

# Aging Centers and Networks – accessing the colleagues and mentors you need

GEMSSTAR/TFWS/DWJS Frailty Meeting  
March 3, 2015

Kevin P. High, MD, MS

Tinsley R. Harrison Professor and Chair

Department of Internal Medicine, Wake Forest SoM

J. Paul Sticht Center on Aging

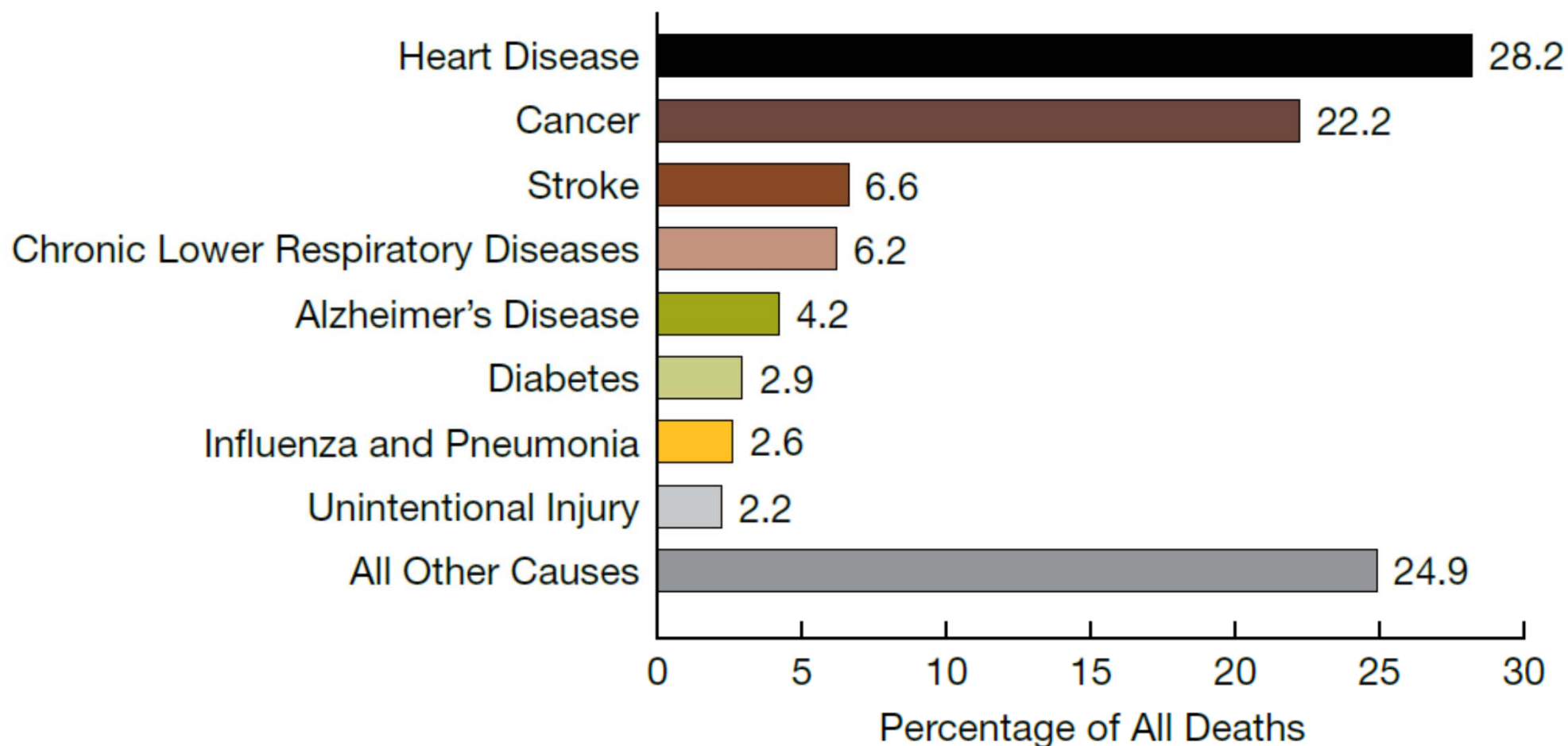


# Outline

- Why study aging?
- Networks to assist you in aging research
  - Alzheimer's Disease
  - OAICs
  - Nathan Shock Centers
  - Centers on the Demography and Economics of Aging, Roybal Centers, RCMARs
  - GRECCs
  - Others

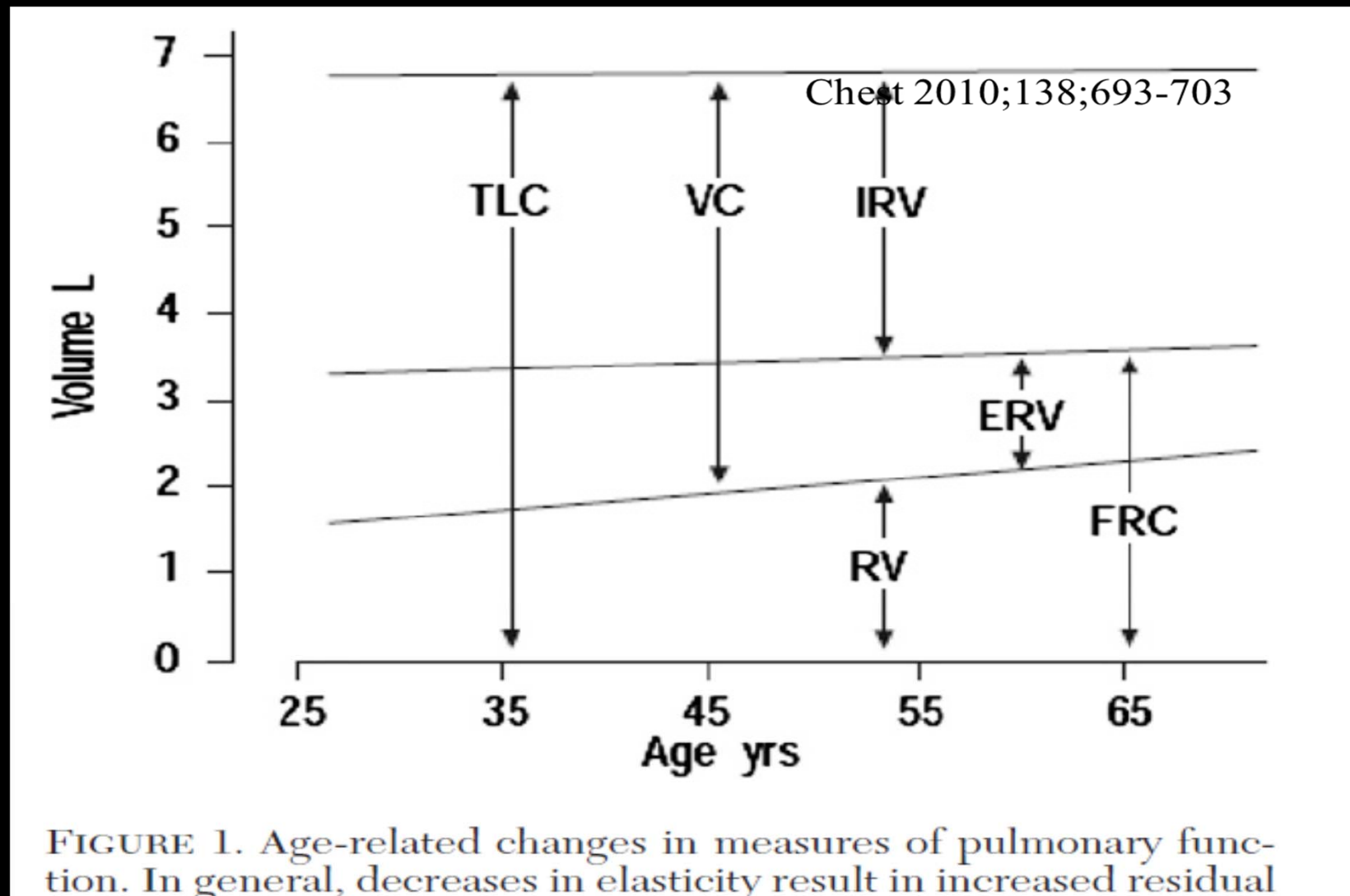
# Why Study Aging if You're a Specialist?

