

Measuring Frailty and Predictors of Death, Nursing Home Transfer and Hospitalization in Primary Care Results from the **Frailty and Aging Cohort Study (FACTS)**

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In Press BMJ Open

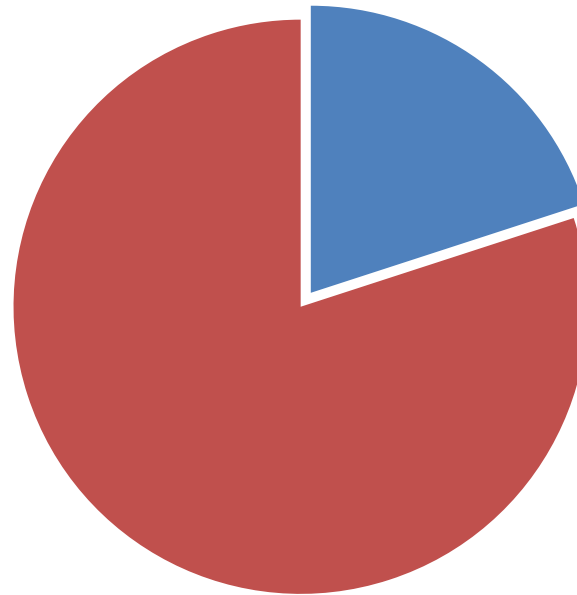


Disclosure

- Conflict of Interest – None Identified
- Managing Potential Bias – None Identified
- Funding- Grant from Community Geriatrics
Dept. of Family Practice UBC

Prevalence of Frailty

20-25% of People ≥ 75



■ Frail
■ Non Frail

- 65+- 14%
- 80-90- 30%
- 90+- 50%

Prevalence of frailty in community-dwelling older persons: a systematic review. Collard RM, et al J Am Geriatr Soc. 2012 Aug; 60(8):1487-92

Frail People are at Increased Risk

- Mortality
- Hospitalization
- Nursing Home Transfer
- Need for In - Home Supports
- Host of Syndromes, Injuries and Diseases that affect their QOL



Challenge



- **In a Clinical Setting**
 - Objectively Identify and Distinguish individuals who are Frail and at Risk, from Well Elderly People who are not at risk.

Frailty and Aging Cohort Study

FACTS

Objectives

- To assess the value of using Frailty Measures in “Usual Primary Care” for Predicting:
 - **Death**
 - **Nursing home transfer (NHT)**
 - **Hospital admission.**
- Compare their Predictive Value to presence of :
 - Medical Diagnoses
 - Multiple Comorbidities
 - Polypharmacy

Methods

- **Design:** Cohort Study- May 2017-Oct.30-2018
- **Setting and Participants:** All **380** people, mean age **88.4**, living in the community and receiving home-based primary geriatric care from one practice in Victoria BC.

Methods

- **Interventions/Measurements:** A **60-minute** baseline assessment by a practice RN which included:
 - Clinical Frailty Scale (CFS)
 - EuroQol EQ-5D-5L (EQ5D) and visual analogue scale (EQ-VAS)
 - MoCA
 - 5 point -Geriatric Depression Scale
 - Gait Speed –m/s
 - Grip Strength-kg
 - Mini Nutritional Assessment –MNA-SF
 - 3 Oz. Water Swallow Test- WST –for dysphagia
 - Medical Diagnoses, Multiple Comorbidities (3+), Drugs, Hg and eGFR
- **Response rate -86%**
- **Outcomes:** Death, NHT and Hospital Admission -**100% follow up**

