How Trends Shape the Work Force Today and Tomorrow

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What forces are propelling the healthcare industry's prolonged period of change? How are these forces shaping the future of HIM? In this article, investigators from the Center for Health Workforce Studies examine the roots of the work force shortage and reveal trends that will continue to influence the industry.

The healthcare and information technology industries are both in periods of dramatic change, driven by a multitude of pressures and opportunities. Not surprisingly, the HIM field, which sits at the confluence of these two industries, is also experiencing a period of major transition.

Despite growing concerns about increasing healthcare expenditures and rhetoric about controlling healthcare costs, political pressures have succeeded in offsetting or deflecting many programs designed to reduce or control costs. As a result, the share of gross domestic product (GDP) devoted to healthcare has continued to rise, representing more than 13 percent of US GDP in 2000. And as funds grew, so did the health work force: it represented nearly 11 percent of the total US work force in 2000.

According to the federal Bureau of Labor Statistics (BLS) there were 12.6 million workers employed in the healthcare industry in 2000. These workers are employed in a variety of organizations, with 44 percent working in hospitals. But while hospital employment has increased slightly over the past decade, the numbers in ambulatory care settings, nursing homes, and home care have grown rapidly. Currently, 23 percent of health sector employment is in nursing and personal care facilities and home health. Further, we estimate that an additional 2.1 million healthcare workers can be found in other settings, such as nurses employed in schools and physicians working for pharmaceutical firms (see "Health Work Force in the US," below).

Health Work Force in the US

	Health Professionals	**Other Workers**	**Total**
Health service settings	8,485,358	4,064,745	12,550,104
Other work settings	2,103,557	124,713,945	126,817,502
Total	10,588,915	128,778,690	139,367,605 (total US civilian labor force)

Health professionals working in health service settings	8,485,358	6.1%
Health professionals working in other settings	2,103,557	1.5%
Other workers in health service settings	4,064,745	2.9%
US health work force	**14,653,661**	**10.5%**

Source: US Bureau of Labor Statistics

The health work force comprises a diverse mix of professionals and paraprofessionals, ranging from physicians to technicians to food service workers to coders. Not surprisingly, nurses, including registered nurses (RNs), licensed practical nurses

(LPNs), nurse aides, orderlies, and attendants, are the largest group of health workers, representing nearly a third of all workers in the health sector. The spectrum of workers dealing with HIM represents less than 4 percent of the total of the top 50 largest health-related occupations and professions in 2000.

More Than Nurses Needed

While the nursing shortage received the most media attention over the past year, the reality is that the nation is facing a series of work force-related crises that extend well beyond today's shortage of registered nurses. We can pinpoint one major cause: Americans use more health services as they age and when the baby boom generation reaches retirement age in another decade, we can expect significant increases in demand for a wide range of healthcare services.

While much of the recent attention to the health work force has centered on the increased use of long-term care, the impact is more widespread. In fact, it is affecting almost every occupation, from dentists to physical therapists to pharmacists. Our studies have found concerns about shortages in the following professions:

- registered nurses
- home health aides
- nursing home aides
- dentists
- pharmacists
- nutritionists
- social workers
- nursing home administrators

The current downturn in the US economy may alleviate some of the current shortages, because supply is likely to rise slightly and demand is likely to grow more slowly. However, most of the factors contributing to health worker shortages have not been addressed, and the nation's changing demographics will put great pressure on the system in years to come. We predict that while shortages will become less severe over the next few years, in the longer term we will be facing far greater shortages than we have in the past. Given the industry's lack of effective health work force data collection, information systems, structures to plan for future needs, and funds for addressing such problems, these shortages should not come as a surprise.

Growth and More Growth

From 1983 to 1998, the number of people working in health-related occupations in the US grew by 64 percent, driven in large part by increases in the numbers of RNs and other direct care workers. The comparable growth for all occupations over the same period was 35 percent. "Medical Records Technicians" and "Other Managers in the Health Services Industry" (the BLS categories that most resemble workers with CCS, CCS-P, RHIT, and RHIA credentials) increased by 147 percent and 110 percent over the same period. This reflects the major push in the 1980s and '90s to improve and standardize medical records. It is also consistent with the increasing demands of managed care taking place in that period.

