

# House Aging and Long-Term Care Policy Committee

## Preparing for an Aging Minnesota

University of Minnesota

February 4, 2015



UNIVERSITY OF MINNESOTA

Driven to Discover<sup>SM</sup>

## Academic Health Center

Innovative expertise in education and research leading to better health and vital economy in Minnesota.

### Academic Health Center

#### Meeting Expectations:

70% of all health professionals working in Minnesota trained at the University

Leading work in

- diabetes
- infectious diseases
- neuroscience
- cancer
- cardiovascular research

- Global impact in prevention and health improvement
- 1 million human and animal visits
- 1,700 educational rotations in Minnesota

#### Through our:

Schools and Colleges

Centers and Institutes

Clinics and Hospitals

#### In Disciplines of:

Dentistry

Medicine

Nursing

Pharmacy

Public Health

Veterinary Medicine

#### Driving Initiatives in:

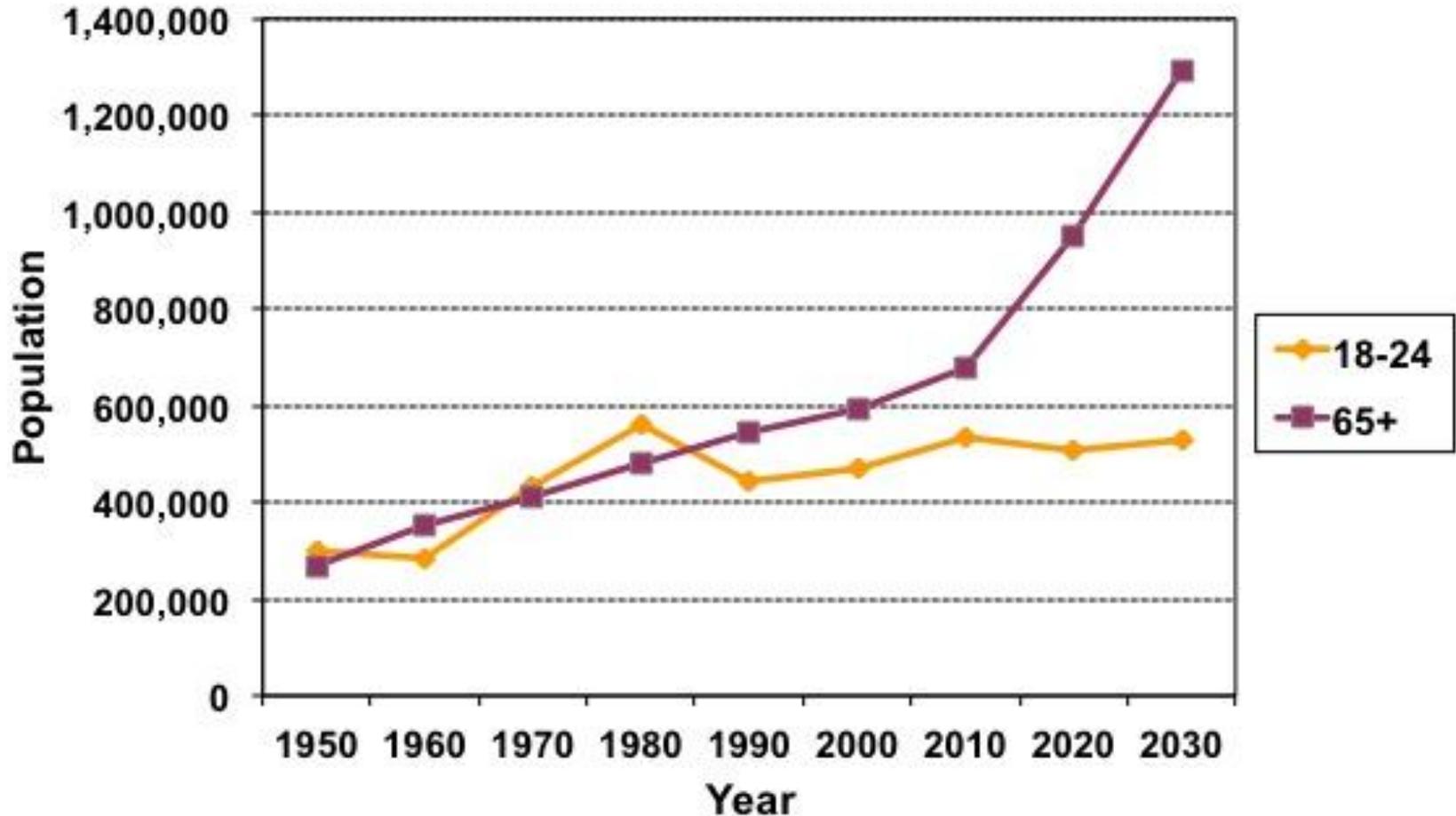
Education

Research

Clinical/Outreach



# Minnesota is Getting Older



Source: <http://www.citizing.org/projects/minnesotago/survey/485/results>



# Aging of Minnesota's Population

- By 2030 Minnesotans over 65 will double.
- Aging of Minnesota's population will dominate the demographic landscape for the next 25 years as the baby boom population born between 1946 and 1964 turns 65.
- We will not age only as individuals but as a society. This has profound implications for the state.
- Demand for health and long term care and its costs will increase exponentially.
  - Illness and disease increase with age.
  - Chronic conditions such as cancer, heart disease, stroke, diabetes, obesity, arthritis, and pain among the elderly are increasing.
  - 90% of all adults over 60 have at least one chronic condition. 25% of all adults have 2 or more chronic conditions.
  - The majority of health care and related economic costs are for the cost of chronic disease and associate risk factors.



