



Published in final edited form as:

Acad Med. 2012 July ; 87(7): 982–987. doi:10.1097/ACM.0b013e3182583263.

Fully Aligned Academic Health Centers: A Model for 21st-Century Job Creation and Sustainable Economic Growth

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Abstract

Alignment is the degree to which component parts of academic health centers (AHCs) work cohesively. Full alignment allows AHCs to act quickly and cohesively toward common goals and to take advantage of opportunities that present themselves, particularly where collaboration is essential. Maryland's two major AHCs—University of Maryland Medicine (UMM) and Johns Hopkins Medicine (JHM)—have experienced periods of significant misalignment during each of their histories. Their most recent periods of misalignment caused significant negative economic and academic impacts. However, the process of realigning their clinical and research missions has not only given them a renewed economic vigor but has also paid significant dividends for the state of Maryland, helping it weather the current recession much better than other regions of the country. The two AHCs' continued economic success during the recession has led Maryland lawmakers to increasingly seek out their expertise in attempts to stimulate economic development. Indeed, UMM, JHM, and other fully aligned AHCs have shown that they can be powerful economic engines and offer a model of job growth and economic development in the 21st century.

During the recession that began in 2007, approximately 8.4 million Americans lost their jobs during the initial year.¹ Although the U.S. economy began improving somewhat in 2011 and 2012, as of spring 2012 the current national unemployment rate is still above 8%,² and the long-term economic forecast remains murky.³ The state of Maryland suffered significantly fewer job losses compared to other regions of the country and, recently, has added thousands of jobs while many other states' economies have remained stagnant. Maryland's unemployment rate stood at 6.5% as of February 2012,⁴ which is almost 20% below the national average. Furthermore, Maryland consistently has been ahead of the curve in terms of economic recovery.⁵

One major reason Maryland fared better during this recession compared to the rest of the nation is its close proximity to Washington, DC. Nonmilitary federal jobs generate \$11.4 billion in total wages annually in Maryland.⁶ However, University of Maryland Medicine (UMM) and Johns Hopkins Medicine (JHM), Maryland's two major academic health centers (AHCs), generate roughly the same amount (\$11.5 billion) of economic activity

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Ethical approval: Not applicable.

annually for the state.^{7,8} Indeed, we are two of the largest nonfederal employers in Maryland.⁹

Whereas federal jobs in the state and the rest of the nation are projected to shrink dramatically in the coming years,¹⁰ our two enterprises are growing and annually adding thousands of new jobs throughout the state and region. As a result of the economic staying power during the recent recession, Maryland lawmakers increasingly seek advice from UMM and JHM on economic development strategies for the life sciences sector. Neither of our health systems would be in economic leadership positions today, however, if it were not for steps we took in our recent histories to bring our respective health care systems into full alignment. These experiences are consistent with AHCs elsewhere that have seen significant research, clinical, and economic gains as a result of full alignment.¹¹

What Is Alignment and Why Is It So Important?

Alignment is the degree to which component parts of AHCs work together. In fully aligned AHCs, medical school, practice plan, and university hospital leaders closely align their governance, strategies, management, and economics (Figure 1). AHCs can achieve significant alignment by optimizing at least two of these four dimensions; optimizing only one is insufficient to achieve significant institutional alignment.¹²

Full alignment allows AHCs to act quickly and cohesively toward common goals¹² and to take advantage of opportunities that present themselves, particularly where collaboration is essential.¹³ A recent study by Souba and colleagues¹⁴ found that AHCs with strong alignment between their medical school deans and clinical department chairs were significantly more successful in competing for National Institutes of Health (NIH) research grants compared to lesser-aligned AHCs. The University of Pittsburgh Medical Center and the University of Pennsylvania Medical System, two separate and privately owned AHCs residing in separate regions of Pennsylvania, are examples of two AHCs whose leaders credit full alignment between their research and clinical missions as a major reason for their clinical and economic success.¹¹ Combined, they generate more than \$26 billion in economic activity and more than 90,000 jobs for the state of Pennsylvania.^{15,16}

