



HIM Reimagined

Transformation starts with you.

AHIMA

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46 **Health Information Management Reimagined (HIMR) Foreword:**

47 This document is the result of the hard work, commitment, and forward thinking of a
48 team of passionate and dedicated HIM professionals who spent hundreds of hours assessing the
49 current and projected future landscape of the healthcare industry and higher education systems.
50 HIMR is a national initiative and does not make recommendations that are applicable outside of
51 the United States. Using the knowledge gained from this assessment, the team has proposed
52 recommendations for consideration. This iteration is the first of several anticipated releases in a
53 process that draws in ever-widening input from HIM and healthcare leaders who are equally as
54 passionate as the HIMR team about the future of the HIM profession. As an invited reader for
55 this first iteration of HIMR, your open and thoughtful commentary is requested. As comments
56 are received, they will be addressed by the HIMR team and documented. Revisions will be made
57 as indicated by the review and comment process.

58 HIMR is, by design, future-focused and likely does not reflect what many readers are
59 currently observing in their workplace settings. The recommendations in this document are bold
60 and ambitious and at the same time hold promise for future advancement of the HIM profession.
61 Because of the significant nature of these recommendations, a 10-year, phased implementation
62 plan is proposed. Those reading this document will appreciate the significant and progressive
63 change initiatives that must accompany these efforts to ensure the HIM profession is prepared to
64 take advantage of the many opportunities and challenges facing us as we move toward the
65 ambitious goals outlined in this document.

66 A final and important consideration is the need for readers to combat personal fears and
67 concerns and replace them with personal actions that can move both individuals and the
68 profession forward. After all, transformation starts with you!

69 With sincere appreciation and grateful acknowledgement of:

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116 Assembly on Education/Faculty Development Institute Attendees
117 HIM Educators
118 Leadership Symposium Attendees
119 Workforce Representatives (special invitations to selected members of CHIME, HFMA, HIMSS)
120
121

DRAFT

HIM Reimagined (HIMR): Executive Summary

The Health Information Management (HIM) profession is at a crossroads and the path to choose is not an easy one. Either choice involves risk and reward. Because what is ahead is never as clear as what is in the past, this decision has to be made based on the best information available. HIM Reimagined is a future-focused initiative and proposes bold recommendations to ensure the continued relevance of the HIM profession in a rapidly changing healthcare environment.

Those who have been in the HIM profession have come to know that employers recognize and value the skills and abilities of Registered Health Information Technicians (RHIT) and Registered Health Information Administrators (RHIA). The HIM profession is likely best known for its expertise and leadership in the coding arena. In addition, HIM professionals lead the way in healthcare privacy matters. These two primary skills areas are those that set us apart from other healthcare professionals. The longtime role of the HIM professional as the bridge between the clinical, financial, technology, and other areas is facilitated by the broad content included in the existing HIM curriculum.

This broad education has led HIM practitioners to roles in almost every operational area of traditional healthcare (hospital) settings including quality improvement, risk management, contract management, financial management, data analysis, project management, information technology, administration, and others. Beyond hospitals, HIM professionals are found in almost every setting imaginable. Outpatient, vendor, pharmaceutical, research, and government are just a few of the settings in which HIM professionals are practicing today. The HIM profession and its RHIT and RHIA credentials are well known, HIM program graduates are getting jobs, and current practitioners are finding opportunities in a wide variety of roles and settings.

At this point, readers may question why there is any choice to be made and what crossroad we are encountering. The response to this question stems from a future focused analysis of the changing healthcare environment. HIMR outlines the anticipated changes in healthcare and how those changes will impact the HIM profession. For example, preventative, predictive, participatory, and personalized approaches to medicine, increased automation, and aging of the population will all have significant impact on HIM operations and what employers will need of HIM professionals in the future. To be prepared for these changes, the HIM profession must work diligently now to be ready for when these anticipated changes are more fully emerged.

Back to the crossroads: what are the choices? The first choice is the easier one to make and the one that many may be comfortable with given what is seen and done today in the practice of HIM. The profession can choose to not make any significant change in its scope or curriculum content. The continued focus on coding as a core of the HIM profession will ensure some HIM professionals will have leadership roles in areas related to coding and its importance across the healthcare spectrum. Given a changing world in which technology rules, there will be fewer direct coding and coding-related jobs available. AHIMA membership data suggests nearly half of HIM professionals who enter the profession do so in a coding related role. This means that choosing this path would lead the profession to less opportunity for entry-level positions.

168
169 The alternate choice is far more difficult, in part because the anticipated changes arising
170 from increased automation and other healthcare environmental factors have not yet been seen or
171 experienced. This choice leads the HIM profession to a place where it is valued for new and
172 emerging skills, and at two distinct levels. The technical HIM professional level (associate
173 degree) will be more focused, or specialized, bringing awareness to the employer community
174 that associate degree-educated HIM professionals have a deep knowledge in a specific area of
175 HIM practice (for example, privacy, auditing, coding, data analysis, etc.). The goal is to prepare
176 practitioners that will focus on operational support in healthcare and healthcare related
177 organizations. At the baccalaureate and master's level, HIM professionals will practice at a
178 broader level, assimilating data from multiple sources, creating knowledge, and leading
179 healthcare organizations to use their health data assets to their best advantage for the benefit of
180 the organization, patient, and population. To this end, what follows are the recommendations
181 proposed in HIMR. See the full HIMR document for the references, data, information, and
182 research that have led to these recommendations.

183 184 **Recommendations**

185 186 **1. Increase the number of AHIMA members who hold relevant graduate degrees, e.g.** 187 **HIM, Health Informatics, MBA, MD, MEd., etc., to 20 percent of total membership** 188 **within 10 years.**

- 189 A. *Increase funding of academic scholarships to foster access to higher levels of HIM*
190 *education to members.*
191 B. *Increase the number of faculty qualified to teach HIM and related graduate*
192 *education.*
193 C. *Implement graduate-level health informatics curriculum competencies to improve the*
194 *value and increase demand for health informatics graduate education. These*
195 *competencies have been developed and are anticipated to be ready for school*
196 *adoption by 2017 to assist in supporting this goal.*

197 **2. Build a mechanism to ensure availability of research that supports health informatics** 198 **and information management.**

- 199 A. *Provide competitive research grants on an annual basis aimed at promoting health*
200 *informatics and information management practice.*
201 B. *Provide competitive dissertation scholarships to doctoral candidates conducting*
202 *research on HIM-related topics.*

203 **3. Increase specialization across all levels of the HIM academic spectrum.**

- 204 A. *Curriculum revisions to support specialization at the associate level (timeline: new*
205 *curriculum available for use by August 2019 or earlier).*

- 206 i. *Condensed HIM core at associate level with extensive specialization*
207 *opportunities at student and program level. The core will include content from all*
208 *domains, and the number of competencies in the nonspecialty content area is to be*
209 *significantly reduced.*

210 *ii. Align HIM accredited academic specialty tracks with existing/future HIM-related*
211 *credentials; consider gainful employment regulations to ensure anticipated salaries*
212 *are sufficient to repay financial aid received for education attainment and encourage*
213 *higher level education to achieve higher salaries.*

214 *iii. Focus effort on creating tracks at two-year program level with a potential*
215 *emphasis on Certified Health Data Analyst (CHDA), Certified in Healthcare Privacy*
216 *and Security (CHPS), Clinical Documentation Improvement Practitioner (CDIP),*
217 *Auditing, Outpatient, and Non-acute care healthcare settings, Consumer Engagement*
218 *and Advocacy, and other emerging specialties as indicated by employer need.*
219 *Program accreditation continues, as does the associate level degree, but it is based*
220 *on a condensed set of HIM core content and deeper specialty content. Each school*
221 *determines an appropriate specialty track or the appropriate number of tracks for*
222 *their program and their regional market needs.*

223
224 *B. Broader HIM core at baccalaureate level*

225 *i. Align core HIM competencies with requirements for HIM credential maintenance.*

226 *C. Condensed core at Master’s Health Informatics and Health Information Management*
227 *with specialization opportunities at program level.*

228 **4. RHIA credential recognized as the standard for HIM generalist practice and the RHIT**
229 **(+Specialty) as the technical level of practice.**

230 *A. Transition the RHIT credential to a specialty focused associate level over a multi-*
231 *year, multi-phased approach.*

232 *i. January 2017–July 2021. Current and new RHITs (those who receive the RHIT*
233 *designation by July 2021) permanently retain RHIT credential.*

234 *ii. Ongoing transition support for RHITs who want to transition to the RHIA*
235 *credential will be provided (2017–2027). For example, consider a new opportunity*
236 *for RHIA certification through a proviso approach that would allow individuals with*
237 *a baccalaureate degree, who are also currently RHIT certified, to take the RHIA*
238 *exam for a specified period of time from 2017–2027.*

239 *iii. August 2021–December 2026. Transition of RHIT credential from RHIT to*
240 *RHIT+ (Specialty Designation).*

241 *a. Develop materials to communicate this transition to the market.*

242 *b. ~~January 2027: RHIT credential no longer issued and retain the Specialty~~*
243 *~~designation permanently.~~*

244 *B. Ensure clear pathways exist between associate and baccalaureate HIM programs to*
245 *encourage existing HIM professionals and new entrants to the HIM profession to*
246 *earn a baccalaureate degree and a RHIA credential.*

247 *i. 40 percent of the current technical level membership will advance to a minimum*
248 *of a baccalaureate degree by 2027.*

- 249 *ii. Curriculum must be designed to allow seamless transitions from the associate*
250 *level to the baccalaureate and from the baccalaureate to the master’s degrees.*
251 *iii. Focus efforts on recruitment to illustrate the value of higher academic*
252 *preparation.*
253 *iv. Provide support to education institutions to transition programs, as appropriate*
254 *and when possible, from associate level to baccalaureate level and from*
255 *baccalaureate to master’s degrees.*

256
257 *C. Align certification processes with industry and education needs.*

- 258 *i. Ensure certification examination process supports the ability of HIM to be more*
259 *quickly aligned with future industry needs.*
260 *ii. Align CEU requirements with future-focused employer needs that ensure the*
261 *recognition of the HIM profession.*

262
263 The Vision 2016 white paper, released in 2007, proposed some similar recommendations,
264 although the HIMR recommendations have been refocused based on new knowledge that has
265 emerged since that time. The conclusion of the Vision 2016 white paper included a call to action,
266 citing that it was “time to reach a consensus and take steps to advance HIM education and
267 develop more qualified faculty is now. If we further delay, it will pass us by.” This call to action
268 was loud, yet stopped short of making the important connection between education and the HIM
269 profession as a whole. In retrospect, the progressive tone of Vision 2016 at the time was
270 probably too early for many to “see” the world that was envisioned. Major distinctions from the
271 previous Vision 2016 initiative and its successor, Reality 2016, and HIMR are noted. One such
272 distinction is that the passage of time has made it clear that technology is rapidly advancing to
273 the point where current HIM roles will be performed by computers in the future. This is an
274 important observation that supports the need for the changes outlined herein.

