

Aging with Disability

Brian J. Dudgeon, Ph.D., OTR, FAOTA
Associate Professor, Rehabilitation Medicine
PWD [Person with Disability]

“Aging isn’t for sissies”

[License Plate Frame; Brian’s Mom]

- Brian
 - Congenital disability (Cerebral Palsy- Spastic Diplegia)
 - Heal cord release (age 6)
 - Orthotics (age 3)-Canes (age 18)-Scooter (wheeled mobility) (age 30)
 - Therapy (age 9-12); Self-Managing
 - Knee meniscus tears/surgery
 - Herniated lumbar discs (persistent low back pain)
- Brian’s Dad
 - WWII disabled Veteran; Bilateral Lower-Limb Amputee
 - Prosthesis User, Cane & Crutches
- Brian’s Mom
 - Non-Insulin Dependent Diabetes
 - Late adult neurological compromise (un-diagnosed)
 - Lower Limb Weakness (walking aids)
- Give the Aging with Disability Talk?

Overview on Aging

- **Bio-Psycho-Socio-Cultural-Spiritual Model**
- Behavioral Adaptation to Aging:
 - Interactions between organic (biological), psychosocial, and environmental variables
- Existing disability and aging
 - Newer attention to this phenomenon
 - “Risk Line” // optimal level of fitness vs. critical level of incapacity resulting in functional compromise
 - With disability
 - Narrow space between capacity and zone of change (lack of reserve)
 - Greater Vulnerability (fitness issues; disease processes)
 - Inexperience, new cohorts of disability, first-timers

Model of Aging with Disability

- Roberta Trieschmann
 - Health behavior and function with aging a “balancing act”
 - For persons with disability, “balancing is often increasingly tenuous with advancing age”
- Balance= f(P,O,E)= Homeostasis (natural tendency)
 - Psychosocial Variables
 - Organic (Biological) Variables
 - Environmental Variables
- Health Behaviors
 - Survival Skills (managing life)
 - Harmonious Environments (supportive contexts)
 - Productivity (meaningful engagements)

New Cohorts: Aging with Disability

- 1940’s and 50’s > #s and attention to “survivors”
 - Polio, Amputation, Spinal Cord Injury
- 1960’s and 70’s > medical survival, emergency care
 - Spina Bifida, Birth Injury (Cerebral Palsy), Head Injury, Heart Disease
- 1980’s and 90’s “Chronic Health” and Technology
 - Cancer, HIV/AIDS, Organ Transplant, renal/Heart-Lung care, Joint Replacement
- 2000’s ? Gene Therapy?

New Cohorts: Aging with Disability

- Expected long-term survival; unexpected (unknown) effects of time (aging)
- Claiming “static” vs. “progressive” (Zola: less distinct)
- Progressive but self-limiting (?)
 - Muscular Dystrophies (MD, ALS)
 - Cerebrovascular Disease/Stroke (CVA)
 - Chronic Obstructive Pulmonary Disease (COPD)
- Chronic and Unpredictable (?)
 - Multiple Sclerosis
 - Cancer & Heart Disease
 - Arthritis

New Cohorts: Aging with Disability

- Chronic but “non-progressive” or “static”
 - Polio
 - Cerebral Palsy
 - Spina Bifida
 - Spinal Cord Injury
 - Head Injury
- Those with disability:
 - Aging is a continuous process of adjusting to disability
 - Nothing is “status quo”
 - Experiences may be similar or disparate
 - Little has been published
 - New attention to living and aging with disability

Science of Aging with Disability

- Rates of Aging:
 - ‘Developmental Delay’ ??
 - ‘Aging Swiftly’ ??
 - RATE: Normal aging effects accelerated
 - FORMAT: Features of aging vary
 - Presby’s (vision, hearing, tactile)
 - Flexibility (range of motion)
 - Strength (reserves)
 - Cardio-pulmonary (reserves)
 - Psychosocial (depression & suicide)

Aging with Disability Bibliography

- LeeAnne Carrothers, PT, PhD (2005)
 - Rancho Los Amigos National Rehabilitation Center [NIDRR, OSERS]
 - Diagnostic Groups: SCI, CP, Post-Polio, RA
 - Issues for People Aging with Disability (600 articles)
 - Pain
 - Fatigue
 - Strength/Exercise
 - Bone Loss/Osteoporosis
 - Metabolic/Endocrine
 - Psychological Issues
 - Health/Health Care (Disparity)

