

# HEALTH CAREER PROGRAMS ANNUAL REPORT

September 2006 – August 2007

During the fall of 2006, the Office of Health Career Programs began to revisit the objectives and activities which would assist the Office in achieving its mission: *“To increase the participation of disadvantaged and under-represented individuals in the health professions by nurturing and supporting secondary and post-secondary students’ interest in the health professions”*. This mission is routinely accomplished via the implementation of a targeted recruitment plan, information dissemination, skill building activities, and academic and personal development enrichment programs. Although predominantly known for the implementation of summer enrichment programs for disadvantaged students, HCP maintains a year-round schedule of activities. The 2006-07 summer and year-round activities are explored in this report.

HCP’s ultimate success in achieving its mission depends on its ability to address several key needs of disadvantaged students: (1)-the need for a clear understanding of admissions requirements for health professions schools; (2) a belief and confidence in their abilities to become healthcare providers; (3) exposures to health professionals and the clinical/research settings and (4) a clear mastery of basic science concepts and principles.

## A. 2006-07 RECRUITMENT

The recruitment focus of HCP is a helpful complement to that of the Colleges’ admissions offices. While those offices restricted their recruitment efforts to the State’s public colleges, HCP participated in 21 graduate and professional school fairs, the majority of which were at private institutions, especially those which were historically Black or those enrolling sizeable concentrations of Tennessee residents. These visits were made throughout the State of Tennessee, as well as throughout the contiguous states Georgia., North Carolina, Louisiana, and Mississippi. The schools visited included:

- Morehouse and Spelman Colleges Visits (Atlanta, GA) September 2006
- Lane College, Lambuth University and Union University (Jackson, TN) September 2006
- Central Savannah River Area College Night September 2006
- Rust College Graduate and Professional School Day (Holly Springs, MS) September 2006
- University of Arkansas Pine Bluff September 2006
- Mississippi Valley State University Graduate & Professional School Day September 2006
- Alcorn St. University Graduate & Professional School Day (Lorman, MS) September 2006
- Jackson (MS) State University Graduate and Professional School Day September 2006
- Tougaloo College Graduate & Professional School Day (Tougaloo, MS) September 2006
- Tennessee State University Graduate & Professional School Day (Nashville) September 2006
- Fisk University Graduate and Professional School Day (Nashville, TN) September 2006
- Rhodes College Graduate and Professional School Day (Memphis) September 2006
- Lambuth University Graduate and Professional School Day (Jackson, TN) September 2006
- Xavier University College Visit (New Orleans, LA) September 2006
- University of Georgia (Athens) October 2006
- LeMoyne-Owen College Graduate & Professional School Day (Memphis) October 2006
- University of Memphis Graduate and Professional School Day October 2006

As a result of all recruitment visits and participation in Graduate and Professional School Days, approximately four hundred fifty (450) students completed information cards which captured their contact information. These cards were subsequently shared with UTHSC admission offices for follow-up by the individual Colleges, as well. The information cards collected from recruitment visits were also very useful to the Black Student Association, when their members facilitated a two-day telethon, answering questions and encouraging students to apply to UTHSC.

Additionally, HCP responded to requests from secondary school guidance offices to speak to students about health careers. HCP also participated in approximately ten health fairs. At all of the venues, whether in schools or at community sites, HCP distributed “give-a-ways” which included calculators, pen/pencils, stress bears, flashlights, key rings, and the like. All of these items bore the UTHSC brand.

## **B. INFORMATION DISSEMINATION**

While the various recruitment activities discussed above serve as one way to “get the word out” about UTHSC, HCP also developed its own website [<http://www.utmem.edu/hcp>]. The site provides a wealth of information concerning (1) the availability of scholarships; (2) descriptions of 84 different careers in the health professions; (3) various publications relevant to future health care practitioners, including an annual HCP newsletter; and (4) a description of the summer enrichment programs in operation at UTHSC. Since its inception, there have been more than 15,000 “hits” or visits to the HCP web site. In order to obtain an accurate count of the annual traffic at this site, the HCP “counter” will be re-started prior to September 1 and will be tracked, thereafter.