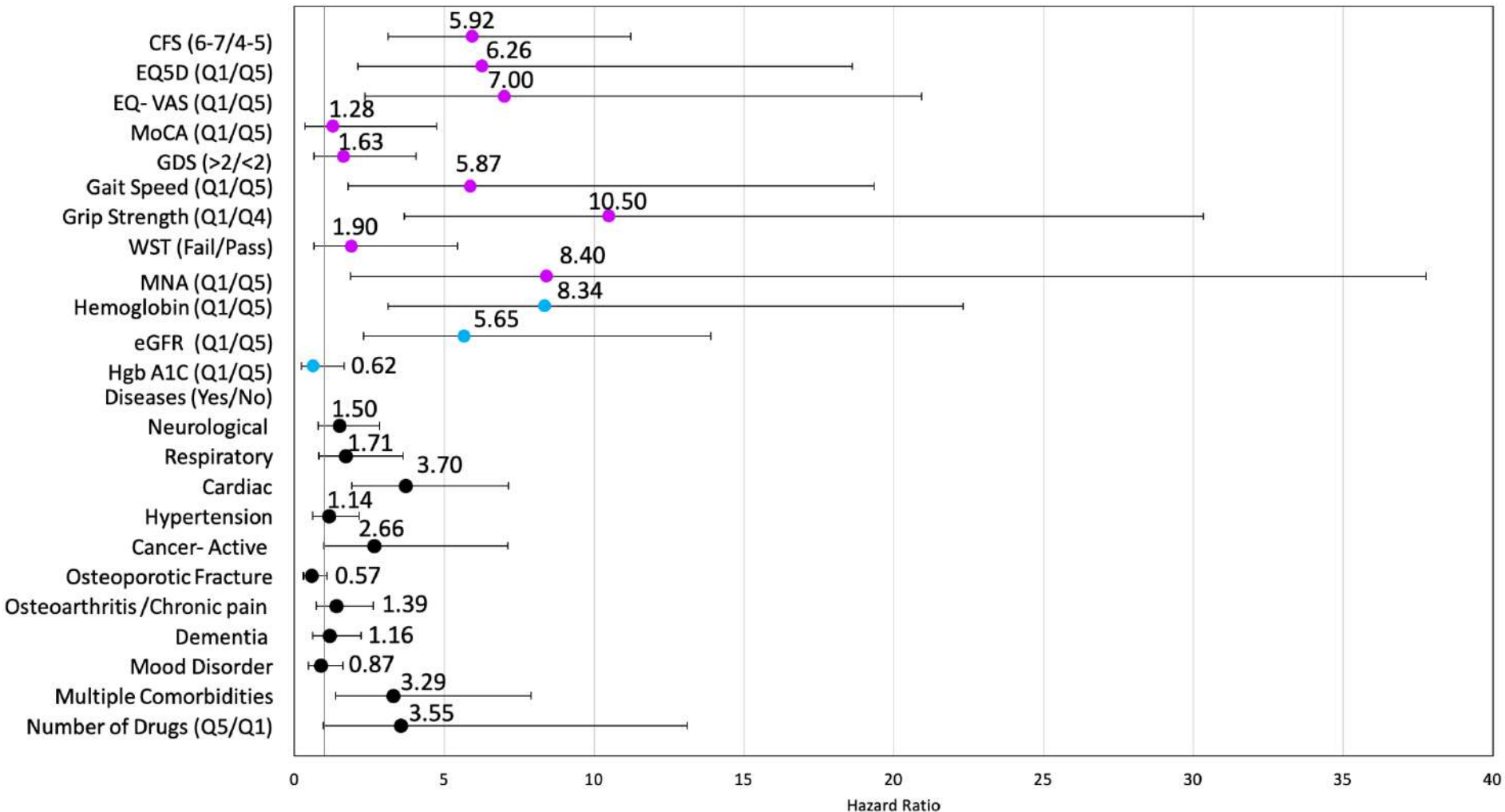
Outcomes

n=380

Outcomes	No.	%
Deaths	39	10.3
Home	23	59
Hospice	3	7.7
Hospital	97	25.5
Nursing Home	48	12.6
Hospital Admissions		
Individuals	93	24.5
Total Admissions	106	
Total # Hospital Days	1548	
Median # Days/ person	0.4	
Mean and Median # Days/Admission	14.6	1.9
ER (Not Admitted)	97	25.5
Total ER Visits	132	

