

Aging and Independent Living

EC/US Independence in Aging Meeting

March 19, 2009

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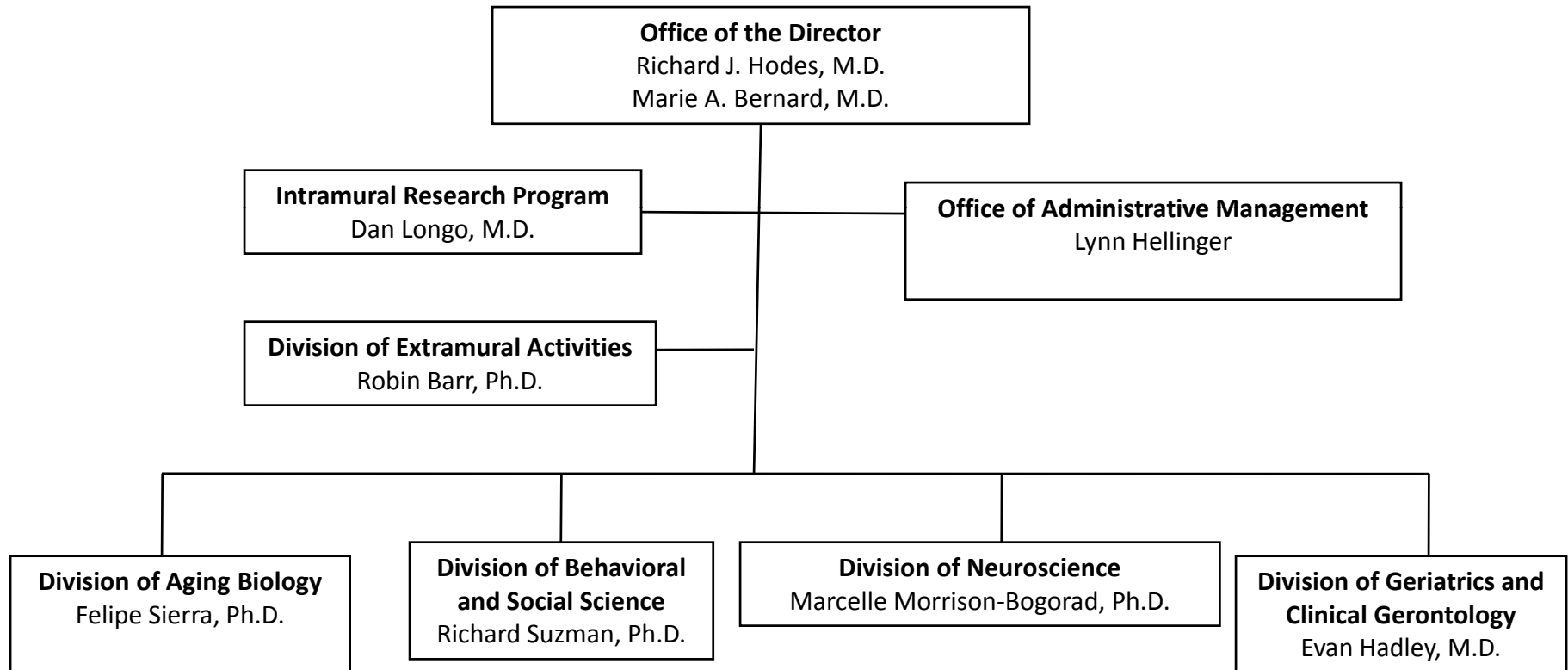
National Institute on Aging



