▲ A Shortage of Health Information Management Professionals:

How Would We Know?

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The introduction of computers, the expansion of health insurance coverage through employers and government programs, and the increased use of personal health information have created a demand for a new breed of qualified medical record and health information personnel. The health information management workforce, which is entrusted with accurately coding, maintaining, storing, managing, analyzing, and disseminating all personal health information created from health care encounters, is reportedly in short supply. Given the complexity in defining and enumerating the profession, it is challenging to determine if such a shortage exists. There is a lack of uniformity across scope of practice, job titles, educational paths, and credentials. We report selected findings from a study of the health information management profession in North Carolina illustrating the methodologic problems encountered when measuring the supply and demand of this workforce. A case is made that greater standardization across these multiple facets of the profession would be beneficial to the workforce, and we offer recommendations on how this could be accomplished. J Allied Health. 2004; 33:167–173.

THE MANAGEMENT OF information is one of the most complex challenges facing health care organizations today. Data contained in medical records have long been used for patient care and insurance reimbursement. Health information also is used for quality review, data analysis, financial reimbursement, legal protection, education, research, public health, and planning and marketing for health care services.[1] Information obtained from medical records is used increasingly to reveal profitable and unprofitable service lines and procedures, is used to uncover treatment plans that can reduce lengths of stay, or is used as a staffing tool for managing periods of high volume. Conversely, patient care, safety, and outcomes can be compromised if health information is incorrect, incomplete, or missing. After the Institute of Medicine published *To Err is Human*,[2] the concern about patient safety and medical errors gained widespread attention. Health information and administrative data have been recognized as crucial components in identifying and preventing medical errors.

At the focal point of health information management (HIM) is the workforce that is employed to collect, organize, code, report, analyze, use, manage, and secure health care data and information resources. Health information, particularly administrative data, is dependent on diagnosis and procedure codes used to identify cases, events, indicators, or protocols. The validity of the data largely depends on the accuracy of the coding performed by HIM professionals.[3] The increased use of personal health information, the introduction of computers, and the expansion of health insurance coverage through employers and government programs have created a demand for a new breed of qualified medical record and health information personnel to manage, use, analyze, and protect these crucial data. The demand for this workforce crosses all positions within HIM from coding practitioners to medical record supervisors to HIM directors to privacy officers. Further underscoring the importance of the HIM workforce is the Health Information Portability and Accountability Act of 1996 (HIPAA), the federal privacy regulation that requires health care providers, facilities, insurers, and research organizations to alter the way in which personal health information is collected, stored, and disseminated. The rules call for the HIM workforce to educate health care

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The authors thank the Duke Endowment, the North Carolina Area Health Education Centers Program, and the Council for Allied Health in North Carolina for support for this research.

Received January 8, 2003; accepted August 20, 2003.

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organizations, respond to consumer privacy concerns, and prepare for the transition to new practices.[4]

Determining the current supply and the pending demand for the workforce entrusted with the crucial tasks of HIM is advantageous; yet, as with many allied health professions, the lack of a uniform database impedes enumeration efforts, impedes determination of workforce imbalances, and prevents decision making based on complete information.

Shortage of Health Information Management Professionals

A survey conducted by the American Hospital Association indicated a shortage of billers and coders in the hospital setting (N = 1,092).[5] The document, *In Our Hands: How Hospital Leaders Can Build a Thriving Workforce*, estimated an 8.5% national mean vacancy rate for billers and coders. Another American Hospital Association hospital study found higher vacancy rates for billers and coders in urban hospitals and Western regions of the United States.[6] According to the Bureau of Labor Statistics, Medical Record and Health Information Technician will be one of the fastest growing occupations in the United States during the decade 2000 to 2010.[7] Anecdotal evidence of a shortage of HIM administrators, staff, and coders is abundant.

In response to these national surveys and information received from hospital administrators and health care professionals in North Carolina, an assessment of the state's HIM workforce was undertaken. *The Health Information Management Workforce in North Carolina: Current Trends, Future Directions*[8] sought to determine the short-term to medium-term employment outlook for HIM practitioners in the state. The study was the third in a series of allied health reports conducted under the joint collaboration of the Council for Allied Health in North Carolina, the North Carolina Area Health Education Centers Program, and the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. Through the establishment of advisory panels composed of HIM employers, educators, practitioners, and other workforce experts, the best available statistical and administrative data on the profession were analyzed, existing and emerging policies were discussed, and a consensus statement was constructed on the need for and supply of HIM practitioners in North Carolina. Although the study was conducted at the state level, the methodologic issues and findings are illustrative of challenges facing not only the national HIM workforce, but also other nonlicensed allied health professions.

