

**ANNUAL REPORT: DIVISION OF
INTRAMURAL RESEARCH PROGRAMS,
NATIONAL INSTITUTE OF MENTAL
HEALTH, OCT. 1, 1985 - SEPT. 30, 1986,
VOL. I - SUMMARY STATEMENTS**

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U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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VOLUME I

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DIVISION OF INTRAMURAL RESEARCH PROGRAMS
NATIONAL INSTITUTE OF MENTAL HEALTH
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ANNUAL REPORT
of the
Director, Division of Intramural Research Programs
October 1, 1985 - September 30, 1986
Frederick K. Goodwin, M.D.

Thanks to an unusually crowded schedule over the past several months, I have taken the liberty of extending the period actually covered by this, my fifth annual report as Scientific Director, to the end of calendar 1986.

The prospects for a productive 1987 are looking better than most of us would have predicted a year ago. Having made the most of a fiscally very tight 1986, caused by the sudden mid-year cuts required by the Gramm-Rudman-Hollings Act, the Program has emerged with some valuable lessons in belt tightening and with a modicum of new resources (albeit no new positions) to follow up exciting leads in AIDS, molecular biology, psychoimmunology and schizophrenia research. This continuity of intramural resources reflects the strong support of our program, especially at the Institute and ADAMHA level and also within the Department and in Congress. A key person in sustaining and enhancing support in the Institute's research mission is Dr. Shervert Frazier, whose sudden return to Harvard in December left us all with a sense of real loss. In his two years as Institute director, Dr. Frazier built new bridges between intramural and extramural programs, tapping the expertise of IRP scientists to help fill gaps in freshly reorganized headquarters branches. He also launched a major schizophrenia research initiative which is already reflected in a new Intramural branch. We will miss him.

As the search begins for a new Director, the Institute is in the able hands of Acting Director Dr. Frank Sullivan, who has a longstanding appreciation of intramural research; and -- for the first time -- an Acting Deputy Director drawn from the IRP. The recent naming of Dr. Rex Cowdry to the headquarters post is our loss and the Institute's gain. Dr. Cowdry distinguished himself over the past year as chairman of the NIH Clinical Center's Medical Board, tackling the difficult problems of budgeting resources for the world's largest research hospital. Dr. Dave Jimerson will serve as Acting Clinical Director during Rex's time at Parklawn.

Also in December, I was gratified to have been one of 44 senior Federal managers (one of 2 from DHHS) selected to receive the Distinguished Executive Award at a White House ceremony. I was genuinely surprised when President Reagan singled me out, along with three other honorees, for special mention. In his remarks, the President spoke of the importance of mental illness/neuroscience research to the Federal government's mission, apparently signaling heightened Administration recognition of our Institute's work.

Recognition from other quarters continued to be reflected in an impressive array of the most prestigious awards to IRP scientists. These included: Dr. Seymour Kaufman, election to membership in the National Academy of Sciences; Dr. Richard Wyatt, the Mental Health Association's McAlpin Research Achievement Award and the first Arthur P. Noyes Award in Schizophrenia from the State of Pennsylvania; Dr. Steven Paul, the Foundation's Fund Prize for Research In Psychiatry from The American Psychiatric Association and the 1986 Daniel Efron Award from the American College of Neuropsychopharmacology (ACNP); Dr. Daniel Weinberger, the Arthur S. Flemming Award for the ten best young Federal employees from the Downtown D.C. Jaycees; Dr. Robert Post, the ACNP's 1985 Efron Award; Dr. David Pickar, the National Alliance for the Mentally Ill's Young Scientist Award and the Commissioned Corps Commendation Medal; Drs. Joseph Zohar and Thomas Insel the A.E. Bennett Award (Research) from the Society for Biological Psychiatry; Dr. Karen Berman, the A.E. Bennett Award (Clinical); Dr. William Potter, the PHS Meritorious Service Medal; Dr. Michael Brownstein, the PHS Superior Service Award; Dr. Robert Cohen, the Commissioned Corps Commendation Medal; and Drs. Juan Saavedra and Steven Wise and Richard Staub and Mollie Strotkamp, the Administrator's Award for Meritorious Achievement.

To continue this tradition of scientific excellence, we periodically tap the expertise of our distinguished panel of outside consultants, the NIMH Board of Scientific Counselors. This year, we said "goodbye" to Dr. Daniel Freedman, who had served so ably as chairman of the Board. Danny will be succeeded by Dr. Arthur Prange. The incoming permanent Board members for 1987 will include Drs. Lew Judd, Mike Goldstein and Bruce McEwen.

This year, as in past years, we have attempted to optimize research opportunities through programmatic and personnel rearrangements, as worked out in consultation with the Lab/Branch Chiefs, Associate Directors, the Board, and other panels of outside consultants. Last year's turnover in the basic science laboratories of Drs. Evarts, Costa and Kohn, allowed us to broaden our consideration of proposals for new programmatic thrusts. We convened an IRP "retreat" in early June, which included lab and section chiefs, to identify new areas of opportunity in the basic sciences where the IRP might recruit new staff. Focussing on scientific rather than structural issues, the day-long meeting discussed investigators doing the most exciting work in neuroscience and behavioral research areas who would complement our existing laboratories. A special focus was on those basic science areas where bridges to basic research could best be achieved.

A general consensus emerged favoring major new thrusts in developmental psychobiology, molecular mechanisms of memory and learning, molecular genetics and cognitive sciences. Three additional areas were identified for new recruitments, perhaps at a more junior level: psychoneuroimmunology, cellular neurophysiology, and protein chemistry and biochemistry. Committees were appointed in each area to review lists of optimal candidates and invite prospective recruits to present their work and get acquainted with the NIMH via a new speakers program. In each case,

recruitment decisions would be based first on the quality of the individual's work and secondly on the ability of that work to interdigitate with areas already established in the IRP.