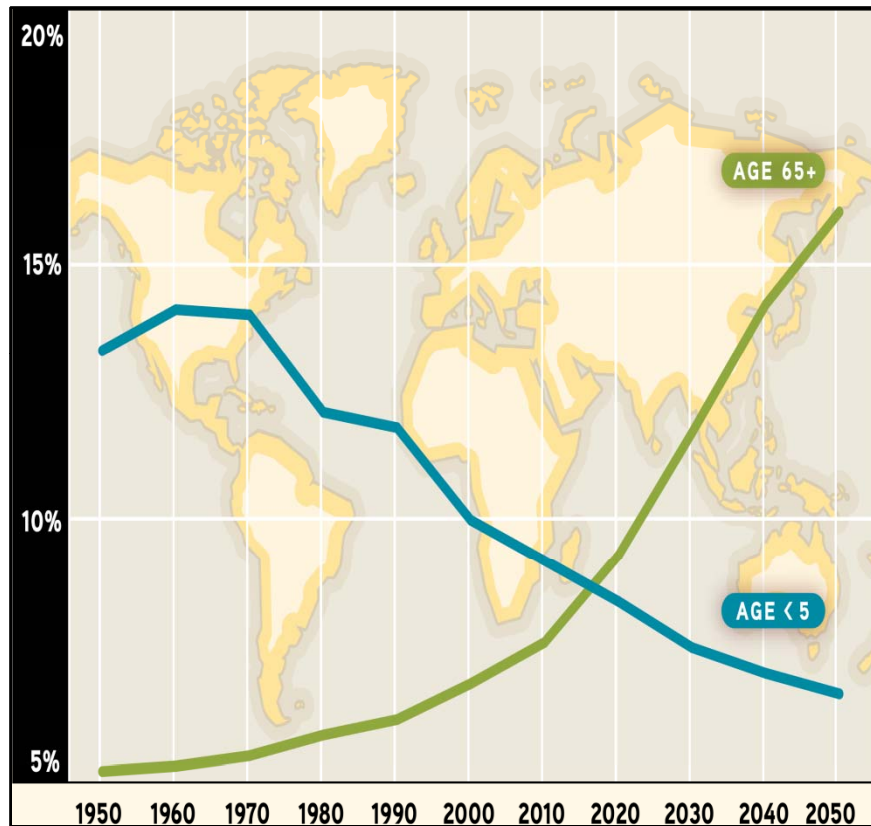
NATIONAL INSTITUTES OF HEALTH

National Institute on Aging

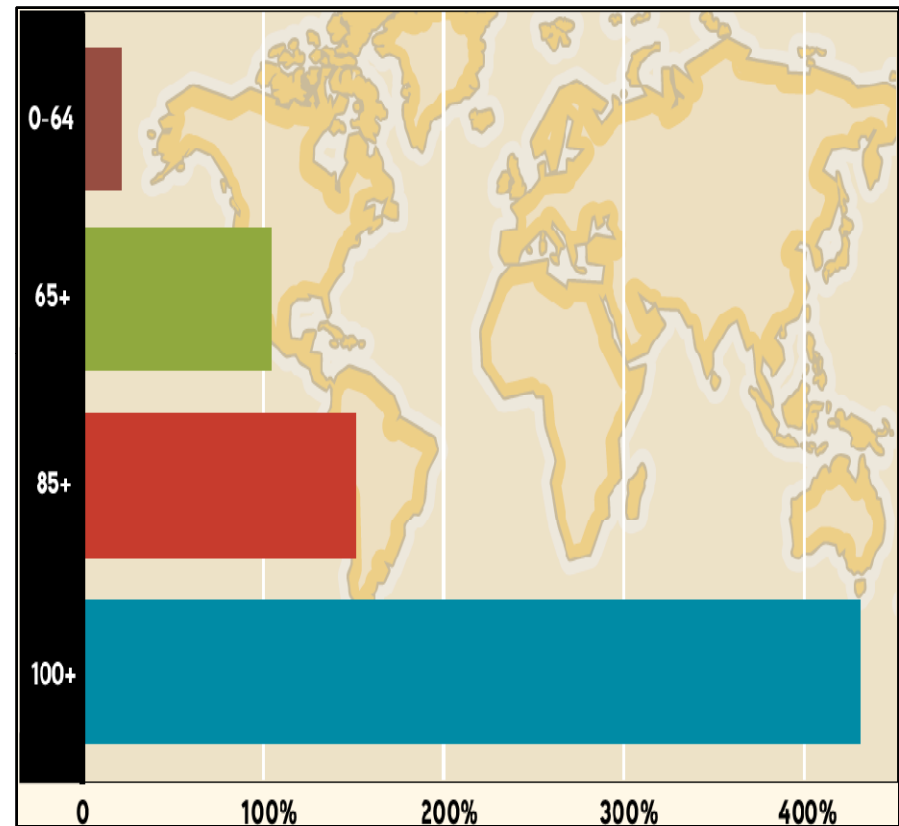
Organizational Structure



**YOUNG CHILDREN AND OLDER PEOPLE
AS A PERCENTAGE OF GLOBAL POPULATION**



**PROJECTED INCREASE IN GLOBAL POPULATION
BETWEEN 2005 and 2030, BY AGE**



United Nation Department of Economic and Social Affairs, Population Division. *World Population Prospects. The 2004 Revision*. New York: United Nations, 2005 in *Why Population Aging Matters: A Global Perspective* at www.nia.nih.gov/ResearchInformation/ExtramuralPrograms/BehavioralAndSocialResearch/GlobalAging.htm