The UMM Story

The University of Maryland School of Medicine (UMSOM) was founded in 1807 as the nation's first public medical school. In 1823, UMSOM's faculty used their own funds to build the first hospital in Baltimore, which was also the nation's first teaching hospital and AHC.¹⁷ However, the hospital was on shaky financial footing for much of its history because of constant internal squabbling, poor business practices, and bad relationships with its physicians and state legislators.¹⁷ Nevertheless, it was generally successful until the mid-1980s, when a drastically changing health care landscape and a weak revenue flow pushed it to the brink of insolvency.¹⁷

Maryland's then governor, Harry R. Hughes, stepped in and freed the hospital from state management so that it could be more competitive with other hospitals in the region. He also created an independent, 21-member board of directors made up of former medical school alumni and current faculty to oversee the operation of the hospital, which was renamed the University of Maryland Medical Center (UMMC).¹⁷ Simultaneously, the Maryland legislature passed a bill creating the University of Maryland Medical System (UMMS), with UMMC as its flagship hospital. The legislation also stipulated that UMSOM must recruit and supply all of the faculty physicians providing care at UMMC.¹⁷

UMMS thrived under this new governance system, expanding to a six-hospital system with annual revenue increasing from \$165 million to \$1 billion by the year 2000.¹⁷ In the mid-2000s, however, an unprecedented rate of growth in the medical school and its physicians' clinical practice, coupled with a change in leadership at the medical system, created another period of significant misalignment that resulted in the cancellation of a \$350 million clinical expansion project¹⁷ and a dramatic drop in UMMS' operating margins for several years (Figure 2).

In 2008, Maryland's current governor, Martin O'Malley, intervened to correct this misalignment by reconstituting the UMMS board of directors. The UMMS board then appointed a new chief executive officer, previously UMMS's chief financial officer and already well known to the leadership of the medical school and faculty practice plan.^{18,19} The leadership of UMMS and UMSOM then immediately sought to realign themselves through the steps outlined below, which not only restored UMMS profit margins to healthy levels (Figure 2) but also ensured its ability to reinvest in new facilities and research programs that could produce additional profits.

UMM's realignment approach

UMM's first realignment step was to significantly change how all joint initiatives and programs were planned and led. Rather than alternating leadership between UMSOM and UMMS on major planning and recruitment committees, as in the past, we made UMSOM and UMMS representatives equal cochairs on all joint committees. We also fully integrated our longer-range planning processes. For example, when UMSOM developed its most recent strategic plan, it included leadership and staff from UMMS and the faculty physician practice plan in all phases of the process.

UMMS likewise facilitated realignment by including UMSOM leadership and faculty in all of its expansion plans, including planning for mergers, acquisitions, and clinical services expansion. UMSOM's dean and senior staff also began participating in all UMMS board meetings and retreats.

In addition, all UMM leaders heavily promoted their renewed partnership and commitment to collaboration internally and externally by publishing joint annual reports,^{7,20} which hadn't been done in more than a decade, and holding joint town-hall-style meetings for faculty, staff, and supporters. UMSOM promoted the collaborative partnership and interdependence of the medical school and health system during its annual state of the school address,²¹ which every year includes an audience of local, state, and national legislators, major donors, the public, members of the board of visitors, and UMMS leadership and staff. Thus, it was made clear to all of UMM constituents and supporters that the health system and medical school are equal partners, and one cannot truly succeed without the other.

The benefits of better alignment for UMM

These steps have resulted in a common set of visions and goals and in the joint planning and execution of major programs and projects throughout the region. Moreover, they put UMM on sound financial footing and gave it the ability to respond quickly and aggressively to new opportunities and new sources of funding. Indeed, UMSOM currently is one of the fastest-growing research enterprises in the country, as measured by federal grants and contracts.²¹

UMSOM's internationally recognized basic science and clinical research capacity, in turn, has helped fuel UMMS rapid growth and clinical achievements. Today, UMMS is a 12-hospital system with 15,000 employees, approximately 2,300 licensed beds, 115,000 annual patient admissions, and gross patient revenues of nearly \$2.5 billion annually.⁷ One UMMS

hospital is jointly owned with JHM. Recently, the Leapfrog Group, which rates hospitals for health care quality and patient safety, named UMMC as one of the two “Hospitals of the Decade” for health care quality and patient safety.²² UMMC also has recently been consistently ranked by *U.S. News & World Report* as one of the nation’s top hospitals.²³

