Translational Research:

The New Emphasis for NCI and TJU

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After years of separately funding individual research projects, clinical trials, and related activities, the National Cancer Institute (NCI) is focusing its emphasis and support upon "translational research," competitive peer-reviewed projects aimed at moving basic research findings into new cancer therapeutics and cancer prevention and control research. NCI’s principal tool in this movement is the Cancer Center Support Grant (CCSG), the funding mechanism generically referred to as the "core grant." In the past, this was used to support expansion of an institution’s research base. Today the CCSG’s purpose is the support of an institution’s high competence and outstanding commitment to innovation, excellence, and interdisciplinary research in pursuit of the translation of scientific discoveries into practical applications which will reduce cancer incidence, morbidity, and mortality.

The melanoma vaccine project is an outstanding example of this approach. Under the direction of David Berd, MD, a multi-disciplinary team developed a melanoma vaccine which, in the first trials in humans, induced the development of inflammatory responses in metastatic tumors. The three physicians and three basic scientists (from two different departments) on the team are continuing to define deoxyribonucleoprotein-conjugated autologous tumor cells as post-operative adjuvant therapy, while attempting to improve treatment through a better understanding of lymphocyte and tumor cell interactions.

The commitment of the Jefferson Cancer Center (JCC) to the translational research program is highlighted by its publicly declared mission "to increase the survival and quality of life of cancer patients by translating basic science discoveries into new strategies to prevent, diagnose and cure human cancer." The JCC, headed by Director Carlo M. Croce, MD, is composed of three divisions: Basic Science; Medical Science; Training; and an Administration section. Established programs in the Basic Science Division, also headed by Dr. Croce, include Cell Biology, Signal Transduction, Molecular Biology and Genetics, Structural Biology, and Immunology. The Medical Science Division, headed by Robert L. Comis, MD, the JCC Clinical Director, has established programs in Developmental Therapeutics, Leukemia/Lymphoma, and Melanoma, and developing programs in Prostate and Gastrointestinal cancers. Research material for some of these activities is provided by the JCC tumor bank. An integral part of this Division is the Clinical Trials Support Unit, which includes a clinical trials management group and a high level biostatistics unit. The Jefferson Cancer Network, with its participating hospitals, is also an element of the Medical Science Division. The University is supporting the development of the Medical Science Division by committing funding and space for new JCC programs in Bone Marrow Transplantation, Gene Therapy, Urologic Oncology, Targeted Therapy, Clinical Pharmacology, and Cancer Prevention and Control.

The Training Division, under the direction of Renato Baserga, MD, is engaged in the training of postdoctoral fellows and PhD candidates in five different programs maintained in the JCC. As a part of its program, this Division oversees the JCC's five federally funded training grants.
JCC’s Administration section manages the administrative functions of the Center and oversees its fifteen shared resources which provide support services and consultation to the programs of all three divisions.

The JCC may represent the broadest multi-disciplinary program ever undertaken at Jefferson. Actively participating in the direction and programs of the Cancer Center are faculty members from the departments of Biochemistry, Microbiology and Immunology, Pharmacology, Pathology, Medicine, Urology, Surgery, Radiology, Radiation Oncology and Nuclear Medicine, Dermatology, Otolaryngology, and Ophthalmology. Currently the Cancer Center houses 128 separate externally funded projects having current year costs of $27,133,738. Of this total, $12,429,020 (46%) is provided by the National Cancer Institute, while $9,876,282 (36) is provided by other Institutes within the National Institutes of Health (NIH). Overall, 87% of the external funding is derived from competitive peer-reviewed grant awards.

**About the Author**

Jerold A. Glick, MS, is Director of Administration at the Jefferson Cancer Center.