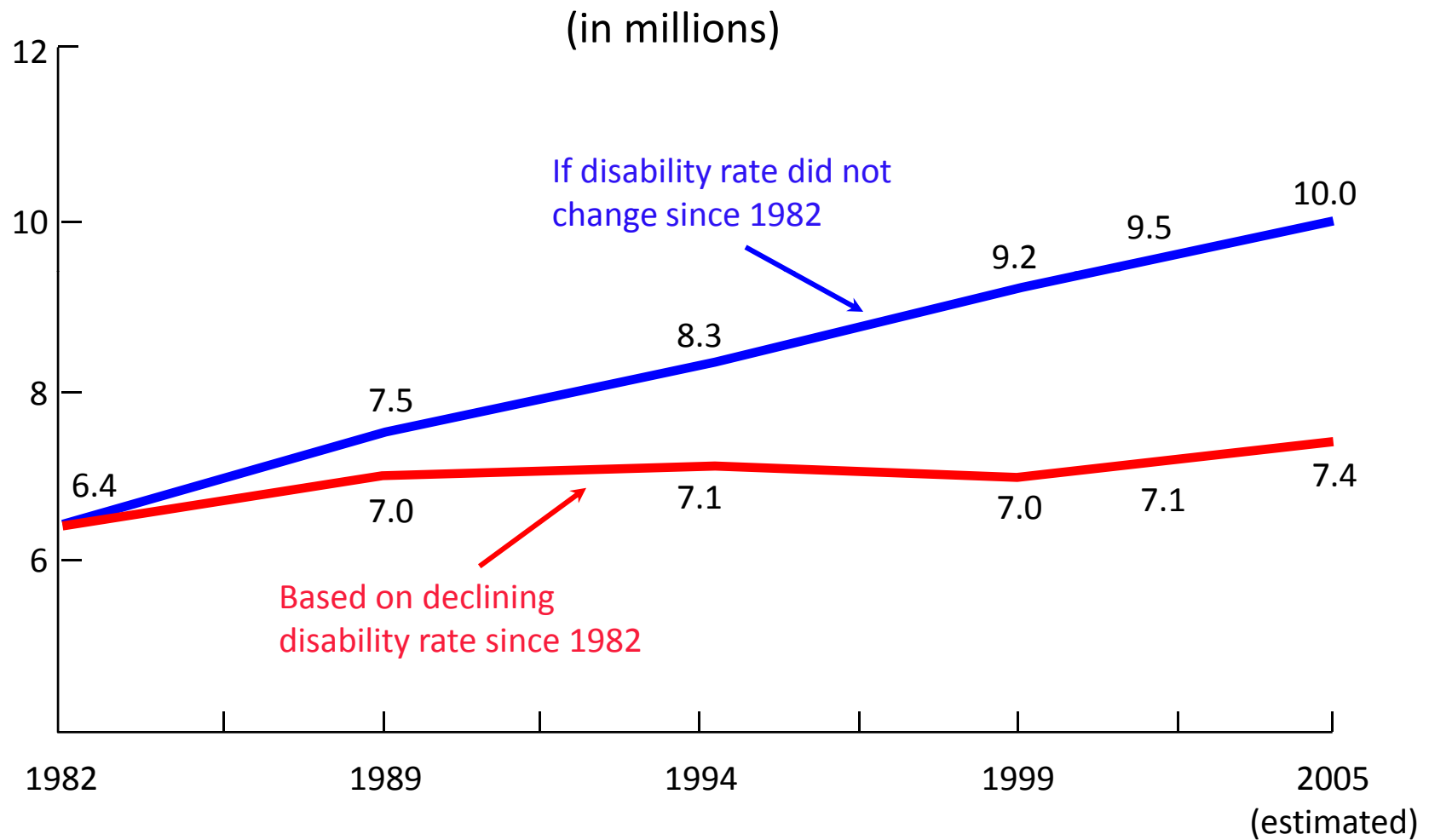


Survey of Health, Ageing and Retirement in Europe

- Multidisciplinary, cross-national panel database of micro data on health, socio-economic status and social and family networks
- More than 40,000 individuals- ages 50 or over
- 11 countries part of the 2004 SHARE baseline study: Denmark, Sweden, Austria, France, Germany, Switzerland, Belgium, the Netherlands, Spain, Italy and Greece
- Data collected in 2005-06 in Israel.
- Two 'new' EU member states - the Czech Republic and Poland – and Ireland joined SHARE for the second wave of data collection in 2006-07.
- **NIA investment in SHARE:** data collection and methods development– vignettes and performance measures– harmonization for cross-national comparisons