The JHM Story

On his death in 1889, Baltimore entrepreneur Johns Hopkins bequeathed \$7 million to create The Johns Hopkins Hospital and the Johns Hopkins University (JHU) as separate entities, with separate presidents and boards of trustees. JHU founded a school of medicine in 1893, with its own separate governing board. It quickly grew to become a nationally recognized leader in medical education and biomedical research.^{24,25}

Despite their separate governance, JHU, its medical school, and Johns Hopkins Hospital coexisted peacefully for more than a century and shared a common clinical vision.²⁴ However, by the mid-1990s, the separate boards and their leadership had developed different visions. Those differences led to frequent internal clashes among the leadership of all three organizations as well as between their boards.²⁴ Media reports of their frequent feuds made fundraising for the school of medicine and the hospital difficult, at a time when the medical school was running budget deficits as the result of constructing, equipping, and financing a new research building, all requiring an internal loan of \$30 million to pay its expenses.²⁴

By 1996, members of all JHU boards recognized the damage their infighting was inflicting not only on the reputation of their AHC but also on the morale of its faculty and staff. They also recognized the urgent need to put the medical school on better financial footing so that it would be able to adapt to a changing health care landscape.²⁴ The JHU boards of trustees, therefore, held a number of emergency meetings and ultimately created a framework for greater unity and integration of decision making and strategic planning between the hospital system and the medical school.²⁴

JHM’s realignment approach

To achieve realignment, JHU created a 10-member coordinating group— with equal representation from the university, hospital, and health system boards—to completely overhaul the century-old system by which the school of medicine and The Johns Hopkins Hospital interacted and operated. That coordinating group then created a “virtual corporation,” the Johns Hopkins Health System Corporation, which was to be overseen by a 40- to 45-member board made up of university and health system trustees and a 16-member executive committee chaired by JHU’s president.²⁶ The coordinating group also created a unified leadership position, or combined dean/CEO, to run JHM, as the combined medical school and hospital system officially became known. The first dean/CEO of JHM and vice president for medicine of the Johns Hopkins Health System Corporation, who previously was a respected member of the JHU faculty, was appointed on January 15, 1997.²⁷

The benefits of better alignment for JHM

The unified governance of JHM allowed the new dean/CEO to immediately begin strengthening the practice plan, one of the most important source of revenues for the medical school, but which had been losing money. Control of the practice plan was restored to the school of medicine, and by 2001 it was profitable again, with a 75% to 80% improvement in collected billings over previous years.²⁴ In addition, all of JHM’s fundraising was integrated so that there was no longer competition between the health system and medical school.²⁴

These steps then allowed JHM also to begin rapidly expanding its clinical services by acquiring other hospitals and merging with other health care systems. Today, JHM operates 6 academic and community hospitals, 4 suburban health care and surgery centers, and more than 30 primary health care outpatient sites, and it has more than 2.6 million outpatient encounters.²⁸

Realignment also allowed the medical school to remain the number one recipient of NIH research funding and to continue to be ranked among the top research-oriented medical schools in the nation by *U.S. News & World Report*.²⁹ The Johns Hopkins Hospital likewise has continued to take the top spot in annual rankings.²³

Economic Benefits of Alignment to the State of Maryland

UMM and JHM generate a combined \$11.5 billion (\$5 billion and \$6.5 billion, respectively)^{7,8} in direct economic output for Maryland. Furthermore, our two AHCs are both experiencing a period of rapid growth and expansion, which means potentially thousands more new jobs for the region.

In 2011, JHM completed the most expensive building project in Baltimore's history³⁰—a \$1.1 billion hospital construction project that added more than 2.6 million square feet of clinical and research space and created thousands of jobs for Baltimore (Table 1). In addition, UMM recently completed or is in the midst of major construction projects at six separate locations across the state. These projects are creating thousands of construction jobs and many more health care system jobs for Maryland (Table 1).

The Maryland General Assembly recently allocated funding for the design phase of UMM's newest health sciences facility, a 332,000-square-foot, \$284 million, state-of-the-art research building to be located on the University of Maryland Baltimore campus.³¹ This project will increase economic activity in Maryland by an estimated \$410 million and create roughly 3,000 jobs over its multiyear construction period.³²

UMM and JHM also have spurred a growing commercial life sciences hub in Baltimore by building a biotechnology park near each campus. Thanks largely to these two bioparks, which required roughly similar investments, as of 2012 Baltimore is home to almost one-quarter of Maryland's biotechnology companies and 41% of its private life sciences jobs.³³ Since their establishment, these two bioparks have added almost 1,000 high-paying jobs to the Baltimore economy (Table 2), which have offset losses in other parts of the state.³⁴ They have also attracted a variety of new businesses and ventures, which will help create more jobs in the future.

