
A COMPETENCY-BASED APPROACH TO FUNCTIONAL AREA EXPERTISE: EXTENDING COMPETENCY-BASED EDUCATION TO A HEALTHCARE FINANCE AREA OF CONCENTRATION

KEVIN D. BROOM, PhD & JASON S. TURNER, PhD

ABSTRACT

While Competency-Based Education (CBE) is the accepted approach to developing competencies for today's health managers, programs may face a quantity-versus-quality dilemma regarding functional areas of expertise. We illustrate our process to address this dilemma by extending CBE into areas of concentration, with a stated goal of developing advanced levels of competencies within specific functional areas (i.e., quantity, with focused quality). Our case study demonstrates one program's innovative approach, driven by both demand-side and supply-side stakeholder analysis, to develop a functional area competency model that addresses our program's unique stakeholders' needs (in this example, healthcare finance). We then use the model to develop a curricular infrastructure to build and assess those competencies as an elective component of the Master of Health Administration Program at Saint Louis University. Our long-term goal is to produce health executives, who need broad set of competencies, with a robust ability to create "value" through a deeper understanding of the financial issues (e.g., a focused depth in financial competencies) that help shape their organizations' strategic decision-making processes.

Please address correspondence to: Kevin D. Broom, PhD, College for Public Health & Social Justice, Saint Louis University, 3545 Lafayette Ave, St. Louis, MO 63069, kbroom3@slu.edu, (314) 977-4491

INTRODUCTION

Leading educators and practitioners once argued that adopting an outcomes-based, life-long learning model was necessary to transform the field of health management education (Campbell, Lomperis, Gillespie, & Arrington, 2005). Competency-Based Education (CBE) shifts the education process away from simply assessing attainment of knowledge toward assessing what graduates can accomplish with that knowledge. For the health industry, a clearly articulated set of competencies tells employers precisely what prospective employees will be able to accomplish for their organization.

The shift toward CBE continues to influence curricular design, implementation, and assessment processes of health management programs. That influence can be seen at both the graduate and undergraduate levels within the field. The main impetus for CBE was the implementation of new accreditation standards by the accrediting and certifying organizations in health management education. Since 2008, the Commission on Accreditation of Healthcare Management Education (CAHME) requires all accredited graduate programs to use a competency-based approach for designing curriculum. Additionally, the Association of University Programs in Health Administration (AUPHA) now requires all certified undergraduate programs to use a competency-based approach.

While CBE is used widely within the field of health management education and is the accepted approach to developing the broad spectrum of health management competencies, programs potentially face a quantity-versus-quality dilemma regarding functional areas of expertise. From 2008 until 2013, graduate-level accreditation standards in healthcare management education presented challenges for programs. The CAHME accreditation standards specified coverage of 19 content areas (AUPHA certification still specifies 21 content areas), thereby limiting their ability to effectively develop functional areas of expertise beyond the base competency model. CAHME eliminated those content areas in 2013, and programs now have the option of continuing to build a broad array of competencies (i.e., quantity), or to focus on a smaller number of competencies in greater depth (i.e., quality). Our study extends the literature by illustrating how CBE can be useful in maintaining a broad focus to a competency model (quantity), while also focusing on higher levels of competency attainment within a specific functional area (focused quality). Our approach maintains the broader competency model while also developing higher levels of competencies within a specific functional area (based on our program's unique stakeholder analysis and program needs) through the establishment of CBE-based areas of concentration (AOC).

Based on our research, none of the top health management graduate programs have adopted a competency-based approach in building functional area depth beyond the main degree program and their base competency model. A review of both the academic literature and the websites for CAHME-accredited graduate programs ranked in the top 25 of the U.S. News & World Report for Healthcare Management – our definition of top graduate programs – shows no movement toward using CBE to build specialized depth within a specific functional area. Therefore, we contribute to the health management education literature by demonstrating how we use a competency-based approach to create a functional area competency model, and then build those competencies through the development of an AOC.