Methodology

Data Collection

The HIM workforce includes workers credentialed through the American Health Information Management Association (AHIMA), workers credentialed through the American Academy of Professional Coders (AAPC), and workers performing HIM roles who lack a credential from either of these organizations and have received experience through on-the-job training. Credentialing data from AHIMA and AAPC and membership files from the North Carolina Health Information Management Association were obtained and merged to provide a depiction of the credentialed HIM workforce. Historical educational statistics on HIM students enrolled in programs accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) were obtained from the North Carolina Community College System and the University of North Carolina System. These statistics included enrollment and graduation counts and demographic characteristics of students in the state's Health Information Technology (HIT) and Health Information Administration (HIA) programs. In addition, researchers developed two survey instruments: a survey of educational program directors and a survey of hospital HIM directors. Educational program directors were surveyed about previous student cohorts and issues related to recruitment, retention, attrition, and graduation. HIM directors in North Carolina's hospitals were surveyed about their departmental staffing, vacancies, employee credentials, recruitment strategies, and career development. Through this survey, we were able to obtain information on the HIM workforce in North Carolina hospitals, including counts of noncredentialed workers.

Analysis of the data revealed geographic distribution, credentialing status, demographic composition, and employment setting of the workforce. Educational data and educational director survey responses provided a profile of the state's training programs and future supply of HIM practitioners. Hospital survey data revealed the extent and magnitude of the noncredentialed HIM workforce employed in hospital HIM departments. Preliminary findings were presented to the advisory panel members who discussed the results and offered recommendations about the HIM workforce in North Carolina.

Challenges in Undertaking the Workforce Study

The study on the North Carolina HIM workforce was difficult to undertake for the following reasons:

- The workforce is not state licensed, and although encouraged by some employers, certification is optional. It was challenging to enumerate all practitioners who are actively practicing in the workforce.
- Without licensure, there is no central data source accounting for 100% of the workforce; instead, data from multiple sets were combined.
- The workforce lacking a HIM credential was not represented in the data sets collected from credentialing organizations.

- For workers who are credentialed, there are multiple agencies that perform this function for the workforce. Multiple credentialing organizations result in varying data elements, definitions, and collection methods.
- Although information from universities and community colleges offering HIM programs could be obtained, data on other HIM educational programs, particularly on-the-job training, were not readily available.
- Cross training/cross practicing exists among the workforce such that, for example, many who are credentialed as administrators are employed as coders. An HIM credential does not correspond with job function or job title. This is particularly evident in small or rural hospital settings, where the HIM staff may consist of one or two individuals who are responsible for coding, managing, protecting, and analyzing health information and data.

Selected Findings from the North Carolina Health Information Management Workforce Study

Loosely Defined Profession

The above-cited challenges contributed to the difficulty in identifying and quantifying the HIM workforce in North Carolina and quantifying whether or not a shortage exists. AHIMA has developed a comprehensive professional definition of HIM. There may be ambiguity, however, concerning the HIM scope of practice, competencies, areas of expertise, educational qualifications, and credentials for individuals unfamiliar with the definition.[8] The advisory panel concluded that the profession has encountered difficulties in educating health care providers, organizations, and the general public about its scope of practice. HIM often is described as a merger between health care and technology; where the profession lies on the health care/technology continuum largely depends on the type of employment setting and differences in patient case mix. HIM lacks an element of direct patient care that is typical of other allied health professions and contributes to the challenge in defining and quantifying the workforce. Quality improvement, strategic planning, clinical guidelines, and risk management all rely on data obtained from patient medical records, yet the profession is not always organizationally linked to these functions. Instead, many hospitals and health care providers turn to quality improvement, strategic planning, or marketing departments for these functions, which may or may not employ an individual with a HIM background.

