An Evaluative Study of a Health Information Management Program Following a Significant Curriculum Change—Part 1

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Abstract

The advent of electronic health records has led to significant changes in the role of health information management (HIM) professionals. These changes have required significant changes in the educational training required for HIM professionals, leading to new curriculum requirements. To meet the need for well-prepared professionals in the changing HIM environment, it is essential for educational programs to ensure that they are effectively preparing students for the new roles they will be expected to fill. This in-depth case study of one HIM academic program contributes to a program review and evaluation to determine the impact of the recent required curriculum changes on the program. This study used a utilization-focused evaluation framework that included evaluation capacity building. The study specifically assessed the ability of the recent curriculum changes to adequately prepare students for the current HIM field as well as the effects of the changes on the program as a whole. This evaluative study goes beyond the use of metrics such as enrollment, retention, and RHIA exam pass rates and delves deeper through surveys, interviews, and focus groups to collect data on the students', graduates', and employers' perceptions. Through the study, major themes were identified, including perceptions of student satisfaction and student preparedness, perceptions of the new curriculum, concern about loss of parts of the old curriculum, and future needs for the HIM program and for the HIM field in general. While many findings were expected, some surprising or unexpected findings included concern about loss of parts of the old curriculum, and close alignment between respondents' area of interest or career path and perceptions of the new versus old curriculum. The study allowed the program to assess preparation of students for the current HIM field as well as other effects of the curriculum changes on the program. This assessment allowed for a true evaluation of the modified curriculum as well as identification of areas for improvement.

Keywords

Academic program evaluation, health information management, AHIMA CEE curriculum competencies, curriculum changes, utilization-focused evaluation, evaluation capacity building

Introduction

In 2009, the U.S. government enacted the Health Information Technology for Economic and Clinical Health (HITECH) Act to encourage the use of technology in healthcare. This act focused on the use of "technology to improve the quality of care and to decrease healthcare costs"[1] and led to the widespread adoption and use of electronic health records (EHRs) throughout the healthcare field, resulting in significant revisions in the role of health information professionals. These revisions have also significantly changed the type of educational training necessary for health information professionals, leading to new curricular requirements.

Since the advent of the HITECH act, health information professionals have been called upon to serve in roles not dreamt of even 20 years ago. No longer are health information professionals buried in paper, working to get physicians to complete their charts. These professionals now need to have a much higher level of information technology knowledge as well as more data and information governance skills and

analytic skills. "'Big data,' electronic record-keeping, and a shifting regulatory environment have reshaped [the health information field], and now these positions often involve sophisticated, judgment-based work."[2] Health information professionals now need skills to work with the technology as well as to analyze the vast quantities of data provided by the technology.

To meet these changing needs in the profession, health information management (HIM) academic programs have been called upon to focus their curriculum more closely on these areas. In 2014, the AHIMA Council for Excellence in Education (CEE) published new curriculum competencies requiring this additional focus in all health information education curricula starting in 2017. These curriculum changes were significant in that they required new topic areas and more extensive coverage of many curricular competencies. Implementation of the curricular changes challenged health information educators in the extent of the changes as well as the addition of new topic areas. Now that the changes have been implemented, the question arises as to whether they have resulted in improvements in the educational programs and in better preparation of graduates to meet the current professional needs.

This evaluative study was designed to focus on the evaluation of the changes in one HIM academic program, specifically an evaluation of the ability of the revised program to adequately prepare students for the current HIM field. The goal of this evaluation was utilization-focused so that the results of the evaluation could be used by stakeholders for continuous program improvement. The hope was that the findings would not only benefit the program under review but also provide insight for other HIM programs.

Theoretical Framework
This study used the utilization-focused evaluation framework and thus focused on use of the findings to make positive changes in the program. In conjunction with this theoretical framework, the study used the concept of evaluation capacity building to ensure that the HIM faculty, department chair, and other stakeholders understood the evaluative process and were ready to use the results for positive change.

