Memorial Sloan Kettering Cancer Alliance

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Lehigh Valley Health Network CANCER INSTITUTE

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CAIT clinics- *a Geriatric Oncology collaborative assessment*

12/9/22

Koshy Alexander MD, MBA

Epidemiology of Cancer in Older Adults

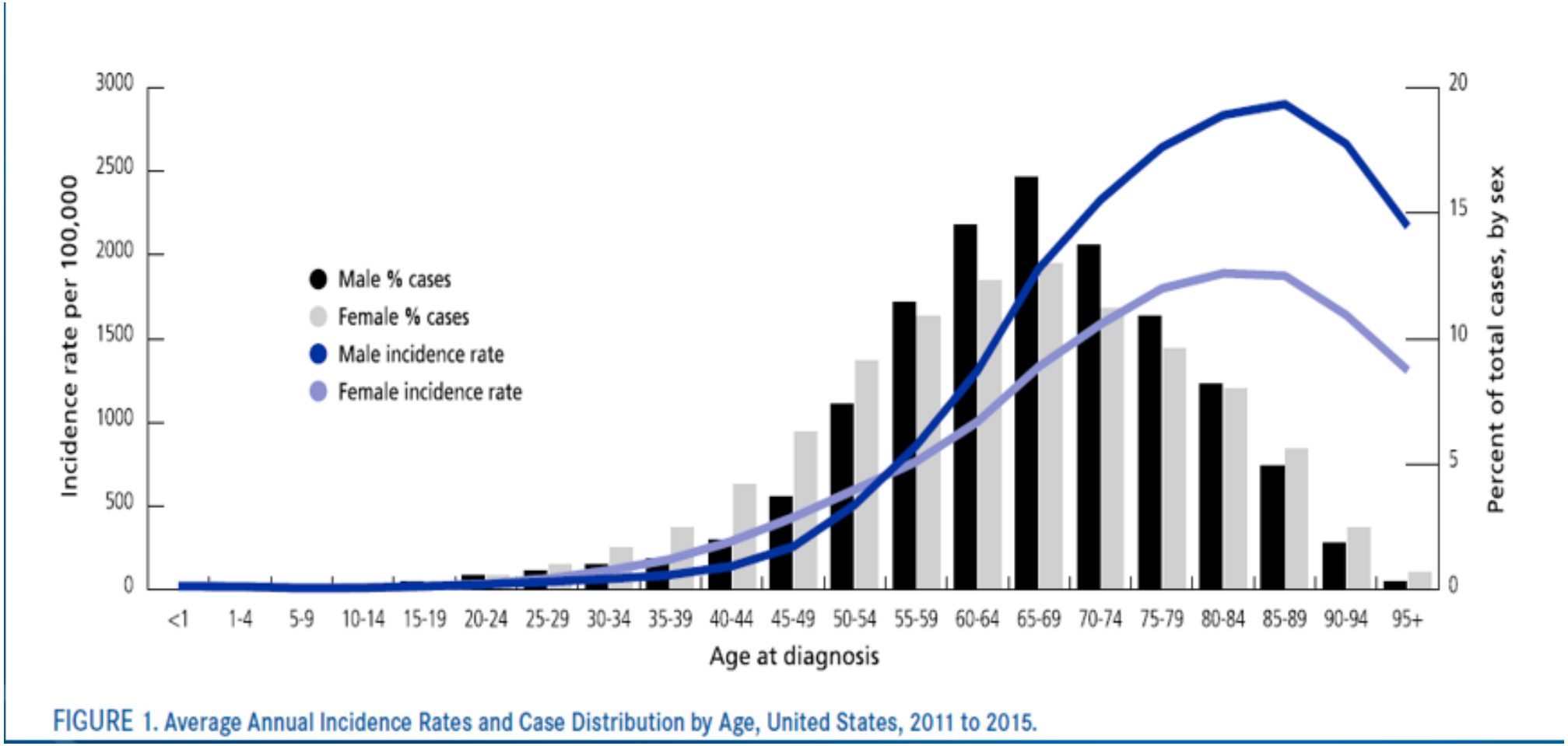

FIGURE 1. Average Annual Incidence Rates and Case Distribution by Age, United States, 2011 to 2015.

Context- Why?

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

THE BOTTOM LINE

RECOMMENDATIONS

1. Patients ≥65 yo receiving chemotherapy, GA should be used to identify vulnerabilities or geriatric impairments that are not routinely captured in oncology assessments

2. Validated and pr… t adverse outcomes
   a. At a minimum: …depression, cognition and nutrition
   b. Recommended …-Cog or BOMC for cognitive impairme… …ss for nutrition
   c. Either the CAR… …d to estimate risk of chemotherapy toxi…

At a minimum:
- ✓ Assessment of function
- ✓ Comorbidities
- ✓ Falls
- ✓ Depression
- ✓ Cognition
- ✓ Nutrition

3. Clinicians should … to estimate life expectancy
   a. Answer NO to "presence of cancer" to obtain an estimation of competing(non-cancer) risks of mortality

4. Approaches for implementing GA in older adult with cancer
   a. Apply results of GA to develop individualized plan
   b. Take into account GA when recommending treatment
   c. Implement targeted GA-guided targeted interventions to manage non-oncologic problems

Supriya G. Mohile et al *Journal of Clinical Oncology* 2018, 36, 2326-2347.