## Causes of Death Among U.S. Adults Aged 65 Years or Older, 2007



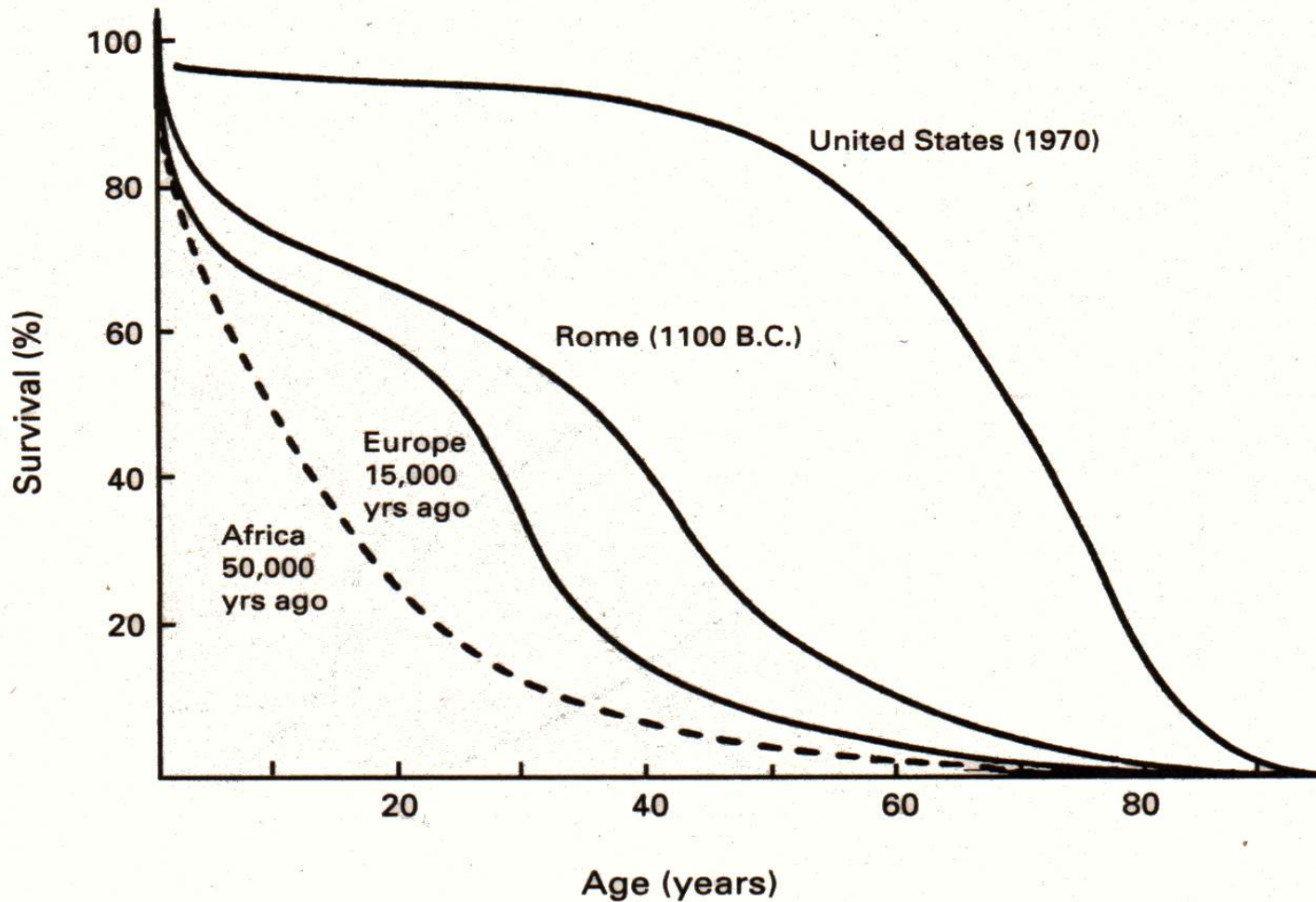
Source: CDC, National Center for Health Statistics, National Vital Statistics System, 2007.

