AGING-CANCER RESEARCH

1. *Geriatr Hematol pp 944-955 in (Young NS, Gerson SL, High KA eds.), 2006 Elsevier, Philadelphia.* **2.** Human ematopoietic progenitor cells exhibit increased microsatellite instability associated with advanced age and cancer. *Proc AACR 47, Abst 219, 2006.*

3. Families of long-term cancer survivors: Health maintenance advocacy and practice. *Psycho-Oncology 14:1008-1017, 2005.* **4.** Appraisal of the cancer experience by family members and survivors in long-term survivorship. *Psycho-Oncology 15, 834-845, 2006.* **5.** A model of family communication during diagnosis and treatment: perceptions from long-term survivorship. *Psycho-Oncology 14(1 Supplement):S34, 2005.*

6. Coping among older-adult, long-term cancer survivors. *Psycho-Oncology 15:143-159, 2006.* **7.** Changes in life values, cancer-related health worry, and life satisfaction in older long-term cancer survivors. *The Gerontologist, 45, Special Issue II, 129, 2005.* **8.** Cancer-related health worries and psychological distress among older adult, long-term cancer survivors. *Psycho-Oncology April 15(4):306-320, 2006.*

9. The health of older adult, long-term cancer survivors, *Cancer Nursing 22(6), 415-424, 2005.*

10. *Handbook of Cancer Care and Communication, G. Kreps (Ed.), New York; Hampton Press, 2006.*

11. Considering baseline differences in a coping and communication support intervention for advanced cancer patients. *The Gerontologist 45, Special Issue II, S98, 2005.* **12.** Health communication problems and priorities of advanced cancer patients and their family caregivers assessed in a coping and communication support intervention. *Psycho-Oncology 15, Supplement, S64, 2006.* **13.** Tailoring coping and communication support for advanced cancer patients and their family caregivers. *Psycho-Oncolog, 14, Supplement 1, S34, 2005.* **14.** Age trends in advanced cancer patients' initial needs and preferences for coping and communication support. *The Gerontologist, 45, Special Issue II, S98, 2005.* **15.** Cancer in the Elderly Population: The Protection Racket. *J. Clin Onc 24:1795-1796, 2006.*

16. Comorbidity, disability, and geriatric syndromes in elderly cancer patients receiving home health care. *J Clin Oncol 24:2304-2310, 2006.*

AGING – CANCER RESEARCH

PROGRAM LEADERS

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The Aging-Cancer Program brings together Case Comprehensive Cancer Center members whose research focused or is refocused on aging-cancer issues; investigators from Case schools of medicine, nursing, arts and sciences and social sciences; and clinical faculty from Cleveland Clinic and University Hospitals Case Medical Center.

Scientific Themes

The Program's goal is to develop interdisciplinary research activities that integrate aging and cancer research. Cancer prevention and control in elders cannot be the same as for younger people and strategies must address patients' complex clinical presentation. On the other hand, to improve cancer outcomes in general, research relative to elders must identify areas of disparities and potential improvement in cancer screening and treatment across subgroups of this population. One of only eight in the country to receive NCI P20 funding for Aging Cancer Research Program Development, the Program selected four research priority areas from eight identified by the National Institute on Aging and the National Cancer Institute. The four are:

- **Cancer Treatment Efficacy and Tolerance**
- **Effects of Comorbidities on Cancer Incidence, Screening and Therapy**
- **Psychosocial Aspects of Cancer in the Elderly**
- **Biology of Aging and Cancer**

The Program has six major focus areas which demonstrate a strong commitment to basic, clinical and translational aging-cancer research. The focus areas are platforms to concentrate resources and efforts to stimulate research at the aging-cancer intersection and collaborative, interdisciplinary, synergistic interactions among faculty, institutions and affiliated healthcare delivery systems including University Hospitals, the Cleveland Clinic, MetroHealth Medical Center, and the VA Medical Center.

Scientific Focus Areas

Three focus areas are fully integrated research efforts among collaborating investigators; the others [*] have three to four members and are prioritizing recruitment.

• Chromosomal Breakage and DNA Repair in Aging and Cancer
Molecular mechanisms leading to cancer, DNA repair process during aging as predisposition to mutation and malignant transformation, tissue specific aging failure disorders and mechanisms leading to malignancy, development of cytogenic diagnostic tests and approaches to targeted therapy.

• Age Dependent Changes in Brain Tumor Biology*
Elucidation of pathways that determine cell migration in different aged brains contribute to the use of molecular targeting strategies for using stem cells as therapy for aging brain syndromes.

• Obesity Signaling Mechanisms in Age Related Cancers
Signaling pathways and syndromes connecting obesity to cancer; aging-obesity related comorbididitesc.