Additionally, there may be ambiguity around HIM job titles, functions, and roles. Survey responses from North Carolina hospital HIM directors illustrated the difficulty in accounting for all HIM positions within the categories presented, and directors included a variety of job titles in the "other" category. HIM practitioners responsible for similar job functions often hold different job titles at different hospitals. The person responsible for coding duties might hold the title of Inpatient Coder, Clinical Coding Specialist, Coding Technician, or Medical Data Analyst. The use of differing job titles presents challenges for data collection because one cannot discern from job title alone the knowledge base or duties of a HIM practitioner.

Education of the Health Information Management Workforce

Calculating the impact of HIM educational programs on future workforce supply is extremely important yet often problematic because multiple entrances into the HIM workforce exist. The educational paths to become a health information administrator or technician are more standardized than those to become a coder. Administrators and technicians typically enter the field after obtaining a Bachelor of Science in HIA or Associate degree in HIT. Although this is the typical route, there are numerous individuals who serve as HIM directors, managers, supervisors, and technicians who received an education in health services administration, health services management, or business administration and others who did not receive a formal education, but rather have attained their position through years of on-the-job training and experience. Obtaining enrollment and graduation data from community colleges and universities was relatively straightforward; however, obtaining similar data from other HIM educational programs was much more complicated. There is no state minimum standard for education programs that prepare coders; programs of varying breadth, depth, and length exist. These options include on-the-job training; Internet and home study programs; private coding courses; continuing education classes; and programs offered through hospitals, colleges, and universities. Identifying all available HIM education programs is unrealistic; obtaining data on these programs and their contributions to the HIM workforce was beyond the scope of the North Carolina study.

As a result of the variation in the education of the HIM workforce, a common response by employers has been one of confusion. Employers often are unable to differentiate between programs lasting 1 to 2 years and programs that can be completed at home in a number of hours. As a consequence, employers may make HIM hiring decisions based on incomplete information.

In addition to the multiple avenues to enter the HIM field (through completion of an HIA, HIT, coding, or on-the-job training program), there are concerns surrounding enrollment, attrition, and graduation from CAAHEP accredited HIM programs. After 5 years of steady decline from 1996 to 2000, accredited Baccalaureate and Associate degree HIM programs in the United States saw a slight enrollment increase in 2001 (Figure 1). It remains to be seen whether or not the increase in enrollments will be sustainable or whether or not 2001 figures were an anomaly. Enrollment declines coincided with an 11% reduction in the number of HIA programs in the United States since

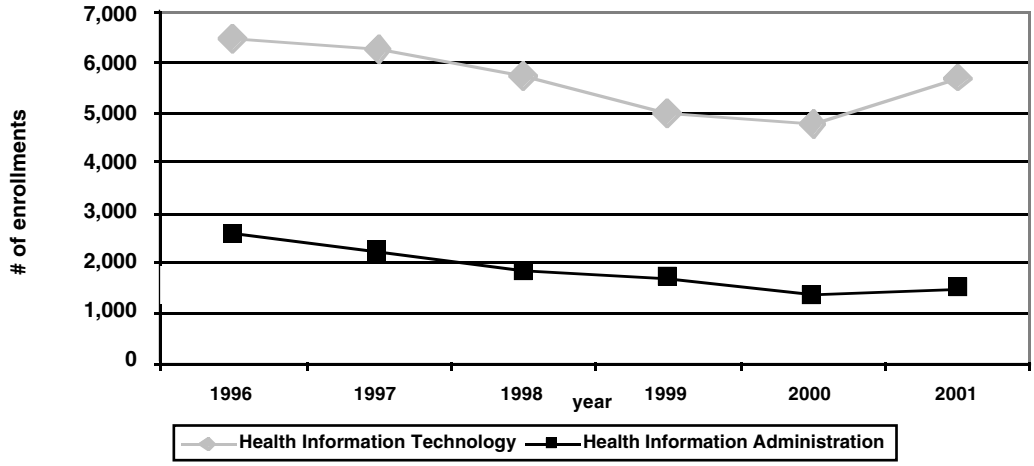

FIGURE 1. Enrollments in health information management programs, accredited through the Commission on Allied Health Education Programs, United States, 1996–2001. (Source: American Health Information Management Association.)