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Comprehensive
Cancer
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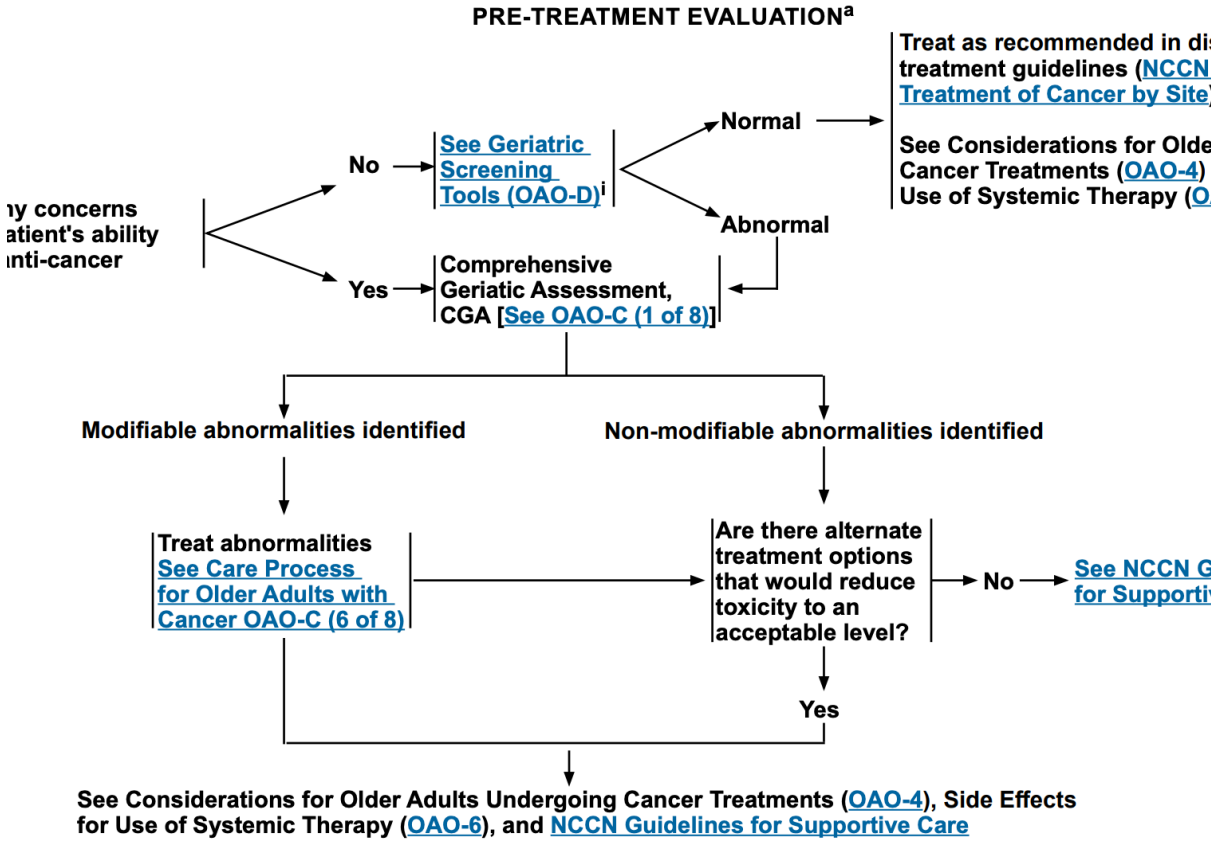
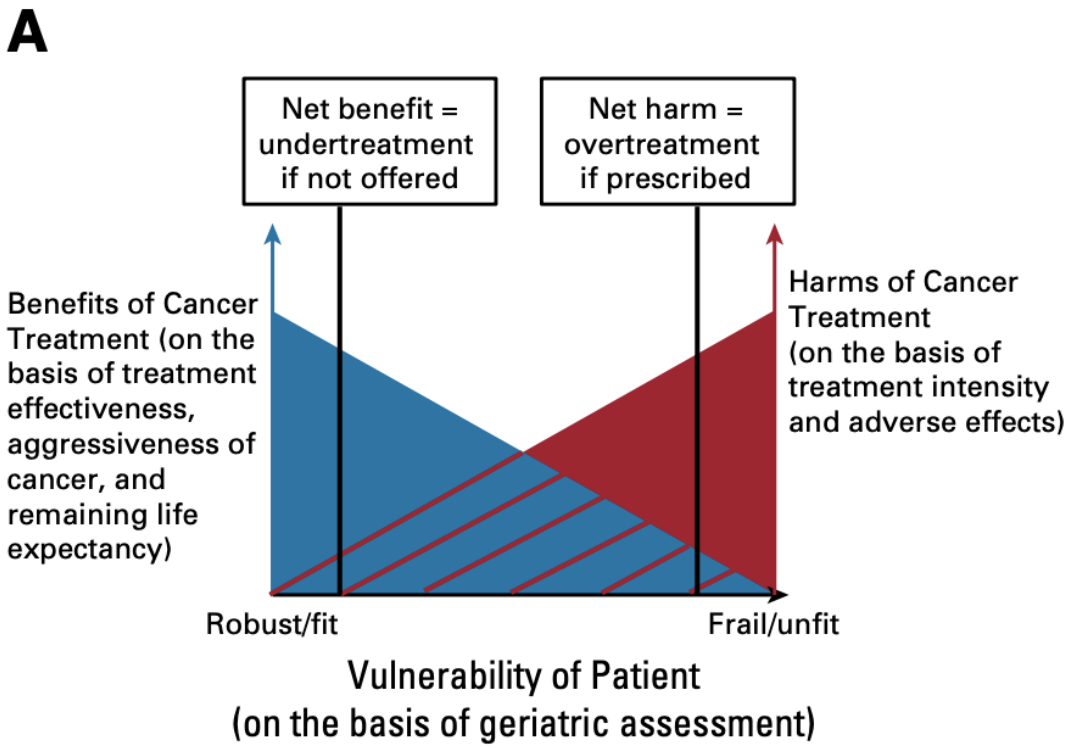
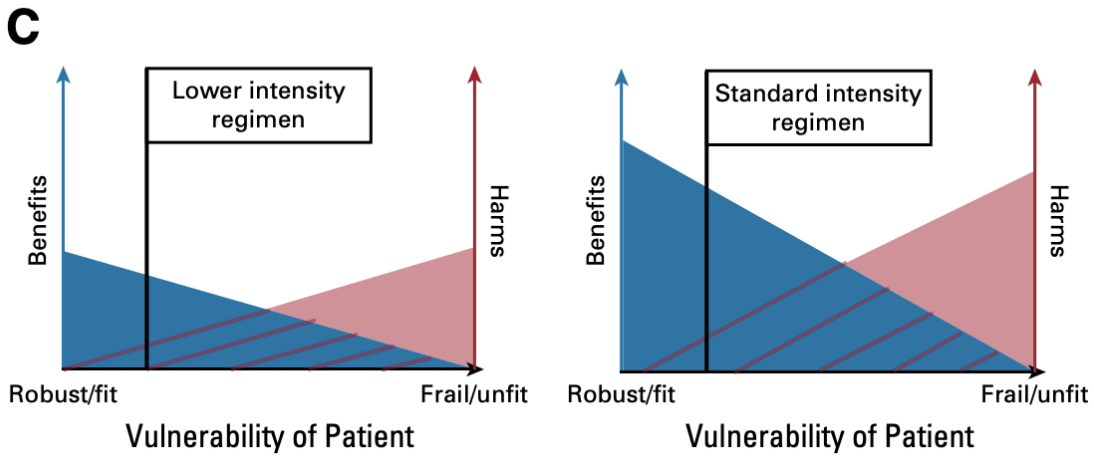
NCCN Guidelines Version 1.2020
Older Adult Oncology