The web site also offers students the opportunity for a critical review or critique of the personal statements which they will submit as a part of their applications to professional schools. The undergraduate pre-health advisors in Tennessee’s 23 public colleges were notified of this service and encouraged to inform their advisees. All UTHSC admission deans were also notified that this service is available to any of their students who submit applications for residencies, fellowships, etc.

## **C. ENRICHMENT/SKILL BUILDING PROGRAMS**

HCP understands that “one of students’ biggest obstacles to choosing a career is not having adequate access to relevant professional experiences or exposures”. The summer programs offer tremendous advantages, as students transition from high school to college and from college to graduate and professional school. Among the advantages are: (1) academic enrichment and preparation; (2) an increase in their understanding of the opportunities available in the health professions; and (3) activities which foster a belief in themselves and their abilities to become health professionals.

There were four skills building programs for which HCP was directly responsible during 2006-07: the Tennessee Institutes for Pre-Professionals (TIP), the Memphis McNair Program

(MMP), Memphis Challenge, and Rotary. These programs, listed below, served a total of seventy-seven (77) students. A discussion of those Programs' outcomes follows.

<u>College/ Department</u>	<u>Program</u>	<u>Description</u>
Office of Health Career Programs	Tennessee Institutes for Pre-Professionals	Multifaceted summer enrichment program offering paid, clinical internships, professional school test preparation, and a pre-matriculation experience for students conditionally accepted to the colleges of medicine, dentistry, pharmacy, and vet medicine.
Office of Health Career Programs	Memphis McNair Program	A graduate school preparation program featuring an 8-week guided research internship, graduate admission and funding assistance, graduate education workshops, and mentoring. Participants are first-generation, low-income and underrepresented undergraduates who desire to pursue a doctoral (Ph.D.) degree.
Office of Health Career Programs	Memphis Challenge	An eight week summer internship in clinical and research laboratories for 20 high school seniors through college juniors interest in a health profession career
Office of Health Career Programs	Rotary	For high school and college students who demonstrate a strong interest in becoming a health professional, eight weeks of employment is provided in the offices of a health care clinician or basic science researcher.
Dept. Anatomy and Neurobiology	<sup>1</sup> Minority Pre-Science Program	The objectives are to familiarize the student to the relevant undergraduate educational preparation, technical language, and the scientific method germane to basic science research and/or the health professions, during an eight week summer experience. Thirty high school and college trainees are paired with a health care clinician, basic science researcher, or relevant biomedical research support technologist.
Dept. Anatomy and Neurobiology	<sup>2</sup> Health Disparities International Research Training	The Program provides international research training opportunities to qualified undergraduate and graduate students underrepresented in biomedical and behavioral research. Through academic programs in their home institutions, students acquire the basic skills needed to conduct research and become eligible to participate in a research project in Brazil or Uganda.
Library	<sup>3</sup> Institutes of Museum and Library Services	The Program seeks to recruit students underrepresented in health sciences librarianship and informatics. Program activities include internships, mentoring, and health career days.

Project Directors: <sup>1</sup> Dr. Eldridge Johnson      <sup>2</sup> Dr. Malinda Fitzgerald      <sup>3</sup> Brenda Green/TaJuana Redmond

There were four (4) high school students in the Rotary Program and thirteen (13) high school and college students in the Memphis Challenge Program. Rotary Program participants were placed in the labs of UTHSC faculty, where they undertook research investigation. Memphis Challenge students were placed in internship positions in which they had an opportunity to “shadow” clinical practitioners, both on-campus and off. Both groups of students

worked five days a week from 8:00 a.m. to 5:00 p.m. throughout the months of June and July. The actual placements of both groups follow:

