



## **RUSH UNIVERSITY MEDICAL CENTER**

### **COLLEGE OF HEALTH SCIENCES**



## **PROGRAM PLAN**

MAY 16, 2008

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***Program Plan***  
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Introduction

The College of Health Sciences completed a strategic planning exercise in the summer of 2007. This process resulted in new mission and vision statements and development of strategic goals, objectives and an action plan (Appendix A). The strategic plan identified the need to evaluate the college's existing programs and consider the addition of several new programs. The next step in planning was to determine what specific programs the college should offer, how those programs should be organized, and how they are to be funded.

In order to formulate a program plan for the College of Health Sciences, it is helpful to review the historical development of the college. The College of Health Sciences at Rush University traces its beginnings to the School of Medical Technology sponsored by Presbyterian-St. Luke's Hospital from 1959 to 1972. The School became part of Rush's College of Nursing and Allied Health Sciences in 1973, which included medical technology, dietetics (now clinical nutrition), and religion and health (now religion, health and human values). In 1975, the College of Health Sciences separated from the College of Nursing and, along with what was then the Graduate School, became an independent college. In 1978, the college began an Occupational Therapy Program, followed by the Health Systems Management Program in 1979. The Department of Communication Disorders and Sciences was established in 1980. Since that time, the college has added the departments of Medical Physics, Perfusion Technology, and Vascular Ultrasound. The current organizational structure of the college is described in Figure 1.

The college currently offers a professional doctoral program in audiology, nine programs at the master's level, and bachelor's programs in clinical laboratory sciences, perfusion technology and vascular ultrasound. Since the College of Health Sciences was founded, 1,888 baccalaureate, master's and doctoral degrees have been awarded. As of fall of 2007, the college had 65 core faculty paid by the college (37.39 FTEs), 197 other faculty (dual appointed faculty, adjunct faculty and others), and 18 staff personnel (9.32 FTEs).

In 2007 the college hired a new dean, a new associate dean for research and a new director of academic and student affairs. It is anticipated that a new associate dean for academic affairs and graduate studies will be appointed in 2008. Currently, the nine academic departments in the college offer programs in 11 different professional areas (Table 1.)

Strategic Plan

The College of Health Sciences initiated a strategic planning process in May of 2007. A Strategic Planning Committee (n=12) was assembled consisting of the chairpersons of the academic departments, chair of the college faculty council and two student representatives. The initial committee activity was to complete an environmental assessment or "scan" to identify the college's strengths, weaknesses, opportunities, and threats (SWOT). A

modified nominal group technique was used for structured brain storming. Following the generation of the SWOT, items were then rated using the following scale: 5 = very important; 4 = important; 3 = neither important or unimportant; 2 = unimportant; or 1 = very unimportant.

The environmental assessment was completed in June of 2008 and presented to the Rush University Medical Center CEO Council June 25, 2007. The environmental assessment identified 22 strengths of the college. The 10 most important ten strengths are listed in Table 2. These strengths include the quality of the educational programs offered, the integration of teaching and practice using the practitioner-teacher model, quality of the faculty, proximity and close relationship with the medical center and diversity of the clinical experiences provided.

Forty-four weaknesses were identified. The ten most important weaknesses are listed in Table 3. These can be summarized as weaknesses in technology (including educational technology), infrastructure, resources and support. Problems with space, facilities, support services (admissions, registration, and student services) and the perception that the college was not well positioned and recognized within the medical center were identified.

Forty-seven opportunities were identified. The most important opportunities (Table 4) can be summarized as the potential to develop new professional programs and new tracks within existing programs, a doctoral (PhD) program to prepare future faculty and researchers, funding for scholarships and stipends, Web-based and distance education, increased marketing, development of philanthropy, and faculty development. With respect to research, the college has the opportunity to increase research productivity in a number of different areas including discipline specific research, collaborative research and outcomes research. The opportunity to develop a new center for health sciences research was also identified with a focus on outcomes research and evidence-based practice.

Twenty-five threats were identified (Table 5). These threats may be summarized as competition for students and resources, funding, the high cost of doing business at Rush (space and overhead charges), limited space for growth, lack of educational technology compared to our competitors and high faculty teaching and clinical workloads which reduce research capacity.

Upon completion of the environmental scan in June of 2007, the strategic planning committee began work on new mission and vision statements for the college. It was felt that the college mission and vision should be well aligned with the mission and vision for Rush University Medical Center (RUMC):

#### RUMC Mission

*The mission of Rush University Medical Center is to provide the very best care for our patients. Our education and research endeavors, community service programs and relationships with other hospitals are dedicated to enhancing excellence in patient care for the diverse communities of the Chicago area, now and in the future.*

## RUMC Vision

*RUMC will be recognized as the medical center of choice in the Chicago area and among the very best clinical centers in the United States.*

It was recognized that the RUMC mission of providing the very best care for our patients has four components: patient care, education, research and service. A core mission of the College of Health Sciences is to prepare superb practitioners and leaders in the allied health professions. In addition, the college seeks to make meaningful and significant contributions towards advancing health care through excellence in research and scholarship, service and practice. The practitioner-teacher model is highly valued within the college and the continued integration of practice, research, scholarship and service into the teaching-learning process of developing future allied health professionals and leaders was felt to be essential.

After much discussion, the committee agreed on the following new mission and vision statements for the College of Health Sciences:

### CHS Mission

*The mission of the College of Health Sciences is to advance the quality and availability of health care through excellence in education, research and scholarship, service and patient care. The College promotes the values of diversity, access and inclusion in all of its endeavors.*

### CHS Vision

*The College of Health Sciences at Rush University will be a world class school of allied health sciences whose programs are recognized as among the best in the United States.*

The new mission and vision statements were approved by Chairperson's Council on July 27, 2007. It was subsequently incorporated in the revised College of Health Sciences Policies and Procedures for the Rush University Rules for Governance and approved by the college faculty on March 18, 2008.

The Strategic Planning Committee next began work on a detailed strategic plan for the college. The development of the plan began on June 15, of 2007 and was completed and approved by the Chairperson's Council in August 3, 2007 and distributed to faculty for review and comment. The plan consists of four strategic goals, one for each of the core components of the medical center mission. For each strategic goal, a set of objectives and an action plan were developed. A copy of the completed College of Health Sciences Strategic Plan may be found in Appendix A. A brief summary of the plan's strategic goals and objectives follows.

#### *Goal 1: Excellence in Education.*

Objectives were developed to ensure the quality of the educational programs, faculty, students (to include diversity of the student body), curriculum and educational outcomes. It was felt that expansion of the programs offered by the college would support excellence in

teaching by expanding the quality and size of the resource base, as well as supporting the goal of Rush workforce development. This would require a review of existing programs to ensure quality and fit, and an increase in enrollment to enhance the revenue base for the college. Areas targeted for development included the addition of several professional programs, consideration of a PhD program to prepare future faculty and researchers, expansion of Web-based and distance education, consideration of the addition of an undergraduate pre-professional program in health sciences, further faculty development for teaching and an increase in interdisciplinary education. In order to increase enrollment, a marketing and student recruitment task force was convened. An assessment committee was convened and a Program Review and Outcomes Assessment (PROA) system was developed and implemented in the fall of 2007 to monitor performance in terms of educational outcomes, research productivity and service activities.

### *Goal 2: Excellence in Research*

Objectives and an action plan were developed to increase research productivity within the college and the PROA system implemented to begin to track abstracts and papers, grant submissions and grants funded. It was felt that the college should build on the need for outcomes research and evidence-based practice in the health sciences, as well as the need for more interdisciplinary and collaborative research. The need for an associate dean for research and additional research support/infrastructure within the college was identified and an associate dean for research was hired in August of 2007.

Faculty development was also targeted to include an expansion of presentations and lunch and learn sessions. The needs for a short course for faculty research development and a mentoring program were identified. The need for a Center for Health Sciences Research with a focus on outcomes research and evidence-based care and promotion of collaborative and interdisciplinary research was also highlighted. Specific areas for collaboration were identified which might include health promotion, wellness and disease prevention, chronic disease management, workforce research, and educational research.

### *Goal 3: Excellence in Service*

The strategic plan of the college includes specific objectives and an action plan for service. The college seeks a leadership position in allied health and health care administration education. That will require continuing faculty participation in state, national and international professional leadership activities related to service. These activities may include faculty service on professional association boards, committees, task forces, and accreditation agencies. In addition, college faculty and students must continue to be active in community service and outreach activities, including continuing professional education.

### *Goal 4: Excellence in Patient Care*

As with each of the other core components for the college mission, objectives and an action plan were developed for patient care. This included consideration of implementation of new university provided clinical services to include specialty and /or multidisciplinary allied health services and development of a faculty practice plan for faculty that have billable services. Infrastructure development to conduct patient related research such as

clinical outcomes, clinical resource allocation, and clinical application of translational sciences and continued integration of clinical practice and teaching through case-based, problem-based, and evidence-based learning and the use of simulation laboratories and/or standardized patients was also identified. The college will continue to contribute to the RUMC mission of providing the very best care for our patients through direct patient care provided, teaching (students, practitioners, patients and families), research (to improve outcomes, quality and patient safety), and service to the community.

Challenges for the college include successful implementation of the strategic plan, continuing to provide programs of excellence, ensuring alignment with the medical center mission and meeting workforce needs. These all require sufficient resources. The strategic plan for the college provides a blueprint for meeting the CHS mission and achieving the vision for the college. The plan provides a specific set of objectives against which we can measure our progress.