The current shortages of different types of health workers have been well documented. Based on projections for jobs for 2010 recently published by the BLS, demand for almost all types of health workers will increase over the next decade, potentially aggravating current shortages and creating new ones (see "Projected Health-Related Job Openings, 2000 to 2010," below).

Projected Health-Related Job Openings, 2000 to 2010

Profession/Occupation	Employment (thousands) Number			Job openings including replacements, 2001-10 (thousands)
	2000	2010	Percent Change	
Computer software engineers, applications	380	760	100%	1

Personal and home care aides	414	672	62.3%	322
Medical assistants	329	516	56.8%	274
Physician assistants	58	89	53.4%	43
Medical records and health information technicians	**136**	**202**	**48.5%**	**97**
Home health aides	615	907	47.3%	370
Physical therapist aides	36	53	47.2%	27
Physical therapist assistants	44	64	45.5%	33
Mental health and substance abuse social workers	83	116	39.8%	42
Speech-language pathologists	88	122	38.6%	57
Dental assistants	247	339	37.2%	136
Dental hygienists	147	201	36.7%	76
Pharmacy technicians	190	259	36.3%	118
Cardiovascular technologists and technicians	39	52	35.9%	22
Surgical technologists	71	96	35.2%	43
Respiratory therapists	83	112	34.9%	50
Occupational therapists	78	105	34.6%	46
Substance abuse & behavioral disorder counselors	61	82	34.4%	34
Physical therapists	132	176	33.3%	77
Respiratory therapy technicians	27	36	33.3%	16
Medical and health services managers	**250**	**330**	**32.4%**	**123**
Medical and public health social workers	104	136	31.7%	44
Emergency medical technicians and paramedics	172	226	31.4%	97
Medical transcriptionists	102	132	29.4%	57
Massage therapists	34	45	29.4%	18
Source: US Bureau of Labor Statistics				

Health work force highlights from the BLS projections include:

- Employment in health occupations (28.8 percent) will grow nearly twice as fast as total employment (15.2 percent)
- The demand for health professions and occupations will increase by more than 3.1 million between 2000 and 2010
- An additional 2.1 million new health workers will be needed to replace individuals that are expected to leave their positions between 2000 and 2010. Thus, nearly 5.3 million workers will be needed to fill the total health-related job openings resulting from new positions and replacements
- Fifteen of the 30 fastest-growing occupations are in the health field. The 10 health occupations with the fastest projected growth are:
  - personal and home care aides (62 percent increase)
  - medical assistants (57 percent)
  - physician assistants (53 percent)
  - medical records and health information technicians (49 percent)
  - home health aides (47 percent)
  - physical therapy aides (46 percent)
  - occupational therapist aides (45 percent)
  - physical therapy assistants (45 percent)
  - audiologists (45 percent)
  - occupational therapist assistants (40 percent)

- Medical and health service managers (which include RHIAs), though not among the 30 fastest growing occupations, are not far below the top-30 cutoff. They are predicted to grow by 32 percent, well above the 29 percent average for all health professions
- All levels of nursing are expected to grow quickly and considerably. Job growth for RNs, LPNs, nurse aides, orderlies, and attendants combined is projected to be more than 1 million jobs. More than 1.8 million job openings are projected across these three occupations
- Jobs for individuals providing services in the home are also expected to grow rapidly and significantly. Home health aides and personal and home care aides are in
the top 20 fastest growing occupations. There will be nearly 700,000 job openings for these two occupations from 2000 to 2010 (see "Projected Fastest-growing Occupations, 2000 to 2010," below)
- Of the 70 health occupations included in the BLS projections, only 10 are growing less rapidly than the overall US economy

