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Carle

Business Plan to Establish a New College of Medicine in Urbana-Champaign

Final Report

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Research • Strategy • Impact

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I. Executive Summary

The health care industry is undergoing transformative change due to many factors, including unsustainable increases in costs, an aging patient and physician population, a primary care provider shortage, and the need to shift from a medical education and health care delivery system focused on providing episodic care to one designed to prevent and manage disease. To respond to this transformation, in April 2014, Carle Health System[1] and the University of Illinois Foundation retained Pittsburgh-based consulting firm Tripp Umbach to complete a feasibility report that recommended the development of a specialized engineering-based College of Medicine in Urbana-Champaign through a partnership between Carle Health System and the University of Illinois at Urbana-Champaign. The following business plan includes a more robust evaluation of the need for and the financial and resource implications of a new College of Medicine.

This specialized engineering-based College of Medicine is envisioned to revolutionize the delivery of health care by integrating advanced technology, transforming the quality and efficiency of regional, state, and national health care delivery, strengthening the University of Illinois statewide, further advancing Carle as a transformative health care leader, growing statewide bioscience economic development, and serving as an international magnet for innovation, research, and scholarship. The first of its kind to integrate engineering and advanced technology concepts into the delivery of medical education, the College of Medicine will produce a new breed of physician-engineer, physician-discoverer, physician-inventor, physician-scientist who is trained to solve the problems of the health care system, in addition to providing high-quality care to patients. This focused College of Medicine will ideally admit its first class of 25 students in the fall of 2017.

The new College of Medicine will revolutionize health care by infusing engineering into medical research and education to respond to transformative changes in the health care industry. The future of health care requires that patients, providers, and academic institutions work together in innovative ways to provide high-quality care with better outcomes at lower costs for more people, particularly the underserved.

Significant forces exist that impact the need to move forward quickly to develop the new College of Medicine. Of particular importance is maintaining and enhancing the respect, visibility, and impact of the University of Illinois at Urbana-Champaign, and enhancing the ability to attract and retain the best faculty in all academic and research units, particularly the College of Engineering. Of the institutions that are considered the University's "dashboard peers", only one does not have a medical school on its campus.

Further, in a time of documented physician need throughout the nation, the new College of Medicine will also attract high-quality, innovative physicians who desire to practice, teach, and conduct research in an academic medical center environment. A new College of Medicine located in Urbana-Champaign will also significantly improve the region's ability to compete for health-related funding from the federal government, corporations, and private foundations, particularly significant to the economic

[1] Carle Health System includes The Carle Foundation and the affiliates and subsidiaries it controls.

development of the region and the state as this funding represents "fresh" dollars from outside of the state. Additionally, the new College of Medicine will encourage investment and the creation of new companies and jobs in the region.

The community of Urbana-Champaign is unique in its ability to address all of the challenges outlined above. It contains not only a leading research-based university, but also a high-quality, fully integrated health care delivery and financing system. The University of Illinois at Urbana-Champaign and the Carle Health System recognize the potential to leverage this advantage to shape the future of health care through the development of a medical education and research enterprise.

The medical education model outlined in this business plan provides the best opportunity to change the way health care is delivered throughout Illinois and the nation. There are many examples of existing Colleges of Medicine that have attempted and failed to introduce engineering principles into their education program. Such changes are simply not easy to impose on admittedly successful schools that offer a more traditional program. The proposed College is different – not only will it be built from the ground up by two dedicated partners, it will also be small, nimble, and focused on its goals and objectives. It is under these circumstances that it becomes possible to envision hiring the right people in an environment that will be dynamic and flexible enough to start afresh, and perhaps more importantly, be able to adjust quickly to what works and doesn't work in developing a completely new type of team-oriented clinician-scientist. The existing strengths of the University of Illinois at Urbana-Champaign and the Carle Health System, as well as the two partners' collaborative energy and dedication to the transformation of health care, are significant indicators of the long-term success of the proposed medical enterprise. However, the institutions must move quickly to develop the new College of Medicine to advance Carle Health System as a premier national health care leader, and to allow the University of Illinois to maintain its position as an international leader in engineering and other technology-based research.

Partner Qualifications

The collaboration between Carle Health System and the University of Illinois at Urbana-Champaign provides unique expertise and capabilities that are not available at any other medical school. These qualifications will allow the new College of Medicine to transform the delivery of medical education.

Carle Health System

Carle Health System's integrated health care system is already a model for effective and efficient health care delivery, focusing on the patient while incorporating teaching and research in its daily operations. Ranked 14 out of 220 hospitals in the state by *U.S. News and World Report*, and the only hospital outside of the Chicago area to rank in the top 15, the system is financially strong at a time when many hospitals throughout the state and nation are struggling. Carle is recognized as one of the nation's Most Wired Hospitals by *Hospitals and Health Networks*, is a Magnet Status hospital for nursing excellence, and is recognized by Healthgrades as one of the top hospitals in the country for Stroke, Critical Care, Neuroscience and Neurosurgery, Gastrointestinal Care, Pulmonary Care, and Women's Services. Comprising a 393-bed tertiary care hospital, a critical access hospital, an employed physician group practice including approximately 400 licensed physicians and 200 advanced practice providers, and a

270,000-member health plan, the integrated system is designed to deliver high-quality affordable health care focused on improving health outcomes in a fiscally responsible manner for 1.5 million residents. Carle Hospital incorporates a Level I Trauma Center, a Level III Perinatal Service, the Neuroscience Institute, which includes comprehensive stroke services, a Heart and Vascular Institute, a Cancer Center, and a Digestive Health Center. As a fully-integrated health system, Carle Health System has the capacity, data, and provider base to transform health care delivery. Carle Health System's model ensures that the continuum of primary and specialty care, whether delivered in an outpatient or inpatient setting, is built upon utilization of a system-wide electronic medical record, application of evidence-based medicine, and a focus on patient safety and satisfaction and continuous quality improvement.

Health care systems are being developed across the country as the preferred delivery model for patient care. Utilizing a health system model that partners physicians and patients across the continuum of care improves care coordination, reduces redundant testing, and increases patient satisfaction. A critical component of care coordination is optimizing the use of technology through electronic health records (EHRs) that are accessible to all providers and patients. Carle Health System has deployed the use of an EHR system across multiple locations and services, and its patients are encouraged to engage in "e-health" services. Developing an engineering-based medical school with a partner that is a leader in implementing and using technology to coordinate care and empower patients is a unique opportunity that Carle Health System can provide.

A common theme in discussions of how to improve the current health care system is maximizing the insights and value created from analyzing and integrating data. Data fragmentation frequently occurs in health care delivery because information about patient care cost and utilization is often housed on a payor's system and is not accessible to providers for the evaluation of cost-effective care models. By owning a robust insurance company, Carle Health System is able to achieve what most other providers cannot – access to utilization and cost of care data. Carle Health System's ability to teach future physicians about data-driven decision-making and innovation based on big data will be a key asset for the new engineering-based medical program. This integration across all aspects of Carle Health System – including its insurance company – will more closely align physician, patient, and payor goals for evidence-based team patient care, improved health outcomes, higher patient satisfaction, more effective and efficient use of resources, and a full continuum of care.

Complementing Carle Health System's approach to the delivery of medical care is its long-term commitment to medical education and research. Through its residency programs in Family Medicine, Oral and Maxillofacial Surgery, and General Surgery, and its partnership with the University of Illinois College of Medicine's Internal Medicine residency program, Carle trains physicians in an integrated health care delivery system that prepares physicians for practicing medicine in a quality-driven, technologically-advanced, innovative, and efficient environment. Supporting this commitment is a robust Continuing Medical Education (CME) program for physicians, nursing education programs, and training programs for ancillary technicians.

Finally, the Carle Research Institute is focused on translating medical knowledge into practical applications for patients. Carle Health System physicians, nurses, residents, and scientific research

partners from other entities, including the University of Illinois at Urbana-Champaign, are currently engaged in 107 research studies and are working together to support numerous clinical trials to translate lab discoveries into practical applications for better patient care. Current research projects include optical medical imaging, traumatic brain injury, and genomic diagnostics in cancer. Carle's integrated model, including clinical care teams, electronic health records, data analytics, and a health insurance company, provides a laboratory where research, education, and quality patient care combine to transform health care.

University of Illinois at Urbana-Champaign

The University of Illinois at Urbana-Champaign is a member of the prestigious Association of American Universities (AAU), a Carnegie I Research Intensive University, and a recognized global leader in fostering excellence in teaching, research, service, and economic development. The University of Illinois at Urbana-Champaign is consistently ranked among the top five universities in National Science Foundation (NSF) funding. It has a long tradition of interdisciplinary collaboration and integration of technology across disciplines, as exemplified in interdisciplinary research centers such as the Coordinated Science Laboratory, the Beckman Institute, the Institute for Genomic Biology, and the Micro Nano Technology Laboratory, all of which include health-related research. A new engineering-focused College of Medicine based in Urbana-Champaign will immediately be positioned to bring new federal, corporate, and foundation support into the region for innovative multidisciplinary research involving patients, scientific research, and advanced technology-driven solutions.

The University of Illinois at Urbana-Champaign's College of Engineering is among the highest ranked Colleges of Engineering in the nation and is actively engaged in engineering innovations for medicine in areas such as material science, computer science, imaging and sensors, and bioinstrumentation. It is highly sought after as a partner for pursuing the integration of engineering and medicine. For example, the Mayo Clinic has chosen the University of Illinois at Urbana-Champaign College of Engineering as its primary technology and genomics partner after a rigorous evaluation of other top engineering schools. Additionally, the top 10 United States medical schools, as ranked by total federal funding from the National Institutes of Health (NIH), also have ongoing research collaborations with engineering and science faculty at the University of Illinois at Urbana-Champaign.

In 2013, a $100 million gift from The Grainger Foundation was given to the College of Engineering to ensure its continued excellence. These funds are being used to support faculty, students, and facilities at the College of Engineering to increase the University's ability to attract and retain top-tier faculty and students, which will ultimately benefit the new College of Medicine. It is anticipated that The Grainger Foundation gift will allow the University of Illinois to recruit 35 new full professors.

The University of Illinois at Urbana-Champaign is a comprehensive research-intensive university. Thus, while the new College of Medicine will be engineering-based, it will draw on new and extraordinary opportunities for collaboration with other colleges to infuse technology-based health care in the colleges' educational and research missions. For example, the new College of Medicine could partner with Applied Health Sciences to develop technology-based solutions for health care delivery for the disabled and growing elderly population. Additional partnerships will include the Colleges of Liberal Arts and Sciences, Veterinary Medicine, and Agriculture, Consumer and Environmental Sciences, as well as

Bringing the Testing Laboratory to the Patient

Professor Rashid Bashir and his team are developing a microfluidic chip that counts specific types of white blood cells. The team, working with the Champaign-Urbana Public Health District and Carle Foundation Hospital, discovered that the chip has a 90%-95% accuracy rate in diagnosing HIV/AIDS. This type of point-of-care test, which does not exist today, will have a significant impact on health outcomes, especially for the millions of people infected with HIV in Sub-Saharan Africa. Additionally, cost reductions of at least 80% are projected to result from this technology, and interpretation of results can be done at home or in a basic clinical setting. Existing techniques require specialized equipment, and results are not available the same day.

Dr. Bashir was inspired to pursue this work while on sabbatical at Massachusetts General Hospital with Dr. Mehmet Toner. There he met Dr. Bill Rodriguez, a leading authority in global health. Dr. Rodriguez is now the CEO of start-up Daktari Diagnostics. With the new College of Medicine, Professors like Dr. Bashir won't have to go on sabbatical to be inspired to pursue transformative health care solutions. Researchers and clinician-scientists will work side by side to solve the world's most challenging health problems.

the School of Social Work, the Institute for Genomic Biology, the Beckman Institute, and the Interdisciplinary Health Sciences Initiative.

The University of Illinois at Urbana-Champaign has the elements necessary not only to pursue discoveries and innovations, but also to facilitate their adoption and commercialization. Many colleges and faculty members can support the design, applied health assessments, and behavioral and social elements related to the adoption of medical innovations. Faculty members are developing an innovative engineering-centric and team-centric curriculum that will infuse principles of innovation among all students. The University will also be able to leverage its Research Park and start-up ecosystem centered on its nationally recognized EnterpriseWorks incubator to create pipelines of biotech companies, and to partner these companies with an extensive industrial biosciences network of state and national enterprises.

The University of Illinois at Urbana-Champaign will be able to leverage its excellent facilities, including the Blue Waters supercomputer and the extensive imaging facilities available at the Beckman Institute, as well as robotic, data visualization, and cybersecurity test beds found in different multidisciplinary units of the University and the College of Engineering. In addition, a major Electrical and Computer Engineering building has just been opened, and Everitt Laboratory is being fully renovated for the Department of Bioengineering. The current facilities housing the existing College of Medicine are also undergoing major renovations. Finally, the campus owns land where a future medical research enterprise center could be created.

The University of Illinois at Urbana-Champaign already has well established connections with Carle Health System. These include bridges established through the Division of Biomedical Sciences, the Mills Breast Cancer Institute, the Carle Neuroscience Institute, and departments with faculty affiliates with well-established connections with colleagues at Carle Health System. These provide a strong foundation for the partnership's success.

Working together eliminates the need for the new College of Medicine to own and operate its own hospital and clinical practice. Instead, the College is partnering with a strong existing health care system, a growing trend among other new medical schools that leverage private-public partnerships for efficiency.

Improving Breast Cancer Care through Innovation

Technology developed by Electrical and Computer Engineering Professor Scott Carney is at the heart of a new device to determine whether all of a tumor has been removed. Professor Carney and Professor Stephen Boppart, MD-PhD, co-developed the device and the resulting start-up, Diagnostic Photonics, Inc. Diagnostic Photonics is conducting a study with John Hopkins University and Carle Health System to evaluate the technology.

An estimated 226,870 women in the U.S. are diagnosed with breast cancer each year. About 70% of these women choose breast-conserving surgery. According to a recent study, 23% of breast-conserving surgeries are repeated within several days due to incomplete tumor removal; almost 40,000 women will have at least one repeat surgery. This is costly and linked to higher rates of cancer recurrence. Diagnostic Photonics, with research facilities in Champaign-Urbana and headquartered in Chicago, is allowing surgeons to do the best surgery the first time.

A key objective of the new College of Medicine is to provide opportunities for improved health outcomes as well as new partnerships, innovations, and start-ups to enliven both the central Illinois and Chicago bio-entrepreneurial scene.

Goals of the New College of Medicine

Carle Health System and the University of Illinois at Urbana-Champaign have developed specific goals for the new College of Medicine. A full list of goals is included in Appendix A of this report. The most important of these include the following:

- Reinvent health care around revolutionary advances in engineering and technology to further research, education, and health care delivery.
- Transform health care education of physicians through the development of team-based, innovative approaches to achieving improved health care outcomes throughout the continuum of care: preventive medicine, chronic disease management, acute care, rehabilitative medicine, and end of life care.

The goals of the new College of Medicine explicitly recognize the desire and value in being open to third-party collaborations as the College strives for excellence. As such, the College will not only build and strengthen the Carle-University partnership, but will seek organizational partnerships as appropriate that further the unique education, clinical training, and research goals of the new College of Medicine.

Economic Impacts Associated with the New College of Medicine

The total economic impact of the new College of Medicine enterprise on the state of Illinois is expected to exceed $1 billion annually by 2035, when the new College of Medicine is at full maturity. Further, the new College of Medicine is expected to sustain more than 7,600 jobs[2] statewide by 2035. These projections are based upon analysis completed by Tripp Umbach using benchmarks for mature academic medical centers in the United States.

Economic benefits of the new College of Medicine will accrue from the spending by the new College of Medicine, Carle Health System, and related research institutes on capital improvements and goods and services, as well as the spending of staff and faculty, the spending of medical trainees, and the spending (external to the institution) of visitors to the new College of Medicine.

The economic benefits generated by the development of a new unique research-intensive College of Medicine extend beyond the direct impact of its operations. The number of benefits generated in the region as a result of the College of Medicine will include the addition of thousands of

[2] Includes direct, indirect, and induced jobs.

highly paid professionals and support teams, newly constructed neighborhoods and schools to serve the anticipated increase in families relocating to the region, and communities championing the expansion of dedicated education, greater choices for entertainment and recreation, and improved transportation from Urbana-Champaign to Chicago as well as the east and west coasts. In addition to the construction of new homes and schools to support projected population increases, the need for new retail, banking, and commercial opportunities will serve as additional economic benefits for the region. For the state, the addition of a second unique College of Medicine will create new opportunities for securing federal research funds from numerous agencies, including the National Institutes of Health (NIH), Department of Defense (DOD), Department of Energy (DOE), and the Defense Advanced Research Projects Agency (DARPA), which in turn will drive innovation and technology-driven economic growth. New start-up companies formed through research and innovation from the new technology-driven College of Medicine will also attract private equity funding to the region.

Governance Structure of the New College of Medicine

After review and analysis of multiple medical school models, it was determined that the new College of Medicine will exist as a college within the University of Illinois at Urbana-Champaign. As such, the new College of Medicine will be subject to the ultimate control of the Board of Trustees of the University of Illinois and its University Statutes. Governance of the new College of Medicine will be exercised through a jointly appointed Joint Liaison Committee.

The new College of Medicine will be a discrete college, separately accredited from the University of Illinois at Chicago College of Medicine. Separate accreditation allows for the new distinct curriculum. No new hospital will be needed.

A non-binding Memorandum of Understanding (MOU) is currently being created to allow Carle Health System and the University of Illinois at Urbana-Champaign to move forward in good faith with development of the new College of Medicine. The MOU is being developed in close consultation with the senior leadership of both organizations, as well as with four members of the faculty senate executive committee.

Definitive agreements, which will outline specific governance rights and obligations concerning the new College of Medicine, will be developed by Carle Health System and the University of Illinois at Urbana-Champaign. Definitive agreements will also address the sharing of expenses and revenues between Carle Health System and the University of Illinois at Urbana-Champaign.

This governance structure provides several benefits to the new College of Medicine. It allows for the new College of Medicine to be accredited through the University of Illinois, and enables the degree to be conferred by the University of Illinois. These two benefits will allow the accreditation process for the new College of Medicine to proceed with fewer challenges than if the new school were a new entity outside of the University of Illinois. If the new College of Medicine existed outside of the University of Illinois, it would be required to achieve accreditation as a new institution of higher education and offer other academic programs in addition to the medical education program. Further, it was determined that the conferring of the degree by the University of Illinois was of significant importance to key stakeholders responsible for the implementation of the new College of Medicine. Therefore, it is

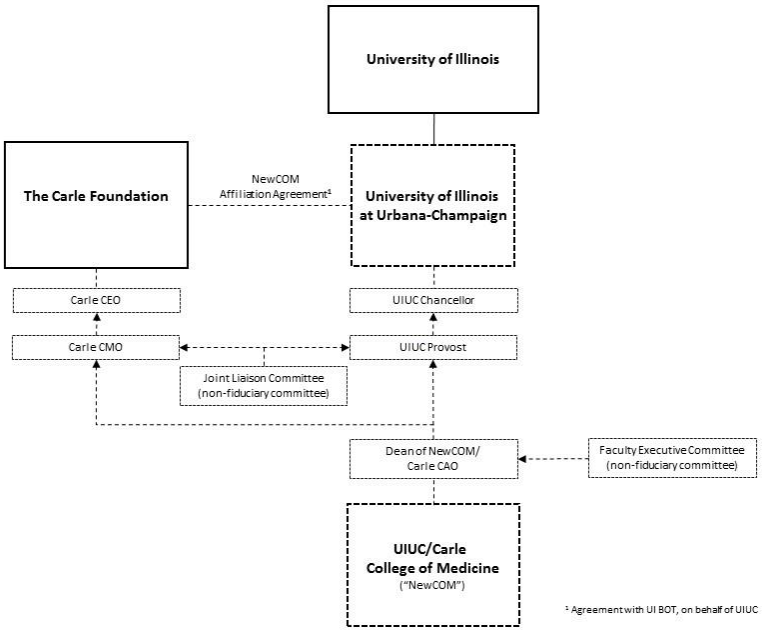
necessary for the new College of Medicine to exist as a unit of the University of Illinois. Additional benefits that the governance structure will provide for the new College of Medicine are included in Section IV of this business plan.

The Dean of the new College of Medicine will have dual titles, Chief Academic Officer at Carle Health System and Dean at the new College of Medicine. The Dean will report to both the Provost of the University of Illinois at Urbana-Champaign as Dean, and to the System Chief Medical Officer ("CMO") of Carle Health System as Chief Academic Officer, and will meet with each at least monthly. The Dean will hold faculty accountable to both academic and clinical setting performance standards.

Funding, including an initial capital commitment, will be provided by Carle Health System and the University of Illinois at Urbana-Champaign. The organizations will also provide existing facilities, faculty, and physicians that will be needed for the new College of Medicine during the first years of operation, and both organizations will commit to supporting ongoing annual operation expenses as needed.

The following image illustrates the proposed structure of the new College of Medicine. (Image 1)

Image 1: Proposed Governance Structure for New College of Medicine



Impact on the Existing University of Illinois at Chicago College of Medicine

An important assumption underlying the development of the business plan is that the new College of Medicine must complement the work of the University of Illinois at Chicago College of Medicine. Facilities, Clinical Training, and Finance and Revenue Work Groups were charged with developing a business plan based upon the assumption that M1 medical students in the University of Illinois at Chicago College of Medicine on the Urbana campus, as well as those who stay on to complete their degrees in Urbana, will continue to be taught by the faculty and utilize facilities and infrastructure that

Bringing Health Care to the Patient

Early-stage cancer screening will soon change dramatically due to diagnostic methods being developed in the College of Engineering's Micro and Nanotechnology Laboratory. Today, most screenings require MRIs or CT scans, and screening tests differ for different cancers. A new diagnostic tool requiring only a drop of blood and a photonic crystal may soon replace these tests. Professor Brian Cunningham is further developing his group's screening tool to be able to interface to patients' mobile phones. The ability to move these capabilities from the lab to patients' homes represents significant health care cost savings and increased convenience. More importantly, this innovation will positively impact health care outcomes by eliminating transportation and scheduling problems faced by many underserved patients.

The new College of Medicine will enable engineering research groups to work with physician-scientists to dramatically accelerate research. In turn, physicians will have the expertise to work effectively with their colleagues in the University system, including the University of Illinois at Chicago College of Medicine. These partnerships will provide unique opportunities to develop techniques and protocols for underserved populations and patients in rural areas.

they are currently using. Students from the new College of Medicine will not displace any existing medical students at Urbana-Champaign. The University of Illinois at Urbana-Champaign is also committed to continuing its participation in the Medical Scholars Program in close partnership with University of Illinois at Chicago.

Further, the new College of Medicine will not request new support from state General Revenue Funds (GRF) for the operations of the new College of Medicine in Urbana-Champaign, and therefore will not compete with the University of Illinois at Chicago College of Medicine for these funds.

The Dean, faculty, and staff at the University of Illinois at Chicago College of Medicine are in an ideal position to strengthen and broaden existing relationships with the Urbana-Champaign campus and to develop a strong partnership with the new College of Medicine to address the needs of the underserved, urban, and rural populations and to improve health care by:

- Conducting clinical trials focused on the adoption of new engineering-driven health care technologies and procedures that leverage the rich diversity of their physicians and their patients.
- Adapting and tailoring bioengineering innovations to urban health care conditions.
- Partnering with biotechnology start-up companies emerging from the new College of Medicine and based both in the Urbana-Champaign area and in the Chicago region.

In this regard, the new College of Medicine will benefit the entire University of Illinois by adding to its brand a distinct ground-breaking College. The new College of Medicine will also likely have a multiplier effect by spurring the need for new clinical trials that the University of Illinois at Chicago College of Medicine will be uniquely positioned to lead. The new College of Medicine will enable the addition of new science, engineering, and clinical faculty on the Urbana-Champaign campus. These faculty will represent additional potential collaborators for their colleagues in Chicago. But perhaps more importantly, the clinician-scientists of the new College, many who will hold joint appointments with other University colleges or Carle, will be the ideal bridge between engineering and basic science researchers on the Urbana-Champaign campus and their counterparts at the University of Illinois at Chicago College of Medicine. This can lead to exponential growth in clinical trials at the University of Illinois at Chicago College of Medicine due to innovations resulting from engineering approaches from Urbana-Champaign. While distance is a major challenge in developing

collaborations across the discipline divide between engineering and clinicians, this issue is less important when clinicians work together to advance specialized clinical trials and research.

The new College of Medicine and the existing University of Illinois at Chicago College of Medicine should be bold in the pursuit of their respective mission, vision, and goals. The University of Illinois at Chicago College of Medicine will continue to fulfill its critically important educational mandate related to urban health, rural health, comprehensive research, and economic development in Chicago and statewide. The new College of Medicine will have a significantly different and complementary mission. It will be the first medical school to integrate engineering and advanced technology throughout its curriculum while providing a fully integrated clinical training and research environment. In this regard, the University of Illinois at Urbana-Champaign feels a special responsibility to serve the state as a center of innovative research, entrepreneurship, and technology-driven economic growth.

The new College of Medicine will also differ from the University of Illinois at Chicago College of Medicine in its delivery of its MD/PhD program. The existing MD/PhD program allows students to choose any program in which to obtain their PhD. Students in the existing program graduate with two degrees; one from the University of Illinois at Chicago and one from the University of Illinois at Urbana-Champaign. This requires them to separately apply for admissions to both universities. In contrast, students at the new College of Medicine are likely to choose engineering-related disciplines if they choose to complete an MD/PhD program, and will receive both degrees from the University of Illinois at Urbana-Champaign.