### **Program Plan**

The next step in strategic planning was to initiate meetings with clinical personnel, section directors, division chiefs, department chairs in key clinical departments, and Rush leadership. Table 6 lists key Rush personnel consulted regarding the role and mission of the college and program mix. In addition, the dean met with the CEO Council on June 25, 2007 and again on March 10, 2008 to review the college's status and discuss strategic issues. The college plan was presented to the Board of Overseers on January 30, 2008 for comment and preliminary approval of three new professional programs.

The July 9, 2007 Rush University leadership retreat identified two main criteria for program evaluation: (1) alignment with the Rush mission and vision and (2) excellence. The CHS Chairperson's Council also reviewed program criteria and added additional criteria that should be considered (Table 7). These program criteria can be summarized as excellence, alignment, work force needs, enrollment potential, and resources.

#### *1. Excellence.*

Existing and proposed educational programs should be outstanding, as demonstrated by objective outcome measures. These may include selectivity (number and quality of applicants), graduate performance (board exams, graduate success in the field), graduate evaluations of their program, employer evaluations of the graduate, rankings and reputation. For research and scholarship, outcome measures include papers, textbooks, and chapters published and grants funded. Professional leadership activities such as faculty participation on editorial boards, national committees, accreditation boards, and holding office in professional societies will assist in recognition of our college as a leader in health care education and research. Such external recognition is part of the college's stated vision.

#### *2. Alignment.*

New and existing programs must align with the Rush mission and vision. The college already does this in large measure. In all but one department faculty have direct operations responsibilities and the vast majority of college faculty spend some portion of their time providing direct patient care or in operations that support patient care at Rush. In the case

of our chairs, many direct clinical service units including occupational therapy, audiology, speech pathology, food and nutrition services, hospital clergy, ethics consult services, perfusion, and radiation physics.

The college has clearly embraced the practitioner-teacher model, which is one of its great strengths. The dean has worked with the senior vice president for hospital affairs and other operations VPs to assure that chair recruits and chair evaluations are a shared activity between the operations and academic administrators for those departments in which CHS chairs have direct operational as well as academic responsibilities. A model for the organization of such departments (Figure 2) to include guidelines for recruitment and evaluation of chairs has been developed and approved to ensure integration and goodness of fit (Table 8).

Further evidence of alignment would include whether or not programs complement Rush's six priority clinical areas: cancer, heart, bone and joint, transplant, neurosciences, and high risk mother and infant or provide a core competency required by an academic medical center. Examples of core-competencies might include critical care, rehabilitative services, acute care and clinical or support service administration.

### 3. *Rush Workforce Needs.*

Programs should help meet Rush workforce needs to advance the patient care, research or service components of the mission. To review this, the dean has met with clinical service directors, service chiefs and/or department chairs for rehabilitation sciences, imaging, radiation oncology, pulmonary and critical care medicine, internal medicine, cardiothoracic surgery, vascular surgery, otolaryngology, physical therapy, occupational therapy, respiratory care, medical records, orthopedics, sports medicine, pathology, clinical laboratory, food and nutrition services, and nursing. Discussions have been held with Bob Clapp, Brad Hinrichs, Sheri Marker, Norma Melgoza, Bob Balk, Bob Decresce, Ross Abrams, Gunnar Anderson, Tony Perry, David Ansell, and David Turner.

Workforce data related to allied health nationally and at Rush has been assembled (Tables 9 and 10). There are well over 1,000 non-nurse, non-physician clinical health care workers at Rush. The larger groups include medical technologists (136), imaging personnel (115), respiratory care (62), PT (34) and OT (32). Rush has 16 physician assistants (PAs) working for the hospital and many more working for Rush physician groups such as Midwest Orthopedics. In addition to Rush allied health clinical personnel, there are well over 300 health care managers and administrators in the Rush workforce.

In terms of meeting Rush work force needs, a good example is clinical laboratory sciences (medical technology). There are about 136 clinical laboratory personnel at Rush and over half are graduates of the Rush program. Another example of a school of allied health meeting workforce needs is Mayo Clinic. The Mayo school of allied health has a total enrollment of about 1200 students in over 30 allied health programs to meet Mayo Clinic's workforce needs. The dean at Mayo reports that in clinical areas up to 70% of the workforce is made up of graduates of Mayo's allied health programs. At Rush, the allied health enrollment is about 300 students in 11 professional areas, indicating a great deal of room for program growth in order to meet workforce needs.



#### 4. Enrollment Potential

Enrollment potential must be sufficient to maintain strong enrollments and financial viability. Existing and new programs at Rush must have the potential for large applicant pools of well qualified students for the foreseeable future. Programs that are highly sought after by students, according to Association of Schools of Allied Health Professions data include physical therapy, physician assistant studies, respiratory care, and imaging sciences.

#### 5. Resources Available

In order to provide excellent programs, the faculty, financial, physical (space, laboratories, equipment), research and clinical resources needed to deliver outstanding programs must be available.

#### **Program Mix**

Outcomes of current programs were reviewed in light of information gathered from key Rush stakeholders. The initial Program Review and Outcomes Assessment data was considered, in addition to the findings during meetings with clinical personnel, division and section directors, department chairs and management. Data reviewed included applicants, enrollment, graduation rates, job placement, accreditation reviews, program rankings (if available) and graduate performance on board examinations. Three key questions were addressed:

1. What programs should the college offer?
2. How should they be organized?
3. How will they be funded?

#### **What Programs Should Be Offered: Existing Programs**

Existing programs in audiology (AuD), clinical laboratory sciences (BS, MS), clinical nutrition (MS), health systems management (MS degree), occupational therapy (MS), perfusion technology (MS), and speech-language pathology (MS), clearly meet the criteria for program excellence, alignment, work force needs, enrollment potential, and adequate resources. For example, the AuD program recently moved up to rank ninth in the U.S. This program meets the need at Rush for well-trained audiologists to work in the Rush audiology clinics. The speech-language pathology program is now ranked 18<sup>th</sup> in the U.S. and also provides needed personnel for the Rush speech clinics. The health systems management program is ranked at 25<sup>th</sup> in the U.S. and provides expert managers and administrators to Rush who make an impact every day by applying their skills in evidence-based management. Clinical laboratory sciences (CLS) recently underwent an on-site review for program accreditation; the site team found no weaknesses or areas of concern and over 10 important strengths. The CLS program provides Rush's clinical laboratory with over half of their well trained staff. The occupational therapy program at Rush is ranked 43<sup>rd</sup> the U.S. and provides outstanding clinicians for our rehabilitative services. The perfusion program at Rush is recognized as a leader in the field and provides outstanding graduates to staff our perfusion services at Rush. The clinical nutrition program is well respected, both for its education and research endeavors and provides staff to Rush's department of food and nutrition services. In addition, audiology, speech pathology, health systems management, occupational therapy, clinical nutrition and

perfusion have faculty who hold operational positions in the Medical Center that are responsible for hospital operations staffing and management. These programs will be maintained and supported in their existing forms, though the addition of a professional doctoral program in occupational therapy (OTD) with specialty tracks is being considered. A research doctoral program (PhD) in health sciences to prepare future faculty and researchers with concentrations in clinical laboratory sciences, and other areas drawn from our current programs is also being discussed and a steering committee has been formed to explore the feasibility of such a program. Such a program could advance the research agenda in the college and at Rush University by including an research emphasis on outcomes, quality and evidence-based practice.

The vascular ultrasound program (BS) is a very good program, based on student outcomes and is highly valued by the vascular surgeons at Rush. We have an excellent faculty, enrollment has been acceptable and we have the resources to support the program. The alignment with the clinical side of the house, however, needs to be improved. Specifically, the imaging department at Rush would like the college to produce diagnostic medical sonography graduates able to perform general sonography procedures, in addition to vascular studies. We are considering ways to accomplish that including the institution of a career ladder program to take associate degree general sonographers and provide them an opportunity to earn their bachelor's degree while gaining a specialty in vascular sonography.

The medical physics department has stopped taking students into the master's degree program in medical physics. That program is being replaced by a small medical physics residency program for PhD physicists who wish to be trained in radiation physics. The residency program will meet the criteria for program excellence, alignment, work force needs, enrollment potential, and adequate resources. In addition, a medical dosimetry program is needed to meet workforce needs at Rush and is being actively considered for the medical physics department. The addition of this program would not require additional resources, as students would take courses already developed for the medical residents.

In terms of other existing programs, the college is phasing out the bachelor's degree (BS) program in perfusion, as students need more extensive preparation before beginning the perfusion program in order to be successful. The master's degree perfusion program will be maintained. The Health Systems Management (HSM) doctorate (DHSc) is no longer accepting students and will be discontinued when the last enrolled student graduates. This program does not meet several of the criteria for program evaluation. The focus of the HSM department will be to continue to have one of the best master's degree health care administration programs in the U.S.

While there is a need for graduates of the health care ethics program in Chicago and elsewhere, the enrollment in this program is insufficient at this time. A marketing effort is currently underway to determine if sufficient enrollment can be achieved. If not, this degree program may be discontinued.

## **What Programs Should Be Offered: New Programs**

Based on the criteria of program excellence, alignment, work force needs, enrollment potential, and resources, three new professional programs are proposed: respiratory care (BS, MS), imaging sciences (BS – radiologic imaging sciences) and physician assistant studies (MS). Each of these programs is discussed below.

### Respiratory Care

Respiratory care, also known as respiratory therapy, is the allied health profession responsible for caring for patients with deficiencies and abnormalities of the cardiopulmonary system. Areas of respiratory care include basic care (oxygen, aerosol, and chest physiotherapy), critical care (ventilator management and physiologic monitoring), perinatal and pediatric respiratory care, cardiopulmonary diagnostics, pulmonary laboratory, alternate site care, home care, patient education, pulmonary rehabilitation, and chronic respiratory disease management.