The paper provides two innovations for the field of health management education. First, we propose a rationale for extending CBE into elective courses. While CBE forms the basis of core curricula across the field, many programs do not use CBE to shape elective courses, and especially as a means of enhancing depth within functional areas. Second, we use CBE to shape an AOC focused on attaining higher levels of competencies within a targeted functional area. Programs attempting to implement a broad competency model that prepares students for positions across the health industry are constrained with how deep they can go in any functional area (i.e., the quantity dilemma). Programs attempting to implement a more narrowly focused competency model that prepares students for specific roles within the health industry sacrifice competencies in some functional areas as a tradeoff for attaining greater depth in other functional areas (i.e., the quality dilemma). Our competency-based AOC framework enables a continued emphasis on a broader competency model, while also attaining higher levels of competencies within a specific functional area.

The remainder of the paper details our approach to building and validating our AOC competency model, and then outlines how we are implementing it. Our entire AOC development process involves four steps. First, we conduct a stakeholder analysis to ensure that any AOC is driven by stakeholder input. Second, we select the desired functional area(s) that best meets our stakeholders' needs. Third, we build and validate the AOC competency model. Finally, we develop the curricular infrastructure and assessment methodologies. Within that framework, Section One provides a brief review of the recent health management research on CBE, offers insight into the stakeholder analysis process to select our most relevant functional area, discusses the building of our AOC competency model, and articulates our efforts to validate the model as meeting our stakeholders' needs. Section Two articulates the selected AOC competency model used in illustrating our process (the Healthcare Finance Competency

Model). Section Three provides our curriculum review and design processes, and offers our plans for competency assessments and stakeholder feedback. The final section provides concluding thoughts.

SECTION ONE

After the field of health management embraced the move toward CBE, the earliest research focused on the development and articulation of competency models (Campbell, Lomperis, Gillespie & Arrington, 2005; HLA, 2005; NCHL, 2006; Stefl, 2008; Clement, Hall, O'Connor, Qu, Stefl, & White, 2010). In 2008, CAHME implemented a new set of accreditation criteria that incorporated CBE into the accreditation standards (Broom, Wood, & Sampson, 2013). Moreover, within the accreditation criteria, CAHME listed 19 curriculum content areas that provided at least some common base across all CAHME-accredited graduate programs. As a result, the earliest competency models covered these content areas and would become the templates for designing the curriculum necessary to build the competencies within the student population, the future health management workforce.

Once the mainstream competency models were established, some of the more notable CBE-related research focused on articulating additional specialized competencies, documenting the process of CBE implementation, and assessing competency attainment. Examples of specialized competencies included those focused on teamwork (Leggat, 2007), cultural and linguistic competence (Whitman & Davis, 2008), and diversity leadership (Myers, 2008). CBE-related research addressing the competency-based needs of specific populations included studies addressing pharmacists (Filerman & Komaridis, 2007), physician leaders (Stoller, 2008), health research organizations (Davidson, Azziz, Morrison, Rocha, & Braun, 2012), and even undergraduate students (Casciani, 2012).

A number of process-focused articles illustrated how multiple programs tackled the step-by-step implementation of CBE. Studies articulated the process of developing a competency model (Campbell et al., 2005; Clement et al, 2010; Casciani, 2012), the process of mapping competencies to the curriculum (Bradley et al., 2008), and how programs address specific types of content (e.g., global management issues) across the curriculum (Counte, Ramirez, & Aaronson, 2011). While some research has focused on assessing competency attainment (Bradley et al., 2008; Barry, 2011; Beauvais et al., 2011; Landry, Stowe, & Haefner, 2012; Lomperis, Gillespie, Evashwick, & Turner, 2012; Lane, 2014), much work remains to understand how programs assess the attainment of their full sets of competencies, as well as how they use that information for program improvement.

While CBE is now integrated across the field of graduate health management education, the current state of CBE demonstrates more of a quantity-over-quality approach. In other words, CBE has not been extended from the broader graduate degree (i.e., providing a base level of competency across the mainstream competencies) down into specific functional areas of expertise (i.e., providing higher levels of competency attainment within specific functional area competencies). In 2013, CAHME implemented new accreditation standards that provided programs with an opportunity to adopt a quality (as opposed to quantity) approach. CAHME removed the 19 content areas from the accreditation criteria, thereby enabling programs to focus their competency models toward specialization across fewer competencies. In other words, their competency models were no longer required to build competencies that spanned the 19 content areas. Programs can now differentiate themselves by developing a niche through emphasizing a smaller number of competencies at higher levels of competency attainment.

