What is Health IT?
A scholarly Introduction to Health Informatics
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As health informatics becomes one of the most talked about, in-demand job fields in the country, not everyone is clear on what professionals in this role do and why this discipline is gaining prominence in the medical field. This hybrid profession may not always be patient facing, but the implications of work in this arena can and do have an impact on overall quality of patient care and health outcomes. As a result, professionals with the right credentials may discover tremendous opportunities to advance their careers while advancing medical technology.

Understanding Health Informatics
Health informatics is a hybrid discipline that marries computers and information technology with the medical field. Professionals in this interdisciplinary field study, design, develop and implement IT-based technology for healthcare services planning, management and delivery. Professionals may oversee the development and/or implementation of Electronic Health Records systems and other IT-based systems. The overlying intent of the field is to focus on the use of informatics systems, computers and information technology to support research, education and care while improving overall quality of life.

Health informatics is revolutionizing the healthcare industry in practice, education and research by providing an underlying framework of technology that can enable better patient management, open lines of communication between clinicians, provide enhanced case management.

The Role Health Informatics Specialists Play
This rapidly developing field is drawing those with an interest in medicine and computers both because of the role its practitioners play in enhancing public health surveillance. Since a keen understanding of medical terminology and
patient care protocols is critical, doctors, nurses, pharmacists and other healthcare professionals may find themselves also taking advanced computer science and health informatics courses to transition into this arena. Computer professionals may also find themselves seeking medical education and/or experience to fill in-demand positions in the informatics field.

The duties of a health informatics professional may include:

- **System planning and design** – Professionals are tasked with identifying systems that best address an organization’s surveillance goal, be it an EHR system or technology meant to help researchers calculate complex study formulas. They also identify who can access the information, set the methods and conditions and work to improve analysis or action of the system and its interaction with other systems.

- **Data collection** – Specialists may also assist with data collection protocol for medical practices or research projects. They might, for example, identify potential bias associated with collection methods, and determine the most useful vocabulary, data standards and so on. In addition they might recommend technologies that are best suited for supporting easier, more efficient and higher-quality data entry.

- **Data management and collation** – Informatics specialists may also identify ways to share data across platforms, develop ways to link new data with data contained in legacy systems and identify and remedy data-quality problems while also working to safeguard data privacy.

- **Analysis** – They identify statistical and visualization applications and generate algorithms that are meant to alert when aberrations in health events are detected. This is done by leveraging resources to accommodate large data sets or carry out complex analyses.

- **Interpretation** – Informatics specialists also determine the viability of comparing information gathered in one surveillance program with other data sets to gain new perspectives and combine data from other sources to provide a context for interpreting the results.

- **Dissemination** – Specialists may also recommend information displays for users and provide options for the best methods to reach the desired audience. They facilitate information finding and identify the benefits for data providers.
• **Application to public health** – Informatics professionals also assess the usefulness of having data flow directly into systems that support public health interventions and facilitate the linkage between surveillance and action.

Drawing on a keen understanding of computer technology and systems while blending it with an educational background that is firmly planted in the medical field, health informatics professionals work to improve patient care, medical research and outcomes. They also facilitate better data management, communication and processing of data while safeguarding the privacy and integrity of data.

**The Emergence of Health Informatics**

Health informatics in its modern, computer-based sense is a relatively new field that has been receiving attention since the 1970s. It truly got its start, however, the very first time a practitioner jotted down notes about an illness and used those observations to learn, study and treat other patients who presented with similar symptoms.

Although still a young discipline, modern health informatics holds tremendous responsibilities. With its practitioners responsible for improving health, advancing biomedical research and patient care, the roots of the modern age were firmly planted by the Department of Veterans Affairs more than 30 years ago. This government agency is responsible for creating the very first Electronic Health Record when it launched VistA. This ever-evolving, secured platform was designed to enable the VA to manage millions of patients across a network of more than 1,700 provider sites.

The VA is also responsible for the creation of the Virtual Lifetime Health Electronic Record (VLER), which enables the sharing of information between VA and non-VA doctors while advancing the concept of Health Information Exchanges (HIE) across the country. The VA’s cutting-edge work has also resulted in the creation of Open VistA, an open source EHR medical practices across the country can access without the need to pay for costly licensing rights.

While the VA is credited with pioneering work in the field, there has been an overall explosion over the past few years as more medical facilities seek to
implement EHR programming and researchers discover the value of informatics in advancing their work. The Affordable Healthcare Act’s requirement of electronic health records has also ignited the field as medical operations large and small seek professional guidance to meet the law’s requirements.

The Future is Bright
As health informatics emerges as a growing field, the demand is extremely high for competent, trained professionals to lead the charge. Health IT was the fastest growing segment of the $1 trillion global healthcare market, according to a study from Scientia Advisors.

Specialists who enter this field with a master’s or other advanced degree can anticipate salaries that go well beyond the average. The American Health Information Management Association (AHIMA) reports mid-range salaries for health informatics consultants in the upper $80,000s. Directors in the field earn can earn more than $100,000. A chief medical information officer might earn more than $200,000 a year. An electronic medical record keeper or health information technician can earn about $34,000 in an entry-level position, according to a national survey conducted by the U.S. Bureau of Labor Statistics in 2012.

Changing with the Times
Medical facility administrators are faced with big decisions in regard to health informatics. As national policy changes are implemented that require the use of EHR programming to track patient care and outcomes, administrators must ensure their facilities are poised to meet the changing demands. President Obama’s Information Technology Commission has recommended EHR technology to provide point of care information, computer-assisted decision support that is based on evidence-based medicine, electronic order entry and functionality in exchanging health information.

In addition to EHR implementation, administrators are faced with challenges such as implementing sensing technology to acquire data about the health status of patients while working to ensure secured storage and retrieval of patient information stored in EHR programming.
The impetus behind the changes is the desire to improve patient record management, information sharing among clinicians, research capabilities, patient safety and above all patient outcomes. Healthcare administrators must be prepared to meet current policy changes and the demands of a field that is rapidly evolving. To do so, administrators need highly trained health informatics professionals by their sides.

**Resources for Entering the Field**

Medical practitioners and healthcare IT professionals who wish to enter the health informatics field can find resources to help them receive the training and credentials required. USF Health’s Morsani College of Medicine at the University of South Florida offers 100% online master’s degree courses and a certification program that can jumpstart entry into this high-demand, challenging and evolving field. This is the only 100% online health informatics program from a medical school.

Entering advanced health informatics programs is best suited for those with current medical credentials, such as doctors, nurses and pharmacists, or professionals who currently work in healthcare IT. Students with an IT background and a desire to apply that knowledge toward patient care and helping others also do well in making the transition.

Health informatics is one of the fastest-growing segments of the healthcare profession today. Marrying medicine and technology, this hybrid field is paving the way for better patient care management, communication among clinicians, research and patient outcomes.
Works Cited


The Department of Veterans Affairs’ (VA) implementation of the Virtual Lifetime Electronic Record (VLER): Findings and lessons learned from Health Information Exchange at 12 sites Byrne, Colene M. et al. International Journal of Medical Informatics, Volume 83, Issue 8, 537 – 547