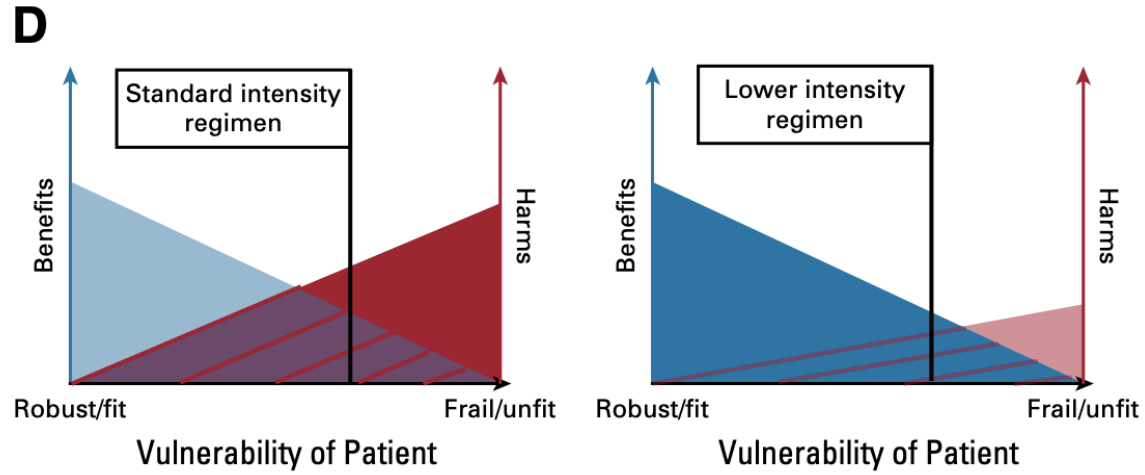
Under and Over treatment



UNDERTREATMENT



OVERTREATMENT

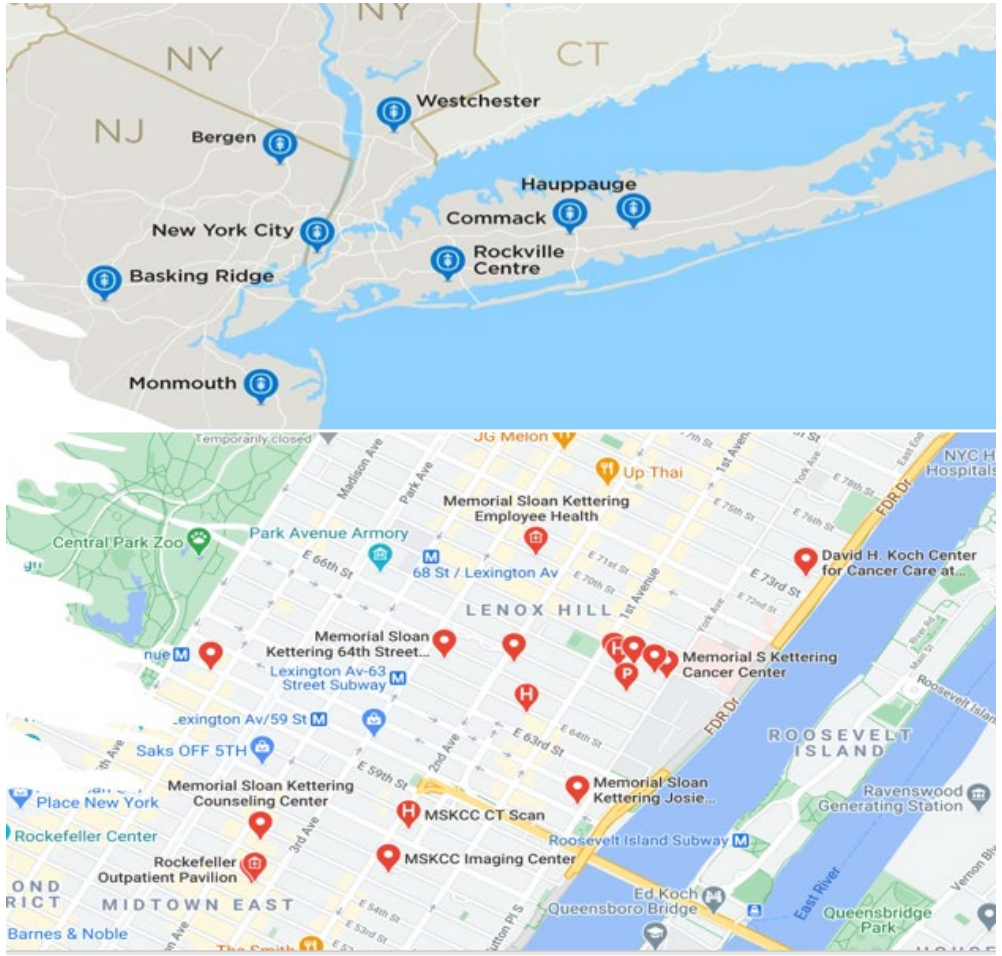


DuMontier et al, JCO 2020

Chemotoxicity calculations

Risk factor for Grade III-V Toxicity	OR (95% CI)	Score
Age ≥73 years	1.8 (1.2-2.8)	2
GI/GU Cancers	2.1 (1.4-3.2)	3
Standard dose chemotherapy	2.1 (1.3-3.5)	3
Polychemotherapy	1.7 (1.1-2.6)	2
Anemia (Male < 11, female <10)	2.3 (1.1-4.6)	3
Cr Cl <34 ml/min (using Jeliffe equation/IBW)	2.5 (1.1-5.4)	3
Falls in last 6 months	2.5 (1.4-4.3)	3
Hearing impairment	1.7 (1.0-2.7)	2
Limited ability to walk 1 block	1.7 (1.0-2.8)	2
Requires assistance with medications	1.5 (0.7-3.2)	1
Decreased social activities	1.4 (0.9-2.0)	1
		Possible score 0-25

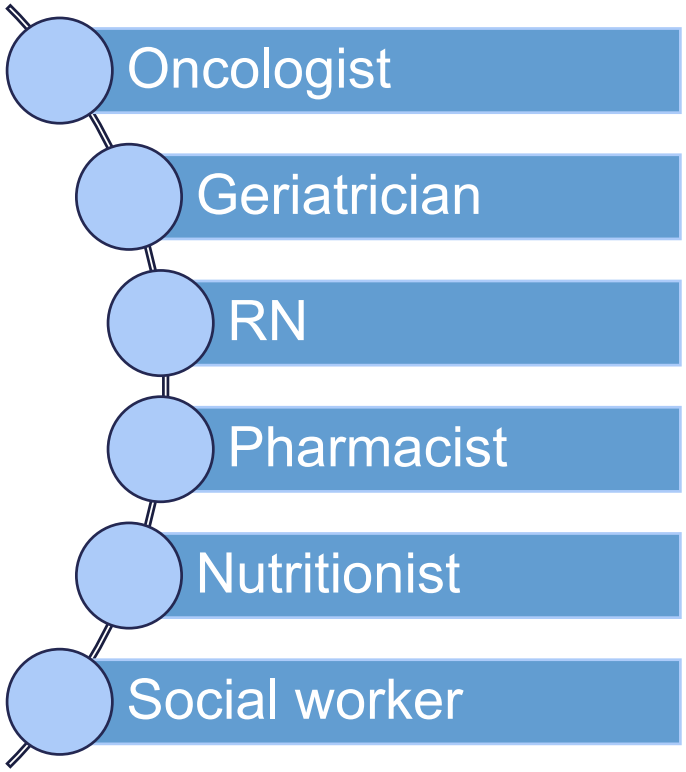
Barriers & Opportunity



Telemedicine utilization increased to over 1000 visits a day during the Covid19 pandemic

CAIT clinic Components

Interdisciplinary Team



Multimodality Evaluation

Oncology part	Medication review	Nutrition- MNA
Cognitive Assessment	eRFA- multidomain assessment	Performance measures
Chemotoxicity risk- **CARG**	**NSQIP** Surgical risk calculator	**ePrognosis** Life expectancy

Cognition

- MoCA
- MiniCog

- **Problem**
- None foreseen

Tele functional performance

30 second chair stand

To replace TUG that's done in-person

Equipment: A chair with a straight back without arm rests (seat 17" high), and a stopwatch.

NOTE: Stand next to the patient for safety.

① Instruct the patient:

1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulder crossed, at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight, and keep your arms against your chest.
5. On **"Go,"** rise to a full standing position, then sit back down again.
6. Repeat this for 30 seconds.

② On the word "Go," begin timing.

If the patient must use his/her arms to stand, stop the test. Record "0" for the number and score.

③ Count the number of times the patient comes to a full standing position in 30 seconds.

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.

④ Record the number of times the patient stands in 30 seconds.

Number: _____ Score: _____

SCORING

Chair Stand
Below Average Scores

AGE	MEN	WOMEN
60-64	< 14	< 12
65-69	< 12	< 11
70-74	< 12	< 10
75-79	< 11	< 10
80-84	< 10	< 9
85-89	< 8	< 8
90-94	< 7	< 4

A below average score indicates a risk for falls.

CARG

- https://www.mycarg.org/?page_id=934

GFR is calculated by CIS tool

In a sample of 500 patients receiving chemotherapy, 54% of those scoring between 8 to 9 experienced grade 3-5 toxicity, putting this patient at medium risk for such events. Scores between 0 and 5 are considered low risk, scores between 6 and 9 are considered medium risk, and scores between 10 and 19 are considered high risk. The above graph describes the percentage of patients experiencing grade 3-5 toxicity in each risk category. The below table summarizes the number of patients within each score in the Hurria et al study.

Total Risk Score		%Risk	N
Low	0 to 3	25%	28
	4 to 5	32%	100
Mid	6 to 7	50%	136
	8 to 9	54%	91
High	10 to 11	77%	62
	12 to 19	89%	47

https://www.annalsofoncology.org/article/S0923-7534(19)65641-3/fulltext#:~:text=%C3%97%20SCr)%3B-,Jelliffe%2C,sex)%5D%7D%2FSCr.