We chose to pursue a different approach. Rather than reducing the scope of our overall competency model, we created functional-area competency models that complemented and extended our mainstream model. We then developed AOC with the curricular structures necessary to achieve those higher levels of competencies within the selected functional areas.

Our initial challenge involved selecting the most appropriate functional area for our first competency-based AOC. The two major considerations were the needs expressed by our stakeholder community (i.e., demand analysis) and the availability of faculty expertise (i.e., supply analysis). Certainly, any new educational initiative should be based on demand from your external stakeholders. However, the ability to meet that demand may be constrained (at least in the short term) by current structure. The net result of these two major factors was the selection of healthcare finance as one of two initial CBE-based AOC (the other being an Operations AOC).

A point of emphasis here is that our selection of healthcare finance as a functional area flows from our program's stakeholder analysis and is not meant to imply that this is the most important functional area to the field of health management. Other programs with different stakeholders may come to different conclusions about which functional areas best align with the results from their stakeholder analysis. Additionally, our AOC competency model uniquely fits our program's needs and the model is not articulated as a fully encompassing healthcare finance competency model. A more accurate characterization is that our model focuses on our stakeholders' most important healthcare finance competencies. Thus, our selected functional area and the resulting competency model are simply tools used to illustrate our overall process of developing and implementing a competency-based AOC.

Before articulating the results of our demand and supply analyses, we must articulate how we define healthcare finance. Healthcare finance includes knowledge, skills, and abilities (KSA) in mainstream financial management and accounting, as applied within the broader health industry. Our definition excludes some content areas that occasionally appear within healthcare finance courses, such as the strategic management process, pricing models, supply-chain management, lean six sigma techniques, etc. While all of these areas clearly have financial implications, those areas are first addressed within our broader competency model and then built into functional-area AOC (either currently being implemented or under development) in order to attain higher levels of competencies.

Demand Analysis

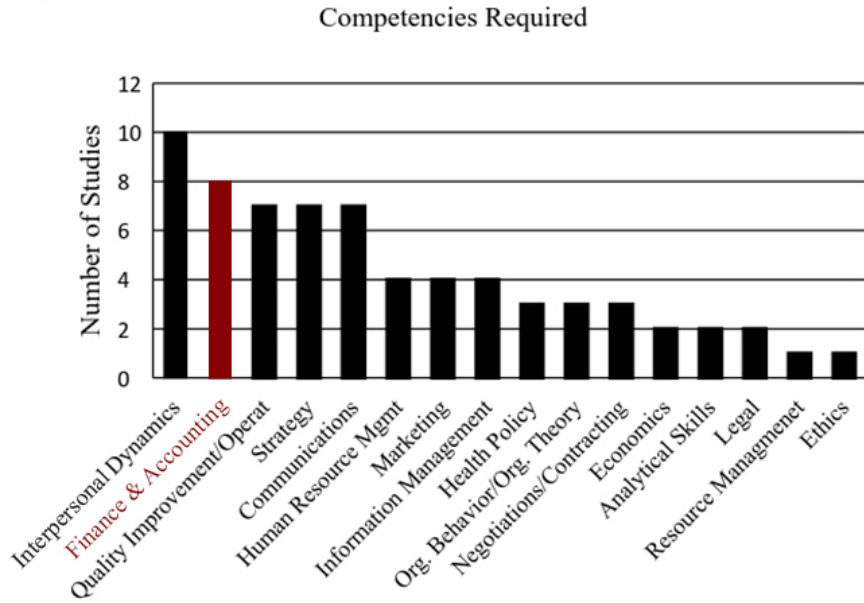
From a market-demand perspective, we first solicited feedback from our alumni on the competencies and content areas they felt were most useful in the workplace. The clear consensus was that healthcare finance-related competencies were the most value-added, regardless of the specific types of jobs our alumni filled or the types of organizations in which they worked. Additionally, preceptors and employers also deemed finance-related competencies as being of significant importance in their decision-making processes when hiring interns and/or new employees. Our external stakeholder analysis indicated a need to produce future health executives who have a richer set of financial decision-making competencies.

