Oncogeriatric Prehab: Optimizing Older Adults for Cancer Treatment

Siri Rostoft, MD, PhD, professor

Senior Consultant Geriatrician

Oslo University Hospital/ University of Oslo, Oslo, Norway

Frailty and Cancer Research Group

Outline

- Present the two abstracts
- What is prehabilitation?
- Geriatric Assessment and current recommendations
- Tangible benefits? Disease-specific versus patient-specific outcomes

- Study by Dr Soo and colleagues

- Study by Dr Nipp and colleagues

- Conclusions

Integrated Geriatric Assessment and Treatment (INTEGERATE) in older people with cancer planned for systemic anti-cancer therapy

Wee-Kheng Soo, Madeleine King, Alun Pope, Phillip Parente, Pēteris Dārziņš, Ian D. Davis

Eastern Health and Monash University, Australia

Clinical Trials Registry ANZCTR.org.au, ACTRN12614000399695

easternhealth

MONASH University

Randomized Trial of a Perioperative Geriatric Intervention for Older Adults with Cancer

Carolyn L. Qian • Helen P. Knight • Cristina R. Ferrone • Hiroko Kunitake
Carlos Fernandez-del Castillo • Michael Lanuti • Motaz Qadan • Rocco Ricciardi
Keith D. Lillemoe • Emilia R. Kaslow-Zieve • Chinenye Azoba • Esteban Franco Garcia
Terrence A. O'Malley • Vicki A. Jackson • Joseph A. Greer • Areej El-Jawahri
Jennifer S. Temel • Ryan D. Nipp

Massachusetts General Hospital Cancer Center

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CORE Cancer Outcomes Research & Education

What is prehabilitation?

- **The process of enabling patients to withstand the stress of surgery (or other types of cancer treatment) through augmenting functional capacity**

- **Carli et al 2005**

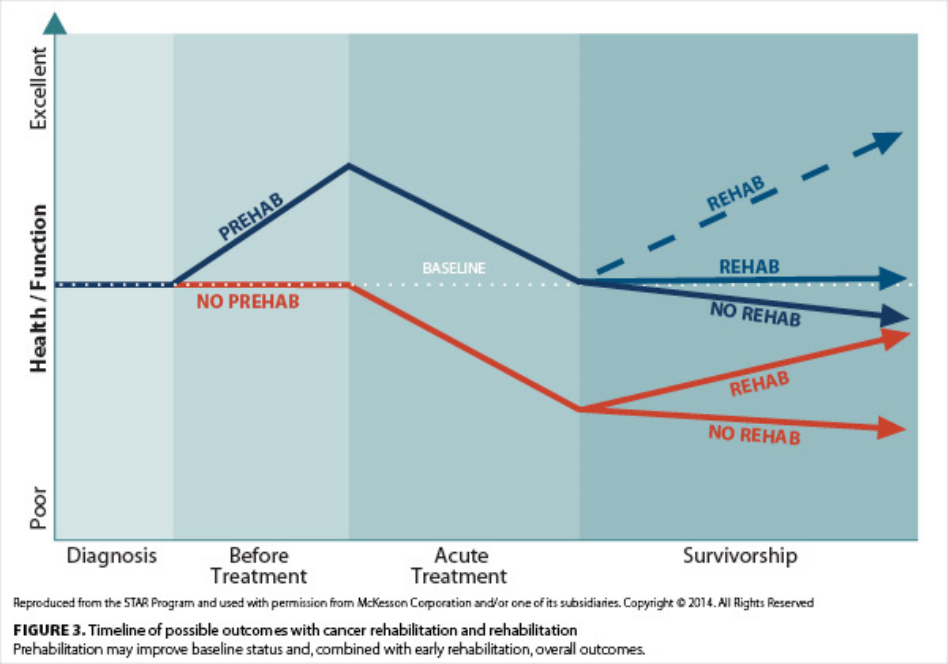

FIGURE 3. Timeline of possible outcomes with cancer rehabilitation and rehabilitation
Prehabilitation may improve baseline status and, combined with early rehabilitation, overall outcomes.

