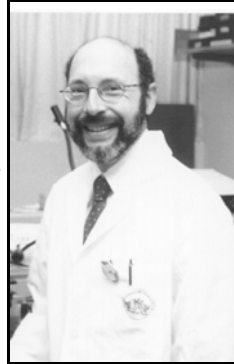




M.A.D.R.C. Longitudinal Cohort

A Message from the Center Director

This spring marked the broadcast of an extraordinary event on HBO - the 4 hour long set of specials on various aspects of Alzheimer disease, broadcast live and available later on the internet by HBO. This was made possible by private foundations and individuals who made donations, by the Alzheimer Association, and the National Institute of Health, who worked together with Alzheimer Centers across the country and indeed around the world to make this a memorable event. In my mind this series - a major enterprise sure to seize the public interest - is a striking landmark achievement.



I remember when I was a medical student, 25 years ago, that the diagnosis of Alzheimer's disease or dementia was kept under wraps - as if it was something to be ashamed of and hushed up. It was viewed as a rare event, and people didn't talk to one another about the pain it caused. Euphemisms abounded - "hardening of the arteries" or "old-timer's disease" - or it was simply ignored. Like many diseases the common wisdom was that somehow the person who got it had done something to cause it.

How things have changed!

Now Alzheimer's is recognized to be one of the leading causes of death in America. Six million Americans have received the diagnosis. Presidents, movie stars, heroes of all walks of life - and openly, many of our parents, our relatives, our friends are brought to their clinician for check ups, talk about it at lunch, get support and advice from each other at support groups, over the dinner table, and over the internet. The Alzheimer Association, the medical community, churches and social groups have all raised public awareness and knowledge. This has been a step by step process over many years - marked by many books, magazine articles, some superb TV including "The Forgetting" - and I believe we are on the edge of another dramatic and important event that, inspired by HBO's efforts, will put Alzheimer's right in the middle of the national consciousness and discussion. And none too soon!

The numbers are devastating. 6 million Americans! The number is probably an underestimate by half, and the number will increase dramatically over the next decade as the number of Americans who reach their 7th and 8th decade increases considerably.

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MASSACHUSETTS ALZHEIMER'S DISEASE RESEARCH CENTER

Letter from Center Director, continued

Our robust health and resulting longevity should be a matter of national pride - yet for too many increasing age brings fear of Alzheimer's. And, beyond our compassion for those suffering from dementia, our concern goes beyond the patients themselves. Children of patients with Alzheimer's not only suffer the emotional pain of watching a loved one decline, but carry the burden that their own genes may be a ticking time bomb, that they may be watching their own future - and the future of their children as well.

The HBO specials will help cement in the public mind the idea that this epidemic is here, is worsening, and is not going away. The only way to head this off is research - one of the reasons we see here representatives of many of the major hospitals and universities in Boston, and why those same institutions were among the sites where HBO chose to film. While I hope that the sections in which I was filmed remained on the cutting room floor - after all the shine off my bald head would blind the viewer - I am proud of the fact that Harvard Medical School, Mass General, the Brigham - are in the forefront of Alzheimer research, with true breakthroughs in genetics, understanding the molecules that go awry in the brain, in how those molecules disrupt brain function, and in

therapeutic trials all pursued with vigor here. Much of this research is coordinated through our Alzheimer Disease Research Center.

Many of the breakthroughs come by the efforts of individuals, of institutions like the Alzheimer Association, and foundations - sometimes big corporate foundations, sometimes small personal efforts - that fuel the engine of research and add momentum to our dream to stop this disease before symptoms begin. I'll be explicit - part of our hope is that the extraordinary exposure and insight of these HBO programs will help provide Congress with the will to support the national effort in Alzheimer research, and to motivate individuals, corporations, and foundations to ask "how can I help?" In the words of the Obama administration - there are "shovel ready" programs ready to launch, save for the resources to get them off the ground.

We can't be passive and assume someone else will do it - we need to shoot for the moon and do everything in our power to care for the millions of Americans struck by Alzheimer's and other dementias, to learn how to stop the progression, how to treat the disease, and most of all how to prevent it - so that old age is not a time of fear, but a time of wisdom, reflection, and joy.