# Organ function changes over the lifespan



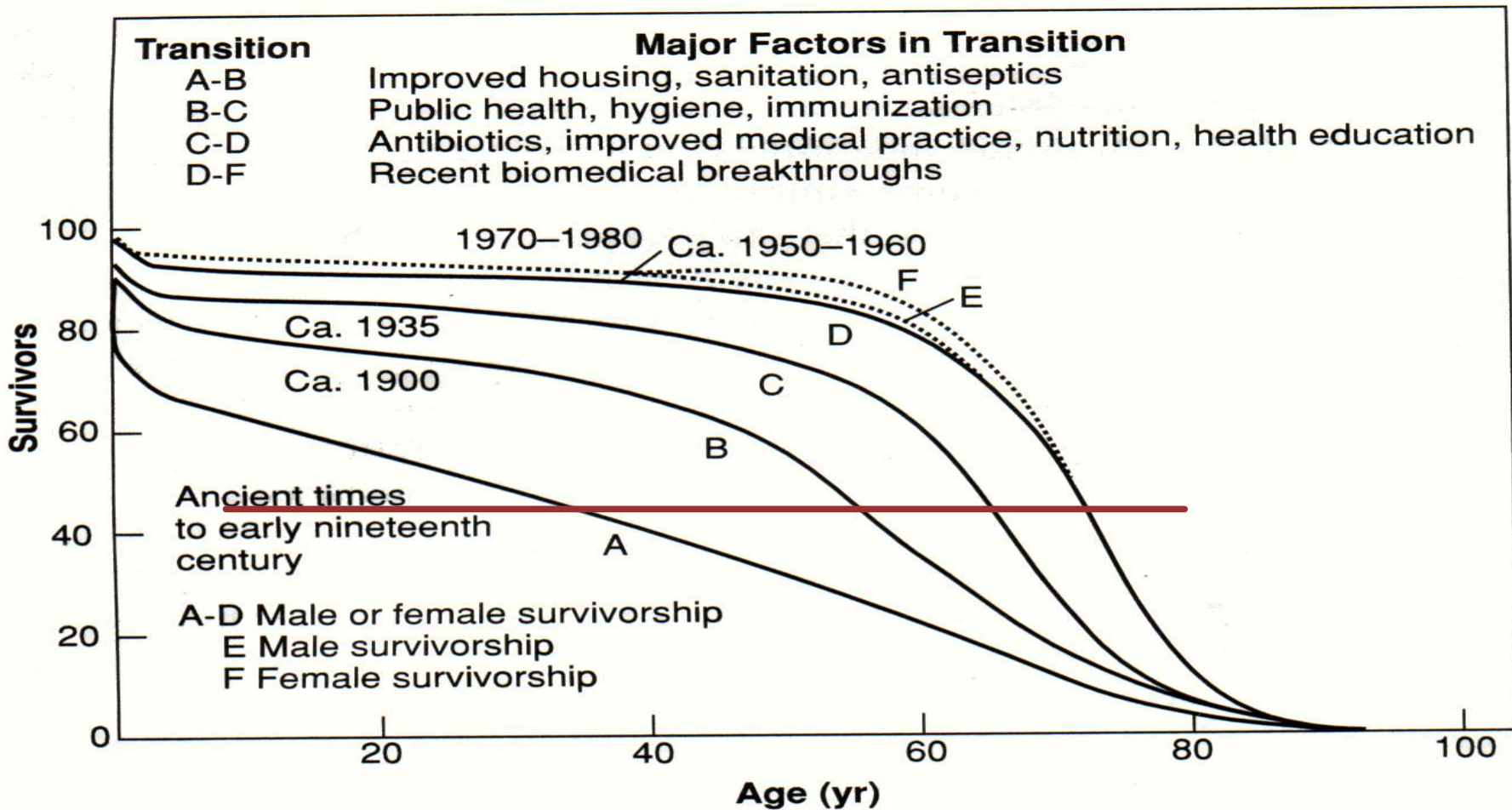
Aging is **THE** most important  
risk factor for nearly every cause  
of death now, why . . .

**FIGURE 6-5. Survival curves throughout human history**



- As humans have increasingly controlled their environment, their life expectancy has  $\uparrow$  dramatically ("Rectangularization" of the survival curve)

## “Rectangularization” of the Survival Curve:



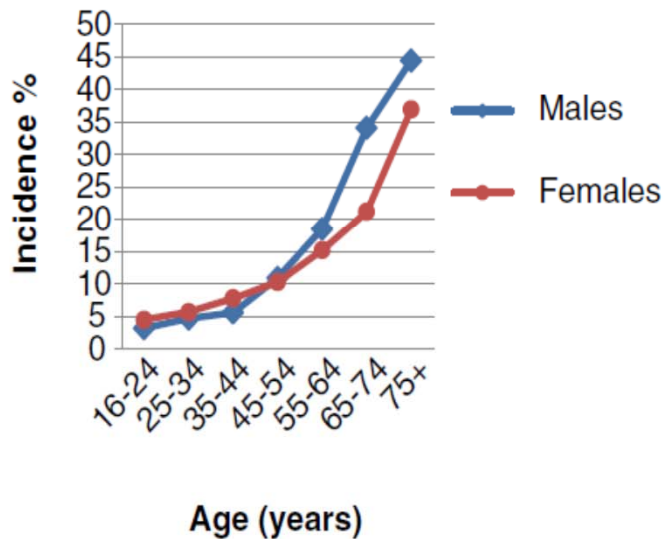
**Figure 1.5**

*Human survival curves from ancient times through the twentieth century. The curve representing the 1990s is essentially the same as that of the 1970–1980 decade on this scale. Note the transition from an almost linear decline in survivorship with age in ancient times, to the large bulge of the curves of recent years. The logical extension of this “bulge” of the curve is to become a right angle (see text).*

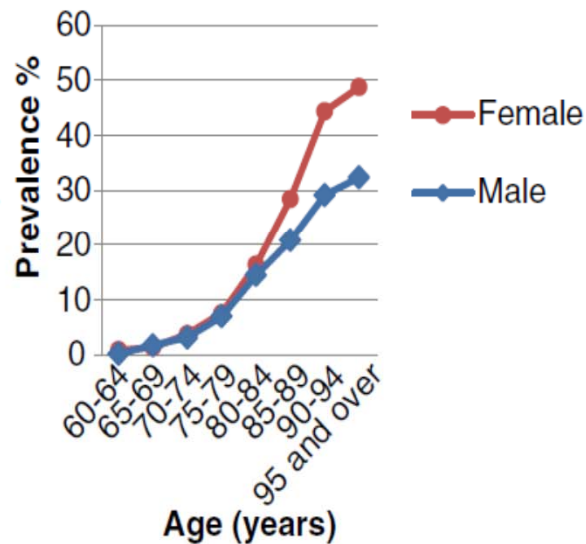


# So now, aging is the most important risk factor for nearly every disease that causes major morbidity and mortality

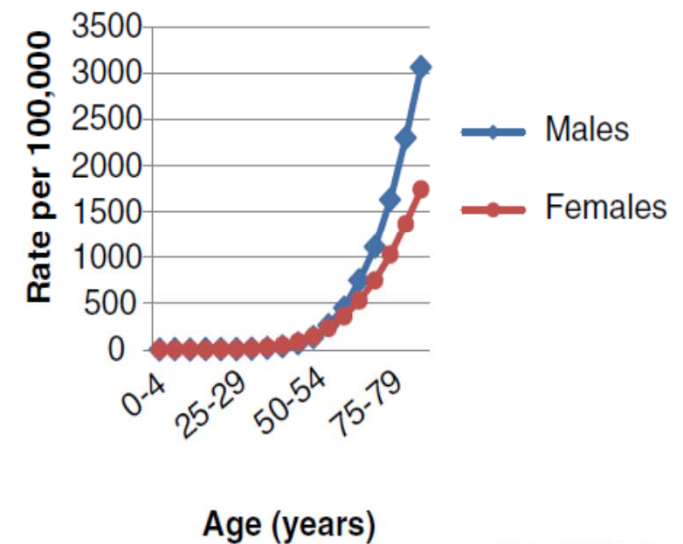
**A** England cardiovascular disease rates



**B** Europe dementia rates



**C** UK cancer rates



Current Biology

# Frontiers in Geroscience

*Journals of Gerontology: BIOLOGICAL SCIENCES*

*Cite journal as: J Gerontol A Biol Sci Med Sci 2014 June;69(S1):S1-S3*

*doi:10.1093/gerona/glu041*

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Ronald A. Kohanski, Ph.D.

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Felipe Sierra, Ph.D.