In addition to the perspectives of our stakeholders, a recent article in *Harvard Business Review* (Porter & Lee, 2013) provided further insight. The authors proposed a new strategy for healthcare, with its core being to maximize value. The authors stated, "only physicians and provider organizations can put in place the set of interdependent steps needed to improve value, because ultimately value is determined by how medicine is practiced." Their strategic approach placed greater importance on including physicians and other clinicians in influential management roles. Broom, Counte, and Turner (2014) reviewed the literature on clinician management education and identified finance as the second-most important set of competencies for physicians who aspire to key management roles (Figure 1). This finding further supported our goal to produce future health executives who have a richer set of financial decision-making competencies and are well-prepared to work alongside today's healthcare providers to help find creative ways to maximize value. Coincidentally, the "maximizing value" insight played a critical role in selecting our other competency-based AOC in operations. Within the operations AOC, graduates will acquire an extended set of competencies necessary to

evaluate the “quality” side of the cost-quality tradeoff, hence maximizing value. Between the two AOC (i.e., healthcare finance and operations), our goal is to produce an inventory of future executives who will have the necessary competencies to effectively partner with healthcare providers to find creative ways to maximize value.

Figure 1

Management Competencies for Physicians Most Frequently Identified in Literature



Source: Broom, Counte, Turner, 2014

A review of our peer graduate-level programs within the field of health management education provided additional support of the importance of financial management competencies.¹ We found that all 24 of our peer programs, some of which have multiple degree programs, included finance-related competencies within their competency models. Regarding curriculum coverage, Figure 2 shows that those peer programs focused an average of 16.2% of curriculum coverage on finance-related content. Additionally, 16.7% (4 of 24)

¹Peer is defined as CAHME-accredited programs ranked in the top 25 by the U.S. News and World Report rankings.

of those programs considered finance of such significance that they offered a finance-related AOC. However, of those programs with finance AOC, none articulated any competency-based approach to developing, executing, and assessing student attainment of finance-related competencies beyond their program-level competency model.

Table 1

Pre-AOC implementation peer analysis of coverage of finance-related content

School	Degree(s)	Total Hours or Credits Required	# Core Hours for Credits (Excluding Internships or Residencies)	Required Finance/Accounting Hours	% of Core Hours/Credits Finance-related	AOC?	Competency-based?
Johns Hopkins	MHA	140	80	19	23.75%		
Cornell	MHA	60	48	11	22.92%		
UCLA	MPH-HMP	88	72	16	22.22%		
Minnesota-Twin Cities	EMHA	42	42	9	21.43%	Yes	No
Ohio State	MHA	60	52.5	10.5	20%		
Minnesota-Twin Cities	MHA	60	46	9	19.57%		
Virginia Commonwealth	MHA	59	48	9	18.75%		
St. Louis	MHA	60	48	9	18.75%	Yes	No
Missouri	MHA	57	48	9	18.75%		
Iowa	MHA	60	50	9	18%		
Rush	MS	87	80	14	17.5%		
Michigan	MHSA	60	46	8	17.39%		
Army-Baylor	MHA	66	54	9	16.67%		
Temple	MBA	54	45	7.5	16.67%		
Alabama-Birmingham	MSHA	71	55	9	16.36%	Yes	No
Washington	MHA	76	76	12	15.79%		
Army-Baylor	MHA-MBA	87	76	12	15.79%		

Table 1, *cont.*

Boston Univ.	MBA	64	40	6	15%		
Virginia Commonwealth	MS	41	41	6	14.63%		
Trinity	Exec. MS	42	42	6	14.29%		
George Washington	MHA	50	31	4	12.9%		
Washington	EMHA	70	70	9	12.86%		
Trinity	MS	60	48	6	12.5%		
North Carolina	MHA	60	45	5	11.11%	Yes	No
Columbia	MHA	58.5	55.5	6	10.81%		
New York University	MPA	60	44	4	9.09%	Yes	No
Michigan	MPH-HMP	60	43	2	4.65%		
Average					16.23%		

Note: Current CAHME-accredited programs that are ranked in the Top 25 by U.S. News and World Report

Furthermore, two major professional organizations within the field of health management provided additional support for finance-related competencies. The American College of Health Executives (ACHE), the primary professional organization for executives within the health management field, frequently includes many finance-focused sessions at their annual meeting due to financial implications influencing most strategic-level decisions within the industry. Moreover, at the local level, ACHE chapters frequently conduct joint conferences with local chapters of the Healthcare Financial Management Association (HFMA). The frequency of joint local conferences between ACHE and HFMA underscores the strategic importance that health executives place on having strong financial competencies.