This study was modeled after Patton's utilization-focused evaluation framework.[3] Patton's theoretical framework focuses on the use of evaluation information. Evaluation and assessment completed under this theoretical frame uses a "targeted group of stakeholders whom it empowers to determine the evaluation questions and information needs."[4] In such evaluations, "the primary intended users of the evaluation"[5] determine the evaluative criteria. The theory behind this high level of stakeholder involvement is that, by including the stakeholders in the design of the evaluation, the results will be more useful and more likely to be used. The purpose is to "give them [the stakeholders] the information they need to fulfill their objectives."[6] This theoretical framework can be valuable in educational program improvement since "this approach is geared toward maximizing evaluation impacts [and] fits well with the key principle of change."[7] The weaknesses of this theoretical frame include the possibility of stakeholder turnover and the potential for stakeholders to "look for evidence to confirm [their] preconceptions and biases."[8]

The personalized nature of utilization-focused evaluation can result in faster and more readily accepted changes and improvements. The "crucial point is that evaluators must determine and focus their studies on intended evaluation uses and produce and report findings that an identified group of intended users can and probably will value and apply to program improvement."[9] The goal of this theoretical framework is to use the evaluation findings to improve educational programs, thus resulting in improved programmatic outcomes and student learning. This framework was felt to be appropriate for this evaluative study as the program review and assessment was meant to not only evaluate student,

graduate, and employer perceptions of the new curriculum but also aid in the identification of potential improvements that the HIM program could take to best prepare students for the HIM field.

This evaluative study was designed to go beyond the mere collection of metrics to truly evaluate the effectiveness of the revised curriculum in meeting the program's goals and desired student learning outcomes. While HIM programs undergo accreditation and other types of internal program review, those program evaluations frequently focus on structure and process and do not focus on outcomes such as student learning and preparedness for the field. This study provided an in-depth evaluation that included students', recent graduates', and employers' perceptions of the effectiveness of the revised curriculum in adequately preparing students for the HIM field. While quantitative measures such as enrollment, retention, new curriculum transfer rates, and RHIA exam pass rates were also used, this study focused on evaluating the effectiveness of the curricular changes based on the perceptions of students, graduates, and employers. Effectiveness in adequately preparing students cannot be measured by grades alone. While particular students may receive good grades on assignments in classes, they may not be adequately prepared to function in the workforce. Therefore, this study delved into the review of the HIM program through a utilization-focused evaluative methodology designed to determine the students' readiness for the professional world based on their education in the program as a whole.

The program was well prepared for an evaluative study. The faculty and department chair had been involved in the planning process since the revised Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) curriculum requirements were released. The faculty undertook a gap analysis of the existing curriculum to determine the need for changes in the curriculum. The faculty worked collaboratively to implement the changes in the curriculum, including changes in courses, addition of new courses, and removal of other courses. Finally, the faculty, department chair, and students had been involved in ongoing informal discussions of the curriculum change and the status of the HIM program.

Context
This evaluation was completed using an in-depth case study of the HIM academic program at a large midwestern public university. The required curricular changes may have been made more quickly at this institution than at other institutions because the program was scheduled to undergo the CAHIIM reaccreditation assessment and visit during the 2017–2018 academic year. Because the reaccreditation was to be based on the new curriculum, the HIM faculty wanted to ensure that the curriculum was being taught before the 2017-2018 academic year. Therefore, this site was ideal for an early evaluative study of the effects of the newly implemented AHIMA CEE competencies on HIM academic programs.

At the institution under study, the first step in implementing the new 2014 competencies was completion of a gap analysis. This gap analysis compared the existing curriculum to the newly required curriculum and identified areas in which changes were needed to comply with the new curriculum. Data from the gap analysis identified a number of areas for change. Between 2014 and 2016, the HIM faculty developed the newly required curriculum and determined the necessary programmatic changes. The program started implementing the required revisions to the curriculum during fall 2016 and fully transitioned to the new curriculum with students entering their junior year of the program in fall 2018. These curricular changes included the following:

- The addition of six information technology classes to cover the information technology (IT) competencies;

- The removal of three economics and management classes that were felt to overlap with other HIM courses;
- Revisions to existing courses to cover additional data analysis and data governance topics; and
- Integration of the content of two HIM courses into other courses and deletion of these two courses.

Based on university policies regarding curriculum changes, these changes were implemented with the 2016 university course catalog, meaning that all incoming freshmen in fall 2016 and some transfer students who started at the university in fall 2016 were required to complete the new curriculum. This resulted in a transition process in which two cohorts, the graduating classes of 2018 and 2019, had dual sequences. These cohorts had a mix of students completing the old curriculum and students completing the new curriculum, depending on which sequence they were assigned at the time of enrollment. The graduating class of 2018 had 4 students in the new "IT" curriculum and 17 students in the old curriculum; the class of 2019 had 6 students in the new "IT" curriculum and 11 students in the old curriculum. The graduating class of 2020 will be the first cohort in which all students will be required to complete the new curriculum.

