



# Electronic Health Records

## Research Brief for CUNY Kingsborough Community College

SUMMER 2016

**What are Electronic Health Records?** Electronic Health Records (or, EHR for short) usually concern software that electronically records and stores patient health information. Products vary by vendor, but EHRs typically include elements that come standard in patient charts like patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports.<sup>1</sup> EHR is also sometimes used to describe other types of health information technology, like billing and scheduling software.

EHR has been widely embraced by the greater medical community.<sup>2</sup> The commercialization of EHR systems has expanded the range and depth of patient data that can be collected, shared, and analyzed over time as well as the functions these data can serve.

**Why are EHR important?** Patients' health information can be monitored across disciplines, which improves care coordination and customization. EHR systems are also useful for measuring service utilization and effectiveness at the institutional level. It also helps providers optimize scheduling and billing practices. Insurers can use EHR and billing systems to inform pricing schedules and policies and to promote healthy behaviors among their members. Public health professionals use EHR information to identify trends at the population level.

**Who uses them?** In health care settings, nearly every job that interacts with patients also interfaces with EHR to some degree. Typically,

clinicians and their support staff gather and enter data during patient encounters. Higher level health information management professionals – individuals with more experience, education, and professional credentials – oversee support staff. These are some examples of the ways allied health professional interact with EHR:<sup>3</sup>

### Patient Service Representative, Schedulers, Front Desk, Medical Secretaries:

- Check in/Check out
- Scheduling
- Receive outside test results/consults from specialists

### Medical Assistants:

- Prepare patients for visit prior to scheduled day
- Triage patients
- Access outside medical records through Health Information Exchange (HIE) portals
- Medication reconciliation

### Care Coordinators:

- Patient education/self-management
- Run reports
- Communicate to IT

### Health Care Management (Practice Managers, Administration):

- Provide performance reports to providers on meaningful use or quality improvement initiatives
- Trouble shoot patient complaints
- Run reports

<sup>1</sup> Electronic Health Records. CMS. <https://www.cms.gov/medicare/e-health/ehealthrecords/index.html>

<sup>2</sup> As of 2013, almost eight in ten (78 percent) office-based physicians reported they adopted some type of EHR system. About half of all physicians (48 percent) had an EHR system with advanced functionalities in 2013, a doubling of the

adoption rate in 2009. Source: US Department of Health and Human Services, August 2014.

<http://www.hhs.gov/about/news/2014/08/07/more-physicians-and-hospitals-are-using-ehrs-than-before.html>

<sup>3</sup> Health IT Competencies and Learning Resources.

<https://www.healthit.gov/providers-professionals/health-it-competencies-and-learning-resources>



## What are the core competencies for using electronic health records and related systems?

The use of EHR demands a workforce with the tech-savvy to use these systems in the course of day-to-day work, to manage the transition to the new system, and to maintain and to perform the accompanying data management and analysis functions.

This past year, the New York Alliance for Careers in Healthcare (NYACH) and its Partners Council developed a framework that outlines nine core competencies for today's healthcare professionals.<sup>4</sup> One of these core competencies is called "health information technology, documentation and confidentiality." Specifically, learning objectives for this core competency include:

**Basic Technology and EHR:** Facility with using basic technology (e.g., emails, text messages, typing notes, etc.) and understanding health information technology fundamentals and core functionality (e.g., improve patient safety, promote quality care, etc.).

**Documentation:** Defining health records, understanding the importance of thorough documentation, knowing how to meaningfully use this technology and learning how to write meaningful case notes.

**Confidentiality and guidelines:** Understanding privacy and security laws governing health information (e.g., HIPAA, HITECH laws, state privacy laws, etc.), understanding organizational patient confidentiality guidelines, and understanding potential privacy and security threats to health information, and knowing safeguards available to protect against them.