Dr. Brad Hyman

IF YOU ARE ALREADY ENROLLED AS A MEMBER OF THE LONGITUDINAL COHORT, you may call **Jeanette Gunther, MS, the clinical coordinator**, if you have any questions or concerns, or just so she can tell you how much we appreciate your partnership in this important research.

You can reach Jeanette at: 617-726-5571.



HARVARD NEURODISCOVERY CENTER BIOMARKER STUDY (HBS)

Many of you have enrolled in this study giving blood samples for the HBS. The HBS is dedicated to discovering and validating biomarkers for neurodegenerative diseases, primarily Parkinson's disease (PD) and Alzheimer's disease (AD).

The goal of the HBS is to identify and validate biomarkers that track progression, predict prognosis, or mark risk of PD and AD. A "biomarker" is a surrogate for disease symptoms. For example, cholesterol is a biomarker for heart disease. A good biomarker typically helps researchers and doctors estimate disease

risk and diagnose disease before symptoms appear. Physicians also use biomarkers to monitor disease progression and assess response to new drugs.

We plan to collect 2,000 subjects with PD, AD and controls (free of neurodegenerative disease and cognitive impairment) by early 2011. To date, with your help, we have enrolled over 900 subjects. We would like to thank you for your participation.

Additional information about the Harvard NeuroDiscovery Center Biomarker Study can be found at www.NeuroDiscovery.harvard.edu



Research Study

Detecting Early Cognitive Decline in Community Dwelling Elders

We are seeking healthy adults, 65 years of age or older, with at least 4 years of education from a variety of ethnic backgrounds to participate in a research study. The purpose of the study is to develop simple methods for understanding memory changes for age. Participants will be asked questions about their memory and must have a friend or relative who can answer 5 minutes of questions over the telephone about day-to-day activities. All evaluations will be free of cost and reimbursement for time and transportation is provided. All information is kept completely confidential.

You may be eligible to participate if you are 65 years of age or older, speak English and have a friend or relative who can answer 5 minutes of questions over the telephone about day to day activities.

To learn more about this study, and other clinical trials or research studies being conducted at our affiliated program at the Brigham and Women's Hospital, *Contact Meghan Frey, Research Coordinator* at 617-732-6388 or mfrey1@partners.org



BENCHMARKS: *An Interview with Basic Science Researcher Mark W. Albers, MD, PhD*

How did you choose to pursue research at MGH?

I completed residency training in internal medicine at MGH and neurology at MGH and BWH in the Partners program. Then, I moved to Columbia University to resume my research career. I also completed a clinical fellowship in behavioral neurology. While I was at Columbia training in Dr. Richard Axel's laboratory, he won the Nobel Prize for Medicine for his studies of how odors are processed in the brain. Later, I was delighted to accept an offer to return to MGH in the Alzheimer's Disease Research

Unit and the Memory Disorders Unit.

Tell us about some of the "hot" research activities you've been pursuing.

My group is focused on two major issues in neurodegenerative disease research. The first involves clarifying the mechanisms underlying these tragic diseases in order to develop therapies to slow or reverse the disease. The second aims at finding ways to detect the disease process in people before they begin to show symptoms, since beginning treatment early may produce better results. Our research centers on the olfactory system, used for the sense of smell. In people with Alzheimer's disease, problems with the sense of smell may occur early, before other symptoms. Our overall goal is to develop a smell test that could be given to detect Alzheimer's disease before people show symptoms. This test would be combined with other measures being developed at MGH and elsewhere. We recently received a state-of-the-art olfactometer from Osmic Enterprises to help us. (An olfactometer is an instrument that helps measure a person's sense of smell). In the laboratory, we use "transgenic" mice, mice bred to have Alzheimer's disease in very specific genes located in the nose. We observe that these genes interfere with the connections from the nose to the brain and change mouse's responsiveness to odors. Since mice live in a "smell" world, these changes have a big effect on their ability to find food, mating partners or distinguish predators. If we "block" the Alzheimer's disease genes all these problems reverse within two months. If we then "turn the genes back on", the disease in the nose returns. We are trying to understand the changes occurring in the mice at the molecular and cellular levels. The goal is to develop medicines that can interfere with the development of the disease or strengthen the brain's own abilities to postpone the beginning of symptoms of Alzheimer's Disease.

Did you always want to be a doctor (neurologist) and/or researcher?