Purpose and Questions
The purpose of this evaluative study was to complete an in-depth case study that contributed to a program review and evaluation to determine the impact of the recent curriculum changes. This included not only the impact on student learning outcomes but also the impact on the program as a whole, including enrollment and retention, as well as time to graduation and RHIA examination pass rates. This evaluation process was designed to be focused on quality improvement as well as utilization. The goal was to determine the effectiveness of the curricular changes as well as the effect of the changes on the program and to use those findings to improve the curriculum and program. The questions to be answered by this study were as follows:

1. What is the nature of current students', graduates', and employers' experiences related to HIM curriculum shifts from the 2012 curriculum standards to the 2014 revision? (This question focused on the student, graduate, and employer perceptions regarding the curriculum changes and preparedness for the HIM field.)
2. In what ways have the 2014 curricular requirements shifted the entry-level skills and knowledge of HIM graduates in comparison to the 2012 curriculum standards?
3. Considering the ongoing changes in the curriculum requirements, what are the implications for the HIM field and for individual programs moving forward?

Methodology
To assess students', recent graduates', and employers' perceptions of the success of the revised HIM program in preparing students for the HIM workforce, surveys (Appendix A) were administered to each of these groups. The researcher developed these surveys and administered them electronically to each group through Qualtrics. These surveys collected basic data regarding the student, graduate, and employer perceptions of the HIM program.

To gather more in-depth data, interviews were held with targeted employers who hosted professional practice students or hired new graduates from the HIM program. The employer interviews allowed for the collection of more in-depth data regarding the employers' experiences with the school's HIM students and graduates and their perceptions of the HIM program.

Focus groups were also held to obtain more in-depth data from the HIM students regarding their perceptions of the program. These two focus groups included a group of five students following the new IT curriculum and a group of five students following the traditional curriculum. The program academic advisor facilitated these focus groups, which were guided by basic questions designed to start discussion.

Documents displaying program metrics, such as enrollment trends, retention rates, time to graduation, and new curriculum transfers, were also used for a review of student and potential student actions related to the specific changes. RHIA exam pass rates were analyzed as a measure of student preparedness. The university's internal program review report was also reviewed for findings and recommendations related to the curricular changes and student preparedness. Multiple types of data, including these documents as well as data from the surveys, interviews, and focus groups, were reviewed and triangulated to determine answers to the evaluative study questions and to assess the effect of the curricular and programmatic changes in adequately preparing HIM program graduates. Triangulation, the use of multiple data sources to enable confirmation of findings, adds to the "trustworthiness of our analysis."[10]

Participants
All participants in this evaluative study were affiliated with the program being evaluated. All 17 final-year HIM students were surveyed during their fall semester. Students who electronically consented to participate in the study were given access to the survey questions. The first question on the survey asked which sequence the student completed (new versus old curriculum). Other questions were aimed at gathering information regarding the students' perceptions of the HIM curriculum, the program, and student preparedness.

All 17 final-year HIM students were invited to participate in the appropriate focus group for their curriculum sequence to gather more in-depth data about the students' perceptions of the HIM program.

All graduates (21 from the 2018 cohort and 25 from the 2017 cohort) were sent an electronic survey, six months (for the 2018 cohort) or one year (for the 2017 cohort) after graduation. Graduates who consented to participate in the study were given access to the survey questions, which asked about the graduates' perceptions of their preparedness for the HIM workforce at the time of graduation and which curriculum sequence they completed. The graduates' perceptions were expected to differ from the students' perceptions since the graduates may have had six months to one year of work experience and were able to reflect on the questions with that experience in mind.

All employers who hosted a junior or senior professional practice student (37) were surveyed as well. The employers included hospitals and other healthcare-related employers throughout the state. The employer survey was sent electronically to the HIM director or individual who oversaw the professional practice. Employers who consented to participate in the study were given access to the survey questions, which included inquiries about the employers' perceptions of the students' and new graduates' preparedness for the workforce based on the newly revised curriculum. Five employers were selected for interviews on the basis of the number of professional practice students they had hosted and/or the number of new graduates they had hired from the HIM program. The interviews included more in-depth questions regarding the employers' perceptions. These employers provided valuable information in this regard since most of these employers not only provided professional practice opportunities for students but also hired many graduates.