275 AHIMA, as a professional association will continue to support and encourage its
276 members to build from their knowledge and couple it with additional skills that will prepare
277 them for the future. Further, the role that AHIMA plays in policy and advocacy will always
278 remain strong. However, with awareness that the number of currently held entry-level positions
279 will decrease in the future, AHIMA strives to outline areas for potential advancement to ensure
280 the continued relevance of the HIM profession. This change will not occur because AHIMA says
281 so. It will occur because individual practitioners see the open doors ahead and are willing to
282 prepare to enter those new spaces.

283 The education community is central to the success of this plan. More baccalaureate and
284 master’s programs are needed to transition the profession from the predominant current
285 workforce of associate-educated professionals. Associate-level education will remain strong for
286 programs already in existence as they focus on specialization options and on preparing students
287 for more seamless transitions to baccalaureate level programs. An emphasis needs to be placed
288 on program growth at the baccalaureate and graduate level to move the profession to a higher
289 level of education rapidly. The immediate goal is to demonstrate recognition for specialty
290 expertise that meets current industry needs, and over the long term fosters a dynamic and
291 adaptive framework for addressing health information management challenges.

292 **HIM Reimagined: A Framework for Transforming Health Information Management**

293 “Vision 2016: A Blueprint for Quality Education in Health Information Management”
294 was published in September 2007 and highlighted the need for Health Information Management
295 (HIM) education to move toward a more evidence-based curriculum. The purpose of the report
296 was to ensure the HIM profession “would be able to further sustain and lead amidst a rapidly
297 changing healthcare delivery system.” The report focused on three priority areas—(1)
298 transformation of HIM to a graduate level profession by 2016; (2) realignment of HIM associate
299 degrees by 2016; and (3) preparation of an effective HIM faculty by 2016.

300 Since 2007, considerable work has been done to address these three priority areas. Five HIM
301 graduate programs have been accredited by CAHIIM and others are currently in candidacy for
302 accreditation as of this writing (June, 2016). Regarding realignment of associate degrees, the
303 Council on Excellence in Education (CEE) has created optional specialty tracks that can be
304 adopted by associate degree programs. The specialty tracks focus on health data analysis, coding,
305 cancer registry, documentation improvement, and privacy and security. Finally, considerable
306 work has been conducted to assist in the effective preparation of HIM faculty. The Faculty
307 Development Institute (FDI) and the Assembly on Education (AOE) have been redesigned and
308 now, for example, include specialty tracks with deep content in data analytics and informatics
309 that recognize faculty training needs for expanding curriculum content areas. Scholarship
310 programs have been created by the AHIMA Foundation to support educational attainment, and
311 additional webinars and workshops have been instituted to provide timely training on various
312 topics. A large volume of work has been conducted to meet the objectives of Vision 2016;
313 however, it remains a challenge for accredited HIM educational programs to meet the
314 changing needs of the healthcare industry. While the HIM profession has graduate programs,

315 currently less than 12 percent of AHIMA’s membership holds a graduate degree (AHIMA,
316 2016). AHIMA has long supported the need for graduate level education and continues to do so.
317 While specialty tracks at the associate degree level have been created, they are optional and have
318 yet to be widely adopted by programs. In fact, a recent survey of HIM programs revealed that
319 only 30 percent of accredited associate degree programs were considering implementing the
320 specialty tracks. Finally, there are nearly 400 HIM programs that are currently accredited, or in
321 the process of accreditation, and the challenge of recruiting and retaining effective faculty to
322 teach ever-changing content is more difficult than ever.

323 In addition to the changing nature of healthcare and HIM generally, the environment of
324 higher education is rapidly transforming. The cost of higher education continues to make
325 headlines, and the focus on education has shifted to value and competencies. Technology
326 continues to change the way faculty teach and students learn, and the use of online education has
327 increased tremendously in higher education and in accredited HIM programs since 2007.
328 Accreditation standards and practices are continuously changing, and HIM competencies have
329 been almost completely revamped since Vision 2016 was published. During this time, the
330 breadth and depth of the HIM profession has also continued to grow, resulting in an even more
331 expansive curriculum.

332 There have been several drivers of the need to revisit Vision 2016 and broaden its vision,
333 scope, and recommendations. The passage of the Affordable Care Act (ACA) has resulted in
334 numerous initiatives to deliver care using innovative models and reimbursement systems, the
335 workforce and workplace have advanced tremendously in the use of technology, and educational
336 institutions have more varied approaches in how to respond to new demands of the digital learner
337 while responding to changes in the workplace and workforce. Higher education funding sources,

338 state budgets, and gainful employment rules are also changing the landscape of higher education
339 today, with an impact on HIM programs at all academic levels.

340 This report, by a task force of the Council for Excellence in Education, uses current
341 knowledge, literature, research, and environmental scan data to articulate a comprehensive and
342 future focused vision of the HIM profession that is based on several key areas:

- 343 ● Changes in the workforce
- 344 ● Education trends
- 345 ● Changes in the healthcare environment in general

346 As a foundation for this effort, the task force focused on a few seminal works from
347 reputed healthcare experts that culminate in recommendations for the future of the HIM
348 profession within the ever-changing future healthcare market and workplace.

349 **Scanning the Healthcare Landscape**

350 Since 2007, the healthcare landscape—including delivery systems and reimbursement
351 models—has changed dramatically. There have been advancements in diagnostic tests, drug
352 treatments, genetics, and technologies that minimize invasive surgeries, reduce lengths of stay,
353 and alter how patients (which refers to all healthcare consumers) access medical care with the
354 use of mobile devices, social media, and telecommunication tools. The Affordable Care Act,
355 passed in 2010, continues to have a significant impact on healthcare delivery—how care is
356 accessed and paid for—including options for health insurance exchanges.

357 The Deloitte Centre for Health Solutions, part of Deloitte UK, recently generated a research
358 document titled “Healthcare and Life Sciences Predictions 2020: A bold future?” (Deloitte
359 Center for Health Solutions) that offers insight into the future of healthcare. Their predictions

360 center on the increased use of big data, the changes in the healthcare consumer's needs, and the
361 effects of digitized medicine on regulatory compliance and healthcare delivery systems. Of
362 primary importance in this report is the ever-changing scope of healthcare delivery. With the
363 widespread implementation of electronic health records and related applications across the
364 nation, patients are able to view their health information electronically and are becoming more
365 educated consumers of healthcare services. With greater patient-driven healthcare, it has become
366 more critical than ever to be aware of the P-4 Medicine concepts. P-4 Medicine refers to
367 healthcare and medicine that is:

- 368 ● Preventative
- 369 ● Predictive
- 370 ● Participatory
- 371 ● Personalized

372 These P-4 concepts demonstrate the shift to patient-driven healthcare, where patients are
373 more involved with their healthcare decisions. The Deloitte report echoes this, stressing the
374 importance of a greater movement towards patient-centered care in 2020 and beyond. The idea
375 that medicine should be preventative, predictive, participatory, and personalized and will have a
376 profound impact on the future delivery of healthcare and will eventually drive the healthcare
377 value proposition.

378 **Preventative**

379 There are many facets of illness and disease, but the more that is known about the
380 incidence and a patient's susceptibility, the more focused diagnosis and treatment can be. Many
381 Americans and global citizens suffer from chronic disease. The Centers for Disease Control &

382 Prevention (www.CDC.gov) has a vision similar to the Deloitte Report that identifies risk
383 behaviors that may be mitigated by preventive strategies. The CDC lists many social
384 determinants of health including tobacco use, poor diet, physical inactivity, excessive alcohol
385 consumption, high blood pressure, and hyperlipidemia as those behaviors that contribute most to
386 chronic disease in the United States. Additionally, the Public Health sector, through its many
387 population health initiatives, focuses on controlling acute outbreaks of infectious disease and
388 immunizations for school children and older adults or those traveling to disease-susceptible
389 countries or environments.

390 Concentrating on prevention in 2020 and beyond involves the collaboration of not only
391 organizations such as the CDC and Health Departments, but the patient-centered healthcare
392 delivery system and the informed patient. Advances in technology can assist in the patient and
393 the provider's approach to preventing illness and disease. New wearable devices help monitor
394 blood pressure, glucose, fitness and activity, BMI, and heart rate. In addition, wearable devices
395 and increases in services such as patient-provider telecommunication and fitness and wellness
396 programs offered by communities will allow for further prevention of illnesses and diseases.

397 Similarly, the ACA focused efforts on preventative medicine by expanding coverage of
398 preventative and pre-screening services across populations. The Act also recommended a broader
399 range of health professionals, such as nurse practitioners and physician assistants, to be available
400 for delivering care. Additionally, the Act contains measures intended to increase the use of
401 information technology and tools, including decision support, alerts, reminders, and reporting
402 requirements.

403 The emphasis on prevention impacts future HIM professionals in numerous ways. For
404 instance, the collection, transmission, use, and access to information pulled from wearable
405 devices relates directly to the HIM professional. The increase in data used from wearable devices
406 is also associated with information governance and information security issues, which will
407 become more relevant to HIM professionals as the profession expands. Additionally, research
408 associated with this data, including identifying healthcare trends and preparing reports that might
409 aid in healthcare decision making, could be performed by HIM professionals in the future. HIM
410 professionals are well suited to fill new positions related to educating or advocating on behalf of
411 patients to leverage their personal health information to achieve improved health outcomes at the
412 individual and population health levels. In addition to the ability to prevent illness and disease, a
413 similar ability to predict disease will continue to evolve as technology advances beyond 2020.

414 **Predictive**

415 The healthcare landscape is rapidly changing toward a data-driven and quality outcome-
416 focused delivery system. HIM professionals remain at the forefront of this change as the
417 adoption of electronic health records (EHRs) becomes ubiquitous. The next chapter of
418 information management is information governance within the current data-rich environment.
419 The succeeding wave of health information skills will largely focus on managing and
420 interpreting data versus simply producing data. Predictive healthcare is based on new
421 achievements in science that assist in preventing development of disease prior to the appearance
422 of symptoms with the goals of increasing life expectancy and improving quality of life
423 (Sadkovsky et al., 2014). The advancement of health information technologies leading to
424 predictive healthcare, along with industry demands, will further pressure the ability to provide
425 meaningful education related to predictive healthcare.

426 The exponential growth of data will allow many aspects of healthcare to be more
427 predictive. Benchmarks will be established, reducing healthcare variance with increased use of
428 best practices. The trend in personalized medicine contains branches of preventive measures
429 including diagnosis, drug therapy, genomics, holistic health, patient records, IT systems,
430 technology, and patient outcomes (Sadkovsky et al., 2014). These trends are dependent on
431 healthcare data and processes associated with the collection, analysis, and storage of data.
432 Essentially, predictive data will drive expanded evidence-based medicine and clinical practice.

433 The concept of P-4 Medicine will play a principal role in driving a more predictive
434 environment, eliminating unnecessary costs, and improving patient care as well as the patient
435 experience. Predictive data will support this position by reducing readmission rates, identifying
436 existing fraud and abuse, ensuring consistency of reliable big data, continuing to reshape
437 payment reform, generating increased transparency on quality outcomes, and highlighting
438 consumer awareness around value-based healthcare decision making. The concepts related to
439 predictive medicine, as well as the increased focus on participatory care concepts, will help
440 provoke valuable discussion within the HIM academic arena surrounding future curriculum
441 development.