I grew up in a small town in Iowa where my father was a pharmacist. I would work in his drug store behind the soda fountain, but I preferred to work with him in the pharmacy where I could learn about the medicines. This sparked my desire to become a physician. I learned about research at summer camp during high school. Then I had a dilemma — to become a physician or a scientist? While I was in college I discovered that one could do both by taking an M.D./PhD. program.

Continued at top of next page

Have there been challenges during your career path?

I played football growing up and one important lesson that I learned is that when you get knocked down, you need to get right back up and be ready for the next play. Research is a bit like intellectual football since most of the experiments you try don't work or knock down your latest hypothesis. By persistently tackling the next experiment, you march towards a better understanding of the disease and hope that it will contribute to the development of a better therapy.

Tell us what a "typical" day is like for you!

I feel very fortunate that "typical" is rare for me since my days are filled with surprises! I am an early riser and exercise in the morning. I see patients on Monday afternoon in the Memory Disorders Clinic MGH and ADRC longitudinal cohort subjects on Tuesday mornings. The remainder of my time is focused on the research activities. My lab is in the Charlestown Navy Yard where I am fortunate to interact with talented colleagues, especially the ADRC director Brad Hyman. We have a well-equipped facility where we are only limited by our energy and our ideas.



CONVERSATIONS OVER COFFEE BEANS



Kelly A. Hennigan

Secretary for Gerontology Research Unit



Tell us about your start here at MGH.

I started here at MGH in the Gerontology Research Unit in 1999!

Describe some of your daily responsibilities, and tell us some of the challenges that you may face.

I am the secretary for the office so I do a little bit of everything. I do the scheduling, filing, answering the phones etc. One of the challenges I face is keeping the schedule!

You meet a variety of interesting individuals as part of your job. What brings you job satisfaction, and what is a "good day" for you?

What brings me satisfaction is I enjoy meeting the subjects that come in for our study and seeing how committed they are to coming in year after year to help with this research. It is a great feeling to know that I am part of a study that is trying to help find a cure for such a devastating disease.

What advice would you give to someone who wishes to work in a gerontology or geriatric setting?

Try and enjoy the people you work with and the research participants that you meet. And keep in mind that even though it may be a very small part that you are doing for research it is important and satisfying.

Tell us something about your personal interests.

When I'm not at work, I like being outside and putting around my house, I also enjoy listening to music and spending time with friends.



**THE NEWSLETTER OF THE
MASSACHUSETTS ALZHEIMER'S DISEASE RESEARCH CENTER**

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The Massachusetts Alzheimer's Disease Research Center (ADRC) was established in 1984 with funding from the National Institute on Aging. Now in its 26th year of operation, the ADRC is a multi-institutional consortium of Harvard affiliated facilities, including the Massachusetts General Hospital; the Brigham & Women's Hospital; the Harvard Division on Aging; the Institute for Aging Research at Hebrew SeniorLife and the Massachusetts Institute of Technology.

Each institution supports research in Alzheimer's Disease and has a proven record of excellence. By joining together, we amplify existing research facilities and accelerate the pace of understanding and the treatment of AD.

The staff and programs of the **Massachusetts Alzheimer's Disease Research Center** and **Massachusetts General Hospital Memory Disorders Unit** are dedicated to research on Alzheimer's disease, and improving the well-being and quality of life of our patients and their families.

The Alzheimer's Association, Massachusetts Chapter
Providing education, care and support

The Alzheimer's Association, Massachusetts and New Hampshire Chapter is our regional chapter of the National Alzheimer's Association. It provides programs and services for families, patients and caregivers coping with Alzheimer's Disease and related dementias.

Helpline: the Helpline is available to families and professionals 24 hours a day, seven days a week. You can always reach a trained counselor by calling the toll free Helpline at **800-272-3900**. Translation services available in over 100 languages.

Support Groups: Support groups provide a forum for family members and caregivers of people with Alzheimer's disease to share feelings, concerns and information, and to support each other in coping with the effects of the disease or a related disorder.

150 support groups throughout Massachusetts.

Educational Materials: over 50 books and brochures available to the public

Alzheimer's Association, Massachusetts Chapter

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5 offices around Massachusetts and New Hampshire: Watertown, Raynham, Springfield and Worcester, MA and Bedford, NH.