1996; the number of HIT programs increased 12% over the same period (Figure 2). Similar enrollment trends have occurred in many of North Carolina's HIA and HIT programs, with enrollment increases in the most recent years.[8] The number of openings in the state's HIA programs has remained constant since 1996, but spaces in HIT programs have increased. The greater HIT program capacity, has failed, however, to increase dramatically the number of enrollees, and few programs are meeting their available student capacity. Program directors in North Carolina cited not only a lack of a qualified applicant pool, but also lack of any applicant pool as the major reasons program openings went unfilled.

Similar to many allied health professions, HIM faces recruiting challenges in attracting potential students. Decreasing enrollment across allied health programs is due to a combination of factors, including lack of visibility of the professions, low pay, shift work, and alternative career opportunities.[9] Annual fluctuations in the size of HIM graduating classes in accredited programs and the difficulty in tracking students in programs outside of a college or university system make it challenging to determine if existing programs are meeting employer demand for HIM personnel.

MULTIPLE CERTIFICATION OPTIONS

Neither a national standard for licensure of the HIM profession nor a national definition of the scope of practice exists. Although encouraged or required by many employers, certification in HIM is optional and can be obtained from multiple entities, including AHIMA (which credentials administrators, technicians, and coders), AAPC (which credentials coders), the Association of Registered Medical Coders (which credentials coders), and the Radi-

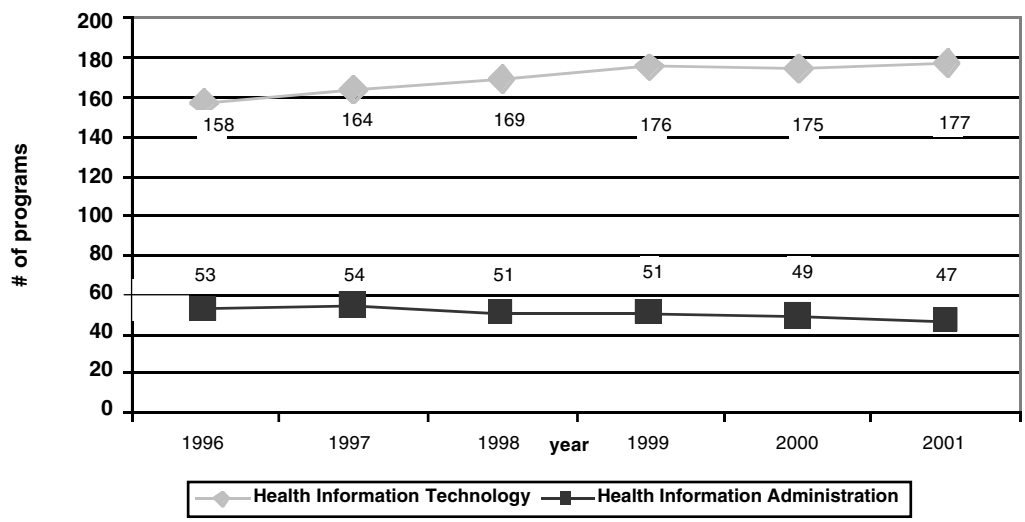

FIGURE 2. Health information management programs, accredited through the Commission on Allied Health Education Programs, United States, 1996–2001. (Source: American Health Information Management Association.)

TABLE 1. Health Information Management Credentials

Credentialing Organization	Credential	Full Name
AHIMA	RHIA	Registered Health Information Management Administrator
AHIMA	RHIT	Registered Health Information Technician
AHIMA	CCS	Certified Coding Specialist
AHIMA	CCS-P	Certified Coding Specialist—Physician Based
AHIMA	CCA	Certified Coding Associate
AHIMA	CHP	Certified in Healthcare Privacy
AHIMA*	CHS	Certified in Healthcare Security
AHIMA*	CHPS	Certified in Healthcare Privacy and Security
AAPC	CPC	Certified Professional Coder
AAPC	CPC-H	Certified Professional Coder—Hospital
RCCB	RCC	Radiology Certified Coder
ARMC	RMC	Registered Medical Coder

*CHS and CHPS credentials sponsored jointly with the Healthcare Information and Management Systems Society.
AHIMA, American Health Information Management Association; AAPC, American Academy of Professional Coders; RRCB, Radiology Coding Certification Board ; ARMC, Association of Registered Medical Coders.

ology Coding Certification Board (which credentials coders). Credentialing examinations, educational program completion, and prior relevant experience are the mechanisms by which the certifying entities determine minimal competencies and award credentials (Table 1).