Projected Fastest-Growing Occupations, 2000 to 2010

Profession/Occupation	Employment (thousands)		Percent Change	Quartile rank by 2000 median earnings1
	2000	2010		
Computer software engineers, applications	380	760	100%	1
Computer support specialists	506	996	97%	2
Computer software engineers, systems software	317	601	90%	1
Network and computer systems administrators	229	416	82%	1
Network systems and data communications analysts	119	211	77%	1
Desktop publishers	38	63	67%	2
Database administrators	106	176	66%	1
Personal and home care aides	**414**	**672**	**62%**	**4**
Computer systems analysts	431	689	60%	1
Medical assistants	**329**	**516**	**57%**	**3**
Social and human service assistants	271	418	54%	3
Physician assistants	**58**	**89**	**53%**	**1**
Medical records and health information technicians	**136**	**202**	**49%**	**3**
Computer and information systems managers	313	463	48%	1
Home health aides	**615**	**907**	**47%**	**4**
Physical therapist aides	**36**	**53**	**46%**	**3**
Occupational therapist aides	**9**	**12**	**45%**	**3**
Physical therapist assistants	**44**	**64**	**45%**	**2**
Audiologists	**13**	**19**	**45%**	**1**
Fitness trainers and aerobics instructors	158	222	40%	3

[1.] The quartile rankings of Occupational Employment Statistics annual earnings data are presented in the following categories: 1=very high ($39,700 and over), 2=high ($25,760 to $39,660), 3=low ($18,500 to $25,760), and 4=very low (up to $18,490). The rankings were based on quartiles using one-fourth of total employment to define each quartile. Earnings are for wage and salary workers.

Source: US Bureau of Labor Statistics

Bear in mind that these are projections. Historically, it has been very difficult to accurately predict healthcare employment because many of the factors that influence demand for and use of health services, including the national economy and healthcare reimbursement policies, are also difficult to predict. However, one of the predictable factors driving up the number

of jobs in healthcare is the increasing age of Americans. This has yet to have a significant impact on the health work force, but it will become a major factor when the baby boom generation reaches their 70s in 2015 and beyond.

Healthcare Trends to Watch

Several significant trends in healthcare systems are expected to dramatically influence the work force. Many of these trends will also have an effect on HIM workers. These include:

Continuing Professionalization of Healthcare Management Processes

As hospitals, provider organizations, government regulators, and other health-related organizations hire more managers trained in business, physicians and other clinicians will continue to lose control over the healthcare system. This erosion of control will occur gradually, but it will nevertheless change the way healthcare is organized, delivered, and managed. It will also affect career tracks for HIM technicians and professionals.

Ongoing Cost Control Pressure

Cost containment will further current trends toward flatter organizations and substitution of lower-paid workers in both clinical and administrative positions. Driven primarily by concerns about escalating costs, provider organizations will continue to "re-engineer" the work force to deliver services more efficiently.

Growing Use of Data Systems to Monitor Programs and Services

Continued concerns about the quality and outcomes of care will drive the introduction of bigger and faster computers and more sophisticated software to track patients and the care they receive. This is likely to have major impacts on HIM workers in a variety of settings.

Increasingly Complex Treatments and Technologies

There is no end in sight to efforts to improve treatment protocols for all kinds of illnesses and impairments. Clinical researchers are working hard to develop new tools and processes. All of these will bring new classifications, codes, and procedures for monitoring costs, outcomes, and effectiveness.

More Data on Patients and Treatments

As patient record systems become more comprehensive and reliable, the volume of data collected will continue to grow. This will create a host of privacy and confidentiality concerns. It will also create opportunities for a wide range of data analysis and applied research.

Aging of the Population

Although the main impact of the aging of the population will not be felt for two decades or more, the growth of the population 85 years old and older will continue to strain nursing homes, home health, and other components of the long-term care system.

Proliferation of Pharmaceuticals

The investments of pharmaceutical houses in developing new drugs are continuing at a rapid pace, and it is reasonable to expect that the number of new drugs and therapies entering the marketplace over the next decade will accelerate dramatically. This proliferation will create needs and opportunities for new systems and protocols for tracking drug interactions, efficacy, and costs that could become an important part of HIM in the future.