The state of Maryland has recognized the importance of our two health care enterprises to the health of the state's economy. For example, Maryland's governor, Martin O'Malley, asked the leadership of both institutions to collaborate on ways to spur economic activity and to recruit the best and brightest research and technical talent to work in Maryland.³⁵ UMM and JHM also are two key institutional members of the Maryland Life Sciences Advisory Board, which is helping Maryland's legislature to develop a comprehensive strategic plan for the state's life sciences industry.³⁶ One of the major programs conceptualized by the board is Governor O'Malley's BIO 2020 Initiative, a comprehensive, targeted plan to leverage Maryland's science and technology assets and highly skilled workforce to attract and grow the bioscience industry in Maryland.^{37,38}

Indeed, bioscience has become a major source of jobs, income, and gross state product (business sales) in Maryland. It contributes to Maryland's coffers through the income and sales taxes generated directly and indirectly by the sector's commercial entities, institutions,

and employees.³⁹ Combined, Maryland's biotech companies generate \$29 billion in economic output, supporting 120,000 total jobs, \$11 billion in direct income, and nearly \$600 million in state taxes annually.³⁹ Maryland's life sciences sector accounted for one-third of all state job gains between 2002 and 2010, and it generates 6%, or \$17.6 billion, of the state's gross domestic product.³⁴ The Baltimore region, home to UMM and JHM, generated more than 40% of these new life sciences jobs.³⁴

Comments and Conclusions

Misalignment between research and clinical missions and visions at AHCs is not an uncommon occurrence. When misalignment does occur, it often results in acrimony between and among institutional leadership and governing bodies and can also negatively impact the morale and productivity of faculty and staff. The thesis that realignment can pay significant clinical and economic dividends is supported by the available research. Kirch and colleagues, for example, made a case study of a period of misalignment and realignment at the University of Pennsylvania health system and found that realignment led to significant gains in academic, research, and clinical performance almost immediately after it occurred.⁴⁰

Kirch et al also found a set of critical factors within Penn Medicine's realignment approach that were associated with its successful turnaround.⁴⁰ Among these factors are several that closely correlate with the steps we took to achieve realignment, including aligning corporate structure and governance to unify the academic enterprise and health system; fostering collaboration and accountability; and articulating a succinct, highly focused, and compelling vision and strategic plan internally and externally.

During UMM's and JHM's most recent periods of misalignment, JHM chose a unified leadership approach to affect realignment, whereas UMM chose a "separate but equal" leadership approach. There are few data to recommend one leadership structure over the other.⁴¹ However, the data do suggest that whatever the structure, leadership qualities are critical to maintaining proper alignment. UMM and JHM both chose new leaders who were already well known within their organizations and who knew its inner workings to help bring about realignment. Case studies of AHCs support the notion that autocratic leaders and trustees are not as successful in maintaining alignment as are leaders with a democratic leadership style who govern by consensus rather than decree.^{42,43} Balancing the makeup of governing boards⁴⁴ also is a critical factor in bringing AHCs back into proper alignment.

UMM and JHM have both faced serious economic challenges of our own before and during the recent recession, operating on razor-thin margins for years. Now we face an even more uncertain future with the specter of sequestration of the federal budget in January 2013, possible additional state funding cuts, decreased endowment recovery, market uncertainty caused by health care reform, and fundraising challenges coupled with increased pressure on institutional resources for research. Nevertheless, because of the ability to act collaboratively and in a coordinated fashion, we believe that we and other fully aligned AHCs will be in a better position to weather these vicissitudes than less aligned AHCs.

Acknowledgments

The authors would like to acknowledge the contributions of Jim Swyers at UMM and Gary Stephenson at JHM for their invaluable assistance in preparing this manuscript. Jerry Wollman (UMM), Brian DeFillipis (UMM), and Sharon Tiebert-Maddox (JHM) also provided invaluable assistance at various stages of its development.

Funding/Support: None.