# The Role of the University of Minnesota

**The University plays an essential role in Minnesota's status as one of the healthiest states in the nation and will play a critical role in meeting the challenges of a rapidly aging and increasingly diverse population:**

- Educating and training the state's health professional workforce
- Discovering new treatments, cures, and ways to promote health
- Helping shape health policy
- Developing and piloting new models of care
- Providing top quality health care services to the state



# University of Minnesota Experts in Aging and Care of the Elderly

- **Terry Bock, Associate Vice President for Health Sciences**
- **James Pacala, MD, MS, Medical School**
- **Shannon Reidt, PharmD, MPH, College of Pharmacy**
- **Joseph Gaugler, Ph.D, School of Nursing**
- **Beth Virnig, Ph.D., MPH, School of Public Health**



# How Do You Take Care of Old People?

James T. Pacala, MD, MS

University of Minnesota Medical School  
Department of Family Medicine  
and Community Health



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# Medical Care for Older Adults:

## Challenges of Complexity and Heterogeneity



# The Challenge of Complexity:

**Multiple Chronic Diseases**

**+**

**Problems in Other Domains**

**=**

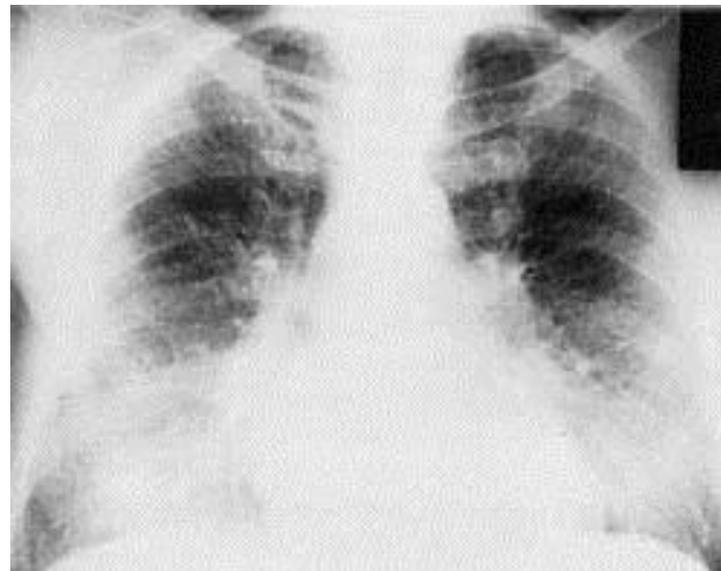