Data Analysis

The constant comparative method outlined by Glaser was used for analysis of the data collected in this study.[11] The interview transcripts, focus group summaries, and open-ended survey question responses were coded to identify themes. General categories were identified through this coding. Initially broad categories were identified, followed by identification of specific details within the broad categories. As further data were analyzed and coded, they were "compare(d) . . . with the previous incidents coded in the same category."[12] Strauss and Corbin note that "categories have conceptual power because they are able to pull together around them other groups of concepts or subcategories."[13] Categorizing provides the ability to organize large amounts of data into manageable pieces that can be analyzed.[14] Eventually, themes can be identified and analyzed. Finally, the coded data and themes were used to summarize the data and the overarching themes found in the data. The constant comparative model allowed for a thorough, organized approach to understanding the data collected through the various methodologies used in this evaluative study.

Program metrics, exam pass rates, and closed-ended survey questions were analyzed using basic descriptive statistics, such as means, modes, standard deviations, and frequencies, to determine trends and variations related to the implementation of the new curriculum. These data were tied into the constant comparative analysis through triangulation to gain a deeper picture of the effectiveness of the new curriculum in meeting the program's goals and desired outcomes. These metrics were used to evaluate basic program outcomes and trends over time and were compared and combined with qualitative data to further evaluate relationships between the groups' perceptions and quantitative outcomes.

Data Analysis and Findings

First, the student, graduate, and employer groups were analyzed individually, and then the constant comparative method[15] was used to analyze the data and identify prevailing themes among the groups. The HIM program metrics were also included to provide further depth of analysis. Once the data were analyzed, several major themes emerged. These included perceptions of student satisfaction and student preparedness, perceptions of the new curriculum, concerns about loss of parts of the old curriculum, and future needs of the HIM program and the HIM field in general. These major themes aligned closely with the research questions of this study.

The broad themes identified through the analysis and triangulation of data were therefore able to be used to answer the research questions. While the themes that were identified closely aligned with the research questions, some findings stood out as interesting or unexpected. The concerns about the loss of parts of the old curriculum were interesting and somewhat unexpected in light of the changes in the HIM field. In addition, the perceptions regarding the new and old curriculum sequences and the alignment of these perceptions with the sequences based on the individuals' areas of interest were also somewhat surprising.

Student, Graduate, and Employer Experiences and Perceptions

Overall, the students, graduates, and employers expressed positive experiences with and perceptions of the HIM program, the new curriculum, and student preparedness. All students surveyed stated that they were satisfied or highly satisfied with the HIM program. Students cited specific classes that they felt would benefit their career and noted the attainment of skills, such as time management, that contributed to their satisfaction. Students also commented that the HIM program's small size and significant individualized attention was a positive aspect of the program that set it apart from other

programs on the university's campus. Graduates also expressed overall satisfaction with the HIM program, with statements such as "great program." Graduates commented that the majority of classes were useful to them in their career and that their education had served them well in their first jobs and early career advancement. This view is reflected in one graduate's statement, "I highly recommend this program." Students and graduates also commented on the rigor of the program and expressed appreciation for the fact that the hard work required in the program helped prepare them for the field. Employers praised the HIM program, stating that the graduates were professional and that they were consistently pleased with the graduates they hired. One employer stated that this program was their "go-to" school when looking to hire new graduates to fill open positions.

When focusing on the new curriculum specifically, the respondents had positive comments overall, although some areas of concern were noted. The groups were all aware that the HIM profession was moving toward a much greater focus on IT and data analytics and that this was the impetus behind the changes in the HIM program curriculum. All groups understood that these changes were a result of the movement to electronic health records (EHRs) and the additional data available through EHR systems. The students indicated a division in their perceptions of the new curriculum based on the curriculum they were completing. The students completing the new curriculum had more favorable perceptions of this curriculum than those completing the old curriculum. Students completing the new curriculum were pleased with the IT component because they felt that IT was the "future" of HIM and that it would broaden their career opportunities. Students in the new curriculum did express some concerns about a perceived disconnect between the IT and HIM classes as well as a lack of focus on healthcare IT. They recognized that the program was in a period of transition and that the volume of changes during this time could lead to these issues.