Surgical Risk Calculator NSQIP

- https://riskcalculator.facs.org/RiskCalculator/

- Needs height and weight
- Will be done at Oncology office

Life expectancy ePrognosis

https://eprognosis.ucsf.edu/calculators/#/timeframe

Mortality Risk for Schonberg Index

Points	Risk of FIVE YEAR mortality	Risk of TEN YEAR mortality	Risk of FOURTEEN YEAR mortality
0 - 1	<3%	5 - 11%	19 - 21%
2 - 3	3 - 6%	9 - 12%	19 - 24%
4 - 5	7 - 8%	15 - 21%	27 - 36%
6 - 7	10 - 12%	26 - 37%	42 - 52%
8 - 9	17 - 27%	37 - 44%	42 - 52%
10 - 11	26 - 29%	53 - 60	74 - 78%
12 - 13	37 - 41%	60 - 68	81 - 83%
14 - 15	47 - 52%	74 - 76	87 - 88%
16 - 17	60 - 61%	86 - 87	100%
≥17	70%	92%	100%

Patients that have >50% chance of death in a specific time interval have an estimated life expectancy less than that time interval. For example, a patient with a 60% mortality risk at 5 years has a life expectancy <5 years.

Mortality Risk for Lee Index

Points	Risk of FIVE YEAR mortality	Risk of TEN YEAR mortality	Life Expectancy (years)
0 - 1	1 - 2%	2 - 5%	33.1 - 35.4
2 - 3	2 - 4%	7 - 10%	23.7 - 30.1
4 - 5	6 - 8%	15 - 23%	17.7 - 21.1
6 - 7	9 - 15%	34 - 43%	12.6 - 14.3

Visit: structured with flexibility

Unbundling of visit components allows flexibility
Pharmacist, RN can occur on the day of or prior to
CGA components can occur before visit- eRFA

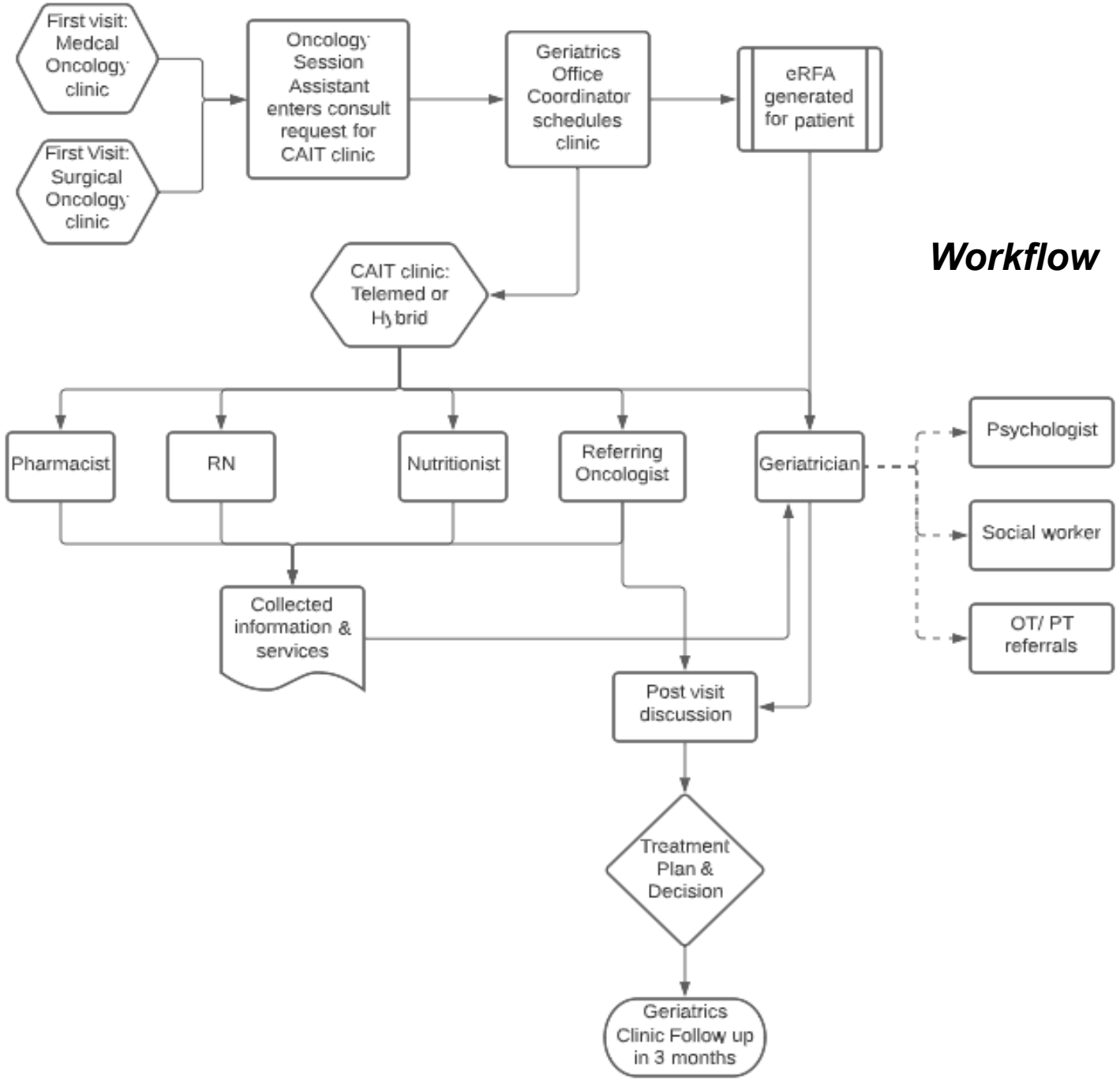
Pow-wow at completion of components to facilitate charting treatment plan

CAIT Clinic

Objectives:
-*Identify abnormalities* through GA **prior to initiation of cancer therapy** *and correct* the modifiable ones
-Measure *mortality and toxicity risks* to aid in choice of treatment

Format:
Interdisciplinary clinic
-***pure telemed*** or ***hybrid format***
-allows for asynchrony of components

Workflow



Comprehensive Geriatric Assessment:

Cognition: **MoCA score of 24/30** indicates deficits on the cognitive screen particularly in visuospatial and abstraction areas. Word recall 4/5 and she got the 5th one with just a category cue. Discussed the risk of possible cognitive changes during treatment. Brain imaging shows chronic microvascular ischemic changes. Will get Vit B12, Folate levels.

Function: Independent for the most part with ADLs and IADLs. She had **2 falls** both in clinics, none at home. Surprisingly, **30 second chair stand testing is normal** and her **TUG is < 10**- indicates normal functional performance. She will start using a cane when she goes out.

Nutrition: She had a combination of intentional followed by unintentional weight loss. Patient evaluated by RD and plan for a follow up with food diary.

HTN, lymphoedema- SBPs at home run in the low 100s. Her leg edema has improved. She is on HCTZ and valsartan.
DM- very well controlled. She is only on metformin 500 mg once a day. Recent weight loss, decreased PO intake and HbA1c value of 6.5 **Discontinuing one of the antihypertensives and metformin discussed**. She will wait until she sees her PMD this week.

Based on CGA patient falls on the **Vulnerable area of the frailty spectrum**.