**Functional Decline**



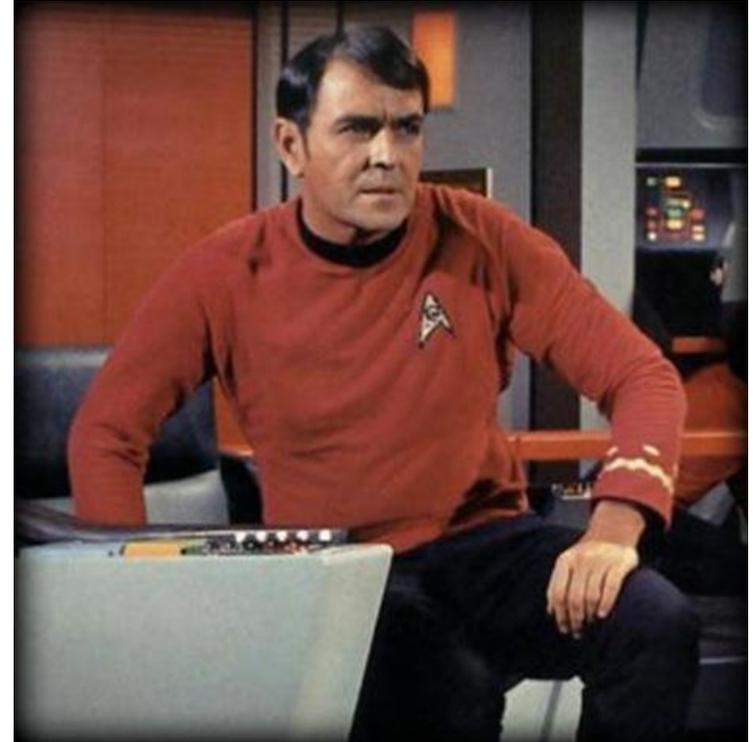
# Chronic Disease: Sensory Deficits



# Chronic Disease: Physical Deficits



# Chronic Disease: Cognitive Deficits



# The Challenge of Complexity:

**Multiple Chronic Diseases**

**+**

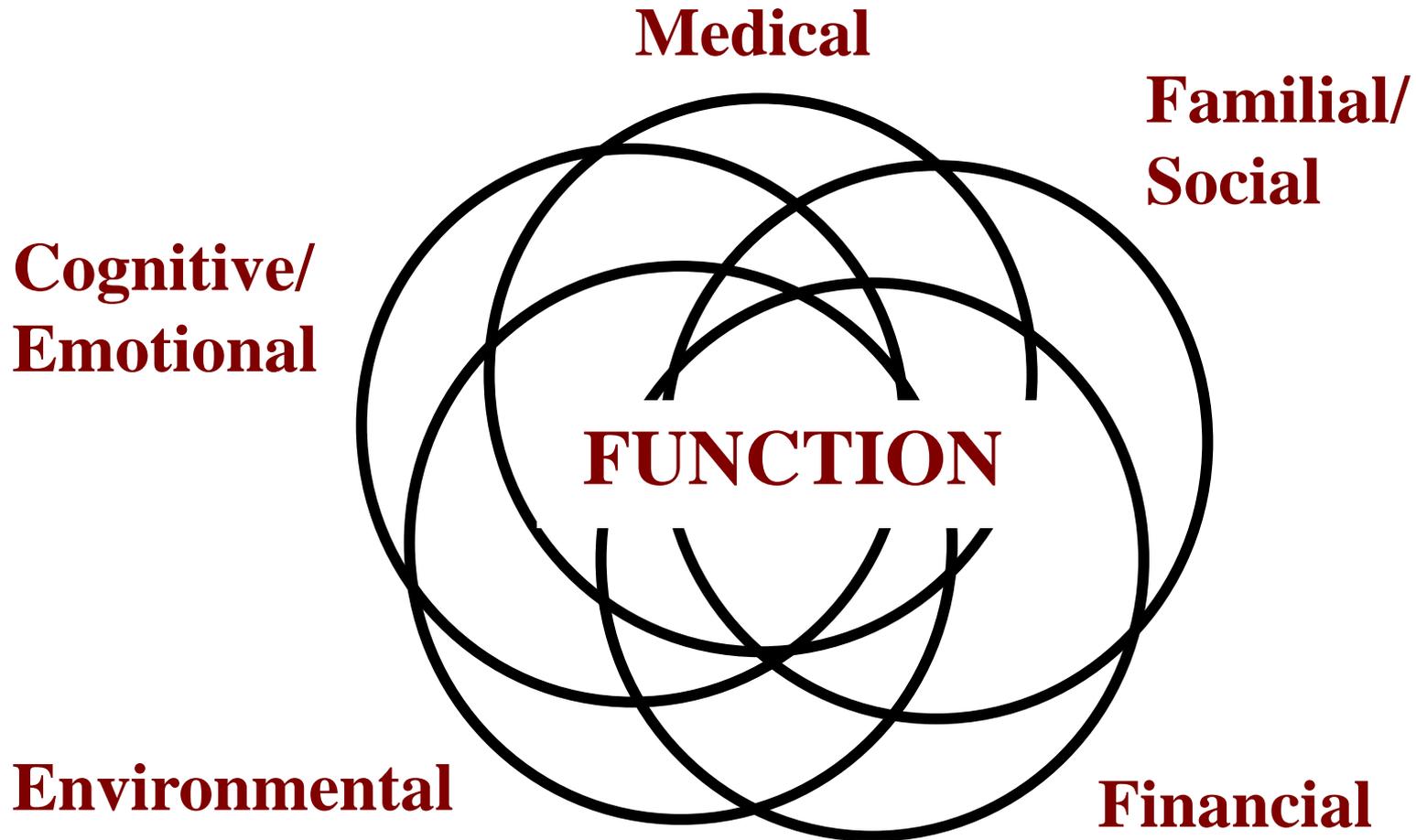
**Problems in Other Domains**

**=**

**Functional Decline**



# Functional Domains



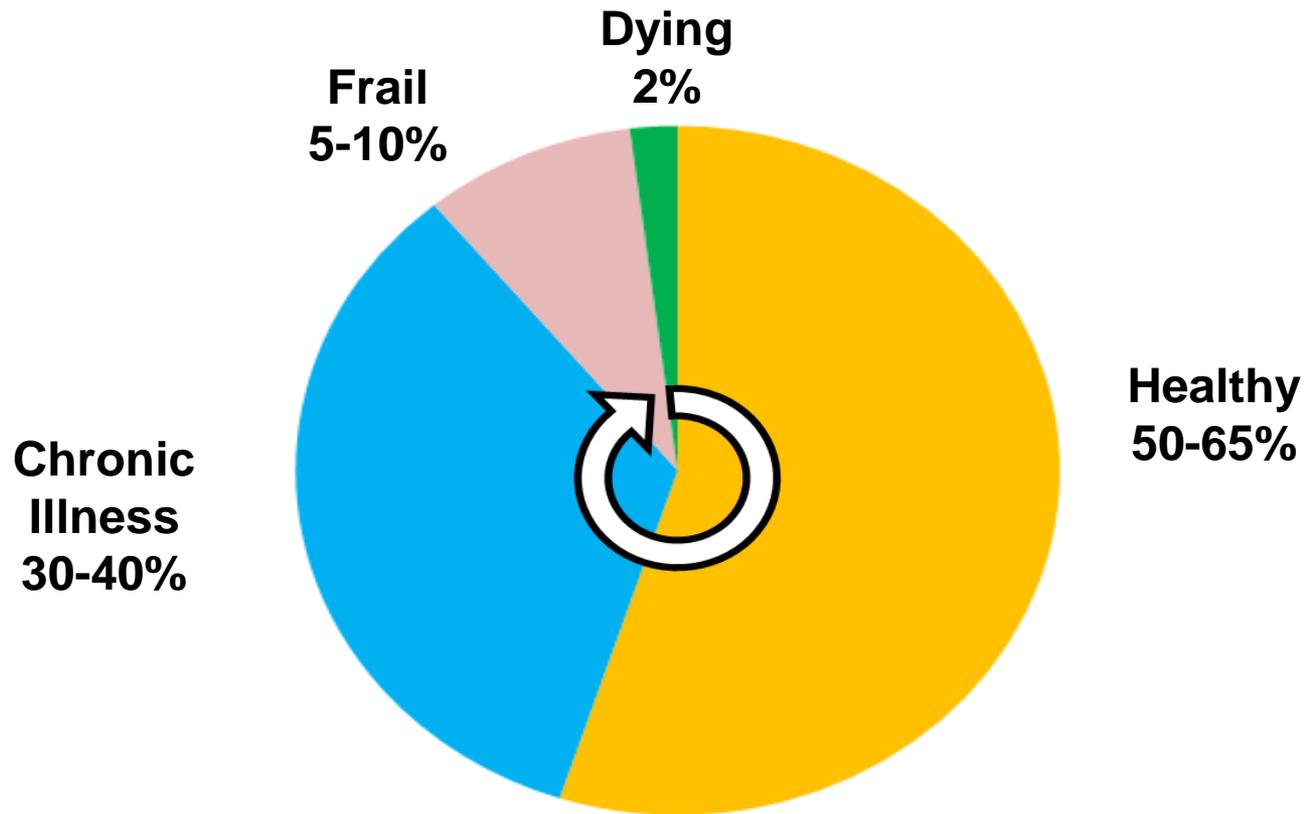
# Geriatric Syndromes

- **Confusion**
- **Falls**
- **Incontinence**
- **Weight loss**
- **Chronic Pain**
- **Immobility**



# The Challenge of Heterogeneity: Composition of the Elderly Population

A Population of Adults Aged 65+



# Matching Care to Patient Needs

**Healthy** → **Mild Chronic Illness** → **Advanced Chronic Illness** → **Frail** → **Dying**



**Usual (Acute) Care Model** → **Chronic Disease Care Model** → **Geriatric Care Model** → **Palliative/Hospice Model**



# Geriatric Care

- **Multidimensional functional assessment**
  - Medical/Physical
  - Cognitive
  - Social/Financial
  - Environmental
- **Use of assessment instruments**
- **Multiple chronic disease model**
- **Team care planning and implementation**
- **Care coordination**



# Review of Geriatric Care Models

## Institute of Medicine Report, 2008 <sup>1,2</sup>

- **Review of 128 studies, mostly randomized, controlled trials.**
- **15 categories of intervention**
- **Evaluated for outcomes of quality of care, quality of life, function, satisfaction, mortality, and use/cost of health services**

<sup>1</sup> Boulton et al. Successful models of comprehensive care for multi-morbid older persons: a review of effects on health and health care. In: Retooling for An Aging America. Institute of Medicine, 2008

<sup>2</sup> Boulton et al. JAGS 2009;57:2328-37



# Successful Geriatric Models and the Patient-Centered Medical Home

## Geriatrics

- Primary care emphasis
- Team care
- Functional assessment
- Care coordination

## Medical Home

- Personal physician
- Physician-directed medical practice
- Whole person orientation
- Care coordination



# Healthy Aging and the College of Pharmacy

Shannon Reidt, PharmD, MPH  
Assistant Professor

University of Minnesota  
College of Pharmacy



# Pharmacists' Role in Healthy Aging

- Medication-related problems:
  - Cost \$177.4 billion a year
  - Estimated to be 1 of the top 5 causes of death in persons over the age of 65
  - Many drugs or drug combinations cause confusion, falls and other side effects that lead to disability and loss of independence
    - For example anticholinergics such as incontinence drugs, older antihistamines and some antidepressants increase the risk of dementia (*JAMA Internal Medicine* 2015)