**Rotary Program**

<u>PRECEPTORS</u>	<u>DEPARTMENT</u>
Dr. Ioannis Dragatsis	Physiology
Dr. Charles Leffler	Physiology
Dr. Monica Jablonski	Physiology
Dr. Zheng Fan:	Physiology

**Memphis Challenge Program**

<u>PRECEPTORS</u>	<u>DEPARTMENT</u>
Dr. Dennis Black	UTHSC Pediatrics
Dr. Shelton Graves	Private dental practice
Dr. Samuel Dagogo-Jack	UTHSC Endocrinology
Dr. Barrett Haik	UTHSC Ophthalmology
Dr. Deborah Watson	Private pediatric practice
Dr. Christopher B. Green	Private medical practice
Dr. Beverly Williams-Cleaves	UTHSC Endocrinology
Dr. Gerald Presbury	UTHSC Pediatrics
Dr. Owita Mays	Private medical practice
Dr. Shelly White-Means	UTHSC Pharmacy
Dr. Otis Anderson	UTHSC Psychiatry
Lisa Aitken	UTHSC Tech Support

Both programs were monitored throughout the summer to ensure that students were conducting themselves in a professional manner. Calls were made every two weeks to the offices where students were working. Evaluations forms were distributed to participants and their preceptors. Students’ evaluation forms contained ten (10) questions which allowed them to assess the quality and impact of their experience.

A scale, of 1-5 was used, with “1” meaning “strongly agree and “5” meaning “strongly disagree”. An average of students’ responses is provided in the table below. Overwhelmingly, students expressed high levels of satisfaction with each of the listed items. HCP received very few evaluation forms from preceptors, but, by the same token, HCP did not receive from preceptors any adverse comments concerning non-performance.

**Memphis Challenge/Rotary Program Evaluation**

Using the following scale, please indicate your responses to the statements below:

1-Strongly Agree      2-Agree      3-Undecided      4-Disagree      5-Strongly Disagree

	<u>Memphis Challenge</u>	<u>Rotary</u>
1. Program orientation/registration activities were smooth and orderly	1.5	1.3
2. The internship experience was relevant to my career goal	1.5	1.3
3. My internship experience was beneficial	1.0	1.3
4. My preceptor made certain that I felt a part of the staff	1.2	1.3
5. My internship was challenging but rewarding	1.2	1.5
6. I fully understood my responsibilities in the doctor’s office	1.0	1.3
7. My preceptor’s staff was sensitive and responsive to my questions	1.0	1.0
8. Because of my internship, my career choice has changed	3.5	2.3
9. Overall, the internship will be helpful in pursuit of my career goals	1.0	1.0
10. I would like to participate in this type of program again	1.0	1.0

### **Tennessee Institutes of Pre-Professionals Program**

Thirty-nine (39) TIP students participated in one of three different components (or **Tracks**). Thirteen (13) **Track I** students worked from 8:00 a. m. to 5:00 p. m. for seven weeks in internships. Thirteen (13) **Track II** students were engaged in a standardized “test preparation” program and received a total of 159 hours of instruction in biology, general chemistry, organic chemistry, physics, biochemistry, and verbal reasoning. Thirteen (13) **Track III** students, accepted in the Colleges of Medicine and Pharmacy, were in a pre-matriculation program, taking many of the same courses offered in a first year curricula, and taught by the same UTHSC faculty.