A sizable proportion of the hospital-based HIM workforce lacks a HIM credential, as evidenced by the North Carolina hospital HIM director survey. In North Carolina hospitals, 29.6% of all HIM staff (directors, managers, supervisors, chief coders, inpatient coders, and outpatient coders) lack a credential from either AHIMA or AAPC, the two largest certifying entities (Figures 3 and 4).[8] Nearly all staff filling the role of hospital HIM director in North Carolina all held a HIM credential, yet less than half (46.3%) of HIM supervisors were credentialed. Among coding positions, 82.5% of chief coders were HIM credentialed compared with 50.0% of outpatient coders. In other health care settings, such as physician practices, the proportion of the workforce without a credential may be higher, although no data from this setting were available to verify.

The advisory panel offered several reasons why practitioners may lack a respective HIM credential. Practitioners who have years of HIM experience may not see the need, benefit, or reward in certification. Many employers remunerate credentialed and noncredentialed practitioners at the same rate, and some employers cannot afford the time

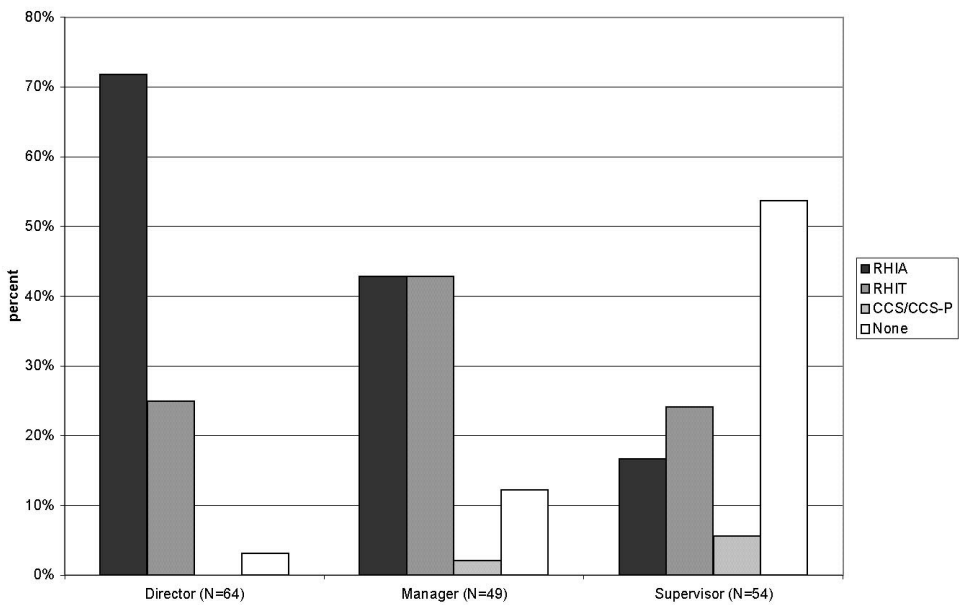

FIGURE 3. Credentials of North Carolina hospital HIM management staff, by job title, 2002. (Source: Dyson S, Fraher E, Smith L. The Health Information Management Workforce in North Carolina: Current Trends, Future Directions. A Report of the Technical Panel on the Health Information Management Workforce. October 2002.)

