

EFFECTS OF HEALTH INFORMATICS ANALYST EDUCATION ON SKILL DEVELOPMENT, CAREER TRANSITION, AND JOB ROLE: SURVEY STUDY.

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Abstract:

In the field of digital health, professionals with knowledge of health informatics are essential. The precise effects of such training, particularly for people with different academic backgrounds, are still unknown despite efforts to train specialists in this area. In order to assess the impact of a rigorous health informatics training program on graduates' job roles, transitions, and competencies, as well as to offer suggestions for future research and curriculum design, this study was conducted. Methods: 206 students who finished the Advanced Health Informatics Analyst program between 2018 and 2022 participated in a survey. Four categories made up the questionnaire: (1) general information about the respondent; (2) changes prior to and following program completion; (3) the program's effect on professional practice; and (4) requirements for continuing education.

Conclusions: The integrated practical education program successfully met the varied needs of trainees from different fields, improved their skills, and equipped them to meet the changing demands of the industry. This study highlights the importance of offering graduates in any field specialized training in health informatics.

Keywords: Health Informatics, Skill Development, Career Transition, Job Role.

Introduction

Thanks to cutting-edge technologies like artificial intelligence, big data analytics, digital therapeutics, and embedded medical systems, the field of digital health is developing quickly. It is imperative to develop skills and insights in order to stay up to date with this dynamic progression. Nearly 90% of healthcare workers are expected to need digital skills within the next 20 years, demonstrating the clear need for digital health professionals (Yeung, 2023; Topol , 2019).

Furthermore, the World Bank and World Health Organization predict that by 2030, there will be about 40 million new jobs in the health and social care sectors, many of which will be in the digital health space. The skills that employers want and what health informatics (HI) graduates have upon graduation differ significantly, despite the high demand for digital health professionals (Alzghaibi , 2023).

The need for skilled professionals who can plan, implement, and manage digital health interventions is growing as the health care paradigm changes toward digitalization. However, the current HI educational frameworks do not adequately prepare students for the demands of the profession by providing them with the necessary practical acumen (Chang , 2014; Kinnunen , 2019).

The US is leading the way in the development of HI-focused curricula, and significant progress has been made in this area globally. In 2002, the American Medical Informatics Association formed an education committee after realizing the need for knowledge outside of the conventional academic channels. Depending on their role and educational background, professionals have different requirements and a significant percentage of them operate without formal training. The International Medical Informatics Association has responded by developing a curriculum designed to provide a diverse cohort with specialized professional education (Monkman , 2023; Feldman, 2008). Validating the effectiveness of intensive HI education when given to people with a variety of academic and professional backgrounds is the main goal of this study. Future informatics curricula will be developed and improved upon with the help of these insights.

Design of the Survey:

The questionnaire was organized into four categories:

- (1) general information about the respondents: this section collected essential demographic data about the survey respondents. To reduce the number and complexity of questions, the questionnaire used adaptive questioning techniques.
- (2) changes before and after program completion: participants were asked to consider any changes in their knowledge or skills after completing the professional program;
- (3) impact of the professional program on professional practice: this section sought to assess how the program influenced the participants' professional practices;
- (4)

continuing education requirements: this section sought to identify any specific needs or preferences for further education among the respondents. There were two to four questionnaire items on each page. Twelve pages of the questionnaire were distributed.

Experts in Medical Information:

With 96% of South Korea's general hospitals implementing electronic medical records, medical system computerization is increasing in developed countries. Large amounts of data are produced by these digital changes in healthcare, which are crucial for supporting evidence-based practices, making decisions, and assessing the effectiveness of treatments. Medical information specialists are essential at every stage to effectively manage such vast amounts of medical data (Butler, 2019). Academic institutions are working to accommodate a wide range of applicants, from recent high school graduates to IT and medical professionals, as the convergence of health care and technology accelerates. Programs specifically designed for the HI sector, which is not well defined, are scarce, though (Bichel, 2023).

Even in developed countries like the US, there are differences in the availability of HI degrees. Although the American Medical Informatics Association's 10×10 Program is a strong training model, state-sponsored programs like the AHIA course could be an option for nations with limited educational resources. The International Medical Informatics Association promotes specialized organizations that provide courses for ongoing education. Future curricula must incorporate the principles of lifelong learning, motivating graduates to continuously improve their skills in light of the ever-changing health IT landscape (Gurrin, 2014).

Training individuals in healthcare and IT:

It is still very difficult to train people who have extensive knowledge of both IT and healthcare, as well as a practical understanding of the healthcare system. With their diverse academic backgrounds, the AHIA course graduates emphasize the need for more comprehensive, flexible programs in the future. The claim that all National Health Services positions will soon require digital skills highlights how crucial digital literacy is to the delivery of healthcare. 6.2% of respondents admitted to being ignorant of informatics jargon, despite the program's emphasis on professionals and researchers. This emphasizes how important informatics education is in developing a skilled health workforce. Additionally, it was said that those with advanced degrees benefited the most from this training (McLane, 2021; Alzghaibi, 2023).

Recommendations:

This study admits a number of limitations despite its contributions to our understanding of how an AHIA course affects graduates' job roles and competencies.

- The survey may have missed the subtle effects of particular topics, like information security and privacy, on graduates' career outcomes due to its wide focus on the entire educational program. Although this method captures the program's overall efficacy, it allows for more research

into how specific modules influence professional knowledge and abilities. Another limitation is the possibility of bias in survey responses because they are self-reported.

- The intrinsic nature of self-reporting may introduce biases that could influence how our findings are interpreted, even though precautions were taken to guarantee anonymity and promote candor. This feature emphasizes how careful it is to extrapolate the findings outside of the population that was surveyed. Additionally, the particular context of the educational program and its participants limits the generalizability of our findings. This specificity may not adequately represent the variety of experiences found in the larger field of HI, indicating that the results may not be generally applicable in the absence of additional validation in various contexts. Additionally, the data collection process ignores the long-term development of competencies or career progression in favor of immediate postgraduation outcomes. The potential for more thorough, longitudinal studies to comprehend the long-term effects of educational programs is highlighted by this temporal limitation.

- Lastly, Despite these limitations, our research offers significant insights into the value of HI education and its role in preparing professionals for the field. It underscores the importance of curriculum design in addressing the evolving needs of the HI sector and provides a foundation for future research.

Conclusion:

This study's conclusion emphasizes how important it is for HI to have adaptable, inclusive, and responsive educational models. The field can advance toward creating educational programs that not only meet the varied needs of students but also equip them to handle the opportunities and challenges presented by the ever-changing landscape of Hawaii by addressing the areas for future research that have been highlighted.

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