Both the University of Illinois at Urbana-Champaign and the University of Illinois at Chicago Colleges of Medicine have the research strength to compete for NIH infrastructure programs such as Center grants, training grants, programs, etc. A new College of Medicine on its campus will provide greater potential for the University of Illinois at Urbana-Champaign to obtain these grants either in collaboration with or separate from the existing College of Medicine, and will not preclude the existing College of Medicine from receiving these grants as well. Centers located on one campus of a university system do not negatively impact the ability for another campus to also obtain funding for a Center. For example, the University of California has five CTSA grants awarded to five of its Colleges of Medicine (one per college), generating $50 million to support clinical trial facilities and resources. If both the University of Illinois at Chicago College of Medicine and the new College of Medicine were to receive funding from NIH to develop Centers, the impact on the University of Illinois and the state of Illinois would be substantial.

Resource Requirements of the New College of Medicine

Faculty and Staff

When the new College of Medicine is fully operational, 20 science (PhD) and 3 physician (MD) faculty members will be required to deliver the medical education program. An additional equivalent of 10 clinical faculty FTEs will also be required. It is estimated that these clinical faculty FTEs will equate to approximately 40-50 physicians who will be employees of Carle Health System, most of whom will spend the majority of their time providing care to patients. It is estimated that between 20 and 50 percent of these physicians' time will be spent in teaching and research related activities.

Faculty and staff required to meet the goals of the new College of Medicine are included in Section VIII of the business plan.

Costs related to faculty and staff are estimated to equal $12.5 million in 2024-2025.

Curriculum

The overall objective of the new College of Medicine curriculum is to develop a revolutionary paradigm of medical educational pedagogy that realizes and formalizes the concept of "Engineering-Inspired Medicine". Specific objectives of this engineering-based medical curriculum will be to teach medicine based on quantitative systems principles and to drive the shift of medicine to a quantitative and engineering-based discipline. The motivation for the creation of this innovative medical curriculum is the revolution, focused on the intersection of engineering, biological sciences, and physical sciences, now taking place in medicine. Boundaries between the principles of engineering, the physical sciences, and biology are being eliminated, and a new educational and research paradigm has emerged at this interface. An engineering foundation is the most effective way to provide solutions to the significant health care challenges facing the region, state, and world.

The traditional medical school curriculum educates physicians through a discipline-based (anatomy, biochemistry, pharmacology, pediatrics, etc.) approach, emphasizing memorization versus self-directed discovery. The new school's curriculum will be rooted in the convergence of medicine and engineering, computer sciences, quantitative sciences, and technology to teach the human body as an integrated system. This understanding of the human body as an integrated system is critical to the analytical, problem-solving skills needed to be a successful physician-scientist, physician-innovator, or physician-entrepreneur equipped with the knowledge and skills to transform health care. Engineering technologies and approaches will be incorporated throughout the curriculum.

The new College of Medicine will produce physicians who are trained in state-of-the-art engineering principles and technologies that have changed the practice of medicine, and who will define and develop the technologies of the future. These physicians will know how to collect and analyze "big data", from genomics to clinomics[3], to diagnose and treat patients. Most importantly, these physicians will be compassionate caregivers and have excellent interpersonal and professional skills. The latter will be particularly important in continuing the transformation of health care delivery to a team-based approach. Finally, innovation and entrepreneurial initiative will be highly valued as a premise for transforming medicine. The new College will experiment with the development of innovative internships, possibly involving engagements in innovation incubators such as MATTER in Chicago, HTI and EnterpriseWorks Chicago in the Illinois Medical District, and EnterpriseWorks in Champaign-Urbana.

The new College of Medicine will offer students the ability to receive a MD with a technical research project, a MD integrated with a Master's degree in Engineering with a thesis/project, or a MD integrated with a PhD in quantitative engineering and sciences.

Facilities and Infrastructure

The new College of Medicine will utilize existing space for the first 10 years of operation included in this business plan.

[3] Clinomics is the study of biology data along with its associated clinical data.

To determine the facility needs of the new College of Medicine, Carle Health System and the University of Illinois at Urbana-Champaign completed an inventory of available space that could be utilized by the new College of Medicine. Estimates included in this business plan assume that existing M1 medical students and those staying to complete their degrees in Urbana will continue to utilize the space and infrastructure that they are currently utilizing, and that no existing medical students will be displaced by the new College of Medicine.

Facility and infrastructure cost estimates to renovate existing space to accommodate the requirements of the new College of Medicine equal $18 million. Additional annual expenses of $1.2 million to ensure that the new College of Medicine has access to appropriate clinical training center facilities, and $500,000 to $1 million in annual expenses for capital equipment, information technology, and medical classroom expenses are also included in the financial analysis for the business plan.

Clinical Training

Carle Health System has a long history of providing medical education to students and residents. A listing of clinical training sites and existing residency training programs are provided in Section IX of this report.

Carle Health System completed an inventory of existing space and an analysis of the clinical training environment that will be required by the new College of Medicine. Clinical training for the first 10 years of operation included in the business plan will take place at existing Carle Health System facilities. Carle Health System is in the process of developing a long-range facility plan which will include accommodations for the potential expansion of the new College of Medicine.

In the future, the new College of Medicine may develop relationships with other health care systems in the region, especially related to the expansion of Graduate Medical Education (GME). Information about existing GME and plans for expanded GME is included in Section IX of the business plan.

Financial Plan to Support the New College of Medicine

The development and ongoing operation of the new College of Medicine will require significant investment in time, energy, and resources by Carle Health System and the University of Illinois at Urbana-Champaign. Although the financial analysis completed for the business plan includes conservative estimates of required resources, and was developed using the assumption that no existing medical students will be displaced by the new College of Medicine, it is envisioned that the new College of Medicine will leverage available resources at both Carle Health System and the University of Illinois at Urbana-Champaign to achieve cost savings that are not accounted for in the business plan.

Key elements of the financial plan include a $100 million contribution from Carle Health System to be made over 10 years, an additional $1.5 million ongoing annual contribution from Carle Health System to extend beyond the first 10 years, and a commitment from the University of Illinois at Urbana-Champaign to raise $135 million for the College of Medicine through fundraising activities over eight years to help meet the ongoing operating and capital needs of the new College of Medicine. The campus is currently raising $180 million annually, and will be publicly announcing its next fundraising campaign in 2017. Financial commitments to support the new College of Medicine are described in the MOU being

developed by Carle Health System and the University of Illinois at Urbana-Champaign, and will be formalized through a contractual arrangement.

Start-Up Phase

Start-up costs for the timeframe 2015 through 2018 equal $37.4 million, including $3.5 million in capital expenditures required to upgrade existing facilities and a 10 percent contingency. These costs will be financed by the University of Illinois at Urbana-Champaign, Carle Health System, tuition and fees from students in the first class of the new College of Medicine, research revenue, clinical practice revenue, and fundraising. Start-up expenses and revenues are included in Table 1.

Table 1: New College of Medicine Start-Up Expenses and Revenues

Start-Up Expenses and Revenue (2015 through 2018)	
Total Start-Up Costs	**$37.4 Million**
University of Illinois at Urbana-Champaign Contribution	$340,000
Carle Health System Contribution	$34.5 Million
Tuition and Fees	$1.2 Million
Research Revenue	$5.6 Million
Clinical Practice Revenue	$1.7 Million
Fundraising and Other Income (Gifts and Endowments)	$1.5 Million
Total Start-Up Revenue	**$44.8 Million**

Operating Budget

The operating budget included in the business plan includes a 10 year analysis of expenses and revenues required to support the new College of Medicine. The budget reflects 2015-2016 through 2024 -2025 expenses and revenues. A detailed financial analysis is included in Appendix E.

Annual expenses, including a 10 percent contingency, to support the operations of the new College of Medicine in 2024-2025 are estimated to equal $35.4 million. Annual operating revenues for the new College of Medicine in 2024-2025 are estimated to equal $34.5 million. Additional detail related to these expenses and revenues is included in Section V of the business plan.

The operating budget for the new College of Medicine in 2024 – 2025 is included in Table 2.

Table 2: Operating Budget for 2024-2025 ($ in Millions)

Budget Category	Total 2024 – 2025 (Millions)
Operating Revenue	$34.5
Operating Expenses Including Contingency	$35.4
Net Operating Deficit	($.9)
Carle Health System Contribution	$1.5
University of Illinois at Urbana-Champaign Contribution	$.05
Net Surplus	**$.7**

Capital and Infrastructure

For the timeframe 2015 through 2025, the new College of Medicine will utilize existing facilities and infrastructure. These facilities and infrastructure will require an investment of $18 million to ensure that they are appropriate for delivering the educational program outlined in the business plan. It is envisioned that a new medical education facility, which will house advanced technology, interdisciplinary research labs, incubation space for start-up companies, and a state-of-the-art clinical training center, will be constructed eventually. However, the business plan assumes that this facility will not be built until after the timeframe included in the business plan.

It is important to re-emphasize that the new College of Medicine will not request any new General Revenue (GRF) funds from the state for its operations so that it does not compete for this funding against the existing University of Illinois at Chicago College of Medicine.

Timeline

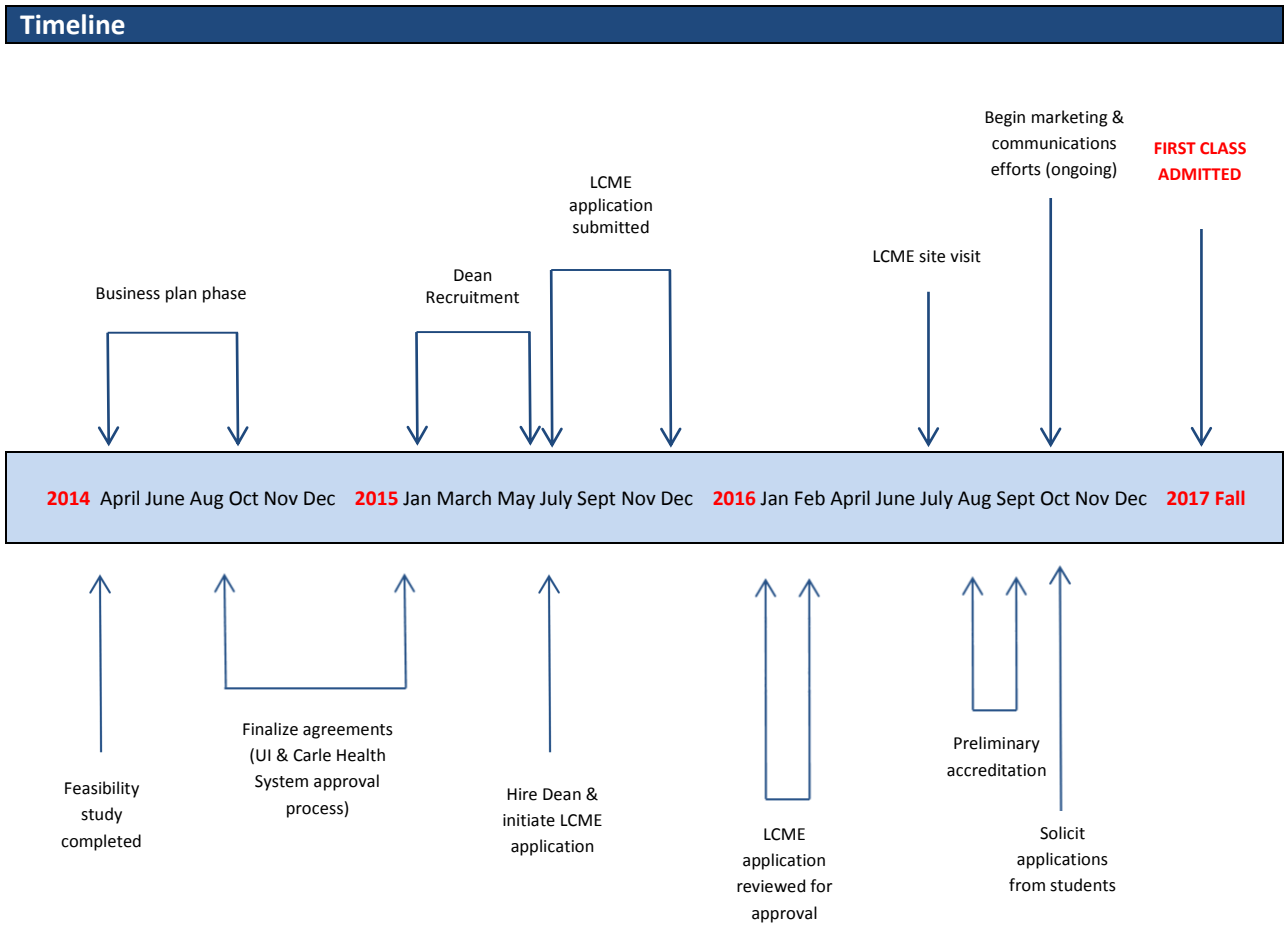
This business plan assumes that the first cohort of 25 medical students will begin their medical education in the fall of 2017. This is an aggressive timeline that can be achieved if the following actions occur within the identified time frames included in the timeline below.

The University of Illinois at Urbana-Champaign and Carle Health System must finalize definitive agreements. These agreements will include, among other topics, capital and operating commitments, details related to the governance of the new College of Medicine, selection and responsibilities of the Dean, termination of the agreements, and dispute resolution. A coordinated fundraising and communications plan will be developed, and a name for the new College of Medicine will be selected. Fundraising efforts should begin once agreements have been finalized.

Once a Founding Dean has been recruited and hired, the LCME accreditation process can begin. It is anticipated that the Dean will be hired in 2015, and key faculty and staff will be hired in 2016 and 2017. Facility and infrastructure upgrades are anticipated to start in 2015.

Student applications cannot be solicited until the LCME grants preliminary accreditation to the new College of Medicine. The business plan assumes that preliminary accreditation will be granted in summer 2016. The proposed timeline is depicted below in Image 2.

Image 2: Timeline



Conclusion

The medical education plan outlined in the following report provides Carle Health System and the University of Illinois at Urbana-Champaign the potential to change the way health care is delivered throughout Illinois and the nation. The strengths of the two partners, as well as their collaborative energy and dedication to the transformation of health care, are significant indicators of the long-term success of the medical enterprise described throughout the business plan.

Acknowledgements

The development of this business plan would not have been possible without the dedication and energy of a group of individuals from both Carle Health System and the University of Illinois at Urbana-Champaign. These individuals, working within the structure of an Executive Committee and nine Work Groups, completed a vast amount of work within an aggressive timeframe. Particularly significant, and

an indicator of future success for the new College of Medicine, is the degree of collaboration that occurred between representatives of the two organizations, some of whom had never met before.

As the development of the new College of Medicine progresses, the work that these individuals have completed will provide a robust foundation upon which implementation and accreditation activities can build.

A list of individuals who have contributed to the development of the business plan is included in Appendix F.

II. Background

In January 2014, Tripp Umbach was retained by the Carle Health System and the University of Illinois Foundation to conduct a feasibility assessment to identify the costs, opportunities, and benefits of establishing a four-year medical education program at the University of Illinois at Urbana-Champaign. The results of this feasibility study indicate that there are significant benefits to the creation of a new College of Medicine developed in partnership between Carle Health System and the University of Illinois at Urbana-Champaign. These benefits are outlined in Tripp Umbach's report "Evaluating the Feasibility of a New College of Medicine in Urbana-Champaign" provided to Carle Health System and the University of Illinois at Urbana-Champaign in April 2014.

Subsequently, in May 2014, Carle Health System and the University of Illinois Foundation requested that Tripp Umbach continue working to develop a more robust business plan for the proposed College of Medicine. This report includes an overview of the goals of the proposed College of Medicine and detailed information relative to the personnel, infrastructure, facilities, and financial resources needed to support these goals.

Rationale for a New College of Medicine

In addition to well-documented demand for both increased medical school positions and an increased physician workforce, many issues support the development of a new, focused College of Medicine in Urbana-Champaign. Most significant is the need for new ways of delivering medical care to more people at lower cost. As outlined in the Executive Summary, the health care industry is experiencing dramatic transformation driven by unsustainable increases in costs, an aging patient and physician population, a primary care provider shortage, and the need to shift from a medical education and health care delivery system focused on providing episodic care to one designed to prevent and manage disease.

There is consensus throughout the medical education community that the traditional method of delivering medical education, based upon the Flexner Report which is now more than 100 years old, is no longer appropriate in light of the changes that have occurred in both health care and education industries. Many institutions, including the Association of American Medical Colleges (AAMC), the Howard Hughes Medical Institute, and the Institute of Medicine, have called for medical education reform.

The organization that originally published the Flexner Report, the Carnegie Foundation, recently funded a new report titled "Educating Physicians: A Call for Reform of Medical School and Residency". In it, the authors write that "the huge increases in medical knowledge, technology and specialization in recent decades have interacted with a now near-chaotic system of health care delivery, magnifying the challenges facing medical education…those who teach medical students and residents must choose whether to continue in the direction established over a hundred years ago or take a fundamentally different course, guided by contemporary innovation and new understanding about how people learn."

Additionally, in 2006, growing concern over physician shortages led the AAMC to issue a policy statement calling for a 30 percent increase in medical school enrollment. Since then, 15 new medical schools have been established, and more are in development. At a recent AAMC annual meeting, AAMC

President Darrell Kirch's address included the charge to academic leaders to redefine the goals of medical education so that excellence is determined by "how well research and education efforts lead to overall improvement in health and how well schools serve and meet the needs of communities at their front doors.

The new College of Medicine in Urbana-Champaign will respond to these demands by developing innovative curriculum, training, and research models that produce physician-engineers, physician-discoverers, physician-inventors, and physician-scientists who deliver high-quality care with better outcomes at lower costs to more people, particularly the underserved. Carle Health System and the University of Illinois Urbana-Champaign believe that they have a societal obligation to move forward with the development of the new College of Medicine.

In addition to the benefits related to responding to the demand for health care and medical education transformation, the new College of Medicine will allow the University of Illinois at Urbana-Champaign to strengthen its competitive position among its academic peers. This competitive position is critical to ensure that the University can continue to recruit and retain the best students and faculty throughout its campus units, and particularly in its College of Engineering.

Among the University of Illinois at Urbana-Champaign's top 10-ranked public research university peers, UC Berkeley and the University of Texas at Austin are the only other institutions that do not have colleges of medicine. The University of Texas at Austin is in the process of establishing a college of medicine with the projected inaugural freshman class in 2016, and UC Berkeley has strong connections to the nearby UC San Francisco and Stanford Colleges of Medicine, as well as a large and established School of Public Health, which competes effectively for NIH funding, on its campus.

Tripp Umbach completed an analysis of the funding received by the University of Illinois at Urbana-Champaign from the federal government, including funding from NIH and NSF. These two funding sources provide significant research support to U.S. academic institutions. Because the University of Illinois at Urbana-Champaign is considered a premier university and has a top five College of Engineering, one might expect the campus to receive a similar amount of funding compared to its academic peers. The University of Illinois at Urbana-Champaign receives more NSF funding than any other university in the nation. However, in NIH funding, the University of Illinois at Urbana-Champaign ranks in the mid-70s due to the lack of a medical school located on its campus.

The collaborative model of medical education outlined in this business plan has the potential to significantly increase research revenue from the NIH, other federal agencies, corporations, and foundations, especially in light of recent prioritization of team-based research. This funding represents "fresh" dollars coming into the region and state, especially important in terms of generating economic impacts for Illinois.

It is important to note that states with multiple public medical schools have significantly larger economic footprints than states with only one publicly supported program. Established publicly supported medical schools in Florida, Michigan, Texas, Pennsylvania, California, and New York have continued to grow economically at the same time that new publicly supported medical schools have been developed. There are no examples of a medical school in the United States that has been negatively impacted by the

development of a new medical school in the same state. Recent examples of public research universities adding new separately accredited medical schools in new cities include the University of California, Riverside, the University of Texas at Austin, and the University of Arizona in Phoenix.

The new College of Medicine will result in a significant increase in the economic impact that the University of Illinois generates for the region and the state. The economic impact of the new College of Medicine is estimated to exceed $1 billion annually by 2035 when the new College of Medicine reaches full maturity. Further, the new College of Medicine is expected to sustain more than 7,600 jobs statewide by 2035.

Additionally, in a time of documented physician need throughout the region, state, and nation, the new College of Medicine will attract high-quality, innovative physicians who desire to practice, teach, and conduct research in an academic medical center environment.

The University of Illinois at Urbana-Champaign will continue to strive to increase the number and quality of collaborations with the University of Illinois at Chicago College of Medicine. Increasing the number of faculty with biomedical and bioengineering expertise in Urbana-Champaign will aid in achieving this goal. Furthermore, the physician-scientists that will populate the new College of Medicine will serve as vital bridges between the engineering faculty and their colleagues in Chicago. The physician-scientists will share an understanding of the cultures and language of both groups – they will be powerful conduits for the evaluation and adoption of new innovative health care methods and technologies throughout the University of Illinois at Chicago College of Medicine and the state at large.

A series of scholarly articles addressing the impact of distance on collaboration was published beginning in 2000. The founding paper, *Distance Matters*, was written by faculty at the University of Michigan and postulates that proximal collaborations have a higher rate of productivity and that the greater the distance between collaborators, the less productive the team becomes.

Most clinical research, especially medical device development research, requires an iterative process between the engineer-scientist and the clinician. Chicago is too far from Urbana to allow faculty to access clinicians on a daily basis.

The new College of Medicine will also streamline recruitment and hiring processes, and tenure will be provided as appropriate through the University of Illinois at Urbana-Champaign appointment policy.

Importantly, significant financial investment in clinical faculty, physician-scientists, and research facilities and infrastructure is required to fulfill the goals of the University of Illinois at Urbana-Champaign and Carle Health System related to engineering-based medicine and the transformation of the health care delivery system. The location of a new College of Medicine on the Urbana-Champaign campus will increase the potential for investments by Carle Health System and the University of Illinois at Urbana-Champaign, as well as by other donors. The two organizations, both dedicated to strengthening and bettering their shared community, and local funders, will be more likely to invest in a college of medicine located in the region which reports jointly to Carle Health System and the University of Illinois at Urbana-Champaign, rather than a medical school located more than 140 miles away.

New College of Medicine Work Groups

To help guide the development of the business plan and begin to lay the foundation for moving forward with the implementation of the new College of Medicine, Carle Health System and the University of Illinois at Urbana-Champaign chartered a series of Work Groups, including the following:

1. Governance
2. Finance & Revenue
3. Curriculum & Admissions
4. Faculty & Staff
5. Clinical Training
6. Research
7. Facilities
8. Communications & Government Relations
9. Accreditation

Work Group teams invested a significant amount of time and energy into the development of the business plan. Members of each Work Group are included in Appendix F of this report. Each Work Group had a defined mission, goals, guiding principles, and expectations related to the development of the business plan. These are included in Appendix G of this report.

Moving forward, many Work Group members will continue working toward the implementation and accreditation of the new College of Medicine.

III. Goals of the New College of Medicine

Working collaboratively, Carle Health System and the University of Illinois at Urbana-Champaign outlined goals to guide the development of the new College of Medicine. These goals were utilized by all of the Work Groups to develop components of the business plan and will continue to influence decisions related to the implementation of the new College of Medicine. Specific goals are listed below.

Specific College of Medicine Goals

- Re-invent health care around revolutionary advances in engineering and technology to further research, education, and health care delivery.
- Transform health care education of physicians through the development of team-based, innovative approaches to achieving improved health care outcomes through the continuum of care: preventive medicine, chronic disease management, acute care, rehabilitative medicine, and end of life care.

Shared Carle Health System and the University of Illinois at Urbana-Champaign Goals

- Elevate the quality and lower the cost of patient care and make it more accessible to more people by attracting the top clinical providers and trainers, applying new, innovative, and practical health care delivery models, and developing the highest tier of health care delivery.
- Alignment of the College of Medicine with respective strategic plans of each organization.
- Reputation of excellence by achieving recognition in each organization's universes.
- Recruitment and retention of top faculty/physicians through improvement of research opportunities and patient care outcomes.
- Financial success through implementation of a business model and securing of resources that not only ensures the financial stability of the new College of Medicine, but positions each organization for long term success.
- Provide innovative training for medical students and introduce a new generation of physicians to technologically and multi-disciplinary management of health conditions and provision of care.
- Improve the health of the population by aligning research and teaching to enable Carle Health System to keep the population it serves healthy, and to allow the region and state to have a healthier population.
- Foster economic development in Champaign-Urbana and beyond by creating an environment to recruit young professionals during formative years, retaining them as permanent residents, and encouraging them to develop new business start-ups; by drawing new patients and companies to the areas through the provision of superior health care options; and by fostering a culture of innovation that will influence not only our local market but will also have a global impact.

- Develop a partnership open to engagements with additional parties to further the aspirations of the College of Medicine and our respective organizations, realizing that the stronger the two partners are, the stronger the College of Medicine and the partnership will be.
- Increase application of inquiry and innovation in daily patient care by providing physician training and patient care in an environment that promotes system thinking, multidisciplinary care teams, and continual re-evaluation of current or status quo treatment options.
- Create a new and separately accredited College of Medicine and faculty dedicated to its missions of innovative teaching, cutting-edge research, and patient care.
- Develop a nimble and flexible organization that will be able to respond quickly to opportunities and challenges.
- Provide a partnership structure with the Carle Health System and the University of Illinois at Urbana-Champaign serving as equal partners in teaching, research, clinical education, and commercialization of new discoveries.
- Strengthen the partnership between Carle Health System and the University of Illinois at Urbana-Champaign, and their respective faculty and physicians, that will
    - Leverage their respective clinical, education and research capabilities.
    - Further enhance Carle Health System's unique integrated health care delivery system in Illinois in order to broaden patient services.
    - Improve health care delivery outcomes through informed and transformative innovations.
- Ensure an organization that is mindful of the nature and policies of each party, especially with respect to personnel and student and patient safety.