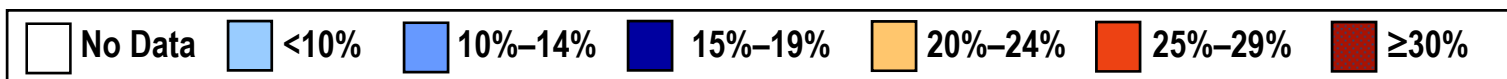
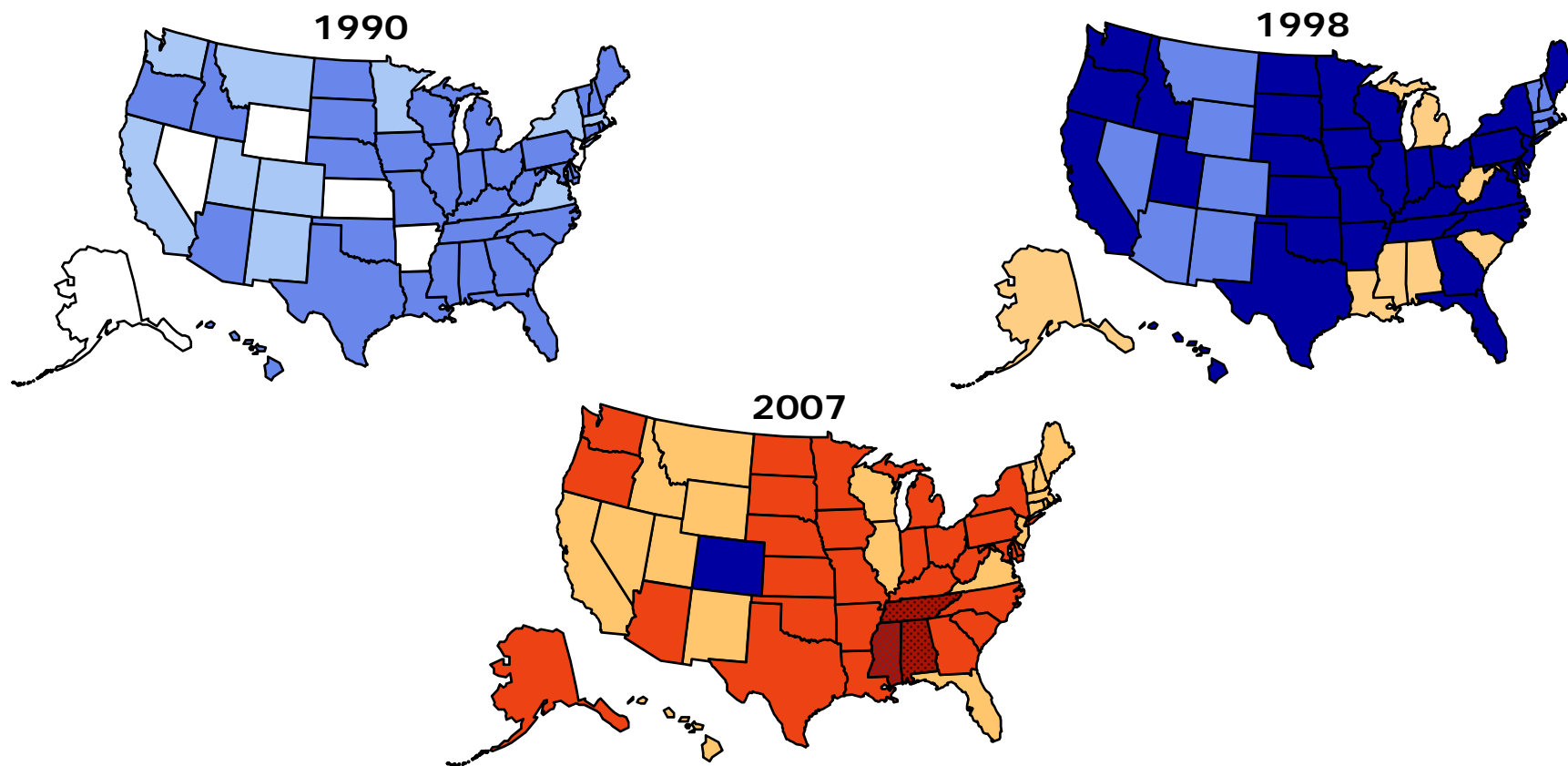
Number of Chronically Disabled Americans Age 65+



Source: National Long Term Care Survey (Kenneth Manton, Ph.D.)

Obesity Trends* Among U.S. Adults

(*BMI ≥ 30)



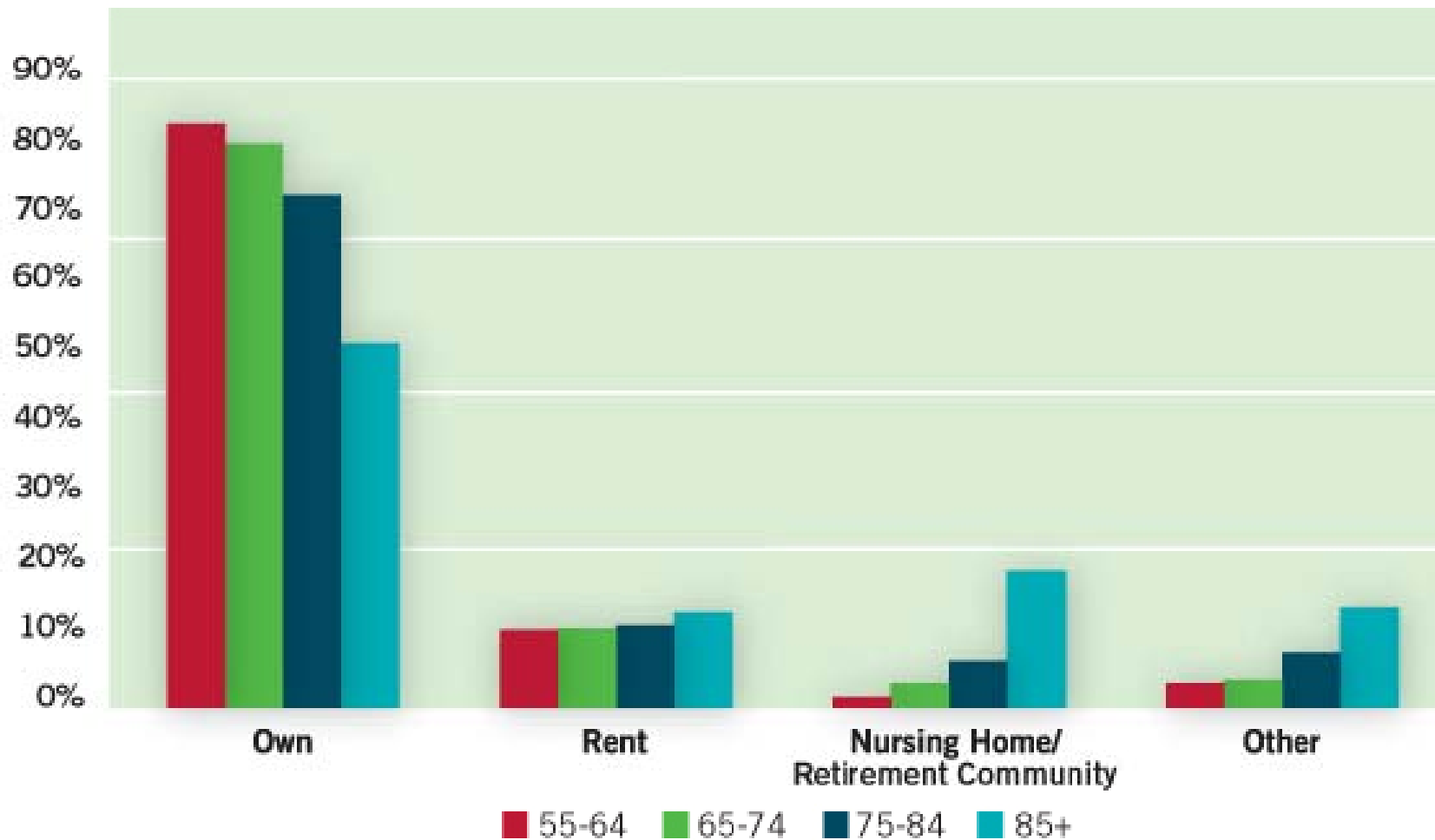
Source: Behavioral Risk Factor Surveillance System, 1990, 1998, 2007