**Which certifications matter?** There is no industry-recognized certification exclusively tailored to the core health information technology, documentation and confidentiality learning objectives described in the previous

section. There are several certifications that lead to work with electronic health records, but they are not intended for allied health professionals seeking to improve their navigation and understanding of EHR. These certifications go well beyond achieving foundational knowledge in health informational technology. They are intended to help individuals develop a career in [health information management \(HIM\)](#). In HIM, people work with the information stored in EHR to assure the data's accuracy and regulatory compliance, use the data for revenue management, and engage in higher level analysis. Some examples of HIM jobs include medical coders or billers, scanners, HIM clerks or managers, and health informatics analysts.

**Additional information specific to careers in Health Information Management.** Health information management (HIM) includes such jobs as coders, medical billers, health information managers, and health informatics analysts. For students interested in pursuing a career in HIM, and for faculty who may want to develop a program in it, the following information is provided.

**Relevant credentials.** An analysis of online job ads,<sup>5</sup> which can be used as a proxy for employer demand, for employers seeking candidates with EHR skills and experience suggests coding and health information certifications – mainly, those offered by American Health Information Management Association (AHIMA) – have the greatest value in the job market.

Demand for these credentials is strong and may be worth additional consideration. There are different types of credentials offered at varying levels of education. Below is an overview of the most common options:

**Accrediting bodies.** The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) is

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<sup>4</sup> Core Competencies for Today's Healthcare Workforce. NYACH. <http://nyachnyc.org/wp-content/uploads/2016/05/NYACH-Core-Competencies-for-Todays-Healthcare-Workforce1.pdf>

<sup>5</sup> Burning Glass Technologies, July 2015 – June 2016.



the major organization establishing and enforcing quality accreditation standards for health informatics and health information management educational programs. Program accreditation by CAHIIM is necessary in order to be eligible for AHIMA professional HIM certification exams. The American Academy of Professional Coders (AAPC) also offers employer-valued credentials for coders.

**Postsecondary Non-Degree Awards.** Except for some entry-level jobs in administration, nearly all positions in health information management require some type of professional credential. Demands on educational attainment, training and experience increase as health information professionals advance to higher-level work.

Coding certifications, such as the AHIMA Certified Coding Associate (CCA) and the AHIMA Certified Coding Specialist (CCS), require no more than a high school level education plus training or experience. The CCA is most appropriate for coding in outpatient settings; the CCS is a much more demanding certification, and it is often a prerequisite to working in inpatient settings. CUNY SPS offers the only AHIMA-approved coding program in New York City, and it is online.<sup>6</sup> There are at least eight other online coding programs nationwide that are accredited by AHIMA.<sup>7</sup> Nassau Community College also offers an AHIMA-accredited coding program.<sup>8</sup>

The American Academy of Professional Coders (AAPC) offers the Certified Professional Coder (CPC), which is oriented to physician offices. The National Healthcareer Association (NHA) offers credentials such as a Certified Billing & Coding Specialist (CBCS) credential and a Certified

Electronic Health Record Specialist (CEHRS). Both are accredited by the National Commission for Certifying Agencies (NCCA).<sup>9</sup> No formal education or training is required to sit for either exam, and certification is awarded to candidates who pass.

NHA credentials are considerably more accessible than those conferred by other certifying bodies because there are no training prerequisites to sit for the exams. Training programs for NHA's NCCA credentials, especially the one for billing and coding, are widespread in New York City and several of them belong to the CUNY system.<sup>10</sup> However, these credentials are rarely mentioned by employers advertising jobs online.

**Associate degrees.** An associate degree is a prerequisite for any job requiring the American Health Information Management Association (AHIMA) Registered Health Information Technician (RHIT) credential or the National Cancer Registrars Association's Certified Tumor Registrar (CTR) credential. Cancer Registrars must be certified and most employers prefer candidates who possess the CTR. While the RHIT includes the compilation and maintenance of cancer patient data among its core competencies, it is much broader in its scope of work and overall application. It also certifies to the HIM professional's ability to code complex patient information, to review patient records for quality assurance and to analyze patient data with the intent to improve care or control costs. To sit for either the CTR or RHIT exam, candidates must complete an accredited Associate Degree program and meet minimum experience requirements.<sup>11</sup>

According to the National Center for Education Statistics' Integrated Postsecondary Education

individuals in a wide range of professions and occupations including nurses, automotive professionals, respiratory therapists, counselors, emergency technicians, crane operators and more.