### **TIP Evaluation**

<b>Program Level</b>	<b>Program Outcomes</b>
<b>Track I</b>	The Track I evaluation solicited students’ level of satisfaction with the program, the internship experiences, and the “Friday” activities. A scale, ranging from 1-5 was used, with “5” meaning “strongly agree and “1” meaning “strongly disagree”. Overwhelmingly, students expressed high levels of satisfaction with their internships; the average student rating was approximately 4.5. Several students provided TIP with referral information of other students who should be invited to participate in the program next summer.
<b>Track II</b>	The <b>Track II</b> evaluation instrument assessed the relative benefit which students felt that they derived from the four MCAT/PCAT/DAT preparation courses offered. On a scale of 1-5, where “5” represents a high level of satisfaction and benefit, the average rating was 4.4. Students improved their professional school entrance exam scores by 20-25 percentile points.
<b>Track III</b>	With the exception of a few questions concerning program operation/management, the <b>Track III</b> evaluation instrument assessed the strengths and weakness of each course and instructor. The ratings for the medicine courses [4.1 – 5.0] and the pharmacy courses [3.1 – 5.0] seem to indicate significant satisfaction with the courses presented. All 15 participants successfully completed required courses and will enroll at UTHSC Fall 2007

Since TIP’s inception, one thousand two hundred and twelve (1,212) African American Tennessee residents have participated in the Tennessee Institutes for Pre-Professionals (TIP) program at UTHSC. A more comprehensive report of TIP activities is currently being prepared and will be distributed in the fall to the Deans of the UTHSC’ Colleges and the health professions advisors at the 23 public colleges throughout the state.

### **Memphis McNair Program**

The Ronald E. McNair Post-baccalaureate Achievement Program concluded its 12<sup>th</sup> year of operation at UTHSC with the 2007 summer internship. As one of the five federally funded TRIO Programs, the purpose of McNair is to provide undergraduates with effective preparation for doctoral

[Ph.D.] study. The Program foci, consistent over all McNair Programs, are research, GRE preparation, and graduate education counseling

Fifty-two [52] undergraduates representing 13 institutions and 8 states applied for the Program during the spring term. Twenty-one [21] “McNair Scholars” were accepted, with 8 returning for an additional internship. Of the twenty-one “accepts”, 15 were first-generation, low-income students, exceeding the 2/3s requirement.

Nineteen [19] faculty preceptors/mentors, noted below, engaged the Scholars in 35 hours of research each week. Many of the faculty have performed this valuable role during more than one summer, with some inviting the Scholars to continue to work in the lab past the end of the internship. The specific research projects are also noted below.

#### Faculty Preceptors/Mentors

Leon Caldwell, Ph.D.  
Ann Cashion, Ph. D.  
Patty Cowan, Ph. D., RN  
Alex Dopico, M.D. Ph.D.  
Ioannis Dragatsis, Ph.D.  
Keith English, M.D.  
M. Waleed Gaber, Ph. D.  
Daniel Goldowitz, Ph.D.  
Weikuan Gu, Ph.D.  
Kristin Hamre, Ph.D.  
Robert Kelsey, Ph.D.  
Charles Mansbach, M.D.  
R. K Rao, Ph.D.  
Sahar Rashed, Pharm. D., Ph.D.  
Muriel Rice, Ph. D.  
Cynthia Russell, PhD, RN  
Greg Washington, Ph.D.  
Shelley White-Means, Ph.D.  
Mona Wicks, Ph. D.

#### College / Department

Counseling, Educ. Psych. & Research [U of M]  
Nursing  
Nursing  
Pharmacology  
Physiology  
Pediatrics  
Biomedical Engineering and Imaging  
Anatomy & Neurobiology  
Orthopaedic Surgery  
Anatomy & Neurobiology  
Pediatrics  
Medicine-Endocrinology  
Physiology  
Pharmacy  
Nursing  
Nursing  
Social Work  
Pharmaceutical Sciences  
Nursing

#### Summer 2007 Research Projects

1. Transport of Apolipoprotein A1 from the Endoplasmic Heart Rate Reticulum of Rat Enterocytes
2. The Effects of Impaired Glucose Tolerance and Blood Pressure on Heart Rate Variability in Overweight and Obese Adolescents: *Examining the Risk Factors for Cardiovascular Disease*
3. Differences in weight gain in those who receive a kidney transplant from living donors vs. a cadaveric donor"
4. Gene Identification Using Temperature Gradient Capillary Eletrophoresis
5. Inactivation of Huntington’s Disease Gene in the Cortex of Mice
6. Psychometric Indicators and Heart Health in African-American Youth
7. Obesity and Depression in African American Women Transitioning from Welfare to Work
8. Detecting the Changes in Tumor and Normal Vessel Tortuosity in Wistar Rats using Intravital Microscopy