The respiratory therapist often sees a diverse group of patients ranging from newborn and pediatric patients to adults and the elderly. Disease states or conditions often requiring respiratory care include asthma, emphysema, chronic obstructive lung disease, pneumonia, cystic fibrosis and infant respiratory distress syndrome, shock, trauma, and postoperative surgical care. Respiratory therapists are involved in many specialty areas in the hospital such as newborn labor and delivery, neonatal and pediatric intensive care units, pulmonary function laboratory, sleep laboratory, adult intensive care units, extracorporeal membrane oxygenation (ECMO), EKG, and areas outside the hospital such as clinics, extended care facilities, and the home.

The purpose of this program will be to prepare advanced level respiratory therapists to care for patients and to serve in leadership positions. The program will provide students with the knowledge, skills and attitudes needed to perform as competent advanced-level respiratory therapists and to prepare graduates with a foundation for leadership in the areas of management, education, research and clinical specialization. The program will prepare graduates for board certification by the National Board for Respiratory Care and licensure in the State of Illinois.

The program will offer two main tracks, the Bachelor of Science and Master of Science in Respiratory Care. For the master's degree program, entering students will have completed an undergraduate degree to include pre-requisite course work in mathematics, communications, psychology, chemistry, anatomy and physiology, microbiology, and physics. For the bachelor's degree program, entering students will have completed at least 60 semester credit hours at a regionally accredited college or university to include specific program pre-requisite course work in mathematics, communications, psychology, chemistry, anatomy and physiology, microbiology, and physics.

The United States Bureau of Labor Statistics (BLS) has projected growth in the number of respiratory therapists needed for the period 2006-2016 at 22.6%. According to the American Association for Respiratory Care (AARC), there were approximately 133,000

respiratory therapists working in the U.S. in 2005. Assuming a growth rate as projected, there will be a need for 30,000 more respiratory therapists over the next 10 years. This does not count replacements due to retirements or career changes.

Most (74%) respiratory therapists work in the acute care hospital setting. The next two largest venues are home health care (8.6%) and accredited respiratory care educational programs (7.1%). The number of respiratory therapists working in respiratory care education programs has increased markedly in recent years.

Opportunities for employment of respiratory therapists exist in hospitals and other acute care facilities in both urban and rural areas throughout Illinois and the U.S. According to the AARC, job vacancy rates grew from about 6% in year 2000 to 8.65% in 2005 (11,695 vacant FTEs). The highest vacancy rates in 2005 were for disease managers/patient educators (28.8%), educational program faculty (9.6% percent), and staff therapists (8.6%). Additional employment opportunities may be found in home care, subacute care, physician's offices and clinics as well as management, research and industry. Increases are projected for asthma cases, pneumonia and the number of elderly suffering from chronic lung disease. New treatment advances and technology also will increase demand, and the need for respiratory therapists is expected to grow faster than nursing and other allied health fields.

Like most of the other health professions, many current respiratory therapists will be retiring in the next 10-15 years. In 2005 the mean age of respiratory therapists was 45 and the average therapist planned to remain in the profession for about 15 more years. This trend will further exacerbate the workforce shortage, and ensure a continuing demand for respiratory care program graduates.

Currently, there are no baccalaureate or graduate level respiratory care educational programs in Illinois, though there are over 60 such programs throughout the U.S. There is a need for such a program in the Illinois and in the Midwest region to train advanced level respiratory therapists for practice and leadership positions in the field. The Rush programs in pulmonary medicine and critical care are among the best. The addition of a respiratory care program has the strong support of clinical leaders at Rush including Dr. Bob Balk (Chief of the Division of Pulmonary and Critical Care Medicine), Dr. Steve Barnes (Professor of Anesthesiology and Pediatric Critical Care), Dr. David Gurka (Director, Section of Critical Care Medicine), and Mr. Keith Roberts (Director of Respiratory Care Services). Rush has a large respiratory care department (n=65) and the program will align well with this clinical service. Rush work force needs are prominent in this area with vacancy rates ranging in calendar year (CY) 05 from 29% - 38%; CY 06: 14% - 35%; CY 07: 10% - 28%; and CY 08 (to-date): 14%. Rush has needed to use outside agency help to staff this department for the last several years (CY 05: \$914,979; CY 06: \$934,995; CY 07: \$412,603). Two new FTEs are to be added to the clinical service this year to support the new ECMO program and four FTEs are planned in 2011-12 to support the expansion of Rush critical care beds. The program has good enrollment potential and related financial viability and there are about 2,600 SF in Jelke available for program expansion.

By providing advanced levels of training, this program will make a significant contribution to improving the quality of care for patients at Rush. As the only graduate level program

in Illinois and one of the few in the U.S., we believe the master's degree program will also make a significant contribution in preparing leaders for roles as faculty in respiratory care education programs (including the program at Rush) and in research, supervision and clinical specialty areas, both at Rush and elsewhere. This new program will build on the strengths and resources available at Rush University and Rush University Medical Center, and provide students with state-of-the art education and training in the health sciences.

### Imaging Sciences

Radiologic imaging sciences (RIS), also known as radiologic technology or medical radiography, is the allied health profession responsible for diagnostic and interventional medical radiographic imaging. Radiologic imaging sciences personnel, under the supervision of physicians, provide medical imaging services to patients and attending health care professionals. The other major imaging sciences include nuclear medicine technology, and diagnostic medical sonography.

The purpose of this program will be to provide students with the knowledge, skills and attitudes needed to perform as competent advanced-level radiologic technologists. The program will prepare graduates to perform advanced diagnostic and interventional medical radiography and imaging procedures including computed tomography (CT scanning), medical resonance imaging (MRI), positron emission tomography (PET scanning) and fusion imaging (PET/CT). The program will include instruction in applied anatomy and physiology, patient positioning, radiographic technique, radiation biology, safety and emergency procedures, equipment operation and maintenance, quality assurance, patient education, and medical imaging/radiologic services management.

For the bachelor's degree program, entering students must have completed an associate's degree in medical radiography from a program accredited by the Joint Review Committee on Education in Radiologic Technology and at least 60 semester hours of academic credit at a regionally accredited college or university. In addition to an associate's degree in medical radiography, specific program pre-requisite course work in mathematics, communications, psychology, chemistry, anatomy and physiology, microbiology, and physics will be required

There is a clear need for a baccalaureate level program at in the Chicago area and State of Illinois. According to the Illinois Department of Employment Security, "nationally and in Illinois, the number of jobs for medical imaging science specialists is expected to increase faster than average through the year 2016." According to the U.S. Bureau of Labor Statistics, imaging sciences is one of the fastest growing occupations in the country. Employment of radiologic technologists is expected to increase by 15% from 2006-2016 (with a projected employment of 226,000 by 2016). In Illinois, employment will grow most rapidly in medical offices, clinics, and diagnostic imaging centers, such as the one planned for Rush. The need for radiologic technologists is expected to increase significantly due to increases in the population, aging of the population, changes in treatment, technology and prevalence of disease states or conditions requiring diagnostic

and interventional radiography. In an effort to attract and retain qualified workers, employers may provide more flexible advanced training programs, such as the one envisioned at Rush. Opportunities are expected to be best for medical imaging science personnel with specialized knowledge and skills.

Currently, there is only one baccalaureate radiologic technology educational program in Illinois and none in Chicago. The existing program is entry-level only and does not focus on advanced imaging procedures. There is a need for an advanced imaging career ladder program at Rush to train technologists for advanced practice and clinical leadership positions in the field.

By providing advanced levels of training in the areas of CT, MRI and fusion imaging, this program will make a significant contribution to improving the quality of care for patients at Rush. As the only baccalaureate level program in Illinois of its kind, the program will make an important contribution in preparing practitioners in advanced imaging procedures. This new program will build on the strengths and resources available at Rush University and Rush University Medical Center, and provide students with state-of-the art education and training in the health sciences.

The proposed program has the enthusiastic support of Dr. David Turner, Chair of Diagnostic Radiology and Nuclear Medicine at Rush and Mr. Bernie Perculis, Administrative Director of Hospital Radiology. As noted above, radiologic imaging sciences (radiologic technology) is an in-demand allied health profession with current and projected shortages in Illinois and throughout the U.S. According to Mr. Perculis, there is a very real need to train radiologic technologists to perform advanced procedures (CT, MRI and PET/CT, etc.) for employment at Rush. This program will meet that need.

#### Physician Assistant Studies

Physician assistants (PAs) care for patients, under the supervision of a physician, in multiple areas of medical practice. As part of their comprehensive responsibilities, PAs apply scientific principles to conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, write prescriptions and help in disease management. Physician assistants are found in all areas of medicine – family practice, internal medicine, pediatrics, orthopedics, sports medicine and pulmonary care. The physician assistant sees a diverse group of patients ranging from newborn infants and pediatric patients to adults and the elderly. Physician assistants work in all health care settings including acute care hospitals, intensive care units, emergency departments, skilled nursing facilities, rehabilitation units, doctor's offices, and in the provision of home care. Additionally, PA practice may include education, research, and administrative services.

There is a shortage of physician assistants in Illinois and the U.S. This shortage is expected to worsen due to population growth, the aging of the population and changes in demographics and disease prevalence. The need for PAs has also increased due to changes in physician training requirements and a shortage of specialty physicians. The United States Bureau of Labor Statistics (BLS) has projected growth in the number of physician assistants needed for the period 2006-2010 at 48%, making it the fastest growing allied

health field. PA ranked fourth on the United States Department of Labor's list of the 10 fastest growing occupations for all employment sectors, 2004-2014. According to the American Academy of Physician Assistants (AAPA) as of January 1, 2007, there were 63,609 physician assistants in clinical practice in the United States. Of this total, 1685 or 2.6% were practicing in the state of Illinois. The projected distribution of practicing PAs by state showed that Illinois has a per capita ranking of 43. Currently, there are four physician assistant educational programs in Illinois, however, none include a specialty track as a part of the master's level training program. Based on the current and projected demand, there is a need for additional programs in the state and in the region to train advanced level physician assistants for specialty practice and leadership positions in the field.