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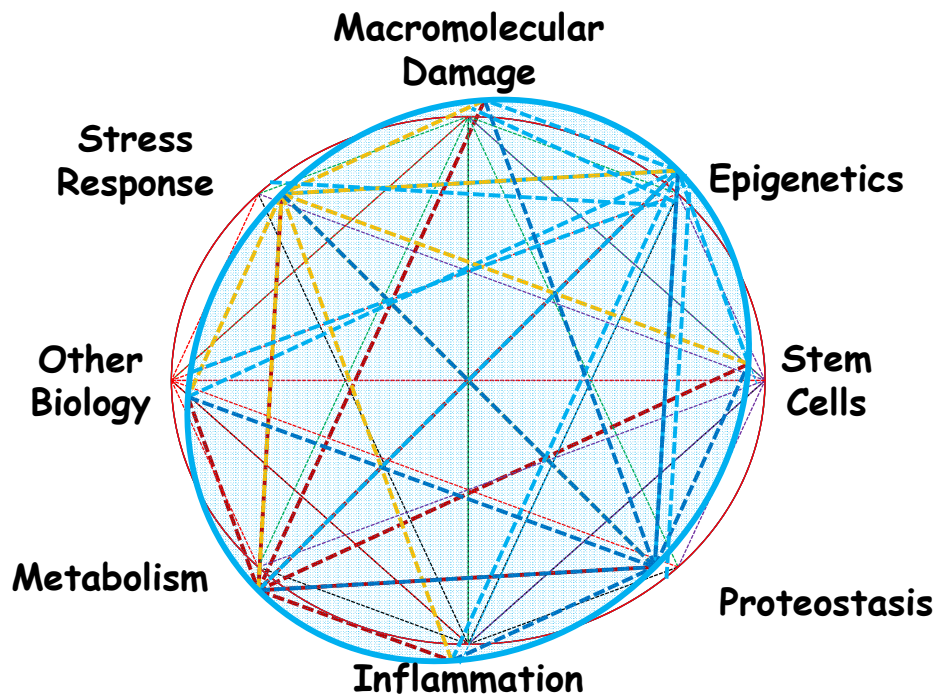


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# Conceptualization of Aging

*Slide courtesy Felipe Sierra, PhD*



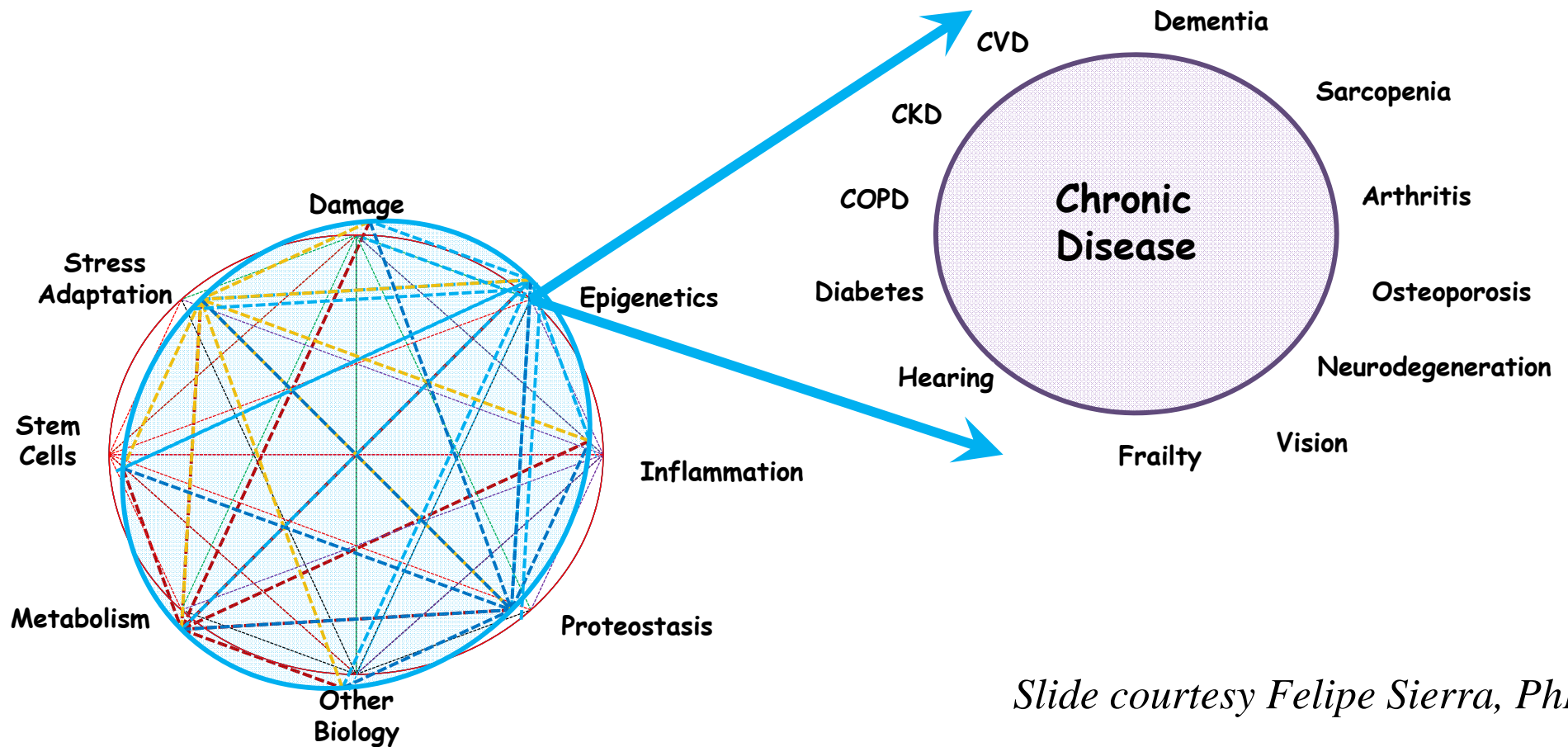
Sierra & Kohanski  
J Gerontol June 2014



López-Otín *et al.*  
Cell 153:1194 (2013)

