

Integrating Geriatric Oncology Principles in Manitoba

David Dawe, MD FRCPC

Medical Oncologist, CancerCare Manitoba

Assistant Professor, University of Manitoba

Presenter Disclosure

- **Faculty:** David Dawe, MD FRCPC
- **Relationships with commercial interests in last 12 months:**
 - **Grants/Research Support:** None
 - **Speakers Bureau/Honoraria:** Merck and AstraZeneca Advisory Boards
 - **Consulting Fees:** None
 - **Other:** I am the medical lead for CCMB's FIT Initiative

Mitigating Potential Bias

- This talk does not refer to any specific treatments
- All suggestions are supported by references

Objectives

At the end of this workshop, participants will be able to:

- Provide a brief overview of geriatric oncology principles
- Be aware of the CCMB initiative to address gaps in knowledge and practice for frail and elderly cancer patients
- Provide concerns or questions to inform the initiative

What is Geriatric Oncology?

- Integration of Oncology and Geriatrics
 - Oncologists focus on assessment of cancer variables, such as tumor biology and stage, and develop cancer-specific treatment plans
 - Geriatricians assess physiologic age and functional status, and focus on optimizing an individual's independence
- Goal is to optimally treat cancer WITHIN the context of geriatric considerations

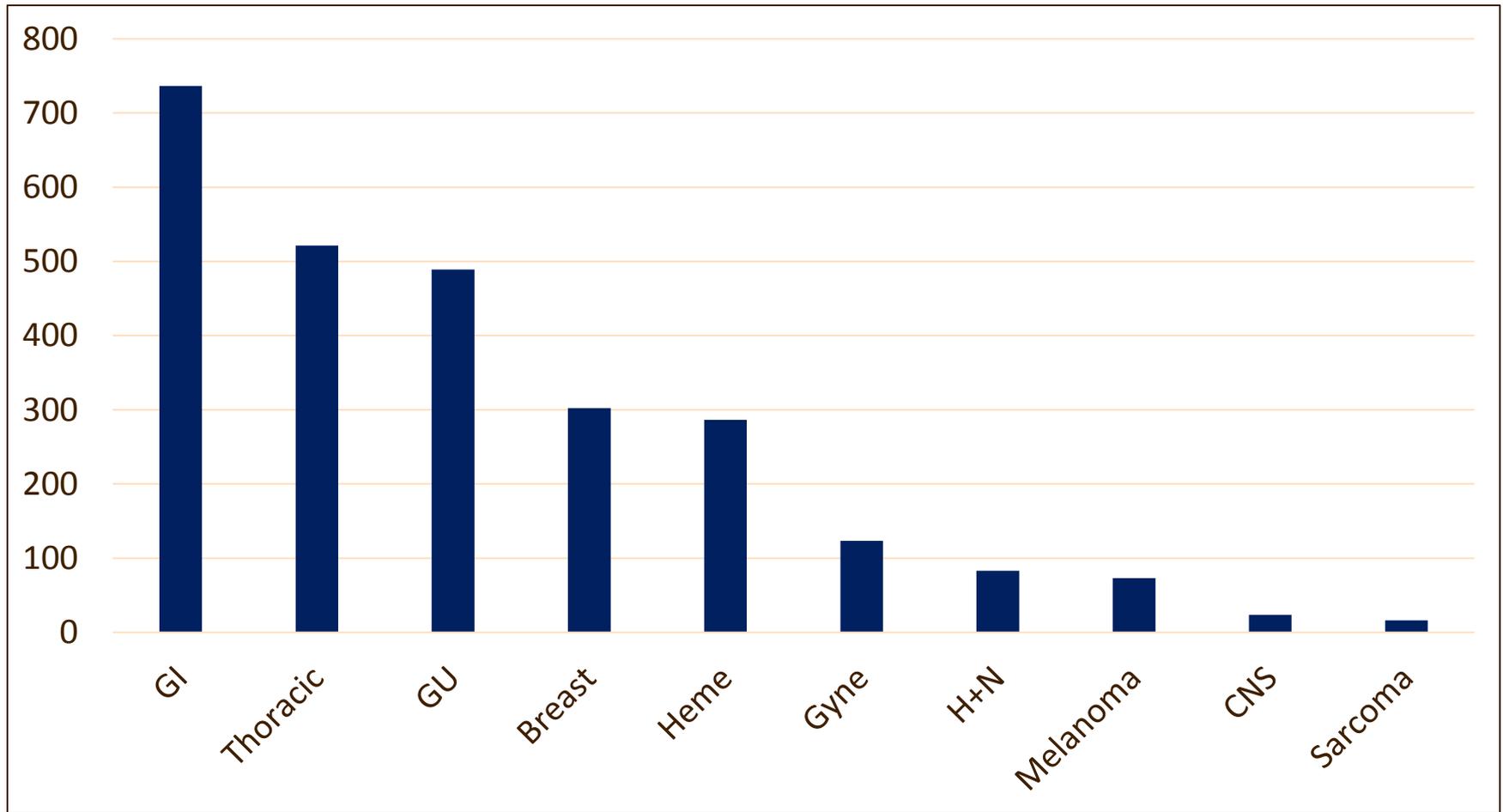
(Essentially)