Educational Goals

The physician-scientists and physician-engineers that graduate from this new College of Medicine will:

- Be uniquely trained and equipped to incorporate analytical techniques, innovations, and multi-disciplinary teams into a Human Systems approach to advancing and delivering health care. They will:
    - Practice problem solving and analytical thinking critical to understanding disease etiology and to laying a new foundation for health and wellness management.
    - Be able to leverage sensing and precision measurements, computation and analytics, and personalized therapeutics.
    - Be experts in the use of data synthesis techniques and new technologies.
    - Have a unique understanding of the capabilities of virtual and cyber learning environments and computational modeling and analytics. They will leverage these in

designing facilities of the future, evaluating new medical delivery systems, and/or delivering care to remote patients.

- Feel at ease in an environment that will:
    - Adopt and develop innovations and working with interdisciplinary teams including bioscientists, engineers, and clinicians.
    - Develop new models of integrated health care delivery across all segments of the care continuum in teams involving nurses, doctors, advanced practice providers, technicians, etc.
    - Accelerate the adoption of innovations by working with teams spanning multiple disciplines that could include, but are not limited to, business, industrial design, social and behavioral scientists, applied health researchers and rehabilitation experts and translational partners such as veterinarians and entrepreneurs.

To achieve this, the College of Medicine will:

- Deliver a unique team-oriented curriculum built from the ground-up focused on the intersection of engineering/technology and medicine.
- Incorporate team-based projects that will bring together engineering and medical students as well as opportunities for social and informal interactions to facilitate the development of an "esprit de corps" among these students and their faculty.
- Generate opportunities for multidisciplinary courses, laboratories, and team projects that include faculty and students from multiple disciplines to develop the skills needed to work in extended teams.
- Develop and implement selection criteria for both students and faculty (academic and clinical) that are aligned with the goals of the College of Medicine.
- Create and adhere to policies that facilitate the participation of third parties in the education program.

Research Goals

The new College of Medicine will develop a top-tier world class research enterprise with $100 million in research expenditures by 2035. The college will:

- Develop and grow a substantial and transformative research program at the intersection of engineering, the basic health sciences, applied health sciences (e.g., public health) and medicine.
- Develop and grow a substantial and transformative research program that leverages computing, big data, and mobile technologies to transform health care delivery and outcomes across the care continuum.

- Foster an open research model to bring in a diversity of disciplines and organizations to foster innovation and creativity.

To achieve this, the College of Medicine will:

- Implement policies and put in place administrative support to facilitate interdisciplinary collaborations, especially between Carle Health System and the University of Illinois at Urbana-Champaign, but also with third parties.
- Create and operate an organization that can rapidly address compliance and IRB issues.
- Provide facilities to foster top-tier research.
- Develop data-sharing and access policies and procedures to foster top-tier research.
- Foster collaborative opportunities that can enrich and strengthen the research program and the eco-system for translational activities and entrepreneurship.

IV. Governance Structure

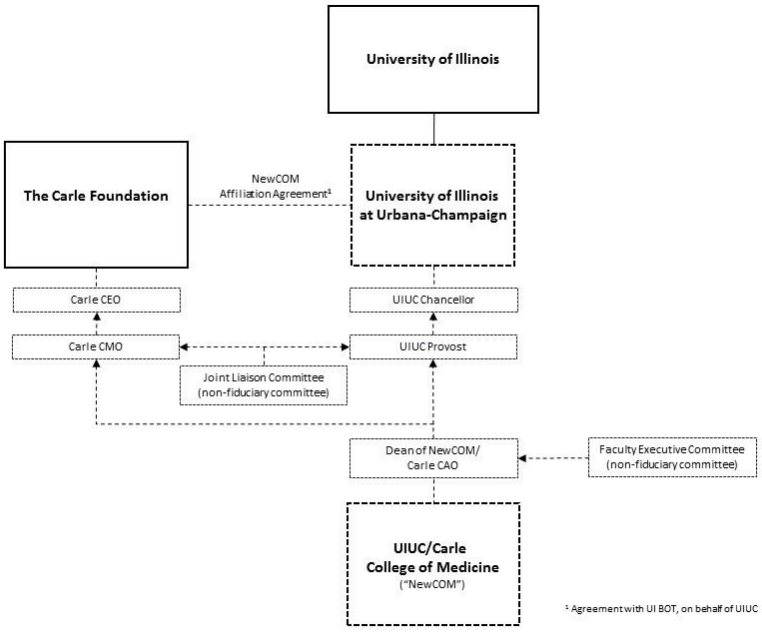
Governance Structure of the New College of Medicine

To determine the governance structure that will best fulfill the goals of the new College of Medicine, the Governance Work Group reviewed models of other universities partnering with a private health system to create a new joint College of Medicine. Models examined included the Cleveland Clinic Lerner College of Medicine, Virginia Tech Carilion School of Medicine, the Oakland University William Beaumont School of Medicine, and the University of South Carolina School of Medicine Greenville, among others. In each of these examples, the University and Health Care System have a mechanism for joint governance, funding, and use of facilities and resources. In each case, the University was able to leverage an existing strong local hospital versus creating new hospital facilities for the medical school.

The Governance Work Group had discussions with key leadership at several of these schools, and reviewed several Memorandums of Understanding and operating agreements. Additionally, the Governance Work Group considered the benefits of the new College of Medicine existing within the University of Illinois at Urbana-Champaign's University Related Organization (URO) structure. The Governance Work Group engaged no less than four members of the University of Illinois at Urbana-Champaign Faculty Senate Executive Committee to ensure adherence to the University Statutes and shared governance.

After analysis of these models, the Governance Work Group identified a structure that will best fulfill the goals and guiding principles of the new College of Medicine. The following image represents this structure. (Image 3)

Image 3: Proposed Governance Structure for New College of Medicine Structure



Specific governance rights and responsibilities will be detailed in definitive agreements between Carle Health System and the University of Illinois. These agreements will also include the ways in which new College of Medicine expenses and revenues will be shared between Carle Health System and the University of Illinois at Urbana-Champaign.

As a discrete and separate unit from the University of Illinois at Chicago College of Medicine, the new College of Medicine will exist as a separately accredited college of the University of Illinois at Urbana-Champaign. Governance of the new College of Medicine will be exercised through the Joint Liaison Committee, consistent with the proposed governance structure to be detailed in the definitive agreements. Because the new College of Medicine will be a unit within the University of Illinois at Urbana-Champaign and therefore subject to the University Statutes and ultimate control of the Board of Trustees of the University of Illinois, the Joint Liaison Committee will be a non-fiduciary committee but will provide comprehensive strategic and financial oversight for the new College of Medicine.

The governance structure outlined in this business plan enables the fulfillment of the goals of the new College of Medicine through an equitable contracted "partnership" between Carle Health System and the University of Illinois at Urbana-Champaign. It allows for the new College of Medicine to be accredited through the University of Illinois, and enables the degree to be conferred by the University of Illinois. These two benefits will allow the accreditation process for the new College of Medicine to proceed with fewer challenges than if the new College were a new entity outside of the University of Illinois. For example, the Virginia Tech Carilion School of Medicine was created as an independent not-for-profit corporation. Although this structure initially seemed to be the best model for the new College of Medicine in Urbana-Champaign, discussions with key leadership at Virginia Tech Carilion revealed that this model had resulted in significant challenges related to regional accreditation, and that they would not recommend that other new schools implement this type of governance structure. Further, it was determined that the conferring of the degree by the University of Illinois was of significant importance to key stakeholders responsible for the implementation of the new College of Medicine, and that could not happen if the new College of Medicine existed as an independent entity.

Additional benefits provided by the governance structure described within the business plan include flexibility for the new College of Medicine to develop relationships with other regional and national organizations, and the ability for the flow of funds from the University of Illinois at Urbana-Champaign to the new College of Medicine as an integral unit. This, again, was a major impediment to the "independent" structure at Virginia Tech Carilion.

Agreements between Carle Health System and the University of Illinois at Urbana-Champaign will outline how funds are distributed throughout the new College of Medicine, how resources, including faculty, will be shared, and codify tenure, procurement, and commercialization and intellectual property policies and procedures. Agreements will also codify the responsibilities of the Joint Liaison Committee. The Chair of the Committee will alternate between the two organizations. Committee term limits, appointment and removal policies, meeting frequency, and voting requirements will all be outlined in the definitive agreements.

A MOU which allows Carle Health System and the University of Illinois at Urbana-Champaign to proceed with good faith discussions on the development of the new College of Medicine is currently being created.

Partner Contributions

Start-up funding will be provided by Carle Health System and the University of Illinois at Urbana-Champaign. The financial analysis included in Section V of this business plan includes the contributions that each organization will make. Each organization will also provide existing facilities that will be utilized by the new College of Medicine during the first years of operation. Facilities and infrastructure to be utilized by the new College of Medicine are detailed in Section XI of this report. Finally, this business plan assumes that the new College of Medicine will leverage existing faculty and staff resources. As the new College of Medicine is developed, specific details related to the allocation and leveraging of existing faculty and staff resources will be identified and included in operating agreements.

Both Carle Health System and the University of Illinois at Urbana-Champaign are responsible for providing support for the development and ongoing operations of the new College of Medicine in an equitable manner. Carle Health System will contribute to the new College of Medicine, among other ways, through clinical revenue contributions, clinical faculty and expertise, research funding, facilities and infrastructure, and its reputation as a fully integrated health system providing high quality health care. The University of Illinois at Urbana-Champaign will contribute, among other ways, through tuition revenue, research funding, faculty and staff, facilities and infrastructure, fundraising expertise, and the reputation of the University of Illinois as a top-tier academic institution. Although tuition is paid by students, and research grants come from a wide range of public and private sources, degree-granting institutions are typically credited with providing tuition and research revenue to medical school partnerships because the human resources, technology, and facilities provided by the degree granting institution are assumed to enable this revenue to be generated.

Specific initial and ongoing contributions from each organization that will be committed to the new College of Medicine will be outlined in definitive agreements. Additionally, policies related to how philanthropic funding will be received and distributed will also be outlined. It is envisioned that the new College of Medicine will not create a new foundation for philanthropy, but will instead utilize the existing Foundations of Carle Health System and the University of Illinois. There will be a separate College of Medicine endowment and advancement staff dedicated to fundraising for the new College of Medicine.

Founding Dean

The Dean of the new College of Medicine will have dual titles, Chief Academic Officer at Carle Health System and Dean at the new College of Medicine. The Dean will report to both the Provost of the University of Illinois at Urbana-Champaign as Dean, and to the System Chief Medical Officer (“CMO”) of Carle Health System as Chief Academic Officer, and will meet with each at least monthly. Importantly, the Dean of the new College of Medicine will be responsible for setting the strategic direction of the new College of Medicine in consultation with the Joint Liaison Committee, and will hold faculty

accountable to both academic and clinical setting performance standards. A Faculty Executive Committee will be created to serve in an advisory capacity to the Dean.

Recruitment of a Founding Dean will be one of the most important tasks that stakeholders invest in for the development of the new College of Medicine and its undertakings. The Dean must be able to translate the vision for the new College of Medicine into reality through the recruitment of key faculty and staff, the development of an innovative curriculum, the implementation of a successful accreditation process, and the strengthening of relationships among academic, research, and clinical leaders. Further, the Dean will be responsible for the fiscal management of the new College of Medicine, including oversight of fundraising and development efforts. The successful candidate must have a strong clinical background and be a nationally recognized leader in engineering and science-driven medicine, qualified to hold a tenured professor position at the University of Illinois at Urbana-Champaign, and meet and maintain the credentialing and privileging requirements of the Carle Health System.

Carle Health System and the University of Illinois at Urbana-Champaign will retain a specialized recruiting firm to identify the best candidates for the Dean position. This business plan assumes that the recruiting firm will be retained in early 2015 and a Dean hired in the summer of 2015.

Impact to Existing Medical Students in Urbana-Champaign

One of the guiding principles utilized by the Governance Work Group includes the mandate that the M1 education for the 100 existing medical students who currently complete their medical education in Peoria and Rockford as well as the education for those who will complete their degrees in Urbana (approximately 25 students) will continue to be provided.

The financial analysis, as well as the estimates for faculty, facilities, and infrastructure included in the business plan, assumes that existing M1 medical students and students completing their degrees in Urbana, including MD/PhD Scholars currently on the Urbana-Champaign campus, will continue to remain on the campus after the new College of Medicine is developed. All Work Groups provided input to the business plan using the assumption that no medical students would be displaced as a result of the new College of Medicine.

It is expected that a contractual agreement will be put in place between the University of Illinois at Chicago and the University of Illinois at Urbana-Champaign for the appropriate resources to be made available in order to fulfill the commitment to continue to provide the M1 education and for the education of the students staying on to complete their degrees in Urbana. No expenses or revenues for this activity are included in this business plan and the corresponding financial analysis.

V. Financial Plan

The financial analysis included in this business plan includes the operating budget, capital budget, and revenue requirements of the new College of Medicine. The operating budget was developing using existing Carle Health System and University of Illinois at Urbana-Champaign financial data as well as estimates provided by Tripp Umbach based upon their experience working with new and existing medical schools over the past 20 years. The capital budget was developed after an analysis of existing facilities and resources that could be leveraged for the new College of Medicine. It is important to note that the development of the business plan was based on the assumption that there will be no displacement of existing medical students in Urbana-Champaign. Additional assumptions used in the financial analysis of the business plan are included in Appendix E.

Operating Budget

The operating budget included in the business plan includes a 10 year analysis of expenses and revenues required to support the new College of Medicine. The budget reflects 2015-2016 through 2024 -2025 expenses and revenues. A detailed operating budget is included in Appendix E.

Support for the operations of the new College of Medicine will require the faculty and staff resources included in Table 3.

Table 3: Faculty and Staff Resources Required to Support the New College of Medicine in 2024 - 2025

Faculty and Staff Category	Full Time Equivalent
Dean's Office	10
Basic Science Instruction Faculty and Staff Support	34
Clinical Instruction Faculty and Staff Support	15
Research Administration	2
Student Services	4.5
Institutional Support	12
Total Faculty and Staff FTEs	75.5

Annual operating expenses to support the operations of the new College of Medicine in 2024-2025 are included in Table 4.

Table 4: Annual Operating Expenses for 2024 – 2025 ($ in Millions)

Operating Expense Category	Total Annual Expense 2024 – 2025 (Millions)
Faculty and Staff Salaries, Wages, and Benefits	**$12.5**
Fundraising Expenses	**$.2**
Marketing and Communication Expenses	**$.2**
General Expenses	**$1.6**
Faculty Research Start-Up Expenses	**$1.5**
Supplies and Other Expenses	**$1**
Professional Expenses	**$.02**
Sponsored Research Expenses	**$12.3**
Facilities and Equipment Expenses	**$1.8**
Capital Expenditures	**$1**
Total Operating Expenses	**$32.2**
Total Operating Expenses Including 10% Contingency	**$35.4**

(Note: figures do not add up due to rounding.)

Annual operating revenues for the new College of Medicine in 2024-2025 are included in Table 5.

Table 5: Annual Operating Revenues for 2024 – 2025 ($ in Millions)

Operating Revenue Category	Total Annual Revenue 2024 – 2025 (Millions)
Tuition and Fees[4]	**$11.8**
Research Revenue	**$13.5**
Clinical Practice Revenue	**$3.3**
Fundraising and Other Income (Gifts and Endowments)	**$5.9**
Total Operating Revenue	**$34.5**

The operating budget for the new College of Medicine in 2024-2025 is included in Table 6. (Tables 4 and 5 reflect a more detailed reporting of specific categories of operating expenses and revenues included in the Operating Budget in Table 6, which is also included in Table 2 of this report.)

[4] Tuition and fee revenue reflects 2015-2016 tuition rates of $45,000 in-state tuition for 50 percent of students, $60,000 out-of-state tuition for the remaining students, professional fees of $8,091 per student, and a 30% tuition waiver. Tuition and fees escalate at a rate of 2 percent annually.

Table 6: Operating Budget for 2024 – 2025 ($ in Millions)

Budget Category	Total 2024 – 2025 (Millions)
Operating Revenue	$34.5
Operating Expenses Including Contingency	$35.4
Net Operating Deficit	($.9)
Carle Health System Contribution	$1.5
University of Illinois at Urbana-Champaign Contribution	$.05
Net Surplus	**$.7**

Capital and Infrastructure

Capital and infrastructure requirements for the start-up phase and ongoing operations of the new College of Medicine were analyzed by the Facilities, Finance and Revenue, Research, and Curriculum and Admissions Work Groups. This business plan assumes that existing facilities and infrastructure will be utilized by the new College of Medicine during the first 10 years of operation. However, facilities and infrastructure will require an investment of $18 million to ensure that they are appropriate for delivering the educational program outlined in the business plan. It is envisioned that the new College of Medicine will eventually construct a medical education facility, which may house advanced technology, interdisciplinary research labs, incubation space for start-up companies, and a state-of-the-art clinical training center. However, this business plan assumes that this facility will not be built until after the timeframe included in the business plan.

A description of the analysis completed by the Facilities Work Group is included in Section XI of this report. Capital expenditures for 2015 through 2025 are included in Tables 7 and 8. These capital expenditures are included in the budgets outlined above.

Table 7: Start-Up Capital Expenditures 2015 – 2018 ($ in Millions)

Capital Expenditures	2015 – 2016 (Millions)	2016 – 2017 (Millions)	2017 – 2018 (Millions)
Facility Costs to Upgrade Existing Buildings ($18M over 10 years)	$.5	$1	$2
Capital Equipment, IT, Media Classrooms (Ongoing Expense Starting in 2018 - 2019)	$0	$0	$0
Total Capital Expenditures	**$.5**	**$1**	**$2**

Table 8: Capital Expenditures 2018 – 2025 ($ in Millions)

Capital Expenditures	2018 – 2019 (Millions)	2019 – 2020 (Millions)	2020 – 2021 (Millions)	2021 – 2022 (Millions)	2022 – 2023 (Millions)	2023 – 2024 (Millions)	2024 - 2025 (Millions)
Facility Costs to Upgrade Existing Buildings ($18M over 10 years)	$2.5	$3.5	$4.5	$1.5	$1.5	$.5	$.5
Capital Equipment, IT, Media Classrooms (Ongoing Expense Starting in 2018 - 2019)	$1	$.75	$.5	$.51	$.52	$.53	$.54
Total Capital Expenditures	**$3.5**	**$4.25**	**$5**	**$2.01**	**$2.02**	**$1.03**	**$1.04**

It is important to note that the new College of Medicine will not request any new General Revenue (GRF) funds from the state so that it does not create competition for this funding for the existing University of Illinois at Chicago College of Medicine.

Start-Up Phase

A significant amount of resources will be required for the start-up of the new College of Medicine. This start-up phase, which includes the years 2015 through 2018, involves fundraising activities, the recruitment and hiring of the Founding Dean and key faculty and staff, and establishment of facilities and infrastructure required to deliver the initial medical education program. Expenses and revenues required for the start-up phase are included in Table 9.

It is expected that a contractual agreement will be put in place between the University of Illinois at Chicago and the University of Illinois at Urbana-Champaign for the appropriate resources to be made available in order to fulfill the commitment to continue to provide the M1 education and for the education of the students staying on to complete their degrees in Urbana. No expenses or revenues for this activity are included in this business plan and the corresponding financial analysis.

Table 9: Budget for Start-Up Phase ($ in Millions)

Start-Up Expenses	2015 – 2016 (Millions)	2016 – 2017 (Millions)	2017 – 2018 (Millions)
Faculty and Staff Salaries, Wages, and Benefits	$.9	$4.8	$8.8
Fundraising Expenses	$.2	$.2	$.2
Marketing and Communications Expenses	$.3	$.2	$.2
General Expenses	$1	$1.3	$2.7
Faculty Research Start-Up Expenses	-	$1	$2.4
Supplies and Other Expenses	$.004	$.09	$.2
Professional Expenses	-	$.003	$.01
Sponsored Research Expenditures	-	$1	$3.4
Facilities and Equipment Expenses	$.5	$.5	$.5
Capital Expenditures	$.5	$1	$2
Total Start-Up Operating Expenses	$3.4	$10.1	$20.5
Total Start-Up Operating Expenses Including 10% Contingency	$3.7	$11.1	$22.5
Start-Up Operating Revenue			
Tuition and Fees	-	-	$1.2
Research Revenue	-	$1.3	$4.3
Clinical Practice Revenue	-	$.3	$1.4
Fundraising and Other Income (Restricted Gifts and Endowment)	-	$.4	$1
Total Start-Up Operating Revenue	-	**$2**	**$7.9**
Net Operating Deficit for Start-Up Phase	**($3.7)**	**($9.1)**	**($14.6)**
Carle Health System Contribution for Start-Up Phase	**$11.5**	**$11.5**	**$11.5**
University of Illinois at Urbana-Champaign Contribution for Start-Up Phase	-	**$.1**	**$.24**
Net Surplus (Shortfall)	**$7.8**	**$2.5**	**($2.9)**
Cumulative Surplus	**$7.8**	**$10.3**	**$7.4**

(Note: figures do not add up due to rounding.)

VI. Economic Impact

Impact of Existing Entities

Medical education is a major driver of the U.S. economy, as medical schools and teaching hospitals generated nearly $600 billion in economic impacts, supported more than 3.3 million jobs, and generated $22 billion in state government revenue in 2012[5]. As outlined earlier in the feasibility study, the academic medical industry in Illinois generated more than $28.7 billion in the state's economy in 2012, and supported more than 155,000 jobs directly and indirectly.

The development of a new College of Medicine in Urbana-Champaign represents an important step in the economic development in central Illinois, the Chicago region, the state of Illinois, and neighboring states. Carle Health System and the University of Illinois at Urbana-Campaign already provide a significant source of economic, employment, and government revenue impact to the region and to the state of Illinois by adding more than $3 billion to the regional economy annually and supporting more than 20,000 jobs directly and indirectly in the region[6].

The University of Illinois at Chicago College of Medicine and the University of Illinois Medical Center in Chicago are also important economic engines for the city of Chicago and the state of Illinois.

In 2012, according to the AAMC, the total economic impact of University of Illinois at Chicago College of Medicine was $1.48 billion. AAMC data indicates that the University of Illinois at Chicago College of Medicine supported 8,682 jobs statewide. The following data illustrates the economic impact of University of Illinois at Chicago College of Medicine and the University of Illinois Medical Center in Chicago in 2012. (Table 10)

Table 10: Total Economic Impact[7]

Entity	Economic Impact (2012)	Employment Impact (2012)
University of Illinois at Chicago College of Medicine	$1.48 billion	8,682
University of Illinois Medical Center	$1.22 billion	5,044
Total Impact	**$2.7 billion**	**13,726**

[5] Association of American Medical Colleges, "The Economic Impact of Medical Schools and Teaching Hospitals", 2012.

[6] Tripp Umbach estimates that total employment on the University of Illinois at Urbana-Campaign campus and Carle Foundation Hospital equals approximately 13,500 full or part-time jobs.

[7] Association of American Medical Colleges, 2012.

Impacts Associated with the New College of Medicine

Using assumptions developed through Tripp Umbach's experience completing economic impact studies for all United States allopathic medical schools on behalf of the AAMC, Tripp Umbach estimates that the total economic impact of the new College of Medicine enterprise will exceed $1 billion annually by 2035 when the new College of Medicine is at full maturity. Further, the new College of Medicine is expected to sustain more than 7,600 jobs statewide by 2035. These projections are based upon analysis completed by Tripp Umbach using benchmarks for mature academic medical centers in the United States.

This impact will stem from the spending by the new College of Medicine, Carle Health System, and related research institutes on capital improvements and goods and services, as well as the spending of staff and faculty, the spending of medical trainees, and the spending (external to the institution) of visitors to the new College of Medicine. This impact is conservative in its projected spending related to capital expenditures needed to operate a medical school, such as equipment, clinical supplies, and non-salary-related expenditures for the medical school.

The proposed project will also enhance the economic environment of the Urbana-Champaign metropolitan area, because the quality of health care resources has a favorable impact upon the decisions made by business owners who are looking to locate or relocate companies. An economic impact analysis completed by Tripp Umbach for the Association of American Medical Colleges (AAMC) shows that states with strong medical schools and teaching hospitals stimulate research and biomedical industry business development outside of the medical college. Economic impact studies completed by Tripp Umbach for the AAMC since 1996 show a direct correlation between the presence of medical schools and a growing economy. Additionally, states with research-intensive medical schools have the strongest economies on a per capita basis. The new research-intensive College of Medicine will be attractive to medical-related companies who are likely to establish a greater focus within the area, seeking the competitive advantage of proximity to a major academic medical center.

The economic benefits generated by the development of a new unique research-intensive College of Medicine extend beyond the direct impact of its operations. Benefits generated in the region as a result of the College of Medicine will include the attraction of highly paid professionals to support the growing health care and biomedical community. The improved health care services resulting from the new College of Medicine will also attract talented workers and retirees who value a strong health care system as part of their geographic location decisions. This in turn will help grow and sustain neighborhoods, schools, entertainment and recreation, transportation, retail, banking, and commercial opportunities that will serve as additional economic benefits for the region.

A report by the Champaign County Economic Development Corporation in October 2011 projected the health care industry in the Champaign-Urbana MSA to be the largest source of nonfarm private employment growth in the area, with an estimated growth of 9,542 additional health care jobs by 2040. Between 2001 and 2009, 1,042 health care jobs were added in Champaign-Urbana. Health care is the largest private employment sector in the MSA, representing 14.5% of private regional employment. The College of Medicine will strengthen the region's health care industry and increase these growth projections.