The purpose of this program will be to prepare well trained physician assistants to care for patients in core specialty areas needed at Rush. The program will provide students with the knowledge, skills and attitudes needed to perform as competent physician assistants and to prepare graduates with a foundation for leadership in the areas of research and clinical specialization. The program will prepare graduates for board certification by the National Commission on Certification of Physician Assistants (NCCPA) in conjunction with the National Board of Medical Examiners and to complete the licensure requirements in the State of Illinois. Specialty areas to be offered may include orthopedics, sports medicine, cardiothoracic surgery, vascular surgery and pulmonary medicine.

For the master's degree program, entering students will have completed an undergraduate degree from an accredited college or university. Pre-requisite course work will include mathematics, communications, psychology, chemistry, anatomy and physiology, microbiology, and physics.

This program has the enthusiastic support of the physician assistant community at Rush, as well as physician leaders including Gunnar Andersson, MD, PhD, Midwest Orthopaedics, Christopher Arico, Dermatology, Rush University, Bernard R Bach, MD, Midwest Orthopaedics, Robert A Balk, MD, Pulmonary Critical Care, Rush University Robert Higgins, MD, Chair, Cardiovascular Surgery and Walter McCarthy, MD, Vascular Surgery, Rush University. By providing specialty training this program will make a significant contribution to improving the quality of care for patients at Rush. As the only graduate level program in Illinois offering specialty track education and one of the few in the U.S., this program will make a significant contribution in preparing practitioners to meet the health care needs at Rush, and in the Chicago community. This new program will build on the strengths and resources available at Rush University and Rush University Medical Center, and provide students with state-of-the art education and training in the health sciences.

#### Other New Programs Under Consideration

As noted above, a steering committee has been formed to consider the development and implementation of a doctoral program (PhD) in health sciences to prepare future faculty and researchers. There is a severe shortage of doctorally prepared allied health faculty, both at Rush and nationwide. This proposed new program would address that shortage, as well as help move the college forward in terms of its research agenda and vision of being

recognized nationally as a leader in allied health education. Based on preliminary discussions, this program should meet the stated criteria for new programs, e.g. excellence, alignment, work force needs, enrollment potential, and available resources. The program would advance the research agenda in the college and at Rush University by including a research emphasis on outcomes, quality and evidence-based practice. The program would also further facilitate interdisciplinary and translational research at Rush.

There has been interest at Rush in developing several other new programs to be housed within the College of Health Sciences. A new program in medical dosimetry is under active consideration to meet Rush work force needs. Other programs under discussion include research administration (MS), physical therapy (residency in orthopedics), health informatics (graduate certificate), and a new undergraduate program in health sciences (BS) to serve as a pre-professional program for allied health, nursing and perhaps medicine.

### **How Should Programs Be Organized?**

The college currently is organized into nine academic departments supporting programs in 11 different professional areas (Figure 1). Departments and programs offered in the college are: Communication Disorders and Sciences (Doctor of Audiology [AuD], Speech-Language Pathology [MS]); Clinical Laboratory Sciences (CLS/Medical Technology - BS, MS, MS in CLS Management, Blood Bank Specialist [certificate]); Clinical Nutrition (MS); Health Systems Management (MS); Medical Physics (residency); Occupational Therapy (MS); Perfusion Technology (BS,MS); Religion, Health and Human Values (Clinical Pastoral Education Certificates, Health Care Ethics [Certificate, MA]); and Vascular Ultrasound (BS).

As part of the planning process, the college chairs' council developed criteria for the evaluation of existing and new (proposed) departments (Table 7). It was determined that the college should not simply add a new department every time a new program is added; some objective measures should be considered in determining the relationship between a department and its programs. The specific criteria that should be considered in determining if a department was correctly configured include the size of programs within the department and whether more than one program was offered. Larger programs or departments housing more than one program might be more easily justified. It was also felt that a department (as opposed to a program) should be able to demonstrate excellence in all Rush mission components (teaching, research, service, practice). Designation as a department was thought to be more appropriate in cases where the department included a clinical or operations component in the medical center. Potential synergy of programs within a department and the opportunity for interdisciplinary activities should be considered, such as exists with speech pathology and audiology. Professional identity and accepted standards should also be considered. For example, it is common to have occupational therapy departments in universities and academic health centers, while is unusual to have very small allied health departments with a narrow area of specialization. Last, the availability of a doctoral level chairperson was a preferred, but not required criterion.



Based on these criteria (e.g. program size, number of programs, excellence in all mission components, operations component, doctoral level chairperson availability, identity, and potential synergy) it is proposed that the current nine academic departments be expanded to 10 and that two of the existing departments be renamed (Table 11). Specifically, the departments and programs offered in Communication Disorders and Sciences, Clinical Laboratory Sciences, Clinical Nutrition, Health Systems Management, Medical Physics, Occupational Therapy, and Religion, Health and Human Values would remain essentially unchanged. Medical Physics may add a program for medical dosimetrists and occupational therapy may add a professional doctorate (OTD), pending a review and approval of these possible new programs at some point in the future.

The Department of Perfusion Technology will be renamed as the Department of Cardiopulmonary Sciences and Physician Assistant Studies. This department will house the perfusion technology program (MS), the respiratory care program (BS, MS) and the physician assistant program (MS). These three programs are a natural fit, in that both respiratory care and perfusion are closely related and the proposed PA program with specialty tracks will include several surgical specialty areas, as well as pulmonary medicine.

The Department of Vascular Ultrasound will be renamed as the Department of Imaging Sciences. This department will house the vascular ultrasound program (BS) and the imaging sciences program (BS). Again, these two programs are a natural fit together, and share much in common as imaging science disciplines.

A new Department of Health Sciences would be created to house the proposed PhD program in health sciences and a program in research administration, should such a program be developed. This department may also serve as the home for a possible new undergraduate program in health sciences which could serve as a pre-professional program for our graduate programs in allied health and nursing, and perhaps medicine.

### **Time Line for New Programs and Departmental Reorganization**

The proposed departmental re-organization is dependent on approval and successful implementation of the new programs described above. It is possible that external factors may alter the decision to combine specific departments or form new departments. For example, physician assistant programs are sometimes given the status of a department based on program size and the advantage that a chair position may provide in terms of key faculty recruitment and retention. The same considerations are true for respiratory care. Respiratory care also has a corresponding section within the hospital, which may further suggest the need for a separate department with a chairperson who also leads the clinical service. The creation of a department of health sciences is dependent on the success of the proposed PhD program. The formation of a Department of Imaging Sciences is dependant on successful implementation of the proposed new program in that area. Because it is relatively difficult to create or dissolve departments under the Rush University Rules for Governance, it is proposed that the programs be phased in first, and following successful program implementation, that the reorganization of the college's departmental structure be implemented. The following timeline has been developed:

**May, 2007**

- Strategic planning sessions begin

**July, 2007**

- College mission and vision statements approved by Chairs' Council

**August, 2007**

- College strategic plan approved by Chairs' Council and distributed to Faculty Council for review and comment.
- Criteria for programs and departments reviewed and rated by Chair's Council

**September, 2007**

- Meeting completed with Dr. Gunnar Andersson to discuss possible PA and PT programs at Rush
- Meeting completed with Malcolm X College representatives to discuss collaboration

**October, 2007**

- Meeting completed with Dr. Bernard Bach to discuss possible PA and PT programs at Rush

**November, 2007**

- Initiated steering committee for respiratory care
- Met with PA and radiologic technology program directors at Malcolm X College to discuss collaboration

**December, 2007**

- Developed draft letters of intent for PA, imaging and respiratory care
- Met with George West, Respiratory Care Program Director at Malcolm X to discuss career-ladder program
- Began work on full IBHE proposals

**January, 2008**

- Presentation of college strategic and program plan to the Rush University Board of Overseers
- Met with Dr. David Turner to discuss imaging sciences program

**February, 2008**

- CHS Chair's Council approval, in principle, for three new programs (PA, respiratory care and imaging sciences)
- Leadership Council reviewed and discussed CHS proposals for three new programs
- Finalized steering committee membership for PA and imaging

**March, 2008**

- Met with Dr. Josh Jacobs to discuss PA program
- Met with Nursing Leadership Group to discuss CHS strategic plan and proposed new programs
- Board of Overseers approves respiratory care, imaging and PA new program requests
- PA steering committee initial meeting
- PhD steering committee met
- Imaging sciences steering committee meets and approves letter of intent

**April, 2008**

- Notification of the Illinois Board of Higher Education (IBHE) of the intent to offer new programs in respiratory care
- PA steering committee approves letter of intent

- CHS chairs council reviews proposed organizational structure and gives preliminary approval for re-naming two departments (imaging sciences and cardiopulmonary sciences/PA studies) and acceptance in principle of the development of a new department of health sciences within the college for the PhD program.

**May, 2008**

- Submission of notification of intent to offer a new program in physician assistant studies
- Submission of full IBHE proposal for respiratory care
- Development of full IBHE proposals for physician assistant and imaging sciences
- Consultant visits Rush to review imaging sciences proposal

**June, 2008**

- Submission of full IBHE proposal for physician assistant program
- Completion of Committee on Accreditation for Respiratory Care application

**July, 2008**

- Submit full IBHE proposal for imaging sciences program

**August – December, 2008**

- Begin accreditation process for the PA program
- Begin search for program directors for PA, imaging and respiratory care

**January, 2009**

- Begin recruitment of students for PA, respiratory care and imaging sciences program

**January – June, 2009**

- Hire program directors for PA, respiratory care and imaging

**July 1, 2009**

- Program directors on-site

**September, 2009**

- Inaugural respiratory care class begins course work
- Inaugural physician assistant studies class begins course work
- Inaugural imaging sciences class begins course work
- Request for approval of PhD program to Board of Overseers

**October, 2009**

- Submission of PhD program notice of intent to IBHE

**November, 2009**

- Full IBHE PhD proposal submitted

**December, 2009**

- College of Health Sciences Chair's Council considers approval for re-naming of two existing departments.