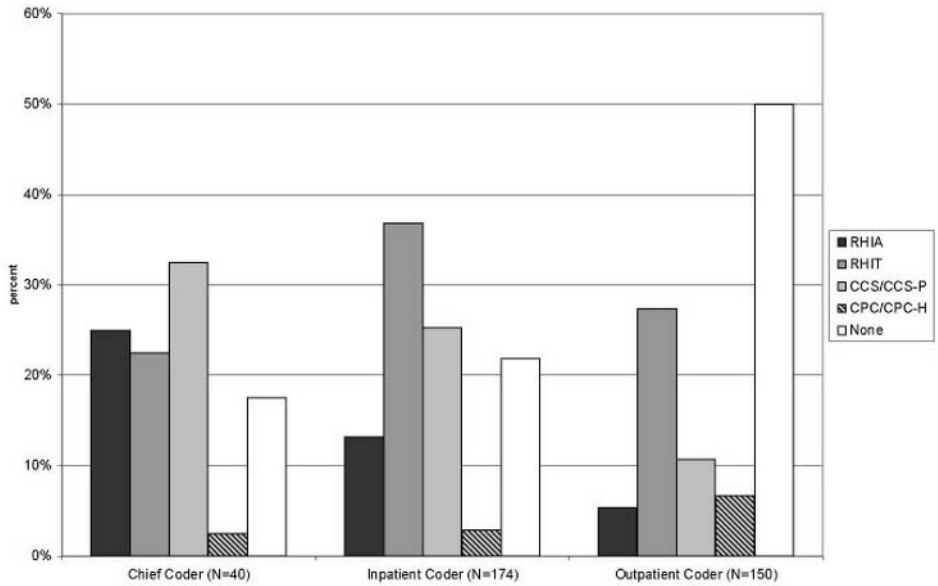

FIGURE 4. Credentials of North Carolina hospital HIM coding staff, by job title, 2002. (Source: Dyson S, Fraher E, Smith L. The Health Information Management Workforce in North Carolina: Current Trends, Future Directions. A Report of the Technical Panel on the Health Information Management Workforce. October 2002.)

or resources to allow employees to attend HIM courses or take credentialing examinations. Still others filling HIM roles (e.g., nurses, receptionists, and other clerical staff) may have primary responsibilities outside of HIM functions, particularly in smaller health care settings.

The aggregate effect of the above-mentioned factors, including the lack of uniform data, leads to challenges in responding to market needs. The study on the HIM workforce in North Carolina concluded there are pockets of shortages in the HIM workforce, yet shortages are difficult to identify and quantify. Without standard job titles, it is difficult to survey employers and expect uniform responses concerning numbers of positions and vacancies. Without standard educational paths, it is difficult to count enrollment and understand the capacity to produce future supply. Without required certification, it is difficult to enumerate trained persons who are competent and potentially available to fill HIM roles.

DIVERSITY OF THE WORKFORCE

The HIM workforce, similar to many other health professions, is not representative of North Carolina's population by gender or by racial and ethnic background. The workforce is predominantly female, and only a small proportion of the workforce is from underrepresented groups, specifically Hispanic/Latino, Asian, or Native American. The current student body and recent graduates of the state's HIA and HIT programs are much more representative of the general population, however, particularly in the community college setting. Underrepresented minority students in HIT programs accounted for 28% of enrolled students in 1998; by 2001, more than 39% of students were from underrepresented racial or ethnic groups.[8] Similarly, HIA programs showed an increase in the percentage of graduates from minority ethnic and racial groups: 14% in 1999 and increasing to 24% by 2001. With continued efforts to recruit underrepresented minorities into HIM educational programs, the racial/ethnic and gender makeup of North Carolina's HIM workforce will continue to diversify.

Discussion

As evidenced by the findings of the North Carolina HIM study, adequately enumerating the entire HIM workforce is complicated. As long as the profession is beset by a lack of universal data, standardized entrance requirements, and certification options, a true workforce assessment will be incomplete. To address properly future supply-and-demand questions for policy and decision making, however, an accurate picture of the current workforce is desirable.

Beyond the need for uniform HIM data to use in planning, there are additional advantages to greater standardization among this profession. The ambiguity surrounding many HIM roles, responsibilities, job titles, core competencies, and scope of practice causes confusion for HIM staff seeking employment and employers attempting to understand applicants' working history. The multiple educational paths to enter this profession contribute to confusion about the qualifications of HIM staff, further complicating the hiring practice. Although certification of the HIM workforce is largely voluntary, an additional challenge for the profession is having multiple entities offering multiple credentials. Overall, the lack of standardization of the HIM

roles, educational paths, and credentialing creates uncertainty and confusion for the workforce, employers, health care professionals, and public.

To move toward greater organization and standardization in the HIM profession, there must be widespread agreement and recognition among the profession that this is desirable. It also requires collaboration and cooperation among HIM stakeholders, including credentialing organizations, professional associations, members of the educational community, and employers. In other professions, professional standardization has occurred through legislation, collective lobbying, voluntary collaboration, educational changes, media attention, and public demand. The impetus for greater organization of some health professions has occurred by focusing on specific activities or responsibilities that pose a risk to patients if performed by unqualified persons. Nursing is an example of a profession that has built a unified front and achieved significant awareness and attention by connecting poor nursing care to danger.[9] Although HIM personnel do not provide direct care, coding of diagnoses and procedures can influence and affect subsequent treatment or reimbursement decisions (or both), which affect patient care. Initial standardization efforts could center on specific HIM activities that pose a risk to patients if inaccurate, incomplete, or missing health information is used in treatment decisions.