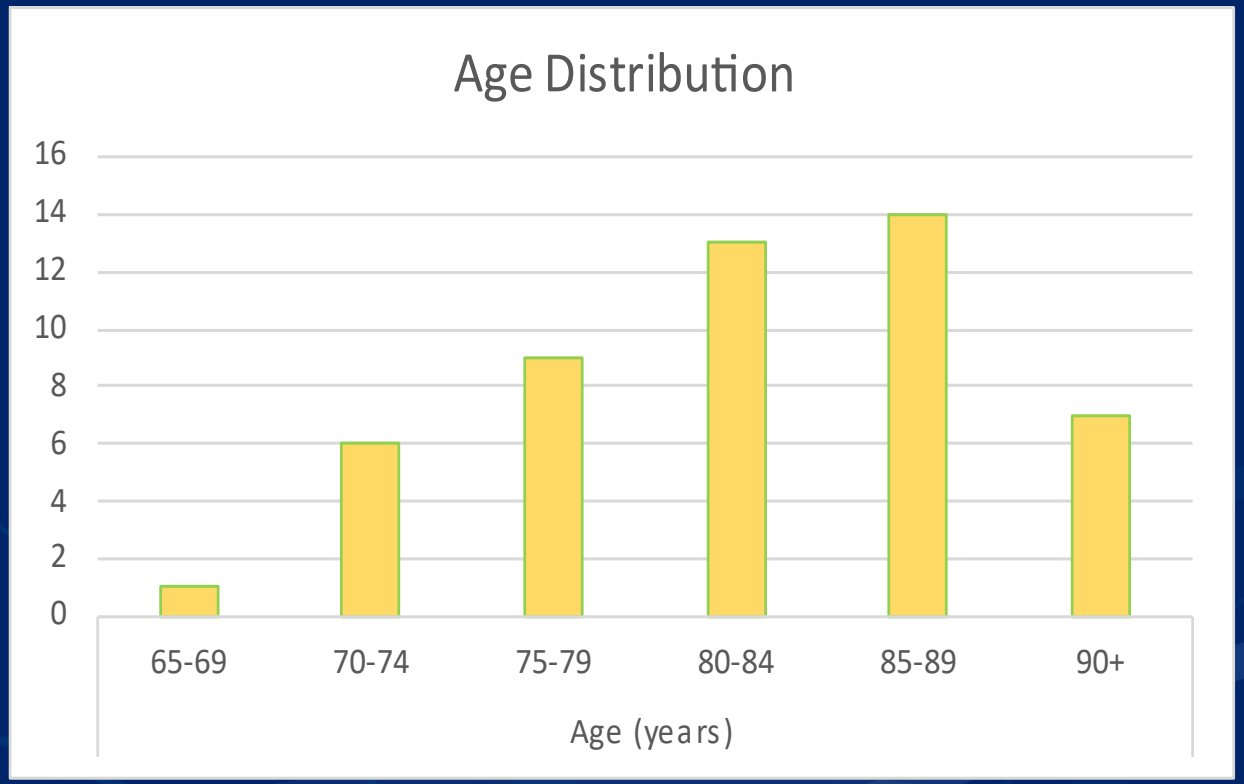
Calculators:

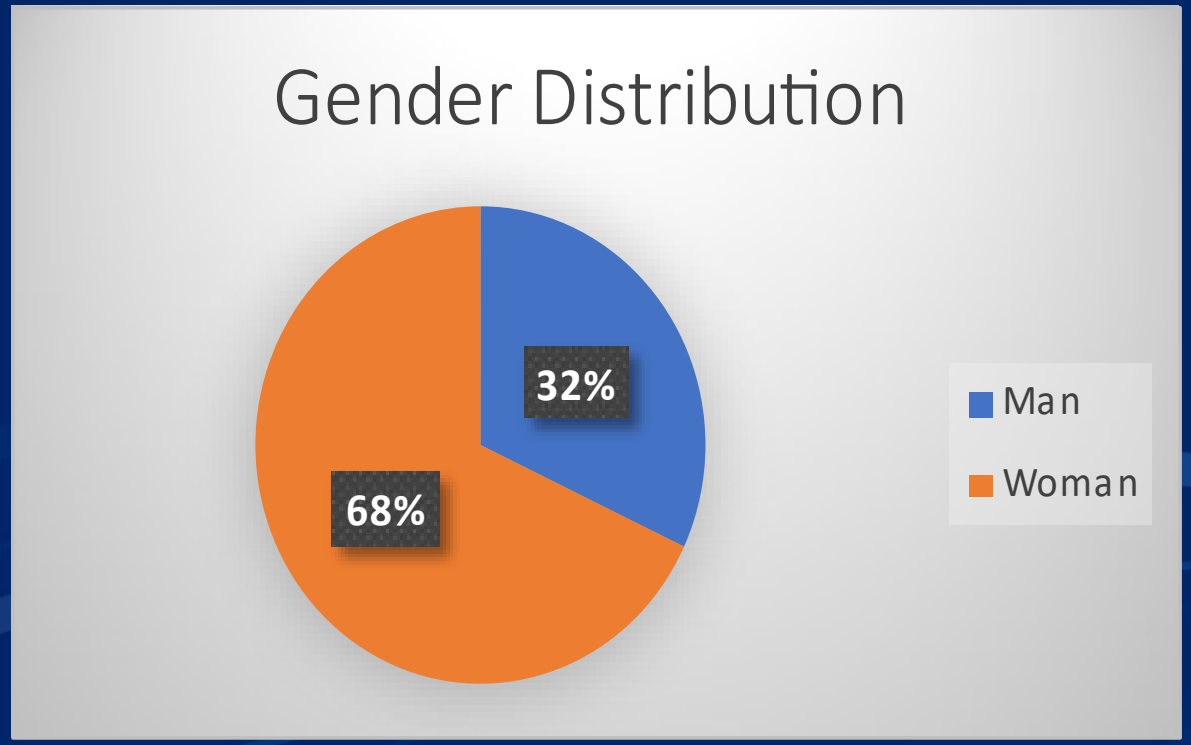
CARG score of 16 indicates 94% toxicity risk. This falls in the high risk category
ePrognosis calculators the **Schonberg Index predicts a 5 year mortality risk of 47- 52%.**

I see the plan is for Carbo/Taxol +/- EBRT. Were you already considering a modified regime or standard dose?

Patient Characteristics

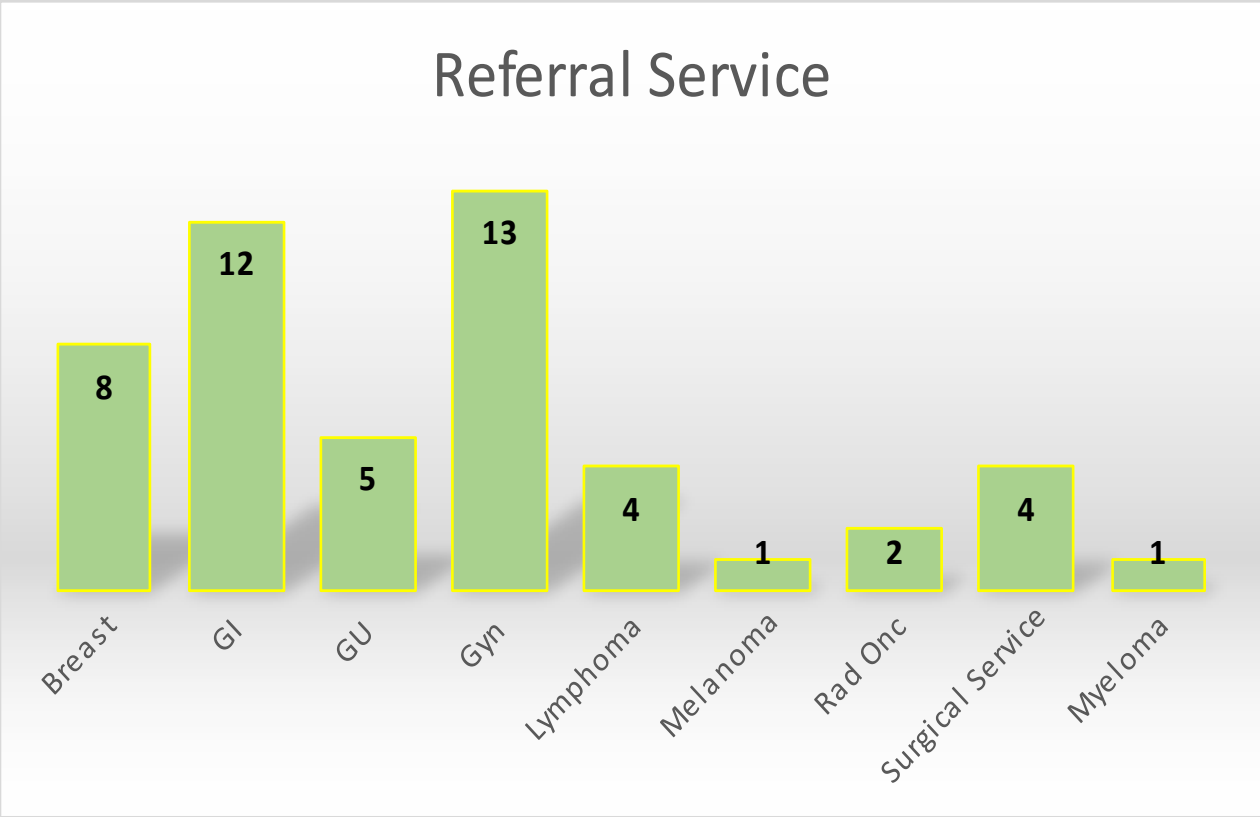
N= 50





68% were 80 years of age or older (range 67-99 years)