A recent Business Development Cluster report concluded that a new College of Medicine at the University of Illinois at Urbana-Champaign would accelerate economic development and job creation in central Illinois, Chicago and the state as a whole through the emergence of a vibrant biomedical and bioengineering business cluster. Although the College of Medicine will be designed to graduate a relatively small number of physicians each year, graduates will be trained to make significant impacts in the development of medical innovations. It is important to point out that many of the graduates may move to other cities, including Chicago, where job opportunities exist and where quality of life options are varied and numerous. Because of their unique knowledge base, these graduates will impact organizations in Chicago, all of Illinois, and the nation, bringing recognition for the state of Illinois' leadership in innovation. The proposed new College of Medicine will have multiple economic and social benefits as it leverages revolutionary advances in engineering, technology, and quantitative sciences to further biomedical research and education.

The convergence of medicine and engineering in Urbana-Champaign is already resulting in significant start-up company formation, and this type of activity will be enhanced through the presence of additional physician-scientists, research integration with clinical sites, and increased clinical trials. In fiscal year 2013, there were 32 disclosures to the Office of Technology Management at Urbana-Champaign for health care technologies, a 320% increase over the 10 year average. Most health care innovations are disclosed from engineering faculty in areas including electronics, software, and optics.

In addition to the increases in disclosures from the Urbana campus for health care applications, the number of start-ups in health disciplines is also growing. Examples of start-up companies formed in the last five years by faculty from the University of Illinois at Urbana-Champaign are included in Table 11. Many of these companies have already secured significant venture capital and are collaborating with a number of medical institutions, including Carle Health System, to conduct clinical trials. (Table 11)

Table 11: Examples of Start-Up Companies Formed by Faculty in Past Five Years

Company	Core Technology	Origin	Additional Notes
Diagnostic Photonics	Tissue Microfracture optical Imaging	Electrical & Computer Engineering	Clinical trials completed at Carle & John Hopkins
MC10	Wearable flexible and stretchable sensor systems, home diagnostics, remote monitoring, interventional catheters.	Material Science and Engineering	Major venture capital backing. strategic development partners include Reebok, Medtronic, Massachusetts General Hospital
Daktari	CD4 counting technology of point-of-care tools	Bioengineering	Major venture capital backing
Metabolomx	Colorimetric sensor array for detection of lung cancer from breath	Chemistry and the Beckman Institute	Has partnered with Cleveland Clinic
Glucosentient	Personal glucose meters into devices that quantitatively and conveniently detect non-glucose targets.	Chemistry and Electrical & Computer Engineering	NSF SBIR Phase I and Phase II funding. Has partnered with a major pharmaceutical company and secured equity financing.
Vitruvian Biotech	Image-guided nanoparticle drug delivery	Bioengineering	Initial research completed at the Carle Biomedical Research Center
PhiOptics	Quantitative Phase Imaging (QPI) – that provides highly accurate, fast and inexpensive imaging of live cells and tissues.	Electrical & Computer Engineering, the Beckman Institute	NSF SBIR Phase I and Phase II funding. Secured venture capital seed funding and early commercial sales.

The proposed development of the new College of Medicine represents a “rock hitting the pond” as it creates significant additional economic and social benefits for the Urbana-Champaign region, Chicagoland, and the state of Illinois over the next 20 years. The new College of Medicine and its partnerships with Carle Health System, the University of Illinois, and other regional health care organizations, private businesses, and research-related entities will be the springboard for future economic development in Urbana-Champaign and throughout the state of Illinois. These partnerships

will have the opportunity to launch new industries and add value to existing industries, creating new high-paying jobs in health care, higher education, and related industries.

The new College of Medicine will build on the foundation established by the University of Illinois Research Park and the newly created Digital Manufacturing and Design Innovation Institute, and will therefore strengthen the development of a vital Urbana-Champaign-Chicago corridor of technology innovation as an economic development driver for the state of Illinois. Additionally, the new College of Medicine and the recently announced ARCHES partnership between OSF Healthcare and the College of Engineering at the University of Illinois at Urbana-Champaign will initiate the creation of an I-74 Medical Innovation Corridor through collaboration with health care systems in Urbana, Peoria, Champaign, Bloomington, Normal, and Danville. This corridor will serve as an incubator to help create high-paying jobs and make the entire region more attractive to major companies and medical technology industries. The location of the new College of Medicine in this Corridor offers an opportunity to apply engineering-driven innovation to transform rural health care services.

The new College of Medicine will serve to establish the state of Illinois as the national leader in medical innovation and technology. The Illinois Medical District (IMD), University of Chicago, Northwestern University, University of Illinois at Chicago College of Medicine, and Loyola University, along with Chicago-based investments in technology infrastructure, have created the foundation for the state to become the national leader in medical innovation and technology. The new College of Medicine in Urbana-Champaign will further solidify Illinois' position. The State of Illinois ranks 7th among all states relative to the total economic impact of academic medicine, generating $28.7 billion in total economic impact in 2012, and 10th among states for per capita impact of federal sponsored research[8]. The growth of engineering-based medicine will help Illinois become more competitive and increase its biomedical economic impact relative to other growing states.

Finally, a new College of Medicine in Urbana-Champaign will allow talent and expertise to remain in Illinois. Academic medical centers are currently collaborating with the University of Illinois at Urbana-Champaign because of its engineering and technology expertise. Colleges of Medicine at Stanford University, Johns Hopkins University, Washington University, Duke University, and Vanderbilt University—all top 10 medical schools as ranked by NIH funding—have developed ongoing research collaborations with University of Illinois at Urbana-Champaign engineering and science faculty. A new College of Medicine will create opportunities for additional partnerships on the same campus with University of Illinois at Urbana-Champaign faculty, keeping faculty talent and expertise in the state of Illinois.

Economic Impact Methodology

The economic impact methodology utilized to determine the impacts of the new College of Medicine, linear cash flow modeling, is used by the AAMC to determine the economic impact of all allopathic medical schools in the United States. This methodology reflects "fresh dollar" impacts. "Fresh dollar" impacts result from dollars that come into a region from outside of a region and are generated through

[8] Association of American Medical Colleges, "The Economic Impact of Medical Schools and Teaching Hospitals", 2012.

external research funding and visitors traveling from outside the region and staying overnight. Linear cash flow methodology was derived from an original set of research tools and techniques developed for the American Council on Education (ACE). The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area.

Beginning in 1996, Tripp Umbach began a consulting relationship with the AAMC, and completed the first national study showing the economic impact of academic medical centers. For this study, the Tripp Umbach research team felt it was important to distinguish the economic impacts that are attributable to funds brought into the state from out-of-state sources. The application of this “fresh dollar” model provides a first-line measure of the initial direct expansion in the state economy caused by the academic health centers.

VII. Curriculum & Admissions Plan

Although the Founding Dean and the faculty will ultimately be responsible for guiding the development of the curriculum for the new College of Medicine, the Curriculum and Admissions Work Group invested significant effort in outlining proposed curricular objectives and concepts for the new College of Medicine.

The traditional medical school curriculum educates physicians through a discipline-based (anatomy, biochemistry, pharmacology, pediatrics, etc.) approach emphasizing memorization versus self-directed discovery. The new school's curriculum will be rooted in the convergence of medicine and engineering, computer sciences, quantitative sciences, and technology to teach the human body as an integrated system. This understanding of the human body as an integrated system is critical to the analytical, problem-solving skills needed to be a successful physician. Engineering technologies and approaches will be incorporated throughout the curriculum. Examples include:

- In microbiology, the curriculum will provide an understanding of microbes and engineering approaches to the alteration of genomes and biological circuits.
- In clinical training, the curriculum will incorporate bioreactor use, 3D printing, and advanced analysis techniques.
- In computer sciences, the curriculum will include data mining techniques to create patient care guidelines.
- Student experiences will include interactions not only with physicians and patients, but also with engineers and new innovations for advancing medical care. Process and operations engineering, as well as systems engineering, will be incorporated to guide the ongoing transformation of health care.

The first of its kind, the curriculum for the new College of Medicine will build upon the University of Illinois at Urbana-Champaign campus' top-rated engineering and science-based research programs and will integrate state-of-the-art technological innovations to train physician-engineers and physician-scientists engaged in biomedical research to improve care and outcomes. In addition, the curriculum will include interprofessional training and practice interfaces with colleges and schools on the University of Illinois at Urbana-Champaign campus and with multiple partner educational institutions throughout the region, state, and nation. The new College of Medicine will be a leader in team-based education and service delivery.

Objectives of curriculum

The overall objective of the new College of Medicine curriculum is to develop a revolutionary paradigm of medical educational pedagogy that realizes and formalizes the concept of "Engineering-Inspired Medicine". Specific objectives of this engineering-based medical curriculum will be to teach medicine based on quantitative systems principles and to drive the shift of medicine to a quantitative and engineering-based discipline. The motivation for the creation of this innovative medical curriculum is the revolution, focused on the intersection of engineering, biological sciences, and physical sciences, now

taking place in medicine. Boundaries between the principles of engineering, the physical sciences, and biology are being eliminated, and a new educational and research paradigm has emerged at this interface. An engineering foundation is the most effective way to provide solutions to the significant health care challenges facing the region, state, and world.

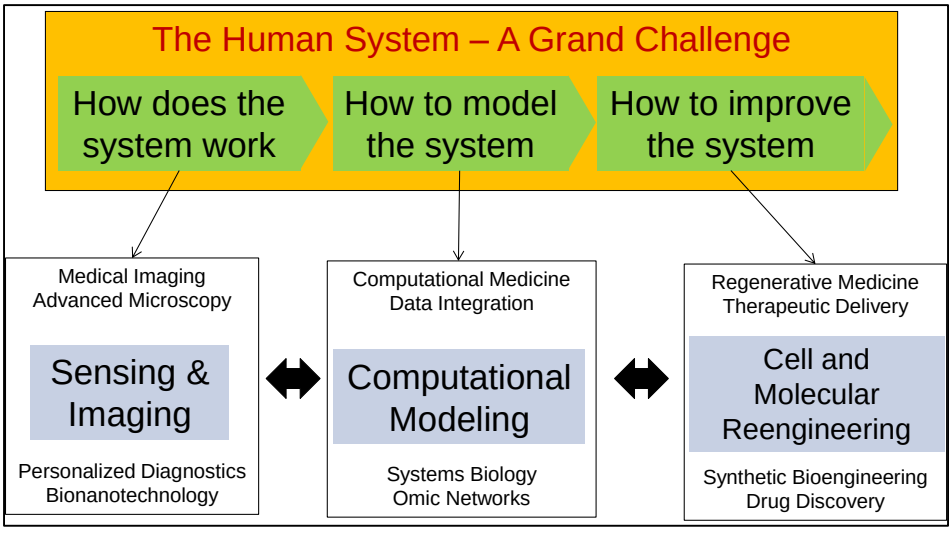
The new College of Medicine will produce physicians who are trained in state-of-the-art technologies that have changed the practice of medicine, and who will define and develop the technologies of the future. These physicians will know how to collect and analyze "big data", from genomics to clinomics[9], to diagnose and treat patients. Most importantly, these physicians will be compassionate caregivers and have excellent interpersonal and professional skills.

While significant effort has been invested in designing the concepts of an innovative curriculum, it is important to note that the medical education program of the new College of Medicine must achieve LMCE accreditation and must sufficiently prepare students to take USMLE exams Step 1 and 2. The new College of Medicine will ensure the delivery of instructional material that allows the program and the students to meet these two operational goals.

The new College of Medicine will offer students the ability to receive a MD with a technical research project, a MD integrated with a master's degree in Engineering with a thesis/project, or a MD integrated with a PhD in quantitative engineering and sciences.

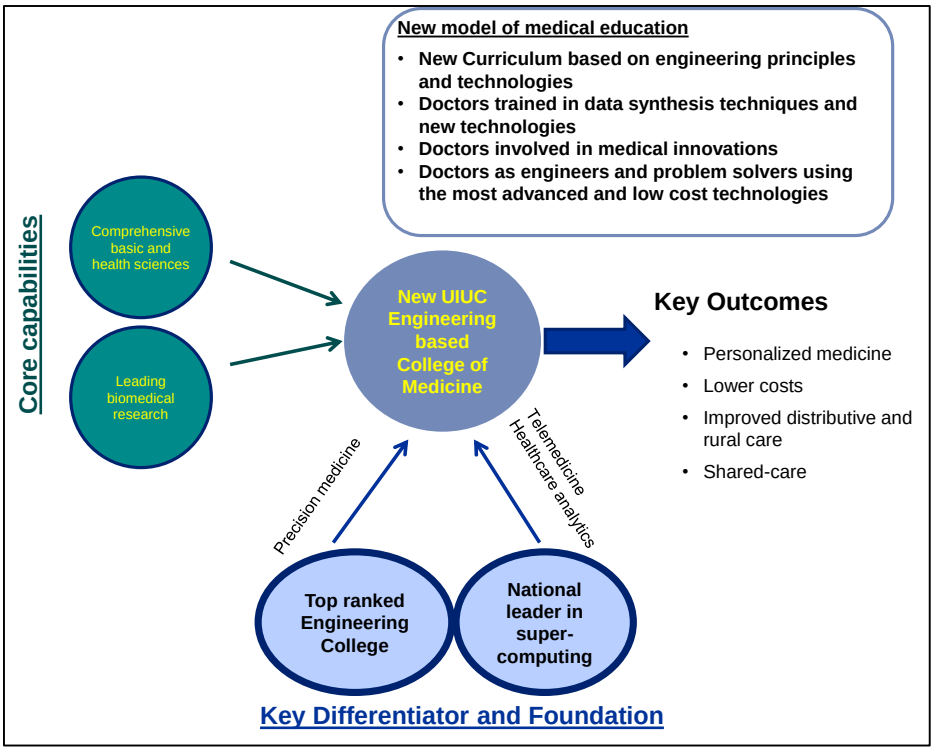
The following images illustrate the concepts upon which the overview of the curriculum was developed. (Images 4 and 5)

Image 4: Engineering Inspired Medicine



[9] Clinomics is the study of biology data along with its associated clinical data.

Image 5: New Model of Medical Education



Proposed Curriculum Outline

Following are the key elements of the proposed curriculum.

A. Elements common to all degrees offered:

- All courses will be in modules, and a semester course will consist of three modules. There will be opportunities for courses and topics to space one or two modules also.
- These classes and modules will overlap and could be co-taught with other Bioengineering courses, and also could be offered to other engineering students as deemed appropriate.
- Approximately one-third of the class would be lecture-based and two-thirds would be lab modules or project/discussion-based.
- The classes would be 'flipped' to provide knowledge-based content of the class through online and electronic venues. The lecture portion would be more analysis, problem solving, and project-based.
- Extra time will be utilized to further include math, statistics, probability, computing, and other engineering topics.
- 'Systems' concepts will be integrated throughout all semesters, starting with the first semester.

- Engineering and technology will be integrated in every course (as described in the next outline).
- Team-based design project learning will be integrated in every semester starting with M1.
- Prevention, ethics, teamwork, and social and psychological experiences will be integrated into the curriculum. The project teams could be structured to include students from other appropriate disciplines.
- Entrepreneurship track/experiences for students that want to pursue this option will be provided.

B. For the MD/MEng Program, in addition to the above elements in A:

- Students could take an extra year to take courses in specific tracks (Sensors, Computation, Genomics, etc.).
- Students will pick a thesis advisor/project mentor.
- The course requirement can be completed in the extra third year (after M2) and then thesis research continue over M3-M4.
- This master's option could be synergized with the MEng offerings being developed at the interface of engineering, biology, and medicine.

C. For MD/PhD Program, in addition to the above elements in A:

- PhD degree course requirements can be completed in two years.
- PhD qualifying exam and preliminary exam to be completed before M3.
- PhD thesis research completed over entire program duration.

Below is a proposed outline of the College of Medicine curriculum. Each course will be taught in three modules per semester. The January term will be one module.

Engineering and Technology-Based MD Program

Table 12: Year I Proposed Curriculum

Year I	
Fall term courses	**Suggested Technology-Based Course Content**
Mathematical, Statistical, and Modeling Methods for Medicine	math; stats; probability, computer programming; simulations
Visualization of Human Functional Anatomy	advanced visualization tech; imaging; simulations
Human Systems Pathology	systems-level approaches; advanced microscopy
Biochemistry and Biotechnology for Metabolic Diseases	biotechnology assays; laboratory testing
Molecular Biology and Genomics	genomics; bioinformatics; BIG DATA analysis
Immunology for Molecular Medicine	molecular targeting for drugs and imaging
Team-Based Problem-Based Learning Modules (PBLMs)	modules to introduce clinical problems early
January Term Courses	**Suggested Technology-Based Course Content**
Musculoskeletal Biomechanics and Pathophysiology	biomechanics (muscle, cellular); tissue engineering
Molecular Biomarkers in Health and Disease	biomarkers – molecular, imaging, signals, symptoms, signs
Evidence-Based Informatics for Medicine	how to review, analyze, assimilate, use the literature
Technology for the Care of Patients	electronic medical records; mobile health diagnostics
Medical Research Methods	how to conduct research; IRBs; ethics; professionalism
Spring Term Courses	**Suggested Technology-Based Course Content**
Systems and Networks in Endocrinology	systems biology; networks; feedback; control; analysis
Nanotechnology in Hematology	nanotechnology; nanomedicine; bioMEMS
Biomechanics of Cardiovascular Pathophysiology	quantitative modeling; simulation; fluid mechanics
Biomechanics of Respiratory Pathophysiology	quantitative modeling; simulation; dynamics
Biomaterials for Renal Pathophysiology	biomaterials; electrolytes; natural/synthetic interface
Medical Decision Making for the Care of Patients	medical decision analysis from clinical/diagnostic data
Personalized, Mobile, and Global Medicine	low-cost technology; public (global) education & health
Team-Based Problem-Based Learning Modules (PBLMs)	modules to introduce clinical problems early

Summer Term

Research (integrates and expands on the Team Based Problem-Based Learning Models).

Table 13: Year II Proposed Curriculum

Year II	
Fall Term Courses	**Suggested Technology-Based Course Content**
Systems Analysis and Pathogenesis of Microbiomes	cell networks/communication; mechanisms
Reproductive Biology and Embryology	biological processes, Stem Cell Engr, morph control
Synthetic Biology and Regenerative Medicine	synthetic biology; genetic control; tissue engineering
Minimally-Invasive Technologies for Gastroenterology	technologies to access and assess the GI tract
Computational Neuroscience and Neuroengineering	natural/artificial neutral networks; neuro-rehab engr, brain machine interface
Team-Based Problem-Based Learning Modules (PBLMs) Research	modules introduce clinical problems early
January Term Courses	**Suggested Technology-Based Course Content**
Genomics in Medicine	role of genes in health, prevention, aging, disease
Mind, Body, and Society in Health	personalized medicine; alternative medicine
Healthcare Systems Design and Engineering Research	government policies; costs; constraints; models
Spring Term Courses	**Suggested Technology-Based Course Content**
Systems Oncology and Technology	systems medicine; biophysics; cancer imaging & diagnostics
Drug Discovery, Design, and Pharmacology	combinatorial chemistry methods; FDA; clinical trials
Neuroimaging and Neuromodulation of Psychopathology	neuroimaging; neuroengineering; mind/brain in psych-path
Technologies and Techniques for Clinical Medicine	new tools & tech for patient encounters, exams, and care
Team-Based Problem-Based Learning Modules (PBLMs)	modules introduce clinical problems early

Table 14: Year III and IV Proposed Curriculum

Year III and IV (Clinical)	
Required Courses	**Technology-Based Content Taught during Clinical Years**
Medicine (three months)	data/info access; data integration; care algorithms
Primary Care (outpatient, ongoing Years III/IV)	electronic med records; mobile tech; personalized med
Obstetrics/Gynecology-Pediatrics (three months)	genomics; community social service network design
Surgery (three months)	medical devices; robotics; imaging; real-time diagnostics
Neurology	neuroimaging; aging; rehabilitation engineering
Psychiatry	pharmacology; mental health care system design / operation
Radiology	molecular/cellular diagnostics; advanced imaging
Genetics	molecular imaging; comp. imaging/analysis; BIG DATA
Patient-Doctor-technology	personalized genomics; Big Data, Informatics; ethics
Clinical Electives*	the interfaces; physical experiences; social/emotional
Research	technology/engineering/quantitative infusion into each

*Clinical Electives could be arranged at "away" institutions, including Mayo Clinic, OSF, UIC, Washington University, or other clinical institutions with more sub-specialized rotations.

In addition, students must complete Part I (after Basic Science MD coursework, Year II) and Part II (after Clinical Courses, Year IV) of the United States Medical Licensing Examination (USLME/National Boards).

MS or PhD degrees will be conferred at the same time as the MD degree, at the end of the respective program.

Interdisciplinary Elements of the Curriculum

Interdisciplinary educational experiences with depth and rigor can be integrated into the curriculum by new faculty that are trained across the disciplines of engineering, biology, and medicine, and are able to bridge the gap in a seamless manner. In addition, for some topics, the modules could be team-taught so that the students benefit from the experience of multiple instructors and expertise. Finally, within one course, the modules could each be taught by subject matter experts from different interdisciplinary backgrounds.

In addition to the faculty, it would also be beneficial to have some students from different backgrounds within the classes and project teams. These students could be from bioengineering or other engineering

or science disciplines and possibly even from business or the liberal arts to provide additional interactions and enriching experiences for the new College of Medicine students.

Interprofessional Elements of the Curriculum

Along with graduating physicians who are skilled in technologies and quantitative aspects of medicine, the new College of Medicine will also provide interprofessional experiences that will lead to multiple career paths for physicians. The new College of Medicine will integrate experiences that teach physicians how to translate technologies to the marketplace and help them understand the basic elements of entrepreneurship, Intellectual Property (IP), and technology transfer.

Additionally, to address medicine's shift to a distributed and less hospital-centric industry, the concepts and experiences of community health care delivery will be integrated into the curriculum, along with a strong customer and application focus that provides value-driven medical care at low costs. Community service and outreach experiences will be an important part of the curriculum.

Research Focus of the Curriculum

A significant research focus will be integrated throughout the curriculum in multiple ways. Each student may have a mentor assigned to integrate research experiences throughout the program as students work in specific labs and projects. Even the four-year MD program may require a research output, such as a publication or a conference presentation. This will allow students to translate basic science knowledge to a project that has a publishable outcome. The master's degree option, as noted previously, would also require a project that would be above and beyond the MD research requirement, and could possibly build on the same projects as the ones in the MD research.

Ideal Student Profile for the New College of Medicine

Along with the development of a highly innovative curriculum overview, Curriculum and Admissions Work Group members were charged with creating a profile of the type of student that will be best suited for the new College of Medicine. The description of the ideal student is related to the new College of Medicine's unique infrastructure, and the courses that are imperative for students to succeed. Students admitted to the new engineering-based College of Medicine must have quantitative and interpersonal skills. The following list outlines the requirements that could be used to select potential students for the new College of Medicine:

Student Admissions Requirements

- Bachelor's degree (BS) in engineering, computer science, or related technical field
- Math through differential equations and advanced calculus
- Organic chemistry with laboratory
- Biochemistry
- Molecular biology
- MCAT, GRE, and TOEFL scores (as needed)

- Letters of recommendation
- Excellent oral, writing communication skills
- Excellent interpersonal skills

VIII. Faculty & Staff Plan

The Founding Dean will be recruited and hired in 2015, and will drive the strategic direction of the new College of Medicine, including the development of a faculty and staff hiring plan. 20 science (PhD) instruction faculty and 3 physician (MD) instruction faculty will be hired to support the operations of the new College of Medicine. In addition to these faculty members, a full-time equivalent (FTE) of 10 additional clinical faculty will be needed to train students at the new College of Medicine. The business plan assumes that these physician faculty members, who are estimated to represent approximately 40-50 physicians, will be employed by Carle Health System (not counting hundreds of volunteer physician-faculty throughout the region). The business plan also assumes that most of these physicians will spend between 20 and 50 percent of their time in teaching and research activities for the new College of Medicine.

Carle Health System currently employs approximately 400 physicians representing more than 70 specialties and has a physician workforce plan to recruit an additional 130 physicians over the next 5 years. Carle Health System compensates physicians based upon fair market value using the McGladrey Large Clinic Survey as a guide to determine compensation. Carle Health System also currently compensates a relatively small number of physicians based upon a formula that includes the percentage of effort dedicated to teaching existing medical students or providing leadership for Graduate Medical Education (GME) programs.

Carle Health System is the main teaching hospital for the University of Illinois College of Medicine at Urbana and its Internal Medicine Residency Program. Carle Health System also has Family Medicine, Surgical, and Oral Maxillofacial Residency GME programs. In the future, the Carle Health System is considering expansion of residency programs and will apply for accreditation for its Family Medicine residency program in July 2016.

Moving forward, Carle Health System anticipates it will compensate physician faculty based upon a formula that includes recognition and reward for clinical and academic effort using metrics such as teaching time, research activity, and scholarly publication, in addition to more traditional clinical productivity metrics. The development of this type of compensation method to support physicians in their academic efforts through dedicated time for research and training is imperative for the new College of Medicine model to be successful. In return for this investment, the new College of Medicine will attract high-quality physicians seeking clinical, education, and/or research positions at the University of Illinois at Urbana-Champaign and Carle Health System.

Faculty requirements for the new College of Medicine were determined using basic science and clinical teaching models developed by Tripp Umbach and refined to address the educational, research, and clinical goals of the new College of Medicine. Tripp Umbach's teaching models reflect the requirements of a problem-based curriculum with the appropriate amount of time and effort needed for lectures, labs, and small-group learning. Staffing requirements were determined by Tripp Umbach based upon their experience working with new and existing medical schools throughout the country.