# Senior Care Pharmacy Facts

- Seniors represent just over 13% of the population, but consume 40% of prescription drugs and 35% of all over-the-counter drugs
- On average per year:
  - People 65-69 years old take 14 prescriptions
  - People 80-84 years old take 18 prescriptions
- 15%-25% of drug use in seniors is considered unnecessary or otherwise inappropriate
- Adverse drug reactions and noncompliance are responsible for 28% of hospitalizations in the elderly
- 36% of all reported adverse drug reactions involve an elderly individual
- Each year, 32,000 seniors suffer hip fractures caused by medication-related problems



# Pharmacists' Role in Healthy Aging

## Pharmacists:

- Manage and improve patients' drug therapy and quality of life
- Take responsibility for their patients' medication-related needs
- Ensure that their patients' medications are the most appropriate, the most effective, the safest possible and are used correctly
- Identify, resolve and prevent medication-related problems that may interfere with the goals of therapy

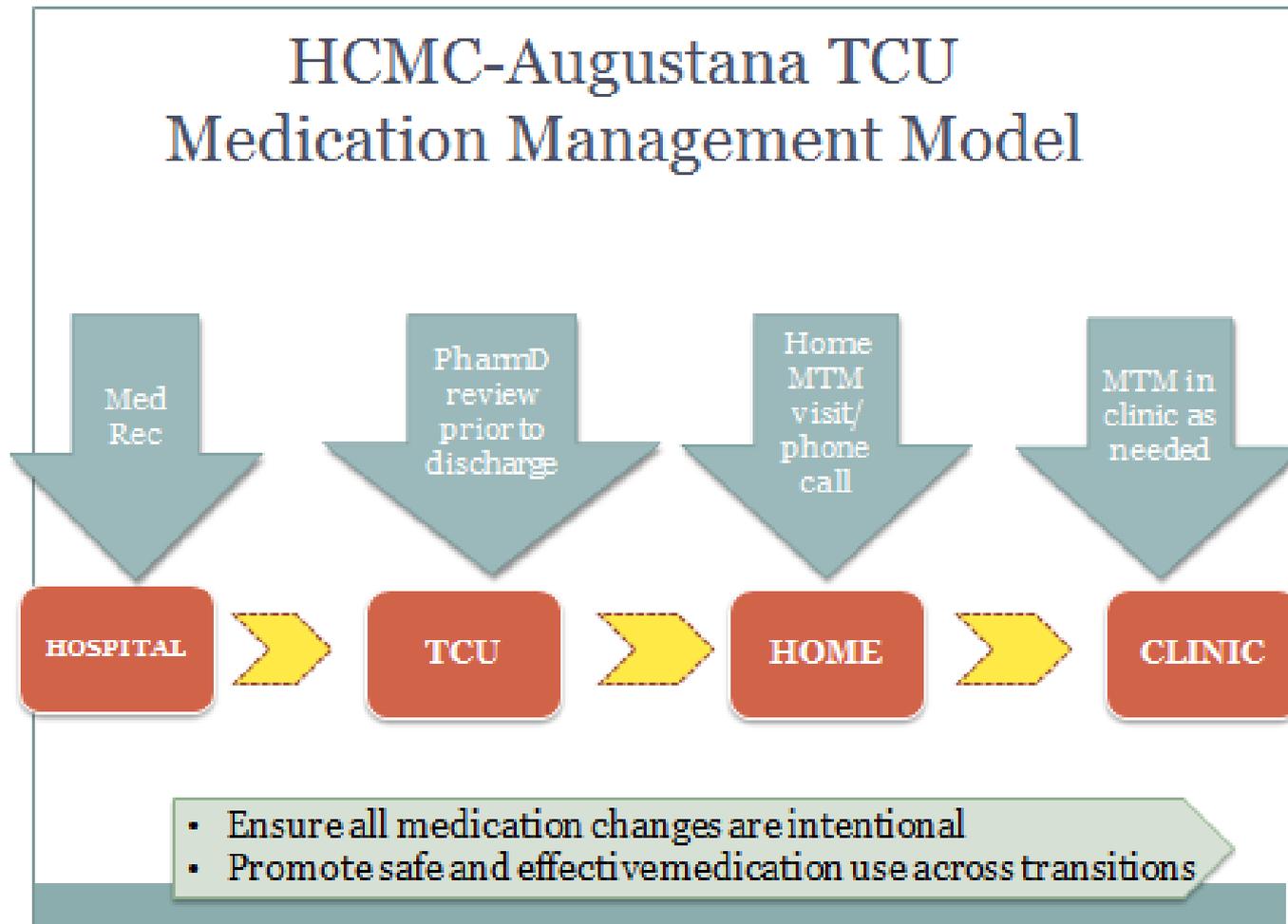


# Aging is a Key Area of Focus for College of Pharmacy

- Our faculty provide medication management at:
  - Transitional Care Units
  - In patients' homes
  - Clinics
  - Hospitals
  - Community pharmacies
- This care is especially critical at times of transition from hospital to transitional care unit to home



