</p> <p>Employer surveys</p> <p>Critical incident reports</p>	HPP will have at least 90% pass rate on clinical experiences	All students from all reporting HPP programs passed their entire clinical education experience	Met	None Required
				HPP will receive summative rating of at least 3 or better on 5 point scale for employer evaluations	<p>5 out of 13 potential employers of students in the CLS program completed the 1 year post graduation employer survey. 100% (5/5) report at least a 3 out of 5 summative evaluation rating</p> <p>4 out of 7 potential employers of students in the cytotechnology program completed the 1 year past graduation employer survey. 100% (4/4) report at least a 3 out of 5 summative evaluation rating</p>	Met	None Required
					100% of students in the CLS and Cytotechnology program receive formal training experiences on professional ethnics and ethics in biomedical research		

Goal #2: To provide undergraduate degree programs that offer education related to the provision and management of health services by the various health professions.

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
1. To provide undergraduate degree programs	Complete certificate or degree programs Obtain credentials required for practice	Capstone courses Clinical experiences Classroom learning	Final Course Grades	HPP will have at least 90% graduation rate	All students from all reporting HPP programs met all of the degree requirements and graduated.	Met	None Required
			Comprehensive Exams	HPP will have at least 90% pass rate on clinical experiences	All students from all reporting HPP programs passed their entire clinical education experience	Met	None Required
			Final Practical Exams Certification Exam Scores	Average score of program cohort will be at or above national mean on certification exam	All students from all reporting HPP programs passed their national certification exam. Each of these students had scores above the national mean; therefore each program's cohort had a mean above the national mean.	Met	None Required

Goal #3: To contribute to the advancement of knowledge through research

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
1. Advance knowledge through research	Conduct literature review Collect data Analyze data Present results Conduct research	IUSM provides opportunity to participate in research endeavors IU provides opportunity to participate in research skill development	Peer reviewed articles Platform presentations Poster presentations Book chapters Grants submitted CD-ROM Textbook Abstracts Other journal articles	HPP faculty will complete or participate in at least four measures.	7/11 faculty members in the Radiologic and Imaging Sciences Programs did a platform presentation. Their faculty also published a peer reviewed article, submitted and successfully funded a grant, published other journal article, and received funding for a grant Faculty in the CLS program published a CD-ROM, a poster presentation, and wrote a book chapter.	Met	None required

Goal #4: To provide continuing education for health professions practitioners wishing to further their career development

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/Unmet	Actions Taken
1. Provide continuing education for practicing professionals	Engage in life long learning Engage in activities that promote career development	Provide programs that are approved by professional organization continuing education program Provide programs that meet needs of practitioners	Number of CE units offered	HPP faculty will provide at least one program annually	2/4 faculty from the Radiation Therapy program provided a continuing education program 3/3 CLS faculty provided a continuing education program 11/11 Radiologic & Imaging Sciences faculty provided a continuing education program	Met	None Required
				HPP faculty will provide at least 5 external lectures annually	2/4 faculty from the Radiation Therapy program provided an external lecture. 3/3 CLS faculty provided an external lecture. 5/9 Radiologic & Imaging Sciences Faculty provided an external lecture	Met	None Required
				Participant evaluation ratings will be above average.	2/2 faculty from the Radiation Therapy program received evaluation ratings above average 3/3 CLS faculty received evaluation ratings above average 6 Radiologic & Imaging Sciences faculty received evaluation ratings above average	Met	None Required

Goal #5: To foster the development of lifelong habits for scholarship and service among faculty and students.