Costs related to faculty and staff requirements for the new College of Medicine will equal $12.5 million in 2024-2025, including costs for 75.5 faculty and staff to support the operations of the new College of Medicine. Costs are included in Section V of the business plan, and recruitment cost, salary, benefits, and FTE assumptions are included in Appendix E of the business plan. The following table outlines the FTE requirements of the new College of Medicine in 2024-2025. (Table 15)

Table 15: Faculty and Staff Resources Required to Support the New College of Medicine in 2024 – 2025

Faculty and Staff Category	Full Time Equivalent
Dean's Office	10
Basic Science Instruction Faculty and Staff Support	34
Clinical Instruction Faculty and Staff Support	15
Research Administration	2
Student Services	4.5
Institutional Support	12
Total Faculty and Staff FTEs	**75.5**

IX. Clinical Training

To determine the clinical training resources required for the new College of Medicine, the Clinical Training Work Group inventoried and analyzed existing clinical training facilities and resources.

Currently, Carle Health System provides approximately 63 percent of all clerkships to Urbana-Champaign-based medical students, as indicated below in Table 16.

Table 16: Clerkship Experiences 2008 to 2013

Site	Number Clerkship Experiences	Percent
Carle Foundation Hospital	738	0.57
Presence Urbana	198	0.15
Presence Urbana/VA	51	0.04
Carle/VA	40	0.03
Christie (all sites)	24	0.02
VA	23	0.02
Carle/Presence Urbana	20	0.02
Private Offices C-U	17	0.01
Carle/Christie	11	0.01
Bloomington Bromenn/Carle	7	0.01
Danville Presence	7	0.01
Pavilion	6	0.00
Carle/Danville Presence	5	0.00
Bloomington Bromenn	4	0.00
Philo Clinic private	4	0.00
Frances Nelson	4	0.00
Christie/Presence Urbana	3	0.00
Bloomington Bromenn/Christie	2	0.00
Danville/Bloomington Bromenn	2	0.00
Gibson City	2	0.00
Carle/Frances Nelson	1	0.00
Monticello Kirby	1	0.00
Paxton	1	0.00
Other Medical Schools	134	0.10

Analysis of existing clinical training sites indicates that the appropriate amount of resources is available to support the new College of Medicine. Costs related to these resources are included in the financial analysis of the business plan. Further, Carle Health System plans to expand clinical training capacity for medical students and residents through long-range facility and physician workforce expansion plans, as

well as through the development of funds and effort policies to support Carle Health System physicians for increased commitments to research and teaching.

Graduate Medical Education

Graduate Medical Education (GME) is an important component of the new College of Medicine. Carle Health System is already the major teaching site for the Internal Medicine residency program sponsored by the University of Illinois College of Medicine at Urbana. Additionally, Carle Health System currently sponsors three of its own GME programs.

Existing residency programs at Carle Health System are included in Table 17.

Table 17: GME Programs

Program	Number of Residents/Fellows	Accreditation
General Surgery	12	ACGME
Family Medicine	12	AOA
Oral Maxillofacial Surgery	5	CODA
Internal Medicine	17	ACGME

In addition to these programs, Carle Health System is considering expansion of residency programs and will apply for accreditation with ACGME for its Family Medicine residency program in July 2016.

In the future, Carle Health System plans to develop additional residency capacity with local and regional partners. The development of a regional GME consortium is one way that other colleges of medicine have expanded GME, and this model will be explored by Carle Health System and the new College of Medicine leadership in the future.

X. Research

To support the research objectives of the new College of Medicine, 20 faculty researchers will be required during start-up and growth years. Costs and revenues associated with these researchers are included in the financial analysis in Section V.

Research goals for the new College of Medicine include the following:

The new College of Medicine will develop a top-tier world class research enterprise with $100 million in research expenditures by 2035. The college will:

- Develop and grow a substantial and transformative research program at the intersection of engineering, the basic health sciences, applied health sciences (e.g., public health), and medicine.
- Develop and grow a substantial and transformative research program that leverages computing, big data, and mobile technologies to transform health care outcomes across the care continuum.
- Foster an open research model to bring in a diversity of disciplines and organizations to facilitate innovation and creativity.

To achieve this, the College of Medicine will:

- Implement policies and put in place administrative support to facilitate interdisciplinary collaborations, especially between Carle Health System and the University of Illinois at Urbana-Champaign, but also with third parties.
- Create and operate an organization that can rapidly address compliance and IRB issues.
- Provide facilities to foster top-tier research.
- Develop data-sharing and access policies and procedures to foster top-tier research.
- Foster collaborative opportunities that can enrich and strengthen the research program and the eco-system for translational activities and entrepreneurship.

Pioneering work in interdisciplinary biomedical research already has a foundation in the University of Illinois research culture based on inter-departmental relationships at the Beckman Institute, the Institute for Genomic Biology (IGB), the National Center for Supercomputing Applications (NCSA), the Micro and Nano Lab (MNTL), the Division of Biomedical Sciences (DBS), and the Coordinated Science Lab (CSL). Awareness of this existing activity assisted the Research Work Group in their efforts.

The Research Work Group completed an analysis of existing and needed resources, including facilities, infrastructure, and faculty needed to fulfill the research goals of the new College of Medicine. This analysis is included in Appendix D of the business plan.

The new College of Medicine will leverage the significant research strengths of Carle Health System and the University of Illinois at Urbana-Champaign to train physicians who collaborate with engineers, computer scientists, lawyers, business leaders, and other professions. This collaboration will enable

effective research, and facilitate the application of trans-disciplinary theory to diagnose, treat, and cure diseases that have the greatest impact on health status and cost of care, including cancer, cardiovascular disease, and neurodevelopmental and neurodegenerative diseases. Physicians graduating from the new College of Medicine will launch their future residencies, research, and clinical careers with new strengths in quantitative methods, engineering, and technological platforms, as well as strong biological and clinical backgrounds.

The University of Illinois at Urbana-Champaign is a comprehensive research-intensive university. Thus, while the new College of Medicine will be engineering-based, it will draw on new and extraordinary opportunities for collaboration with other colleges to infuse technology-based medicine in the colleges' educational and research missions. For example, the new College of Medicine could partner with Applied Health Sciences to develop technology-based solutions for health care delivery for the disabled and growing elderly population. Additional partnerships will include the Colleges of Liberal Arts and Sciences, Veterinary Medicine, and Agriculture, Consumer and Environmental Sciences, and the School of Social Work, the Institute for Genomic Biology, the Beckman Institute, and the Interdisciplinary Health Sciences Initiative.

Further, the new College of Medicine will have the elements necessary not only to pursue discoveries and innovations, but also to facilitate their adoption and commercialization. Many existing University of Illinois at Urbana-Champaign colleges and faculty members can support the design, applied health assessments, and behavioral and social elements related to the adoption of medical innovations. The new College of Medicine will also be able to leverage the University of Illinois at Urbana-Champaign's Research Park and start-up ecosystem to create pipelines of biotech companies, and to partner these companies with an extensive industrial biosciences network of state and national enterprises.

The commercialization of the new College of Medicine's innovations will be an economic development engine for the state of Illinois as faculty and graduates of this new program start locally-based biotechnology companies which provide jobs and other economic benefits. Additionally, the new College of Medicine will benefit from its investment in IP developed by faculty. A portion of new revenue generated through school and faculty contracts with third parties, licensing, and consulting could be reinvested to strengthen the new College of Medicine.

The new College of Medicine will also build upon the significant major advances in biomedical engineering that the University of Illinois at Urbana-Champaign College of Engineering has already achieved, including:

- Flexible silicon semiconductors to monitor body functions.
- Biodegradable electronics technology for use in medical implants.
- Mobile phone-based portable diagnostics.
- Advanced real-time high resolution imaging during surgery.
- Handheld systems for detection of infections.
- Biological soft micro-robotics for drug screening and chemical analysis.

The collaborative model of medical education and research outlined in this report will have the greatest potential to attract research revenue from the NIH, other federal agencies, corporations, and foundations, especially in light of recent prioritization of team-based research, bringing new federal dollars into the region and the state.

NIH also recently prioritized translational research efforts by creating the National Center for Advancing Translational Sciences (NCATS) in an effort to deliver new treatments and cures for disease to patients more effectively. As students at the new College of Medicine will be trained by active physician-researchers working in engineering and basic and behavioral science departments, the opportunity to attract significant NCATS funding will exist from the onset of the new program. This model of medical education will teach students how to translate advances in technology and science into the clinical environment, precisely the transformation that the NIH is demanding.

Additionally, the convergence of engineering and medicine dictates that the future of engineering schools will be tied to their integration with health care research and development. Co-locating the new College of Medicine and the College of Engineering on the same campus will ensure the integration of engineering and technology-based health sciences and rapid translation of discoveries to the clinical environment. This will provide the College of Engineering with a competitive advantage relative to cutting-edge research and superior educational experiences. The location of the new College of Medicine on the same campus as the College of Engineering will also attract funding resources and leverage the assets of both colleges.

The University of Illinois at Urbana-Champaign will also be able to capture significant research funding currently going to the top out-of-state medical schools who are partnering with the College of Engineering, including Colleges of Medicine at Stanford University, Johns Hopkins University, Washington University, Duke University, and Vanderbilt University--all top 10 medical schools as ranked by NIH funding. In addition to funding, a new College of Medicine in Urbana-Champaign will allow talent and expertise to remain in Illinois.

Finally, the research enterprise of the new College of Medicine will also have a positive impact on the existing University of Illinois at Chicago College of Medicine. The delivery of medicine has been significantly transformed by engineering innovations and the ability to develop health protocols targeting specific populations. The University of Illinois at Chicago College of Medicine will be in an ideal position to:

- Conduct even more clinical trials in partnership with the new College of Medicine and biotechnology start-up companies based in Urbana-Champaign and Chicago. These trials will be able to take advantage of University of Illinois at Chicago College of Medicine's diverse patient and physician population to lead trials directed at understanding the impact of diversity on new health care methods and technologies.
- Adapt and tailor bioengineering innovations to urban health care conditions of the underserved.

- Become the new College of Medicine's partner, through the University of Illinois at Chicago College of Medicine's Peoria and Rockford campuses, in adapting innovations to rural health care needs and conditions.
- Partner with biotechnology start-up companies emerging from the new College of Medicine and based both in the Urbana-Champaign area and in the Chicago region.

XI. Facilities

The new College of Medicine will require significant educational space, clinical facilities, research resources, and infrastructure to realize its goals as outlined in this report. It is important to note that this business plan assumes that space currently being utilized by existing M1 medical students who are located in Urbana-Champaign and those who stay in Urbana to complete their degrees will continue to be utilized by students in those programs. At the same time, the University of Illinois at Urbana-Champaign and Carle Health System will leverage existing available space and resources not being fully utilized to ensure that the new College of Medicine is as cost-effective as possible. Additional opportunities for leveraging existing facilities and infrastructure will be identified as the new College of Medicine is developed.

In addition to the potential to leverage existing facilities and infrastructure at both organizations, Carle Health System and the University of Illinois at Urbana-Champaign also have relationships with organizations throughout the region that will enable the new College of Medicine to share resources for facilities and technologies that might be needed in the future, such as an expanded clinical training center. Although estimates of facility costs required to address the goals of the new College of Medicine and included in the business plan have been purposefully conservative, it is assumed that the new College of Medicine will be able to leverage existing resources to realize greater cost savings than accounted for in the business plan financial analysis.

The Facilities Work Group estimated the required facility square footage needed by the new College of Medicine by developing a per-student amount of space currently being utilized by existing medical students and applying this ratio to the number of students in the new College of Medicine. An estimate of 35,400 square feet of required space was developed.

In addition to the identified facilities and associated costs included in this business plan, there is also potential space available for the new College of Medicine in the Biomedical Research Center, owned by Carle Health System. The University of Illinois at Urbana-Champaign already rents some of this space from Carle Health System, and additional space, including research-defined group space, is available if needed in the future. The Biomedical Research Center is a state-of-the-art research facility with over 25,000 square feet of space. This space is divided into two larger laboratories that are open and very flexible. Specialty rooms, including a cold room, warm room, cell culture alcoves, fume hood alcoves, and microscopy room, are also available. Technology integrated into the space includes high-speed wireless internet. Basic equipment is provided in the Biomedical Research Center to assist researchers with the start-up of their own laboratory space. Equipment includes biological safety hoods, cryopreservation storage, -20 and -80 degree freezers, refrigerators, ultracentrifuge, and microscopes.

After determining the estimated amount of space and the type of facilities and infrastructure that would be needed by the new College of Medicine, both Carle Health System and the University of Illinois at Urbana-Champaign inventoried available educational, clinical training, and research facilities that could be utilized by the new College of Medicine. Fully loaded cost per square foot expenses were applied to the appropriate categories of space to develop an estimate of the cost of facilities needed for the new

College of Medicine. These costs equal $18 million, with additional ongoing costs of $750,000 to $1.2 million each year for clinical training center resources.

It is also envisioned that in the future, the new College of Medicine may be able to utilize available space within the Institute for Genomic Biology, which is housed in a $75 million, 186,000 square-foot, state-of-the-art facility at the University of Illinois at Urbana-Champaign. Similar to the Biomedical Research Center, the building's design facilitates collaboration between researchers. The Institute for Genomic Biology also provides space to advance technology transfer, education, and engagement with partners in genomic biology. Each research area is housed in a Thematic Lab Module, which includes facilities for biology, bioengineering or chemistry, and bioinformatics.

Finally, the new College of Medicine may be able to leverage lab and classroom space in the University of Illinois at Urbana-Champaign's Digital Computing Lab. 15,000 square feet of space in this facility was allocated in 2002 to the Bioengineering Department, with the intent that the Department would eventually relocate to a different location. The Bioengineering Department plans to relocate soon, and space within the Digital Computing Lab could become available for the new College of Medicine.

XII. Communications & Government Relations

The Communications and Government Relations Work Group's primary mission was to identify ways to communicate the positive impacts the new College of Medicine will have on the University of Illinois at Urbana-Champaign, Carle Health System, the University of Illinois system, the University of Illinois at Chicago College of Medicine, the health care delivery system, and the economic development of the region and state. It will be important to effectively generate support and identify funding opportunities through communications and marketing efforts.

To determine the best method to effectively communicate the elements of the business plan, work group members created the following goals to assist in the preparation of materials and documents moving forward.

1. Support the business plan development phase and develop a comprehensive marketing plan and budget for the entire project.
2. Gain approval from the University of Illinois Board of Trustees and the Carle Foundation Board of Trustees.
3. Support pre-board approval needs to achieve board approvals, including approval from Healthcare Affairs Committee.
4. Support board meeting presentations and communication needs to achieve board approvals.
5. Support immediate needs once approvals are secured.
6. Create comprehensive marketing communications to share the visions, prepare for opening of the College of Medicine, secure funding, and build excitement.
7. Maintain positive relations with community, faculty, students, physicians, etc.
8. Support the official opening of the College of Medicine.
9. Develop annual plans to support ongoing college operations and business needs.

XIII. Accreditation

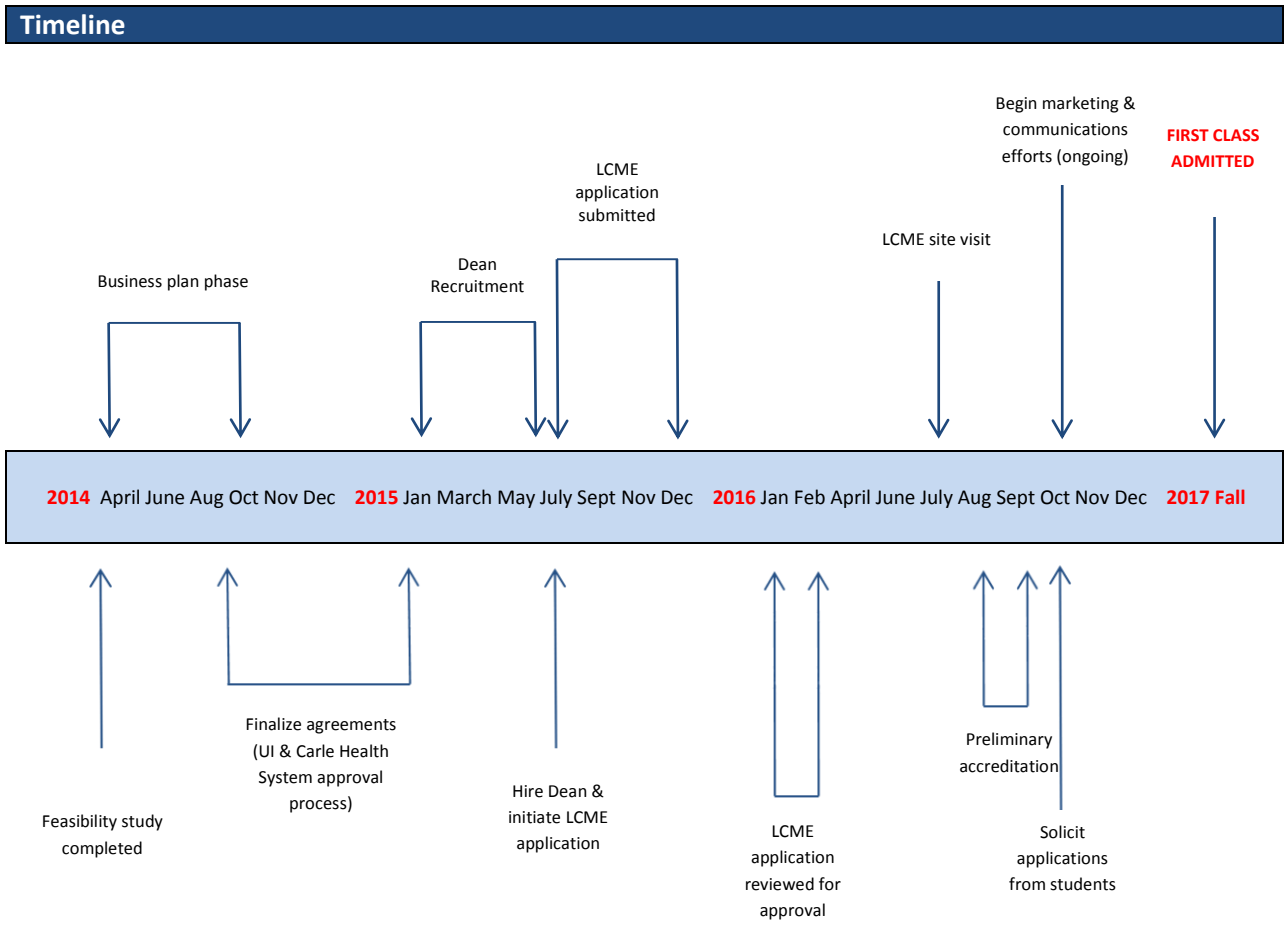
The Accreditation Work Group's primary responsibility was to determine preliminary accreditation costs and responsibilities, develop a timeline for LCME accreditation, and provide guidance to Work Groups as appropriate based upon input from the LCME.

In July 2014, a preliminary conference call was placed with representatives from the LCME to obtain information regarding accreditation requirements and activities. Program requirements and curriculum requirements for accreditation are included in Appendix B.

Following is information related to discussions with the LCME, as well as input from Tripp Umbach based upon their experience working with new and expanding medical schools, and a proposed timeline for accreditation (Image 7).

- The LCME requires the "definition of the governance structure of the medical school, including the composition and terms of membership of any governing board, and relationship to the university" before awarding preliminary accreditation.
- The LCME considers the appointment of the founding Dean as the "essential starting point" for the creation of a medical education program. The Dean must have access to the campus chancellor or leader (CEO, President, and Chair) of the parent organization responsible for the educational program.
- New schools must demonstrate financial sustainability — this is one of the most important issues to the LCME. The LCME's primary focus is protecting the student from default by the institution for a full four years from entry.
- LCME will not approve situations where one group of students might have an educational experience of lesser value that another group in the same program. Tracks are allowable, but must be clearly defined, including evaluation criteria.
- The Dean must lead and control the educational program, but the faculty determines the policies and content of that program.

Image 7: Proposed Timeline



A) Appendix: College of Medicine Goals

College of Medicine Goals

The following are high-level goals that directed the efforts of the Work Groups as they developed requirements to guide the organizational structure and business plan for the new College of Medicine.

Preamble

The health care industry is undergoing transformative change due to many factors, including unsustainable increases in costs, an aging patient and physician population, a primary care provider shortage, and the need to shift from a medical education and health care delivery system focused on providing episodic care to one designed to prevent and manage disease. The Tripp Umbach feasibility report recommended the development of a specialized engineering-based College of Medicine in Urbana-Champaign through a corporate structure created by the Carle Health System and the University of Illinois at Urbana-Champaign. This specialized engineering-based College of Medicine would aim to revolutionize the delivery of health care through the integration of advanced technology, transform the quality and efficiency of regional health care delivery, strengthen the University of Illinois statewide, grow statewide bioscience economic development, and serve as an international magnet for innovation, research, and scholarship.

Specific College of Medicine Goals

- Re-invent health care around revolutionary advances in engineering and technology to further research, education, and health care delivery.
- Transform health care education of physicians through the development of team-based, innovative approaches to achieving improved health care outcomes through the continuum of care: preventive medicine, chronic disease management, acute care, rehabilitative medicine, and end of life care.

Shared Carle Health System and the University of Illinois at Urbana-Champaign Goals

- Elevate the quality and lower the cost of patient care and make it more accessible to more people by attracting the top clinical providers and trainers, applying new, innovative, and practical health care delivery models, and developing the highest tier of health care delivery.
- Alignment of the College of Medicine with respective strategic plans of each organization.
- Reputation of excellence by achieving recognition in each organization's universes.
- Recruitment and retention of top faculty/physicians through improvement of research opportunities and patient care outcomes.
- Financial success through implementation of a business model and securing of resources that not only ensures the financial stability of the new College of Medicine but positions each organization for long term success.

- Provide innovative training for medical students and introduce a new generation of physicians to technologically and multi-disciplinary management of health conditions and provision of care.
- Improve the health of the population by aligning research and teaching to enable Carle Health System to keep the population it serves healthy, and to allow the region and state to have a healthier population.
- Foster economic development in Champaign-Urbana by creating an environment to recruit young professionals during formative years, retaining them as permanent residents, and encouraging them to develop new business start-ups; by drawing new patients and companies to the areas through the provision of superior health care options; and by fostering a culture of innovation that will influence not only our local market but will also have a global impact.
- Develop a partnership open to engagements with additional parties to further the aspirations of the College of Medicine and our respective organizations, realizing that the stronger the two partners are, the stronger the College of Medicine and the partnership will be.
- Increase application of inquiry and innovation in daily patient care by providing physician training and patient care in an environment that promotes system thinking, multidisciplinary care teams, and continual re-evaluation of current or status quo treatment options.
- Create a new and separately accredited College of Medicine and faculty dedicated to its missions of innovative teaching, cutting-edge research, and patient care.
- Develop a nimble and flexible organization that will be able to respond quickly to opportunities and challenges.
- Provide a partnership structure with the Carle Health System and the University of Illinois at Urbana-Champaign serving as equal partners in teaching, research, clinical education, and commercialization of new discoveries.
- Strengthen the partnership between Carle Health System and the University of Illinois at Urbana-Champaign, and their respective faculty and physicians, that will
    - Leverage their respective clinical, education, and research capabilities.
    - Further enhance Carle Health System's unique integrated health care delivery system in Illinois in order to broaden patient services.
    - Improve health care delivery outcomes through informed and transformative innovations.
- Ensure an organization that is mindful of the nature and policies of each party, especially with respect to personnel and student and patient safety.

Educational Goals

The physician-scientists and physician-engineers that graduate from this new College of Medicine will:

- Be uniquely trained and equipped to incorporate analytical techniques, innovations, and multi-disciplinary teams into a Human Systems approach to advancing and delivering health care. They will:
    - Practice problem solving and analytical thinking critical to understanding disease etiology and to laying a new foundation for health and wellness management.
    - Be able to leverage sensing and precision measurements, computation and analytics, and personalized therapeutics.
    - Be experts in the use of data synthesis techniques and new technologies.
    - Have a unique understanding of the capabilities of virtual and cyber learning environments and computational modeling and analytics. They will leverage these in designing facilities of the future, evaluating new medical delivery systems, and/or delivering care to remote patients.
    - Feel at ease in an environment that will:
        - Adopt and develop innovations and working with interdisciplinary teams including bioscientists, engineers, and clinicians.
        - Develop new models of integrated health care delivery across all segments of the care continuum in teams involving nurses, doctors, advanced practice providers, technicians, etc.
        - Accelerate the adoption of innovations by working with teams spanning multiple disciplines that could include, but are not limited to, business, industrial design, social and behavioral scientists, applied health researchers and rehabilitation experts and translational partners such as veterinarians and entrepreneurs.

To achieve this, the College of Medicine will:

- Deliver a unique team-oriented curriculum built from the ground-up focused on the intersection of engineering/technology and medicine.
- Incorporate team-based projects that will bring together engineering and medical students as well as opportunities for social and informal interactions to facilitate the development of an “esprit de corps” among these students and their faculty.
- Generate opportunities for multidisciplinary courses, laboratories, and team projects that include faculty and students from multiple disciplines to develop the skills needed to work in extended teams.
- Develop and implement selection criteria for both students and faculty (academic and clinical) that are aligned with the goals of the College of Medicine.

- Create and adhere to policies that facilitate the participation of third parties in the education program.