<sup>10</sup> The CBCS and CEHRS credentials have rarely appeared in NYCLMIS' online ad searches in the New York City Metropolitan Area over the past two years.

<sup>11</sup> Eligible candidates for the CTR and RHIT must complete Associate Degree programs accredited by the NCRA and the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), respectively.

<sup>6</sup> AHIMA Approved Coding Certificate Program Directory.

<http://www.ahima.org/careers/codingprograms>

<sup>7</sup> AHIMA Approved Coding Certificate Program Directory.

<sup>8</sup> Nassau Community College.

[http://collegecatalog.ncc.edu/current/programs/administrative\\_business\\_technology/health\\_info\\_tech\\_cert.html](http://collegecatalog.ncc.edu/current/programs/administrative_business_technology/health_info_tech_cert.html)

<sup>9</sup> NCCA accreditation is awarded to certification programs meeting a set of standards developed by the Institute for Credentialing Excellence (ICE). These standards are not industry specific; in fact, the crux of accreditation eligibility rests on process and products, not content. ICE certifies



System (IPEDS) database, there are currently 17 Associate Degree health information programs in New York State, nine of which are CAHIIM accredited. There are six programs in New York City alone, five of which are offered by proprietary schools, and the sixth is at the Borough of Manhattan Community College. BMCC is currently the only school in New York City to offer a CAHIIM-accredited Associate Degree program.

In addition to staff, governance, and resource requirements, CAHIIM's 2012 accreditation requires that associate degree programs be offered in "an appropriate sequence of didactic, laboratory, and professional practice activities." Course content must be logical and coherent with didactic instruction and related activities. The accreditation standards suggest that medical science, computer literacy and health record content courses are placed early in the curriculum sequence as they contain knowledge and skills needed in later courses.

BMCC's curriculum includes courses in Medical Terminology (I&II); Pathology of Diseases (I&II); Health Records Systems, Health Data Information, Storage and Retrieval; Health Statistics; Coding and Classifications Systems (I, II & III); HIM Medical/Legal Applications; Quality Management and Improvement; Health Care Delivery Systems; Management in the HIM Department; and Professional Practice Experience (I&II). An industry expert that is closely involved in CAHIIM's curriculum standards asserted that the next iteration of standards will require a greater emphasis on data and analysis.

**Bachelor Degrees.** To qualify for high-level work, employers prefer HIM professionals to possess the AHIMA Registered Health Information Associate (RHIA) certification.<sup>12</sup> RHIA recipients have expertise in all RHIT core components, plus they are able to perform a range of managerial and senior-level responsibilities. RHIA candidates must

hold a Bachelor's Degree from a CAHIIM-accredited HIM program. Some Health Informatics professionals and HIM Directors may be expected to have a Master's degree that can certify to an ability to perform more demanding analytical and managerial functions.

There are seven New York-based Baccalaureate programs in health information management in New York State, and four of them are CAHIIM-accredited. This includes CUNY's School of Professional Studies (SPS), which is online, and Long Island University.

SPS's curriculum includes coursework in health data management (i.e., health data structure, content, and standards; healthcare information requirements and standards; clinical classification systems; reimbursement methodologies); health statistics, biomedical research, and quality management (i.e., healthcare statistics and research; quality management and performance improvement); health services organization and delivery (i.e., healthcare delivery systems; healthcare privacy, confidentiality, legal and ethical issues); information technology & systems (i.e., information and communication technologies; data, information, and file structures; data storage and retrieval; data security; healthcare information systems); organization and management (i.e., human resources management; organization and management; strategic planning and organizational development; project and operations management).<sup>13</sup>

Courses unique to a four-year health information program take a deeper focus on business management and data analytics concepts. Examples include: Principles of Scientific Inquiry, Essentials of Informatics in Health Care; Guided Research & Statistics for HIM; Financial Concepts for HIM; Performance Improvement; Electronic Health Records; Health Information Services

<sup>12</sup> The main exception to this rule is the Health Informatics Analyst or Specialist, who may substitute the RHIA credential with a Registered Nurse license.