# Evaluation of Pharmacist-Driven Transitions of Care Model



# Evaluation of Pharmacist-Driven Transitions of Care Model

	<b>Comparison (n=189)</b>	<b>Intervention (n=88)</b>
<b>ED visits (# of events)</b>	64 (33.9%)	21 (23.9%)
<b>Hospitalizations (#of events)</b>	43 (22.8%)	9 (10.2%)



# Pharmacists Are Especially Impactful in Rural Communities

- Pharmacists can help with local management of chronic diseases for patients far away from their primary provider
- Models of team-provided primary care benefit from a pharmacist serving on the team
- Pharmacists save health systems 3 or more times their cost in reduced rehospitalizations and ER visits



# College of Pharmacy Academic Programs

- A geriatrics component is incorporated within all required courses (e.g., special dosing for elderly)
- Geriatric Pharmacotherapy elective
- Many five-week geriatric rotations offered
- We could do more, especially for workforce development for existing pharmacists.



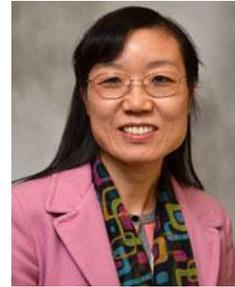
# Geriatrics Experts at the College of Pharmacy



Todd Johnson  
Lake Region Healthcare  
Fergus Falls



Karunya  
Kandimalla  
Alzheimer's  
researcher



Ling Li  
Alzheimer's  
researcher



Shannon Reidt  
HCMC



Shellina Scheiner  
Sholom Home  
Senior Housing &  
Assisted Living



Mike Swanoski  
Essentia Health, Duluth



Michael Walters  
Alzheimer's researcher



# Healthy Aging and the School of Nursing

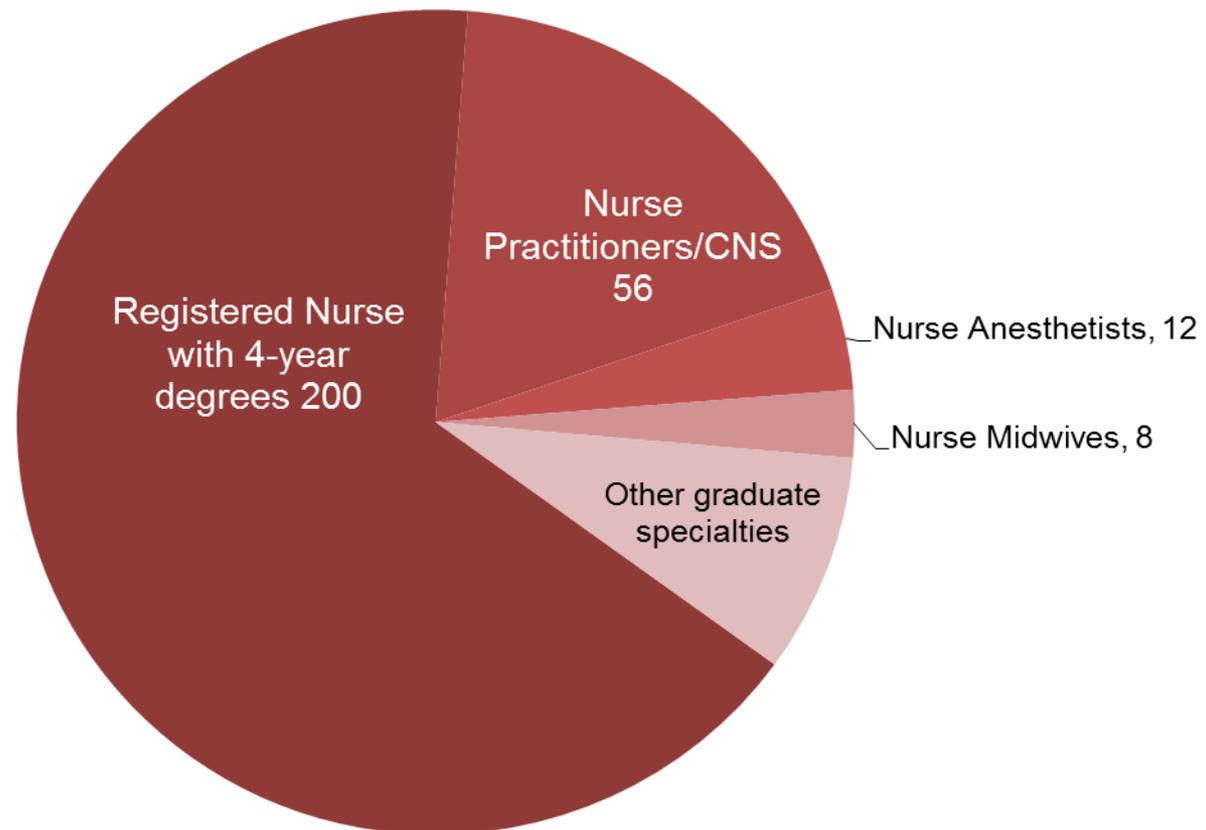
Joe Gaugler, PhD  
Associate Professor

University of Minnesota  
School of Nursing