Students completing the old curriculum felt that while the new curriculum may have advantages, pieces of the old curriculum were still needed. Many students in the old curriculum chose it because they were more interested in management and traditional HIM roles than the IT or technical side of the profession. These students expressed concern over the loss of some of the management portions of the curriculum due to the change. Overall, however, students in both curriculum sequences expressed satisfaction with the sequence they were completing as well as the feeling that the sequence was the best fit for them.

Graduates also commented that IT was a growing area of emphasis in the HIM arena and that these skills would open new doors for employment in areas such as EHRs, healthcare IT, and data analytics. Graduates provided specific IT skills they had learned and described how they had applied these skills in their workplaces. Employers noted that they used varying levels of IT skills on the job; however, they stated that they felt future graduates would need a strong background in IT and data analytics. To support this assertion, they referenced the changes in the field and the increased emphasis on IT as well as the fact that IT courses and knowledge increase skills such as critical thinking, which are also needed by new graduates. However, employers in more traditional HIM roles had concerns about the loss of skills from the old curriculum, including management and coding skills. These employers tended to be somewhat wary of the curriculum changes.

Program metrics point to the fact that the curriculum changes were not initially perceived as positive but that these perceptions may have changed over time. When the new curriculum was first implemented, a number of students transferred out of the new curriculum or out of the HIM major. As can be seen in Table 1, in the first cohort, 14 students started in the new curriculum, and only 4 (28 percent) of them finished in the new curriculum. Changes were made during the first year of the new curriculum implementation, including hiring an IT tutor for HIM students in their first two IT courses,

rearranging HIM class schedules to accommodate IT courses, and adding recommended courses to be taken before the first prerequisite IT course. Table 2 shows that the second cohort of students in the new curriculum had 70 percent of the students on track to complete the IT sequence by May 2019.

Table 1: 2018 Cohort Curricular Sequence Enrollment and Completion

Student Subgroup	Number	Percentage of Subgroup
IT group	**14**	**100%**
Completed IT sequence with an IT minor and graduated on schedule	1	7%
Completed IT sequence with an IT minor and graduated after one additional semester	3	21%
Switched to non-IT sequence and graduated on schedule	5	36%
Changed major	5	36%
Non-IT group	**15**	**100%**
Completed non-IT sequence and graduated on schedule	12	80%
Plan to complete non-IT sequence with 2019 cohort	3	20%
Total of students who completed 2018 cohort in starting curriculum sequence and on schedule (1 of 14 in IT group [7%]; 12 of 15 in non-IT group [80%])	**13**	**44%**

Table 2: 2019 Cohort Curricular Sequence Enrollment and Completion

Student Subgroup	Number	Percentage of Subgroup
IT group	**10**	**100%**
Plan to complete IT sequence and graduate on schedule	6	60%
Changed major	3	30%
Changed to part-time status; plans to complete IT sequence with 2020 cohort	1	10%
Non-IT group	**13**	**100%**
Plan to complete non-IT sequence with 2019 cohort	11	85%
Plan to complete non-IT sequence with 2020 cohort	1	8%
Changed major	1	8%
Total of students planning to complete 2019 cohort and graduate on schedule (6 of 10 in IT group [60%]; 11 of 13 in non-IT group [85%])	**17**	**74%**

New Graduate Preparedness
When asked about perceptions of preparedness, 100 percent of the students surveyed felt that they were prepared or highly prepared for their career in HIM. Students emphasized that they felt that the applied focus of the HIM program was preparing them for jobs in the field. One student stated, "It's preparing us for the real world." Students stated that in their professional practices they were praised for their knowledge. One student stated, "When I was on my Junior Professional Practice, my supervisor told me that she was very surprised about all the knowledge that I had about everything, like some of the stuff that I knew, she honestly didn't even know." Overall, HIM program graduates felt prepared, with 82 percent of survey respondents stating that they felt they were prepared well for the HIM field. The graduates who felt they were not as well prepared cited specific areas in which they felt their skills

were lacking. One such area was billing and revenue cycle management. A number of graduates are working in billing and revenue cycle jobs, a newer career track for HIM graduates. Other graduates emphasized that while they felt the HIM program provided them with basic HIM skills and knowledge, they had to learn many things on the job. These graduates also noted that the HIM field is very diverse and therefore it is hard for an educational program to prepare students completely in all areas. Graduates in both curriculum sequences stated that they felt prepared for the field, with 3 of 4 graduates (75 percent) in the new curriculum (75 percent) and 17 of 18 graduates in the old curriculum (95 percent) stating that they felt they were prepared or highly prepared.