**MEDICAL ONCOLOGY IS GERIATRIC
ONCOLOGY**

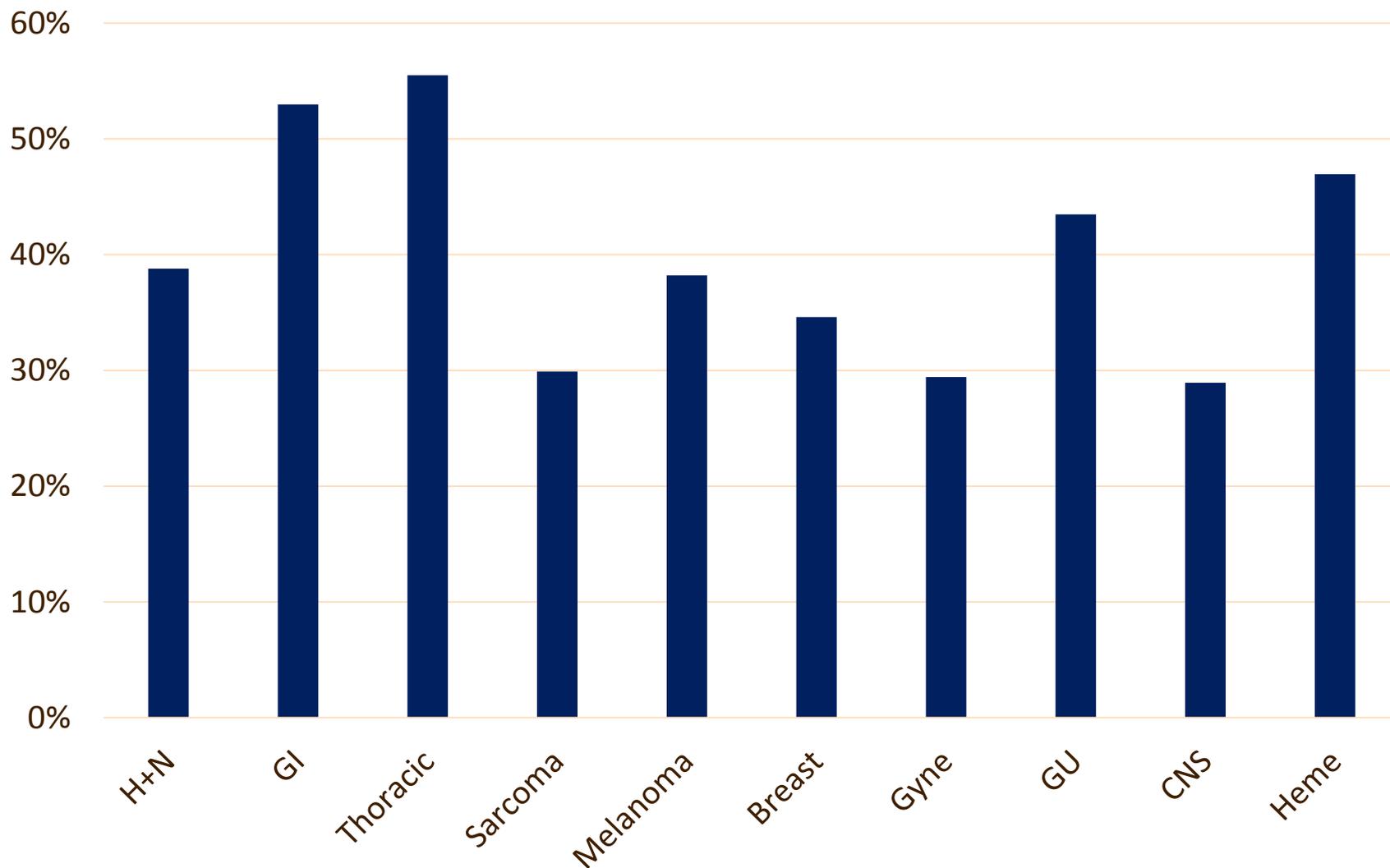
Manitoba

- Between 2009-2014 of all cancers diagnosed in Manitoba 44.9% were in patients 70+ years
- 20 of 56 cancers have >50% diagnosed in 70+
- GI and Thoracic have 53% and 55% respectively diagnosed in those 70+
- 55% of multiple myelomas are also diagnosed in those 70+

Numbers of Elderly (70+)



Proportion of Diagnoses in Patients 70+ by DSG



Context

- This increase in elderly individuals and increased numbers of elderly cancer patients occurs in the context of:
 - A shortage of geriatricians (especially in Winnipeg)
 - A shortage of primary care physicians
 - Proliferation of less toxic agents in medical oncology
 - Increasing cost of oncology drugs
 - Little formal education during Internal Medicine on geriatric principles
- So, we need to learn how to deal with these issues

FACTORS AFFECTING TREATMENT DECISIONS

Physiologic changes

- Renal
 - Glomerular filtration rate decreases by 1 mL/min/year after age 40 years
 - Changes lead to decreased clearance of many drugs
 - Higher risk of dehydration and electrolyte imbalances
- Hematopoietic system
 - Decreased cellularity, precursor proliferation, and cell mobilization in the bone marrow
 - These changes result in higher incidence and severity of myelosuppression/neutropenia in the elderly

Lubran MM. Ann Clin Lab Sci 1995
Morrison VA. Clin Lymphoma 2001

Physiologic changes

- **Gastrointestinal System**
 - Reduced gastric blood flow and delayed emptying
 - Reduced intestinal absorption
 - Decreased mucosal protection with mucous and bicarb
 - Decreased hepatic mass and blood flow
 - Impaired activity of cytochrome P450
- All of these factors contribute to poor predictability of blood levels for both oral agents and those with hepatic metabolism

Wildiers H in Practical Geriatric Oncology 2010.
Dawe DE. Frontiers in Oncology 2014.

Co-morbidities

- Incidence of co-morbidities increases with older age among cancer patients
- In the 70+ age-group only about 25% are without non-cancer co-morbidities
- Can change decision-making around therapy and is associated with poorer outcomes

Ogle, KS. Cancer 2000.