**January, 2010**

- Renaming existing departments proposed to the Board of Overseers

**June, 2010**

- Initial PhD students enrolled

**September, 2010**

- Creation of a new Department of Health Sciences proposed to the Board of Overseers

## **How Will New Programs Be Funded?**

Tuition will be restructured in the college beginning in the fall of 2008. Incoming students will begin to pay by the quarter hour, instead of a flat rate for 12 or more credits. This change, plus an increase in the rate for returning students will result in an approximate increase in revenue of 1.2 million dollars over FY08. As part of this increase, we have factored in \$350,000 in scholarship dollars which will be used to help attract the very best students plus small increases for specific program needs and infrastructure.

New programs will be structured so that tuition income offsets expenses, even after overhead. For example, the proposed respiratory care program (assuming enrollment goals are met) should break even the first year, and then make a profit of approximately \$400,000 in year two, over \$480,000 in year three and \$600,000 in year four. As the detailed budgets for the physician assistant and imaging sciences programs are developed, care will be taken to ensure that these programs bring in revenues in excess of expenses. Projected total enrollment for the college will increase from 320 in fall of 07 to 425 in the fall of 2010 which should generate additional income in excess of 2.6 million dollars. For rough budgeting purposes, the median operating budget for respiratory care, physician assistant and imaging sciences programs at academic medical centers in 2007 was \$427,000; \$773,445 and 341,288 respectively for a total of 1.54 million dollars. Consequently, if Rush is able to deliver these programs at the median cost, there should be adequate revenues available generated by tuition to support the programs.

## **Summary and Conclusions**

The College of Health Sciences has great potential for developing new professional programs which will demonstrate excellence, be well aligned with the mission and vision and help meet the work force needs at Rush University Medical Center. Three new professional programs are planned which also have strong enrollment potential, and for which there are already outstanding clinical resources and qualified faculty. These three programs will complement Rush's six priority clinical programs: cancer, heart, bone and joint, transplant, neurosciences, and high risk mother and infant. Specifically, the physician assistant (PA) program will prepare specialty PAs in the areas of cardio-thoracic (heart) surgery and orthopedics, while the respiratory care program will provide personnel to staff the neonatal intensive care units and ECMO services often required for the high risk infant, and the critical care services needed for post-operative heart and transplant patients. Imaging is essential for the diagnosis and treatment of many cancers, as well as heart, bone, joint and neurologic disorders while stroke victims often require respiratory care due to pulmonary complications.

The proposed new programs meet the established criteria for evaluating both new and existing programs. These new programs will require a re-organization of the departmental structure within the college, and the renaming of two existing departments. Specifically, the departments of perfusion technology and vascular ultrasound will be renamed as the Department of Cardiopulmonary Sciences and Physician Assistant Studies (which will house the programs in perfusion, respiratory care and physician assistant) and the Department of Imaging Sciences (which will house the programs in vascular ultrasound and radiologic imaging sciences).

In addition to these three new professional programs, the college is considering the development of a PhD program in health sciences to prepare future faculty and researchers, and facilitate outcomes and translational research at Rush. Several other new professional programs are under consideration including a medical dosimetry program to help meet Rush workforce needs.

The establishment of these new programs will allow the college to advance the quality and availability of health care at Rush and to move towards our goal of becoming a world class school of allied health sciences whose programs are recognized as among the best in the United States.

Table 1. College of Health Sciences Departments and Programs

- Communication Disorders and Sciences
  - Doctor of Audiology - AuD
  - Speech-Language Pathology - MS
- Clinical Laboratory Sciences (Medical Technology)
  - BS, MS, MS in CLS Management
  - Blood Bank Specialist (certificate)
- Clinical Nutrition - MS
- Health Systems Management – MS
- Medical Physics
  - Radiation Oncology Medical Physics Residency
- Occupational Therapy - MS
- Perfusion Technology
  - BS, MS
- Religion, Health and Human Values
  - Clinical Pastoral Education (Certificates)
  - Health Care Ethics
    - Certificate, MA
- Vascular Ultrasound (BS)

Table 2. Ten Most Important Strengths of the College of Health Sciences

Rank	Item	Rating
1	Integration of theory and practice learning	5.00
2	Quality of faculty	4.90
3	Academic-clinical integration	4.90
4	Students receive personal attention	4.80
5	Practitioner-Teacher Model	4.80
6	Proximity of hospital	4.70
7	Rich clinical experiences for students	4.70
8	Approachability of chairs/dean	4.50
9	Diversity of clinical experiences	4.50
10	Outstanding educational programs	4.50

Items were rated using the following scale: 5 = very important; 4 = important; 3 = neither important or unimportant; 2 = unimportant; or 1 = very unimportant.

Table 3. Ten Most Important Weaknesses in the College of Health Sciences

Rank	Item	Rating
1	Internal esteem/value by Rush for the College	5.00
2	Lack of effective student information system (online registration, etc.)	5.00
3	Lack of structural support (academic/teaching/marketing)	5.00
4	No centralized college infrastructure (deans office, support staff, recruitment, research, ed. Tech., etc.)	4.90
5	Resources - limited dollars	4.90
6	Technology	4.80
7	Admissions process/office	4.80
8	Lack of office space	4.80
9	Lack of budgetary support for research	4.80
10	Space	4.80

Items were rated using the following scale: 5 = very important; 4 = important; 3 = neither important or unimportant; 2 = unimportant; or 1 = very unimportant.



Table 4. Ten Most Important Opportunities in the College of Health Sciences

Rank	Item	Rating
1	Develop new allied health educational programs	5.00
2	Education technology support for College of Health Sciences (web-based and distance education)	5.00
3	Advertise the College of Health Sciences as the place to come for allied health programs	4.90
4	New doctoral programs (Ph.D.; professional doctorates)	4.90
5	New funding for scholarships/stipends	4.80
6	Center of Excellence for Allied Health Research	4.80
7	Centralize/formalize faculty development	4.80
8	New emphasis on research generally & outcomes research specifically	4.70
9	Marketing (within and without)	4.70
10	New Centers of Excellence within the college	4.70

Items were rated using the following scale: 5 = very important; 4 = important; 3 = neither important or unimportant; 2 = unimportant; or 1 = very unimportant.

Table 5. The Most Important Threats

Rank	Item	Rating
1	Redistribution/declining research dollars nationally	5.00
2	Reality that competitors provide more support dollars for students (including free rides)	4.90
3	Changes in health care financing and funding for education	4.80
4	High overhead charges	4.80
5	Low visibility of CHS programs in relationship to competitors	4.80
6	High cost of doing business	4.70
7	Medical College preference in resource allocation	4.70
8	Limited academic space to grow programs	4.70
9	Others are taking advantage of technology (video conferencing, internet) compared to Rush for distance education, marketing	4.70
10	Lack of balance between teaching, research and practice (for faculty expectations)	4.50
11	Research productivity low compared to competitors (grants and publications)	4.50

Items were rated using the following scale: 5 = very important; 4 = important; 3 = neither important or unimportant; 2 = unimportant; or 1 = very unimportant.

Table 6. Meetings with Key Rush Stakeholders

- CHS Department Chairs
- Provost, RU
- Vice Provost & VP, University Affairs
- Paul Jones
- Jim Mulshime
- Paul Carvey
- Paul Jones
- Student services staff
- Beverly Huckman
- Diane McKeever and staff
- Sharon Gates
- Hats Adams
- Peter Butler
- Rebecca Dowling
- Sheri Marker
- Melanie Dreher
- Deborah Gross
- Lisa Rosenberg

- David Ansell
- Angelo Tiberio
- Brad Hinrichs
- David Caldarelli
- Anthony Perry
- Diane Genaze
- Bob Decresce
- Keith Roberts
- Mark Yoder
- Robert Balk
- Norma Melgoza
- Walter McCarthy
- Ross Abrams
- Gunnar Andersson
- Bernard Bach Jr.
- Bernie Peculis

Table 7. CHS Criteria for Programs and Departments

- I. Rush University Proposed Criteria for Program Evaluation (RU Educational Retreat 7/9/07)
  - A. Alignment with the Rush Mission & Vision
    - 1.) *Serve as a resource to improve health outcomes*
    - 2.) *Elevate the workforce (higher quality)*
    - 3.) *Meet multiple vivid descriptors\**
  - B. Excellence
    - 1.) *Applies to both new and existing programs*
    - 2.) *Needs to exist across all three missions (teaching, research, service)*
    - 3.) *Appropriate size and resource allocation (quality, space, revenue)*
  
- II. Additional CHS Criteria for Programs (new and existing)
  - A. Demonstrated Need (Current and Projected)
    - Rush University Medical Center
    - Chicago and Region
    - National
  - B. Enrollment Potential Sufficient to Maintain Strong Enrollments (Current and Projected)
  - C. Good Clinical Fit – Integration with the Clinical Program
  - D. Ability to Provide an Outstanding Educational Program with Excellent Outcomes
  - E. Resources Available
    - 1.) Faculty
    - 2.) Laboratory
    - 3.) Financial
    - 4.) Research
    - 5.) Clinical
    - 6.) Space
  
- III. CHS Criteria for Departments (New and Existing)
  - A. Program Size
  - B. More than one program offered (includes levels, such as BS/MS)
  - C. Departments should be able to demonstrate excellence in all CHS missions
    - 1.) Teaching
    - 2.) Research and Scholarship
    - 3.) Service
  - D. Clinical Service Component
  - E. Doctoral level chairperson availability (preferred, not required)
  - F. Professional Identity and Accepted Standards
  - G. Potential Synergy with Existing Programs or Departments (Interdisciplinary)

Table 8. Guidelines for Appointment and Evaluation of CHS Chairs with Joint Operations Responsibilities, February 14, 2008

**Principle:** It is desirable for those serving in selected College of Health Sciences (CHS) Chair positions to also serve simultaneously as Operational Directors for the analogous Medical Center/Hospital Operational Departments. It is recognized that the performance expectations and qualifications are related, but also require high proficiency in somewhat divergent skill sets. It is also noted that this joint model is expected to contribute positively to the unique mission of RUMC, support the practitioner-teacher model overall, and to be economically sound.