Primary Causes of Disability in Older Americans

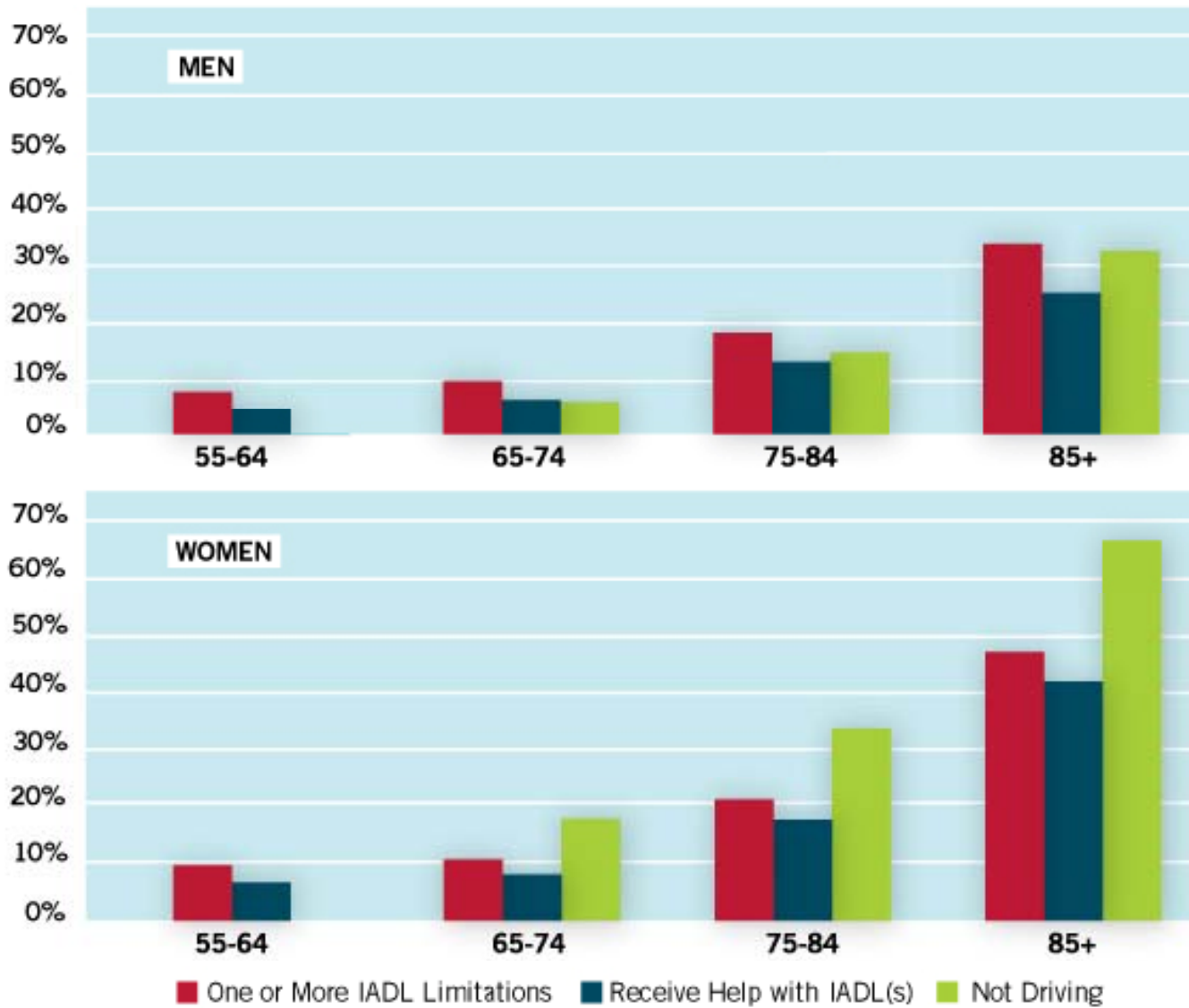
- 1) Arthritis
- 2) Infectious diseases
- 3) Dementia
- 4) Heart failure and arrhythmias
- 5) Diabetes
- 6) Stroke
- 7) Peripheral vascular disease
- 8) Parkinson's and related disorders
- 9) Mental disorders
- 10) Depression
- 11) Respiratory diseases
- 12) Hip and pelvic fractures

Sources: Landrum MB & Stewart KA (2006) Clinical Pathways to Disability: An Analysis of the Major Clinical Contributors to Disability in the Elderly. Harvard Medical School working paper; National Long-term Care Survey, 1982-1999 (Kenneth Manton).