442 **Participatory**

443 In order to stay up-to-date with the healthcare revolution and the focus on systems
444 medicine, big data, and patient involvement in care, the HIM profession must be able to support
445 these driving forces in our practices (Hood & Auffray, 2013). Societal and technological
446 challenges must be addressed through combining systems medicine and big data to fuel a
447 participatory healthcare system. Analytics tools, networks, and use of personal data clouds will

448 be necessary to accomplish these tasks. According to Hood and Auffray (2013), there are several
449 factors that need to be addressed related to participatory medicine. Many of these factors involve
450 HIM principles and include privacy and security, IT tools, education, digital devices, and data
451 cloud integration. Patient-driven care and collaborative interdisciplinary teams are the trends in
452 healthcare that are leading the way for healthcare professionals.

453 According to Swan , patient-driven healthcare involves greater flow of information,
454 collaboration, and customization. The trend in the use of health social networks, personalized
455 medicine, and self-tracking can help lead to improved healthcare (2009). Health social networks
456 are being used for patient emotional support and information sharing. This information needs to
457 be current, reliable, accurate, protected, and easy to share. Personalized medicine includes the
458 collection and storage of detailed individual biological characteristics which allow therapies,
459 drugs, and treatments to be individualized. Consumers may take part in the collection and
460 synthesis of their own data and help to manage their own healthcare. Quantified self-tracking is
461 possible due to being able to capture, manipulate, and store data easily. These trends indicate a
462 shift to patient-driven healthcare.

463 Healthcare delivery is becoming more collaborative. Current challenges for healthcare
464 organizations and providers are to provide better care, improve population health, and reduce
465 costs. A suggested solution for these challenges is to produce healthcare workers that work
466 collaboratively across the various disciplines (Kirch & Ast, 2015). The education of healthcare
467 professionals must reflect these challenges and address barriers to interprofessionalism to ensure
468 the inclusion of all disciplines and appropriate sharing of information between all disciplines.
469 Information systems need to use a process-oriented approach to ensure the availability of
470 information for all. Information systems need to support patients as well as professionals in order

471 to support quality care (Wachlander, 2015). Team-based models of patient care require the
472 appropriate sharing of data and patient information. The HIM professional should play a
473 supporting role in information sharing and interdisciplinary clinical teams, according to a study
474 conducted by Sibbald, Wathen, Kothari and Day, (2013).

475 These identified participatory trends in healthcare are changing the way we deliver
476 healthcare in our country. The healthcare delivery team now consists of clinical and financial
477 care professionals, representing patient care teams, consumers, patients, professionals from HIM,
478 and financial operations all working together.

479 **Personalized**

480 In addition to the transition toward more participatory care, there is an increased focus on
481 healthcare that is more personalized. Reimbursement models are changing to place a greater
482 emphasis on team-based and coordinated care, which aims to provide care that is based upon a
483 holistic view of the patient. Accountable Care Organizations, Patient Centered Medical Homes,
484 and Hospital Value-Based Purchasing all emphasize the role of putting the patient and their
485 particular needs at the center of the care process. By prioritizing the patient's needs and
486 preferences as part of the care process, the goal is to improve quality and decrease cost.

487 The shift to patient-centeredness is evident with statistics that show 30 percent of a
488 hospital's Total Performance Score under the Hospital Value-Based Purchasing Program is
489 associated with patient experience of care (Medicare Hospital Compare, 2016). The Electronic
490 Health Record Incentive Program also illustrates the focus on personalized care. While the
491 program promotes the adoption and use of patient-centered technologies (such as patient portals
492 and secure email) and personal health information management (such as after-visit summaries

493 and electronic access to discharge instructions), the program also required the collection of
494 patient-specific communication preferences and the provision of patient specific educational
495 resources (EHR Incentives and Certification, HealthIT.gov). The programmatic requirements
496 indicate that healthcare is moving toward a more personalized approach to information collection
497 and use.

498 Technology advances are also allowing for healthcare treatment to be tailored based upon
499 an individual's genome. The number of personalized treatments and products increased nine-fold
500 between 2006 and 2014, and the cost of genetic sequencing has reduced dramatically over the
501 past decade—the cost of a sequenced genome is around \$1,000 (The Cost of Sequencing a
502 Human Genome, National Human Genome Research Institute, 2016). As the cost of genetic
503 sequencing continues to fall and the awareness of the benefits continues to rise, the adoption of
504 personalized medicine for treating different conditions will expand greatly. Abrahams and Silver
505 suggest it is estimated that 17,000 strokes could be prevented per year if a genetic test was used
506 to prescribe warfarin. Similarly, it is estimated that more than \$600 million could be saved if
507 colorectal cancer patients received a genetic test for the KRAS gene prior to treatment (2009).

508 **Trends in Higher Education**

509 Since the 2016 Vision report, the penetration of online learning in higher education has
510 significantly increased and has dramatically impacted the industry. Due to improved access to
511 higher educational offerings through distance-based delivery methods, prospective students have
512 the opportunity to attend programs without the barriers of geographic space, work-related
513 sacrifices, and others that have historically put higher education outside the reach of many
514 Americans.

515 Although there has been tremendous growth in higher education in the United States,
516 there has also been a reduction in state appropriations and an increase in tuition rates (See figures
517 1 and 2). As state funding decreases, colleges and universities must raise tuition costs to produce
518 sufficient income, posing a problem for the average American. Studies have shown that the cost
519 of college tuition has increased dramatically relative to inflation rates and the median household
520 income (Oliff et al., 2013). In addition to being an issue for students looking to attend college,
521 reduction in federal and state financial aid has caused public colleges and universities to cut
522 faculty positions, eliminate course offerings, reduce library services, and, in some cases, close
523 campuses. This results in diminished access and quality, a significant dilemma in the world of
524 education (Mitchell et al., 2014).

525 In an effort to alleviate the pain of high-priced tuition and reduced state funding, other
526 models of education are being used. One such model is a cooperative education program which
527 offers extensive on-the-job experience and training. Other colleges are implementing a one-
528 course-at-a-time model to ensure students can afford their courses. A third model that is quickly
529 gaining momentum is a competency-based education (CBE) approach (Mints, 2014). This form
530 of education allows students to advance based on their ability to master a skill or competency
531 and focuses on learning outcomes rather than class times (Gruppen et al.). To further reduce
532 tuition costs, adult students with work experience may be able to receive academic credit for
533 knowledge and skills acquired in their former careers. Many of these CBE programs offer
534 industry-recognized certificates or credentials and align their curriculum with nationally
535 recognized standards (“The Competency-Based Education Ecosystem Framework,” 2016).

536

537 Many colleges and universities see a potential to deliver unique educational opportunities and
538 experiences through such competency-based programs. As they accept this timely model, the
539 number of online learners continues to grow (“Online Report Card—Tracking Online Education
540 in the United States”). As we move forward in the development of an academic vision for health
541 information management programs, the CBE model and other areas impacting higher education
542 will be explored and analyzed to determine the best course of action for the HIM profession as a
543 whole.**Government Initiatives**

544 Federal and state initiatives related to education and workforce have a direct impact on
545 students, educators, and practitioners. There are many such initiatives currently underway or in
546 development that have the potential to significantly influence education program development,
547 delivery, access, and, ultimately, employability. In considering a future academic and
548 professional vision, it would be remiss to ignore government or quasi-government initiatives
549 involving certification, paid internships, apprenticeships, and competency-based education.

550 **Certifications**

551 Many industries have a unique body of knowledge that can be gained through formal
552 education, work experience, or other methods. To ensure those practicing in any given industry
553 have the required body of knowledge, a certification process is often used for validation.
554 Employers look to certifications offered by reputable associations, for-profit companies, vendors,
555 and others to ensure the individuals they are hiring have the skills and abilities required for the
556 role.

557 Concerns related to value, changes in formal continuing education delivery systems, and
558 advancing technologies have caused the government to espouse the need to ensure that

559 certifications can be measured for value. The concept of the value proposition is as much rooted
560 in the age-old doctrine of “buyer beware” as it is in the open market concept upon which the
561 United States economy is built. Too often there are people who spend hard-earned money taking
562 courses and programs that will lead to a certification and then learn far too late that the
563 certification is not valuable or recognized in their industry. For these reasons, the government is
564 expending considerable resources in order to better understand how certifications can benefit
565 both the certificate holders and employers. Ultimately, a process that allows individuals to
566 demonstrate workplace competence through stackable, latticed, portable, and competency-based
567 methods is in demand (Ganzglass, 2014). Each of these terms provides guidance about what
568 educators and others providing content leading to certifications should consider as they build
569 their curriculum and knowledge delivery models.

570 Finally, the ability to truly measure learning at a competency level is critical. Current
571 employer concerns voiced about job readiness of college graduates conflicts with the value
572 statement of academic-based certifications (Jaschik, 2015). Methods to assess skills-based
573 learning in addition to age-old testing are necessary inclusions in education redesign as it relates
574 to certifications and validation of learning outcomes. In addition, the concept of how students
575 can be recognized for lifelong learning through work and other experiences is critical. It is
576 inefficient and expensive for individuals to pay to take courses to learn material in which they
577 are already proficient. To decrease the probability that this will occur, there must be a way to
578 measure what individuals already know. This issue is one that private and public entities are
579 jointly seeking to solve to achieve the goal of appropriate recognition of knowledge and skills,
580 regardless of the source.

581 **Apprenticeships**

582 A current initiative receiving great emphasis and financial support from the government
583 is the development of apprenticeship programs. These programs provide opportunities for
584 working learners to build or expand their knowledge and receive payment for doing so (Bureau
585 of Labor Statistics, 2013). Apprenticeship programs have many types, styles, and methods of
586 delivery. With their roots in manufacturing and unionized jobs, apprenticeship programs are now
587 being implemented in other types of settings and are intended to bridge the gap between what is
588 learned in post-secondary education programs and the skills needed on the job. Education alone
589 is not always the answer to preparing job-ready individuals. Apprenticeships are being examined
590 as a way to quell employer concerns about individuals who come straight from education
591 programs but do not have work experience outside the classroom. Should this trend continue,
592 there will be a need for increased collaboration between schools and employers to ensure the
593 education component of the apprenticeship program effectively prepares the apprentice to meet
594 employer demands.

595 These are but a few of the many ways the actions of the government directly impacts the
596 academic community. The current focus on meeting employer needs is likely to continue to drive
597 change. Academia has long fought against the perception of the ivory tower syndrome and
598 clearly must collaborate more effectively with employers to meet their rapidly changing needs.
599 Teaching and assessment methods must ensure the required learning outcomes are skills-based,
600 competency-based, and aligned with employer needs.

601 Now is an exciting time for the HIM profession. The dramatically changing landscape of
602 healthcare and education over the last 10 years, in conjunction with the analysis of trends in this
603 document, affords our profession the opportunity to make bold changes today to ensure our

604 professionals remain at the forefront of governance of information, compliance, data analytics
605 and the integrity of health data in the future.

606 The draft recommendations contained in this document are designed to provide a
607 foundation for the HIM profession and build educational strategies and pathways for career
608 advancement.