When employers were asked about the preparedness of the HIM students and graduates, 100 percent responded that the students and graduates were prepared or highly prepared. Many respondents commented that they felt that students from this HIM program were better prepared than students from other schools. Areas in which employers felt that these students or graduates were particularly well prepared included medical coding, business operations and processes, traditional HIM functions, and professionalism. Some employers mentioned that they felt preparedness was also a function of student maturity or new graduate discipline. They mentioned as well that some students or new graduates were lacking skills in communication, both oral and written, as well as other basic workplace skills. While very few employers that were surveyed or interviewed had hosted professional practice students or hired new graduates who had completed the new curriculum, most were familiar with the curriculum changes. Many employers pointed to the need for new graduates to have basic IT, critical thinking, and database skills. The employers stated that they felt the recent curriculum changes would improve the preparation of students in the needed areas of IT, data analytics, critical thinking, and data governance.

RHIA exam pass rates were also analyzed to evaluate student preparedness. No graduates who had completed the new curriculum had taken the exam. However, the exam pass rates did reflect other changes made to the curriculum in 2016, such as the greater emphasis on data analytics. As can be seen in Table 3, there were no substantial differences in the exam pass rates between the 2016, 2017, and 2018 cohorts (93 percent, 82 percent, and 86 percent, respectively). These pass rates are all above the national average, which was 64 to 67 percent during this time frame.[16] This indicates that the program's HIM students were well prepared for the national certification exam.

Table 3: *RHIA Exam Pass Rates*

Cohort	Pass Rate
2016	13 of 14 (93%)
2017	14 of 17 (82%)
2018	6 of 7 (86%)

Shifts in Entry-Level Skills and Knowledge of HIM Graduates
While overall all groups supported the new curriculum and felt that it would better prepare students for the future of HIM, all groups expressed mixed feelings about the change in the curriculum. Many had concerns focused on the skills and knowledge that students would gain in the new curriculum and skills and knowledge that they would lose from the elimination of parts of the old curriculum. First, there was concern as to the level of IT education students needed for success in the field. There was also concern regarding the effect that the curriculum changes would have on student interest and enrollment in the HIM major. Finally, there were definite divides among individuals in these groups based on the individuals' jobs, career paths, and interests. Despite an overall understanding that the HIM profession is

increasingly focused on IT and data analytics, some individuals felt that the traditional skills, jobs, and careers were still meaningful and needed.

Students, graduates, and employers all expressed concern regarding the rigor of and need for computer programming or coding, the focus of the first two IT prerequisite courses. Many students found these courses to be very difficult and extremely time consuming, to the point of taking time away from their early HIM courses. In addition, students questioned the value of these courses and the need for these skills in the HIM field. While some students stated that they could see the benefit of these courses for future IT coursework or in their future careers, others did not agree. Students also expressed concerns that these first two IT courses were so difficult that they could discourage students from pursuing the HIM major.

While the graduates overall supported the new curriculum and expressed the value of this knowledge in the field, some expressed concerns similar to those of the students. Some graduates stated that they did not feel that computer programming was needed in the HIM field. These classes were mentioned as the part of the curriculum that was the least helpful in the graduates' careers. Graduates also agreed that the programming courses were difficult and time consuming and created an extremely rigorous course load. Employer responses reflected these same concerns. While employers praised the addition of IT to the HIM curriculum, some respondents felt that HIM students did not need to learn or gain skills in computer programming as these skills were not needed in the HIM field.

In addition, many had concerns about how the addition of the IT sequence would affect student enrollment and the major in the future. Students in the old curriculum felt that not all students would want such a heavy IT focus. Many of them chose the old curriculum because they did not feel comfortable with the technology portion of the new curriculum or did not want that focus in their careers. They reiterated that these issues could drive future students away from the HIM major. Some graduates agreed, stating that they felt that IT was not a good fit for all. They stated that higher levels of IT skills were not needed in some jobs and that some individuals would prefer those career paths. While employers felt that IT skills and knowledge would help prepare graduates for many new jobs and would broaden their career opportunities, some employers stated that, in certain traditional career paths, the IT knowledge would not be that helpful. Enrollment rates in the HIM program seemed to reflect some of the groups' concerns. Between 2015 and 2018, the number of juniors enrolled in the major dropped from 30 to 8.