Polypharmacy

- Defined based on number of meds or presence of unnecessary meds
- Can cause adverse drug events, drug–drug interactions, and reduced adherence to drugs thought to be essential
- 32-51% of patients
- Associated with frailty

Turner J. J Geri Onc 2017
LeBlanc TW. Lancet Oncol 2015

Patient selection

- We may be treating too few elderly
- However, the bigger issue revolves around selecting those elderly patients who are most likely to tolerate treatment
 - We need to treat the RIGHT patients

Frailty

- Increased vulnerability to stressors
- Manifests as poor resolution of homeostasis after an event that stresses body systems and increases the risk of adverse events

GERIATRIC ASSESSMENT

ECOG/Karnofsky in the Elderly

- In the geriatric population, assessment of ADLs and IADLs have proved to have greater predictive value than ECOG/Karnofsky
- The recommendation is to pursue a comprehensive geriatric assessment

Terret C. Crit Rev Oncol Hematol 2010.

What is a CGA?

- A comprehensive geriatric assessment involves a multidimensional evaluation of the following:
 - Co-morbidity
 - Function
 - Physical performance
 - Cognition
 - Nutrition
 - Polypharmacy
 - Emotional status
 - Social support / living environment

Balducci L. Surgical Oncol. 2009



Detection of geriatric problems

- Repetto et al showed that CGA detected co-morbidities and functional limitations that standard oncologic evaluation missed.
- Extermann et al found on average 6 new problems in cancer patients who underwent CGA, which directly impacted oncologic tx in 26% of patients.
- Silverman demonstrated this in an RCT of outpatients as well.

Repetto L. JCO 2002.

Extermann M. Crit Rev Oncol Hematol 2004.

Silverman M. JAGS 1995.

Can we incorporate it?

PROS

- Changes chemo plan in 20% of patients
- Identifies important issues
- May predict chemo toxicity

CONS

- Typical CGA takes ~1 hour
- Shortage of geriatricians
- Lack of dual trained oncologists
- In consultative model, primary oncologist may ignore recommendations

Magnuson A. Curr Geriatr Rep. 2014

Frailty Screening Tools

- Screening tools were not created to replace geriatric evaluation and cannot provide a thorough assessment of an older individual's health status.
- More information is needed on how screening tools are related to outcomes, including chemotherapy toxicity, functional decline, and survival