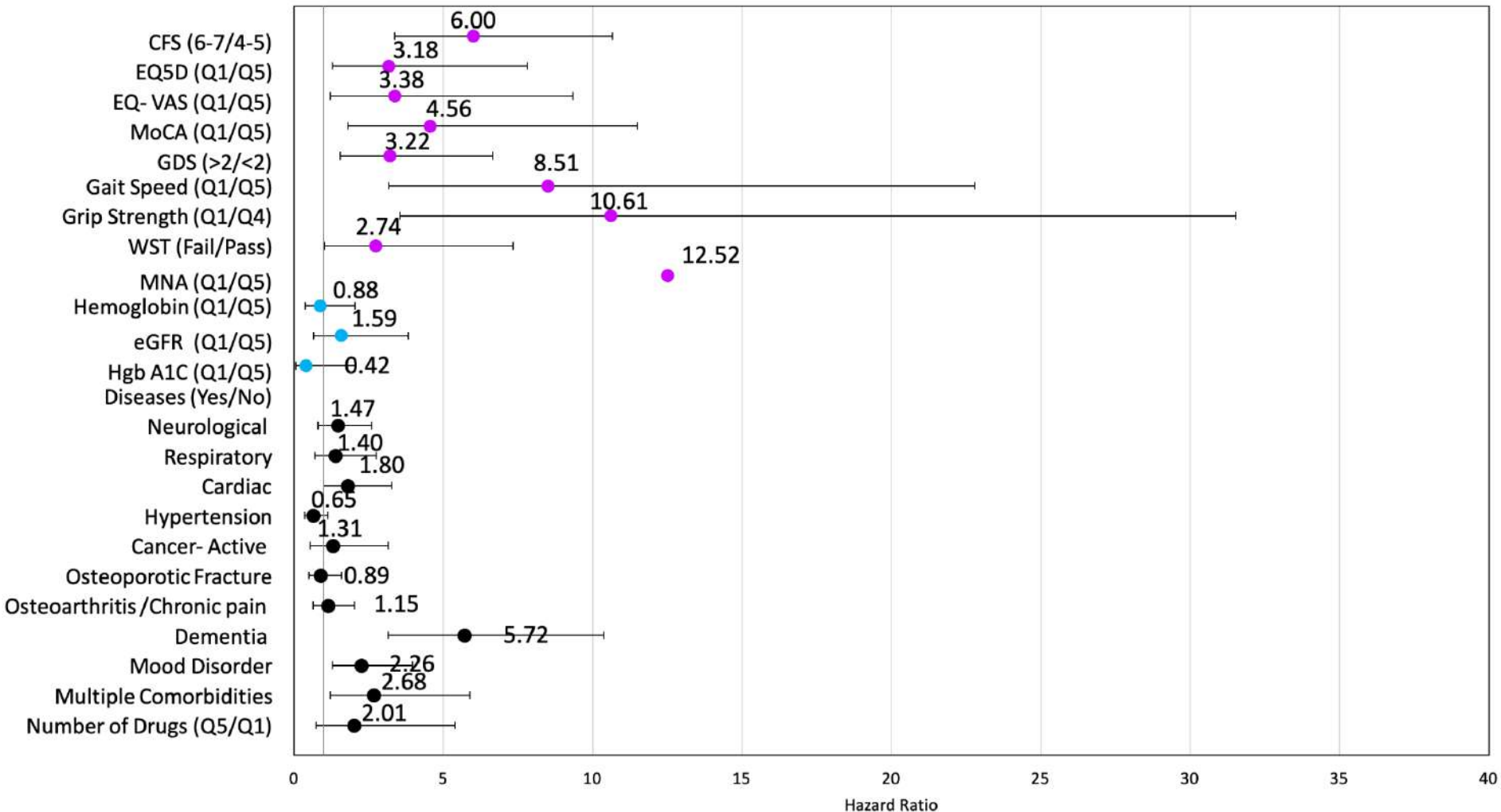
Mortality- Hazard Ratios and 95% CI

- eCGA Variables
- Lab Variables
