

Re-Thinking Elder Functional Status: Use of a Comprehensive Onco-Geriatric Assessment Methodology

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Consider the following as the framework for this discussion ...

- Focus on the 'Entitlement Crisis' (R/T Social Security + Medicare) has preempted discussion of the broader implications of population aging.
- Longevity extension has fascinated thinkers and fiction writers for centuries. Although futuristic scenarios have entertained public imagination in an escapist manner, an era has now entered when societies must grapple with practical issues and outcomes of life extension.
- When considering cancer in older adults, these realities directly impact daily function, activity levels, ability to socialize, obtain necessary care and overall survival.

Sources: Kinsella KG (2005). Future longevity – Demographic concerns and consequences. *Journal of the American Geriatrics Society*, 53: 5299-5303; Vladeck BC (2005). Economic and policy implications of improving longevity. *Journal of the American Geriatrics Society*, 53: 5304-5307.

Societal and Economic Implications of Increased Longevity & the Expected Doubling of the # of Elderly By 2030: Functional Status Considerations



5 Critical Areas Influenced by Demographic Change

- Patterns of work life & labor force participation
 - 'Baby Boomers' = majority of work force
 - \$\$ inducements for early retirement
 - Barriers to inclusion of low cost young workers from overseas
 - If retirement pattern prevails, economy will run out of workers by 2025



Source: Vladeck BC (2005). Economic and policy implications of improving longevity. *Journal of the American Geriatrics Association*, 53: S304-S307.

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- Government expenditures
 - Those largely financed by payroll & federal income taxes will ↑
 - Social Security, Medicare, Medicaid, Veterans benefits currently represent 40% of federal outlay with increases yearly
 - Those financed by state and local property taxes will ↓
 - State/local governments spend \$\$ (37%) on education + criminal justice
- Post-WWII pattern of suburbanized, auto-dependent communities
 - 'Baby Boomers' 1st generation to live in suburbs; creation of housing for them transformed American landscape
 - Older adults prefer to stay in their homes; current home care issues
 - Children = mobile
 - Disability, physical mobility impairment → social isolation

Societal and Economic Implications of Increased Longevity & the Expected Doubling of the # of Elderly By 2030: Functional Status Considerations

- Intra-familial caregiving patterns
 - Never before have so many older people had so many surviving children
 - Presence of 3 surviving generations increasingly common
 - Expectations on young (+ implications of divorce)
 - Aging of caregivers
 - Children of 80 yr. olds in their 60's or 70's with their own potential decline of physical + economic capacity
 - Grandchildren of 90 yr. olds are in their 30's or 40's with their own evolving family responsibilities
 - 'Sandwich Generation' = 'Club Sandwich' (multiple layers)
 - Societal nannies (i.e., custodial care of grandchildren)
- Level of disability and dependence of older people
 - 80 yr. old of tomorrow may be like the 60 yr. old of today
 - Health care workforce concerns (# + age of professional providers)

Aging in the Context of Cancer Therapy

Aging is accompanied by an extremely heterogeneous and often unpredictable decline of organ reserves and functional impairment which reduces adaptability both to disease and cancer treatment.

Source: Basso & Monfardini (2004). Multidimensional geriatric evaluation in elderly cancer patients: A practical approach. *European Journal of Cancer Care*, 13, 424-433.

Geriatric Diversity ...

- Serves as the conceptual framework for consideration of nursing and medical care in gero-oncology
- Requires re-prioritization on physiologic age rather than chronologic age; however, when chronologic age is used as a measurement, subsets of advanced age must be addressed
- Basis for stratification of cancer therapies in the future will be based on risk estimation of untoward and potentially lethal effects of cancer therapy –
 - Highly 'fit'
 - Partially compromised
 - Frail

Uses/Benefits of Comprehensive Geriatric Assessment (CGA)

- Assists with therapy customization
- More sensitive index of status changes in multiple domains; detects 'hidden' limitations in seniors who appear healthy and have no overt problems
- Promotes recognition and scope of vulnerability and frailty
- Provides benchmarking data on the impact of novel therapies

The Older Adult With Cancer: Assessment Constraints



- Key issues are under-detected without systematic screening
- Performance Status (PS) does not comprehensively evaluate many age-related problems
- Use of the generic Comprehensive Geriatric Assessment (CGA) has limitations in cancer care –
 - Generally 1.5 hours to complete
 - On-site designated interdisciplinary team
 - Available resources limited
 - Costly

NCCN Suggested Guidelines for Assessment of Older Cancer Patients

(Based on components used in CGA)
(Screening vs. diagnostic!)