LIVING SITUATION, BY AGE: 2002



LIMITATION IN INSTRUMENTAL ACTIVITIES OF DAILY LIVING, BY AGE: 2002



NIA Intervention Studies

- **Experience Corps**
- **Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) Clinical Trial**



Experience Corps

- Senior volunteer program (intensive 15 hours a week)
- Meaningful roles in public elementary schools
- Cognitively demanding; promotes social engagement and physical mobility
- Sites in 8 states, 18 cities; NIA funding for randomized trial with controls in 19 Baltimore schools





Pilot Results– Adults

- **Better overall health:** Physical activity, strength, and cognitive ability increased significantly.
- **Higher activity levels:** 63percent of Experience Corps members reported being more active, compared to 43 percent of controls.
- **Bigger social network:** Experience Corps volunteers reported a significant increase, compared to a decline in the control group, in the number of people they felt they could turn to for help.
- **Television time:** Experience Corps members reported a drop in television watching, while controls reported an 18 percent increase.
- **RETENTION:** 98 percent of Experience Corps members were satisfied with their school experience, and 80 percent returned the following year.





Early Results– Kids

- **Better test scores:** Third graders working with Experience Corps members scored significantly higher on a reading test, the Maryland School Performance Assessment Program, than children in the control schools.
- **Better behavior:** In schools with Experience Corps, referrals to the principal for classroom misbehavior decreased by half; referrals in the other schools remained about the same.



ACTIVE Interventions for the Aging Mind

Quilting Class



Photography Class

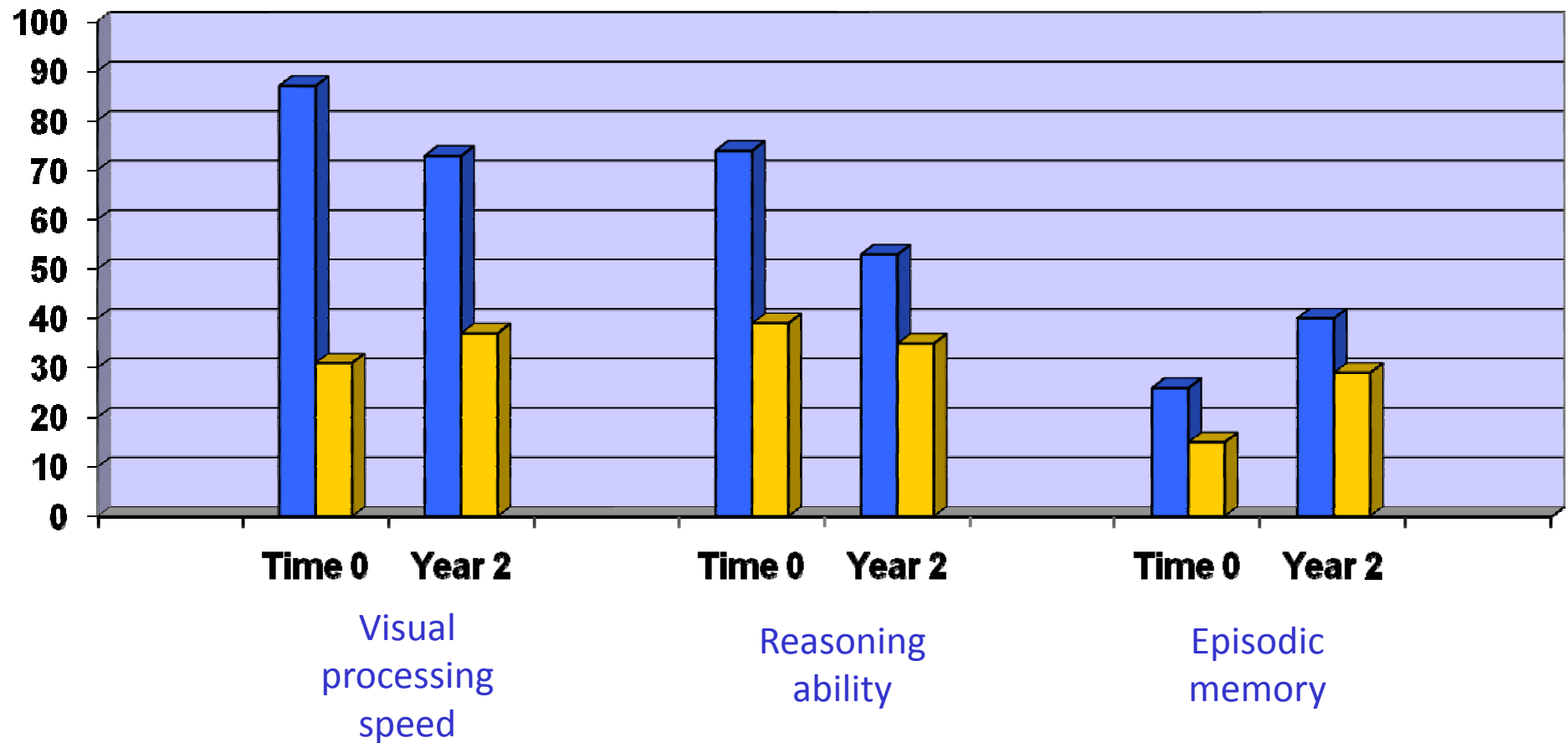


Pilot data for the R01 indicated that a 12-week course in Photography led to trends to improvement in memory and visuospatial skills. Quilting led to trends towards gains in other tasks.