Characteristics



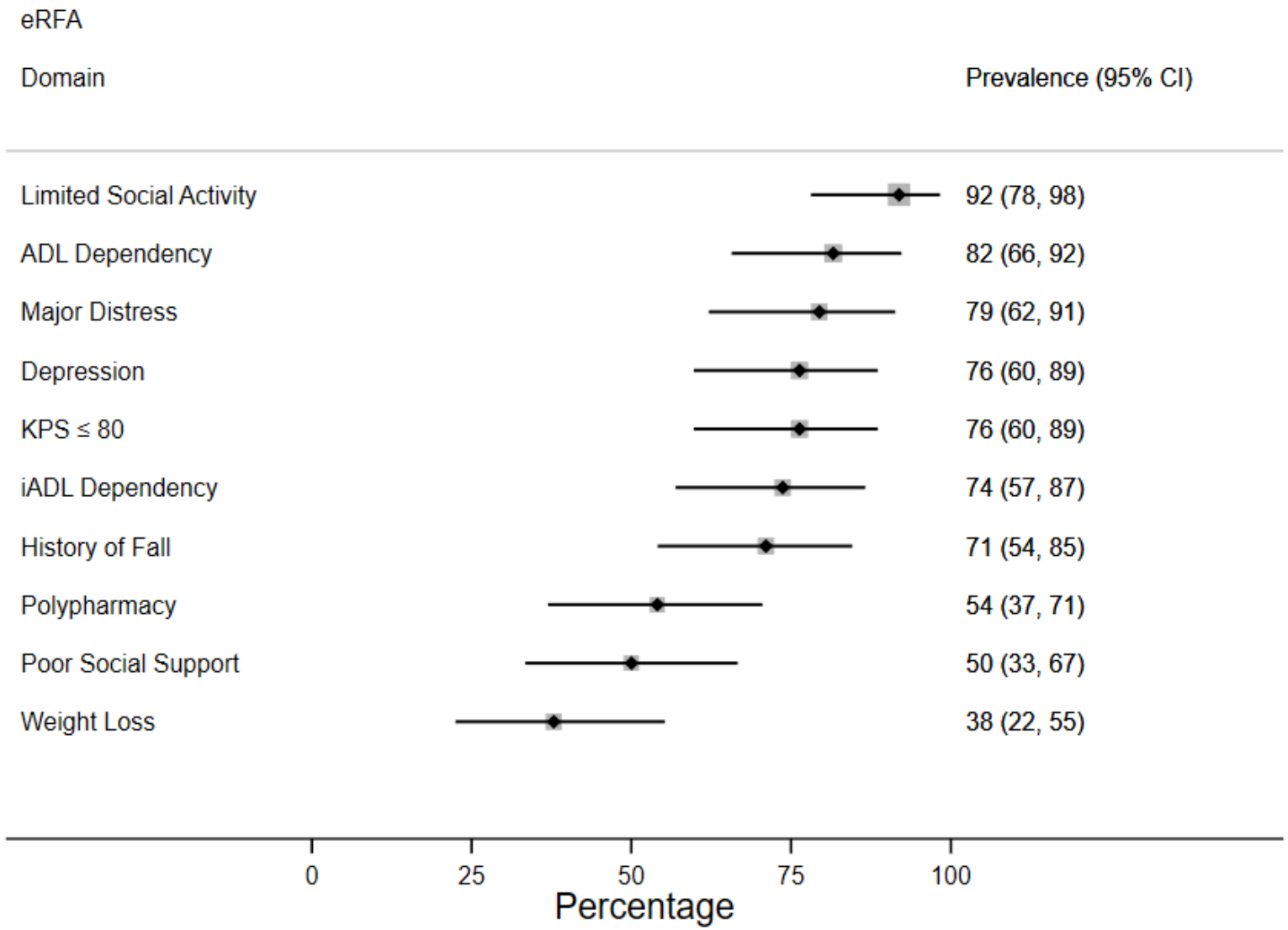
Type of Cancer	
Breast	8 (16%)
Gastrointestinal	10 (20%)
Gynecological	13 (26%)
Head and Neck	3 (6.0%)
Hematological	5 (10%)
Hepato-pancreato-biliary	4 (8.0%)
Melanoma	1 (2.0%)
Urological	6 (12%)
Metastatic Cancer (among non-Hematological cancers, N=45)	22 (49%)

Medical Comorbidities

Coronary Artery Disease	10 (20%)
Congestive Heart Failure	4 (8.0%)
Atrial Fibrillation	11 (22%)
Peripheral vascular disease	1 (2.0%)
Cerebrovascular Accident or Transient Ischemic Attack	6 (12%)
Dementia/ Cognitive dysfunction	10 (20%)
Chronic Obstructive Pulmonary Disease	12 (24%)
Mixed Connective Tissue Disease	6 (12%)
Peptic Ulcer Disease	7 (14%)
Diabetes	15 (30%)
Hemiplegia	1 (2.0%)
Moderate/Severe Chronic Kidney Disease	4 (8.0%)

Geriatric Assessment

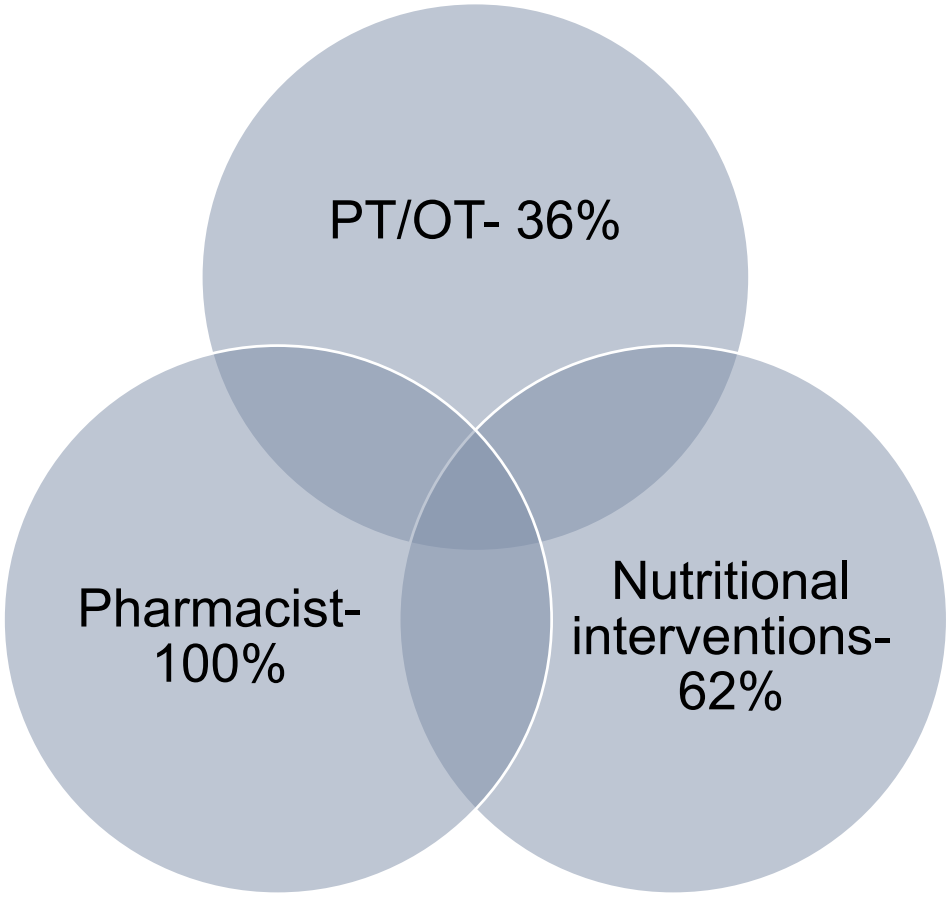
Marital Status	
Not Partnered	28 (56%)
Partnered	22 (44%)
Living Conditions	
Alone	14 (28%)
Living with Family	33 (66%)
Living with 24/7 Aide	3 (6.0%)