609 **Recommendations**

610 **1. Increase the number of AHIMA members who hold relevant graduate degrees, e.g.**
611 **HIM, Health Informatics, MBA, MD, MEd, etc., to 20 percent of total membership**
612 **within 10 years.**

613 *A. Increase funding of academic scholarships to foster access to higher levels of HIM*
614 *education to members.*

615 *B. Increase the number of faculty qualified to teach HIM and related graduate education.*

616 *C. Implement graduate-level health informatics curriculum competencies to improve the*
617 *value and increase demand for health informatics graduate education. These*
618 *competencies have been developed and are anticipated to be ready for school adoption*
619 *by 2017 to assist in supporting this goal.*

620 **2. Build a mechanism to ensure availability of research that supports health informatics**
621 **and information management.**

622 *A. Provide competitive research grants on an annual basis aimed at promoting health*
623 *informatics and information management practice.*

624 *B. Provide competitive dissertation scholarships to doctoral candidates conducting*
625 *research on HIM-related topics.*

626 **3. Increase specialization across all levels of the HIM academic spectrum.**

627 *A. Curriculum revisions to support specialization at the associate level (Timeline: new*
628 *curriculum available by 2018).*

629 *i. Condensed HIM core at associate level with extensive specialization*
630 *opportunities at student and program level. The core will include content from all*
631 *domains, and the number of competencies in the non-specialty content area is to*
632 *be significantly reduced.*

633 *ii. Align HIM accredited academic specialty tracks with existing/future HIM-*
634 *related credentials; consider gainful employment regulations to ensure*
635 *anticipated salaries are sufficient to repay financial aid received for education*
636 *attainment and encourage higher level education to achieve higher salaries.*

637 *iii. Focus effort on creating tracks at two-year program level with a potential*
638 *emphasis on Certified Health Data Analyst (CHDA), Certified in Healthcare*
639 *Privacy and Security (CHPS), Clinical Documentation Improvement Practitioner*
640 *(CDIP), Auditing, Outpatient, and Non-acute care healthcare settings, Consumer*
641 *Engagement and Advocacy, and other emerging specialties as indicated by*
642 *employer need. Program accreditation continues, as does the associate level*
643 *degree, but it is based on a condensed set of HIM core content and deeper*
644 *specialty content. Each school determines an appropriate specialty track or the*
645 *appropriate number of tracks for their program and their regional market needs.*

646 *B. Broader HIM core at baccalaureate level*

647 *i. Align core HIM competencies with requirements for HIM credential*
648 *maintenance.*

649 *C. Condensed core at Master's Health Informatics and Health Information*
650 *Management with specialization opportunities at program level.*

651 **4. RHIA credential recognized as the standard for HIM generalist practice and the RHIT**
652 **(+Specialty) as the technical level of practice.**

653 *A. Transition the RHIT credential to a specialty focused associate level over a multi-*
654 *year, multi-phased approach.*

655 *i. January 2017–July 2021. Current and new RHITs (those who receive the RHIT*
656 *designation by July 2021) permanently retain RHIT credential.*

657 *ii. Ongoing transition support for RHITs who want to transition to the RHIA*
658 *credential will be provided (2017–2027). For example, consider a new*
659 *opportunity for RHIA certification through a proviso approach that would allow*
660 *individuals with a baccalaureate degree, who are also currently RHIT certified,*
661 *to take the RHIA exam for a specified period of time from 2017–2027.*

662 *iii. August 2021–December 2026. Transition of RHIT credential from RHIT to*
663 *RHIT+ (Specialty Designation).*

664 *a. Develop materials to communicate this transition to the market.*

665 | *b. ~~January 2027: RHIT credential no longer issued and retain the Specialty~~*
666 | *~~designation permanently.~~*

667 | *B. Ensure clear pathways exist between associate and baccalaureate HIM programs*
668 | *to encourage existing HIM professionals and new entrants to the HIM profession to*
669 | *earn a baccalaureate degree and a RHIA credential.*

670 | *i. 40 percent of the current technical level membership will advance to a minimum*
671 | *of a baccalaureate degree by 2027.*

672 | *ii. Curriculum must be designed to allow seamless transitions from the associate*
673 | *level to the baccalaureate and from the baccalaureate to the master's degrees.*

674 | *iii. Focus efforts on recruitment to illustrate the value of higher academic*
675 | *preparation.*

676 | *iv. Provide support to education institutions to transition programs, as*
677 | *appropriate and when possible, from associate level to baccalaureate level and*
678 | *from baccalaureate to master's degrees.*

679 | *C. Align certification processes with industry and education needs.*

680 | *i. Ensure certification examination process supports the ability of HIM to be more*
681 | *quickly aligned with future industry needs.*

682 | *ii. Align CEU requirements with future-focused employer needs that ensure the*
683 | *recognition of the HIM profession as one that is current and meaningful.*

684 | **Supporting Rationale**

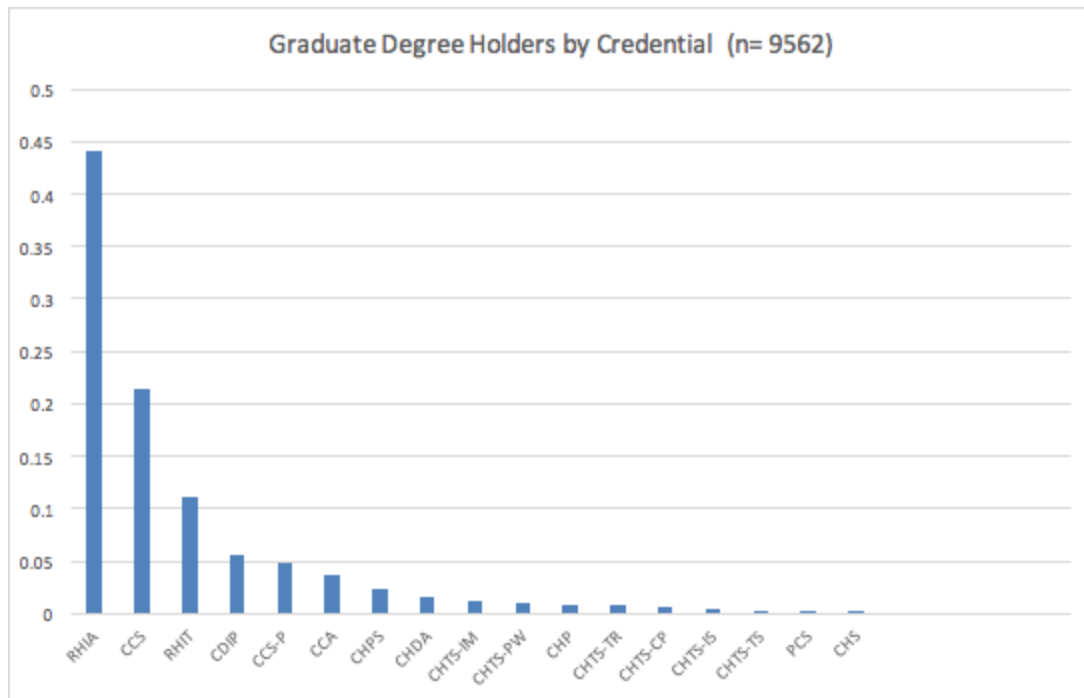
685 ***Rationale for Recommendation 1— Increase the number of AHIMA members who hold***
686 ***graduate degrees, e.g. HIM, Health Informatics, MBA, MD, MEd, etc., to 20 percent of total***
687 ***membership within 10 years.***

688 The advancement of professions is not a new concept. This has been a focused concern in
689 areas such as nursing, dental hygiene, and education in the recent past and present. If we
690 consider a profession to be an entity that constantly increases its body of knowledge, functions
691 independently in development of policy, and upholds high standards related to conduct and
692 achievement, then advancement in the health information profession is inevitable (Boyleston &
693 Collins, 2012). As other healthcare professions expand and mature, there is an expectation for
694 highly trained professionals in these areas. HIM is no exception. The rigor of HIM programs has
695 steadily increased to meet changes in the environment, and entry into practice needs to reflect
696 these changes. Professions such as physical therapy and physician assistants have advanced their
697 educational models to reflect advances and trends (Boyleston & Collins, 2012). Because
698 healthcare is interdisciplinary and relies on data, healthcare professions need to advance
699 simultaneously.

700 Boyleston and Collins (2012) cite a June 2002 multidisciplinary Institute of Medicine
701 (IOM) summit that spoke to health professions not being sufficiently prepared to meet the
702 changing healthcare system needs. Although the committee addressed clinical education and
703 curriculum, it also included informatics in its recommendations. The concept of using core
704 competencies to advance entry-level education of clinicians has been suggested and implemented
705 for professions such as physical therapy, nursing, occupational therapy, respiratory therapy, and
706 physician assistants (Boyleston & Collins, 2012). Following suit, HIM needs to reform entry-
707 level practice models to keep pace with the changing healthcare environment.

708 Darby (2009) indicates that many health professions are now at the graduate level due to
709 advances in technology, knowledge, and new scientific evidence. In addition, there exists a need
710 to avoid curricula that surpass credit and time limits for a baccalaureate degree and to award a
711 degree that is appropriate to the challenging academic preparation and intricacy of practice
712 (Darby, 2009). This applies to the profession of HIM as well as clinical professions. According
713 to Darby (2009), practitioner models that include specialty graduate degrees have been able to
714 improve patient access to primary care. The Monthly Labor Review (December 2013) published
715 by the Bureau of Labor Statistics suggests that from 2012–2022, occupations requiring a
716 master’s degree for entry are expected to grow to 18.4 percent. Patient access to care must be
717 supported by the roles of HIM professionals, and this requires a greater number of professionals
718 who hold a graduate degree.

719 At present, less than 12 percent of AHIMA’s total membership hold an advanced degree
720 of any type (see figure 1). Advanced degrees are more commonly held by RHIA’s than any other
721 credential—44 percent of AHIMA’s advanced degree holders hold an RHIA, followed by CCS
722 (21 percent), and RHIT (11 percent). At present, 11.7 percent of the total AHIMA membership
723 hold master’s level degrees or higher, while 1.7 percent of AHIMA’s total membership holds a
724 doctoral degree (e.g., MD, JD, PhD, etc.). More than half of all AHIMA members hold an
725 associates degree or less as their highest degree. To meet the challenges of an increasingly
726 complex healthcare system, the current HIM profession education level must also increase.