The area of cognitive sciences was also a point of focus for a distinguished ad hoc panel of psychologists brought in to advise us as to what were the most exciting and productive areas of psychological research today. The panel included Drs. Judith Rodin, Norman Garnezy and Michael Goldstein.

Among the first retreat-endorsed new thrusts is a new program in developmental psychobiology. A critical mass of basic animal investigations into the neuroanatomy and neurophysiology of development will soon be in place at our joint NIMH/NICHHD animal research facilities in Poolesville, MD. We have recruited a senior investigator in this field who will collaborate with existing research teams led by Drs. Thomas Insel, Stephen Suomi and Steven Wise. Dr. Brent Stanfield, a highly regarded developmental neuroanatomist, studies the manner in which neurons interact to give rise to the complex organization of neuronal circuits.

Dr. Wise is moving the core of the Laboratory of Neurophysiology from Building 36 to Poolesville. His planned future studies on the prefrontal cortex there will attempt to link a growing understanding of the mechanisms underlying behavioral set with measurable activity of prefrontal neurons. Brain imaging studies at our William A. White (WAW) Building research center at Saint Elizabeths Hospital have linked impairment of behavioral set in schizophrenia to the frontal cortex. Future studies by Dr. Wise will also seek to unravel interactions between the cortex and striatum as they relate to activity of the dopamine system, which is known to be involved in schizophrenia and other neuropsychiatric disorders.

These developmental studies complement burgeoning investigations at WAW which are predicated on evidence that schizophrenia (and perhaps other forms of psychopathology) has its roots in brain systems which fail to develop normally. Drawing on existing primate studies of how the brain matures, Dr. Daniel Weinberger this past year elaborated on a developmental theory of schizophrenia that accounts for the characteristic delayed onset of the disorder in early adulthood and integrates other evidence from neuropharmacologic and neurophysiologic studies. Individuals at risk for developing schizophrenia may appear unimpaired in childhood because their immature brains can compensate for yet-to-be-discovered damage destined to affect functioning of the prefrontal cortex and related areas. It is only after these areas and related, stress-sensitive dopamine systems mature that symptoms develop.

Dr. Weinberger, Dr. Steve Paul and myself served on the NIMH Schizophrenia Task Force which is responsible for formulating the Institute's new schizophrenia initiative. As part of this heightened posture. The creation of a new Clinical Brain Disorders Branch, under Dr. Weinberger at WAW, provides a concrete reflection of our commitment to schizophrenia research. Created from elements of the existing Neuropsychiatry Branch and the Laboratory of Preclinical Pharmacology, the

new branch brings to bear a range of technologies in search of causes and new treatments for this most devastating and least understood of the major psychiatric illnesses. In the coming year, single photon emission tomography will be added to the Branch's growing armamentarium of brain imaging techniques. In addition, Dr. Emanuel Casanova, a top flight neuropathologist, has been recruited to head up an expansion of the existing brain bank within the Clinical Brain Disorders Branch. It is being developed into a national resource for studies of schizophrenia and related disorders.

With the prospect of relocating our Saint Elizabeths operation to the NIH campus still years away, and faced with the imminent transfer of the Hospital to the District of Columbia, we have had to plan for the transition of the WAW facility into a freestanding research hospital. These preparations were made, over the past year, by Clinical Directors Drs. Rex Cowdry and Lew Bigelow in cooperation with Jim Pittman. In the past, the 60 patient care and support personnel of WAW's three inpatient units were employees of Saint Elizabeths Hospital. Later in 1987, they will be transferred to the IRP, increasing our total paid workforce to about 600 people. To acquaint Bethesda-based programs with the expanding resources and exciting research at the Saint Elizabeths outpost, we "invited" all lab and branch chiefs to a tour of WAW last May. The visit generated considerable interest and at least a few specific collaborations resulted.

Similar in concept to the WAW brain bank is a new cell bank begun by Dr. Elliot Gershon and colleagues in the Clinical Neurogenetics Branch (CNG) this year. They are assembling a collection of cells, from well-diagnosed pedigrees with manic-depressive illness and schizophrenia, which will form the nucleus of a resource for studies using genetic probes. Both clinical and basic studies in molecular genetics were yet another high priority area identified at the retreat in which new recruitments were made in 1986. A new molecular neurogenetics unit under Dr. Edward Ginns has joined Dr. Steven Paul's Clinical Neuroscience Branch. Dr. Ginns and colleagues, who came to us from the NINCDS, have been working on strategies for gene therapy in Gaucher's disease, and are now expanding their interest to include psychiatric illness. On the more basic side of molecular genetics this year, we are very excited about the arrival of Dr. H. Okayama to Dr. Michael Brownstein's Laboratory of Cell Biology.

The CNG lost Dr. John Nurnberger this year to the University of Indiana. Dr. Wade Berrettini, also of the CNG, succeeds John as director of our outpatient clinic. Throughout most of this year, Dr. Gershon, like Dr. Seymour Kety before him, served part-time as science advisor to the ADAMHA Administrator and as interim Director of the ADAMHA Office of Science. The Agency has benefited from his sound scientific judgment during this transitional period. Again, ADAMHA's gain is IRP's loss: Dr. Gershon's announced successor in the post, Dr. Bernard Grosser of the University of Utah, will have to resign from our Board of Scientific Counselors when he assumes the job this Spring.