Other disclosures: Dr. Reece is the principal investigator on two NIH grants (1R01DK083770-01A1 and RR16500-06) and a co-investigator on another (1R01DK083243-01A2).

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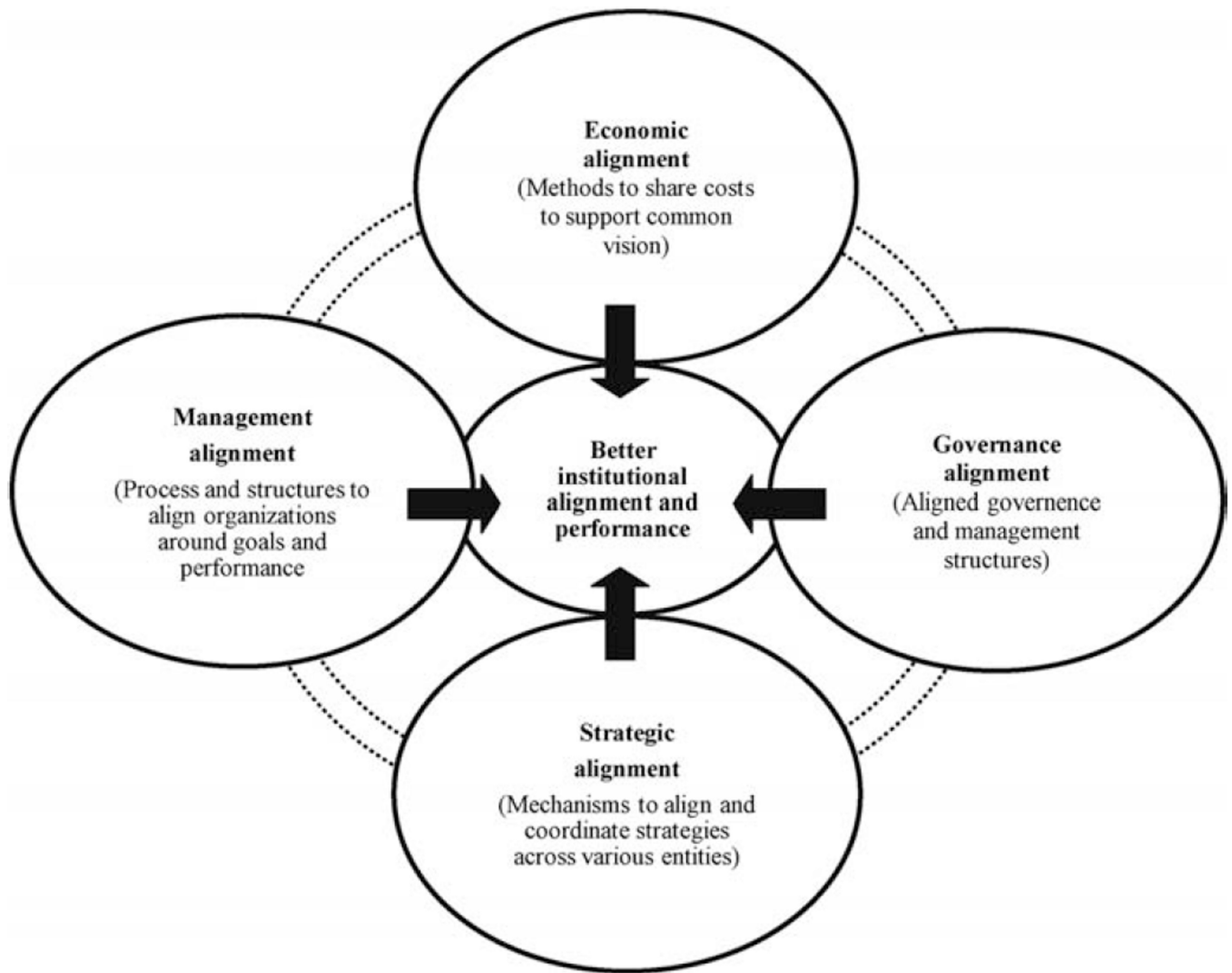
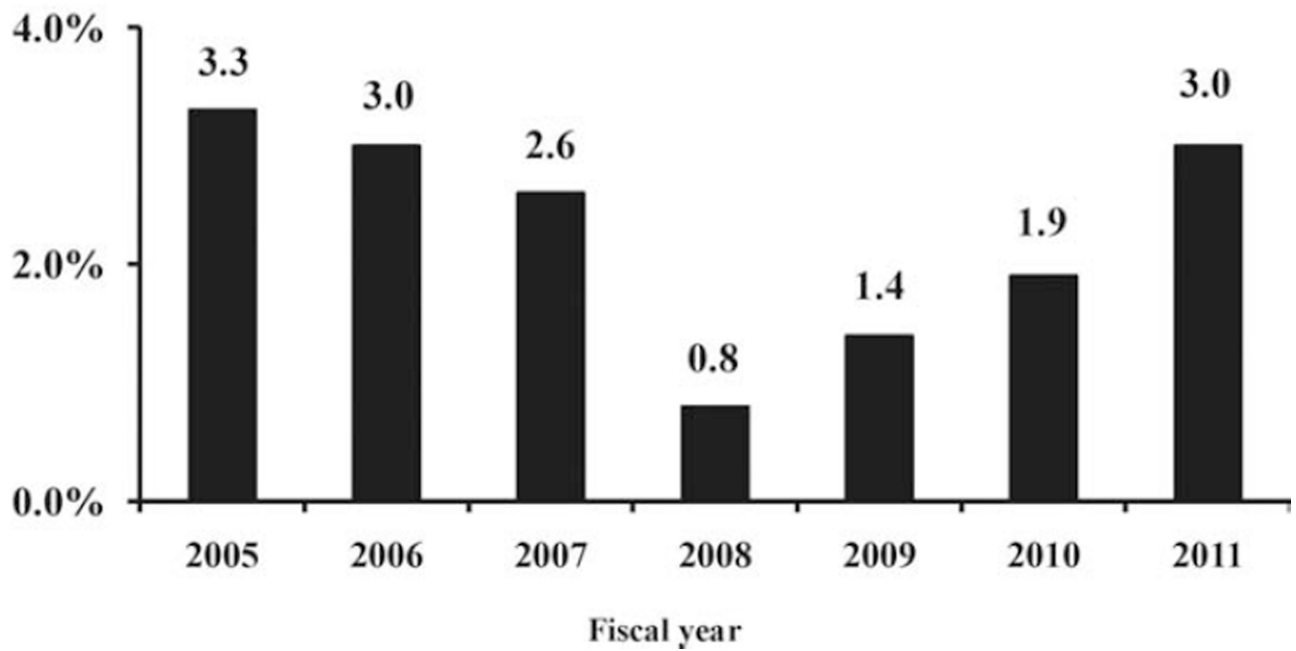