727

728 **Figure 1**

729 **Other Professions**

730 Several other health professions have instituted higher educational standards to advance
 731 their professions. The American Physical Therapy Association (APTA) indicated in its Vision
 732 2020 that by the year 2020, physical therapy will be delivered by therapists who hold a doctorate
 733 in physical therapy. The American Occupational Therapy Association (AOTA) helped move the
 734 profession from that of aides to programs with educational standards and a transition to separate
 735 standards for the two entry-level degrees of master’s and doctoral . In physician assistant
 736 programs, the move towards the entry-level master’s degree began in the 1980s due to a desire to
 737 have well-educated candidates, rigorous curriculum, and to follow other health professions that
 738 moved toward a master’s level profession. Nursing has moved from a hospital-based training
 739 program to suggesting the minimum standard be at the baccalaureate level. The Tri-Council for
 740 Nursing in 2010 called for nurses to advance their education to the baccalaureate level and

741 beyond (Boyleston & Collins, 2012). AHIMA's Vision 2016 recommended a transition to entry-
742 level master's in HIM. While a laudable goal, HIM's historical academic attainment levels did
743 not support the ability to achieve this goal. The number of HIM professionals with advanced
744 degrees necessary to teach in master's programs was an insurmountable hurdle. With dedicated
745 effort, the number of HIM professionals who hold advanced degrees has increased from 8
746 percent to 12 percent since Vision 2016 was released; this is not yet sufficient for recommending
747 an entry-level master's in HIM at this time.

748 **Reasons for Advancement**

749 Too much information exists related to the profession of HIM to include it in one entry-
750 level curricula. According to Darby (2009), this is the case with dental hygiene as well. It is not
751 possible to accomplish all there is to learn by adding it to the existing associate or baccalaureate
752 level degrees, and because of the importance of the content for professional practice, it is not
753 acceptable to rely on potential continuing education to meet standards. Other healthcare
754 professions aforementioned have progressed to advanced or specialized roles using graduate
755 degree programs (Darby, 2009). According to Darby's 2009 article, there are seven main
756 categories that justify the need for an Advanced Dental Hygiene Practitioner at the master's
757 level. Five of these categories can be directly applied to the Health Information Management
758 profession as well. The first is the complexity of the profession. The scope of practice has
759 expanded so greatly that the entry-level competencies can no longer be covered at the associate
760 level, or perhaps even the bachelor's level. This is related to the second category of curriculum
761 creep, or trying to fit too much into entry-level curricula. Adding more to an associate or
762 bachelor's degree program is not the answer, yet as new jobs emerge related to new content, the
763 temptation to add it to the curriculum is great. Next is the level of responsibility associated with

764 higher-level skills. Asking a practitioner to know and perform these skills should be at an
765 appropriate level and associated with the appropriate degree. In addition, collaborative practice is
766 necessary in healthcare today and HIM professionals need to collaborate with physicians and
767 other master's- and doctorate-level professionals. Lastly, HIM professionals need to be in
768 executive positions to be represented at the policy table. Government and institution policy
769 boards that make decisions about healthcare should include HIM professionals; individuals are
770 more likely to be included if they possess a master's degree or higher (Darby, 2009).

771 Technology has made a huge impact on healthcare. For example, as a result of the EHR
772 and the ONC initiatives to improve quality and access, the role of HIM professionals has
773 evolved. Access to information, interoperability, improved security, and improved quality of care
774 have broadened the role and knowledge necessary. Escobedo, Kirtane, and Berman (2013)
775 support the need for health information technology as a path to improved care transitions. The
776 need to leverage technology and use core knowledge of EHRs will improve patient and
777 practitioner involvement in healthcare. Escobedo, Kirtane, and Berman (2013) encourage the
778 involvement of health professionals, providers, and consumers to invest in and integrate
779 technology to support healthcare, which is another area where HIM professionals need advanced
780 knowledge to support healthcare. Similarly, Goddard et al. (2004) indicates that a transition has
781 taken place from merely providing data to providing information or knowledge, which will allow
782 for improved decision making and emerging roles for HIM such as data stewards, analysts, and
783 others.

784 Globalization and advances in the communication of information have made an impact
785 on healthcare. Sharing health information globally allows access to new knowledge that can
786 improve healthcare. Telehealth, interoperable EHRs, and telecommunication expand healthcare

787 and promote the health of all (Abbott & Coenen, 2008). HIM professionals need to expand their
788 skills and knowledge in order to support all aspects and all health professions.

789 HIM curricula have expanded to include six primary domains and 32 subdomains.
790 According to AHIMA's membership database, advanced degrees held by AHIMA members only
791 increased 1 percent from January 2014 to January 2016. Master's degrees held by AHIMA
792 members increased during the same time period from 9.32 percent of membership to 10.08
793 percent of membership (a less than 1 percent increase). Vision 2016 discussed broader
794 professional roles, including new tasks and knowledge requirements for HIM, as well as a more
795 global vision. This is supported by the literature, and if we are to continue on this path, advanced
796 degrees are necessary for professionals in order to obtain the necessary knowledge.

797 Despite the projected growth of HIM professionals over the next decade, there is an
798 underlying challenge facing the profession, which is finding qualified faculty to teach. As of
799 June 2016, a brief Internet search reveals 69 health informatics and information technology
800 faculty openings.

801 All across the nation, higher education is faced with faculty shortages. A recent report
802 from the Association of Academic Health Centers (AAHC) reveals that 94 percent of the 31
803 reporting CEOs declared faculty shortages as a problem in health profession schools. In addition,
804 Vice President and Dean of the School of Health Professions, University of Texas Medical
805 Branch at Galveston, Elizabeth Protas, reports her "biggest challenge is an inability to
806 accommodate the enormous demand for student programs due to a shortage of faculty in all of
807 the disciplines."

808 Data from previous white papers on HIM education (1986, 1999, Vision 2016) reveals
809 faculty shortages as a major issue (Vision 2016). Most HIM programs include a wide range of
810 specific content grouped in the domains of health information data management, clinical
811 classification systems, information technology and systems, and organization leadership. As the
812 field advances with the implementation of the EHR and more complex organizational structures
813 and information technologies, the breadth and depth of training for the HIM professional
814 expands even further. The faculty expertise needed to teach these varied and complex topics
815 must be drawn from a number of specific disciplines, as well as from HIM practitioners. Finding
816 faculty who have the content expertise, the willingness to apply that expertise to HIM academic
817 programs, and advanced academic degrees at the master's and doctoral levels is challenging
818 (Vision 2016).

819 Doctoral-prepared faculty to teach in graduate HIM programs continues to be an issue.
820 Currently, there are 2,563 HIM credentialed professionals that indicate their primary place of
821 employment is an educational setting. The total number of AHIMA members that hold an
822 advanced degree (master's or higher) is 8,341. Clearly, many HIM professionals with advanced
823 degrees are working in practice based settings rather than in educational settings. In addition to
824 increasing the number of HIM professionals with advanced degrees, there is also a need to create
825 an appealing pathway to attract competent and academically prepared HIM professionals to
826 higher education as a career.

827 ***Rationale for Recommendation 2—Build a mechanism to ensure availability of research that***
828 ***supports health informatics and information management.***

829 In order to advance any profession to a “discipline” a significant body of knowledge and
830 research must exist. In the future, if a doctoral degree in HIM is proposed, it must be established
831 as a research-based discipline in order to be recognized as worthy of doctoral education.
832 Increasing support for research for publications and contributions to the HIM body of knowledge
833 is critical and also a way to advance the membership and encourage master’s and doctoral-level
834 research.

835 ***Rationale for Recommendation 3—Increase specialization across all levels of the HIM***
836 ***academic spectrum.***

837 Two primary factors motivate this proposed recommendation. First is employer demand
838 for in-depth, specialized skills and more foundational skills in communication, teamwork, and
839 other factors contributing to workplace success. According to Jaschik, “Application of
840 knowledge and skills in real-world settings, critical thinking skills, and written and oral
841 communication skills are areas in which fewer than 3 in 10 employers think that recent college
842 graduates are well prepared” (2015). In a survey conducted by The Economist Intelligence Unit,
843 a disconnect between academia and industry was noted, and employer expectations for student
844 graduating with critical thinking, collaboration, communication, and technical skills associated
845 with the job are not being met (2014). Dissatisfaction with the performance of new college
846 graduates is echoed in a study by internships.com that revealed “nearly 1 in 4 employers say
847 recent college grads are unprepared for entry-level positions, with 37 percent of employers
848 finding it difficult or very difficult to find qualified candidates” (2014). Findings such as these
849 are indicative of the need for increased focus in academia on job-specific skills and the need to
850 ensure students have the time to appropriately develop critical thinking, communication,
851 collaboration, and other valuable career skills.

852 Coupled with the widening breadth of scope of the HIM profession as a whole, the ability
853 of HIM educational programs at the associate level to effectively meet employer demands is
854 endangered. A primary benefit of the generalist nature of the existing HIM curricula is that
855 students can potentially find employment in a wide variety of roles. However, associate degree
856 students are not obtaining the requisite employer desired skills due to the breadth of
857 competencies currently required in the associate curriculum. The expansion of the curricula
858 requirements has been a growing concern in the HIM academic community as well, with
859 educators lamenting their inability to cover all the content requirements in the limited time they
860 have with students.

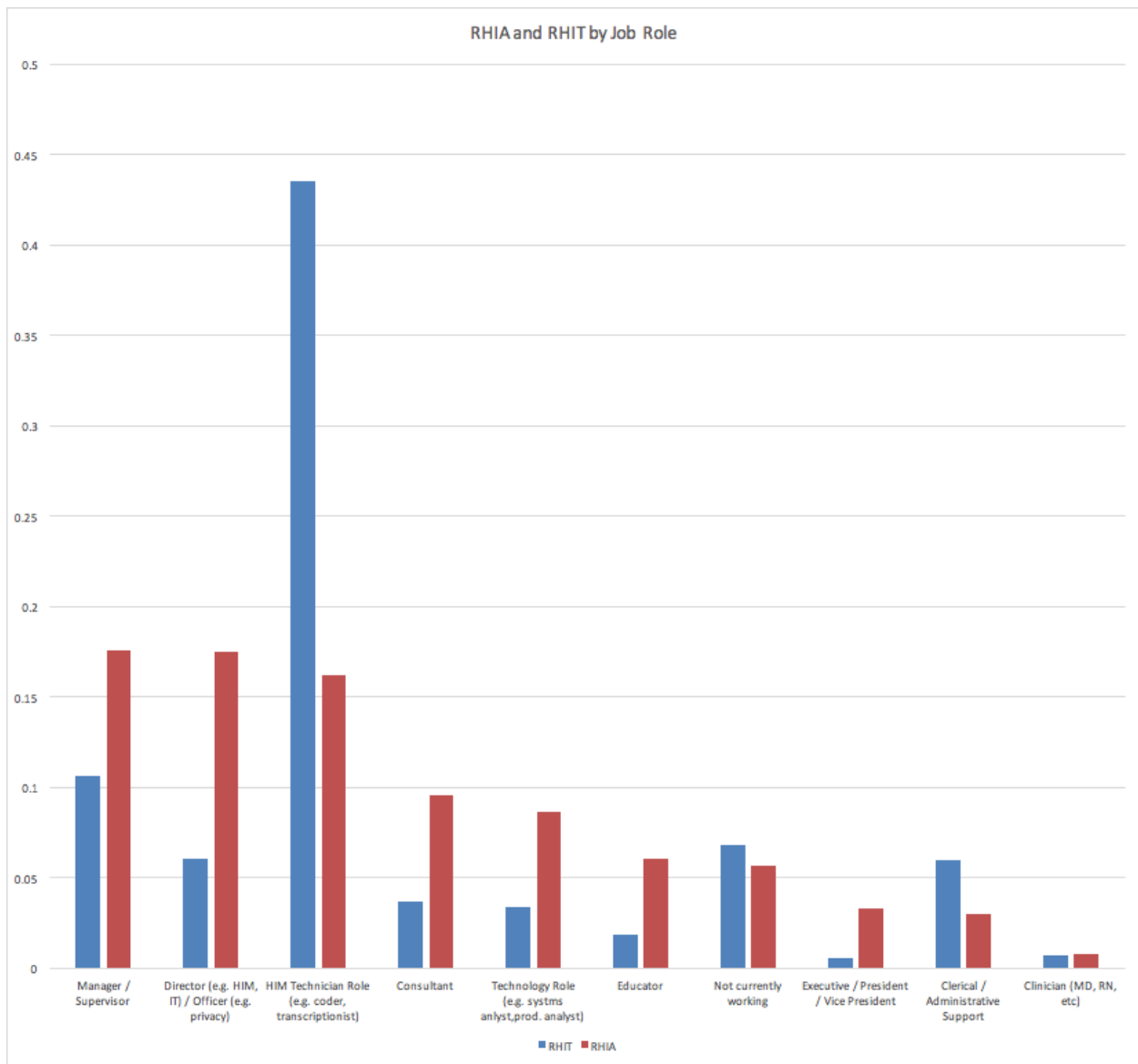
861 The challenge of balancing the dichotomies that exist between industry and education is
862 significant and not contained to the formal education process, but extends also to certification
863 mechanisms used to validate learning. AHIMA's strong specialty certifications offer the
864 opportunity to ensure students exiting associate programs have the ability to demonstrate their
865 specialized skills. Alignment of the certification exams to meet employer needs is another
866 important factor in this discussion. Looking toward the future, employers are interested in
867 certification testing that validates specific rather than general knowledge attainment and assesses
868 critical thinking, communication, collaboration, and other career success skills. This is a prime
869 opportunity to ensure specialty exam alignment with the curriculum and employer needs and at
870 the same time to increase awareness of the value of specialty certifications in the marketplace..