Respondents in all groups noted a strong divide between those pursuing IT or less traditional career paths and those pursuing more traditional HIM career paths. The first group had a high level of support for the new curriculum. Students, graduates, and employers in this group felt that IT and data analytics were the future of HIM, that education in these areas would broaden career opportunities for new graduates, and that these skills were essential to success in the field. Students, graduates, and employers in the more traditional group, while supportive of the new curriculum, expressed concerns about the loss of knowledge and skills resulting from the elimination of parts of the old curriculum. Many students in the old curriculum expressed concerns about the loss of that curriculum sequence for students who are more interested in management roles. These students noted that they chose the old curriculum because of their personal career goals and felt that the old curriculum best met those goals. They further stated that even students interested in pursuing a healthcare IT career could benefit from further management training. Students stated that ideally it would be beneficial if the curriculum requirements allowed for management and IT sequences within the HIM program. Graduates expressed similar concerns, with some pointing to the fact that the old curriculum provided preparation for

graduates going directly into management positions. Other graduates recommended that future students minor in business to obtain such skills, and some graduates recommended adding courses to the HIM curriculum that focused on other business topics, such as finance and accounting. Employers in more traditional roles expressed concerns about future HIM program graduates' skills in traditional areas such as medical coding. Many stated that the program was known for producing the best coders and that they depended on the program for medical coders. These employers clearly stated their concerns about finding quality coders after the curriculum changes.

Future HIM Needs
When discussing the future of the HIM program being evaluated, all groups and individuals expressed satisfaction with the program and the direction in which it is heading. Students expressed satisfaction with the small size of the program and the individualized attention from faculty. They encouraged maintenance of this feature. Students in the new curriculum sequence expressed the desire for better integration of the IT portion of the curriculum with the HIM portion of the curriculum. Students in the old curriculum recommended integrating more of the old content into the new curriculum. Students also recognized that because of the curriculum changes, the type of student who might be drawn to the HIM major could change, resulting in a student body more focused on IT. With all this in mind, the students expressed the desire for the HIM program to maintain its status as a healthcare major instead of becoming a part of the university's school of IT.

Graduates focused many of their comments regarding the future of the HIM program on their feeling that the new curriculum is preparing students for the future of the HIM profession and broadening graduates' career opportunities. Graduates who did not complete the new curriculum expressed a desire to obtain IT skills through continuing education, as they felt that these skills will be needed in the future.

Employers expressed overwhelming satisfaction with the HIM program and the direction that the program is heading. They based this support on changes they foresee in the HIM field and the skills they feel that new graduates should possess. However, many employers expressed concerns about the loss of some of the fundamental HIM skills and knowledge, specifically coding. When asked about future changes in the curriculum competencies that were being considered, they expressed concern that the baccalaureate curriculum competencies were being watered down. Employers recommended that the HIM program maintain the rigor of the curriculum and focus on the local and regional healthcare employers' needs. Many employers expressed concerns that further changes in the curriculum might result in HIM program graduates who were not prepared to meet these local and regional workforce needs.

Conclusions
The data collected through this evaluative study provided deep insight into students', graduates', and employers' perceptions of the recent curriculum changes in this HIM program as well as their perceptions of student preparedness. Overall, all groups were pleased with the changes and felt that new graduates were well prepared. However, some concerns were noted within groups or across groups. The predominant themes identified through analysis of the data were related to perceptions of student satisfaction and student preparedness, perceptions of the new curriculum, concerns about loss of parts of the old curriculum, and future needs for the HIM program and for the HIM field in general. These themes and analysis of the data surrounding these themes addressed the questions that this study was intended to answer. This study therefore enabled the program under review to assess the

effect of the curriculum changes on student preparation for the current HIM field and the effects on the program as a whole.

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Notes
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14. Coffey, Amanda, and Paul Atkinson. *Making Sense of Qualitative Data: Complementary Research Strategies.* Thousand Oaks, CA: Sage Publications, 1996, 36.
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16. AHIMA Reports, 2018.

Appendix A: Interview Questions, Focus Group Guide, and Surveys

Student Survey
1. Did you complete the new (IT) curriculum or the old (management) curriculum? If old, skip Question 2.
2. How prepared do you feel the IT courses have prepared you for your career in HIM? (highly prepared, prepared, unsure, unprepared, highly unprepared)
3. What area(s) of HIM are you planning to pursue?
4. Are you satisfied with the curricula that you are completing in the HIM program?
5. What courses in the curriculum do you feel will be most helpful to your career?
6. What courses in the curriculum do you feel will be least helpful to your career?
7. Overall, how do you feel the HIM curriculum prepared you for your career? (highly prepared, prepared, unknown, unprepared, highly unprepared)
8. Do you have other comments or suggestions regarding the HIM curriculum at ISU?