EJA

Eur J Anaesthesiol 2019; **36**:933–945

OPEN

ORIGINAL ARTICLE

Prehabilitation before major intra-abdominal cancer surgery

A systematic review of randomised controlled trials

Gwendolyn Thomas*, Muhammad R. Tahir*, Bart C. Bongers, Victor L. Kallen, Gerrit D. Slooter and Nico L. van Meeteren

CONCLUSION The content of prehabilitation programmes was heterogeneous. Studies with a high therapeutic validity found unequivocal evidence that prehabilitation had beneficial effects on postoperative outcomes. Future research should focus on adequate selection and inclusion of high-risk surgical patients and provide personalised and probably multimodal (partly) supervised prehabilitation, with objective monitoring of progress. Measuring the incidence and impact of postoperative complications may contribute to demonstrating the clinical value of prehabilitation.

What do guidelines say?

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JOURNAL OF CLINICAL ONCOLOGY

ASCO SPECIAL ARTICLE

Practical Assessment and Management of Vulnerabilities in Older Patients Receiving Chemotherapy: ASCO Guideline for Geriatric Oncology

Supriya G. Mohile, William Dale, Mark R. Somerfield, Mara A. Schonberg, Cynthia M. Boyd, Peggy S. Burhenn, Beverly Canin, Harvey Jay Cohen, Holly M. Holmes, Judith O. Hopkins, Michelle C. Janelsins, Alok A. Khorana, Heidi D. Klepin, Stuart M. Lichtman, Karen M. Mustian, William P. Tew, and Arti Hurria

Recommendations

In patients age 65 and older receiving chemotherapy, **geriatric assessment (GA) should be used** to identify vulnerabilities or geriatric impairments that are not routinely captured in oncology assessments

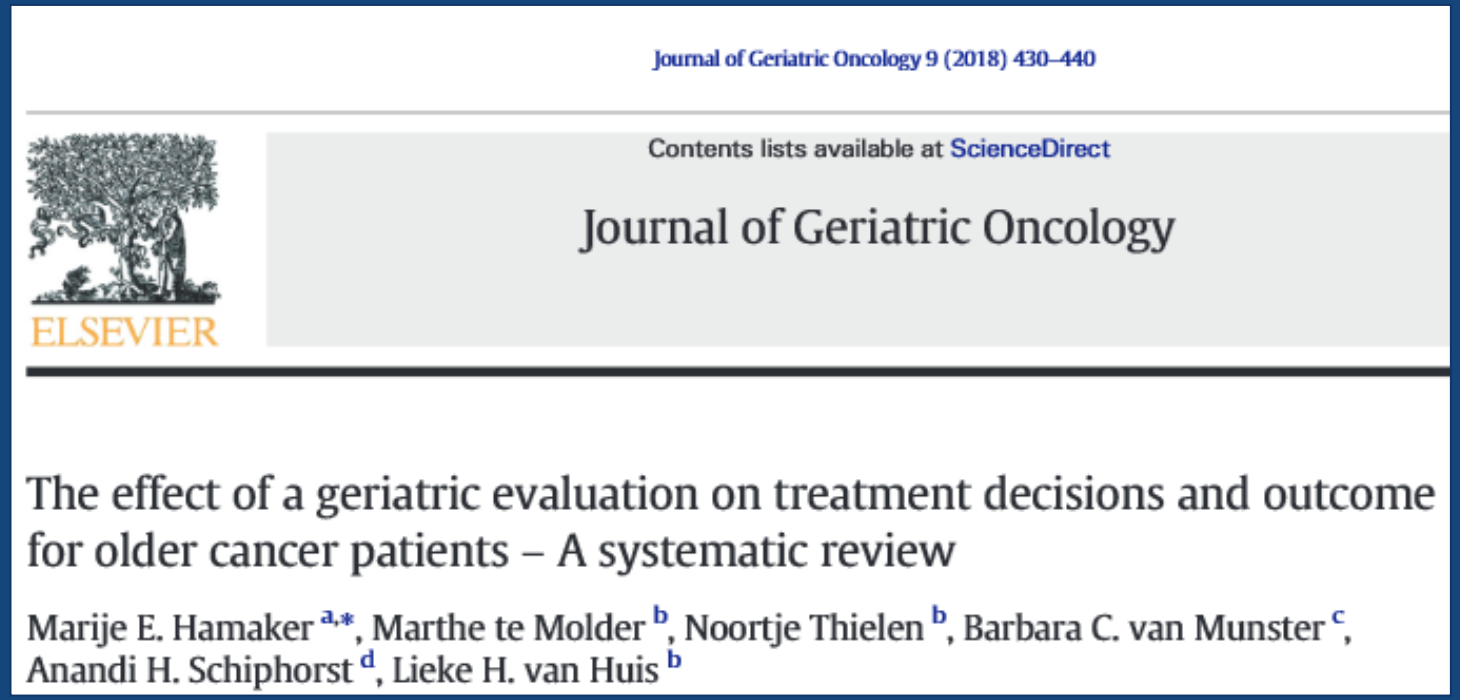
(Type: Evidence-based, benefits outweigh harms; Evidence quality: high; Strength of recommendation: strong).

