A GROWING JOBS SECTOR: HEALTH INFORMATICS

A CREDENTIALS THAT WORK REPORT FROM BURNING GLASS TECHNOLOGIES AND JOBS FOR THE FUTURE

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Jobs for the Future identifies, develops, and promotes education and workforce strategies that expand opportunity for youth and adults who are struggling to advance in America today. In more than 200 communities across 43 states, JFF improves the pathways leading from high school to college to family-sustaining careers.

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Burning Glass was founded in 1999 with the goal of developing the world’s leading technologies for matching people with jobs and we continue to be dedicated to this goal. Our technologies deliver intuitive insight across a range of functions, including workforce and economic development and career exploration and counseling, as well as job matching. For more information about Burning Glass services or products: info@burning-glass.com, 617.227.4800, or sgoldberger@burning-glass.com.

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Credentials that Work is a JFF initiative that seeks to utilize innovations in the collection and use of real-time labor market information to better align investments in education and training with the needs of the economy. Stronger alignment will ensure that education credentials have high value for both workers and employers. For more information about Credentials that Work, contact Myriam Milfort at mmilfort@jff.org.

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ABOUT THIS REPORT

Credentials that Work utilizes innovations in the collection and use of real-time labor market information to assist community colleges and workforce development programs to evaluate and develop responsive programs of study and curriculum content, connecting them to current labor market needs and are aligned with regional economies. In a dynamic economic environment, where technology innovation and globalization are redefining the nature of work, those charged with developing the skills of the workforce must be able to assess labor market signals constantly using multiple sources of data and information.

To enhance institutional decision making about program and course design, as well as the allocation of resources, Jobs for the Future has partnered with Burning Glass Technologies and a network of postsecondary institutions and systems that are “early adopters” of real-time labor market information. This report provides a framework for participating institutions to investigate an emerging sector for new program development and greater impact. Because standard occupational taxonomies and traditional sources of labor market information do not incorporate most health informatics occupations, the use of real-time LMI offers the only means to assess the needs and employment prospects for this rapidly emerging field.
Since the financial crisis of 2008, occupations with growing demand have been few and far between. One category of jobs that has seen significant growth in advertised positions is the field of health care informatics. This bright spot in the economy has gone largely unnoticed in national job reports because of the lack of occupational data about this evolving field—until now.

Using new sources of data mined from online job postings, Burning Glass Technologies, a leader in labor market analytics, in partnership with the Education Advisory Board, a membership-based research company serving senior academic and business leaders at more than 450 colleges and universities, undertook the first-ever examination of emerging jobs in health informatics and the factors propelling recent job growth. This examination has revealed new opportunities for education providers in meeting the rising demand for qualified candidates in health informatics—and for individuals seeking to advance their careers in an economy struggling to recover from the deepest recession in recent history.

Health care informatics includes a range of positions involved with the collection, handling, and processing of clinical information for a variety of purposes, from billing to medical quality assurance. It is a category that has become significantly differentiated based on skills and responsibilities, and increasingly integrated into the management of clinical care—changes that have not found their way into official employment statistics. These trends are likely to continue, making health care informatics a job category to watch in the larger health care field.

As measured by online job postings, hiring demand across the economy experienced a modest recovery in 2011, with total job listings up 6 percent in 2011 from 2007 levels. Total hiring demand for health care occupations was somewhat stronger, up 9 percent from 2007 to 2011, although postings stayed flat for registered nurses (RNs), the largest health care occupation. In contrast, postings for health care informatics jobs took off, jumping 36 percent in that four-year period.
Health care informatics jobs now constitute the eighth largest share of health care occupation postings. And that share is likely to continue to grow, given the trends and pressures shaping the health care industry. However, it would be impossible to identify these trends and the job opportunities they create utilizing the labor market data available from official sources.

**Health Informatics: Growth Niche in a Flat Market**

Nursing Still Bigger but Informatics Rapidly Increasing Share of Employer Demand

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**Unduplicated Job Listings**

<table>
<thead>
<tr>
<th>Year</th>
<th>RN Postings</th>
<th>Health Informatics Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>529,033</td>
<td>37,905</td>
</tr>
<tr>
<td>2011</td>
<td>527,577</td>
<td>51,621</td>
</tr>
</tbody>
</table>

**Job Listing Growth**

- RN Jobs: 0%
- Health Care Jobs: 9%
- Health Informatics Jobs: 36%
The U.S. Bureau of Labor Statistics only tracks one type of health informatics occupation—Medical Records and Health Information Technician—within its health occupations. However, this category includes only about 60 percent of health sector jobs involved in capturing, analyzing, and managing clinical data and other health information. The BLS does not track the remaining 40 percent of health informatics occupations, including health information supervisors and managers, auditors and compliance review staff, and clinical documentation and improvement specialists.