# Academic Programs

## 310 Nursing Graduates Annually



# Academic Programs

- **Bachelor of Science in Nursing**
  - Leads to RN license, 4-year degree program
- **Master of Nursing**
  - Leads to RN license, 16-month accelerated year-round program
  - For individuals who have a bachelors degree in a field other than nursing
- **Doctor of Nursing Practice (DNP)**
  - Is highest level clinical practice degree for nurses, 3-year full-time graduate program in a specialty
  - Produced 31 advanced practice nurses who specialize in adult/gerontological/family care in 2014
  - Preparation to practice as: Nurse practitioners, nurse anesthetists, nurse midwives, nursing faculty, other specialties
- **PhD in Nursing**
  - Research focus, preparation for research and teaching



# Academic Programs Enrollment Growth

The School of Nursing's combined enrollment has increased by 20 percent over the last nine years.



# Healthy Aging Research and Discovery

- Ranked 15<sup>th</sup> in research funding from the National Institutes of Health among schools of nursing nationally, 2014.
- One of nine centers of excellence in gerontological nursing research nationally
- Delivered seminars to 150 gerontological nursing faculty nationally to improve teaching and knowledge



# Healthy Aging Research and Discovery

Received 22 grants of \$3.2 million\* to support aging research in 2014

- \$2.9 million in federal grants
- \$145,911 in state grants
- \$100,000 in private foundation grants

\*annual direct costs



# Healthy Aging Research and Discovery

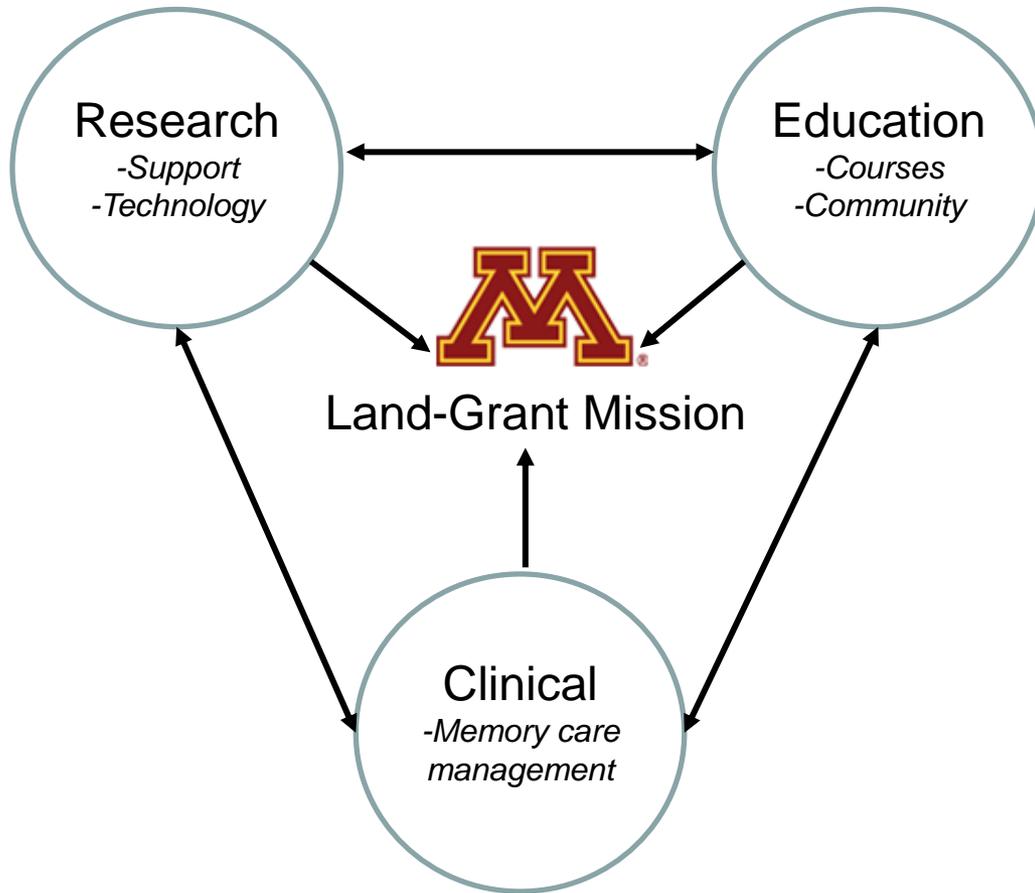
School of Nursing research programs for healthy aging:

- Post-stroke recovery
- Diabetes and diabetic kidney disease
- Improve/maintain cognitive function
- Osteoarthritis
- Alzheimer's Disease and dementia
- Care-giver support
- Incontinence
- Nursing home safety
- Peripheral Artery Disease
- Fall prevention
- Physiology lab for exercise intervention testing



# Healthy Aging Research and Discovery

## Alzheimer's Disease research, Example 1



# Healthy Aging Research and Discovery

## Incontinence: Example 2

- 45% of older adults in the community
- 60% of adults in nursing homes
- Triggers more costly levels of care
- Non-invasive solutions



# Healthy Aging Research and Discovery

## Peripheral Artery Disease, Example 3

- 10 years of clinical research
- Promising findings
- Arm exercise interventions



# Aging Research and the School of Public Health

**Beth A Virnig, PhD, MPH**

Professor

Senior Associate Dean for Academic Affairs  
and Research

University of Minnesota  
School of Public Health



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# Aging is a Key Area of Focus for the SPH

- One of 11 key areas for 2030 goal setting
- Recognized intersections with other key SPH focus areas:
  - Mental health, neurology, cognition
  - Chronic Disease
  - Infectious disease
  - Injury
  - Economics and management
  - Equity



# Capacity for Aging-Related Research, Education and Service

- Over 20% of faculty engaged in aging/long term care research
- Centers with direct aging focus:
  - Center on Aging
  - Minnesota Area Geriatric Education Center (MAGEC)
  - Long-term Care Resource Center
- Centers with mixed direct/indirect aging focus:
  - Research Data Assistance Center (ResDAC) facilitates studies that use data from CMS
  - Rural Health Research Center studies unique needs of rural populations



# Public Health Approach

- Prevention focused
  - Modifiable risk factors
- Population based
  - Focus on policy and system changes rather than focusing solely on motivating individual actions and decisions



# Local and National Collaborations

- Within the University of Minnesota
- Minnesota Department of Human Services
  - Nursing and Facility Rates Divisions
  - Division of Aging and Disability Resources
  - Community Relations
- Minnesota Department of Health
- Veterans Administration Medical Center, Minneapolis
- Allina, Fairview, Mayo Clinic
- Medica, UnitedHealth
- Centers for Medicare and Medicaid Services



# Studies of Predictors of Healthy Aging

- Long-standing studies which began with a focus on disease diagnosis are shifting to studies of aging/healthy aging
- Recognize that disease diagnosis does not necessarily indicate disability or mortality. What predicts disability?
  - IWHS—cancer survivorship among Medicare-aged women
  - SOF/MrOS—predictors of healthy aging



# Innovative Models of Care Delivery

- Health impact of continuity of care? Hospitalizations? ER use? Compliance with care guidelines?
- Healthcare home—(with MDH) approach to primary care where patients, physicians, families work together to improve health outcomes for patients with chronic disease
- Studies of individual capacity to manage health care—why are some people able to juggle complex chronic illnesses and others not? What are strategies to limit adverse impact of chronic disease diagnoses and complex self-care needs?



# Payment Models

- CMS is experimenting with changing payment rates and incentives.
  - Restrict over-use of care
  - Incent certain treatment patterns (preventive services/screening)
  - Save money
- How do these impact health care use and outcomes?



# Long-Term Care

- Includes both home-based and institutionally based models
  - Impact of care-giving on families
  - Family satisfaction with long term care
  - Racial disparities in Nursing Home experience
  - Strategies to more effectively measure and promote quality of life



# Managing Long Term Care Organizations

- What are the organizational structures and incentives that are associated with optimal long-term care?
  - Innovative models of hospice care
  - Nursing Home structures and resources
  - Value of creating a Nursing Home report card to facilitate choice of care setting and promote care quality
    - Nursing Home Compare



# Summary

- The University of Minnesota School of Public Health is committed to promoting research, teaching and service around aging and long-term care.
- Our aging-related portfolio is funded by state and federal sources, diverse, prevention-focused and highly collaborative



# Conclusion



# Our Commitment

- As state's land grant University, the U of M plays an essential role in the health of Minnesota:
  - Educating/training the state's health professional workforce
  - Discovering new treatments, cures, ways to promote health
  - Helping shape health policy
  - Developing and piloting new models of care
  - Providing top quality health care services to the state
- We are committed to continuing that work and meeting the challenges ahead in the changing world of health care, an aging population, and health disparities



# University's Healthy Minnesota Initiative

Ensuring Minnesota has the health professional workforce needed to meet the challenges of an aging and diverse state:

- Strengthening education/training programs in **geriatrics and care of the elderly**
- Increasing our education/training programs in **mental health**
- Expanding our **dentistry** training programs
- Developing a **statewide network of primary care teaching clinics** across the state in **underserved urban and rural communities**.