Supply Analysis

Given the preponderance of factors in our demand analysis pointing to the importance of healthcare finance to our external stakeholders, we looked internally to assess faculty expertise for potential supply constraints. We determined healthcare finance to be an area of meaningful depth. The department has seven faculty members with academic development and/or work experience in finance or accounting. Two full-time faculty members hold a Ph.D. with both content and research emphases in financial management (from AACSB and CEPH-accredited schools, respectively). The department has five additional faculty members with at least an MBA and/or a CPA. Furthermore, all seven of those faculty members have finance and/or accounting-related practitioner experience within the health industry. Based on the supporting evidence, from both the demand and supply perspectives, we chose to pursue healthcare finance as one of two initial competency-based AOC. The next logical step involved identifying the appropriate competencies for inclusion in the AOC model.

Identifying Competencies

We conducted a review of both the practitioner and academic literature for existing finance-related competencies. Our search included professional, healthcare delivery, and academic organizations. Most of our findings consisted of useful content areas, or even KSAs, but not clearly articulated competencies. However, the findings were useful in crafting a competency model that would guide the design of our AOC structure.

Professional organizations included ACHE as well as the Healthcare Financial Management Association (HFMA), the American College of Medical Practice Executives (ACMPE), the American Organization of Nurse Executives (AONE), and the Health Information Management Systems Society (HIMSS). Practitioner organizations included a consulting group (Turnaround Management Associates, 2013), a healthcare delivery organization (the University of Michigan Health System, 2012), and even the Federal Government through the Department of Defense's Joint Medical Executive Skills Program (Joint Medical Executives Skills Institute, 2012) and the federal Financial Management Certificate Program (Office of the Under Secretary of Defense - Comptroller, 2011).

Lastly, we found a number of financial competencies that had already been identified within the mainstream academic literature. The healthcare management competency models developed by the National Center for Healthcare Leadership (2006) and the Healthcare Leadership Alliance (2005) contained finance-related competencies. These two mainstream competency models were very useful in providing a foundation in healthcare finance competencies

upon which we wished to build even higher levels of competency attainment.

These sources provided a robust set of potential competencies for consideration in our AOC competency model. In aggregate, the major sources most emphasized skill sets associated with measuring performance, financial planning and control, financial reporting, knowledge of financial systems, and compliance. A secondary cluster of competencies included understanding of costs, auditing, revenue cycle, sources/uses of investment capital, and business-plan development. After those two major clusters, the consensus waned on additional finance-related competencies, with only one of the major sources identifying each as being important.

Table 2

Finance-related Competencies Identified in the Academic and Practitioner Literature

Competency	Source					
	CTP ¹	NCHL ²	FFMCP ³	DoDFM ⁴	UMHS ⁵	HLA ⁶
Performance Measurement		X	X	X	X	X
Strat/Fin Planning & Control		X	X	X	X	X
Financial Reporting & Analysis	X			X	X	X
Financial Systems Knowledge			X	X	X	X
Compliance		X	X	X		X
Cost Analysis	X		X			X
Capital Budgeting		X			X	X
Internal Control/Auditing				X	X	X
Cash Flow Forecasting	X				X	
Capital Structure	X					X
Revenue Cycle Management		X				X
Develop Business Plans					X	X

¹CTP - Certified Turnaround Professional

²NCHL - National Center for Healthcare Leadership

³FFMCP - Federal Financial Management Certification Program

⁴DoDFM - Department of Defense Financial Management

⁵UMHS - University of Michigan Health System

⁶HLA - Health Leadership Alliance

Table 2, *cont.*

Break-even Analysis	X	
Corporate Valuation	X	
Tax Awareness	X	
Risk Assessment/Management		X
Asset Management		X
Contracts & Negotiation		X
Project Management		X

We compared these external competencies with the competencies already documented within in the Saint Louis University (SLU) Master of Health Administration (MHA) Competency Model. While we did find some overlap with the MHA competency model, the external sources significantly extended the scope and depth of financial competencies required for those students who would choose to pursue the AOC. All of the external and internal sources were then grouped into seven major competencies, all of which were articulated using action phrases that were consistent with the newest version of Bloom's Taxonomy (Bloom, 1956; Anderson et al., 2001). We also aligned the supporting KSAs under the seven major healthcare finance competencies. The KSAs serve two major purposes. First, since the KSAs form the basis of course learning objectives, they help us more effectively develop the curriculum necessary to build and assess the AOC competencies. Second, the KSAs help to more clearly articulate to stakeholders precisely what graduates will be able to accomplish for any organization that employs our graduates.