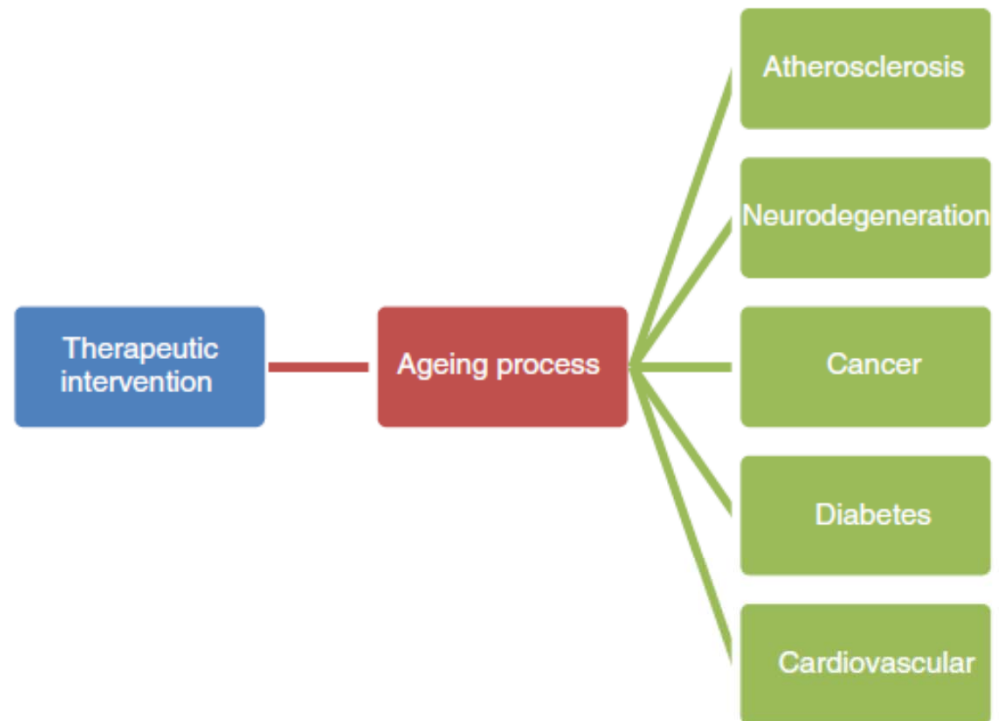
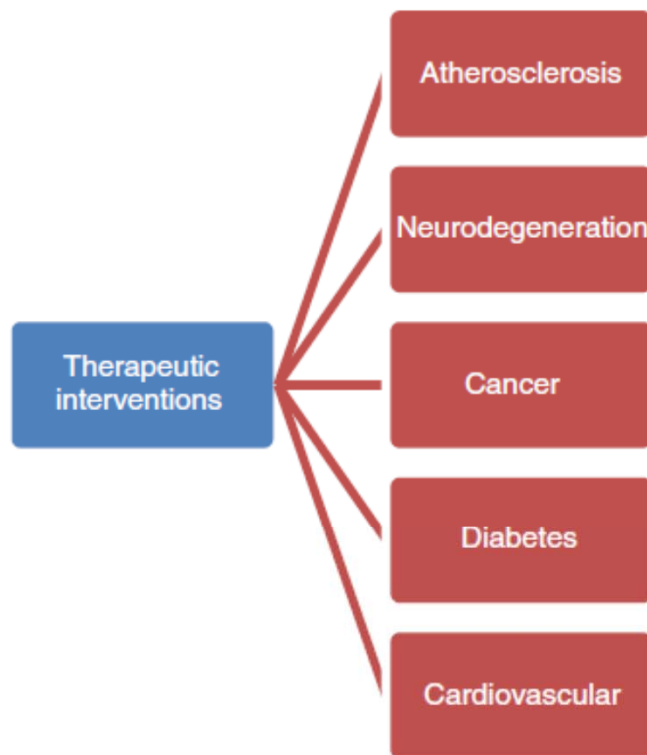
# Aging is the major risk factor for chronic disease

What in the biology of aging might explain that risk?



*Slide courtesy Felipe Sierra, PhD*

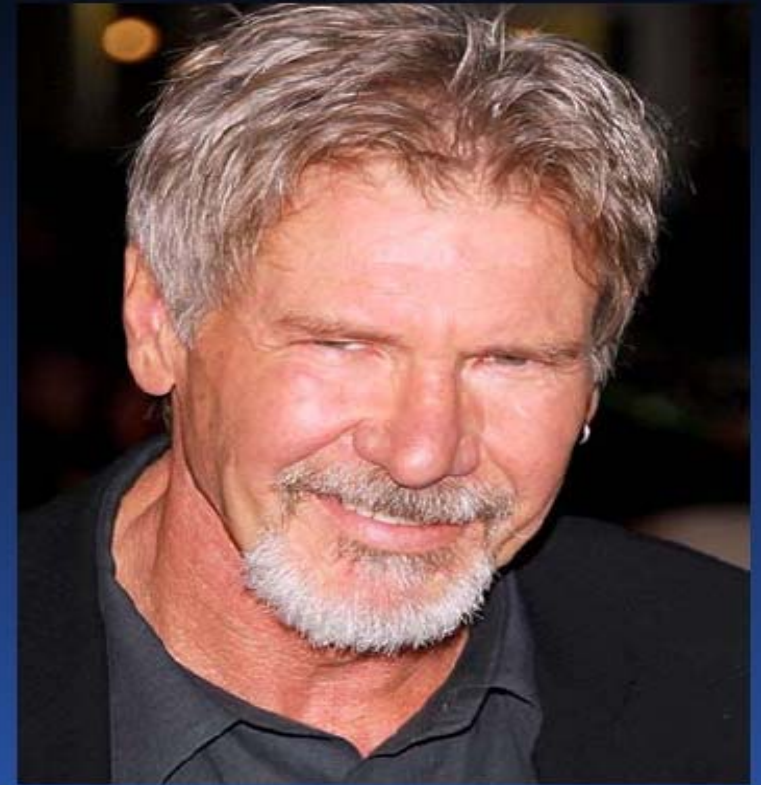
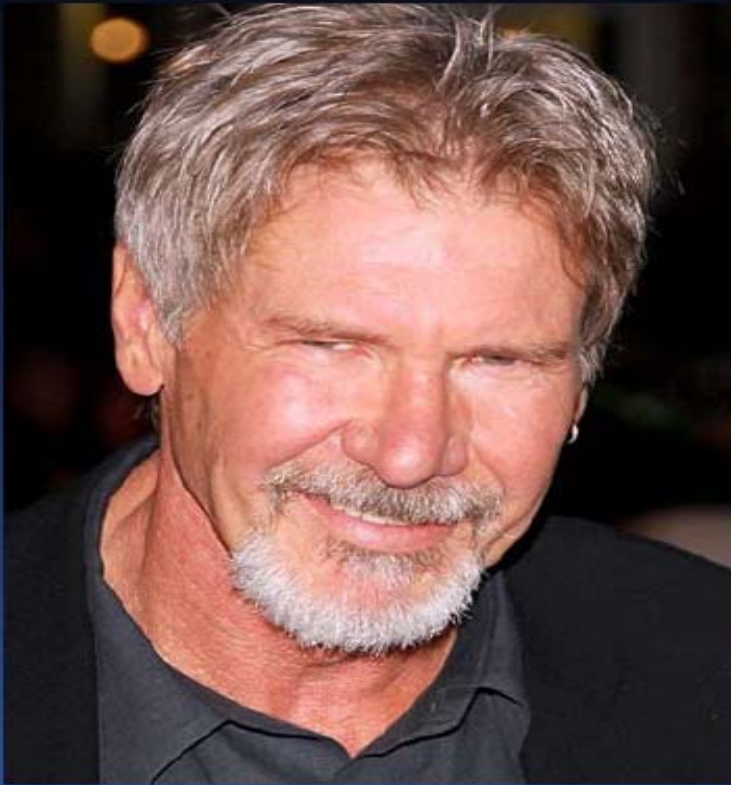
# A new paradigm for disease prevention and intervention



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# The Goal of Aging Research: A New Kind of Old Person