Implementing GA-guided care processes in older adults with cancer:

Recommends that clinicians apply the results of GA to develop an integrated and individualized treatment plan for patients.

(Type: informal consensus; Evidence quality: moderate; Strength of recommendation: moderate).

GA leads to non-oncological treatment to improve patient's health



Journal of Geriatric Oncology 9 (2018) 430–440

Contents lists available at ScienceDirect

Journal of Geriatric Oncology

ELSEVIER

The effect of a geriatric evaluation on treatment decisions and outcome for older cancer patients – A systematic review

Marije E. Hamaker [a,*], Marthe te Molder [b], Noortje Thielen [b], Barbara C. van Munster [c], Anandi H. Schiphorst [d], Lieke H. van Huis [b]

- 19 studies on GA in older cancer patients:
- Median 72% of patients (range 26%-100%) were given treatments or recommendations based on the GA

The effect of Geriatric Interventions in other settings

- admission to hospital, patients with hip fracture

- **Less institutionalization[1] (Relative Risk 0.8 (0.72-0.89))**

- **Probably reduces mortality[2] (Relative Risk 0.85 (0.68-1.05))**

Systematic reviews: (1) Ellis, Cochrane Library 2017,
(2) Eamer Cochrane Library 2018

Always the question: tangible benefits of CGA?

- **What is the evidence (doctors)?**
  - Hard endpoints?
  - Does it improve survival?
  - Disease control better?
  - Less hospitalizations?
  - Less complications and toxicity?
  - Increased completion of treatment?
- **Patient reported (patients):**
  - What will my quality of life be like?
  - Can I live independently?
  - Will my cognition be the same?
  - Can I stay at home?

The treatment trajectory in older patients with cancer
- not only before and after treatment

- **Can we improve the trajectory?**
  - Systemic anti-cancer therapy (chemotherapy, immunotherapy, targeted therapy)
  - Surgery

- **How should we improve the trajectory?**
  - Geriatric Assessment-based interventions – THROUGHOUT THE TRAJECTORY

- **How should we measure success?**
  - HRQOL – focus on function
  - Median length of stay

INTEGERATE Objectives

- **Primary**
  - To assess the effects of integrated oncogeriatric care on health-related quality of life (HRQOL) in older people with cancer planned for systemic anti-cancer therapy

- **Secondary**
  - To assess the effects of integrated oncogeriatric care on healthcare utilization, treatment delivery, function, mood, nutrition, institutionalization, health utility and survival.