• Impact of Comorbidities on Cancer in the Elderly*
Comorbidities impact on strategies to screen for or treat cancer in older individuals; patient-, provider- and system-level attributes that facilitate or hinder prevention and control strategies.

• Treatment Efficacy and Tolerance in Older Patients with Cancer and Age Bias in Clinical Decision Making*
Changes in multiple organ systems, degenerative pharmacologic differences as a function of age and organ dysfunction; impact of comorbidities on the ability to deliver therapy and impact of therapy on status of comorbidities.

• Psychosocial Health Services and Survivorship Research in Aging and Cancer
Screening and early detection, long-term survivorship, advanced cancer and end-of-life care; quality of life and quality of care for older patients and family members; health care utilization and cost outcomes.

The graying of America, and the exponential increase in cancer incidence in the final decades of life, compounded by co-morbidities, require diverse disciplines. Interprogrammatic aging-cancer research already has resulted in noteworthy findings.

Research Highlights – Publication Citations p.33

1, 2. **Nathan Berger** described the critical need for further research of age-associated disorders such as acute leukemia and myelodysplastic syndrome. Berger based his appeal on **Stanton Gerson's** study of microsatellite instability in hematopoietic stem cells that showed more high level aberrations in stem cells derived from bone marrow of older patients than that from younger adults and from cord blood samples from neonates.

3, 4, 5. **Karen Bowman, Julia Rose** and **Gary Deimling** used a dataset of matched family member/survivor dyads and established that: 1) family members acted as health maintenance advocates for survivors, with greater advocacy related to being a caregiver during diagnosis and treatment; 2) family members appraised the cancer experience as being more stressful than their surviving relatives; and 3) during diagnosis and treatment, family members and survivors had widely divergent perceptions of their communication with each other, with important predictors for family members being situation factors (family distress and prostate cancer) and for survivors being person factors (education, age, gender, and race).

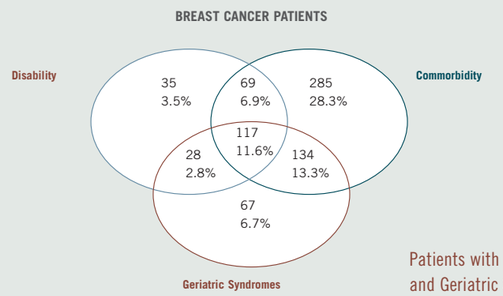
6, 7, 8, 9. **Deimling** and **Bowman** found the most prominent forms of coping used by long-term survivors were planning and acceptance while the least used were venting and denial, and that decreased life satisfaction was associated with more cancer-related health worry, younger age, being African American, having survived more years, and experiencing more than one type of cancer. The most consistent predictor of psychosocial distress was dispositional optimism/pessimism, with more optimistic individuals reporting fewer cancer-related health worries and lower levels of anxiety and depression, and that in terms of overall health status, many older survivors were more vulnerable due to both cancer related symptoms and comorbid conditions, with females and African Americans at special risk.

10. **Eva Kahana** led a study testing a new model of cancer communication as a predictor of patient outcomes in terms of satisfaction with medical care, practice use, and quality of life. Investigations showed that cancer screening recommendations must be considered in a gender-specific context. For example, 85.7% of males reported that their physicians recommended that they have a PSA blood test and 65% of females reported being recommended for a mammogram. When cancer screening recommendations and marital status was assessed, physicians were less likely to recommend fecal occult blood testing to their unmarried patients in comparison to married patients.

11, 12, 13, 14. **Rose, Bowman** and **Elizabeth O'Toole** reported initial findings for a unique coping and communication support (CCS) intervention for middle-aged and older advanced cancer patients and their family caregivers. Baseline age group differences in advanced cancer patients' psychosocial well being and preferences for care indicated poorer adaptation in middle-aged patients and low patient-family caregiver agreement in priorities for physician communication.

15. **Theodore Suh** and **Derek Raghavan** have been studying age bias or "ageism" as a factor in electing or recommending prevention, screening, therapy or other clinical approaches based on age alone, rather than evidence based medicine.

16. **Siran Koroukian**, who with **Gregory Cooper** and **Alfred Rimm** developed the Cancer-Aging Linked Database (CALD) that merges databases to assess comorbid conditions in older patients with cancer, uses the methodology to identify comorbidities; geriatric syndromes; and disabilities leading to functional impairment in patients 65 and older with breast cancer, colorectal cancer and prostate cancer. One finding indicates that geriatric syndromes such as depression and dementia are associated with late stage diagnosis of breast cancer and demonstrates marked overlap of patients with combinations of two or more of these complicating conditions.



Patients with no Comorbidity, no Disability, and Geriatric Syndromes *Syndromes 272 (27.0%)*

Program Membership

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