- Medical Diagnoses



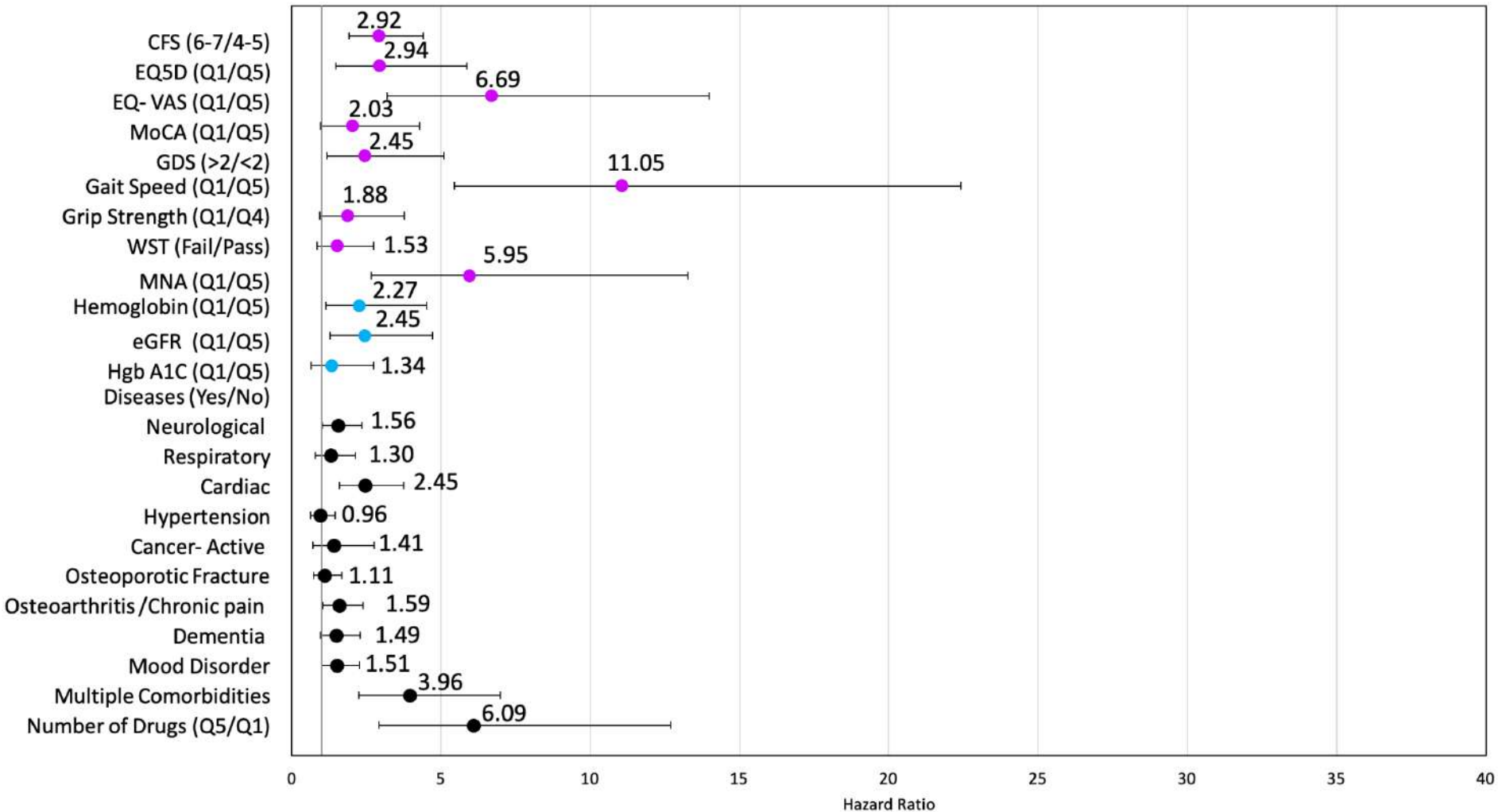
Nursing Home Transfer- Hazard Ratios and 95% CI