Increasingly Effective Diagnostic Tools

Scientists, engineers, and entrepreneurs are working to design and bring to market a host of new diagnostic tools and tests. These should result in more accurate diagnosis of illnesses and injuries, and presumably more timely and appropriate treatments. They will also require additional attention in HIM systems and protocols, including processing, storage, retrieval, assessment, and security.

Increased Information Exchange Among Independent Healthcare Organizations

The complexity of diagnostic and treatment protocols will be matched in the future by increasingly complex organizational structures and information systems. If current preferences for functional specialization in healthcare continues, it is easy to imagine the emergence of a host of smaller service bureaus, laboratories, and companies to provide specialized services to larger, mainstream care providers. This service delivery model will bring with it tremendous demands on information and telecommunication systems. It will also greatly increase opportunities for data "leakage" at the seams between organizations and systems, and corresponding concerns about privacy and confidentiality of patient data.

Increasingly Powerful PDAs

The introduction of personal digital assistants (PDAs) into the healthcare system seems certain to accelerate in the future, especially if effective voice recognition and wireless data transmission systems are incorporated. These tools will become effective bridges between direct care workers and the large mainframe or distributed computing systems in which patient records are maintained and processed. They will provide multiple paths to access medical records for both data entry and retrieval tasks.

New Information Technologies

PDAs are just the beginning of new information technologies that will affect both healthcare and IT. Among the technologies we expect to see in the future are new imaging devices, voice recognition systems, new identification technologies (e.g., retinal scanning), bedside monitoring systems, new telemetry systems, and expert coding systems. Each of these could reshape different aspects of HIM.

Movement Toward Paperless Records

Paperless medical records are one of the holy grails of information technology. Although not all healthcare facilities will achieve this goal in the coming decade, significant progress is expected. This will create important issues and opportunities related to coding and privacy, both of which are important topics for HIM administrators and technicians.

Emerging Forces

Two new developments—genetics and privacy—have recently emerged as driving forces in the health work force and HIM. Medical genetics holds the potential for the most important scientific breakthroughs in the coming decade. Already, a multitude of clinicians, scientists, technicians, and entrepreneurs are expecting major breakthroughs related to both diagnosis and treatment of illness and disease. A critical component of any of these initiatives is effective data systems. In the current research and development stages, these systems are predominantly proprietary and private. As the resulting tests and treatments enter the mainstream of medical practice, it will be necessary to migrate and translate these proprietary systems and taxonomies into existing or new medical records systems. Here, HIM professionals will have much to do. Ultimately, they must also address important concerns about privacy and security of personal genetic information.

As we know, HIPAA also promises to have a tremendous impact on the design and operation of information management systems in hospitals and other healthcare settings. Depending on the way information systems are designed, there is likely to be a major expansion of systems and protocols to protect the privacy of personal information about individual patients. However, these protections must not impede the flow of important clinical information. The technical, legal, and ethical issues surrounding these design processes will be most challenging.

Numerous forces promise to shape and reshape the healthcare work force for the next several years. HIM and the rest of the industry will share the challenges of an aging population, new technology and treatments, cost controls, and evolving legislation. And with these challenges come opportunities—for better jobs, leadership development, and progress.

Note

1. Cox, W. Michael and Richard Alm. "The Churn: The Paradox of Progress." 1992 Annual Report, Federal Reserve Bank of Dallas. Available online at www.dallasfed.org/htm/ pubs/annual/arpt92.html.

A Labor Shortage During a Recession?

Layoffs in the travel, technology, and retail industries make the news every day. But so do the nursing shortage and the healthcare work force crisis. Why are some industries suffering while others flourish? Much of this seeming contradiction can be attributed to "the churn," the natural process by which an economy recreates itself in response to competition and progress.

Originally described as "creative destruction" in the 1930s by economist Joseph Schumpeter, the churn explains how "economic progress destabilizes the world."1 If you can't see the economic progress in your understaffed and overworked HIM department, consider how computers have improved HIM processes and the jobs eliminated and created in response. And while the churn's immediate effect—unemployment—is negative, the overall and long-term effect is positive, because jobs are created in new industries and progress continues.

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