Magnuson A. Curr Geriatr Rep. 2014

PREDICTING CHEMOTHERAPY TOXICITY



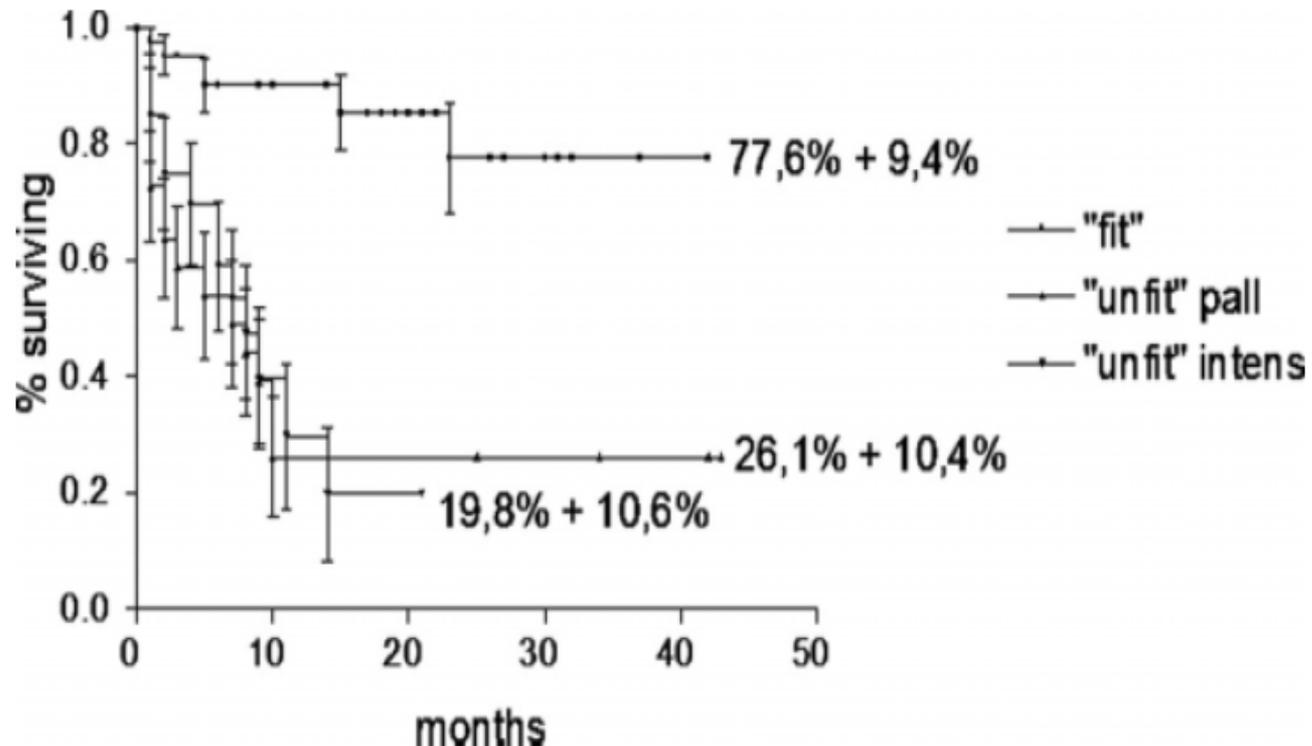
CGA vs Oncologist's gut

- Tucci et al. 2009
 - CGA vs clinical judgment in DLBCL
 - Clinical judgment standard of care
 - 74% patients “fit” – received aggressive tx
 - By CGA 50% of pts “fit”
 - The 20 pts with disagreement had characteristics similar to other “unfit” pts

Tucci A. Cancer 2009.

Tucci et al. 2009

- Those classified as “fit” by CGA did better than those classified “fit” by clinical judgment
- Those with disagreement
 - Toxicity similar to unfit group



What can we do about it?

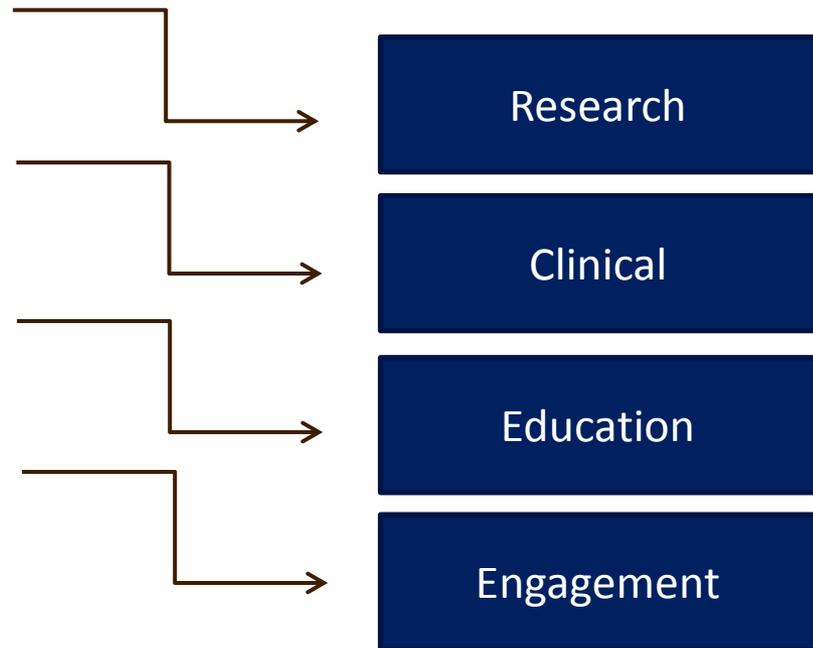
- Some toxicities (like febrile neutropenia) may require admission to hospital and specialized treatment.
- Others may necessitate dose reduction, chemo delay, G-CSF, or treatment cessation.
- Therefore, having a better sense of the likelihood of toxicity allows us to prepare for potential adverse events or consider a different therapy from the outset.