INTEGERATE Study Schema

≥70yo with solid cancer or DLBCL for chemo-, immuno- or targeted therapy, no treatment in prior 3 months (n=154)

Minimization factors
Age: 70-80 vs ≥80
Sex: M vs F
Cancer type:
lung vs upper GI vs lower GI vs all other
Treatment intent:
palliative vs non-palliative
ECOG PS: 0-1 vs 2

RANDOMIZE

Integrated Oncogeriatric Care n=76

Usual Care n=78

Evaluate at weeks 0, 12, 18 and 24

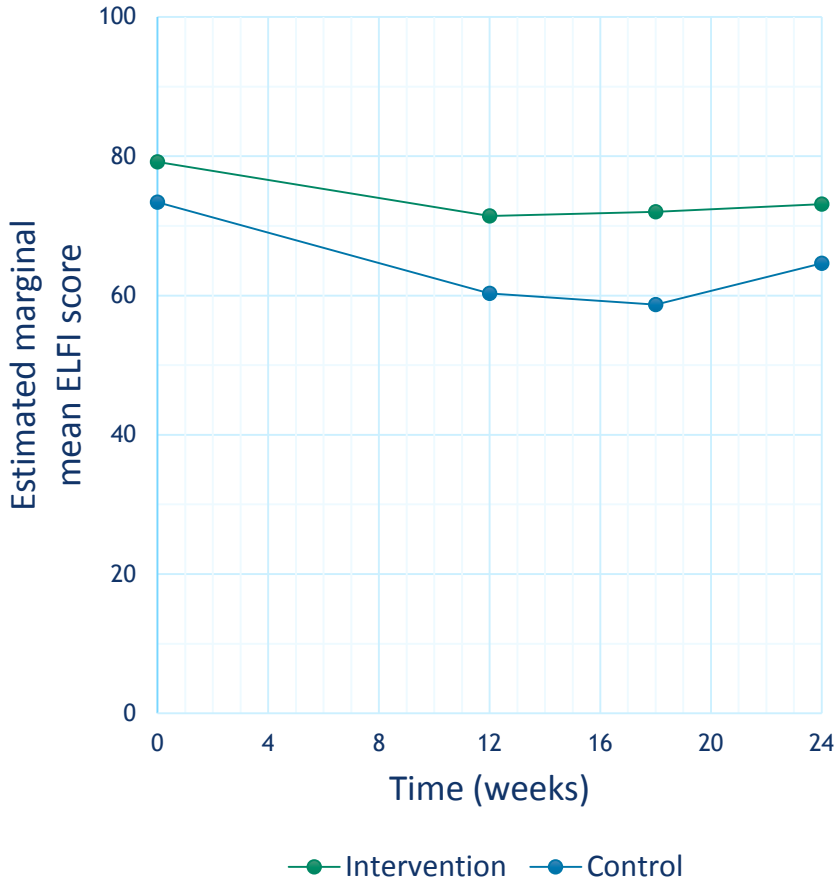
Outcome measures
Primary: HRQOL
Secondary: healthcare utilization, treatment delivery, function, institutionalization, mood, nutrition, health utility and survival

* measured by the ELderly Functional Index (ELFI), EORTC QLQ-C30 and QLQ-ELD14

Recruitment
August 2014 and June 2018
Three hospitals in Melbourne, Australia

Primary outcome: Health-related Quality of Life

Week	ELderly Functional Index (ELFI) Estimated Marginal Mean Score			
	Intervention	Usual Care	Difference (95% CI)	*p*
12	71.4	60.3	11.1 (3.5-18.7)	0.004
18	72.0	58.7	13.4 (5.5-21.2)	0.001
24	73.1	64.6	8.5 (0.5-16.5)	0.037



Primary outcome: Health-related Quality of Life

- **Intervention group reported significantly better scores than usual care group in the following other HRQOL domains:**
  - Functioning (Physical, Role, Social)
  - Mobility
  - Burden of illness
  - Future worries

- **Functional benefits were maximal around week 18, then reduced by week 24.**

- **Benefits in the social functioning, burden of illness and future worries domains persisted (to end of study at week 24)**

Secondary outcomes: Hospitalization

- 39% less emergency presentations
- 41% less unplanned hospital admissions
- 24% less unplanned hospital overnight bed-days

- Older adults: Hospitalization=functional decline
- 30% discharged with a new ADL impairment (1)

(1) Covinsky JAMA 2011

Geriatric intervention in patients receiving systemic anti-cancer therapy

- Large study, multifactorial intervention
- Median age 75-76 years
- Relevant patient-centered outcomes – function, QoL
- Interesting data on hospitalizations – burden for patients, cost
- Data on completion of treatment

- Heterogeneous sample – who benefits most?