**Departments affected:**

<b>Academic Department</b>	<b>Hospital &amp; Medical Center Department/Section</b>	<b>Academic Chair/Operational Director</b>
Clinical Nutrition	Food & Nutrition Services	Mary Gregoire (acting)
Occupational Therapy	Occupational Therapy	Clare Giuffrida
Communicative Disorders and Sciences	Audiology and Speech-Language Pathology	Diane Meyer
Perfusion Technology	Perfusion	Will Rapier (acting)
Religion, Health & Human Values	Chaplaincy	Clayton Thomason
Medical Physics	Medical Physics	James Chu

Clinical Laboratory Sciences	Rush Medical Laboratories	Herbert Miller (academic chair) Mark Jaros (Operations Director)
Vascular Ultrasound	n.a.	Eileen French-Sherry (acting)

**Issues requiring understanding:**

- ❖ Accountability (operational & academic)
- ❖ Appointment and re-appointment process
- ❖ Funding – generally, it is expected that the funding for each position will come from both the Division of Hospital Affairs and the College of Health Sciences consistent with the percentage of effort devoted to the Operational/Academic aspects of the position respectively.
- ❖ Circumstances under-which there might be a split of the functions (quality of candidate and ‘fit’ for each respective role...)

Table 8. Guidelines for Appointment and Evaluation of CHS Chairs with Joint Operations Responsibilities, February 14, 2008 (continued)

<b>Accountability</b>	<b>Appointment and re-appointment process</b>
<p><u>Academic:</u> Dean of College of Health Sciences or designee</p>	<p><u>Search Committee Appointment:</u> The Dean of the CHS and the SVP for Hospital Affairs will appoint the search committee and its Chair.</p>
<p><u>Hospital &amp; Medical Center:</u> Senior Vice President for Hospital Affairs</p>	<p><u>Job Description:</u> The job description for the appointment of an academic Chair and operational Director will clearly and separately delineate the academic and the operational expectations and qualifications of the position.</p> <p>The committee will seek candidates who meet the job description requirements for both the academic and operational scope of the positions.</p>
<p><u>Implementation:</u> Medical Center/Hospital Executive or Dean initiates and performs the annual appraisal of operational performance of the position. The CHS Dean will perform an academic-specific appraisal separately, which will be incorporated into the overall organizational appraisal form. Resulting merit adjustment will be collaboratively determined between the MC/Hospital Executive and the CHS Dean.</p>	<p><u>Recommendation:</u> The search committee, through its Chair, will recommend 2-3 candidates to the Dean of CHS and the appropriate Medical Center/Hospital Executive, including analysis of the suitability of each candidate.</p> <p>The Dean of CHS and MC/Hospital Executive (with approval of the SVP for Hospital Affairs) will collaboratively select the appropriate candidate and make final recommendation to the Provost.</p>

Table 9. Allied Health Groups in the U.S.

- All Health Service Workers (includes allied health and nursing):
  - 13,062,000 in 2004
  - Projected increase to 16,627,900 in 2014 (up 27.3%- BLS)
- Nursing
  - 4,270,000 nurses and related personnel (all levels - 2002)
- Medicine
  - 850,000 physicians and surgeons (2002)
- 7,780,000 non-physician non-nurse health care workers in 2002

### Workforce Demand for 2004-2014 (BLS)

	Current	Projected	Increase
Physician Assistants	62,000	93,000	49.6%
Physical Therapists	155,000	211,000	36.7%
Sonographers	42,000	57,000	34.8%
Occupational Therapists	92,000	123,000	33.6%
HIM/Medical Records	178,900	229,400	28.2%
Radiologic Technologists	182,000	224,000	23.2%
Respiratory Therapists	118,496	145,905	23%
Health Services Managers	248,000	305,000	23%
Medical Technologists	156,000	188,000	20.5%
Dietitians/Nutritionists	50,000	59,000	18.3%
Speech Pathologists	96,000	110,000	14.6%
Audiologists	10,134	11,060	9.1%

Table 10. Rush Allied Health Areas and Number of Incumbents, fall 2007

JOB TITLE	NUMBER OF RUSH EMPLOYEES
Medical Laboratory Technologists, Medical Laboratory Technicians, Histotechnologists, Cytotechnologists	136
X-ray and Imaging (radiographers, mammographers, CT/MRI)	81
Respiratory Care (Respiratory Therapists) and PFT	62
Ultrasound and Echocardiography Technologists	34
Physical Therapists and PTAs	34
Occupational Therapists (OT) and OTAs	32
Dietitians (Clinical Nutrition)	24
Physician Assistants	16
Radiation Physicists, Therapists, and Dosimetrists	18
Audiologists and Speech Pathologists	15
Nuclear Medicine Technologists/PET	8
Cardiac Catherization Technicians (Cardiopulmonary Technicians)	6
Clinical Ethicists	6
Perfusionists	5
Art Therapists	3
Ophthalmology Technicians	2
TOTAL	482

**Over 1,000 non-nurse/non-physician clinical employees at Rush**



Table 11. Proposed College of Health Sciences Organization - Approved In Principle by Chairs Council (4-18-08)

***I. Current Departments and Programs***

- **Communication Disorders and Sciences**
  - Doctor of Audiology - AuD
  - Speech-Language Pathology - MS
- **Clinical Laboratory Sciences (Medical Technology)**
  - BS, MS, MS in CLS Management
  - Blood Bank Specialist (certificate)
- **Clinical Nutrition - MS**
- **Health Systems Management – MS**
- **Medical Physics**
  - Radiation Oncology Medical Physics Residency
- **Occupational Therapy - MS**
- **Perfusion Technology**
  - BS, MS
- **Religion, Health and Human Values**
  - Clinical Pastoral Education (Certificates)
  - Health Care Ethics
    - Certificate, MA
- **Vascular Ultrasound (BS)**

***II. Proposed Departments and Programs***

- **Communication Disorders and Sciences**
  - Doctor of Audiology - AuD
  - Speech-Language Pathology - MS
- **Clinical Laboratory Sciences (Medical Technology)**
  - BS, MS, MS in CLS Management
  - Blood Bank Specialist (certificate)
- **Clinical Nutrition – MS**
- **Health Sciences**
  - PhD – pending program development and approval
  - BS - pending program development and approval
- **Health Systems Management – MS**
- **Imaging Sciences**
  - Vascular Ultrasound (BS)
  - **Imaging Sciences (BS)**
- **Medical Physics**
  - Radiation Oncology Medical Physics Residency
  - **Medical Dosimetry – MS – initial program approvals needed**
- **Occupational Therapy**
  - MS
  - **OTD – pending program development and approval**
- **Religion, Health and Human Values**
  - Clinical Pastoral Education (Certificates)
  - Health Care Ethics
    - Certificate, MA
- **Cardiopulmonary Sciences and Physician Assistant Studies**
  - Perfusion Technology (MS)
  - **Physician Assistant Studies (MS)**
  - **Respiratory Care (BS,MS)**

<span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Initial approvals received
<span style="background-color: #FFFF99; border: 1px solid black; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> In development