The first task may be to define the scope of practice and develop core competencies, skills, and abilities necessary for HIM practitioners in different employment settings, taking into account the specialty, breadth, depth, level, and volume of health information to be managed. In addition to core competencies, minimal entry-to-practice standards need to be determined. The criteria for basic skills and minimal competencies for HIM personnel should be distributed to all HIM practitioners, employers, the general public, accrediting agencies, regulatory agencies, and educational institutions.

A clear advantage of agreeing on core competencies is the potential for standardization of job titles. Common job titles could enable standardization of career ladders that could be consistent across organizations and provide clarification within organizations of which positions are covered under the HIM scope of practice. The establishment of a scope of practice also would serve the profession well in tackling its marketing and public relations challenges. It also could assist the workforce in its efforts to become synonymous with HIPAA implementation, health care planning, health care quality improvement, clinical care, and patient safety.

When core competencies are established, adjustments could be made by educators to align educational programs to meet the newly defined competencies, skills, and abilities. Educational programs would be able to train and educate a workforce that exhibits the qualities needed to perform HIM duties in different employment settings. A greater alignment between what the workplace needs, with respect to core competencies, and what educational programs are producing would benefit employers and the HIM workforce.

Finally, a single credentialing organization for the HIM profession would simplify issues by eliminating disagreements about the value of one credentialing organization over another. It would increase the credibility of the workforce and result in greater professional identity. Educational programs would benefit from an individual credentialing entity and provide a single focus to prepare students for certification. The existence of a single entity also could be used as a vehicle for data collection, which could be used for more effective workforce monitoring.

Implications for the National Workforce

The lack of uniformity in the HIM profession in general and certification in particular is characteristic of a profession that is relatively young and still in formative stages. The HIM profession would benefit from a more clearly defined set of job competencies, titles, and corresponding educational requirements. Employers would have a greater assurance of what skills new employees bring to the workplace, and a single source of certification would eliminate the misunderstanding that exists with multiple entities. Most importantly, the HIM workforce would gain a better-defined professional identity and be able to take advantage of career opportunities and future health care trends that would affect this expanding and changing allied health profession.

References

1. Cofer J (ed). Health Information Management, 10th ed. Chicago: Physicians' Record Company, 1994:30–31.
2. Kohn LT, Corrigan JM, Donaldson MS (eds). To Err Is Human: Building a Safer Health System. Washington, DC: National Academy Press, 2000.
3. Romano PS, Elixhauser A, McDonald KM, Miller MR. HIM's role in monitoring patient safety. JAHIMA 2002;73:72–74.
4. Amatayakul M. Getting ready for HIPAA privacy rules. J AHIMA 2000;71:34–38.
5. American Hospital Association Commission on Workforce for Hospitals and Health Systems. In Our Hands: How Hospital Leaders Can Build a Thriving Workforce. 2002. Available at: http://www.hospitalconnect.com/aha/key_issues/workforce/commission/InOurHands.html. Accessed May 23, 2003.
6. First Consulting Group. The Healthcare Workforce Shortage and Its Implications for America's Hospitals. 2001. Available at: http://www.hospitalconnect.com/aha/key_issues/workforce/resources/content/FcgWorkforceReport.pdf. Accessed May 23, 2003.
7. Bureau of Labor Statistics, U.S. Department of Labor. Fastest Growing Occupations 2000-2010. Available at: http://www.bls.gov/emp/emptab3.htm. Accessed May 3, 2003.
8. Dyson S, Fraher E, Smith L. The Health Information Management Workforce in North Carolina: Current Trends, Future Directions. A Report of the Technical Panel on the Health Information Management Workforce. 2002. Available at: http://www.shepscenter.unc.edu/DATA/nchpds/himreport.pdf. Accessed May 23, 2003.
9. Wilson S. Allied Health: A National Perspective. The Council for Allied Health in North Carolina Quarterly Meeting. November 6, 2002. Available at http://www.alliedhealthcouncilnc.org/media/Wilson11-06-02_files/frame.htm. Accessed May 23, 2003.