DOMAIN

- Physical status
- Functional impairment
- Nutrition
- Affect/mood
- Cognition
- Socioeconomic
- Medications

ASSESSMENT TARGET

- Co-morbidity
- Activities of daily living
- Diet intake
- Depression
- Delirium, dementia
- Living environment, social support, financial
- Polypharmacy

Source: Balducci & Yates (2000). General guidelines for the management of elder patients with cancer. *NCCN Proceedings*, 14, 221-227.

Comparison of Baseline Assessment With CGA & PS

CGA

- Physical status
- Co-morbidity
- Functional impairment
- Activities of daily living
- Nutrition
- Diet intake
- Affect/mood
- Depression
- Cognition
- Delirium, dementia
- Polypharmacy
- Medication inventory
- Socioeconomic
- Living environment, social support, financial issues

ECOG PS

- 0 Fully active, able to carry on all pre-disease performance without restriction
- 1 Restricted in physically strenuous activity, but ambulatory and able to carry out work of a light or sedentary nature
- 2 Ambulatory and capable of all self-care, but unable to carry out any work activity; up and about >50% of waking hours
- 3 Capable of only limited self-care; confined to bed or chair > 50% of waking hours
- 4 Completely disabled; cannot carry on any self-care; totally confined to bed or chair

Physical Status: Importance of Assessing Co-Morbidity

- Critical retrospective review of cancer clinical trials revealed that co-morbidity, not old age alone, was the major contributing factor to morbidity and mortality in older adults receiving chemotherapy
- Approximately 30-40% of older patients will present with 3 or more co-morbid conditions
- Major scales used:
 - Cumulative Illness Rating Scale (CIRS-G, geriatric variant)
 - Charlson Co-Morbidity Scale
 - Satariano Co-Morbidity Index

Major Co-Morbid Illnesses*

- Arthritis
- Hypertension
- Digestive disorders
- Cardiac disease
- Vascular disease
- Genitourinary disease
- CNS disease
- COPD
- Depression
- Diabetes
- Osteoporosis
- CHF
- Cerebrovascular disease
- Dementia
- Connective tissue disease
- Ulcers
- Mild liver compromise
- Hemiplegia
- Renal disease
- Second solid tumor
- ENT disorders
- Endocrine dysfunction

* Most prevalent in older cancer patients; Source: Repetto & Comandini (2000). Cancer in the elderly: Assessing patients for fitness. *Critical Reviews in Oncology/Hematology* 35, 155-160.

Functional Impairment

- Classically used ADL + IADL to measure degree of dependency R/T tasks required in everyday life
 - **ADL (Katz) (6 domains):**
 - Bathing, dressing, toileting, transfer, continence, feeding
 - **IADL (Lawton & Brody) (8 items):**
 - Use telephone, get groceries, travel, prepare meals, do housework or repair work, laundry, take medications, manage money
- Recent evidence that these functions are not necessarily hierarchical; consider blended version of both instruments
 - **15-Item Functional Disability Scale (Spector & Fleischman 1998):**
 - Shopping, laundry, bathing, getting around outside, meal preparation, medications, finances, getting around inside, light housework or repairs, dressing, transferring, toileting, use telephone, self-care when incontinent, feeding

Nutrition

- **Quantitative measurements:**
 - Body mass index (based on height and weight), triceps skinfold, Hgb/Hct, albumin, transferrin
- **Initial Mini Nutritional Assessment:**
 - Normal/usual weight
 - Involuntary weight loss: "Have you lost 10 lbs. or more over the last 6 months without trying?"
 - "Over the past 3 days, how many meals have you eaten?"
 - "What do you think is effecting your appetite?"

Affect/Mood

- Depression is a major factor in reduced physical functioning which in turn impacts outcome + survival
- Greatest risk factor is a pre-morbid history of depression usually in women
- Within the context of cumulative loss, how can pathological depression be determined?
- Due to physiological ramifications of cancer, somatic/vegetative symptoms of depression in most tools do not apply + require substitution
- **5-Item Geriatric Depression Scale* (Hoyl, 1999) broadly used in CGA; takes less than 1 minute to complete; 0-4 not depressed, ≥2 possible depression; tool not validated with cancer patients:**
 - "On the whole, are you content with life?"
 - "Do you often feel bored?"
 - "Do you often feel helpless?"
 - "Are there many days when you prefer to stay home rather than going out?"
 - "Do you often feel worthless?"