After drafting the new AOC competency model, we reengaged our stakeholders to refine and validate the model as meeting their needs. Specifically, we shared our draft competency model and the process used to develop it with alumni, healthcare practitioners, and the leadership of the local Healthcare Financial Management Association (HFMA) chapter. In this final stage of model validation, a number of late suggestions resulted in minor adjustments to the model. A handful of recommended competencies (or supporting KSAs) were noted as having financial implications, but were ultimately identified as more central to operational or quality-related activities. Where appropriate, these suggestions were incorporated into the competency model for the other AOC (operations) being implemented by the program.

Once final adjustments were made, our stakeholders were uniformly positive about the future demand for MHA graduates with the Healthcare Finance AOC. Most stakeholders who were directly involved in the model-validation process volunteered to serve as student mentors and many were interested in developing practice experiences that would augment the classroom portion of the concentration.

SECTION TWO

Following our initial research, subsequent drafting of the model, and stakeholder validation, we finalized our formal Healthcare Finance Competency Model. The model was designed with three key planning assumptions in mind. First, the Healthcare Finance Competency Model is designed to both complement and extend the SLU MHA Competency Model, not to replace it. Second, given the complementary nature of this additional competency model, the end goal of our MHA program remains the same; we wish to develop future executives who will be prepared to occupy senior management positions in a variety of settings across the entire health industry. The goal of this new competency model is to give those future executives a deeper set of financial management skills necessary in the search to maximize value. Third, we designed the Healthcare Finance Competency Model to address the competencies deemed most important to our stakeholders (but not all competencies of importance to all potential stakeholders). Other programs with a different set of stakeholders may come to more expansive or narrow sets of healthcare finance competencies. Those programs may also choose other functional areas as being of greater importance.

The Healthcare Finance Competency Model we developed and validated consists of seven major competencies. The major healthcare finance competencies, along with a brief description of each, are as follows:

1. **Appraise Financial Strength and Performance.** This competency indicates that graduates will have demonstrated the ability to effectively and accurately measure an organization's financial and operational performance. Graduates will then also have a demonstrated capability of comparing the financial and operational performance against existing and/or developed benchmarks. Finally, the graduate will be able to form evaluative assessments of an organization's overall financial performance.
2. **Assess Compliance and Ensure Effective Risk Management.** This competency indicates that graduates will have demonstrated the ability to effectively evaluate and assess an organization's internal control

- efforts, as well as its legal compliance efforts. Additionally, graduates will have demonstrated the ability to ensure the successful development, implementation, and assessment of financial risk management initiatives and/or processes.
3. **Develop and Assess Financial Models.** This competency indicates that graduates will have demonstrated the ability to create financial models for use in evaluating existing operations as well as proposed initiatives. Graduates will also be able to demonstrate the ability to develop scenario analyses, sensitivity analyses, and ex-post assessments. Finally, graduates will have demonstrated the ability to incorporate feedback for the improvement of future forecasting models.
 4. **Optimize Long-Term Investing and Capital Structure.** This competency indicates that graduates will have demonstrated the ability to optimize an organization's decision-making process for long-term investments. This competency includes assessing long-term investment needs, external capital markets, and appropriate sources of investment capital. It also includes determining the appropriate mix of investment capital to optimize an organization's capital structure, and then evaluating the impact on profitability and financial flexibility.
 5. **Design and Evaluate Effective Revenue Cycle Management.** This competency indicates that graduates will have demonstrated the ability to design, implement, and assess programs that focus on effective revenue cycle management. This competency also indicates graduates can effectively negotiate and manage contracts.
 6. **Build Strategic and Financial Plans.** This competency indicates that graduates will have demonstrated the ability to bridge the strategic and financial planning processes. Graduates will demonstrate the competency to play an integral role in developing a financially feasible strategic plan, and then developing, implementing, and assessing a financial plan as a component of the management control process. This competency includes developing and assessing the financial feasibility of business plans.
 7. **Apply Financial Systems Knowledge.** This competency indicates that graduates will have demonstrated a deep understanding of the sources and uses of financial information within the organization, both by lower and mid-level leaders as well as by executive leaders, as a component of the strategic decision-making process.