Even for the jobs it tracks within the Medical Records and Health Information Technician occupation, the BLS does not break them down to the level of detail necessary to understand the shifting mix of jobs and skill requirements. For example, by grouping less-skilled medical records clerk jobs in the same category as health information technician positions requiring postsecondary credentials, the BLS cannot track significant changes in the mix of jobs within that broad occupational category over the last four years, let alone track what is necessary to qualify for those jobs that are emerging.

Burning Glass can do just that. Its advanced proprietary technology for reading and coding free text enables Burning Glass to analyze online job postings in ways that go beyond the BLS categories to identify emerging trends in jobs and skills in demand. Health informatics emerges from real-time job posting data as distinct in qualifications and requirements—and it is growing at a rate that outpaces other health care occupations. This is information that jobseekers—and the education and training institutions serving them—need to have.
In the early 1990s, there have been calls within the industry—"from government—"for new medical and clinical decision-support systems, but until recently the work of data management in health care has been largely confined to the administrative side of the house. From medical billing and coding clerks to health information technicians and coding specialists, health informatics jobs have focused on capturing clinical conditions solely for the purpose of conforming to billing and payment rules dictated by Medicare and private insurers. The rich clinical information contained in this financial data has traditionally gone largely untapped—with jobs associated with handling that data largely unchanged.

However, the predicted transformation of the field is underway. Health informatics is realizing its promise as the connective tissue between medicine and information science. Policy and payment method reforms are fueling the growth of clinical informatics positions and the elimination of lower-level clerical jobs. These reforms include:

- The HIPAA Privacy Rule of 2007, issued under the Health Insurance Portability and Accountability Act of 1996, spawned new types of medical records positions such as release of information specialists.
- The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009, which requires the switch to electronic health records, has provided financial incentives for early adopters and penalties for laggards.
- The bundled Medicare payment system included in the Affordable Care Act will provide a global payment to hospitals and physicians for each episode of care. For the first time, hospitals and physicians will be financially liable for the costs of follow-up treatment or readmission for 90 days following initial treatment. Providers will need new systems to coordinate and monitor quality of treatment or pay a financial price.
- The introduction of new published rating systems on hospital and physician performance provides incentives for patients to select high-quality/low-cost providers.
- New data mining technologies and artificial intelligence engines are able to make sense of the mass of clinical and financial data available. The real significance of IBM’s Watson will not be winning Jeopardy but revolutionizing clinical health care decision making.
With incentives and statutory mandates pushing health care providers to utilize information systems to improve patient outcomes and control costs, the composition of health informatics jobs is changing. In the past, medical coders did all the work to ensure proper payment for services. Today, health care providers need to document the efficacy of their practice on the grounds of both efficiency and medical outcomes. That requires health informatics that are clinically based and increasingly sophisticated. As a result, entry-level positions have been upgraded, demand for lesser-skilled candidates has declined, and clinical expertise has become a requirement for higher-level health information management jobs.

One of the most dramatic changes in health informatics jobs over the past four years is the sharp decline in demand for the lowest-skilled jobs—medical records clerks. While the total number of health care informatics job postings increased by close to 14,000 from 2007 to 2011, medical records clerk jobs recorded a drop in volume. There were 2,400 fewer medical records job ads in 2011 than in 2007. In contrast, medical coder positions—which increasingly require a Coding Specialist certification and specialized knowledge of disease classification systems—increased significantly in absolute terms while holding relatively steady as a percentage of health informatics jobs.
Clinically related health informatics jobs, such as clinical documentation specialist and clinical improvement analyst, were the fastest-growing segment: postings more than doubled from 2007 to 2011. Clinically related positions now constitute 16 percent of health informatics jobs, up from 9 percent in 2007.