Research Goals

The new College of Medicine will develop a top-tier, world-class research enterprise with $100 million in research expenditures by 2035. The college will:

- Develop and grow a substantial and transformative research program at the intersection of engineering, the basic health sciences, applied health sciences (e.g., public health) and medicine.
- Develop and grow a substantial and transformative research program that leverages computing, big data, and mobile technologies to transform health care outcomes across the care continuum.
- Foster an open research model to bring in a diversity of disciplines and organizations to foster innovation and creativity.

To achieve this, the College of Medicine will:

- Implement policies and put in place administrative support to facilitate interdisciplinary collaborations, especially between Carle Health System and the University of Illinois at Urbana-Champaign, but also with third parties.
- Create and operate an organization that can rapidly address compliance and IRB issues.
- Provide facilities to foster top-tier research.
- Develop data-sharing and access policies and procedures to foster top-tier research.
- Foster collaborative opportunities that can enrich and strengthen the research program and the eco-system for translational activities and entrepreneurship.

B) Appendix: Program Requirements and Curriculum Requirements for Accreditation

Proposed new medical colleges must have a curriculum that is distinct and progressive in nature. The following is not designed to define the specific curriculum for the new College of Medicine but rather outline the direction of medical education. To be prescriptive early in the development stages of the college would limit the Founding Dean in designing the college curriculum. However, component parts of the education program are broadly determined by the organizations that govern the oversight of the college.

The Liaison Committee for Medical Education (LCME) is the accrediting body for medical schools. The proposed college curriculum must meet rigorous standards to attract the finest students, ensure quality education, and be eligible to receive federal and state funding for the students and institution.

Broad review of many aspects of a new college is part of the accreditation process, which includes every aspect of the school's development from facilities to faculty. Educational readiness requires a strong foundation. If the comprehensive system review ensures a base for the college, the curriculum review represents the bricks and mortar that provide the structure for a student's educational success.

According to LCME guidelines, the objectives for clinical education must include quantified criteria for the types of patients (real or simulated), the level of student responsibility, and the appropriate clinical settings needed for the objectives to be met. The objectives of the educational program must be made known to all medical students and to the faculty, residents, and others with direct responsibilities for medical student education.

The curriculum must include behavioral, socioeconomic, basic science, and clinical disciplines (e.g., anatomy, biochemistry, genetics, physiology, microbiology and immunology, pathology, pharmacology and therapeutics, and preventive medicine). The clinical instruction must cover organ systems. Multidisciplinary content in areas such as emergency medicine and geriatrics, and in the disciplines that support general medical practice, such as diagnostic imaging and clinical pathology, must be developed along with specific instruction in communications skills.

In order to attain these objectives, the medical college curriculum can be designed with the six competencies outlined by the Accreditation Council for Graduate Medical Education (ACGME). The competencies provide a framework for Graduate Medical Education that will ensure that the college provides a sound medical education within the context of today's medical society, while preparing students for the future. The competencies include Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communications Skills, Professionalism, and Systems-based Practice. These competencies are described below.

Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- Develop and carry out patient management plans.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all medical and invasive procedures considered essential for the area of practice.
- Provide health care services aimed at preventing health problems or maintaining health.
- Work with health care professionals, including those from other disciplines, to provide patient-focused care.

Medical Knowledge

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- Demonstrate an investigatory and analytic thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences which are appropriate to their discipline.

Practice-Based Learning and Improvement

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- Analyze practice experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
- Obtain and use information about his or her population of patients and the larger population from which their patients are drawn.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, access online medical information; and support his or her own education.

- Facilitate the learning of students and other health care professionals.

Interpersonal and Communication skills

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients' families, and professional associates. Residents are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and ongoing professional development.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society, and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist patients in dealing with system complexities.
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care, and know how these activities can affect system performance.

C) Appendix: LCME Facility Standards and Required Actions

Tripp Umbach supplied the Accreditation Work Group with information related to the facility and infrastructure standards required by the LCME for new schools of medicine, as well as additional activities necessary for full accreditation.

General

ER-4: A medical school must have, or be assured use of, buildings and equipment appropriate to achieve its educational and other goals.

The medical school facilities should include offices for faculty, administrators, and support staff; laboratories and other space appropriate for the conduct of research; student classrooms and laboratories; lecture hall(s) sufficiently large to accommodate a full year's class and any other students taking the same courses; space for student use, including student study space; space and equipment for library and information access; and space and equipment for the humane care of animals when animals are used in teaching or research.

ER-5: Appropriate security systems should be in place at all educational sites.

Clinical Teaching Facilities

ER-6: The medical school must have, or be assured use of, appropriate resources for the clinical instruction of its medical students.

Clinical resources should be sufficient to ensure breadth and quality of ambulatory and bedside teaching. They include adequate numbers and types of patients (acuity, case mix, age, gender, etc.) as well as physical resources.

ER-7 A hospital or other clinical facility that serves as a major site for medical student education must have appropriate instructional facilities and information resources.

Appropriate instructional facilities include areas for individual student study, for conferences, and for large group presentations (lectures). Sufficient information resources, including library holdings and access to other library systems, must either be present in the facility or readily available in the immediate vicinity. A sufficient number of computers are needed that allow access to the Internet and to other educational software. Call rooms and lockers, or other secure space to store personal belongings, should be available for student use.

ER-8 Required clerkships should be conducted in health care settings where resident physicians in accredited programs of graduate medical education, under faculty guidance, participate in teaching the students.

It is understood that there may not be resident physicians at some community hospitals, community clinics, and the offices of community-based physicians. In that case, medical students must be adequately supervised by attending physicians.

ER-9 There must be written and signed affiliation agreements between the medical school and its clinical affiliates that define, at a minimum, the responsibilities of each party related to the educational program for medical students.

Written agreements are necessary with hospitals that are used regularly as inpatient sites for core clinical clerkships. Additionally, affiliation agreements may be warranted with other clinical sites that have a significant role in the clinical education program.

Affiliation agreements should address, at a minimum, the following topics:

- The assurance of student and faculty access to appropriate resources for medical student education.
- The primacy of the medical school over academic affairs and the education/evaluation of students.
- The role of the medical school in appointment/assignment of faculty members with responsibility for medical student teaching.
- Specification of the responsibility for treatment and follow-up when students are exposed to infectious or environmental hazards or other occupational injuries.

If department heads of the school are not also the clinical service chiefs at affiliated institutions, the affiliation agreement must confirm the authority of the department head to assure faculty and student access to appropriate resources for medical student education.

The LCME should be advised of anticipated changes in affiliation status of a program's clinical facilities.

ER-10: In the relationship between the medical school and its clinical affiliates, the educational program for medical students must remain under the control of the school's faculty.

Regardless of the location where clinical instruction occurs, department heads and faculty must have authority consistent with their responsibility for the instruction and evaluation of medical students. The responsibility of the clinical facility for patient care should not diminish or preclude opportunities for medical students to undertake patient care duties under the appropriate supervision of medical school faculty and residents.

Information Resources and Library Services

ER-11 The medical school must have access to well-maintained library and information facilities, sufficient in size, breadth of holdings, and information technology to support its education and other missions.

There should be physical or electronic access to leading biomedical, clinical, and other relevant periodicals, the current numbers of which should be readily available. The library and other learning resource centers must be equipped to allow students to access information electronically, as well as to use self-instructional materials.

ER-12 The library and information services staff must be responsive to the needs of the faculty, residents and students of the medical school.

A professional staff should supervise the library and information services, and provide training in information management skills. The library and information services staff should be familiar with current regional and national information resources and data systems, and with contemporary information technology.

[Revised annotation approved by the LCME in October 2007 and effective immediately.]

Both school officials and library/information services staff should facilitate access of faculty, residents, and medical students to information resources, addressing their needs for information during extended hours and at dispersed sites.

Table 18: Actions Required for Accreditation

ACTIONS REQUIRED FOR ACCREDITATION	
ORGANIZATIONAL REQUIREMENTS	➢ Creation of a founding authority ➢ Delineation of the relationship between the proposed college and area hospitals ➢ Definition of the organizational and governance structure ➢ Strategic plan ➢ Job description for the Dean ➢ Appointment of the Dean ➢ Appointment of Senior Administration (academic affairs, student affairs, clinical affairs, administration, and finance)
EDUCATIONAL REQUIREMENTS	➢ Overall mission and objectives of the proposed college ➢ The need for the proposed college ➢ Outline of the curriculum as a whole ➢ Detailed layout of first year curriculum ➢ Teaching and evaluation (faculty and curriculum) methods ➢ Methods for curriculum review
STUDENT-RELATED REQUIREMENTS	➢ Admissions policies ➢ Projected enrollment ➢ Student services resources (academic counseling, financial aid, health services, personal counseling) ➢ Evaluation procedures for advancement and graduation of students ➢ Teacher-student conduct standards
FACULTY REQUIREMENTS	➢ Appointment, promotion, and tenure policies ➢ Salary schedules and qualification requirements ➢ Sufficient faculty for 1st year ➢ Faculty recruitment plan and timeline for 2nd year
EDUCATIONAL RESOURCES REQUIREMENTS	➢ Five year budget (expenses and revenues by source) and financial resources ➢ Classroom space and infrastructure for 1st year ➢ Classroom space and infrastructure plan for 2nd year ➢ Library ➢ Information technology services ➢ Ability to expand ➢ Clinical teaching site identification

D) Appendix: Research Resources

The Research Work Group completed the following assessment of resources needed by the new College of Medicine.

Table 19: Research Resource Assessment

Research Resource Assessment for College of Medicine Planning (continued)						
		Devices/Diagnostics / Imaging/ Robotics	**Health IT/mobile health/big data**	**Public Health / Health care quality, access/ outcomes**	**Genomics / Personalized Medicine**	**Regenerative Medicine / Tissue Engineering**
Space	Existing	Lab space for new faculty: BRC at Carle plus Some capacity Beckman, MNTL, Everitt, and DCL	Research Space in NCSA, CSL, IGB		IGB, NCSA, Seibel,	IBG, Animal Sciences
	Needed (one-two offices in clinical areas to accommodate research activities, subject consent, research interviews, clinical coordinators) Also need to think about research beds were it makes sense for clinical trials	*Additional BL2 space to accommodate work with human tissues - * Facility set up to pilot new tools in a clinical environment	Space for research interactions with CIO and relevant IT/Decision Support units			Collaboration space in sports medicine facility
Equipment / Resources	Existing	MNTL, Beckman, IGB, CSL			Genomics Resources at Biotech, IGB, NCSA	
	Needed	Advanced Clinical Training Center Facility at some point in the future	HIPPA Expertise and appropriate Data environments, RedCAP			Access to GMP Facility for engineering tissues, nanoparticles, etc

Research Resource Assessment for College of Medicine Planning						
People	Existing(Faculty experts in Eng/Sci/Pub Health) Needed (Research active clinicians needed across all areas)	FDA New Device regulatory support		Biostatistics/ Epidemiology faculty that focus on human health four-six faculty between public health and MD COM faculty	Faculty with expertise in genomics of human disease	

The Research Work Group also identified core research areas that could be leveraged for the new College of Medicine.

Table 20: Core Research Infrastructure

Core Research Infrastructure			
	University of Illinois at Urbana-Champaign	**Carle Health System**	**Notes**
Clinical trials business functions		Clinical partnership coordinator	Identify new industry CT opps
		Contract review for industry trails	
		Pre-post award for federal awards	Research admin software that aligns with Carle accounting, ideally, should align w/ UI
		Project accounting	
Clinical trials operations	BIOSTATS services	Marketing for enrollment in Clinical trials	
	Training for clinical coordinators	Training for clinical coordinators	
	HIPPA aligned storage environment		
	FDA education/expertise		
	Data safety monitoring board	Data safety monitoring board	
		Research fee schedule for clinical services	

E) Appendix: Finance Models

Table 21: Operating Revenues and Expenses

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	Ramp Up			Strengthening			Growth				Total
Income Statement	Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Operating Revenues											
Tuition and Fees	$ -	$ -	$ 1,166,323	$ 2,379,299	$ 3,883,017	$ 5,693,473	$ 7,827,288	$ 9,014,006	$ 10,507,755	$ 11,789,701	$ 52,260,863
State Funding for In State Admissions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
In State Tuition Revenue	$ -	$ -	$ 409,658	$ 835,701	$ 1,363,865	$ 1,999,766	$ 2,749,244	$ 3,166,065	$ 3,690,727	$ 4,140,996	$ 18,356,021
Out of State Tuition Revenue	$ -	$ -	$ 546,210	$ 1,114,268	$ 1,818,486	$ 2,666,355	$ 3,665,659	$ 4,221,420	$ 4,920,969	$ 5,521,328	$ 24,474,695
Professional Fees Revenue	$ -	$ -	$ 210,456	$ 429,330	$ 700,666	$ 1,027,352	$ 1,412,385	$ 1,626,521	$ 1,896,059	$ 2,127,378	$ 9,430,147
Sponsored Project Research Revenue	$ -	$ 1,312,500	$ 4,256,250	$ 8,150,000	$ 9,512,500	$ 10,281,250	$ 10,807,500	$ 11,743,600	$ 13,125,908	$ 13,519,685	$ 82,709,193
Clinical Practice Revenue	$ -	$ 291,846	$ 1,438,799	$ 2,327,878	$ 2,374,435	$ 2,421,924	$ 2,470,362	$ 2,519,770	$ 3,240,643	$ 3,305,456	$ 20,391,113
Fundraising	$ -	$ 400,000	$ 990,000	$ 1,812,900	$ 2,920,000	$ 4,043,800	$ 4,784,500	$ 5,352,300	$ 5,704,600	$ 5,790,100	$ 31,798,200
Other Income	$ -	$ 18,602	$ 50,597	$ 64,511	$ 65,801	$ 67,117	$ 68,459	$ 69,829	$ 71,225	$ 72,650	$ 548,790
Restricted Gifts	$ -	$ 18,602	$ 50,597	$ 64,511	$ 65,801	$ 67,117	$ 68,459	$ 69,829	$ 71,225	$ 72,650	$ 548,790
Endowment Income	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL REVENUES	$ -	$ 2,022,947	$ 7,901,969	$ 14,734,588	$ 18,755,753	$ 22,507,564	$ 25,958,110	$ 28,699,504	$ 32,650,132	$ 34,477,592	$ 187,708,160
Operating Expenses											
Salaries & Wages	$ 625,000	$ 3,401,700	$ 6,650,757	$ 9,005,411	$ 9,293,763	$ 9,479,638	$ 9,669,231	$ 9,862,615	$ 11,993,105	$ 12,232,968	$ 82,214,187
Dean's Office Labor Expense	$ 625,000	$ 1,275,000	$ 1,414,944	$ 1,443,243	$ 1,472,108	$ 1,501,550	$ 1,531,581	$ 1,562,213	$ 1,593,457	$ 1,625,326	$ 14,044,421
Basic Science Instruction Labor Expense	$ -	$ 805,800	$ 2,372,112	$ 3,035,055	$ 3,095,756	$ 3,157,671	$ 3,220,825	$ 3,285,241	$ 4,335,140	$ 4,421,843	$ 27,729,442
Clinical Instruction Labor Expense	$ -	$ -	$ 1,456,560	$ 2,971,382	$ 3,030,810	$ 3,091,426	$ 3,153,255	$ 3,216,320	$ 4,229,690	$ 4,314,284	$ 25,463,728
Research Administration Labor Expense	$ -	$ -	$ -	$ 120,447	$ 122,856	$ 125,313	$ 127,819	$ 130,376	$ 132,983	$ 135,643	$ 895,438
Student Services Labor Expense	$ -	$ 402,900	$ 410,958	$ 419,177	$ 427,561	$ 436,112	$ 444,834	$ 453,731	$ 462,805	$ 472,062	$ 3,930,140
Institutional Support Labor Expense	$ -	$ 918,000	$ 996,183	$ 1,016,107	$ 1,144,672	$ 1,167,565	$ 1,190,917	$ 1,214,735	$ 1,239,030	$ 1,263,810	$ 10,151,019
Benefits	$ 297,200	$ 1,408,824	$ 2,242,880	$ 2,700,534	$ 2,215,389	$ 1,566,578	$ 789,932	$ 393,662	$ 649,442	$ 233,715	$ 12,498,156
Fundraising	$ 168,000	$ 171,360	$ 174,787	$ 178,283	$ 181,849	$ 185,486	$ 189,195	$ 192,979	$ 196,839	$ 200,776	$ 1,839,553
Development Staff	$ 118,000	$ 120,360	$ 122,767	$ 125,223	$ 127,727	$ 130,282	$ 132,887	$ 135,545	$ 138,256	$ 141,021	$ 1,292,067
Fundraising Firm Consultation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Communications	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122	$ 55,204	$ 56,308	$ 57,434	$ 58,583	$ 59,755	$ 547,486
Marketing and Communications	$ 300,000	$ 200,000	$ 204,000	$ 208,080	$ 212,242	$ 216,486	$ 220,816	$ 225,232	$ 229,737	$ 234,332	$ 2,250,926
General Expenses	$ 1,000,000	$ 1,325,000	$ 2,700,000	$ 1,600,000	$ 1,300,000	$ 1,300,000	$ 1,500,000	$ 1,550,000	$ 1,550,000	$ 1,600,000	$ 15,425,000
Dean Search/Faculty Recruitment/Relocation Expenses	$ 200,000	$ 525,000	$ 900,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,925,000
Travel (Circuit Travel, Meetings, etc.)	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000
Consulting (accreditation (including $25K LCME fee to initiate process), clinical	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000
Startup Planning and Project Management	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 600,000	$ 650,000	$ 650,000	$ 700,000	$ 5,000,000
Media and Communications Consultant	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 500,000
Library Subscriptions/reference materials	$ -	$ -	$ 1,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 4,500,000

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	Ramp Up			Strengthening			Growth				Total
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Income Statement	'15-'16	'16-'17	'17-'18	'18-'19	'19-'20	'20-'21	'21-'22	'22- '23	'23- '24	'24- '25	10 Year Total
Faculty Research Start Up	$ -	$ 1,000,000	$ 2,400,000	$ 3,000,000	$ 2,800,000	$ 2,500,000	$ 1,850,000	$ 1,200,000	$ 1,300,000	$ 1,500,000	$ 17,550,000
Supplies and Other Expenses	$ 4,500	$ 90,270	$ 216,923	$ 329,505	$ 436,761	$ 561,425	$ 707,793	$ 790,870	$ 922,682	$ 1,012,841	$ 5,073,571
Professional Expenses	$ -	$ 3,060	$ 12,485	$ 15,918	$ 16,236	$ 16,561	$ 16,892	$ 17,230	$ 17,575	$ 17,926	$ 133,885
Sponsored Research Expenditures	$ -	$ 1,050,000	$ 3,405,000	$ 6,520,000	$ 7,610,000	$ 8,225,000	$ 9,834,825	$ 10,686,676	$ 11,944,576	$ 12,302,914	$ 71,578,991
Facilities & Equipment	$ 468,000	$ 477,360	$ 486,907	$ 1,246,645	$ 1,506,578	$ 1,737,110	$ 1,747,444	$ 1,757,985	$ 1,768,737	$ 1,779,723	$ 12,976,489
Capital Expenditures	$ 500,000	$ 1,000,000	$ 2,000,000	$ 3,500,000	$ 4,250,000	$ 5,000,000	$ 2,010,000	$ 2,020,200	$ 1,030,604	$ 1,041,216	$ 22,352,020
Facility Costs to Upgrade Existing Building(s)*	$ 500,000	$ 1,000,000	$ 2,000,000	$ 2,500,000	$ 3,500,000	$ 4,500,000	$ 1,500,000	$ 1,500,000	$ 500,000	$ 500,000	$ 18,000,000
Capital Equipment IT/Media Classrooms	$ -	$ -	$ -	$ 1,000,000	$ 750,000	$ 500,000	$ 510,000	$ 520,200	$ 530,604	$ 541,216	$ 4,352,020
TOTAL OPERATING EXPENSES	$ 3,362,700	$ 10,127,574	$ 20,493,740	$ 28,304,376	$ 29,822,818	$ 30,788,284	$ 28,536,128	$ 28,697,450	$ 31,603,297	$ 32,156,410	$ 243,892,778
TOTAL OPERATING EXPENSES INCLUDING CONTINGENCY	$ 3,698,970	$ 11,140,331	$ 22,543,114	$ 31,134,814	$ 32,805,100	$ 33,867,113	$ 31,389,741	$ 31,567,195	$ 34,763,627	$ 35,372,051	$ 268,282,056
10%											
NET OPERATING INCOME (DEFICIT)	$ (3,698,970)	$ (9,117,384)	$ (14,641,145)	$ (16,400,226)	$ (14,049,347)	$ (11,359,548)	$ (5,431,631)	$ (2,867,691)	$ (2,113,495)	$ (894,459)	$ (80,573,896)

Important Ratios											Average
Student Tuition as a Percentage of Total Operating Expenses	0%	0%	4%	6%	10%	14%	20%	23%	25%	27%	**16%**
Total Student Tuition and Fees as a Percentage of Total Operating Expenses	0%	0%	5%	8%	12%	17%	25%	29%	30%	33%	**20%**

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Table 22: Funding Source Summary

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25 Student Budget with Ramp Up to 50 Students

First Year Students	0	0	25	25	30	35	40	45	50	50	
	Ramp Up			Strengthening			Growth				Total
Capital Funds Flow	Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Net Income											
TOTAL REVENUES	$ -	$ 2,022,947	$ 7,901,969	$ 14,734,588	$ 18,755,753	$ 22,507,564	$ 25,958,110	$ 28,699,504	$ 32,650,132	$ 34,477,592	$ 187,708,160
TOTAL OPERATING EXPENSES INCLUDING CONTINGENCY 10%	$ 3,698,970	$ 11,140,331	$ 22,543,114	$ 31,134,814	$ 32,805,100	$ 33,867,113	$ 31,389,741	$ 31,567,195	$ 34,763,627	$ 35,372,051	#N/A $ 268,282,056
NET OPERATING INCOME (DEFICIT)	$ (3,698,970)	$ (9,117,384)	$ (14,641,145)	$ (16,400,226)	$ (14,049,347)	$ (11,359,548)	$ (5,431,631)	$ (2,867,691)	$ (2,113,495)	$ (894,459)	$ (80,573,896)
Funding Source											
Carle 10-year $100M Commitment [1]	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 10,000,000	$ 5,000,000	$ -	$ -	$ 75,000,000
Add'l Carle contribution	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 15,000,000
UIUC campus startup package contribution	$ -	$ 100,000	$ 240,000	$ 300,000	$ 280,000	$ 250,000	$ 160,000	$ 70,000	$ 30,000	$ 50,000	$ 1,480,000
Totals of contributions	$ 11,500,000	$ 11,600,000	$ 11,740,000	$ 11,800,000	$ 11,780,000	$ 11,750,000	$ 11,660,000	$ 6,570,000	$ 1,530,000	$ 1,550,000	$ 91,480,000
Net surplus/(shortfall)	$ 7,801,030	$ 2,482,616	$ (2,901,145)	$ (4,600,226)	$ (2,269,347)	$ 390,452	$ 6,228,369	$ 3,702,309	$ (583,495)	$ 655,541	$ 10,906,104
Cumulative surplus	$ 7,801,030	$ 10,283,646	$ 7,382,501	$ 2,782,275	$ 512,929	$ 903,380	$ 7,131,749	$ 10,834,058	$ 10,250,563	$ 10,906,104	

(1) The Carle Foundation will begin directing funds toward the creation of an endowment beginning with $5M in Year 8, and $10M in Years 9 and 10, totaling $25M over three years. This continuation of the TCF's invesmtent completes the $100M commitment. Draws from this endowment have not yet been purposed.