Figure 1. Current Organizational Chart for the College of Health Sciences

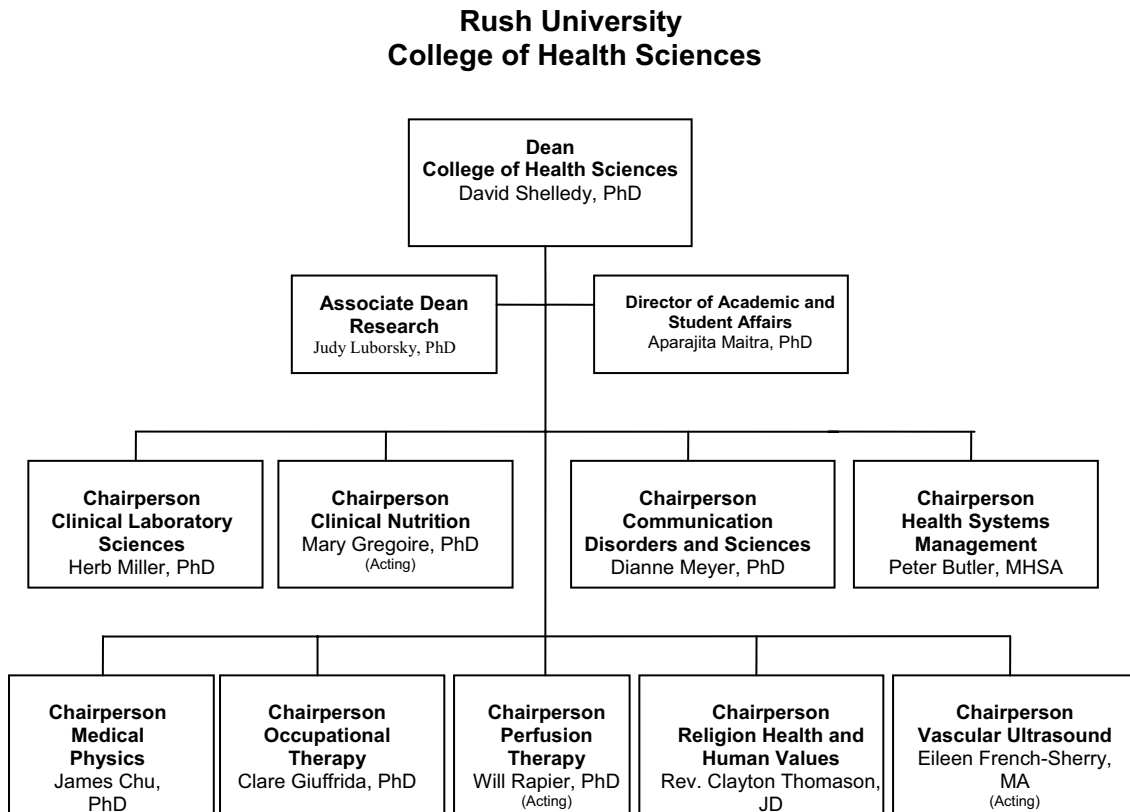
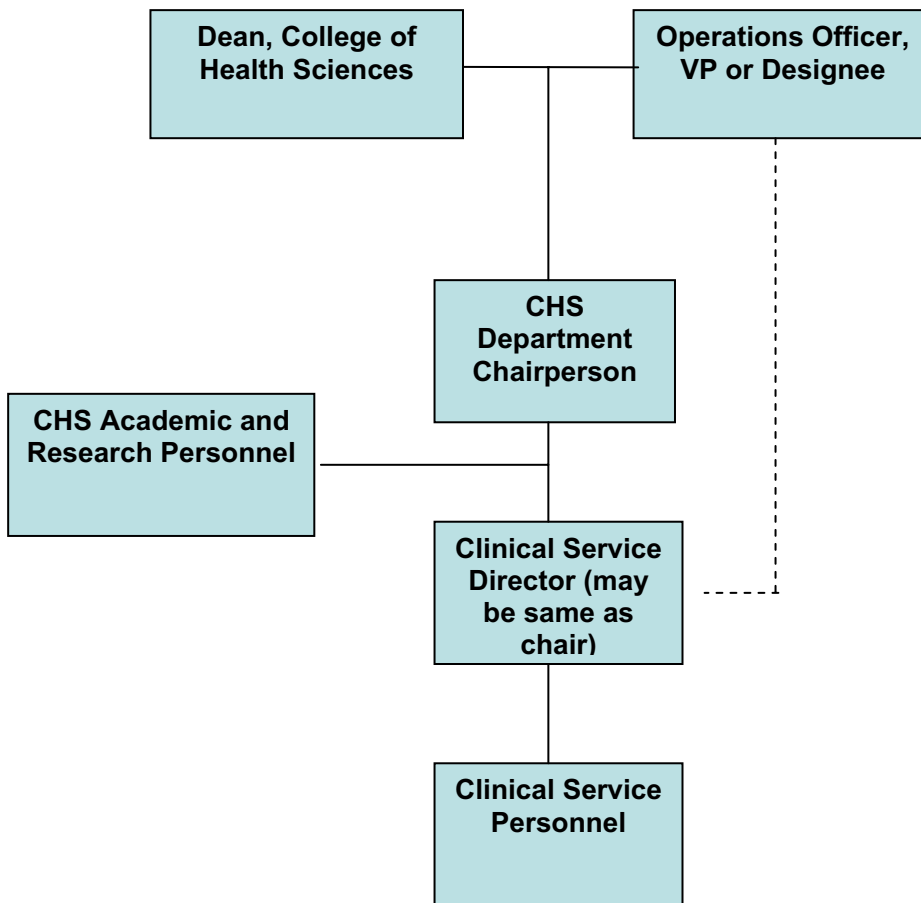


Figure 2. Suggested organization for CHS departments in cases where the chairperson is responsible for one or more clinical services.

## College of Health Sciences



**Departments**

- Communication Disorders and Sciences (Audiology and Speech Pathology)
- Clinical Nutrition
- Health Systems Management
- Occupational Therapy
- Medical Physics
- Perfusion Technology
- Religion, Health and Human Values

CLS, Vascular  
Ultrasound



**Rush University**  
**College of Health Sciences**  
**Strategic Plan**

**Approved August 3, 2007**

**Rush University**  
*College of Health Sciences*  
Mission and Vision

*The purposes of Rush University are to educate students as practitioners, scientists and teachers who will become leaders in advancing health care and to further the advancement of knowledge through research. The College of Health Sciences, as an integral component of the University, seeks to prepare superb practitioners and leaders in the allied health professions to provide the very best care for our patients. In addition, the College seeks to make meaningful and significant contributions in advancing health care through excellence in research, scholarship, and service. In keeping with the Rush University practitioner-teacher model, the College integrates patient care, research, scholarship and service into the teaching-learning process of developing future allied health professionals and leaders.*

***Mission***

***The Mission of the College of Health Sciences is to advance the quality and availability of health care through excellence in education, research and scholarship, service and patient care. The College promotes the values of diversity, access and inclusion in all of its endeavors.***

***Vision***

***The College of Health Sciences at Rush University will be a world class school of allied health sciences whose programs are recognized as among the best in the United States.***

*Mission and Vision Statements approved by Chairs Council July 27, 2007*

**Rush University**  
*College of Health Sciences*  
**Goals and Strategic Objectives**

***Goal 1: Excellence in Education***

As a leader in allied health professional education, the College of Health Sciences prepares superb health care professionals in the allied health disciplines represented within the College. This will require that the College continue to ensure that core programs offered are among the best in their class. In addition, the College should optimize enrollments in existing programs and consider the addition of new programs to meet the needs of Rush University Medical Center, the State of Illinois and the nation. Major indicators of program quality which should continue to be met include exceptional graduate job placement, superior graduate performance on board examinations, high levels of graduate satisfaction with their program of studies, high levels of employer satisfaction with the graduates and competitive program rankings (where available), and a reputation for excellence. In addition, graduates' success in achieving leadership positions in the health sciences is an important outcome. These leadership activities may include clinical leadership, professional leadership, community service, education, management, and continuing professional education. The College also seeks to promote the values of diversity, access and inclusion in all of its endeavors.

***Strategic Objectives - Excellence in Education***

The following are the CHS strategic objectives related to education. These objectives will be reviewed and revised on a regular basis based on recommendations from the College Strategic Planning Committee and input from faculty, students, staff, administrators, clinical service providers and other members of the Rush community.

Quality of program portfolio

Expansion of the program portfolio will support excellence in teaching by expanding the quality and size of the resource base, as well as supporting other goals of workforce development. Specific objectives:

1. Ensure that existing programs offered within the College are appropriate to meet the needs of the community and are properly supported and effective in preparing a diverse workforce of outstanding health care professionals and leaders to provide superb health care. Programs will demonstrate outcomes consistent with this goal and regular program resource assessments will ensure that programs have the resources needed to succeed.
2. Increase enrollment in the College of Health Sciences by at least five percent per year over the next five years.
3. Develop the infrastructure, resources and faculty support needed within the College to fully implement educational goals and web-based and distance education.
4. Consider the development or expansion of specific distance education programs and/or consortium programs, as appropriate.
5. Implement at least two new allied health entry level professional programs. Programs that should be considered include the imaging sciences (radiologic technology, nuclear medicine technology, fusion imaging [PET/CT], general diagnostic medical sonography, cardiac ultrasound (echocardiography), physician assistant, genetic counseling, health information management, medical informatics, medical dosimetry, physical therapy and respiratory therapy).
6. Consider the development of an undergraduate program in the health sciences (BS in Health Sciences) with tracks in management, health and wellness and pre-professional preparation.

*Goals and Strategic Objectives approved by Chairs Council August 3, 2007*

### Quality of faculty

To ensure that our programs are the highest quality, we will need to ensure that the faculty are as effective as they can be in their educational roles. To this end, we have several objectives related to faculty selection and development:

1. Design and implement a faculty development plan for promoting teaching excellence.
2. Explore development of a Center for Excellence in Teaching.
3. Consider the development of a doctoral (PhD) program in the health sciences to prepare future faculty and scientists for allied health.
4. Increase the diversity of the faculty to better represent the communities served by Rush.

### Quality and diversity of students

The quality of students graduating from our programs is influenced strongly by the quality of students entering our programs. To this end, we have several objectives related to ensuring the highest-quality matriculants into our programs:

1. Develop and implement a marketing and recruitment plan to include revision of the College Web page, hiring a college recruiter and implementing an e-marketing program for student recruitment.
2. Develop stipends and scholarship programs to attract and retain the best students.
3. Increase the diversity of the student body to better reflect the communities served by Rush.

### Quality of curriculum and educational outcomes

1. Develop and implement interdisciplinary courses and/or units of instruction as needed. These may include ethics; leadership, supervision and management; education; research and statistics; cultural competency; disaster response; outcomes and evidence-based care; health promotion, disease prevention and disease management; genetics and genetic testing; medical errors and patient safety; health care policy; health care systems; These courses and units of instruction may be provided using web-based or distance technology to facilitate scheduling across multiple programs.
2. Ensure the integration of clinical practice and teaching through case-based, problem-based, and evidence-based learning and the use of simulation laboratories and/or standardized patients in the curriculum.
3. Design and implement a Program Review and Outcomes Assessment System for measuring, monitoring and improving programs' educational outcomes and a Resource Assessment System for ensuring programs have the needed resources to meet their educational goals.