Cognition

- **Differential distinction between the 3 D's:**
 - Depression
 - Dementia
 - Delirium
- Area characterized by intense ageism; little known despite it's prevalence
- Psychological manifestation of a physiological process
- Often reversible once etiology identified and corrected
- Aggression, profound agitation = late sign

Differential Distinction of the 3 D's

Feature	Delirium	Dementia	Depression
Onset	Acute (over hours to days); often at twilight; often a corollary of acute illness	Chronic, generally insidious (Over months to years)	Episodic, coinciding with life changes; often abrupt, progressing from weeks to months
Course	Short, diurnal fluctuation in symptoms; worse at night, in the dark, and on awakening; symptoms can fluctuate hourly	Long, no diurnal effects, symptoms progressive yet relatively stable over time	Diurnal effects, typically worse in the morning; situational fluctuations but less than delirium
Progression	Abrupt	Slow but even	Variable, uneven
Duration	Hours to weeks, seldom longer than a month; resolves with treatment	Months to years; progressive and irreversible	At least 2 weeks, but can be several months to years; resolves with treatment
Awareness	Reduced	Unaffected	Clear but selective
Alertness	Lethargic or hypervigilant; fluctuates	Generally normal	Normal
Attention	Impaired, fluctuates, easily distracted	Generally unaffected	Minimal impairment but may have difficulty concentrating
Orientation	Generally impaired; early disorientation to time and place; fluctuates in severity	Impaired as disease progresses	Selective disorientation

Source: Boyle DA. Delirium in elderly cancer patients: A review and recommendations for practice and research. *Oncology Nursing Forum*, in press, January 2006.

Mini-Mental State Examination

- Orientation
 - What is the year? season? date? day? month?
- Registration
 - Ask patient to repeat examiner's list of 3 objects
- Attention and calculation
 - Subtract serial 7's
- Recall
 - Ask for the names of the 3 previously identified objects
- Language
 - Examiner points to pencil and watch then asks patient to name them; phrase repetition, follows command, reads and follows instructions, write sentence
- Reconstruction
 - Copy design on paper

Source: Amin, Kuhle & Fitzpatrick (2003). Comprehensive evaluation of the older woman. Mayo Clinic Proceedings, 78, 1157-1185.

Socioeconomic

- Living status
- Transportation
- Major source of support
- Proximity of help in emergency
- Financial status
- Insurance coverage for drugs

Polypharmacy

- Approximately one-third of older cancer patients are taking ≥ 7 medications daily
- Complete a comprehensive medication inventory:
 - Prescription
 - OTC*
 - CAM
- Verify type and dosage of each medication and patient's ability to discriminate packaging + instructions

* $>70\%$ of all OTC medications in the U.S. are purchased by the elderly

Consequences of Polypharmacy

- Drug interactions
- Adverse drug reactions
 - Risk associated with # drugs consumed:
 - 2 drugs: 6%
 - 5 drugs: 50%
 - 8+ drugs: 100%
- Treatment duplication
- Adherence
- Increase risk for hospitalization
- Medication errors
- Cost

Geriatric Syndromes

- Impairment in:
 - Physical functioning
 - Cognition (delirium)
 - Mood (depression)
 - Mobility (gait, balance, falls)
 - Continence (bowel, bladder)
 - Sleep (insomnia)
 - Nutrition
 - Neurosensory function
 - Central
 - Peripheral
- Evidence of:
 - Pain
 - Polypharmacy
 - Inadequate social support
 - Neglect or abuse

Quick Measures to Assess Select Geriatric Syndromes in Practice

- Physical functioning norm
 - "What was your best day like in the last 6 months?"
- Incontinence
 - Embarrassment precludes disclosure; normalize symptoms within context of overall symptom distress
 - Ask, "In the last year, have you ever lost your urine or gotten wet?"; if Yes, ask "Have you lost your urine on at least 6 separate days?"
 - Similar questioning about 'loose bowel movements'
- Insomnia
 - "How much has changes in your sleep pattern effected your daily functioning?"
- Pain
 - Visual Analog Thermometer Scale + drawing depiction for site(s) location

Quick Measures to Assess Select Geriatric Syndromes in Practice

- Delirium
 - Query family about nature of evolving symptoms
 - Clock Drawing Test
- Finances
 - Questions based on OARS* methodology; answered on 3-point scale:
 - Degree to which their bills are burdensome
 - Degree to which money meets their basic needs
 - Adequacy of income to buy extras
- Depression
 - “Have you been depressed most of the time for the past two weeks?” (Chochinov, *American Journal of Psychiatry*, 1997)

* OARS (Older Americans Resources and Services) Co-Morbidity Scale, 1988.