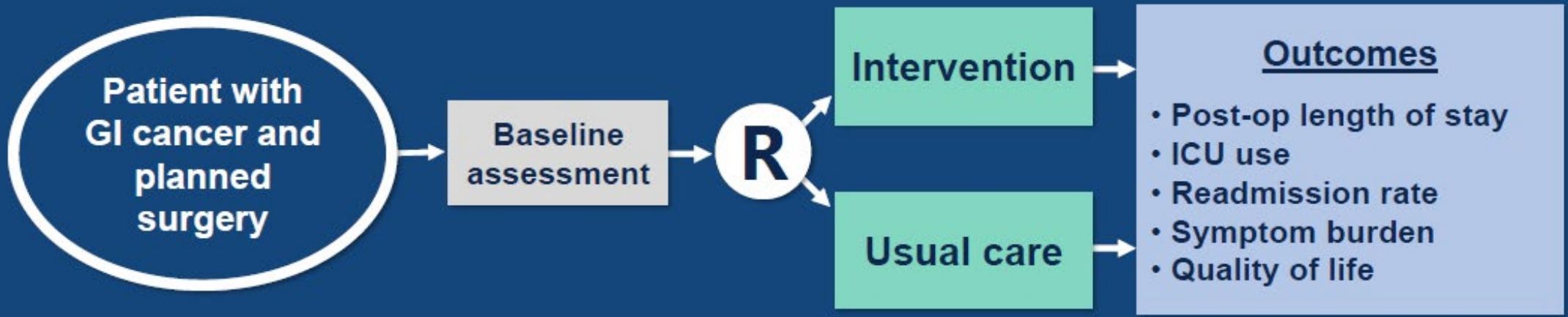
Aims

- **Aim 1:** To determine the effect of a perioperative geriatric intervention on postoperative hospital length of stay (primary outcome), ICU use, and readmissions in older patients with GI cancers undergoing surgery.

- **Aim 2:** To assess the impact of a perioperative geriatric intervention on patient-reported symptom burden and quality of life in older patients with GI cancers undergoing surgery.