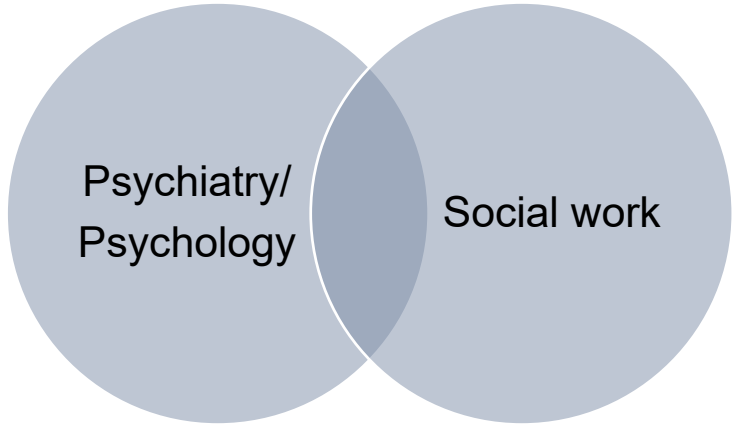


Geriatric Assessment (CGA)

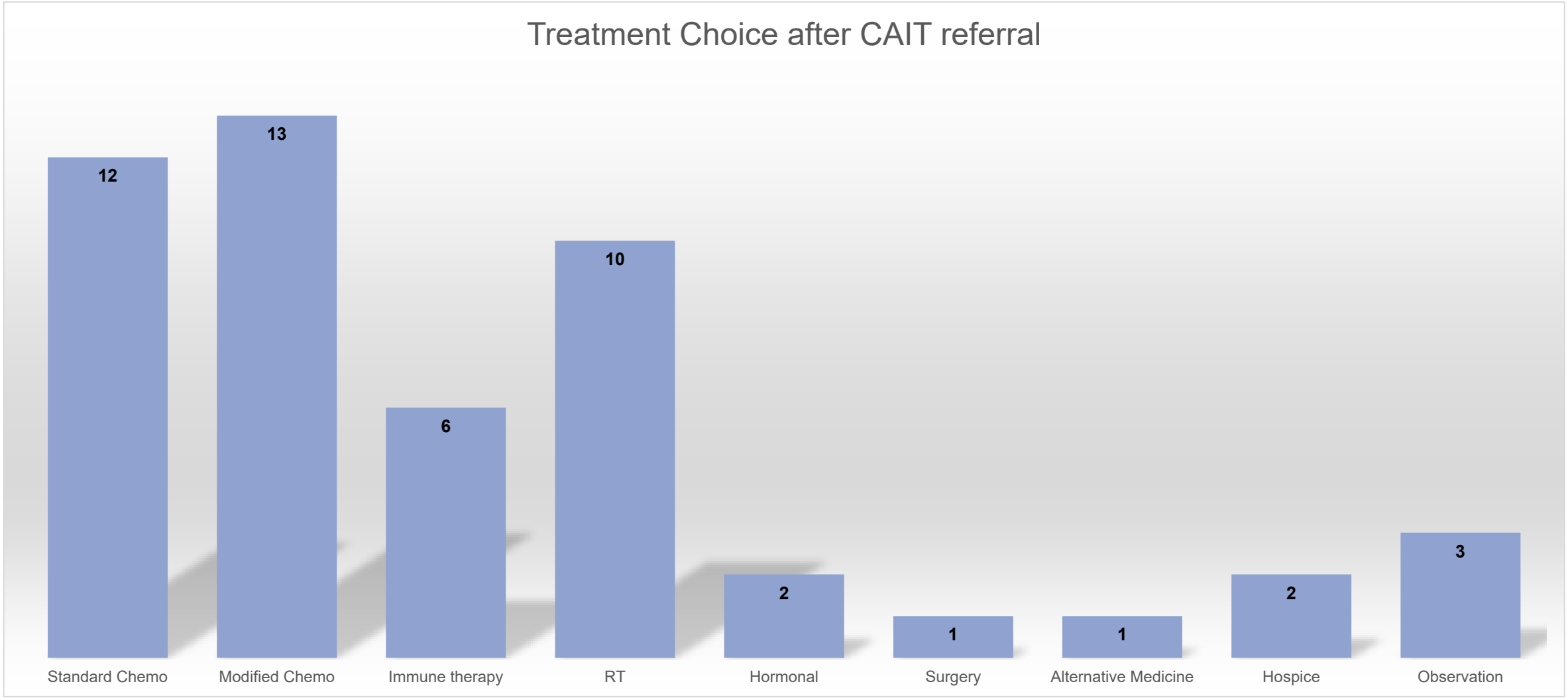
Montreal Cognitive Assessment (MoCA)	
Normal (26-30)	16 (32%)
Mild Cognitive Impairment (18-25)	18 (36%)
Moderate Cognitive Impairment (10-17)	4 (8.0%)
Severe Cognitive Impairment (0-9)	3 (6.0%)
Attempted, but unable to complete	2 (4.0%)
Missing	7 (14%)
Abnormal 30-second Chair Stand (N=34)	18 (53%)
Mini nutritional assessment (MNA)	
Normal nutrition status (12-14 points)	24 (48%)
At risk of malnutrition (8-11 points)	18 (36%)
Malnourished (0-7 points)	8 (16%)
Polypharmacy	30 (60%)

Interventions





Treatment choice Outcome



Oncologist Satisfaction Survey

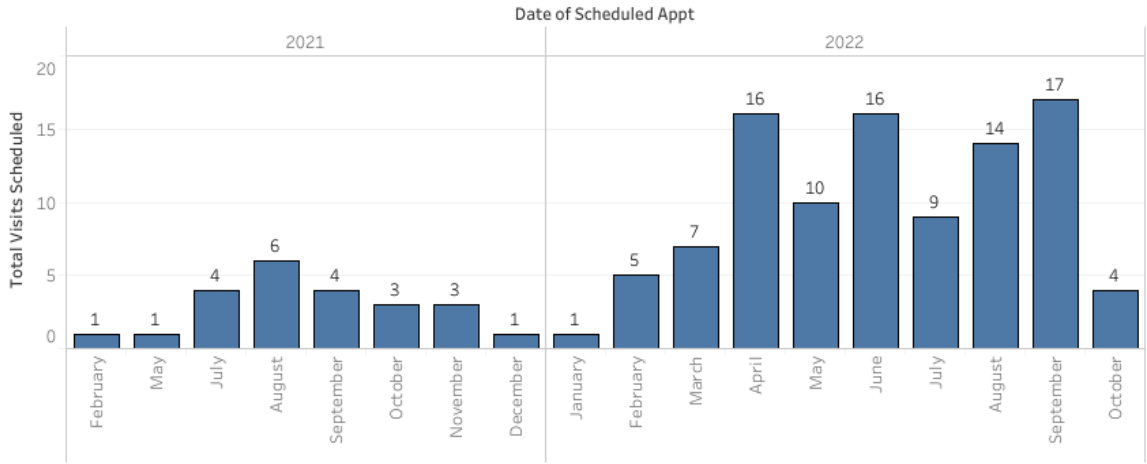
Nearly half (14/29) of oncologists responded to the survey