9. The Power of Believing: Self-Efficacy and Self-Esteem in African American Women Transitioning from Welfare to Work
10. Detection of Ethanol-induced Liver Injury Following Acute Exposure in Mice
11. Depression and Anxiety in African American Women Transitioning from Welfare to Work
12. Role of Bacterial DNA in Triggering Macrophage Responses to USA Isolates of CA-MRSA Exposed to Different Classes of Antibiotics
13. Provider-Patient Communication and Strategies to Enhance Access to Care
14. Attitudes of African Americans Towards Mental Health Services: A Review of Help-Seeking Behavior Studies
15. Mentoring Programs: Effectiveness in the Development of Male African American Youth
16. The Complexity of Juvenile Offenders and Mental Health
17. Role of Medication & Infant Mortality
18. Optimizing the Conditions to Obtain Healthy Frog Oocytes for Heterologous Ion Channel Protein
19. The Regulation of cSrc and PTP1B to E-Cadherin and  $\beta$ -Catenin
20. The Connection Between African-American Adolescents, Hypertension, Exercise Capacity and Self-Reported Physical Activity
21. Ethyl Nitro-Sourea (ENU); NMF205

The graduate education counseling component of McNair afforded the Scholars opportunities to become more aware of the processes and requirements to pursue graduate study. Workshops were offered on personal statements, interviewing skills, graduate admissions and funding, Excel and power point, and presenting research. To supplement the graduate education sessions, a McNair Resource Manual was distributed to the Scholars. Though discussed in a session this summer, the Manual will be a useful document even after their McNair participation. The contents included: *Sources of Graduate Information, Choosing the Right Graduate Program, Graduate Admissions, Requesting Letters of Recommendations, The Personal Statement, Financing Graduate Education, The Language of Graduate School, Writing and Presenting Research.*

Similar informative sessions were also presented at the National McNair Scholars Research Conference, sponsored by the University of TN Knoxville McNair Program. The eighteen [18] Scholars attending the conference received valuable insight from graduate deans, faculty and admission personnel from across the country. Eight Memphis McNair Program Scholars presented research at this conference; six made oral presentations and two presented posters. One Memphis Scholar won second place in the Biological Science/Health Category for research conducted in 2005 under Dr. Daniel Goldowitz.

#### McNair Evaluation

The faculty preceptors/mentors evaluated their assigned students on their work on the research project, as well as in areas which should become strengths in preparation for graduate school research. For example, the mentors rated the students' ability to work cooperatively and effectively with research team members; to follow instructions with little supervision; and to ask questions when unsure about procedures. Such information will be passed on to the Scholars.

The Scholars themselves were asked about the benefits they derived from the Program. Their responses are represented below.

<u>Benefits derived from the Program</u>	<u>Percent checking this item</u>
Learned valuable research skills	90
Stimulated interest in a career field	65
Improved test-taking skills	90
Increased awareness of graduate admission & funding	85
Increased confidence in ability to write a personal statement	95
Increased confidence in ability to pursue graduate study	75
Acquired better understanding of requirements for Ph.D. study	70
Developed better understanding of personal career goals	90

#### D. ON-GOING AND ANNUAL ACTIVITIES

##### On-Campus Activities

- HCP participated in a College of Medicine admission sub-committee, which screened the applications of African-Americans applicants and made its subsequent recommendations to the full admission committee. This sub-committee was disbanded in the fall of 2007 because of concerns about possible legal challenges to such actions.
- **Spring Weekend Visit:** This activity, facilitated for Black students accepted by the COM, was designed to encourage them to select UTHSC as the place to begin their health professions training. Thirteen (13) students participated and were exposed to workshops on financial aid, the curriculum, SASS activities, etc. They also met with members of SNMA and the Black Student Organization, and had opportunities to explore housing opportunities for the fall. These students were graduates of the following institutions:
 