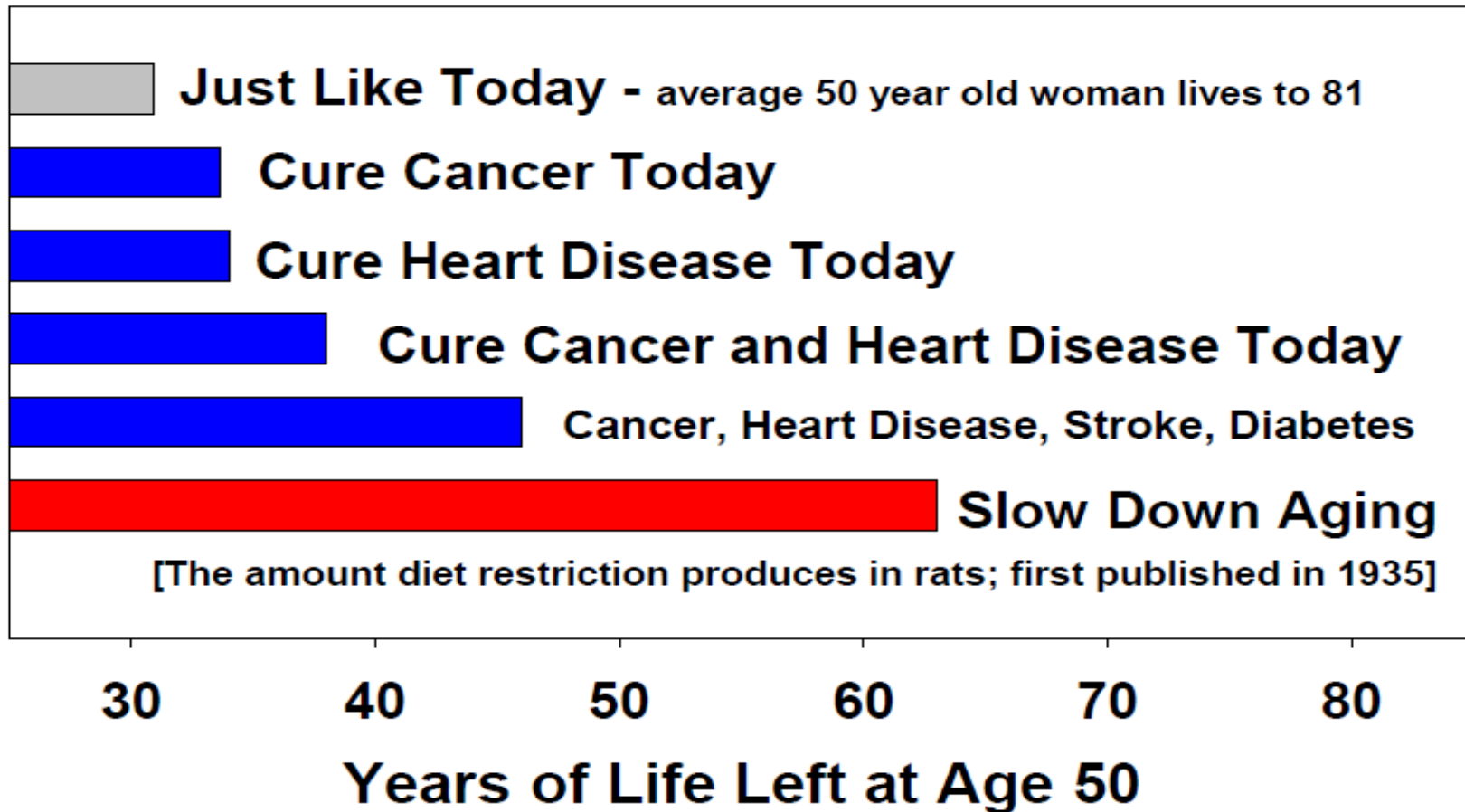
*Slide courtesy of Richard Miller, U Michigan*



**Normal person, age 70**

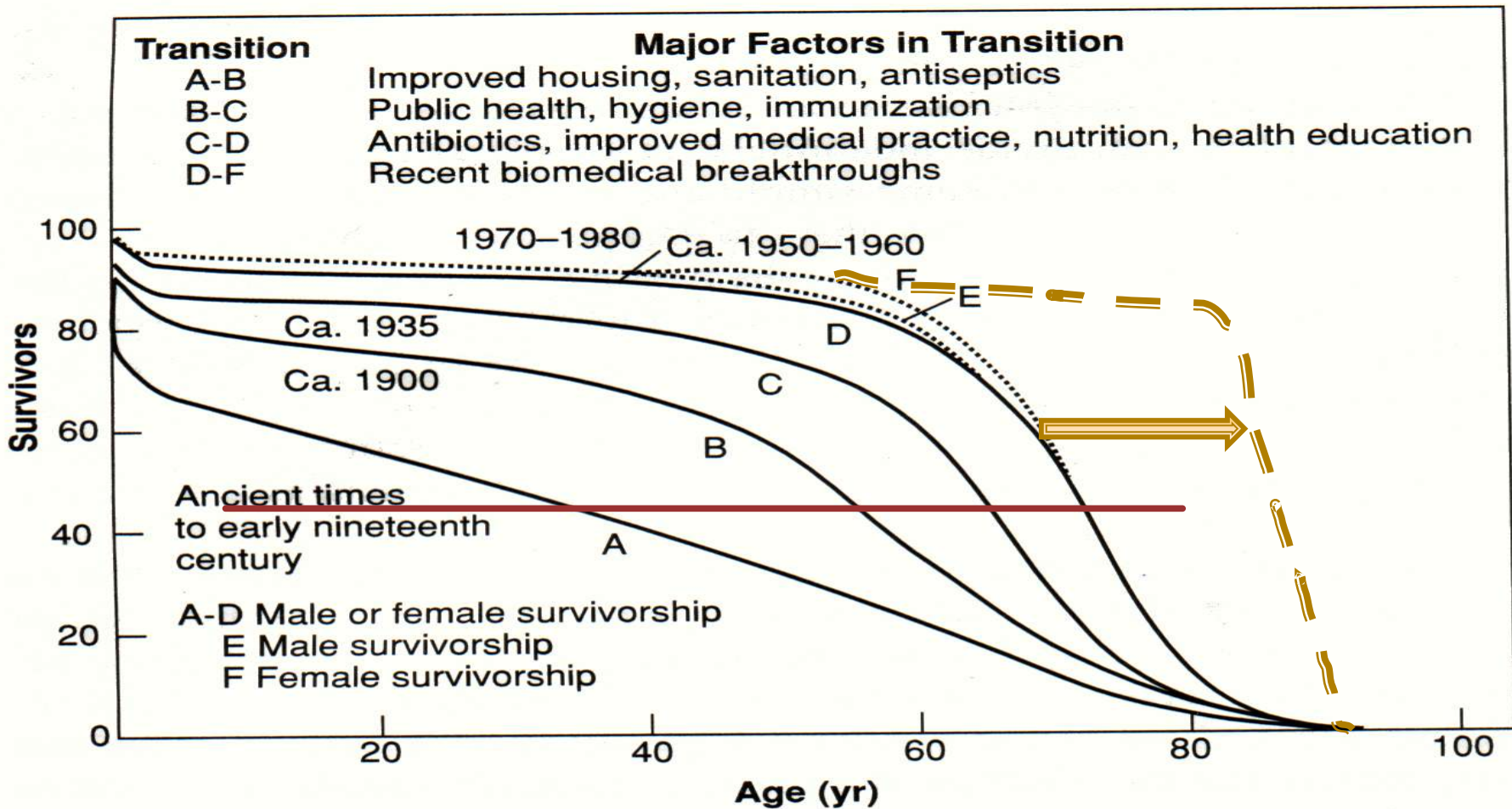
**Normal person, age 114**

# Aging Research: Biggest Bang For the Buck?



*Slide courtesy of Jeff Halter*

# “Rectangularization” of the Survival Curve:



**Figure 1.5**

Human survival curves from ancient times through the twentieth century. The curve representing the 1990s is essentially the same as that of the 1970–1980 decade on this scale. Note the transition from an almost linear decline in survivorship with age in ancient times, to the large bulge of the curves of recent years. The logical extension of this “bulge” of the curve is to become a right angle (see text).