<sup>13</sup> CUNY School of Professional Studies.  
<https://sps.cuny.edu/academics/undergraduate/bachelor-science-health-information-management-bs>



Administration; Competency Review; Human Resources Management; Management Affiliation; and two course electives.<sup>14</sup>

For a listing of HIM-related certificate and degree programs in NYC and Long Island, please see the Appendix.<sup>15</sup>

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<sup>14</sup> Based on the Rutgers curriculum:  
<http://shrp.rutgers.edu/dept/informatics/HIM/curriculum.html>




<sup>15</sup> This analysis is informed by the Integrated Postsecondary Education Data System (IPEDS). It concerns postsecondary programs that actively




participated in federal student financial aid last year. Understanding there may be some relevant programs that have since come online while others may have recently closed, there may be other relevant offerings within CUNY that are omitted from this discussion.









## Appendix: Programs and Offerings











(Sources: Integrated Postsecondary Education Data System and online catalogues for each profiled institution.)

-  = industry recognized certificate program
-  = credit-bearing certificate program
-  = certificate of completion



-  = 2-year degree program
-  = 4-year degree program
-  = test prep/refresher course



### CUNY Certification and Test Prep Programs

School/Program	2014
<b>CUNY Borough of Manhattan Community College</b>	
 NHA <a href="#">MBCS Certification</a>	
<b>CUNY Borough of Manhattan Community College</b>	
 <a href="#">Electronic Health Records vocational program</a>	
<b>CUNY Bronx Community College</b>	
 Health Information Technology	
<b>CUNY Bronx Community College</b>	
 NHA <a href="#">MBCS Certification</a> (p 19)	
<b>CUNY City College</b>	
 NHA <a href="#">Online Hybrid Billing Certificate</a> – MBCS	
<b>CUNY City Tech</b>	
 AHIMA <a href="#">CCS Exam Test Prep</a>	
<b>CUNY College of Staten Island</b>	
 <a href="#">Medical Billing/Coding/Compliance Cert</a>	
<b>CUNY Hostos Community College</b>	
 NHA <a href="#">HIM/MBCS Certificate</a>	
<b>CUNY Hunter College</b>	
 AAPC <a href="#">Medical Coding &amp; Billing Cert.</a> – CPC/CPCH	
<b>CUNY Kingsborough Community College</b>	

School/Program	2014
 NHA <a href="#">Medical Billing/Coding Specialist</a>	
<b>CUNY LaGuardia Community College</b>	
 <a href="#">Medical Billing Cert</a>	
<b>CUNY LaGuardia Community College</b>	
 NHA <a href="#">Medical Coding Cert - CPC</a>	
<b>CUNY Lehman College</b>	
 AHIMA <a href="#">CCS Exam Test Prep</a> (p. 21)	
 AHIMA <a href="#">Medical/Surgical Billing &amp; Coding Courses</a> – CCA/CCS	
<b>CUNY Lehman College</b>	
 NHA <a href="#">CEHRS course</a> (p 21)	
<b>CUNY Medgar Evers College</b>	
 NHA <a href="#">CEHRS Certificate</a>	
<b>CUNY Queens College</b>	
 <a href="#">Medical Billing and Coding Cert</a>	
<b>CUNY Queensborough Community College</b>	
 <a href="#">Managing Coding Billing Cert</a>	
<b>CUNY School of Professional Studies</b>	
 NHA <a href="#">Certificate in Coding - CCA, CSS</a>	

### Accredited Degree Programs in NYC and Long Island

School/Program	2014
<b>CUNY Borough of Manhattan Community College</b>	
 AHIMA <a href="#">A.A.S. in Health Information Technology</a>	
<b>CUNY School of Professional Studies</b>	
 <a href="#">B.S. in Health Information Management</a>	

School/Program	2014
<b>Long Island University</b>	
 <a href="#">B.S. in Health Information Management</a>	
<b>Suffolk County Community College</b>	
 AHIMA <a href="#">A.A.S. in Health Information Technology</a>	