ACTIVE Clinical Trial Results

■ Intervention ■ Control

Percent Improved

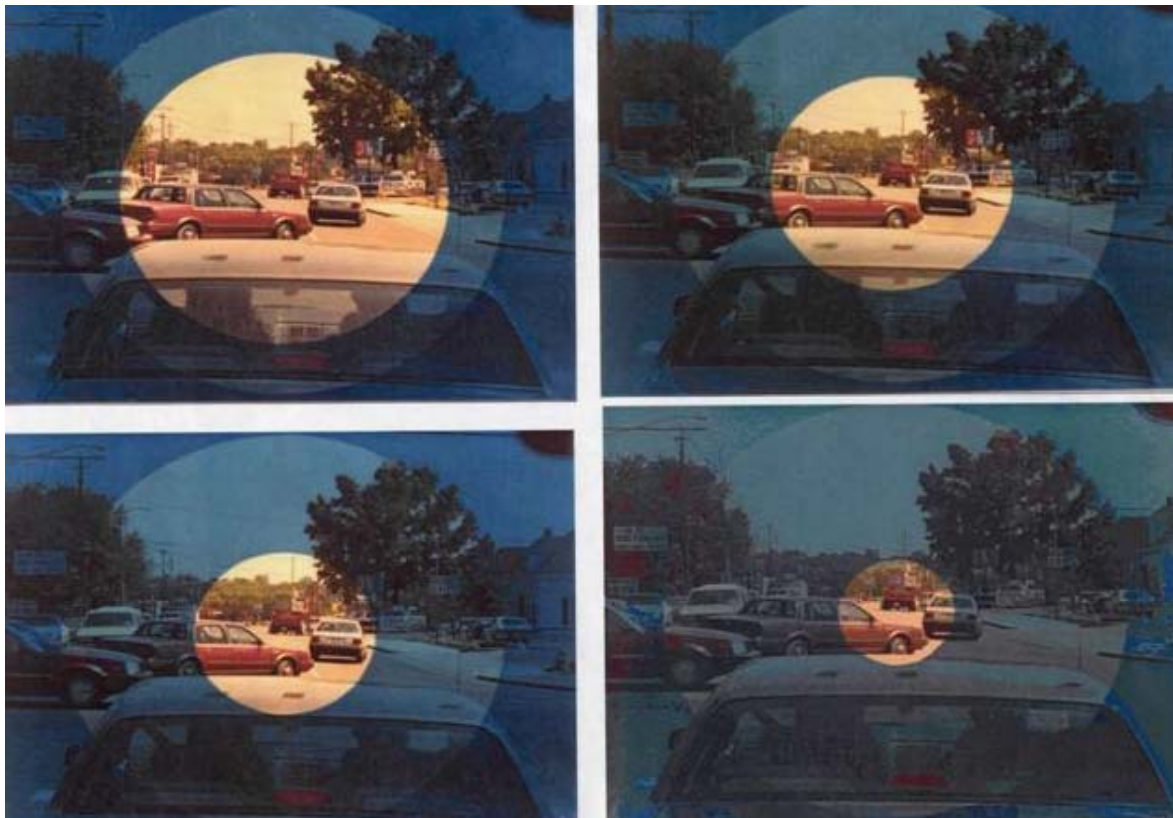


NIA Translational Research

- **Useful Field of View**
- **Oregon Roybal Center for Aging, Technology, Education & Community Health (ORCATECH)**
- **Interventions to Remediate Cognitive Decline**