871 Associate degrees will continue to be in high demand; however, the current generalist
872 structure can no longer provide the level of competency required to meet the demands of the
873 rapidly changing market. Knowledge workers are at a higher demand, and transitioning HIM to a
874 knowledge worker level, which is defined as "Employees such as data analysts, product

875 developers, planners, programmers, and researchers who are engaged primarily in acquisition,
876 analysis, and manipulation of information as opposed to in production of goods or services,”
877 (Drucker) are at reduced risk of this automation replacement. Transitioning HIM to a knowledge
878 worker level is critical for the advancement of the HIM profession.

879 In 2013, Frey and Osborne studied the susceptibility of various occupations to
880 computerization. Of note are the additional relationships observed in this study related to wages
881 and off-shoring of work in various occupational settings. The results of this study suggest that
882 Medical Records and Health Information Technicians (the standard occupational classification
883 (SOC) where health information coders are classified) are at 91 percent risk of computerization.
884 While a unique SOC for informatics professionals did not exist at the time this study was
885 conducted, automation for these types of roles would likely be far less since these roles typically
886 fall into a knowledge worker level. Finally, for SOC 11-9111, which represents Medical and
887 Health Services Managers, and where many RHIA's are classified, the susceptibility of the job to
888 computerization is less than 1 percent (0.73). AHIMA data suggests that nearly 43 percent of
889 RHITs work in HIM Technician roles (e.g. coding) and over 15 percent of RHIA's fall into this

890 same category (see figure 2).



891

892 **Figure 2**

893 Future jobs with a focus on growing need areas in ambulatory settings, or those where
894 application of specialized and deep knowledge is used to create actionable information from
895 data, are the growing areas of need (Sandefer, Marc, Mancilla, Hamada, 2015). While the future
896 cannot be foreseen, we can certainly look to strong predictors to be prepared for whatever it may
897 hold. There is a plethora of supporting evidence noted in the introductory section of this paper

898 that suggests healthcare is expected to become more preventive in nature. Prevention starts in a
899 patient's home, and at an individual level where outpatient and ambulatory settings are the venue
900 of choice to achieve the goals of increased prevention. These transitions occurring in healthcare
901 will create new opportunities for appropriate management of health information in settings where
902 HIM professionals can further demonstrate their expertise. Having the ability to specialize
903 through curricula that is more flexible and responsive to changing industry needs will allow
904 educators and students to be prepared to fill these new roles.

905 The baccalaureate level of HIM education is also not immune to the need to become
906 more specialized. A notable difference at this level of education is that there is almost double the
907 amount of time to prepare students to meet curricula competencies. In addition, during a
908 baccalaureate level program there is additional (and often state mandated) focus on many of the
909 skills that employers are identifying as current areas of weakness. For example, additional
910 coursework in oral and written communications is often required at a baccalaureate level of
911 education. Since the types of work-related positions that require a baccalaureate degree are often
912 managerial and leadership focused, the HIM core content should be broader than what is found
913 in the associate level. Managers and leaders must have this broad core to be able to effectively
914 function in settings that are becoming far more interdisciplinary and cross collaborative.

915 As curricula redesign is conceived in the future, the challenge will be to ensure
916 appropriate differentiation between the academic levels and clear content for specialization.
917 Knowing the significant impact that curricula revisions have on educators and students, a careful
918 and thoughtfully planned approach is necessary. Curricula redesign work will begin very early in
919 the HIMR proposed timeline. Frequent communication, requests for input, accreditation and
920 certification alignment, and an overall change and communication strategy will be followed. The

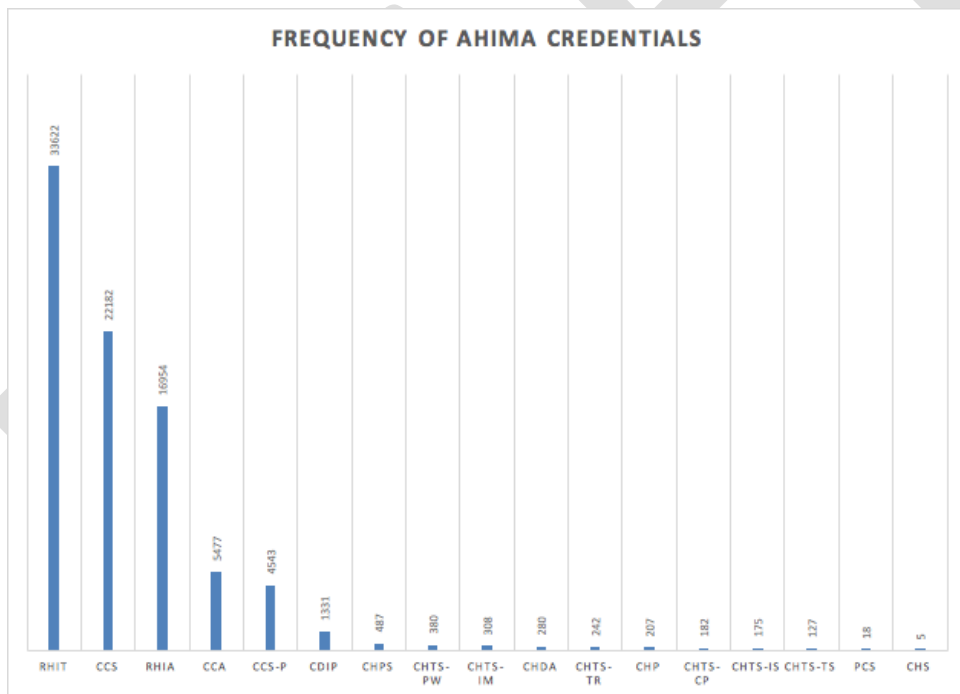
921 important work done in the 2014 curriculum revision process has placed HIM well ahead of the
922 demand for programs based on measureable student competencies. This same competency focus
923 will continue to expand as the result of state and federal initiatives to ensure learning is relevant,
924 transferable, and measureable.

925 ***Rationale for Recommendation 4—RHIA credential recognized as the standard for HIM***
926 ***generalist practice and the RHIT (+Specialty) as technical level of practice.***

927 Health information technology (HIT) is a significant factor influencing the future of the
928 HIM profession. On the one hand, technology is transforming the way in which data is collected,
929 stored, managed, and used across the healthcare continuum, thus opening the door for additional
930 opportunities for HIM professionals. On the other hand, health information technology has the
931 potential to automate a significant portion of the traditional work of HIM professionals.

932 Computer-assisted coding is one area of particular concern, given the large proportion of HIM
933 professionals who report coding as their primary role. According to an analysis conducted by
934 Frey and Osborne (2013) that investigated the susceptibility of 702 occupations to automation
935 from computer technology, the probability that medical record technicians roles will be
936 automated is 0.91. That is, many HIM roles are at great risk of being automated over the next
937 decade, and this automation will have a significant impact on the HIM profession as a whole.
938 The study also finds that there is a strong, negative relationship between education level and
939 wages and the risk for automation. In other words, those with higher levels of education are at a
940 lower risk of automation—the future of HIM must be associated with knowledge workers with
941 high degrees of specialization.

942 The healthcare industry is necessitating an increased level of specialization and different
 943 skills associated with education. A recent study assessing the perceived market readiness of
 944 college graduates suggests a schism between perceptions of academicians and employers related
 945 to entry-level preparedness. While 96 percent of academics reported confidence related to
 946 producing professionals with entry-level competence, only 11 percent of employers reported the
 947 same confidence. For example, while the healthcare industry is calling for greater skills in data
 948 analytics, and based upon AHIMA’s recently published workforce study noting that HIM
 949 professionals recognize data analysis as the top needed skill in the future, currently only 280
 950 individuals hold the CHDA credential (see figure 3).