Emory University	University of Alabama Huntsville
Duke University. (2)	UNC Chapel Hill
Fisk University.	University of Memphis
Georgia Southern University.	University of Tennessee Knoxville (2)
Howard University	Xavier University
Middle Tennessee State University	
- **BSA Awards and Recognition Ball:** HCP assisted the Black Student Association (BSA) in the implementation of this activity, which recognized an outstanding student in each College and at which Dr. Alvin Crawford, the first African-American to graduate from UTHSC, was the featured speaker. Also all of the Black student organizations “showcased” their accomplishments for the year. The 2007-08 slate BSA officers were also announced.
- **Black History Month:** HCP assisted the BSA with the implementation of this annual event, which this year featured the following activities:
  1. Stage Production, “From Ashes to Art”
  2. Dwight Fryer, Author, “Patient in Room 3053”

3. Voter Registration, (GEB Lobby)
4. Talent & Step Show
5. Health Fair at the Civil Rights Museum
6. Financial Seminar

- **HR 128 Courses:** Each member of the staff accumulated the required number of hours of professional development. A few staff persons exceeded the 32 hours of training.

### **Off-Campus Activities**

HCP staff:

- Participated in the Science Expo sponsored by LeMoyne-Owen College
- Tutored students at Vance Middle School throughout the year, as part of a collaboration with Memphis City Schools' "Our Children Our Future" Program
- Assisted the Student National Medical Association to facilitate its Black Scientist Program in seven local high schools
- Served as judges in the Memphis City Schools Science Fair competition
- Appeared on MCS cable station to promote UTHSC and the HCP summer programs

### **E. PLANS FOR 2007-08**

In order to remain a viable University unit, HCP will consider additional means to advance its mission, while supporting community needs, the six Colleges, and students organizations. To this end, the HCP Strategic Plan will continue to be updated, in order to be an effective guide for future activities, both on-campus and off. More concretely, in addition to implementing the activities on the attached Annual Calendar, the following considerations are offered for next year:

#### **Recruitment**

While HCP currently participates in regional graduate school fairs and has, through written correspondence, maintained contact with the State's pre-health advisors, HCP will plan to coordinate two regional information sessions for TIP advisors in 2007-08. These events will supplement the visits made by UTHSC admission officers to the State's public colleges to talk to advisors and students about general admission requirements.

Further, while HCP responds to requests from local secondary school counselors for UTHSC representatives to visit and talk about health careers, HCP will offer a visitation schedule, for students and staff persons affiliated with schools and local youth serving organizations. They will be invited to come to campus for admissions presentations and tours of UTHSC facilities.

#### **Information Dissemination**

In an effort to promote its summer program opportunities more effectively, HCP will work closely with the University Communications Department to develop a marketing plan which will utilize local print and T. V. media outlets.

### **External Funding Opportunities**

The addition of more student enrichment programs is essential to strengthen HCP's outreach efforts, providing more services to an increased number of students. During 2006-07, two grant applications [Ronald E. McNair Post-Baccalaureate Achievement Program and Upward Bound Math/Science (UBMS)] were prepared for submission to the U. S. Department of Education. The latter is pending, and if funded, will provide year-round math and science-focused activities for fifty (50) first-generation, low-income high schools students.

An additional five (5) grant submissions will be prepared during 2007-08. These include the following foundations: American Honda, Mars, Coca Cola, Tiger Woods, and the Women's Foundation of Greater Memphis. With regard the Women's Foundation grant, HCP participated in its grant writing workshop this year to acquire greater insight into its priorities.