

The National Institute of Allergy and Infectious Diseases Asthma and Allergic Disease Centers: A personal commentary

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This review describes the founding and major goals for the Asthma and Allergic Diseases Centers, a program launched by the National Institute of Allergy and Infectious Diseases in 1971. The program was initiated to develop allergy and immunology programs across the United States. Over the past 35 years, the program has successfully increased the visibility of the subspecialty of allergy and immunology, supported allergy and immunology programs at medical schools across the country, and encouraged interdisciplinary efforts with other subspecialties in medicine. (*J Allergy Clin Immunol* ■■■■;■■■;■■■-■■■.)

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The Asthma and Allergic Diseases Centers were conceived by the National Institute of Allergy and Infectious Diseases (NIAID) under the leadership of Dorland Davis, NIAID Director from 1964 to 1975. Seven centers were launched in 1971 with a vision that they might help increase the appreciation of the underlying science, increase the opportunities for translational research, and enhance the visibility of this subspecialty in medicine and pediatrics, which was so markedly underrepresented in undergraduate and graduate medical teaching. The initial Principal Investigators were Richard Farr (National Jewish Hospital, Denver), Elliott Middleton (National Asthma Center, Buffalo), Philip Norman (Johns Hopkins, Baltimore), Charles Parker (Washington University, St Louis), Charles Reed (University of Wisconsin, Madison), John Vaughn (Scripps Clinic, La Jolla), and K. Frank Austen (Robert B. Brigham Hospital, Harvard Medical School, Boston).

We met annually and envisioned an increase in the interactions across institutions of Allergy-focused investigators through those discussions and sharing of reagents. This was a time when virtually all reagents for allergy/immunology research were made in-house. We presented

work in progress and dissected results of related projects with supporting or contradictory outcomes from different centers. There was a “camaraderie of the few” that underscored the discussions of the science and extended to considerations of how to attract others, especially next generations, to the field, and how to motivate the many training institutions that largely ignored the discipline, especially within departments of internal medicine. We recognized an urgent need to interact with pulmonary physicians studying asthma and initiated a series of independent meetings with publications beginning in 1973 entitled *Asthma: Physiology, Immunopharmacology, and Treatment* that have endured for decades. NIAID provided a program director for the annual meetings and other aspects of the program, initially Maurice Landy and then formally Sheldon Cohen. By 1978, there was a formal Request for Applications authored by Bob Goldstein, and the number of programs increased to 13 or 14, reflecting some gains in institutional recognition of the field, and acknowledgment of the particular strengths of allergy and immunology programs. The early meetings of the Asthma and Allergic Diseases Center (AADC), which included 2 or 3 investigators from each program were held on the National Institutes of Health campus in the type of awesome setting used for council meetings. We felt privileged and obligated. The agendas were preplanned to group subjects cogently. The discussions were vigorous and included the senior NIAID staff. This not only provided the NIAID with an insight into the depth and breadth of subjects being pursued but also allowed the participants to identify areas in need of new or additional support. The participants had almost a pioneer spirit because the number of centers was small and the meetings were congenial, scientifically informative, and motivated by our shared interest in gaining more NIAID support for the field of allergy. An especially important aspect of these meetings was the opportunity for young investigators in the discipline to present their newest science, and to meet and receive feedback from senior leaders in their field. Many of those then-young scientists have gone on to lead major laboratories of allergy and immunology.

An important backdrop to the development of the AADC centers was the novel structure of allergy in American medicine. The discipline was originally housed individually within both internal medicine and pediatrics as a subspecialty, but in 1971 it was reconstituted as a

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conjoint board, sponsored by the parent boards of Internal Medicine and Pediatrics. Paradoxically, this conjoint structure limited appreciation of the discipline of allergy and immunology in departments of internal medicine and pediatrics, because the field was now no longer under the direct purview of the departments. Further, allergy was seen as largely an outpatient activity with little or no effect on the inpatient service. Moreover, the absence of allergists within many major departments of medicine and pediatrics contributed to an overall lack of house staff recognition. This disregard perhaps did not awaken the majority of other subspecialties, and allowed this author and colleagues successfully to engineer a change in the name of the new certification to "Allergy and Immunology." The intent was to emphasize that immunology, a paradigm for systems biology, was particularly central to the science and clinical goals of the subspecialty. The decision within the American Board of Internal Medicine was close. I cherish both my Allergy Certification #19,152 and its replacement Allergy and Immunology Certification #25. This change in name introduced the premise that allergy was a direct subspecialty offspring of a basic science of great merit and in time has fit well with the appreciation that germline diversity (innate immunity or inflammation) precedes and follows somatic diversity (adaptive immunity) in an immune response.

Throughout the three and a half decades of my involvement, the AADC program of the NIAID has been an anchor critical to the survival of allergy and immunology, and its slow but continuous academic growth. The limitations facing allergy and immunology are not competition with other subspecialties for a finite patient pool, but rather in what the subspecialty can offer therapeutically and with a mechanistic understanding. The current competition among centers for a limited NIAID support pool appears to contradict the original concept that centers would not only provide basic and translational research but also serve to increase allergy/immunology education and training and the quality of clinical care by providing identity at more of the medical schools that lack adequate training programs. However, the competition for center recognition has raised the ante for basic and translational research funding, thereby forging alliances and aggregate interdisciplinary programs of ever greater breadth, depth, and scientific quality. The NIAID has more than done its part in continuing to foster the science. The subspecialty now needs to examine its structure to gain

greater visibility within departments of medicine and of pediatrics in teaching institutions. Finally, with fragmentation of medical care a major problem in American health care, the unity/integrity of caring for parent and child by the same doctors in the same place through a continuum of knowledge is compelling. Such an arrangement will provide a tangible advantage as genetic research assumes a greater role in concert with epidemiology and molecular biology in unraveling disease susceptibility, severity, and drug selection. This evolving scenario has been and is immensely strengthened by the original concept of age-unrelated AADCs directed to unraveling disease mechanisms and providing improved interventions.

A major discussion point continues to be our inability to increase the number of medical schools that adequately teach the subjects of allergy and immunology, the number of departments of medicine and pediatrics that lack an academic program, and the small number of applicants to the academic programs needed to seed medical schools and hospitals. Although being recognized as a subspecialty well suited for a laboratory career in immunology was a helpful first step, the academic discipline has only recently gained adherents through the recognition that asthma is minimally understood and a major medical problem, that adverse drug reactions have no other advocate subspecialty, and that biological therapies of many types are a core intervention for diseases of the immune system. The discipline needs to maintain the cross-training provided by the current certification structure for optimal patient care and translational research while regaining and enhancing its identity within its parent disciplines through some structural change.

The relatively small NIAID program to create integrated yet focused allergy centers envisioned and sustained for 35 years has been immensely successful and possibly a model for productivity. The centers did provide and increase the identity of a subspecialty that focused on the environment as well as the host without age restrictions for its patients, did initiate and sustain the laboratory careers of appreciable numbers of young investigators on their way to The Research Project (RO1) grant support, did lead to the population of many needed academic niches including its own intramural program, and did elicit new interdisciplinary efforts among allergists, immunologists, pulmonologists, clinical pharmacologists, and geneticists, among others.