WHAT ARE WE STARTING AT CCMB?

FIT – Frailty Identification in Treatment

Goal:

To improve experiences and outcomes of frail and elderly patients

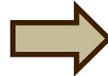


Research:

Engage in research that enables CCMB to publish new data and enhance both organizational awareness and planning around frail and elderly cancer patients.

How:

- Epidemiology projects
- Screening tool pilot and implementation
- Environmental scan of resources for older adults in Manitoba



Expected outcomes

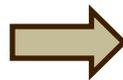
- Use of screening tool
- Resource repository
- Completion of Epi projects
- Publish manuscript and internal reports
- Establish organizational treatment guidelines

Clinical:

- i) Improve care providers' ability to screen for frailty and apply geriatric oncology principles in their practice
- ii) Improve access to geriatric resources for patients

How:

- Implement screening tool
- Focus group with patients and families
- Needs assessment with GPAT, FPs, agencies
- Collaborate with Transition team



Expected outcomes:

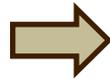
- Tool implemented
- Increased knowledge
- New interventions to address needs
- Establish network of providers
- Patient guide
- Develop & pilot safe transition appointment
- CCMB to be a leader

Education:

Increase care providers knowledge of geriatric oncology principles

How:

- Collaborate with UPCON & COP
- Develop conference(s) plan
- Training
 - CCCEC
 - Pilot
 - Education event
 - Rounds
 - CCP
- Staff knowledge assessment



Expected outcomes

- 1-day conference/ workshop
- Identify target knowledge needs
- Develop education plan for CCMB
- 4 annual learning opportunities
- Increased confidence to provide care to frail/elderly
- National conference on Geriatric Oncology
- Adherence to treatment guidelines

Conclusions

- The “Silver Tsunami” has started in oncology
- In elderly patients, decision-making is complicated by:
 - Co-morbidity
 - Age-related physiologic changes
 - Polypharmacy
 - A relative lack of trial data
- Fit elderly benefit as much as younger patients

Conclusions

- Some form of geriatric assessment needs to be implemented
- Full CGA use is a challenge due to time constraints
- Either screening with validated tools or use of toxicity prediction scores may be an alternative



Questions?

THANK YOU

CARG Score

- Examined 500 pts, mean age 73 yrs
- 61% Stage 4 disease
- Performed the largely self-administered CGA Hurria previously described
- Performed multivariate analysis to derive a shorter tool to predict chemo toxicity
- Toxicity defined by NCI CTCAE v3.0