*“You’re looking old Indy . . .” Marian*

*“It’s not the years, Honey,  
it’s the mileage . . . . .” Indiana Jones*



83 years old;  
HTN, Hyperlipidemia, prior MI

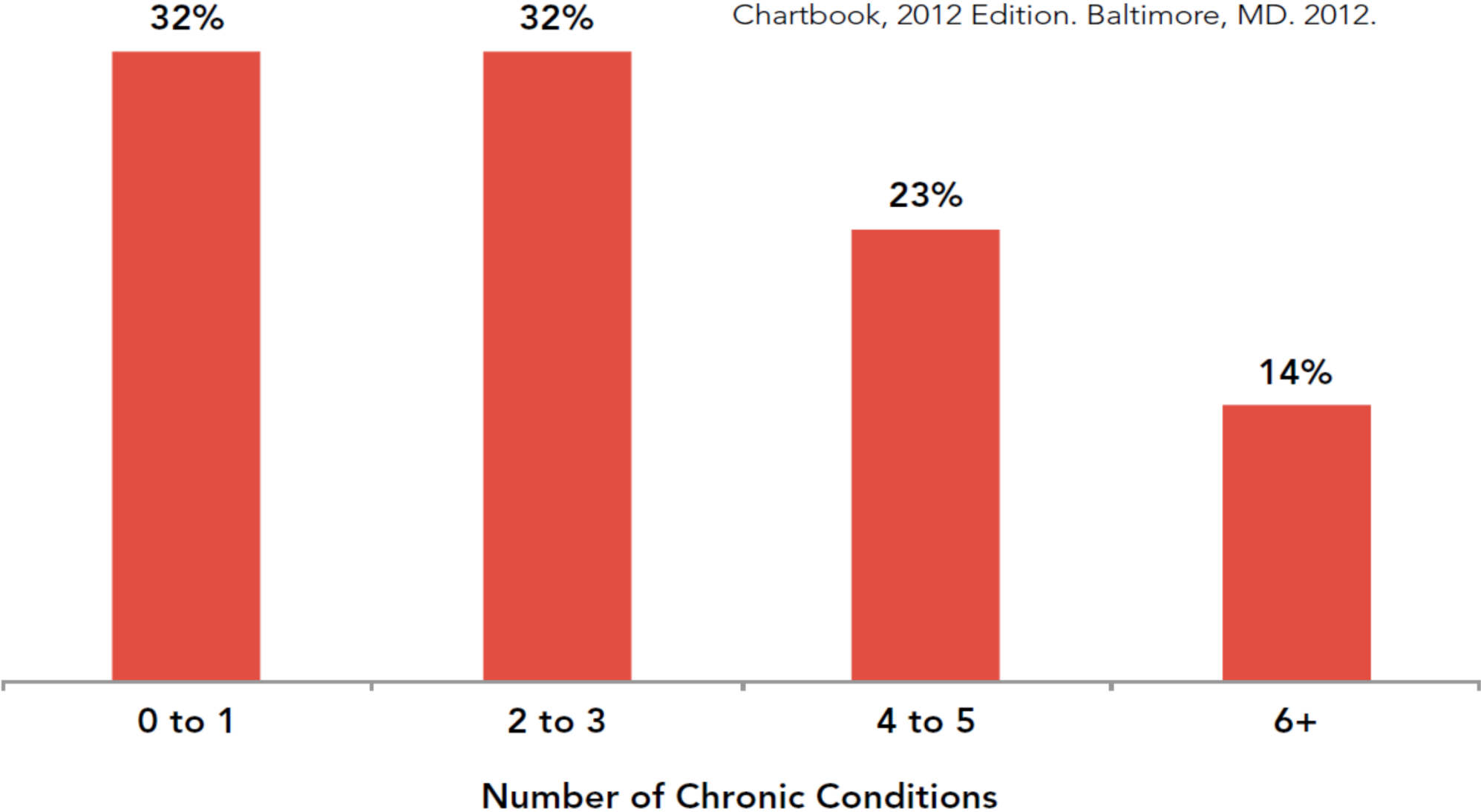


83 years old;  
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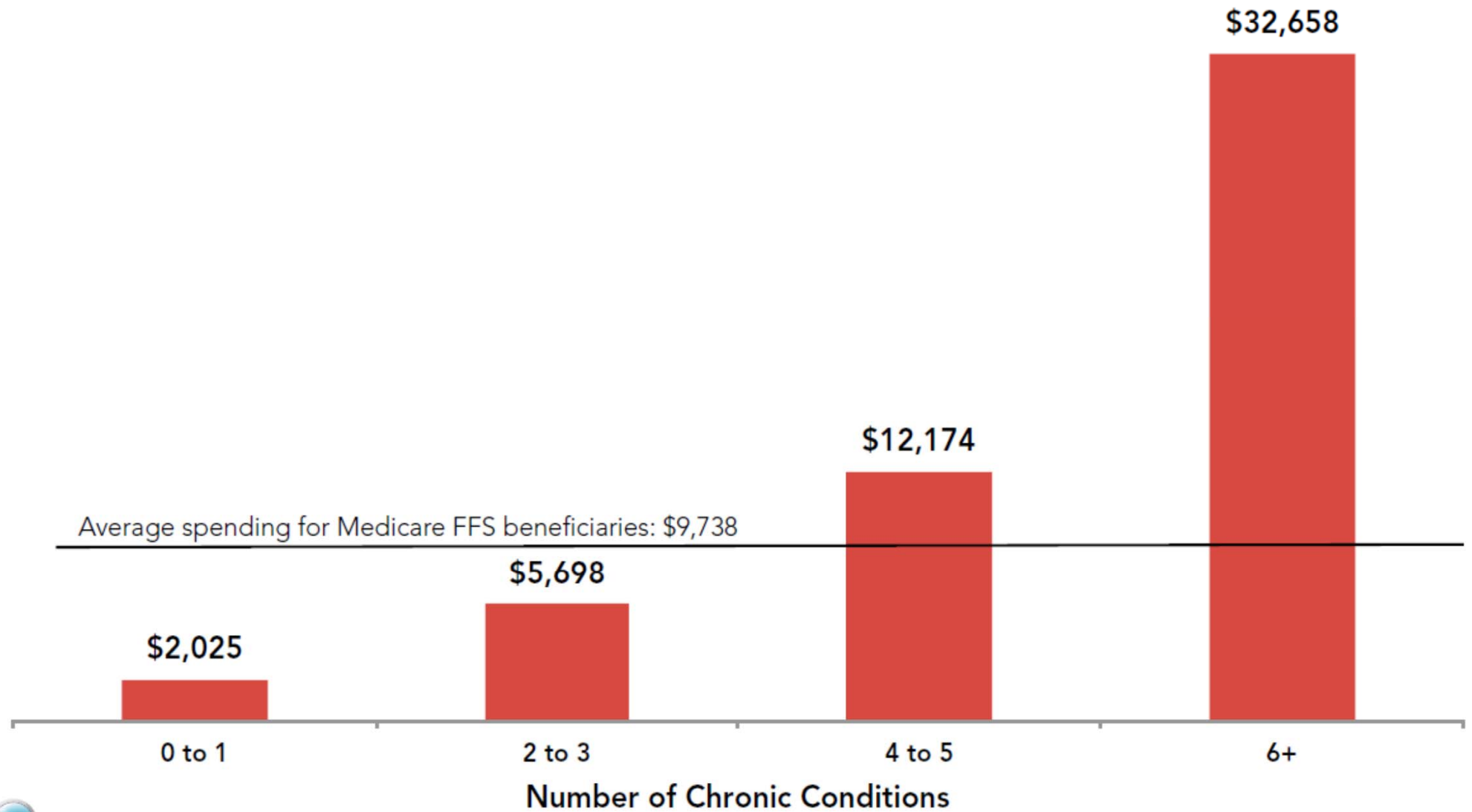