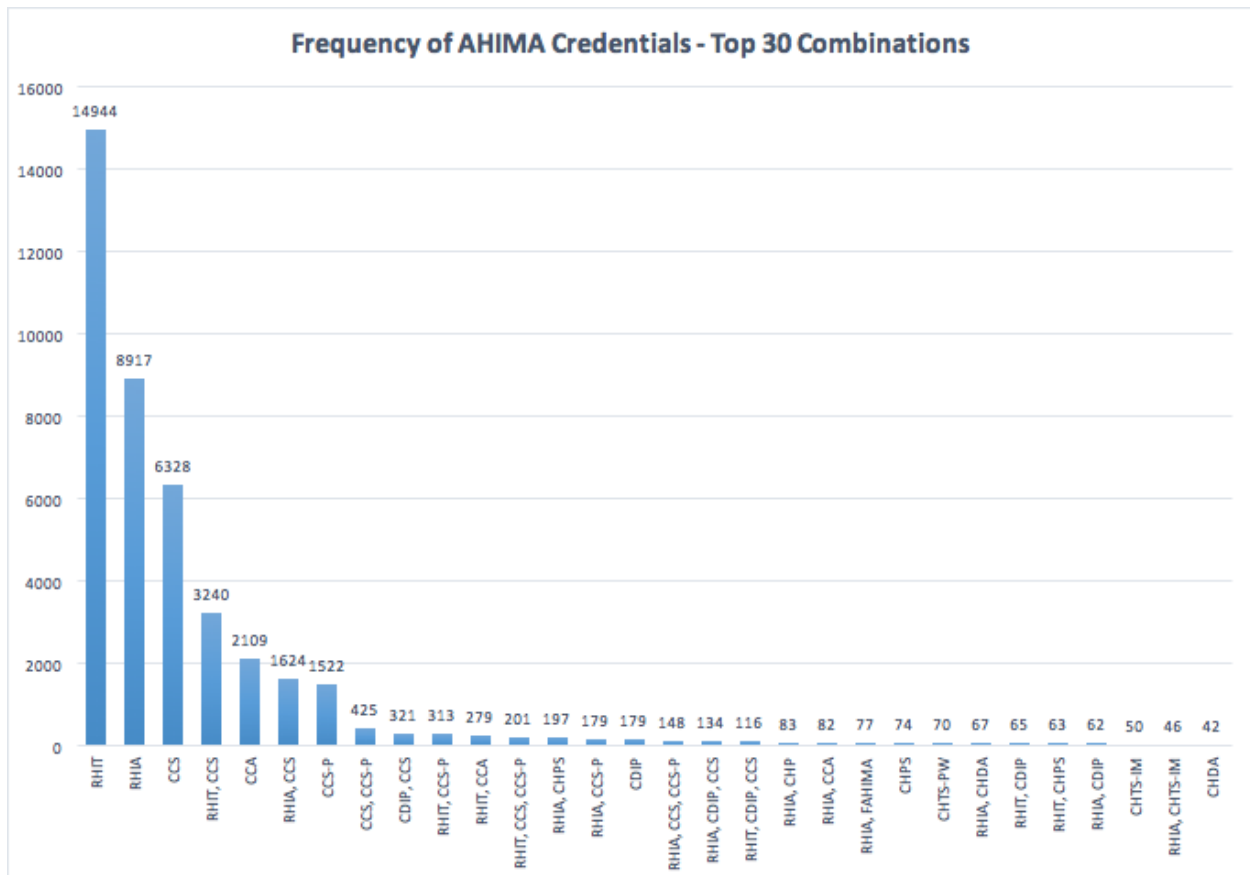


951

952 **Figure 3**

953 Of CHDA holders, 54.8 percent also hold an RHIA credential, 15.4 percent also hold an
 954 RHIT credential, and 39.4 percent either only hold the CHDA or also hold an AHIMA credential
 955 other than the RHIA or RHIT. Figure 4 displays the top 30 AHIMA credentials and credential

956 combinations. This reflects that AHIMA continues to recruit a great proportion of noncredentialed
 957 holders to sit for specialty credentials, and that work needs to be done to continue to train and
 958 prepare current credential holders to obtain the specialty credentials. This recommendation will
 959 work toward that goal.



960

961 **Figure 4**

962 AHIMA’s 2014–2017 Strategic Plan reflects this transition by advocating for central
 963 focus on information governance (IG) with a high degree of reliance on informatics, data
 964 analysis, and information technology. If IG is the future of HIM, and IG is characterized by
 965 specialized skills to support an “organization-wide framework for managing information
 966 throughout its lifecycle and supporting the organization’s strategy, operations, regulatory, legal,
 967 risk, and environmental requirements,” the future of HIM, including its educational

968 underpinnings, must be adaptive to the specific skills and content knowledge to meet this
969 growing demand.

970 Instituting a bachelor's degree requirement for the generalist HIM credential will position
971 RHIA's to have more visibility at higher levels within healthcare organizations. According to the
972 results of the 2013 RHIA Job Analysis conducted by KNAPP & Associates and prepared for
973 AHIMA, nearly half of all respondents holding the RHIA credential were in a management or
974 director-related position, whereas the RHIT job analysis (prepared by Pearson) results indicate
975 that approximately 18 percent of respondents holding an RHIT credential reported working in a
976 management or director-related position. More than 75 percent of all respondents holding an
977 RHIT credential reported currently working in an HIM technician role (i.e., coding or
978 transcription). According to the results of the RHIT job analysis, only 8.4 percent of RHIT
979 credentialed respondents reported plans to earn the RHIA credential. Career progression and
980 advancement will be easier to obtain with clear pathways to higher degree levels.

981 Clear pathways for academic progression are of critical concern. Currently, the
982 Commission on Accreditation for Health Informatics and Information Management (CAHIIM)
983 accredits (or is in the process of accrediting) 378 HIM academic programs. The vast majority of
984 these academic programs are associate degree programs (80 percent). Baccalaureate programs
985 account for 18 percent of the total programs. For this academic transition strategy to be
986 successful, emphasis must be paid to creating curriculum that effectively and efficiently transfers
987 between associate and baccalaureate programs, and there is need for additional baccalaureate
988 programs generally.

989 We recognize the significance of the technical degree base of the HIM profession. At the
990 same time, changes in future market needs motivate us as a profession to advance our education
991 base as quickly and efficiently as we can. The recommendations outline specific methods to
992 encourage specialization and to promote baccalaureate and master's level education. There are
993 needs related to advancing the education levels for both existing professionals and future entrants
994 into the HIM profession. While specialization will provide more significant opportunity for
995 individuals with associate degrees, we must also attract people into the profession at the
996 baccalaureate level to meet future job needs emerging at a higher level as well.

997 Conclusion

998 The future success of the HIM profession will depend on how responsive the profession
999 can be with regard to changes in the delivery of healthcare and the ability to respond to the P-4
1000 Medicine concepts—Preventative, Personalized, Predictive, and Participatory—by addressing
1001 the HIM competencies inherent in each of the following four pillars: data analytics,
1002 entrepreneurship, patient advocacy, and IG—as well as the privacy and security of the data in
1003 these four pillars.

1004 The recommendations in this document also seek to respond to the changes and demands
1005 in the workforce by focusing education on skills, abilities, and leadership needed to advance the
1006 HIM profession, streamlining educational pathways, and providing opportunities for HIM
1007 professionals to advance at every level.

1008 A key difference in the ability to operationalize these recommendations from Vision 2016
1009 is the ever-increasing availability of online programs offering certificates and degrees specific to
1010 HIM and the growing informatics field. These offerings will likely continue to expand and grow

1011 as technology continues to advance in the delivery of education and healthcare delivery. This
1012 educational delivery mechanism is particularly useful to career changers and those advancing
1013 from associate to baccalaureate levels and from baccalaureate to master's levels..

1014 This is an exciting time for HIM professionals as we pave the way for a future of HIM
1015 professionals to serve healthcare in ways that are more relevant and contributory than ever
1016 before.

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References

Abbott, P.A., and A. Coenen. (2008). Globalization and advances in information and communication technologies: The impact on nursing and health. *Nursing Outlook*, 56(5), 238-246. <http://dx.doi.org/doi:10.1016/j.outlook.2008.06.009>

Abrahams, E., and M. Silver. (2009). The case for personalized medicine. *Journal of Diabetes Science and Technology*, 2009 Jul; 3(4). Available online at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769975/>

Academic Health Center Say Faculty Shortages Major Problem
http://www.aahcdc.org/policy/reddot/aahc_faculty_shortages.pdf

Ahlfeldt, R-M., A. Persson, H. Rexhepi, and K. Wahlander. (2015). Supporting active patient and healthcare collaboration: A prototype for future healthcare information systems. *Health Informatics Journal*, 1–15. <http://dx.doi.org/10.1177/1460458215590862>

Bauer, U.E., P.A. Briss, R.A. Goodman, and B.A. Bowman. *Prevention of chronic disease in the 21st century: elimination of the leading preventable causes of premature death and disability in the USA. Lancet*. 2014;384(9937):45–52.

Boyleston, E.S., and M.A. Collins. (2012). Critical issues in dental hygiene: Are higher educational standards the answer? *The Journal of Dental Hygiene*, 86(3), 168–178. Retrieved from <http://jdh.adha.org/content/84/4/165.full.pdf>

Bureau of Labor Statistics. Earn while you Learn. 2013. Available online at: https://docs.google.com/document/d/1z5OH3b254rte68nr5STuCa3drq92nG3PrNfW-_JG6i4/edit

1038 Closing the Skills Gap: Companies and Colleges Collaborating for Change. March 2014. The
1039 Lumina Foundation. Available online at:
1040 https://www.luminafoundation.org/files/publications/Closing_the_skills_gap.pdf
1041 The Competency-Based Education Ecosystem Framework. *Competency-Based Education*
1042 *Network*. Public Agenda, Dec. 2015. Web. 22 Apr. 2016.
1043 <[http://www.publicagenda.org/files/TheCompetencyBasedEducationEcosystemFramework](http://www.publicagenda.org/files/TheCompetencyBasedEducationEcosystemFramework_PublicAgenda_2015.pdf)
1044 [rk_PublicAgenda_2015.pdf](http://www.publicagenda.org/files/TheCompetencyBasedEducationEcosystemFramework_PublicAgenda_2015.pdf)>.

1045 The cost of sequencing a human genome, national human genome research institute
1046 <https://www.genome.gov/27565109/the-cost-of-sequencing-a-human-genome/>

1047 Darby, M.L. (2009). Critical issues in dental hygiene: The advanced dental hygiene practitioner
1048 at the master's degree level: Is it necessary? *The Journal of Dental Hygiene*, 83(2), 92-
1049 95. Retrieved from <http://jdh.adha.org/content/83/2/92.full.pdf>

1050 Deloitte Center for Health Solutions. Healthcare and Life Sciences Predictions 2020: a bold
1051 future? Available online at: [http://www2.deloitte.com/us/en/pages/life-sciences-and-](http://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/topics/center-for-health-solutions.html)
1052 [health-care/topics/center-for-health-solutions.html](http://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/topics/center-for-health-solutions.html))

1053 EHR Incentives and Certification. HealthIT.gov. Available online at:
1054 <https://www.healthit.gov/providers-professionals/meaningful-use-definition-objectives>

1055 Escobedo, M., J. Kirtane, and A. Berman. (2012). Health information technology: A path to
1056 improved care transitions and proactive patient care. *Journal of the American Society on*
1057 *Aging*, 36(4), 56–62. Retrieved from <http://0->

1058 [search.proquest.com.wizard.umd.umich.edu/docview/1413404349?pq-](http://search.proquest.com.wizard.umd.umich.edu/docview/1413404349?pq-origsite=summon&accountid=14578)
1059 [origsite=summon&accountid=14578](http://search.proquest.com.wizard.umd.umich.edu/docview/1413404349?pq-origsite=summon&accountid=14578)

1060 Faculty shortage, demand for programs proves biggest challenge for allied health professions.
1061 [https://www.utsystem.edu/blog/2013/08/21/faculty-shortage-demand-programs-proves-](https://www.utsystem.edu/blog/2013/08/21/faculty-shortage-demand-programs-proves-biggest-challenge-allied-health-professions)
1062 [biggest-challenge-allied-health-professions](https://www.utsystem.edu/blog/2013/08/21/faculty-shortage-demand-programs-proves-biggest-challenge-allied-health-professions)

1063 Fain, Paul. “Amid Competency-based Education Boom, a Meeting to Help Colleges Do It
1064 Right.” *Keeping up with Competency*. Inside Higher Ed, 10 Sept. 2015. Web. 22
1065 Apr.2016. <[https://www.insidehighered.com/news/2015/09/10/amid-competency-based-](https://www.insidehighered.com/news/2015/09/10/amid-competency-based-education-boom-meeting-help-colleges-do-it-right)
1066 [education-boom-meeting-help-colleges-do-it-right](https://www.insidehighered.com/news/2015/09/10/amid-competency-based-education-boom-meeting-help-colleges-do-it-right)>

1067 Frey, C. and M. Osborne. (2013).The future of employment. How Susceptible are Jobs to
1068 Computerisation? Oxford Martin School. Oxford, United Kingdom.