NIA-Funded Research on Identification of High-Risk Older Drivers

“Useful Field of View” is a good predictor of accident risk



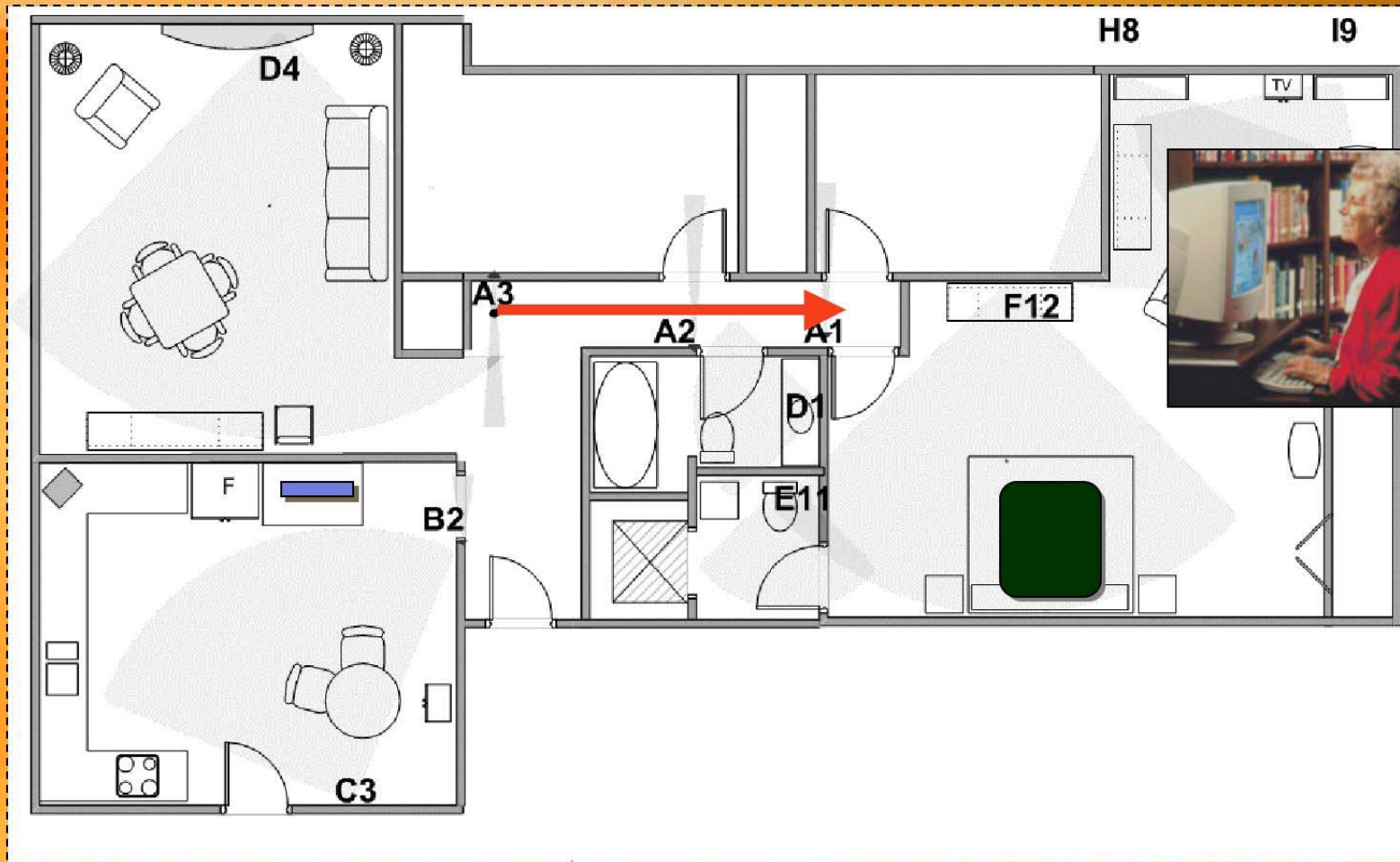
Ball K.K., Roenker D, Wadley V.G., Edwards J.D., et al. (2006). Can high-risk older drivers be identified through performance-based measures in a department of motor vehicle setting? *Journal of the American Geriatrics Society*. 54:77-84.

ORCATECH

- Oregon Roybal Center for Aging, Technology, Education & Community Health
- One of 10 Edward R. Roybal Centers for Translation Research in the Behavioral and Social Sciences of Aging supported by NIA
- Roybal Centers facilitate acceleration in the development of new products or technologies to enhance the health and quality of life of older Americans

Examples of ORCATECH's Living Laboratory

- Wide scale in-home assessment technology
- Home-based assessment of speech technology for early detection of Alzheimer's disease
- Prompting to improve medication adherence
- www.ohsu.edu/research/alzheimers/roybal/index.htm



Motion Sensors



Computer



MedTracker



Bed Sensor



***Partial* List of Possible Interventions to Remediate Cognitive Decline**

- Cognitive Training (e.g., ACTIVE)
- Self-Efficacy
- Stress Reduction
- Social Engagement
- Exercise
- Diet and neutraceuticals
- (Combinations of any or all of the above)

Interventions to Remediate Age-Related Cognitive Decline

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NIA Challenge Grants Opportunities Aging and Independent Living

- **05-AG-102*** Prevention and Risk Factor Reduction Strategies for Disabilities
- **01-AG-106** Identifying phenotypic markers for positive behavior change
- **04-AG-107** Mechanisms of specific benefits of different types of physical activity
- **05-AG-102*** Prevention and Risk Factor Reduction Strategies for Disabilities
- **05-AG-105 *** Comparative Intervention Trials for Diseases and Syndromes of Aging Including Neurodegenerative Diseases

* indicates high priority research areas

<http://grants1.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html>

NIH Information Resources on Aging and Grants

- <http://NIHSeniorHealth.gov>
Joint project with National Library of Medicine
Aging related health information in a senior-friendly format
Over 40 topics including exercise, arthritis, glaucoma, and more
- **National Institute on Aging Information Center**
Toll-free information line, 1-800-222-2225
Web site (English & Spanish) --
www.nia.nih.gov/HealthInformation
- **NIA Alzheimer's Disease Education and Referral Center (ADEAR)**
Toll-free information line, 1-800-438-4380
Web site (English & Spanish) --
www.nia.gov/alzheimers
- **NIH Grants:** <http://grants2nih.gov/grants>
- **NIH Challenge Grants:** <http://grants1.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html>