Table 3 provides a more detailed listing of the supporting KSAs for each of the seven healthcare finance competencies. The KSAs form the basis of specific course learning objectives within the curriculum, and they also enable the effective assessment of competency attainment within the courses. Table 3 also specifies the target level of competency attainment for each of the seven major competencies. Competency attainment is measured against three possible levels: basic, intermediate, and advanced. The basic level aligns with the lower cognitive levels of Bloom’s taxonomy (i.e., Remembering and Understanding). The intermediate level aligns with the middle cognitive levels of Bloom’s taxonomy (i.e., Applying and Analyzing). The expert level aligns with the highest cognitive levels of Bloom’s taxonomy (i.e., Evaluating and Creating). The intermediate and advanced levels are consistent with the immediate workplace expectations of our graduates.

Table 3

Healthcare Finance Competency Model

Competency	Knowledge, Skills, & Abilities	Target Level
Appraise Financial Strength and Performance	Evaluate operational and financial performance using internal metrics and external benchmarks.	Advanced
	Assess financial strength of an institution (e.g., profit margins, efficiency of operations, capital structure, etc.) over time and relative to competitors.	
	Decompose and quantify variance (e.g., changes in pricing structure, volume of individuals served, and intensity of usage).	
Assess Compliance and Ensure Effective Risk Management	Understand, articulate, and ensure compliance with laws and regulations:	Intermediate
	1. Billing and coding practices	
	2. Antitrust	
	3. Conflict of interest	
	4. EMTALA	
	5. Stark	
	6. Fraud and abuse	
7. Anti-kickback		
8. Tax status		
	Develop, implement, and assess auditing and internal control systems.	
	Identify, analyze, and assess financial risks.	
	Identify and select appropriate financial risk management instruments.	
	Assess effectiveness of financial risk management measures.	

Table 3, *cont.*

Develop and Assess Financial Models	<p>Evaluate, select, implement, and conduct ex-post assessment of capital projects.</p> <p>Formulate and evaluate multiple scenarios.</p> <p>Calculate expected values in an environment with uncertain information.</p> <p>Design financial models to determine volume, price, or expense targets that achieve desired metric.</p> <p>Design and evaluate corporate and project-specific financial models.</p> <p>Account for direct/indirect costs and benefits (i.e., synergies, cannibalization, market saturation, etc.).</p>	Advanced
Optimize Long-Term Investing and Capital Structure	<p>Assess the current financial structure of an organization and determine its optimal capital structure.</p> <p>Assess and select appropriate sources of investment capital.</p> <p>Calculate growth needs.</p> <p>Determine the appropriate mix of investment capital that achieves the desired capital structure.</p> <p>Evaluate the impact changes in capital structure have on financial returns and strategic flexibility.</p>	Advanced
Design and Evaluate Effective Revenue Cycle Management	<p>Identify suboptimal stages for both providers and payers in the revenue cycle.</p> <p>Effectively negotiate, execute, and assess contracts.</p>	Intermediate

Table 3, *cont.*

Build Strategic and Financial Plans	<p>Provide financial advice as part of the strategic planning process.</p> <p>Assess feasibility of strategic plan.</p> <p>Formulate and implement business plans.</p> <p>Develop and implement budgets.</p> <p>Evaluate budget execution.</p> <p>Articulate and provide financial advice. These circumstances include:</p> <ol style="list-style-type: none"> 1. Tax implications associated with for-profit institutions and with 501C3 organizations 2. Debt 3. Capital losses 4. R&D 5. Joint ventures between for-profit and 501C3 organizations 	Intermediate
Apply Financial Systems Knowledge	<p>Understand the role and function of financial information systems in the strategic and financial management of operations.</p> <p>Identify sources and uses of financial data for the financial modeling process.</p> <p>Explain strengths and weaknesses of different types of financial information.</p> <p>Interpret appropriate uses and protections of financial information.</p>	Basic

SECTION THREE

Curriculum Review

With a finalized competency model, the next stage involved reviewing the existing curriculum to see where the healthcare finance competencies are already covered, and where gaps exist. Our MHA program consists of 60 total credit hours. Students complete 48 credit hours of core classes and 12 credit hours of elective courses. Since all classes are 3 credit hours, the students take 16 core courses and 4 elective courses.