Constructional Apraxia as a Measure of Cognitive Dysfunction

Image Not Available

Source: Boyle DA. Delirium in elderly cancer patients: A review and recommendations for practice and research. *Oncology Nursing Forum*, in press, January 2006.

Quick Measures to Assess Select Geriatric Syndromes in Practice

- Neurosensory impairment
 - Known ototoxic therapies (i.e., platinum compounds, vincristine)
 - Whisper Voice Test: stand 2 ft. behind patient, cover 1 ear, whisper 3 #s and have them repeat
- Gait/balance
 - Known cerebellar toxicities (i.e., fluorouracil, hi-dose cytarabine)
 - Hand/eye coordination
 - Known peripheral neurotoxicities (i.e., platinum compounds, taxol)
 - Button shirt, tie shoes, numbness/tingling
 - TUG Test may be used for both: stand up from chair, walk short distance, turn around, return to chair, sit (+ close eyes, nudge)

Elements of a Comprehensive Onco-Geriatric Assessment (COGA) Methodology

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Assessment Domains <ul style="list-style-type: none"> ■ Physical status ■ Functional impairment ■ Nutrition ■ Affect/mood ■ Cognition ■ Socioeconomic ■ Medication inventory ■ Spirituality ■ Symptom distress ratings ■ Caregiver concerns | <ul style="list-style-type: none"> ■ Process Considerations <ul style="list-style-type: none"> ■ COGA eligibility? ■ Interview vs. self-report ■ Self-report mailed pre-initial evaluation + instructions about bringing in meds. ■ Trained staff to review/screen medications (what can be delegated?) ■ Identified resources for referral ■ Determination of ongoing use of screens ■ Integration of hx + PE |
|--|---|

Added Domains in COGA

- Caregiver Concerns
 - Current caregiving responsibilities
 - Availability of support for caregiver
 - Priority concern/need
- Spirituality
 - “How important is belief in God or other spiritual entities in helping you face your cancer?”
- Symptom Distress Ratings
 - 5-item Likert scales used in general oncology practice with comprehensive list of potential symptoms
 - General gerontologic caveat

Added Domains in COGA

- Initial Medication Inventory
 - Additional queries*: reason for taking, perceived efficacy, # times missed taking dose, who assists with medications; problems taking medications:
 - Open or close container
 - Read print
 - Remember to take pills
 - Get refills on time
 - Take so many pills at the same time
 - Include education with screen completion instructions about why accurate accounting of all medications is important; document information on 3 major types of medications (prescription, OTC, CAM)
 - Complete roster of physicians actively following patient
 - Re-screen based on intensity of regimen; minimum Q2mos.

*Inventory adapted from: Svarstad, Chewing, Sleath & Claesson (1999). The brief medication questionnaire: A tool for screening patient adherence and barriers to adherence. *Patient Education & Counseling*, 37, 113-124.

Continued COGA Re-Finement

- **Tool Design**
 - Must be applicable across settings, comprehensive, holistic, brief
 - Combine self-report + interview
- **Tool Use**
 - Generally considered for select at-risk elders
 - Cancer populations require identification (by regimen?, by individual risk factors?)
- **Tool Efficacy**
 - Test impact on outcomes (survival, QOL, impact on caregivers, \$\$, decreased use of acute care hospital days + ED visits)
 - Consider weighting/ranking of most predictive components

Measuring Oncology Nurse Sensitive Patient Outcomes *Evidence Based Practice Summary* 'Return to Usual Function' (www.ons.org)

- Important component of cancer patients perceived QOL
- Often related to symptom management
- Generally ignored in cancer research
- Research is needed to develop concept of return to usual function, especially linked to nursing interventions designed to influence this process



Broad-based yet individually-tailored orchestration of nursing care to maximize functional capacity within physical, emotional and social domains during the context of cancer therapies (Boyle, 2005).

Anticipating the Future

- Classic instruments used are very old
- Assessment interview will be augmented by:
 - Clinical and lab indicators of frailty
 - Recurrence tumor markers
 - Technology support of pre-initial visit from home
- Attention to cognition will increase in importance:
 - Orally-formulated chemotherapy drugs will increase in #
 - Self-care requirements will increase in scope and complexity
 - Mastery of technology will be required to access health care databases and repositories for problem-solving and communication
- While there will be a predominance of healthy elders, so will there be a need for novel social support interventions

Images Not Available