**Figure 1.2a** *Percentage of Medicare FFS Beneficiaries by Number of Chronic Conditions: 2010*

Centers for Medicare and Medicaid Services. Chronic Conditions among Medicare Beneficiaries, Chartbook, 2012 Edition. Baltimore, MD. 2012.



**Figure 3.1a** *Per Capita Medicare Spending for Medicare FFS Beneficiaries by Number of Chronic Conditions: 2010*



NATIONAL INSTITUTES OF HEALTH

National Institute on Aging



## NIH Centers of Excellence (COE)

Division of Neuroscience

- Alzheimer's Disease Centers (n=29)

- Research in AD, research training, outreach, and tech transfer; memory clinics; brain banks
- each center has its own area of emphasis, a common goal of the ADCs is to enhance research on Alzheimer's disease by creating a network that shares new ideas and research results. Collaborative studies draw upon the expertise of scientists from many different disciplines.



### National Alzheimer's Coordinating Center (NACC)

*The Center coordinates data collection and fosters collaborative research among ADCs.*

Walter Kukull, Ph.D., Director

National Alzheimer's Coordinating Center  
Seattle, WA 98105

Website: [www.alz.washington.edu](http://www.alz.washington.edu)

Information Line: 206-543-8637

E-mail: [naccmail@u.washington.edu](mailto:naccmail@u.washington.edu)

Fax: 206-616-5927

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## NIH Centers of Excellence

Division of Geriatrics and Clinical Gerontology

- Claude D. Pepper Older Americans Independence Centers (n=14)
  - Research to maintain and restore Independence in older adults
  - Research career development/training
  - Each center has its own theme
  - Increasing cross-OAIC collaboratives some with pilot funding (two R24s – HIV/Aging, HMORN/OAIC in MCCs) and large multi-site trials (STRIDE, LIFE)



### OAIC Coordinating Center

*The Center coordinates data collection and fosters collaborative research among OAICs.*

Kevin P. High, MD, MS

Wake Forest University Sch Med

Winston-Salem, NC 27157

Website:

<https://www.peppercenter.org/public/dspHome.cfm>

E-mail: [peppercenter@wakethealth.edu](mailto:peppercenter@wakethealth.edu)

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## NIH Centers of Excellence

Division of Aging Biology

- Nathan Shock COE In Basic Biology of Aging (n=5)
- Centers provide leadership in basic research of the biology of aging through a Research Development Core which administers small start-up funds locally, and organizes national annual meetings
- Specialized Cores that provide services to members, as well as for-fee services to the community at large.
  - The Jackson Laboratory
  - University of Michigan
  - University of Texas Health Sciences Center in San Antonio
  - University of Washington
  - Albert Einstein College of Medicine

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## NIH Centers of Excellence

Division of Behavioral and Social Research

- Centers on the Demography and Economics of Aging (n=11)
  - Support the infrastructure and pilot data necessary for larger research projects;
  - development of national and international networks of researchers; and
  - development of methods for the analysis of state-of-the art, often-longitudinal, social science data



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## NIH Centers of Excellence

### Division of Behavioral and Social Research

- Roybal Centers for Translational Research On Aging (n=13)
  - Research translation from laboratory into programs and practices that improve lives and helps society adapt to an aging population
  - Enhance the productivity of relevant basic research and existing projects;
  - Accelerate the development of new ideas or applications (including successful grant funding from other sponsors);
  - Facilitate collaborations among academic researchers and commercial interests and recruitment of new researchers to aging;
  - Provide a context for assembling multidisciplinary teams to solve practical problems.

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## NIH Centers of Excellence

Division of Behavioral and Social Research

- Resource Centers for Minority Aging (RCMAR)
  - 6 currently funded; 11 total over life of RCMAR
- Mission:
  - Support URM faculty to establish a career path in research on minority aging and/or health disparities
  - Further the science of health disparities research

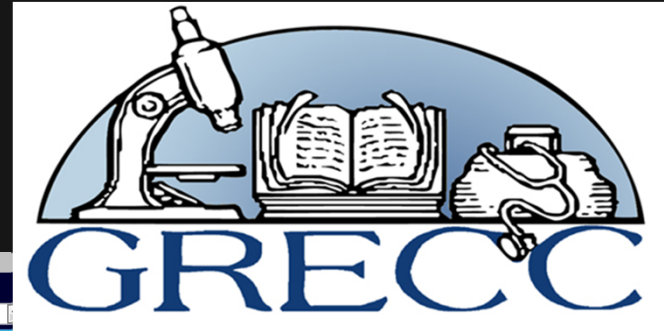


# VA Networks



- GRECCs (n=19) attract scientists and health science students to the field of geriatrics to help increase the basic knowledge of aging, transmit this knowledge to health care providers, and improve the quality of care delivered to elders.
- Each GRECC contains a research component, a education component, and a clinical component.
- GRECCs are not meant to be large enterprises but centers of excellence with a core staff of 12 full time employees.

# VA Networks



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# Local Centers & Programs

- Institute or Center on Aging
- Research centers/programs of research focused on aging or age-related issues: sleep, prostate CA, PD, CISA, CHF, osteoarthritis, depression in primary care, caregiving, pain
- Geriatric Medicine Departments/Divisions
- Nursing, Social Work programs in aging
- Clinical Centers for Geriatric Health Care

# Questions?