Hurria A. JCO 2011

CARG Score

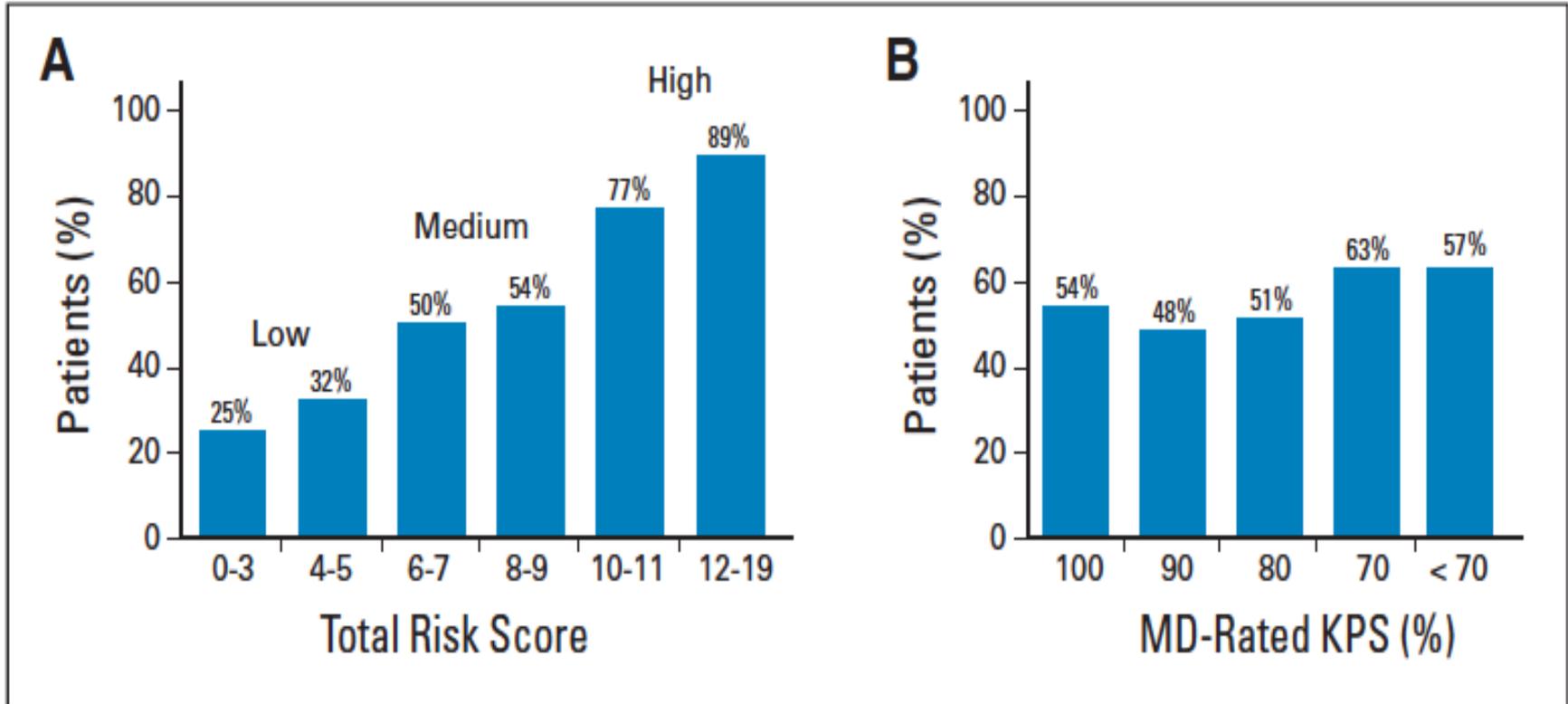
- 43% required assistance with IADL
- 18% had fallen in last 6 months
- 44% had >2 co-morbidities
- 6% cognitive impairment (B-OMC >10)
- 16% anxiety/depression (HADS >14)
- 38% weight loss \geq 5%
- 12% BMI < 22

Hurria A. JCO 2011

CARG Score

Risk Factors for Grade 3-5 toxicity	OR (95% CI)	Score
Age \geq 72 yrs	1.8 (1.2-2.7)	2
GI/GU cancer	2.2 (1.4-3.3)	2
Standard dose	2.1 (1.3-3.5)	2
Poly-chemotherapy	1.8 (1.1-2.7)	2
Hemoglobin (<110 male, <100 female)	2.2 (1.1-4.3)	3
CrCl (Jeliffe – ideal wt) < 34cc/min	2.5 (1.2-5.6)	3
1 or more falls in last 6 months	2.3 (1.3-3.9)	3
Hearing impairment (fair or worse)	1.6 (1.0-2.6)	2
Limited in walking 1 block (MOS)	1.8 (1.1-3.1)	2
Assistance required in med intake	1.4 (0.6-3.1)	1
Decreased social activity (MOS)	1.3 (0.9-2.0)	1

CARG Score



Hurria A. JCO 2011