### *Action Plan*

1. Meet with all program directors and department chairs to review current program goals, objectives, outcomes and resources.
2. Review and revise the College's leadership council activities and implement a system for shared governance within the College.
3. Implement continuing college-wide bench marking and strategic planning activities to develop, review and refine proposed goals, objectives and strategies for implementation.
4. Meet with clinical service area representatives to review allied health workforce needs.
5. Implement a task force for developing and refining the proposed "Program Review and Outcomes Assessment System" for measuring, monitoring and improving program education outcomes.
6. Review program applicant pools, enrollment, graduation rates and graduate performance on key outcome measures (placement, board examinations, employer satisfaction, graduate satisfaction).
7. Develop a college central data base to track applicant pools, enrollment, graduation rates and graduate performance and other key outcome measures.
8. Initiate a Committee for Interdisciplinary Education within the College to explore and develop interdisciplinary courses and/or units of instruction for use in multiple programs.
9. Initiate a Committee to Develop Stipends and Scholarships to explore current offerings and develop additional sources of support, such as a tuition forgiveness plan for graduates who go to work at Rush.

10. Ensure that community advisory committees are in place for each program and that they are being used to ensure that programs are meeting community needs and producing outstanding graduates.
11. Integrate data for recommendations for program expansion, revision or refocusing of resources.
12. Ensure the promotion and tenure and annual faculty evaluation procedures recognize and reward excellence in teaching and the scholarship of teaching.

***Goal 2: Excellence in Research and Scholarship***

There is a need to further develop research activities within the College. Outcomes research and collaborative and interdisciplinary research should be expanded. In addition, research is needed in the areas of health promotion and wellness, disease prevention and management of chronic disease. There is also a need for research related to allied health work force issues and allied health training and education. In many cases, collaboration with other colleges and professionals is ideal for allied health research.

Major impediments to success in the research endeavor include insufficient faculty time due to heavy teaching and clinical loads, a need for faculty development, and insufficient numbers of existing faculty with research expertise. A research infrastructure within the College is needed to assist faculty in the development of research proposals, study design and management, data analysis and statistics, identification of funding sources, grant writing, and manuscript preparation. Access to laboratory facilities, space and equipment, limited funding availability, and a lack of startup funds and seed money are also substantial impediments to research within the College. There is also a need for more collaboration (interdisciplinary research) both within the College and with medicine, nursing, and the graduate college.

Faculty participation in scholarly activities related to their disciplines is a hall mark of outstanding schools of allied health. Activities that will be encouraged at Rush include the discovery of new knowledge and the dissemination of existing knowledge through invited lectures, invited courses, presentations, publications (papers, book chapters, and textbooks), service as an editor or on an editorial board for scholarly publications, grant submissions, consultations, and software and product development.

***Strategic Objectives - Research and Scholarship Excellence***

The following are the College’s strategic goals and objectives related to research and scholarship. These objectives will continue to be reviewed and revised based on recommendations from the College Strategic Planning Committee – Subcommittee on Research.

1. Develop the research support infrastructure within the College to expand and support fundable or publishable research activities.
  - Objectives
    - a. Hire an Associate Dean for Research
    - b. Establish a research committee to work with the Associate Dean for Research
    - c. Identify a liaison with the University Research Office for the CHS to help with the preparation of grants and budgets
    - d. Disseminate information to faculty about available RFPs
    - e. Identify and support external and internal reviewers of grant proposals and manuscripts
    - f. Designate an office support person to manage the preparation and delivery of grant materials and to assist with budget management of the grant
    - g. Develop the resources/mechanism to support consultation about research design and data analyses
    - h. Identify seed money which can be made available to faculty on a competitive basis to support pilot or preliminary research which may lead to extramural funding.
  
2. Implement a faculty development program for research in allied health.
  - Objectives
    - a. Develop a short course on clinical and outcomes research
    - b. Implement regular “lunch and learn” activities within the College,



- c. Review faculty teaching loads, compensation, and clinic or other outside assignments and attempt to provide protected research and other scholarly time
  - d. Develop a College of Health Sciences Research Mentoring Program and a working relationship with the College of Medicine Research Mentoring Program.
3. Seek development funds to establish a Center of Excellence for Allied Health Research within the College.

Objectives

Establish a task force to develop the purpose, structure, and funding for the Center and an Implementation plan. A focus on allied health outcomes research and evidence-based practice should be a priority. Other center activities may include research related to health promotion, wellness and disease prevention (smoking and tobacco abuse, drug and alcohol abuse, obesity and nutrition, fitness, healthy lifestyle, accident avoidance, stress, anxiety, depression, grief); workforce research (human resources/healthcare delivery); chronic disease management (heart disease, cancer, stroke, asthma, COPD, diabetes, other); and educational research (teaching, learning, methods, evaluation).

***Action Plan***

1. Implement a research office within the College to be led by an associate dean for research. This office would be charged with faculty development, providing assistance with developing ideas, finding potential funding, collaboration across departments and colleges, grant writing assistance, assistance with research design and statistics, study management and publication assistance.
2. Identify funds for seed grants and establish an Internal Grant Review Committee for administering these funds.
3. Establish a subcommittee of the College Strategic Planning Committee to develop a strategic research plan for the College. This plan should include identifying areas of potential growth or concentration and opportunities for interdisciplinary and collaborative research.
4. Evaluate current research activities within the College and available support infrastructure, including laboratories and equipment.
5. Establish a Research Collaborative Group to meet on a regular basis to provide a forum for discussion, mentoring and faculty assistance.
6. Ensure College participation in university efforts to establish a clinical translational science research center (CTSC).
7. Seek development funding for a Center of Excellence for Research in Allied Health, as described above.
8. Encourage implementation of a student research project requirement for all programs.
9. Ensure the promotion and tenure and annual faculty evaluation procedures recognize and reward excellence in research and scholarship.
10. Develop expectations that that all departments participate each year in the Rush research forum.
11. Expect each department each year to have at least one research goal.

***Outcomes***

These expected outcomes will facilitate monitoring and evaluation of the research strategies:

1. Using 2006 as a baseline, there will be a marked increase in grant submissions by 2012. These grants will have a CHS faculty member as PI or Co-PI
2. Using 2006 as a baseline, the number of peer-reviewed or invited presentations and publications will increase by 25% by 2012.
3. The CHS will double funding for research by 2012 (as compared to 2006)

***Goal 3: Excellence in Service***

One attribute of outstanding allied health schools is the ability to make important contributions in the area of service. Professional service may include participation at the state, national and international levels in

activities to advance the effectiveness of the allied health professions. Faculty professional service activities to be encouraged may include service as reviewers or editorial board members for professional journals; participation in professional association and society committees (members, committee chairs), boards (members, officers); and participation on community and governmental advisory panels. Community service and outreach activities may include volunteer activities (health fairs, talks, presentations, clinical outreach) and service on community boards and service committees and other community education and service activities.

Professional continuing education is also provided by many allied health schools. Current practitioners must keep up with advances in their disciplines, and allied health faculty are uniquely well prepared to assist in providing courses and programs to meet this need. Continuing education is also required for licensure in most allied health fields. Last, continuing education can be a source of income for allied health schools to help support other activities, such as faculty professional development.

### ***Strategic Objectives - Service Excellence***

The following are the College's strategic objectives related to service. These objectives will continue to be revised and refined based on recommendations from the College Strategic Planning Committee.

1. Promote faculty participation in state, regional, national and international professional service activities such as professional associations, editorial boards, examination boards, and specialized educational accreditation agencies as members, committee appointees, committee chairs, officers and leaders.
2. Promote faculty participation in community service activities as volunteers and leaders.
3. Develop an active continuing education division for both live programs and internet-based programs for providing high quality professional continuing education.

### ***Action Plan***

1. Ensure that promotion and tenure and annual faculty evaluation procedures recognize and reward excellence in service.
2. Review current continuing education programs in the College and adjust, as appropriate, to provide funding incentives for continuing education activities.
3. Consider purchase of an internet-based continuing education administration system (such as Netkeva) that provides online course registration, fee payment, course content delivery, transcripts and certificates of completion.
4. Develop and disseminate a data base of CHS faculty experts on selected topics.
5. Develop a CHS faculty speakers' bureau and make the bureau available to community organizations.

### ***Goal 4: Excellence in Patient Care***

Rush University integrates patient care, education and research through the *practitioner-teacher model*. Clinical education of students, faculty practice, and clinical services all contribute to providing high quality patient care. In addition to supervising clinical training and clinical experiences for College of Health Sciences students, many College faculty have clinical or administrative responsibilities within Rush University Medical Center.

### ***Strategic Objectives – Excellence in Patient Care***

The following are strategic objectives related to excellence in patient care. These objectives will continue to be reviewed and revised based on recommendations from the College Strategic Planning Committee.

Strategic Objectives.

1. Define excellence in patient care for each profession and define how it is practiced by faculty and students.
2. Consider implementation of new university provided clinical services to include specialty and /or multidisciplinary allied health services.

3. Consider implementation of a faculty practice plan for the College for faculty that have billable services.
4. Establish infrastructure to conduct patient care related research such as clinical outcomes, clinical resource allocation, and clinical application of translational sciences.
5. Ensure the integration of clinical practice and teaching through case-based, problem-based, and evidence-based learning and the use of simulation laboratories and/or standardized patients.

#### Action Plan

1. Review current clinical activities for faculty and students within the College for use as a basis for planning.
2. Ensure that promotion, tenure, and faculty evaluation procedures appropriately recognize and reward excellence in patient care.
3. Establish a Patient Care Committee to investigate strategic objectives two and three and make recommendations to the Chairs Council.