Examples

- Polio [and Progressive Post-Polio Muscle Atrophy]
 - Initial recovery peaked at ≈6 years. Lived with polio for 30-40 years.
 - ≈ 25 year later; Health Decline
 - > fatigue, weakness in affected and previously unaffected muscles, muscle and joint pain, breathing difficulty
 - Functional decline: use of wheelchairs; trouble walking, stairs, transfers; bathing challenges

Examples

- Polio [and Progressive Post-Polio Muscle Atrophy]
 - > PPMA with > initial severity, onset after age 10
 - General Health Compromises: Hypertension, respiratory disease, arthritis, heart disease
 - “Avoid Excessive Exercise”
 - Why (not entirely agreed upon)
 - Single motor units: 100-500 muscle fibers
 - Polio: sprouting toward 1000-2000 muscle fibers
 - Worn out? Excessive wear and tear

Examples

- Spinal Cord Injury
 - Ohry (1983): “Patients with SCI are subject to pre-mature aging.”
 - Decrease resistance to infection (antibody response)
 - Silent Sepsis- hypothermia and leukopenia
 - Premature hypertension and arteriosclerosis
 - > incidence of bladder, prostate and colon cancers
 - Difficulty with regulation of body temperature, fluid balance, obesity
 - Long-term SCI: Cumulative Trauma Disorders (UL)
 - Pressure Sores
 - Suicide

Examples (Generic)

- Disability
 - Musculoskeletal problems (PAIN)
 - Tender sore joints, muscles, tendons
 - Organ discomforts
 - Osteoporosis
 - Cardiopulmonary Diseases
 - Nutrition and Exercise
 - > problem with fitness
 - Excessive Weight
 - Poor (non-nutritional) Diet
 - Stress and Endocrine System
 - > rate of wear and tear, accelerated tissue breakdown
 - Psychosocial Complications
 - Isolation (lack of meaningful participation)
 - Depression

Examples (Generic)

- Old vs. New Rehabilitation Philosophy (?)
 - "Use it or lose it" vs. "Conserve it to preserve it"
- Individual's health and fitness
 - Access to fitness centers
 - Dietary needs and resources
 - National Center on Physical Activity and Disability
[<http://www.ncpad.org/>]
- Contextual supports
 - Universal Design (accessibility)
 - Assistance Needs (informal and formal)
 - Access to Assistive Technology (consumer-ization)

Who are the Elderly?

- Elderly: "somewhat old"
- longest span of any 'age period'

 - Senior Discount 55
 - Young Old 65-74 (56% Female)
 - Old Old 75-84 (61% Female)
 - Oldest Old 85+ (72% Female)
 - Centurion ≥100+

- "Two-thirds of all the men and women who have ever lived beyond the age of 65 in the entire history of the world are alive today." -Age Wave Institute (1993)

Why do we age? With or without disability?

- Physiologic Causes
- Genetic Causes
- Environmental Causes
- Not mutually exclusive
 - all could and do play a role

Physiological

- Wear and Tear
 - Excessive strain, abnormal movements, spasticity
- Metabolic rate in humans declines after-20's
- Aging by Program: cell reproduction has pre-established limits
- Homeostatic Imbalance
 - one thing (error) leads to another (with disability?)
- Cross-linkage theory
 - collagen breakdown- multi-system change

Physiological

- Accumulation of errors
 - new cell reproduction errors add up to faulty systems (Genetic re-cycling 7-10 times in a lifetime)
- Accumulation of metabolic wastes
 - do not shed enough of our used cells
- Autoimmunity
 - advancing destruction of 'self'

Genetic Aspects

- Family patterns of longevity
 - monozygotic twins more similar in patterns of aging than dizygotic twins
- New findings of genetic traits that 'predispose' some people to diseases
 - Breast Cancer (<10%)
 - Colon Cancer (<30%)
 - Alzheimer's Disease? (Down Syndrome)

