Core C: Biostatistics, Informatics, and Bioinformatics

Core Co-Directors
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The Lung Cancer SPORE Biostatistics, Informatics and Bioinformatics Core (BIBC) provides support in the areas of biostatistics, clinical informatics, and bioinformatics to SPORE investigators. The Core comprises long-standing and new SPORE collaborators who provide expertise in study design, data management, data analysis, clinical informatics system creation, and bioinformatics data management and interpretation. The Biostatistics group assists primarily with study and protocol design, data analysis and interpretation, and review of requests presented to the Tissue Use Committee. The Informatics group assists with data quality control, data sharing, designing and maintaining the SPORE database that captures clinical, pathologic, and laboratory data into a relational database. The Bioinformatics group assists with computational evaluations of large databases, especially those created with genomic and proteomic analysis using gene expression and SNP arrays and proteomic profiles. All Core members participate in preparation of reports, presentations, and manuscripts. BIBC members will work with SPORE investigators in the following areas:

1. Experimental design: Design of both pre-clinical and clinical experiments that can provide useful answers to scientific questions of importance in lung cancer.
2. Data collection/storage/retrieval/sharing: Creation and maintenance of a sound and user-friendly infrastructure for data collection, storage, quality assurance, retrieval, and sharing in support of SPORE trials and tissue banking.
3. Data analysis and manuscript preparation: Structuring of data analyses to provide clear answers to questions, and to communicate those findings in reports and papers.
4. Translational research methodology: Development and implementation of coherent methods that improve the efficiency and effectiveness of research across the wide spectrum from pre-clinical research to clinical studies, including work in the development of better understanding of the causes of lung cancer, early detection of lung cancer, biomarkers of lung cancer risk, and lung cancer therapeutics.

In addition to these activities, Core members will continue their efforts to develop new approaches to improve the efficiency and outcomes of the process of translational research.