The Comprehensive Transplant Center Summer Student Immersion Program

The Comprehensive Transplant Center (CTC) offers a Summer Immersion Program with an emphasis on health services and outcomes research as well as opportunities related to basic science research within a structured environment to learn and enjoy research. The goal of the program is to give each student a comprehensive research experience, within the clinical setting of solid organ transplantation. The summer program provides a realistic peek into clinical practice and academia pursuit.

The Northwestern University Transplant Outcomes Research Collaborative (NUTORC) and the Northwestern University Collaborative in Transplant-Related Immunology and Biomedical Engineering (NUCTRIBE) within CTC have developed a distinct curriculum for all summer students interested in our program, which includes high school, college, medical school, and graduate students from various fields (i.e. engineering, business). Each student has a mentor, ranging from transplant clinicians, to health services outcomes researchers or basic science researchers. The health services outcomes research focus areas are risk predictors and economics, quality of life, patient safety, informed consent and disparities, health informatics, access and allocation, health literacy and medication adherence.

Prior to starting every student has a project topic and an assigned primary mentor for the summer to formulate a hypothesis and execute a succinct hypothesis driven project. The basic science focus areas are bioengineering, islet cell transplantation and transplant immunology and students have the opportunity to participate in ongoing research for the summer.

The progress achieved during the summer program is then summarized and presented to the entire research team, at the end of the summer at the CTC Summer Student Immersion Program Poster Session. Students are also provided with the opportunity to shadow transplant clinicians in clinic, in the operating room and observe multidisciplinary morning rounds as part of the summer program. In addition to the NUTORC lab meeting and the Friday clinical teaching, every week an additional 2-3 summer lectures are held by about 20 faculty with lectures covering basics in transplantation, health services outcomes topics as well as bioengineering and immunology.

The program was formulated through NUTORC 7 years ago and has expanded to include basic science under the CTC umbrella as the CTC Summer Student Immersion Program. To date a total of 101 students have participated. Of those, 42 were medical students as part of the Area of Scholarly Concentration (AoSC) (previously called MMSRP), 18 were external medical students, 6 graduate students, 26 undergraduates, and 9 high school students. This year the program hosted 30 students from well over double the applications. Students either identified their own mentor within NUTORC or were interviewed and assisted in identifying a mentor that best fit their interests. Prior to arrival students complete the paperwork for clinical observation and their Collaborative Institutional Training Initiative (CITI) training, such that Institutional Review Board (IRB) approval can be obtained prior to the start date. During the first few weeks, students are given the necessary skills to conduct research such as effective use of Pubmed, Endnote and as appropriate training for the use of electronic health records. Feedback amongst students regarding the program have been exceptionally positive.

Students commented: “I really liked all the opportunities that the program offered us – lectures, shadowing surgical rounds & transplants, meeting staff, etc.” Much of the programs popularity and supply of new students has been through recommendations from former students. The program has been successful also from an academic perspective, with almost all medical students and post-graduates presenting abstracts at local or national conferences and many submitting manuscripts. To date the participating students have published over 100 abstracts (American Association for the Study of Liver Diseases (AASLD), American Transplant Congress (ATC), American Society of Nephrology (ASN)) and peer-reviewed manuscripts in the Journal of Liver Transplantation, Journal of Transplant Infectious Disease and other select journals. The majority of students remain involved in research and continue their academic success after the summer program. Peter Doschner for example who is currently a 4th year student at the Feinberg School of Medicine was awarded the Alpha Omega Alpha Research Fellowship based on his research with NUTORC and Brendan Lovasik, currently a 4th year medical student at Emory School of Medicine received a Fulbright scholarship to spend 1 year abroad focusing on the Assessment of European Union Best-Practice Models for Organ Donation in Spain following his work with NUTORC.

We believe that an essential component of any students’ educational experience should include research. Our program allows students a peek into the world of academia in transplantation during the CTC summer program with opportunity to continue their involvement and provides students early in their career to experience the excitement of research.

For additional information about the summer student immersion program, please visit our website: www.nutorc.org or follow us on twitter @NUTORC