Our initial review found that 5 of the 16 core MHA courses addressed the healthcare finance competencies, but only at the beginner and intermediate levels. We deemed this coverage insufficient to achieve the desired levels of competency attainment for the seven healthcare finance competencies. To achieve the higher levels of healthcare finance competencies, we searched

across the university to find existing graduate-level finance and accounting classes that may address the competencies. We identified classes in advanced corporate finance, risk management, and advanced accounting that partially addressed the healthcare finance competencies. Additionally, we will develop a new healthcare finance elective within the department that will specifically address the remaining competency gaps. In total, students pursuing the AOC will complete 6 courses, comprising 18 credit hours, that specifically focus on building healthcare finance competencies. Three courses are a part of their core curriculum, and three of their four elective courses will be required by the AOC. No additional credits beyond the 60 will be required for students to complete both the traditional MHA program and the Healthcare Finance AOC.

Moreover, students pursuing the AOC will be required to establish a free student membership in the Healthcare Financial Membership Association (HFMA). HFMA membership provides students with access to practitioner-based articles and continuing-education offerings from the local HFMA chapter. In addition, all students pursuing the AOC will be required to either generate a healthcare finance paper of publishable quality or complete a finance-focused practicum/project with a local healthcare organization prior to graduation. Table 4 summarizes the comparison between students pursuing the MHA both with and without the Healthcare Finance AOC.

Table 4

Comparison of Traditional MHA and the New MHA with Healthcare Finance Area of Concentration

	MHA	MHA w/ AOC	Remarks
Total Number of Credit Hours	60	60	No change to overall number of credit hours
Number of Directed Hours	48	57	Adds 9 finance-focused credit hours (three courses)
Number of Elective Hours	12	3	Reduces free electives
Finance-related % of Overall Credit Hours	15%	30%	Doubles healthcare finance content
Number of Comprehensive Exams	1	2	Addition finance-focused comprehensive exam
Project/Practicum Requirement	No	Yes	Addition of finance-focused project or peer-reviewed paper
Professional Organization Membership	No	Yes	Requires student membership in HFMA
Total Number of Competencies	60	67	Expands MHA model by adding new healthcare finance competencies

Competency Assessment

With the competency model designed and the curriculum structure established, we look toward the feedback stages of CBE, primarily assessments of competency attainment and outcome surveys from stakeholders. Assessments will initially take place through evaluation of the finance-focused practicum/project with a local healthcare organization or their paper, and then subsequently through a comprehensive oral examination. The AOC oral examination will take place near the end of the MHA program, immediately after students complete the MHA comprehensive exam. In the future, HFMA assessment (i.e., CHFP certification) may also be considered as an adequate assessment of competency attainment. Ultimately, analyzing graduate placement outcomes and soliciting stakeholder feedback will provide market-based validation and the continued relevancy of the healthcare finance competencies.

CONCLUSION

With CBE now being the standard approach to competency development within graduate-level health management education, we extend the literature by using CBE to develop robust functional-area expertise. Using stakeholder feedback from both demand-side and supply-side analysis, we developed and validated a competency model for a specific functional area (i.e., healthcare finance) that uniquely met our stakeholders' needs. We used the competency model to develop the curricular infrastructure necessary for building those competencies within an area of concentration, delivered as a component of the Master of Health Administration Program at Saint Louis University.

Our long-term goal is to produce future health executives with a more robust understanding of value maximization. We maintain the broad perspective of our overall competency model, while also building robust functional areas of expertise through establishing competency-based AOC in healthcare finance and operations. These areas of concentration extend and enhance the Saint Louis University MHA Competency Model, thereby enabling our program to create future health executives with the competencies necessary to shape the future of healthcare in a time when maximizing value will be of great importance.

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