1069 Ganzglass, Evelyn. “Scaling Stackable Credentials.” Implications for Implementation and
1070 Policy. *Center for Postsecondary and Economic Success at CLASP* (March, 2014).
1071 Available online at: [http://www.clasp.org/resources-and-publications/files/2014-03-21-](http://www.clasp.org/resources-and-publications/files/2014-03-21-Stackable-Credentials-Paper-FINAL.pdf)
1072 [Stackable-Credentials-Paper-FINAL.pdf](http://www.clasp.org/resources-and-publications/files/2014-03-21-Stackable-Credentials-Paper-FINAL.pdf)

1073 Goddard, M., D. Mowat, C. Corbett, C. Neudorf, P. Raina, and V. Sahai,. (2004). The impacts
1074 of knowledge management and information technology advances on public health
1075 decision-making in 2010. *Health Informatics Journal*, 10(2), 111–120.
1076 <http://dx.doi.org/10.1177/1460458204042233>Hood, L., & Auffray, C. (2013).
1077 Participatory medicine: A driving force for revolutionizing healthcare. *Genome Medicine*,
1078 5(12), 110.

1079 Gruppen, Larry D., Rajesh S. Mangrulkar, and Joseph C. Kolars. “The Promise of Competency-
1080 Based Education in the Health Professions for Improving Global Health.” *Human*
1081 *Resources for Health* 10 (2012): 43. PMC. Web. 22 Apr. 2016.

1082 Jaskich, S. (2015). Inside Higher Education. Available online at:
1083 [https://www.insidehighered.com/news/2015/01/20/study-finds-big-gaps-between-student-](https://www.insidehighered.com/news/2015/01/20/study-finds-big-gaps-between-student-and-employer-perceptions)
1084 [and-employer-perceptions](https://www.insidehighered.com/news/2015/01/20/study-finds-big-gaps-between-student-and-employer-perceptions)

1085 Johnstone, S.M., and L. Soares. (2014) Principles for Developing Competency-Based Education
1086 Programs. *Change: Magazine of Higher Learning*
1087 [http://www.changemag.org/Archives/Back percent20Issues/2014/March-April](http://www.changemag.org/Archives/Back%20Issues/2014/March-April%202014/Principles_full.html)
1088 [percent202014/Principles_full.html](http://www.changemag.org/Archives/Back%20Issues/2014/March-April%202014/Principles_full.html)

1089 Joynt, K., and A. Jha. (2012). Thirty-Day Readmissions—Truth and Consequences. *The New*
1090 *England Journal of Medicine*, 366:1366–1369, April 12, 2012.,
1091 <http://www.nejm.org/doi/full/10.1056/NEJMp1201598#t=article>

1092 Kirch, D.G., and C. Ast. (2015). Interprofessionalism: Educating to meet patient needs.
1093 *Anatomical Sciences Education*, 8, 296–298.

1094 Medicare Hospital Compare, available online at:
1095 <https://www.medicare.gov/hospitalcompare/data/total-performance-scores.html>

1096 Mints, Steven. “New Models of Higher Education.” *Inside Higher Ed*. 15 Oct. 2014. Web. 2
1097 Apr. 2016. <[https://www.insidehighered.com/blogs/higher-ed-beta/new-models-higher-](https://www.insidehighered.com/blogs/higher-ed-beta/new-models-higher-education)
1098 [education](https://www.insidehighered.com/blogs/higher-ed-beta/new-models-higher-education)>

1099 Mitchell, Michael, Vincent Palacios, and Michael Leachman. “States Are Still Funding Higher
1100 Education Below Pre-Recession Levels.” *Center on Budget and Policy Priorities*. 1 May
1101 2014. Web. 22 Apr. 2016. <[http://www.cbpp.org/research/states-are-still-funding-higher-](http://www.cbpp.org/research/states-are-still-funding-higher-education-below-pre-recession-levels)
1102 [education-below-pre-recession-levels](http://www.cbpp.org/research/states-are-still-funding-higher-education-below-pre-recession-levels)>.

1103 Oliff, Phil, Vincent Palacios, Ingrid Johnson, and Michael Leachman. “Recent Deep State
1104 Higher Education Cuts May Harm Students and the Economy for Years to Come.”
1105 *Center on Budget and Policy Priorities*. 19 Mar. 2013. Web. 22 Apr. 2016.
1106 <[http://www.cbpp.org/research/recent-deep-state-higher-education-cuts-may-harm-](http://www.cbpp.org/research/recent-deep-state-higher-education-cuts-may-harm-students-and-the-economy-for-years-to-come)
1107 [students-and-the-economy-for-years-to-come](http://www.cbpp.org/research/recent-deep-state-higher-education-cuts-may-harm-students-and-the-economy-for-years-to-come)>.

1108 Online Report Card—Tracking Online Education in the United States. *Online Learning*
1109 *Consortium*. Dec. 2015. Web. 22 Apr. 2016.
1110 <[http://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-](http://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015/)
1111 [united-states-2015/](http://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015/)>

1112 Out of the box: Big data needs the information profession—the importance of validation. (2014).
1113 *Business Information Review*, 31(2), 118–121.
1114 <http://dx.doi.org/10.1177/0266382114542552>

1115 Sadkovsky, I.A., O. Golubnitschaja, M.A. Mandrik, M.A. Studneva, H. Abe, H. Schroeder, and
1116 S.V. Suchkov, S.V. (2014). PPPM (predictive, preventive and personalized medicine) as
1117 a new model of the national and international healthcare services and thus a promising
1118 strategy to prevent a disease: From basics to practice. *International Journal of Clinical*
1119 *Medicine*, 5(14), 855–870. Retrieved from [http://0-](http://0-search.proquest.com.wizard.umd.umich.edu/docview/1552155207?accountid=14578)
1120 [search.proquest.com.wizard.umd.umich.edu/docview/1552155207?accountid=14578](http://0-search.proquest.com.wizard.umd.umich.edu/docview/1552155207?accountid=14578)

1121 Sandefer, Ryan, David Marc, Desla Mancilla, and Debra Hamada. “Survey Predicts Future HIM
1122 Workforce Shifts: HIM Industry Estimates the Job Roles, Skills Needed in the Near
1123 Future” *Journal of AHIMA* 86, no.7 (July 2015): 32–35

1124 Sibbald, S.L., C.N. Wathen, A. Kothari, and A.M. Day. (2013). Knowledge flow and exchange
1125 in interdisciplinary primary healthcare teams (PHCTs): An exploratory study. *Journal of*
1126 *the Medical Library Association*, 101(2), 128. [http://dx.doi.org/10.3163/1536-](http://dx.doi.org/10.3163/1536-5050.101.2.008)
1127 [5050.101.2.008](http://dx.doi.org/10.3163/1536-5050.101.2.008)

1128 Swan, M. (2009). Emerging patient-driven healthcare models: An experimentation of health
1129 social networks, consumer personalized medicine quantified self-tracking. *International*
1130 *Journal of Environmental Research and Public Health*, 6(2), 492–525.
1131 <http://dx.doi.org/10.3390/ijrtph6020492>

1132 Tokars, J. (2004). Predictive Value of Blood Cultures Positive for Coagulase-Negative
1133 Staphylococci: Implications for Patient Care and Healthcare Quality Assurance. *Oxford*
1134 *Journals, Volume 39, Issue 3, pp. 333–341.*
1135 <http://cid.oxfordjournals.org/content/39/3/333.short>

1136 US Department of Health and Human Services. Key features of the Affordable Care Act.
1137 Available at:
1138 <http://www.hhs.gov/healthcare/facts/timeline/index.html>

1139 White House Press Release ([https://www.whitehouse.gov/the-press-office/2016/02/25/fact-sheet-](https://www.whitehouse.gov/the-press-office/2016/02/25/fact-sheet-obama-administration-announces-key-actions-accelerate)
1140 [obama-administration-announces-key-actions-accelerate](https://www.whitehouse.gov/the-press-office/2016/02/25/fact-sheet-obama-administration-announces-key-actions-accelerate)).
1141

1142 **Other Online References:**

1143 <http://www.cbenetwork.org/competency-based-education/>

1144 <http://www.cbpp.org/research/state-budget-and-tax/years-of-cuts-threaten-to-put-college-out-of-reach-for-more-students>

1145 <http://www.cbpp.org/sites/default/files/atoms/files/5-1-14sfp.pdf>

1146 [http://www.changemag.org/Archives/Back percent20Issues/2014/March-April percent202014/Principles_full.html](http://www.changemag.org/Archives/Back%20Issues/2014/March-April%202014/Principles_full.html)

1147 [http://www.changemag.org/Archives/Back percent20Issues/2015/July-August percent202015/competency_full.html](http://www.changemag.org/Archives/Back%20Issues/2015/July-August%202015/competency_full.html)

1148 <http://edglossary.org/competency-based-learning/>

1149 <http://www.educause.edu/library/affordability>

1150 http://www.highereducation.org/reports/losing_ground/ar2.shtml

1151 <https://www.insidehighered.com/blogs/higher-ed-beta/new-models-higher-education>

1152 <https://www.insidehighered.com/news/2015/09/10/amid-competency-based-education-boom-meeting-help-colleges-do-it-right>

1153

1154 <http://www.internships.com/about/news/new-skills-gap-survey-reveals-increasing-student-demand-for-digital-skills-employer-appetite-for-tech-savvy-hires>

1155 [http://www.sr.ithaka.org/wp-](http://www.sr.ithaka.org/wp-content/mig/reports/SR_Report_Effects_of_Rising_Student_Costs_in_Higher_Education_Virginia_030415.pdf)

1156 [content/mig/reports/SR_Report_Effects_of_Rising_Student_Costs_in_Higher_Education](http://www.sr.ithaka.org/wp-content/mig/reports/SR_Report_Effects_of_Rising_Student_Costs_in_Higher_Education_Virginia_030415.pdf)

1157 [_Virginia_030415.pdf](http://www.sr.ithaka.org/wp-content/mig/reports/SR_Report_Effects_of_Rising_Student_Costs_in_Higher_Education_Virginia_030415.pdf)

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1168 52affiliated [component state associations](#) and more than 103,000 health information
1169 professionals, it is recognized as the leading source of “HIM knowledge,” a respected authority
1170 for rigorous professional education and training. Founded in 1928 to improve health record
1171 quality, AHIMA has played a leadership role in the effective management of health data and
1172 medical records needed to deliver quality healthcare to the public.

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1180 and HIM utilize a variety of methods including classroom instruction, web-based training, and
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1183 unique requirements.

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