Goal / Principle	Program Competency	Teaching Strategies	Measures	Benchmarks	Representative Examples From HPP Programs	Met/ Unmet	Actions Taken
1. Encourage life long habits of service among faculty	Participate in service activities at all levels of professional and/or community life	Seek / accept membership on committees Seek / accept leadership roles	Performance indicator reports	At least 70 % of HPP faculty will participate in service / leadership activities	21 of 22 full-time HPP faculty represented by the responding programs participated in service.	Met	None Required
2. Encourage life long habits of service among students	Participate in service in profession or community	Pursue membership in professional Organizations	Student reports of service Graduate surveys	At least 10 % of professional students will participate in service activities	29 of 103 of the students represented by the responding programs participated in service.	Met	None Required
3. Provide faculty with opportunity to participate in scholarly or creative activities	Participate in continuing education Present academic instruction informed by current research and body of knowledge Participate in scholarly or creative activity Participate in patient education	SOM provides opportunity to participate in continuing education programs SOM provides opportunity to participate in scholarly or creative activities	Performance indicator reports	At least 50% of HPP faculty will participate in scholarly activity	18 of 22 full-time HPP faculty represented by the responding programs participated in a creative or scholarly activity	Met	None Required
4. Provide students with opportunity to participate in scholarly or creative activities	Participate in scholarly or creative activity with HPP faculty	Capstone projects	Final course project	At least 50% of B.S. students in final year will be involved in scholarly or creative activity	67% (45/67) of students represented by responding programs participated in scholarly or creative activities	Met	None Required

Summary

Our Report should provide credible evidence that we are assessing our programs, that we have deliberate and ongoing processes in place for performing these assessments, and that we are using the results to guide improvements in our programs. Examples of the kinds of information that each program collects is detailed below:

- Findings from PUL or other learning outcomes data collected in the last year, with a particular emphasis on data that show significant changes from previous years or that reveal possible areas to target for improvement
- Any new student learning outcomes or assessment processes put in place during the last year
- Recent or proposed course or program changes to address areas of concern revealed by assessment results.

Program notes from the HPP Clinical Laboratory Sciences Program

The CLS program faculty facilitate multiple assessments and use the information gathered from these assessments to make positive changes to the program. Below are some additional assessments we employ

- Student evaluations of each lecture and/or laboratory course
- Student evaluations of each clinical rotation experience
- Evaluations of student performance conducted by clinical preceptors
- Evaluations of clinical rotation design conducted by clinical preceptors
- Faculty evaluations of each lecture course, laboratory course, and clinical rotation which incorporates feedback from students and clinical preceptors
 - Faculty identify common threads in feedback from students and clinical preceptors and respond directly to these issues via a narrative that is reviewed by the program director(s).
 - Faculty compose a critical reflection of each of their courses and clinical rotations. These reflections are shared with and discussed by the entire IU & IU Health faculty during faculty meetings. The faculty in the meetings participate in brainstorming activities to develop ideas to improve each course while simultaneously learning educational methodologies that may improve their own courses.
- Graduate and employer surveys (conducted one year after graduation)
- Faculty are constantly making changes to each of their courses to update the curriculum and enhance student engagement/learning. For the past two years, the faculty have been actively redesigning the capstone course. We have moved towards a capstone focused on helping students prepare a portfolio of their learning. After the 2018-2019 year, we have made some minor changes to the requirements and assessment rubrics for the portfolio projects to increase their rigor and ability to capture the true abilities of our students.

Program notes from the HPP Radiologic & Imaging Science Programs

Nuclear Medicine Examples from above:

- 100% board pass rate for 10+ years
- 4 of 6 students presented their research abstracts at the Central Chapter Society of Nuclear Medicine Meeting. They earned first place and two students tied for second place
- All students that graduated in 2019 were employed within 1 week of graduation. The first student was employed back in December 2018.
- Faculty had three publications (in a peer reviewed journal) in 2018:
 - Nielsen CJ, Brosmer S, Byrne P, Jennings G. An Evaluation of Qualities of Nuclear Medicine Technology Programs and Graduates Leading to Employability. *Journal of Nuclear Medicine Technology*. 2018.
 - Nielsen CJ. Radiation Safety Certification: A Review. *Journal of Nuclear Medicine Technology*. 2018;46:321-325.
 - Nielsen CJ. A Research Methodology Curriculum for Undergraduate Students in Nuclear Medicine Technology. *Journal of Nuclear Medicine Technology*. 2018;46:70-74.
- Faculty received Outstanding Educator award from the Society of Nuclear Medicine and Molecular Imaging
- Faculty served as Speaker for the National Council of Representatives, Executive Board Member and a member of two committees for the Society of Nuclear Medicine and Molecular Imaging—Technologist Section
- Faculty did three invited presentations and professional continuing education meetings

All faculty assisted Clinical Coordinator in hosting the annual Indiana Society of Radiologic Technologists conference. Two-day event with approximately 350 attendees.

First online BS degree in Medical Imaging Technology in the State went live in 2018.