The growing importance of clinically related health informatics positions is also reflected in the fastest-growing job titles between 2007 and 2011, with six of the nine titles related to clinical documentation and analysis.
The upskilling of traditional medical records and coding positions and the growth of higher-skilled health information analysts and management positions are creating career advancement opportunities for entry- and mid-level workers. With well-structured programs and appropriate credentialing processes, health informatics lends itself to an effective career ladder pathway for career advancement. For example, medical records clerks can advance by obtaining a credential as a Certified Coding Specialist (CCS), which generally requires a year of study in preparation for a national exam. Obtaining a two-year degree and a Registered Health Information Technician (RHIT) certification opens up a range of mid-level technician and supervisory positions. Further advancement is possible with a combination of experience and advanced certification (i.e., Registered Health Information Administrator).

The same is true for clinical staff who can advance by combining their medical background with information management skills acquired through proper training. Both registered nurses and licensed practical nurses are well-suited to gain health informatics skills and certifications that would qualify them for clinical documentation and improvement specialty positions that are in especially high demand.
REAL-TIME DATA ENABLE TRACKING DEMAND FOR HEALTH INFORMATICS CERTIFICATIONS AND SKILLS

By applying advanced artificial intelligence technologies to collecting and analyzing free text information from online job ads, it is possible to track employer demand for specific certifications and skills even as that demand changes.

One way to see how these data can be used to identify career advancement paths with high labor market value is to compare the skill and certification requirements of medical records clerk jobs to those of medical coding clerks and specialists. Over 60 percent of medical coder job listings in 2011 explicitly advertised either a requirement or preference for individuals with a formal certification, demonstrating that certification has become a prerequisite for employment in such jobs. The top certifications called for were Registered Health Information Technician and Certified Coding Specialist. In contrast, less than 10 percent of medical records clerk positions required a certification.
Comparing advertised skills for medical coder and medical records clerk positions can help identify the skill gaps that medical records clerks would need to fill in order to advance in their field (e.g., knowledge of the international classification of disease—ICD—coding system), as well as the most important skills required to qualify for employment.

Detailed analysis of credential and skill requirements also can be used to identify qualifications for emerging jobs, such as clinical documentation and improvement analysts. These positions require clinical experience and/or an advanced degree, with less emphasis on formal certification in health informatics. Over 70 percent of the job listings for these positions called for a Bachelor’s degree or higher and stressed clinical experience (e.g., as a nurse) or knowledge of clinical data practices. Only 31 percent of the job ads for these positions specified a certification related to health information.
To understand emerging opportunities in jobs and skills, it is critical to go beyond traditional occupational categories in the O*NET database, sponsored by the U.S. Department of Labor, Employment and Training Administration. Jobs—and their requisite skills—are evolving on a near-daily basis. For education and training providers to stay ahead of the curve, they need to follow labor market trends in real time, using sophisticated tools that identify credentialing needs long before they become enshrined in official statistics.

Health informatics is one of those emerging opportunities, both for individuals hoping to improve their career prospects and for educational institutions seeking to offer them the training and credentials they need to succeed. The career-ladder aspect of health informatics lends itself to mini-certifications (or building-block courses) in information processing for clinicians and to courses in clinical and health finance issues for IT workers. Such modular course offerings could be put together in various ways, depending on the skills and background of students and trainees, to create efficient pathways to certification.

The good news for incumbent workers and employers seeking to fill these new roles is that the requirements in demand for health informatics today can be learned and workers can be credentialed mid-career. Actionable, real-time data can show the way to do it.
This analysis of hiring demand for health informatics jobs relies on Burning Glass Technology’s comprehensive database of online job postings and its analysis tool, Labor/Insight. Burning Glass’s advanced spidering technology extracts information from over 17,000 online job boards, newspapers, and employer sites on a daily basis and de-duplicates postings for the same job on multiple sites.

To estimate changes in the size and scope of hiring demand for health informatics jobs, Burning Glass researchers analyzed over 30 million unique online job lists from calendar years 2007 and 2011. For the purpose of this report, health informatics jobs were defined as those that primarily involve the collection, coding, and analysis of clinical information for a variety of purposes, from billing to medical quality assurance. Jobs that focus on the development and implementation of clinical software application systems and generally require advanced computer programming and system analysis skills (e.g., epic application developer) were excluded from this analysis. Also excluded were lower-level medical billing jobs that did not explicitly require coding skills.

The classification of health informatics jobs into seven categories—ranging from upper-level health information managers and clinical analysts, to mid-range coding specialists and health information technicians, to lower-level medical records clerks—was based on an analysis of job titles, skills, and education qualifications extracted from real-time job ads.
Contact Jobs for the Future for more information about Credentials that Work
and Burning Glass Technologies for more information about this paper.