Figure 1. Optimal academic health center alignment, as achieved by integrating the organization to the greatest extent possible in four key areas. Modified with permission from Levin S, Maddrey G, Bagnell A. Achieving Optimal Alignment in Academic Health Centers. http://www.chartis.com/files/pdfs/chartis_group_ahc_alignment_whitepaper.pdf. Accessed March 16, 2012.

% operating margin**Figure 2.**

University of Maryland Medical System's (UMMS's) operating margins, 2005–2011. Excludes certain one-time revenue and expense items. In fiscal year 2008, operating margins dipped almost 75% from fiscal year 2005 during UMMS's period of greatest misalignment.

Table 1

Recent or Ongoing Major Construction Projects at University of Maryland Medicine (UMM) and Johns Hopkins Medicine (JHM) Academic Health Centers, as of 2012

Details	UMM*	JHM
Total square feet	900,000	2.6 million
Total investment	\$664 million	\$1.6 billion
Construction jobs created	1,315	2,600
Permanent health system jobs created	500	700

* Excludes planned 332,000 sq. ft., \$284 million research building.

Table 2

University of Maryland Medicine (UMM) and Johns Hopkins Medicine (JHM) Biopark Square Footage, Investment, and Jobs Created, as of 2012*

Details	UMM Biopark	JHU Science and Technology Park
Total square feet	465,000	289,000
Tenants	26	16
Investment	\$180 million	\$199 million
Jobs created	550	430

* Source: Roylance FD. Baltimore biotech parks grow despite recession. Baltimore Sun. November 28, 2010. http://articles.baltimoresun.com/2010-11-28/health/ba-hs-baltimore-bioparks-20101128_1_drug-discovery-technology-park-nuclear-power. Accessed March 16, 2012. Reprinted with permission.