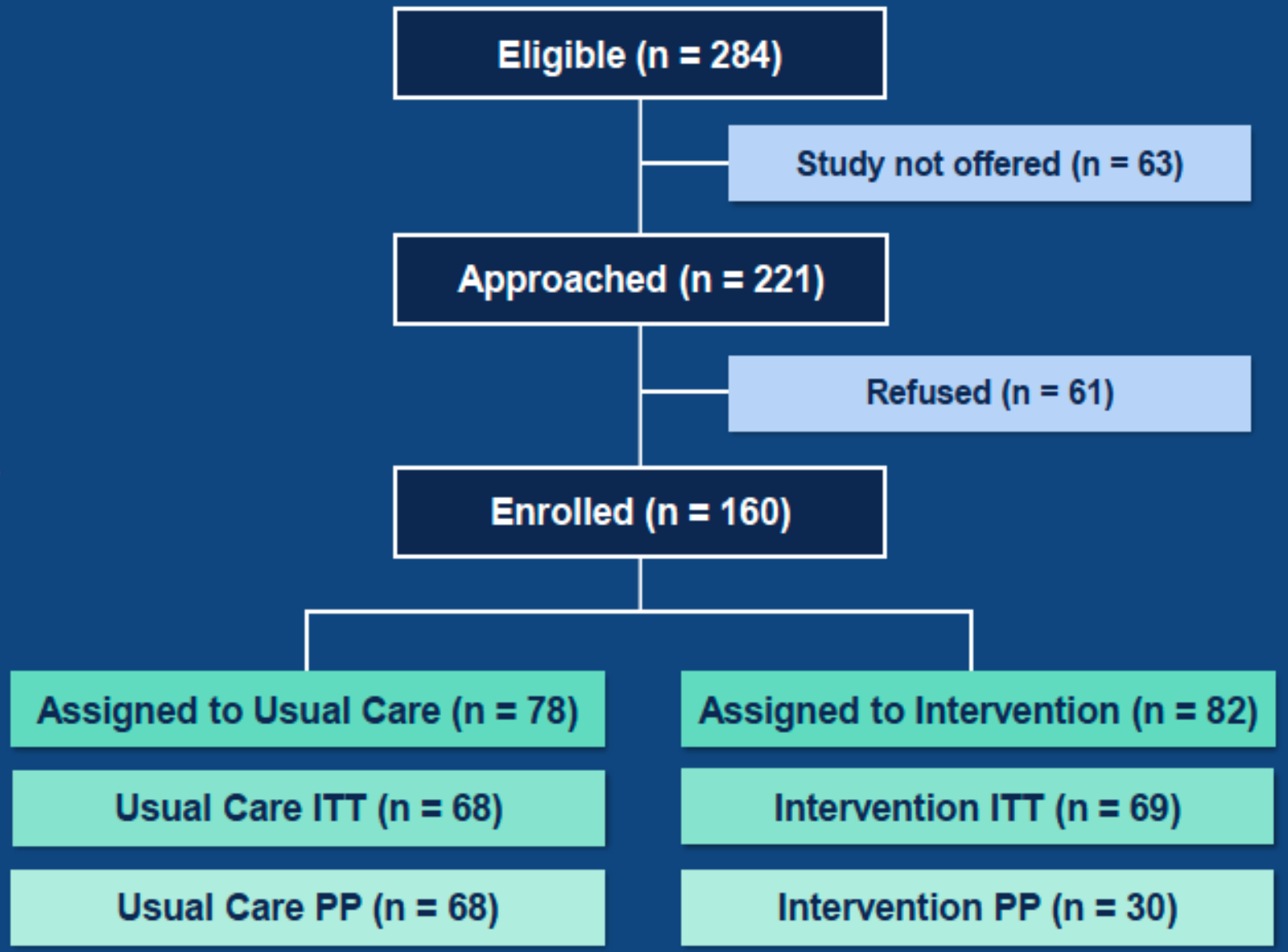
Study Design

- Randomized controlled trial (N=160) of a perioperative geriatric intervention versus usual care in older patients with GI cancers undergoing surgical resection.



Enrollment

- Enrolled patients from 9/2016 to 4/2019
- Enrollment Rate = 72.4%



Intention-to-treat (ITT)
Included 137/160 who underwent surgery

Per protocol (PP)
Included 68 usual care and 30 intervention patients who received intervention per protocol

Participant Characteristics

Characteristics	Usual Care	Intervention
Cancer Type - n (%)		
Pancreas	41 (52.6%)	46 (56.1%)
Gastroesophageal	16 (20.5%)	16 (19.5%)
Colorectal	14 (17.9%)	14 (17.1%)
Hepatobiliary	7 (9.0 %)	6 (7.3%)
Comorbid Conditions - n (%)		
Diabetes	21 (26.9%)	28 (34.1%)
Chronic lung disease	11 (14.1%)	11 (13.4%)
Stroke	10 (12.8%)	7 (8.5%)
Kidney problem	7 (9.0%)	15 (18.3%)
Heart failure	4 (5.1%)	6 (7.3%)

Summary

- This perioperative geriatric intervention did not have a significant impact on the primary end point in ITT analysis.
- We found encouraging results in several secondary outcomes and for the subgroup of patients who received the planned intervention.

Intervention Effects on Clinical Outcomes
↓ postoperative hospital length of stay in PP analysis
↓ postoperative ICU use in PP analysis

Intervention Effects on Patient-Reported Outcomes
↓ symptom burden at POD 60
↓ depression symptoms at POD 5

Geriatric intervention is surgical oncology

- Well performed – large study, multifactorial intervention
- Important outcomes – length of stay, readmission, PROMs
- Intervention provides long-lasting effects on symptom burden

- Heterogeneous sample – laparoscopic colonic surgery versus esophagogastric surgery – who will benefit most?
- Could length of stay be affected by external factors – resources at home, caregivers?
- Relatively “young” cohort (70-72), but high comorbidity burden

CONCLUSION

- Congratulations to both teams and thank you for completing these studies and adding to the evidence base for the effects of geriatric interventions in older patients with cancer