Student Focus Groups Guide
1. Did you choose your curriculum sequence? If yes, why?
2. How do you feel about the courses that you are taking in your curriculum sequence?
3. What challenges have you faced with this sequence, academic or otherwise (course difficulty, scheduling, time to graduation, etc.)?
4. What area(s) of HIM are you interested in pursuing?
5. How do you feel this sequence is preparing you for the area(s) of HIM that you want to pursue?
6. How do you see yourself using the skills you have learned in this sequence in your career?
7. Do you feel that you will be lacking in any skills?
8. What improvements would you recommend for the ISU HIM program?
9. What advice would you give to students considering the HIM program at ISU and going into the HIM field?

Graduate Survey (to be given at six months or one year after graduation)
1. Did you complete the new (IT) curriculum or the old (management) curriculum? If old, skip Question 2.
2. Did you feel the IT courses prepared you for your career in HIM? (highly prepared, prepared, unsure, unprepared, highly unprepared)
3. Did you feel the Data Analysis course (HSC 300) prepared you for your career in HIM? (highly prepared, prepared, unsure, unprepared, highly unprepared)
4. What is your current job? Where is this job?
5. How did you feel that the HIM curriculum at ISU prepared you for your current job?
6. What do you see as the strengths of the new curriculum?
7. What do you see as the weakness of the new curriculum?
8. What part of the curriculum did you feel was the most helpful in your career?
9. What part of the curriculum did you feel was the least helpful in your career?
10. Overall, how do you feel the HIM curriculum prepared you for your career? (highly prepared, prepared, unknown, unprepared, highly unprepared)
11. What advice would you give to students considering the HIM program at ISU and going into the HIM field?
12. Do you have other comments or suggestions regarding the HIM curriculum at ISU?

Employer Survey
1. What do you see as the most essential skills for your employees to possess prior to employment?
2. What do you see as the most essential skills for your employees to learn on the job?
3. How important are IT skills for employees that you hire?
(very important, important, somewhat important, not important)
4. What IT skills are most important?
5. How important are data analysis skills for employees that you hire?
(very important, important, somewhat important, not important)
6. What data analysis skills are most important?
7. Have you had ISU students complete their senior professional practice in your department? (yes, no)
8. Do you have ISU graduates as current employees in your department? (yes, no)
9. Have any of the senior professional practice students or employees completed the new curriculum in ISU's HIM program? (yes, no, unknown) (If no, skip to question 9.)
10. Do you feel that the new IT/data analysis curricula has better prepared these students/employees for the HIM field? (yes, no)
11. Are you pleased with the professional preparation of these students/employees? (yes, no)
12. Overall, how do you feel the ISU HIM curriculum has prepared students for their HIM career? (highly prepared, prepared, unknown, unprepared, highly unprepared)
13. Please comment on specifics regarding these students'/employees' preparation.
14. Do you have other comments or suggestions regarding the HIM curriculum at ISU?

Employer Interviews
1. What is your current position?
2. How often do you use IT skills in your position? What kinds of IT skills?
3. How have you learned the IT skills you use?
4. How often do you use data analysis skills in your position? What kinds of data analysis skills?
5. How have you learned the data analysis skills you use?
6. Have you had ISU HIM students as professional practice students? If so, approximately how many? How recently?
7. Have you hired ISU HIM graduates? If so, approximately, how many? How recently?
8. How prepared do you feel ISU students/graduates are for the HIM field?
9. What areas do you feel they are well-prepared in?
10. What areas do you feel they are not well-prepared in?
11. Have you had ISU students as professional practice students or hired ISU graduates who have completed the new curriculum?
12. How prepared do you feel these ISU students/graduates are for the HIM field?
13. In what areas do you feel they are well-prepared?
14. In what areas do you feel they are not well-prepared?
15. How do you feel that the new curriculum is providing students with appropriate IT skills for the HIM field?
16. How do you feel that the new curriculum is providing students with appropriate data analytic skills for the HIM field?
17. Are there any other thoughts you would like to share regarding ISU students'/graduates' preparation for the HIM field?