Environmental Factors


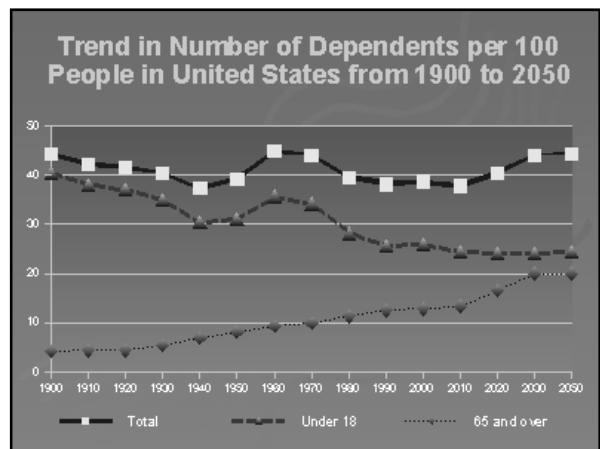
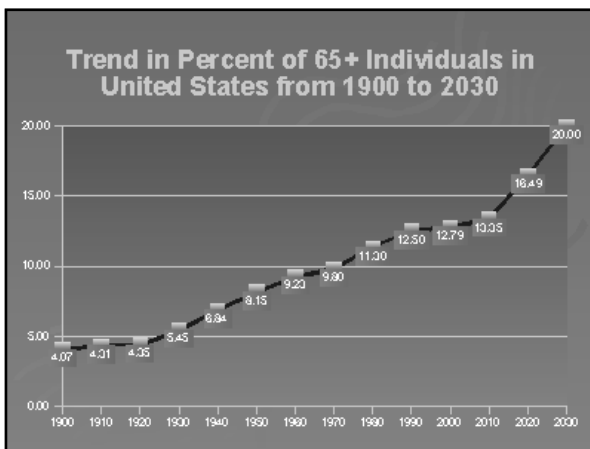
- Mortality rates differ
 - Cross cultural differences within USA
 - Blacks live fewer years than Whites
- Historical time differences
 - Public health versus medicine
 - Causes of death 1930's vs. 2000's
 - Role models with chronic illness?

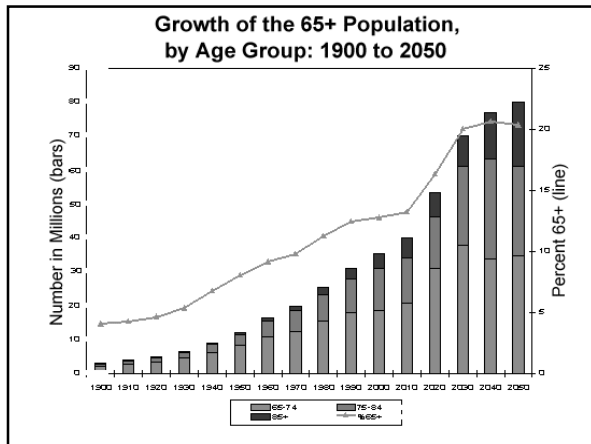
Environmental Factors

- Historical Events and Time
 - Culture-Regional differences in USA (diet, exercise & stress?)
 - Social and Natural disasters
 - Radiation Testing
 - Use of Pesticides
 - HIV
 - ???

What impacts people?

- Nature vs. Nurture
- Stability vs. Change
- People become more different as they age
- Increasing Diversity among older adults
- Counter to Youth's Myth



Health Costs and Socio-demographics

- % of population with health challenges
 - "Healthier" than prior generations?
 - Less reporting of disability
 - Do we know why?
- Fewer entry level workers
 - Extending employment to elders
- Fewer number of care providers
 - 'Sandwich generation'
 - Elders helping elders
- Greater uses of Assistive Technology and Environmental Modifications (consumer ready)

Disability Key-points

- Older Women > disability reporting than older men
- Blacks > disability reporting than whites
- Living alone or with relatives > disability reporting
- Medicaid recipients, Medicare, Private
- Outside metropolitan areas > disability reporting
- Southern U.S. > disability reporting than Western U.S.

Disability Issues to Assess

- PROMIS Project: NIH Roadmap
- **The Patient Reported Outcomes Measurement Information System (PROMIS): Tools for assessment**
- **Self-Reported Health [Physical, Mental, Social Health]**
 - Fatigue
 - Pain
 - Anxiety
 - Depression
 - Anger
 - Sleep/Wake Disturbances
 - Social Roles
 - Discretionary Social Activities

5 Themes in approach; older adults

- Medical-Physiological
 - Prevention (primary and secondary)
- Focus on Function
 - Context of ability (adaptive functioning)
- Promotion of Self-Care
 - Control over care decisions (Internal LOC?)
- Personal Context (Informal care providers)
- Rehabilitation in the Community
 - "Aging in place" (Universal Design/Adjustments)

Therapeutic Approach

- Relationship between the ***Individual*** and his or her ***Environment***
 - physical, social, spiritual
 - "Functional performance is behavior, [and] behavior is the outcome of the interaction of the person and the environment"

Betty Hasselkus, PhD., OTR
Univ. of Wisconsin- Madison

A few suggested reading & references

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