Important Ratios											Average
Student Tuition as a Percentage of Total Operating Expenses	0%	0%	4%	6%	10%	14%	20%	23%	25%	27%	16%
Total Student Tuition and Fees as a Percentage of Total Operating Expenses	0%	0%	5%	8%	12%	17%	25%	29%	30%	33%	20%

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Table 23: Long Operating Statement

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Carle ILLINOIS

		Ramp Up			Strengthening			Growth				Total
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Operating Statement		'15-'16	'16-'17	'17-'18	'18-'19	'19-'20	'20-'21	'21-'22	'22- '23	'23- '24	'24- '25	10 Year Total
Assumptions and Important Operating Statistics												
Student Enrollment												
First Year Student Enrollment		0	0	25	25	30	35	40	45	50	50	300
Second Year Student Enrolment		0	0	0	25	25	30	35	40	45	50	250
1st and 2nd Year Medical Student Enrollment		**0**	**0**	**25**	**50**	**55**	**65**	**75**	**85**	**95**	**100**	**550**
Third Year Student Enrollment		0	0	0	0	25	25	30	35	40	45	200
Fourth Year Student Enrollment		0	0	0	0	0	25	25	30	35	40	155
Fifth Year Student Enrollment		0	0	0	0	0	0	25	25	30	35	115
3rd, 4th, and 5th Year Medical Student Enrollment		**0**	**0**	**0**	**0**	**25**	**50**	**80**	**90**	**105**	**120**	**470**
Total Medical Enrollment		**0**	**0**	**25**	**50**	**80**	**115**	**155**	**175**	**200**	**220**	**1020**
State Funding per In-State MD Student	$ -											
Tuition Fees per In State MD Student	$ 45,000											
Tuition Fees per Out of State MD Student	$ 60,000											
Tuition Fees per International MD Student	$ 75,000											
Percentage of Tuition Waved	30%											
Professional Fees per Student	$ 8,091											
Percentage of In-State Students	50%											
Additional Assumptions												
Faculty and Staff FTEs												**#N/A**
Dean's Office	**Avg. Salary**											
Executive Dean	$ 500,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0
Vice Dean, Academic Affairs	$ 250,000	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.5
Coordinator, Curriculum Development	$ 100,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Associate Dean, Research	$ 150,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Asst Dean Pre-Clinical Medicine	$ 110,000	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Curriculum Support Staff	$ 50,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Admin Support	$ 50,000	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	36.0
Subtotal		**1.5**	**9.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**90.5**
Basic Science Instruction (and 1st and 2nd year clinical i	**Avg. Salary**											
Basic Science Teaching Faculty (Inc. Directors)	$ 140,000	0.0	3.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	81.0
Clinical Teaching Faculty MD for first and second year	$ 270,000	0.0	1.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	29.0
Research year Graduate Teaching Assistants for 3rd ye	$ 50,000	0.0	0.0	0.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	45.0
Faculty Support/Admin Asst (approximately 3/1 faculty s	$ 50,000	0.0	2.0	7.0	8.0	8.0	8.0	8.0	8.0	9.0	9.0	67.0
Subtotal		**0.0**	**6.0**	**18.0**	**26.0**	**26.0**	**26.0**	**26.0**	**26.0**	**34.0**	**34.0**	**222.0**
Clinical Instruction	**Avg. Salary**											
Clinical Teaching Faculty	$ 270,000	0.0	0.0	4.0	9.0	9.0	9.0	9.0	9.0	11.0	11.0	71.0
Clerkship Directors	$ 270,000	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	10.0
Administrative Support	$ 50,000	0.0	0.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	15.0
Subtotal		**0.0**	**0.0**	**6.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**15.0**	**15.0**	**96.0**
Research Administration	**Avg. Salary**											
Administrative Assistant	$ 56,750	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant & Contract Staff	$ 56,750	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	14.0
Staff in Charge of Protocols	$ 56,750	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Subtotal		**0.0**	**0.0**	**0.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**14.0**
Student Services	**Avg. Salary**											
Assoc Dean Student Affairs and Admissions	$ 150,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Director of Admissions	$ 110,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Coordinator/Student Recruitment	$ 60,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Program Assistants	$ 50,000	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.5
Admin Support	$ 50,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Subtotal		**0.0**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**40.5**
Institutional Support	**Avg. Salary**											
Assoc Dean, Business & Financial Affairs	$ 250,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Director Financial Aid	$ 80,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Director, Information Technology/Media	$ 125,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Librarian	$ 90,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Senior Accountant	$ 100,000	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	6.0
IT/Media Support Professionals	$ 75,000	0.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	13.0

File: Financials to use for final report (hp without draft words) / Long Operating Statement
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Carle ILLINOIS

			Ramp Up			Strengthening			Growth				Total
Operating Statement			Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Training Center technicians	$	60,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Space management	$	80,000	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Library Staff/Tech Support /student workers	$	40,000	0.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	13.0
Admin Support	$	50,000	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	18.0
Subtotal			**0.0**	**10.0**	**11.0**	**11.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**104.0**
Total Faculty and Staff FTEs			**1.5**	**29.5**	**49.5**	**63.5**	**64.5**	**64.5**	**64.5**	**64.5**	**75.5**	**75.5**	**553.0**

Benefits 40.00%

	Basic Science	Clinical
Faculty Percentage Teaching	60%	20%
Faculty Percentage Research	20%	20%
Faculty Percentage Clinical Service	20%	60%
Clinical Practice Gross Charges/Faculty Member	$ 1,151,866	
net collection rate	27.2%	
other business expenses	6.5%	
Clinical Practice Revenue Per Faculty Member	$ 238,436	

Research Startup Costs Schedule	Year 1	Year 2	Year 3	Year 4	Year 5
5 Year $1 Million Startup per FTE-Asst. Prof.	$ 300,000	$ 200,000	$ 200,000	$ 200,000	$ 100,000
Senior Hires:					
Add'l $0.5 Million Startup FTE-Assoc. Prof. (1 FTE hire year 2)					
Add'l $1.0 Million Startup per FTE-Full Prof. (1 FTE year 3)					
Add'l $2.5 Million Startup per FTE-Named Prof. (1 FTE Year 4)					
Add'l startup amts> $1M funded equally over period of 5 years					

Estimated revenue per new COM Basic Science Faculty	$	350,000
Estimated revenue per Carle Clinical Faculty	$	50,000
Indirect Cost Recovery		25%
Restricted Gifts Per Faculty Member	$	6,079
Telephone Expense per person except Clinical Faculty	$	600
Office Supplies Expense per person except Clinical Faculty	$	1,000
Postage per person except Clinical Faculty	$	150
Medical Supplies per Student	$	800
Teaching Materials per Student	$	1,500
Professional Development per Non-Clinical faculty	$	750
Membership Expense per Non-Clinical Faculty	$	750
Travel Expense per Faculty	$	-
Facility Square Footage		36,000 Sq. Ft
Maintenance Cost per Square Foot	$	13

#N/A

#N/A

File: Financials to use for final report (hp without draft words) / Long Operating Statement
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Carle ILLINOIS

		Ramp Up			Strengthening			Growth				Total
Operating Statement		Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Operating Revenues												
Tuition and Fees												
Inflation	2%											
State Funding for In State Admissions		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
In State Tuition Revenue		$ -	$ -	$ 409,658	$ 835,701	$ 1,363,865	$ 1,999,766	$ 2,749,244	$ 3,166,065	$ 3,690,727	$ 4,140,996	$ 18,356,021
Out of State Tuition Revenue		$ -	$ -	$ 546,210	$ 1,114,268	$ 1,818,486	$ 2,666,355	$ 3,665,659	$ 4,221,420	$ 4,920,969	$ 5,521,328	$ 24,474,695
Professional Fees Revenue		$ -	$ -	$ 210,456	$ 429,330	$ 700,666	$ 1,027,352	$ 1,412,385	$ 1,626,521	$ 1,896,059	$ 2,127,378	$ 9,430,147
Total Tuition and Fees		**$ -**	**$ -**	**$ 1,166,323**	**$ 2,379,299**	**$ 3,883,017**	**$ 5,693,473**	**$ 7,827,288**	**$ 9,014,006**	**$ 10,507,755**	**$ 11,789,701**	**$ 52,260,863**
Sponsored Project Research Revenue		**$ -**	**$ 1,312,500**	**$ 4,256,250**	**$ 8,150,000**	**$ 9,512,500**	**$ 10,281,250**	**$ 10,807,500**	**$ 11,743,600**	**$ 13,125,908**	**$ 13,519,685**	**$ 82,709,193**
Clinical Practice Revenue												#N/A
Inflation	2%											
Basic Science Faculty		$ -	$ 145,923	$ 396,910	$ 506,060	$ 516,182	$ 526,505	$ 537,035	$ 547,776	$ 558,732	$ 569,906	$ 4,305,029
Clinical Faculty		$ -	$ 145,923	$ 1,041,889	$ 1,821,817	$ 1,858,254	$ 1,895,419	$ 1,933,327	$ 1,971,994	$ 2,681,911	$ 2,735,550	$ 16,086,084
Total Clinical Practice Revenue		**$ -**	**$ 291,846**	**$ 1,438,799**	**$ 2,327,878**	**$ 2,374,435**	**$ 2,421,924**	**$ 2,470,362**	**$ 2,519,770**	**$ 3,240,643**	**$ 3,305,456**	**$ 20,391,113**
	Success Rate											
Fundraising	100%	**$ -**	**$ 400,000**	**$ 990,000**	**$ 1,812,900**	**$ 2,920,000**	**$ 4,043,800**	**$ 4,784,500**	**$ 5,352,300**	**$ 5,704,600**	**$ 5,790,100**	**$ 31,798,200**
Other Income												
Inflation	2%											
Restricted Gifts		$ -	$ 18,602	$ 50,597	$ 64,511	$ 65,801	$ 67,117	$ 68,459	$ 69,829	$ 71,225	$ 72,650	$ 548,790
Endowment Income	TBD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Other Income		**$ -**	**$ 18,602**	**$ 50,597**	**$ 64,511**	**$ 65,801**	**$ 67,117**	**$ 68,459**	**$ 69,829**	**$ 71,225**	**$ 72,650**	**$ 548,790**
Operating Expenses												
Salaries & Wages												
Inflation	2%											
Dean's Office Labor Expense												
Executive Dean		$ 500,000	$ 510,000	$ 520,200	$ 530,604	$ 541,216	$ 552,040	$ 563,081	$ 574,343	$ 585,830	$ 597,546	$ 5,474,860
Vice Dean, Academic Affairs		$ 125,000	$ 255,000	$ 260,100	$ 265,302	$ 270,608	$ 276,020	$ 281,541	$ 287,171	$ 292,915	$ 298,773	$ 2,612,430
Coordinator, Curriculum Development		$ -	$ 102,000	$ 104,040	$ 106,121	$ 108,243	$ 110,408	$ 112,616	$ 114,869	$ 117,166	$ 119,509	$ 994,972
Associate Dean, Research		$ -	$ 153,000	$ 156,060	$ 159,181	$ 162,365	$ 165,612	$ 168,924	$ 172,303	$ 175,749	$ 179,264	$ 1,492,458
Asst Dean Pre-Clinical Medicine		$ -	$ -	$ 114,444	$ 116,733	$ 119,068	$ 121,449	$ 123,878	$ 126,355	$ 128,883	$ 131,460	$ 982,269
Curriculum Support Staff		$ -	$ 51,000	$ 52,020	$ 53,060	$ 54,122	$ 55,204	$ 56,308	$ 57,434	$ 58,583	$ 59,755	$ 497,486
Admin Support		$ -	$ 204,000	$ 208,080	$ 212,242	$ 216,486	$ 220,816	$ 225,232	$ 229,737	$ 234,332	$ 239,019	$ 1,989,944
Total Dean's Office Labor Expense		**$ 625,000**	**$ 1,275,000**	**$ 1,414,944**	**$ 1,443,243**	**$ 1,472,108**	**$ 1,501,550**	**$ 1,531,581**	**$ 1,562,213**	**$ 1,593,457**	**$ 1,625,326**	**$ 14,044,421**
Basic Science Instruction Labor Expense												
Basic Science Teaching Faculty (Inc. Directors)		$ -	$ 428,400	$ 1,165,248	$ 1,485,691	$ 1,515,405	$ 1,545,713	$ 1,576,627	$ 1,608,160	$ 1,640,323	$ 1,673,130	$ 12,638,697
Clinical Teaching Faculty MD for first and second year		$ -	$ 275,400	$ 842,724	$ 859,578	$ 876,770	$ 894,305	$ 912,192	$ 930,435	$ 1,581,740	$ 1,613,375	$ 8,786,520
Research year Graduate Teaching Assistants for 3rd year		$ -	$ -	$ -	$ 265,302	$ 270,608	$ 276,020	$ 281,541	$ 287,171	$ 585,830	$ 597,546	$ 2,564,018
Faculty Support/Admin Asst (approximately 3/1 faculty support)		$ -	$ 102,000	$ 364,140	$ 424,483	$ 432,973	$ 441,632	$ 450,465	$ 459,474	$ 527,247	$ 537,792	$ 3,740,206
Total Basic Science Instruction Labor Expense		**$ -**	**$ 805,800**	**$ 2,372,112**	**$ 3,035,055**	**$ 3,095,756**	**$ 3,157,671**	**$ 3,220,825**	**$ 3,285,241**	**$ 4,335,140**	**$ 4,421,843**	**$ 27,729,442**
Clinical Instruction Labor Expense												
Clinical Teaching Faculty		$ -	$ -	$ 1,123,632	$ 2,578,735	$ 2,630,310	$ 2,682,916	$ 2,736,575	$ 2,791,306	$ 3,479,828	$ 3,549,425	$ 21,572,728
Clerkship Directors		$ -	$ -	$ 280,908	$ 286,526	$ 292,257	$ 298,102	$ 304,064	$ 310,145	$ 632,696	$ 645,350	$ 3,050,048
Administrative Support		$ -	$ -	$ 52,020	$ 106,121	$ 108,243	$ 110,408	$ 112,616	$ 114,869	$ 117,166	$ 119,509	$ 840,952
Total Clinical Instruction Labor Expense		**$ -**	**$ -**	**$ 1,456,560**	**$ 2,971,382**	**$ 3,030,810**	**$ 3,091,426**	**$ 3,153,255**	**$ 3,216,320**	**$ 4,229,690**	**$ 4,314,284**	**$ 25,463,728**
Research Administration Labor Expense												
Administrative Assistant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grant & Contract Staff		$ -	$ -	$ -	$ 120,447	$ 122,856	$ 125,313	$ 127,819	$ 130,376	$ 132,983	$ 135,643	$ 895,438
Staff in Charge of Protocols		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Clinical Instruction Labor Expense		**$ -**	**$ -**	**$ -**	**$ 120,447**	**$ 122,856**	**$ 125,313**	**$ 127,819**	**$ 130,376**	**$ 132,983**	**$ 135,643**	**$ 895,438**

Carle ILLINOIS

	Ramp Up			Strengthening			Growth				Total
Operating Statement	Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Student Services Labor Expense											
Assoc Dean Student Affairs and Admissions	$ -	$ 153,000	$ 156,060	$ 159,181	$ 162,365	$ 165,612	$ 168,924	$ 172,303	$ 175,749	$ 179,264	$ 1,492,458
Director of Admissions	$ -	$ 112,200	$ 114,444	$ 116,733	$ 119,068	$ 121,449	$ 123,878	$ 126,355	$ 128,883	$ 131,460	$ 1,094,469
Coordinator/Student Recruitment	$ -	$ 61,200	$ 62,424	$ 63,672	$ 64,946	$ 66,245	$ 67,570	$ 68,921	$ 70,300	$ 71,706	$ 596,983
Program Assistants	$ -	$ 25,500	$ 26,010	$ 26,530	$ 27,061	$ 27,602	$ 28,154	$ 28,717	$ 29,291	$ 29,877	$ 248,743
Admin Support	$ -	$ 51,000	$ 52,020	$ 53,060	$ 54,122	$ 55,204	$ 56,308	$ 57,434	$ 58,583	$ 59,755	$ 497,486
Total Student Services Labor Expense	**$ -**	**$ 402,900**	**$ 410,958**	**$ 419,177**	**$ 427,561**	**$ 436,112**	**$ 444,834**	**$ 453,731**	**$ 462,805**	**$ 472,062**	**$ 3,930,140**
Institutional Support Labor Expense											
Assoc Dean, Business & Financial Affairs	$ -	$ 255,000	$ 260,100	$ 265,302	$ 270,608	$ 276,020	$ 281,541	$ 287,171	$ 292,915	$ 298,773	$ 2,487,430
Director Financial Aid	$ -	$ 81,600	$ 83,232	$ 84,897	$ 86,595	$ 88,326	$ 90,093	$ 91,895	$ 93,733	$ 95,607	$ 795,978
Director, Information Technology/Media	$ -	$ 127,500	$ 130,050	$ 132,651	$ 135,304	$ 138,010	$ 140,770	$ 143,586	$ 146,457	$ 149,387	$ 1,243,715
Librarian	$ -	$ 91,800	$ 93,636	$ 95,509	$ 97,419	$ 99,367	$ 101,355	$ 103,382	$ 105,449	$ 107,558	$ 895,475
Senior Accountant	$ -	$ -	$ -	$ -	$ 108,243	$ 110,408	$ 112,616	$ 114,869	$ 117,166	$ 119,509	$ 682,811
IT/Media Support Professionals	$ -	$ 76,500	$ 117,045	$ 119,386	$ 121,774	$ 124,209	$ 126,693	$ 129,227	$ 131,812	$ 134,448	$ 1,081,094
Training Center technicians	$ -	$ 61,200	$ 62,424	$ 63,672	$ 64,946	$ 66,245	$ 67,570	$ 68,921	$ 70,300	$ 71,706	$ 596,983
Space management	$ -	$ 81,600	$ 83,232	$ 84,897	$ 86,595	$ 88,326	$ 90,093	$ 91,895	$ 93,733	$ 95,607	$ 795,978
Library Staff/Tech Support /student workers	$ -	$ 40,800	$ 62,424	$ 63,672	$ 64,946	$ 66,245	$ 67,570	$ 68,921	$ 70,300	$ 71,706	$ 576,583
Admin Support	$ -	$ 102,000	$ 104,040	$ 106,121	$ 108,243	$ 110,408	$ 112,616	$ 114,869	$ 117,166	$ 119,509	$ 994,972
Total Institutional Support Labor Expense	**$ -**	**$ 918,000**	**$ 996,183**	**$ 1,016,107**	**$ 1,144,672**	**$ 1,167,565**	**$ 1,190,917**	**$ 1,214,735**	**$ 1,239,030**	**$ 1,263,810**	**$ 10,151,019**
Total Salaries & Wages Expense	**$ 625,000**	**$ 3,401,700**	**$ 6,650,757**	**$ 9,005,411**	**$ 9,293,763**	**$ 9,479,638**	**$ 9,669,231**	**$ 9,862,615**	**$ 11,993,105**	**$ 12,232,968**	**$ 82,214,187**
Benefits	**$ 297,200**	**$ 1,408,824**	**$ 2,242,880**	**$ 2,700,534**	**$ 2,215,389**	**$ 1,566,578**	**$ 789,932**	**$ 393,662**	**$ 649,442**	**$ 233,715**	**$ 12,498,156**
Fundraising Expenses											
Inflation 2%											
Development Staff	$ 118,000	$ 120,360	$ 122,767	$ 125,223	$ 127,727	$ 130,282	$ 132,887	$ 135,545	$ 138,256	$ 141,021	$ 1,292,067
Fundraising Firm Consultation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Communications	$ 50,000	$ 51,000	$ 52,020	$ 53,060	$ 54,122	$ 55,204	$ 56,308	$ 57,434	$ 58,583	$ 59,755	$ 547,486
Total Fundraising Expense	**$ 168,000**	**$ 171,360**	**$ 174,787**	**$ 178,283**	**$ 181,849**	**$ 185,486**	**$ 189,195**	**$ 192,979**	**$ 196,839**	**$ 200,776**	**$ 1,839,553**
Marketing and Communications Expenses											
Inflation 2%											
Marketing and Communications Expense	$ 300,000	$ 200,000	$ 204,000	$ 208,080	$ 212,242	$ 216,486	$ 220,816	$ 225,232	$ 229,737	$ 234,332	$ 2,250,926
			$ 4,000	$ 4,080	$ 4,162	$ 4,245	$ 4,330	$ 4,416	$ 4,505	$ 4,595	$ 34,332
General Expenses											
Dean Search/Faculty Recruitment/Relocation Expenses	$ 200,000	$ 525,000	$ 900,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,925,000
Travel (Circuit Travel, Meetings, etc.)	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000
Consulting (accreditation (including $25K LCME fee to initiate process), clinical pr	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 2,500,000
Startup Planning and Project Management	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 600,000	$ 650,000	$ 650,000	$ 700,000	$ 5,000,000
Media and Communications Consultant	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 500,000
Library Subscriptions/reference materials	$ -	$ -	$ 1,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 4,500,000
Total General Expenses	**$ 1,000,000**	**$ 1,325,000**	**$ 2,700,000**	**$ 1,600,000**	**$ 1,300,000**	**$ 1,300,000**	**$ 1,500,000**	**$ 1,550,000**	**$ 1,550,000**	**$ 1,600,000**	**$ 15,425,000**
Faculty Research Start Up($300K/$200K/$200K/$200K/$100K over 5 years per faculty FTE)											
Faculty Hires	0 Hires	3 Hires	5 Hires	2 Hires	0 Hires	0 Hires	0 Hires	0 Hires	0 Hires	0 Hires	
Faculty Start Up Costs Year over Year	$ -	$ 900,000	$ 2,100,000	$ 2,200,000	$ 2,000,000	$ 1,700,000	$ 900,000	$ 200,000	$ -	$ -	$ 10,000,000
Add'l Faculty Start Up Costs for Senior Hires	$ -	$ 100,000	$ 300,000	$ 800,000	$ 800,000	$ 800,000	$ 700,000	$ 500,000	$ -	$ -	$ 4,000,000
Add'l Faculty Start Up Costs for 1 FTE Replacement Hire in Years 9 and 10									$ 300,000	$ 500,000	$ 800,000
Continuing Research Faculty Support	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000	$ 500,000	$ 1,000,000	$ 1,000,000	$ 2,750,000
Total Start Up Costs	**$ -**	**$ 1,000,000**	**$ 2,400,000**	**$ 3,000,000**	**$ 2,800,000**	**$ 2,500,000**	**$ 1,850,000**	**$ 1,200,000**	**$ 1,300,000**	**$ 1,500,000**	**$ 17,550,000**
Supplies and Other Expenses											
Inflation 2%											
Telephone Expense	$ 1,200	$ 24,072	$ 37,038	$ 45,420	$ 47,194	$ 48,138	$ 49,101	$ 50,083	$ 58,583	$ 59,755	$ 420,583
Office Supplies Expense	$ 3,000	$ 60,180	$ 92,596	$ 113,549	$ 117,985	$ 120,345	$ 122,752	$ 125,207	$ 146,457	$ 149,387	$ 1,051,457
Postage Expense	$ 300	$ 6,018	$ 9,260	$ 11,355	$ 11,799	$ 12,034	$ 12,275	$ 12,521	$ 14,646	$ 14,939	$ 105,146
Medical Supplies Expense	$ -	$ -	$ 26,010	$ 53,060	$ 86,595	$ 126,969	$ 174,555	$ 201,020	$ 234,332	$ 262,920	$ 1,165,462
Teaching Materials Expense	$ -	$ -	$ 52,020	$ 106,121	$ 173,189	$ 253,939	$ 349,110	$ 402,040	$ 468,664	$ 525,841	$ 2,330,923
Total Supplies and Other Expenses	**$ 4,500**	**$ 90,270**	**$ 216,923**	**$ 329,505**	**$ 436,761**	**$ 561,425**	**$ 707,793**	**$ 790,870**	**$ 922,682**	**$ 1,012,841**	**$ 5,073,571**

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Carle ILLINOIS

		Ramp Up			Strengthening			Growth				Total
Operating Statement		Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Professional Expenses												
Inflation	2%											
Professional Development Expense		$ -	$ 2,295	$ 6,242	$ 7,959	$ 8,118	$ 8,281	$ 8,446	$ 8,615	$ 8,787	$ 8,963	$ 67,707
Memberships Expense		$ -	$ 765	$ 6,242	$ 7,959	$ 8,118	$ 8,281	$ 8,446	$ 8,615	$ 8,787	$ 8,963	$ 66,177
Total Professional Expenses		**$ -**	**$ 3,060**	**$ 12,485**	**$ 15,918**	**$ 16,236**	**$ 16,561**	**$ 16,892**	**$ 17,230**	**$ 17,575**	**$ 17,926**	**$ 133,885**
Sponsored Research Expenditures & F&A returned to Campus		$ -	$ 1,050,000	$ 3,405,000	$ 6,520,000	$ 7,610,000	$ 8,225,000	$ 9,834,825	$ 10,686,676	$ 11,944,576	$ 12,302,914	**$ 71,578,991**

Carle ILLINOIS

		Ramp Up			Strengthening			Growth				Total
Operating Statement		Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Facilities & Equipment												
Inflation	2%											
Maintenance Expense		$ 468,000	$ 477,360	$ 486,907	$ 496,645	$ 506,578	$ 516,710	$ 527,044	$ 537,585	$ 548,337	$ 559,303	$ 5,124,469
Training Center Facilities operations and equipment		$ -	$ -	$ -	$ 750,000	$ 1,000,000	$ 1,220,400	$ 1,220,400	$ 1,220,400	$ 1,220,400	$ 1,220,420	$ 7,852,020
Total		**$ 468,000**	**$ 477,360**	**$ 486,907**	**$ 1,246,645**	**$ 1,506,578**	**$ 1,737,110**	**$ 1,747,444**	**$ 1,757,985**	**$ 1,768,737**	**$ 1,779,723**	**$ 12,976,489**
Capital												
Capital Expenditures					**$ 20,000**	**$ 15,000**	**$ 10,000**	**$ 10,200**	**$ 10,404**	**$ 10,612**	**$ 10,824**	
Facility Costs to Upgrade Existing Building(s)*		$ 500,000	$ 1,000,000	$ 2,000,000	$ 2,500,000	$ 3,500,000	$ 4,500,000	$ 1,500,000	$ 1,500,000	$ 500,000	$ 500,000	$ 18,000,000
Capital Equipment IT/Media Classrooms		$ -	$ -	$ -	$ 1,000,000	$ 750,000	$ 500,000	$ 510,000	$ 520,200	$ 530,604	$ 541,216	$ 4,352,020
Construction Costs for new building TBD		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$ -
Total		**$ 500,000**	**$ 1,000,000**	**$ 2,000,000**	**$ 3,500,000**	**$ 4,250,000**	**$ 5,000,000**	**$ 2,010,000**	**$ 2,020,200**	**$ 1,030,604**	**$ 1,041,216**	**$ 22,352,020**

*Note: Initial building upgrade costs can increase once upgrades begin for unforeseen circumstances such as identification of asbestos.