100% of the Oncologists who responded reported that the appointment was scheduled in a timely manner and that it was easy to communicate with the Geriatricians

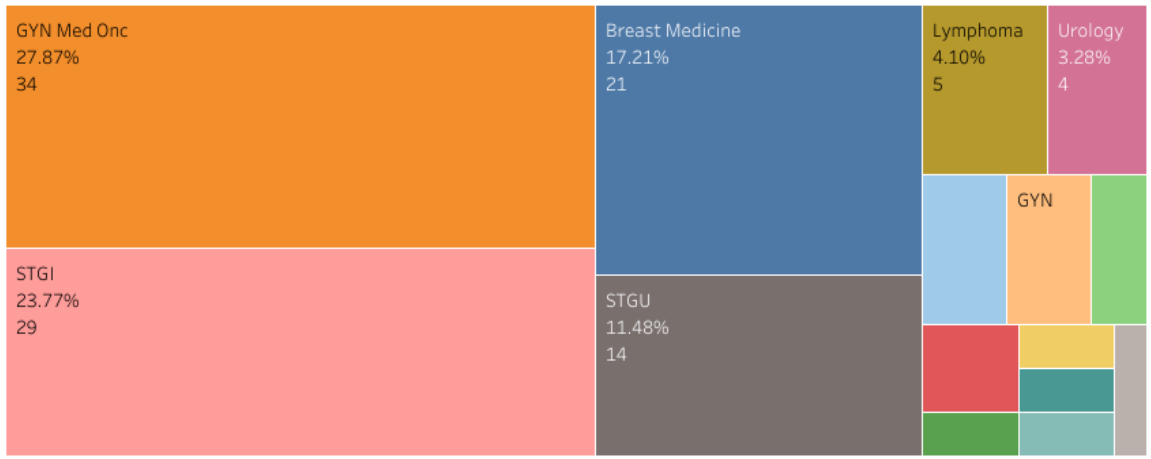
93% agreed that their goals for referring the patients to the CAIT clinic were met and that it helped define an optimal treatment plan

September CAIT Clinic Summary

Monthly Visits Scheduled



Referrals By Service



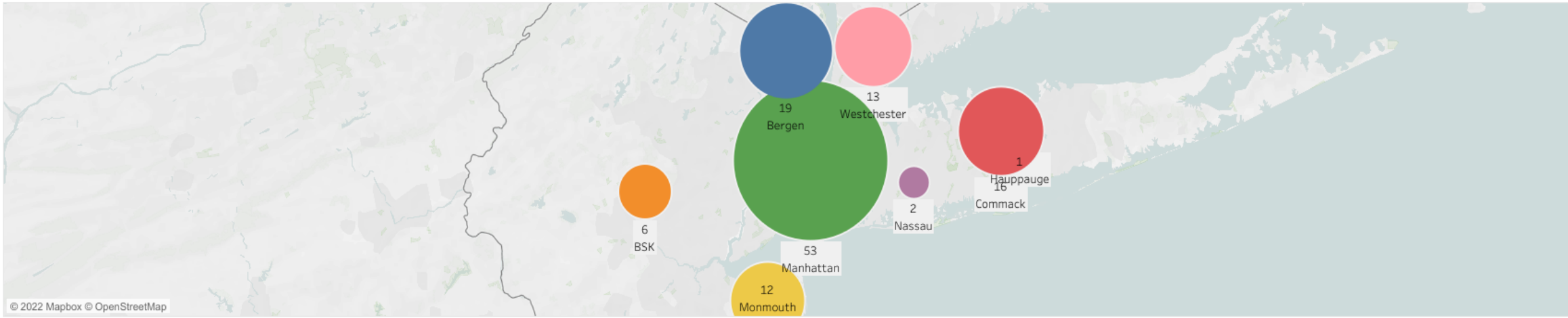
Year of Date of Schedule..
All

Month of Date of Schedul..
All

Visit Completed?
All

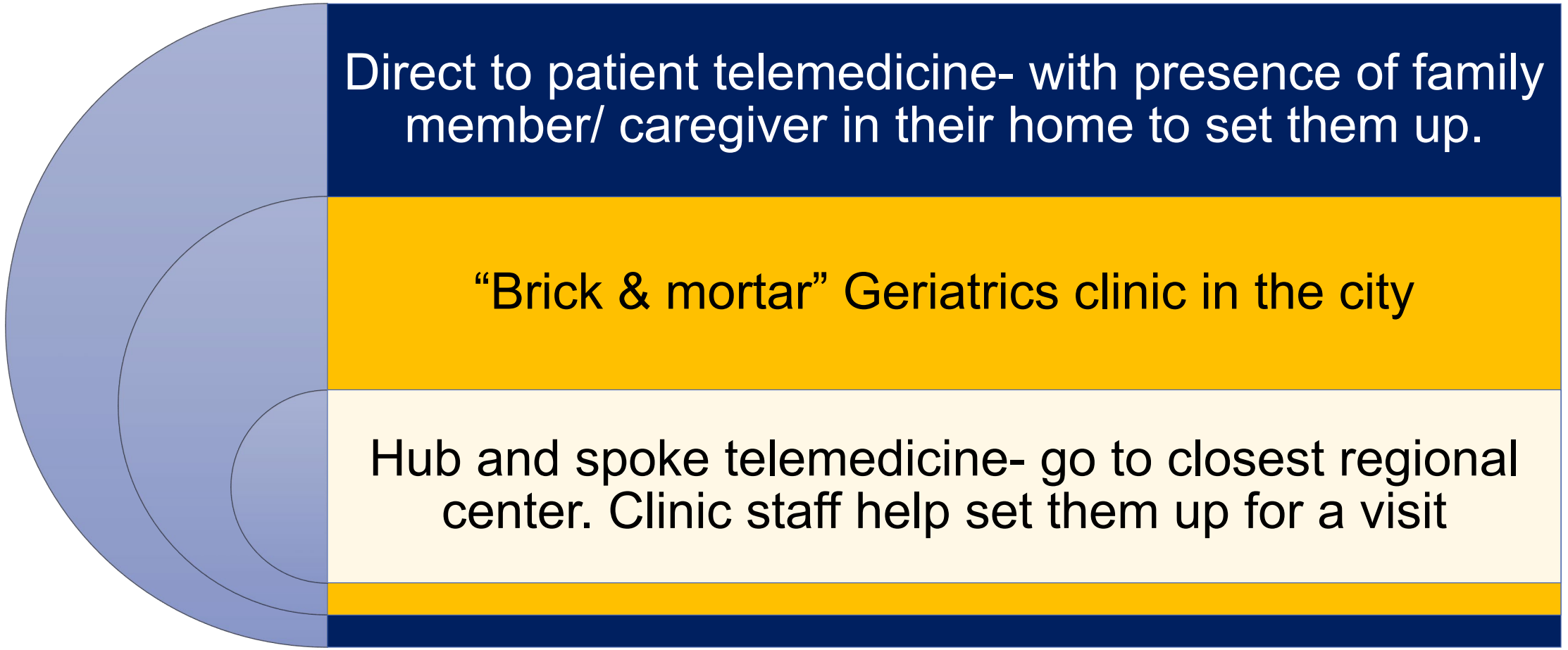
Referring Service
- Breast Medicine
- Colorectal Surgery
- GYN Med Onc
- GYN Surgery
- Head and Neck
- Hepatopancreatobili..
- Lymphoma
- Melanoma
- Multiple Myeloma
- Myeloma
- Radiation Oncology
- STGI
- STGU
- Thoracic Surgery
- Urology

Referrals by MSK Location



MSK Site (group)
- Bergen
- BSK
- Commack
- Hauppauge
- Manhattan
- Monmouth
- Nassau
- Westchester

What about patients with difficulty doing telemedicine?



Questions?

alexandk@mskcc.org