



Highlights from: The Addario Lung Cancer Medical Institute Summit

June 17, 2008

The Bonnie J. Addario Lung Cancer Foundation (BJALCF) and the Addario Lung Cancer Medical Institute (ALCMI) hosted a summit on lung cancer on June 17, 2008, in association with the Ninth International Lung Cancer Congress, to discuss the direction, focus, and goals of ALCMI. Founded in January 2008, ALCMI aims to accelerate treatment and cures for lung cancer, thus increasing the survival rate for patients with lung cancer.

The ALCMI aims to affect the clinical management of lung cancer within 3 years. This will be accomplished by accelerating and connecting 4 complementary research efforts: (1) the creation of a federated specimen repository, with an associated virtual biobank; (2) analysis of specimens from that bank with high-throughput biology methodology to create a Lung Cancer Genomic/Proteomic Atlas; (3) the use of computational biology tools together with the data from the Atlas to identify promising targets and leads (focusing on therapies that can realistically enter the clinic in 1 to 3 years and show the potential of “personalizing therapy”); and (4) the rapid testing of these targeted combination therapies in patients with lung cancer whose tumors exhibit the genomic profile being targeted. Testing will be accomplished

using a “virtual trials network” that will support small, multicenter, adaptive trials and by partnering through larger established cooperative group mechanisms.

Participants in the summit were selected from individuals with diverse experience and expertise: foundation members, advocate leaders, clinical oncologists, surgeons, basic researchers, survivors, investigators, and management teams and business consultants, most of whom have been touched in some way by such grave diseases as lung cancer. The BJALCF is already interacting with other organizations of like purpose, such as the Melanoma Research Alliance (MRA) and FasterCures, to identify and implement “best practices.” Marty Tenenbaum, of the MRA and CollabRx, a consulting collaborator of the BJALCF, discussed approaches that have been taken by the melanoma research and treatment community, including developing Internet connectivity tools and large-scale data analysis systems as well as maximizing the use of industrialized components of drug discovery. An overview of the ALCMI.net knowledge and information sharing platform was given by Jeff Shrager of CollabRx.

Summit participants agreed that the time is right for significant change and that the mechanisms to be implemented through ALCMI would enhance the lung cancer research agenda in a unique fashion. Dr. David R. Gandara, of the University of California, Davis School of Medicine,

expressed the excitement and optimism of the participants when he said that “there are only so many great opportunities that you can engage yourself in during your life—and this is one of them.” Bonnie Addario noted that, as the leading cause of cancer mortality in the United States, lung cancer kills 450 Americans daily and 3300 persons per day worldwide, but little change has been made in that number in the past 40 years, and time is running out for many patients with lung cancer and their families.

Several interrelated opportunities in the translation of lung cancer research to clinical application were identified based on the following observations: (1) biologic knowledge is expanding dramatically; (2) managing that information is cumbersome; and (3) research tends to be performed in “silos” and using reductionist approaches. Summit participants agreed that there is a profound lack of awareness of lung cancer statistics in the general community, that the deployment of new therapies is slow, and that money for lung cancer research is limited. Dr. Gandara noted that the National Cancer Institute funding rate per lung cancer death is \$1630, an eighth of the rate of funding for breast cancer research and one seventh that of prostate cancer. And of that, only 33% of the money goes to research toward developing treatments for patients with lung cancer (50% of it goes to research focused on understanding the etiology and

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Figure 1: Organizational Structure of the Addario Lung Cancer Medical Institute



causes, prevention, and early detection). Additionally, the availability of good-quality, annotated tumor specimens is both limited and limiting, there is minimal collaboration among participants in the research arena, and Internet connectivity tools are not used to their full potential. Clearly, these are large problems that are difficult to surmount, but the aim of the foundation and the ALCMI is to make a difference. As Ms. Addario stated, “Being naive or visionary depends on the outcome, and I don’t like to be naive about anything.”

Therefore, the ALCMI was established to address many of these issues. To achieve its mission of increasing the survival time of patients with lung cancer as quickly as possible, participants agreed on 4 areas of initial focus: (1) the creation of a state-of-the-art virtual biobank and knowledge database, enabling investigators to access, share, and integrate their collective findings; (2) a knowledge and information sharing platform named “ALCMI.net,” whose function will be to facilitate cross-disciplinary and cross-institutional collaboration using Web-based connectivity tools; (3) participation of ALCMI-associated investigators within the context of collaborative research teams (CRTs) to maximize efficiencies, minimize duplication, and facilitate cross-learning; and (4) a partnership with other organizations and with the pharmaceutical and biotechnology industries for the acceleration of new treatment strategies. The intent is to “harness the collective intelligence of the academic community, who are totally disconnected; we need to bring the Internet

era into biology,” as said by Dr. David Jablons of the University of California, San Francisco Medical Center, and co-founder of the Bonnie J. Addario Lung Cancer Foundation. Dr. James Mulshine of Rush University Medical Center added that this model would optimize “opportunities to fund creative and novel ideas.”

The organizational structure of the ALCMI is outlined in Figure 1. The board of directors (BOD) sets priorities and guidelines, approves grants and contracts, manages the budget, and interacts with ALCMI. The ALCMI Scientific Advisory Board (SAB) defines priority research areas, identifies preferred principal investigators to form CRTs, issues requests for proposals, rapidly reviews proposals, and makes funding recommendations to the BOD. Research will be conducted by the CRTs, which are responsible for drafting the proposals per SAB invitation, and following approval, conducting and documenting the research activities and results or by partnering organizations. A steering committee composed of CRT leaders will provide cross-fertilization of ideas among CRTs. Finally, there will be a research advisory committee (RAC), which will be the first level of support for CRTs in problem solving. The role of the RACs include problem solving for impediments in the timely execution of the research plan, promotion of interactive learning among the CRTs, and providing a resource of external knowledge and a multidisciplinary perspective for CRTs. The advisory committees will be designed to contain substantial diversity, drawing

from other research communities, cancer and noncancer, and nonresearch disciplines such as business and legal.

Already, the BJALCF is becoming a recognized force in lung cancer research. The foundation funded a major research project in the genetic profiling of adenocarcinoma last year, is sponsoring a Young Investigator Award through the International Association for the Study of Lung Cancer, and sponsored the first Addario Lectureship at the Ninth International Lung Cancer Congress on July 19, 2008, awarded to Dr. Paul Bunn, professor and director of the University of Colorado Cancer Center.

The summit concluded with a consensus among participants that “sharing quality time” among a group with diverse experience and expertise in lung cancer had laid the appropriate groundwork for ALCMI to successfully launch the foundation’s research agenda. A demonstration project is in development, designed to maximize the efficiency of the process, optimize utilization of the resource, and allow the infrastructure to be tested. In a concluding statement, Jonathan Jacoby of CollabRx paraphrased George Harrison’s song, “Got My Mind Set on You”: “I got my mind set on curing lung cancer... but it’s gonna take money, a whole lot of money, patients and time... a whole lot of quality time.”

Summit Participants

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Founder and President, BJALCF

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