Sensitivity Analysis on Total 10 Year Funding Need

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
						Percentage of In State Students					
	$ (80,573,896)	35%	40%	45%	50%	55%	60%	65%			
Fundraising Success Rate	150%	($62,031,529)	($62,912,618)	($63,793,707)	($64,674,796)	($65,555,885)	($66,436,974)	($67,318,063)			
	120%	($71,570,989)	($72,452,078)	($73,333,167)	($74,214,256)	($75,095,345)	($75,976,434)	($76,857,523)			
	100%	($77,930,629)	($78,811,718)	($79,692,807)	($80,573,896)	($81,454,985)	($82,336,074)	($83,217,163)			
	80%	($84,290,269)	($85,171,358)	($86,052,447)	($86,933,536)	($87,814,625)	($88,695,714)	($89,576,803)			
	50%	($93,829,729)	($94,710,818)	($95,591,907)	($96,472,996)	($97,354,085)	($98,235,174)	($99,116,263)			

Table 24: Research Expenditures

UIUC / CARLE COLLEGE OF MEDICINE RESEARCH EXPENDITURE CALCULATOR

Fiscal Year	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	
Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
FTES											
COM Hires	0	3	8	10	10	10	10	10	10	10	
Carle Clinical	0	0	4	9	9	9	9	9	11	11	
Carle Basic Science	0	1	3	3	3	3	3	3	5	5	
UIUC Existing Faculty	0	2	4	6	8	10	10	10	10	10	
Research Expenditures Per FTE											
COM Hires	$0	$150,000	$175,000	$200,000	$250,000	$275,000	$300,000	$350,000	$360,500	$371,315	
Carle Clinical	$0	$10,000	$20,000	$30,000	$40,000	$50,000	$50,000	$50,000	$51,500	$53,045	
Carle Basic Science	$0	$150,000	$175,000	$200,000	$250,000	$275,000	$300,000	$350,000	$360,500	$371,315	
UIUC Existing Faculty	$0	$25,000	$50,000	$75,000	$100,000	$100,000	$100,000	$100,000	$103,000	$106,090	
Estimated Research Expenditures											
COM Hires	$0	$450,000	$1,400,000	$2,000,000	$2,500,000	$2,750,000	$3,000,000	$3,500,000	$3,605,000	$3,713,150	
Carle Clinical	$0	$0	$80,000	$270,000	$360,000	$450,000	$450,000	$450,000	$566,500	$583,495	
Total COM	$ -	$ 450,000	$ 1,480,000	$ 2,270,000	$ 2,860,000	$ 3,200,000	$ 3,450,000	$ 3,950,000	$ 4,171,500	$ 4,296,645	
Carle Basic Science	$0	$150,000	$525,000	$600,000	$750,000	$825,000	$900,000	$1,050,000	$1,802,500	$1,856,575	
UIUC Existing Faculty	$0	$50,000	$200,000	$450,000	$800,000	$1,000,000	$1,000,000	$1,000,000	$1,030,000	$1,060,900	
Total Existing	$ -	$ 200,000	$ 725,000	$ 1,050,000	$ 1,550,000	$ 1,825,000	$ 1,900,000	$ 2,050,000	$ 2,832,500	$ 2,917,475	
Total Direct	$ -	$ 650,000	$ 2,205,000	$ 3,320,000	$ 4,410,000	$ 5,025,000	$ 5,350,000	$ 6,000,000	$ 7,004,000	$ 7,214,120	$ 41,178,120
Overhead (25% Eff. Rat	$ -	$ 162,500	$ 551,250	$ 830,000	$ 1,102,500	$ 1,256,250	$ 1,337,500	$ 1,500,000	$ 1,751,000	$ 1,803,530	$ 10,294,530
Grand Total	$ -	$ 812,500	$ 2,756,250	$ 4,150,000	$ 5,512,500	$ 6,281,250	$ 6,687,500	$ 7,500,000	$ 8,755,000	$ 9,017,650	$ 51,472,650

ASSUMPTIONS

New College of Medicine and New Carle Basic Science Faculty

It is estimated that the average faculty member in the field of bioengineering / biomedical engineering will generate **$350,000 per faculty per year**. This assumption is based on the UIUC response to the FY 12 Higher Education Research & Development (HERD) survey where we reported $3.2 Million in research expenditures for the field of Bioengineering / Biomedical Engineering. In FY 12, the UIUC Campus Profile reported that the Department of Bioengineering had 9 principal investigators active. For our estimate, we will assume $350,000 per investigator or roughly $3.2 million divided by 9. Given that the medical school will be impacted by the time to startup, the $350,000 average is not expected until FY 23 or Year 8.

Carle Clinical Faculty

It is estimated that the Carle Clinical faculty will generate **$50,000 per faculty per year.** Given that the medical school will be impacted by the time to startup, the $50,000 average is not expected until FY 21 or Year 6.

UIUC Existing Faculty

It is estimated that the existing UIUC faculty will generate an additional **$100,000 per faculty per year.** Given that the medical school will be impacted by the time to startup, the $100,000 average is not expected until FY 20 or Year 5.

Years 9 and 10 include a 3% escalation factor on the Research Expenditures per FTE

The **Effective Overhead Rate was calculated at 25%** or slightly below the FY 13 UIC College of Medicine effective rate of 28.83%

Table 25: Fundraising

PROPRIETARY / CONFIDENTIAL COMMERCIAL INFORMATION

Carle ILLINOIS

		Ramp Up			Strengthening			Growth				Total
Fundraising		Year 1 '15-'16	Year 2 '16-'17	Year 3 '17-'18	Year 4 '18-'19	Year 5 '19-'20	Year 6 '20-'21	Year 7 '21-'22	Year 8 '22- '23	Year 9 '23- '24	Year 10 '24- '25	10 Year Total
Fundraising Assumptions												
Annual Funds Raised (i.e., commitments)	Target											
Dean's position naming gift	10,000,000	10,000,000										10,000,000
Faculty support gifts (20 @ $2.5 mill)	50,000,000	15,000,000	9,500,000	11,500,000	14,000,000							50,000,000
Student support gift	50,000,000	15,000,000	9,500,000	11,500,000	14,000,000							50,000,000
Training Center gift	25,000,000	10,000,000	4,000,000	5,000,000	6,000,000							25,000,000
Other	0											0
Total	135,000,000	50,000,000	23,000,000	28,000,000	34,000,000	0	0	0	0	0	0	135,000,000
Commitments collected over a period of	5 Years											
Annual Funds Collected (i.e., funds in hand)												
Dean's position naming gift	10,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	0	0	0	0	0	10,000,000
Faculty support gifts (20 @ $2.5 mill)	50,000,000	3,000,000	4,900,000	7,200,000	10,000,000	10,000,000	7,000,000	5,100,000	2,800,000	0	0	50,000,000
Student support gift	50,000,000	3,000,000	4,900,000	7,200,000	10,000,000	10,000,000	7,000,000	5,100,000	2,800,000	0	0	50,000,000
Training Center gift	25,000,000	2,000,000	2,800,000	3,800,000	5,000,000	5,000,000	3,000,000	2,200,000	1,200,000	0	0	25,000,000
Other	0	0	0	0	0	0	0	0	0	0	0	0
Total	135,000,000	10,000,000	14,600,000	20,200,000	27,000,000	27,000,000	17,000,000	12,400,000	6,800,000	0	0	135,000,000
Cumulative Funds Collected + Earnings - Spend												
Dean's position naming gift	10,000,000	2,000,000	4,030,000	6,090,450	8,181,810	10,304,540	10,459,110	10,616,000	10,775,240	10,936,870	11,100,920	84,494,940
Faculty support gifts (20 @ $2.5 mill)	50,000,000	3,000,000	7,945,000	15,264,180	25,493,140	35,875,540	43,413,670	49,164,880	52,702,350	53,492,890	54,295,280	340,646,930
Student support gift	50,000,000	3,000,000	7,945,000	15,264,180	25,493,140	35,875,540	43,413,670	49,164,880	52,702,350	53,492,890	54,295,280	340,646,930
Training Center gift	25,000,000	2,000,000	4,830,000	8,702,450	13,832,990	19,040,480	22,326,090	24,860,980	26,433,890	26,830,400	27,232,860	176,090,140
Other	0											0
Total	135,000,000	10,000,000	24,750,000	45,321,260	73,001,080	101,096,100	119,612,540	133,806,740	142,613,830	144,753,050	146,924,340	
Spend from Endowments												
Assumed Earnings	5.50%											
Assumed Spend Rate	4.00%											
Endowment Distributions for COM		$ -	$ 400,000	$ 990,000	$ 1,812,900	$ 2,920,000	$ 4,043,800	$ 4,784,500	$ 5,352,300	$ 5,704,600	$ 5,790,100	$31,798,200
Carle 10-year $100M Commitment Continuation								$ 5,000,000	$ 10,000,000	$ 10,000,000		$25,000,000
Cumulative Endowment								$ 5,000,000	$ 15,275,000	$ 26,115,125		
Assumed Earnings	5.50%							$ 275,000	$ 840,125	$ 1,436,332		
Cumulative Balance										$ 27,551,457		

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F) Appendix: Work Group Members

The following members of the Executive Committee and Work Groups for the new College of Medicine provided a significant investment of time and energy in the development of the business plan.

Executive Committee	
University of Illinois at Urbana-Champaign Representatives	**Carle Health System Representatives**
Normand Paquin	Stephanie Beever
Chancellor Phyllis Wise	James Leonard
Provost Ilesanmi Adesida	Matt Gibb
Laura Frerichs	Joseph Barkmeier
Mike DeLorenzo	LJ Fallon
Jennifer Eardley	Dennis Hesch
Vicki Gress	James Synder
Scott Rice	
Peter Schiffer	
Roy Campbell	

Governance Work Group Members:

University of Illinois at Urbana-Champaign Representatives	**Carle Health System Representatives**
Mike Delorenzo	Stephanie Beever
Laura Frerichs	Joseph Barkmeier
Lisa Power	LJ Fallon
Scott Rice	Kurt Leifheit
Normand Paquin	Kerrin Slattery
Greg Pemberton	Guy Collier
Joyce Tolliver	
Gay Miller	
Roy Campbell	
Nicholas Burbules	

Finance & Revenue Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Molly Tracy	Dennis Hesch
Normand Paquin	Stephanie Beever
Vicky Gress	Scott Hendrie
Ilesanmi Adesida	Lyn Jones
Dan Peterson	
Jeffrey R. Brown	

Research Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Jennifer Eardley	Stephanie Beever
Rohit Bhargava	Matt Gibb
Lisa Dhar	
Barbara Fiese	
Dave Richardson	

Curriculum & Admissions Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Rashid Bashir	Joseph Barkmeier
Jennifer Amos	Ken Aronson
Steve Boppart	Bill Olivero
Normand Paquin	Blair Rowitz
Neal Cohen	
Jennifer Erdman	
Michael Insana	
Hillary Klonoff-Cohen	
Steve Sligar	
Brad Sutton	
Gay Miller	

Faculty & Staff Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Vicki Gress	Joseph Barkmeier
Barbara Wilson	Stephanie Beever
Ilesanmi Adesida	LJ Fallon
Abbas Benmamoun	Matt Gibb
Matt Wheeler	Dennis Hesch
	Blair Rowitz

Facilities Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Matthew Tomaszewski	Patricia Adams
Laura Frerichs	Scott Harding
Tor Jensen	
Abbas Aminmansour	

Accreditation Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Normand Paquin	Josepha Barkmeier
Ilesanmi Adesida	Matt Gibb
Jennifer Amos	Mac Johnson
Mike Delorenzo	Tammy Plutz

Clinical Training Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Jennifer Eardley	Joseph Barkmeier
Normand Paquin	Bob Healy
	Michelle Olson

Communications & Government Work Group Members:

University of Illinois at Urbana-Champaign Representatives	Carle Health System Representatives
Robin Kaler	Mike Billimack
Mike Delorenzo	Jennifer Kaufmann
Jen Creasey	Rick Stephens
Laura Frerichs	
Chris Harris	
Jon Pyatt	
Jennifer Woodard	

G) Appendix: Work Group Charters

Following are charters, including mission, goals, guiding principles, and expectations, for each of the Work Groups.

Governance Work Group

Mission:

Identify an organizational structure that allows for fulfillment of new COM goals, accommodates guiding principles, and enables LCME accreditation.

Goals:

- Identify best structure to achieve goals and must-haves of both organizations as well as LCME accreditation.
- Determine organizational structure, including:
  - Board membership (including the composition and terms of membership), voting rights, committees, relationship to parent organizations, decision rights.
  - Dean reporting relationship(s).
  - Fiscal management.
  - Faculty practice plan structure.
  - Research structure.
- Develop policies that facilitate the participation of third parties in education and research programs.
- Determine a name that will serve as a "placeholder" for the new COM.
- Determine potential to provide education for the existing M1 UIC medical students on Urbana campus and those completing their degrees in Urbana through contractual relationship.

Guiding Principles:

- Separately accredited COM governed by a partnership between the two organizations.
- Degrees should be conferred by University of Illinois.
- Governance work group works for the benefit of the COM but remains conscious of the constraints of each organization.
- Decisions governed by goals and "must-haves" identified by each organization.
- True and equal partnership between Carle and the University of Illinois at Urbana-Champaign (Urbana campus), including voting representation of governing board, involvement in faculty policies, involvement in operations, and authority in selecting leadership.
- Equal contribution to start-up funding and long-term financial viability.

- COM must provide value to community through economic growth, increased access to health care, and stabilization of the University of Illinois at Urbana-Champaign.
- COM mission must align with Carle and the University of Illinois at Urbana-Champaign strategic goals.
- New COM must be a nimble and flexible organization that will be able to respond quickly to opportunities and challenges.
- COM must leverage clinical, education, and research capabilities of each organization, enhance Carle's integrated delivery system to broaden patient services, improved health care delivery outcomes through informed and transformative innovations, develop structure and policies that facilitate hiring, procurement, and collaborations.
- M1 education for the existing UIC M1 students on the Urbana campus as well as those completing their degrees in Urbana (approximately 25 students) will continue.

Expectations of Governance Work Group:

Assist in the development of draft business plan by July 21, including:

- Determine proposed structure to achieve desired goals and must-haves as well as LCME accreditation.
- Propose Dean reporting relationship and research structure.
- Determine a name to serve as a placeholder for new COM.
- Determine proposed process to provide education for the existing UIC M1 students and those completing their degrees in Urbana through a contractual relationship.

Finance and Revenue Work Group

Mission:

Identify expenses and revenues associated with developing a sustainable new COM that achieves the goals identified by the University of Illinois at Urbana-Champaign and Carle.

Goals:

- Working with Faculty and Staff, Facilities, and Curriculum and Admission Work Groups, determine projected revenue and expenses by source for start-up years and first seven years of operation.
- Determine estimate for tuition.
- Develop fundraising projections by identifying fundraising goals and strategies to achieve goals.
- Explore potential for state to provide funding for construction costs.
- Determine financial resources each organization will contribute to the new COM.

- Determine value of non-financial resources each organization will contribute to the new COM.

Guiding Principles:

- Maintain an internal control environment which enhances sound business practices, and defines roles, responsibilities, and accountability.
- Guide budget development to enable new COM to prepare physician-scientist leaders through the most cost-effective, innovative delivery of medical education.

Expectations of Finance and Revenue Work Group:

Assist with the development of a draft business plan by July 21, including:

- Estimate costs associated with fundraising strategies required for start-up and first seven years of operation of new COM.
- Estimate if tuition will be the same as tuition for existing medical school.
- Develop fundraising projection estimates.
- Working with Research Work Group, develop commercialization/licensing revenue projections for start-up and first seven years of operation of new COM.
- Review clinical practice revenue projection estimates provided by July 7 by Tripp Umbach for start-up and first seven years of operation.
- Determine financial resources each organization will contribute to the new COM.
- Identify and determine value of non-financial resources each organization will contribute to the new COM.

Curriculum and Admissions Work Group

Mission:

Develop recommended outline for a curriculum that prepares students to become physician-scientist leaders and deliver patient-centered, interdisciplinary care.

Goals:

- Identify overall objectives of curriculum.
- Develop outline for proposed curriculum.
- Identify ways to facilitate interdisciplinary and interprofessional and incorporate research focus.
- Identify profile of ideal student.
- Identify methods for curriculum review.
- Develop selection criteria for students that align with the goals of the new COM.
- Develop proposed recruitment and admissions policies.

Guiding Principles:

- Incorporate analytical techniques, innovations and multi-disciplinary teams into a human systems approach to advancing and delivering health care.
- Focus on intersection of Engineering/Technology and Medicine.
- Incorporate team-based projects that bring together engineering and medical students and opportunities for social and informal interactions to facilitate the development of "esprit de corps" among students and faculty.
- Generate opportunities for multidisciplinary courses, labs, and team projects that include faculty and students from multiple disciplines to develop the skills needed to work in teams.
- Leverage the University of Illinois at Urbana-Champaign as a top-ranked engineering institution and Carle's position as a Magnet designation for nursing care and advanced level of clinical expertise and technology.
- Develop strength in areas of science, technology, engineering, mathematics, and health.
- Become a global leader in health education, bio-medical research, emerging technology, higher education, research, and preparing students to be lifelong learners.
- Strong faculty development plan to assure success of the new curriculum.

Expectations of Curriculum and Admissions Work Group:

Assist with the development of a draft business plan by July 21, including:

- Working with Faculty and Staff Work Group, review and provide input to full-time and part-time faculty cost estimates provided by July 7 by Tripp Umbach.
- Identify overall objectives of curriculum.
- Develop outline for proposed curriculum.
- Identify ways to facilitate interdisciplinary and interprofessional training and incorporate research focus of new COM into curriculum.
- Identify profile of ideal student.

Research Work Group

Mission:

Develop a top-tier world class research enterprise that enables the new COM to receive $100 million in research funding by 2035, and promotes innovative learning in an entrepreneurial environment, facilitates transformative research at the intersection of engineering, basic health sciences, and medicine, and supports the goals of the new COM.

Goals:

- Develop outline of proposed research strategy and plan.
- Identify existing and potential funding sources.
- Develop research funding projections to provide to Finance and Revenue Work Group for incorporation into revenue component of business plan budget.
- Provide guidance to the Finance and Revenue and Faculty and Staff Work Groups to assist with the development of estimated infrastructure and faculty and staff costs related to research.
- Identify existing research resources that can be leveraged for use by the new COM.
- Identify existing research focus areas for each organization.
- Identify existing researchers, projects, and infrastructure, especially in areas where interdisciplinary and/or translational research currently exists.

Guiding Principles:

- Develop and grow a transformative research program that leverages computing, Big Data, and mobile technologies to transform health care outcomes across the care continuum.
- Fully integrate next generation technology and customized learning to increase and maximize student success in research development.
- New COM will conduct innovative research and receive significant research funding.
- Foster an open research model that includes diverse disciplines and organizations to facilitate innovation and creativity.
- Create and operate an organization that can rapidly address compliance and IRB issues.

Expectations of Research Work Group:

Assist with the development of a draft business plan by July 21, including:

- Working with Faculty and Staff Work Group, review and provide input to cost estimates provided by July 7 by Tripp Umbach for full-time and part-time faculty for start-up and first seven years of operation of new COM.
- Working with Facility Work Group, identify space and estimate related costs necessary to facilitate interdisciplinary and translational research.
- Develop grants and contracts revenue projections for start-up and first seven years of operation of new COM.
- Working with Finance and Revenue Work Group, develop commercialization/licensing revenue projections for start-up and first seven years of operation of new COM.
- Identify existing researchers, projects, and infrastructure, especially in areas where interdisciplinary and/or translational research currently exists.

- Develop outline of proposed research strategy and plan for new COM.
- Identify existing research resources that can be leveraged for use by the new COM.
- Identify existing research focus areas for each organization.

Faculty and Staff Work Group

Mission:

Identify the human resources needed to achieve the goals of the new COM.

Goals:

- Develop full-time and part-time faculty and staff cost estimates for start-up and first seven years based upon input from Tripp Umbach and Clinical Training Work Group.
- Working with Curriculum and Admissions Work Group, estimate required number of MDs, PhDs, and "extenders".
- Recommend best option for faculty practice plan structure.
- Provide guidance to Finance and Revenue Work Group to develop projections for revenue provided by faculty practice plan to the new COM.

Guiding Principles:

- Decisions governed by goals and "must-haves" of each organization as well as LCME accreditation requirements.
- Faculty of the new COM will demonstrate inquiry, innovation, team orientation, system thinking, and ability to effectively interrelate between clinical, academic, and research arenas.

Expectations of Faculty and Staff Work Group:

Assist with the development of a draft business plan by July 21, including:

- Working with Curriculum and Admissions and Research Work Groups, review and provide input to full-time and part-time faculty cost estimates provided by July 7 by Tripp Umbach.
- Provide overview of existing practice plan structure (how are physicians employed, how many are employed, how many currently teach and/or conduct research, how is teaching and research time currently addressed, is financial contribution from practice plan currently made to University).
- Determine proposed option for faculty practice plan development.
- Propose process for addressing compensation and tenure issues for existing faculty.

Facilities Work Group

Mission:

Develop a facilities plan that will enable fulfillment of the goals of the new COM.

Goals:

- Identify facilities and associated costs needed to deliver the first years of medical education through the new SOM.
- Inventory existing facilities available for COM, including access to library, labs, and technology (at both the Urbana campus and Carle).
- Determine renovation costs of existing space and facility use agreements between parties
- Identify future resources needed to educate students and facilitate interdisciplinary and translational research, including library resources, lab space, clinical training center, and other technologies.

Guiding Principles:

- Ensure facilities meet LMCE requirements.
- Leverage existing facilities and resources.
- Create comfortable, attractive, and stimulating environments that support collaboration and diverse learning styles and opportunities.
- Respond to current and future information, communication, and technology needs.
- Provide a facility that supports the delivery of the educational program and that will be adaptable to future demographic, educational, and community needs.

Expectations of Facility Work Group:

Assist with the development of a draft business plan by July 21, including:

- Working with Clinical Training Work Group, identify existing facilities (and associated costs) that will be available to students at the new COM.
- Identify options for addressing gaps in existing versus required facilities.
- Review and provide input to facility cost estimates provided by July 7 by Tripp Umbach.
- Estimate future resources and associated costs needed to meet the goals of the new COM, including library, lab space, clinical training center, and other technologies.

Accreditation Work Group

Mission:

Achieve preliminary accreditation by spring 2017.

Goals:

- Determine preliminary accreditation costs and responsibilities.
- Develop timeline for LCME accreditation.
- Identify attendees and schedule informal visit to LCME for August.
- Provide guidance to Work Groups as appropriate based upon input from LCME.

Guiding Principles:

- Accreditation process should be efficient and cost-effective.
- Collaborate with other accrediting bodies to avoid conflicting standards, and to minimize duplication of efforts.
- Ensure expertise and experience needed to ensure successful accreditation are present in faculty and staff responsible for accreditation process.

Expectations of Accreditation Work Group:

Provide guidance to work groups as appropriate based upon input from LCME.

Communications and Government Relations Work Group

Mission:

- Communicate the positive impacts the new COM will have on the University of Illinois at Urbana-Champaign and Carle, the University of Illinois system, the UIC COM, the health care delivery system, and the economic development of the region and state.
- Generate support for the new COM from the University of Illinois at Urbana-Champaign, Carle, the University of Illinois, UIC COM, physician leaders throughout the region, the community, and potential funders.

Goals:

- Develop communications and government relations plans to generate support and communicate key messages regarding the development, mission, and goals of the new COM.
- Determine costs associated with development and implementation of communications and government relations plans.
- Explore potential for state to provide funding for construction costs.
- Coordinate appropriate communication activities with all participating entities' media staff.
- The following goals are to be addressed once the plan has been approved and accepted by Board Members from each participating institution.
    - Establish a format for regularly communicating details and milestones of the process with general audiences.

- Disseminate an array of collateral material that is accurate and consistent via a range of distribution outlets.
- Hold speaking engagements with key groups/constituencies for select officials to speak about the progress and purpose of process.

Guiding Principles:

- Communicate directly, regularly and accurately with numerous audiences across the state and region, including faculty, staff, and students, about the development, mission, and goals of the new COM.

Expectations of Communications and Government Relations Work Group:

Assist with the development of a draft business plan by July 21, including:

- Estimate costs associated with development and implementation of communications and government relations plan.
- Estimate feasibility for state to provide funding for construction costs.
- Develop outline for proposed communications and government relations plan, including fundraising goals and strategies, and plan to communicate feasibility study.

Clinical Training Work Group

Mission:

- Ensure that students of the new COM have access to clinical sites that prepare them to deliver patient-centered, team-based, inquiry-focused care.

Goals:

- Identify clinical teaching sites and associated costs to accommodate UME students at the new SOM.
- Develop agreements with any needed clinical sites outside of Carle.
- Identify existing GME programs and training sites and associated costs.
- Develop plan to expand GME, including identifying opportunities to grow existing and develop new programs, determine how expansion will be funded, and identify any additional sites needed outside of Carle.

Guiding Principles:

- Decisions will be made based upon the best interests of students and requirements of LCME.
- The new COM will:
  - Elevate patient care, attracting the top clinical providers and trainers, applying new and practical health care delivery models, and developing the highest tier of health care delivery.

- Provide innovative training for medical students, introducing a new generation of physicians to technically and multi-disciplinary management of health conditions and provision of acute care.
- Increase application of inquiry and innovation in daily patient care, providing physician training and patient care in an environment that promotes system thinking, multidisciplinary care teams and continual reevaluation of current treatment options.
- Develop new models of integrated health care delivery across all segments of the care continuum in teams including nurses, doctors, advanced practice providers, technicians, and others.
- Provide a seamless and positive experience for families and coordinated care for patients provided by students/residents.

Expectations of Clinical Training Work Group

Assist with the development of a draft business plan by July 21, including:

- Working with Facilities Work Group, identify existing facilities (and associated costs) that will be available to students at new COM.
- Determine if additional facilities are needed for GME and estimate costs associated with expanded GME.
- Identify existing and proposed sites necessary to provide clinical training.
- Propose relationship between COM and any additional hospitals necessary for clinical training.
- Identify existing GME programs and training sites.
- Propose outline of plan to expand GME, including identifying opportunities to grow existing and develop new programs.