- eCGA Variables
- Lab Variables
- Medical Diagnoses



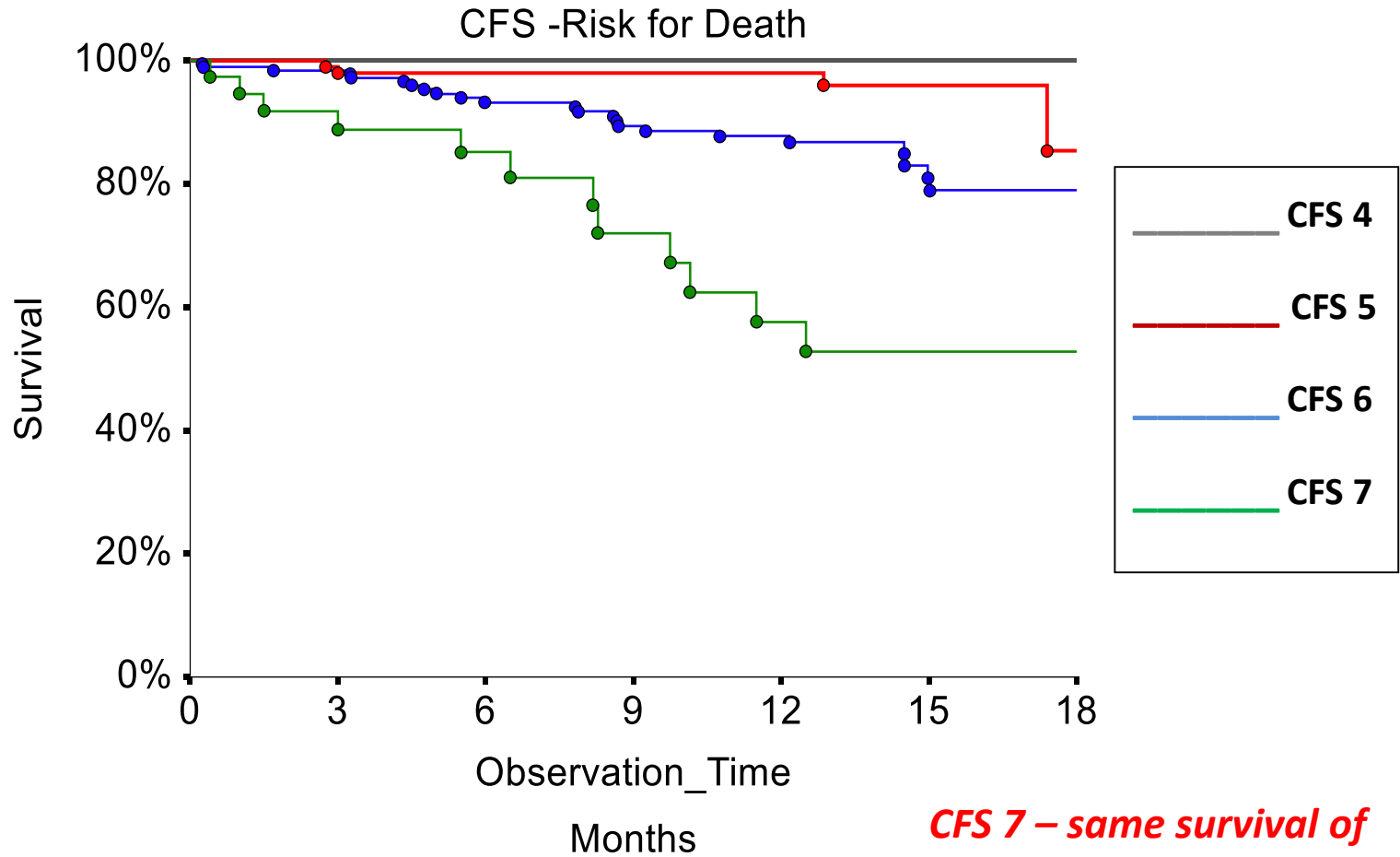
Hospital Admission- Hazard Ratios and 95% CI

- eCGA Variables
- Lab Variables
- Medical Diagnoses

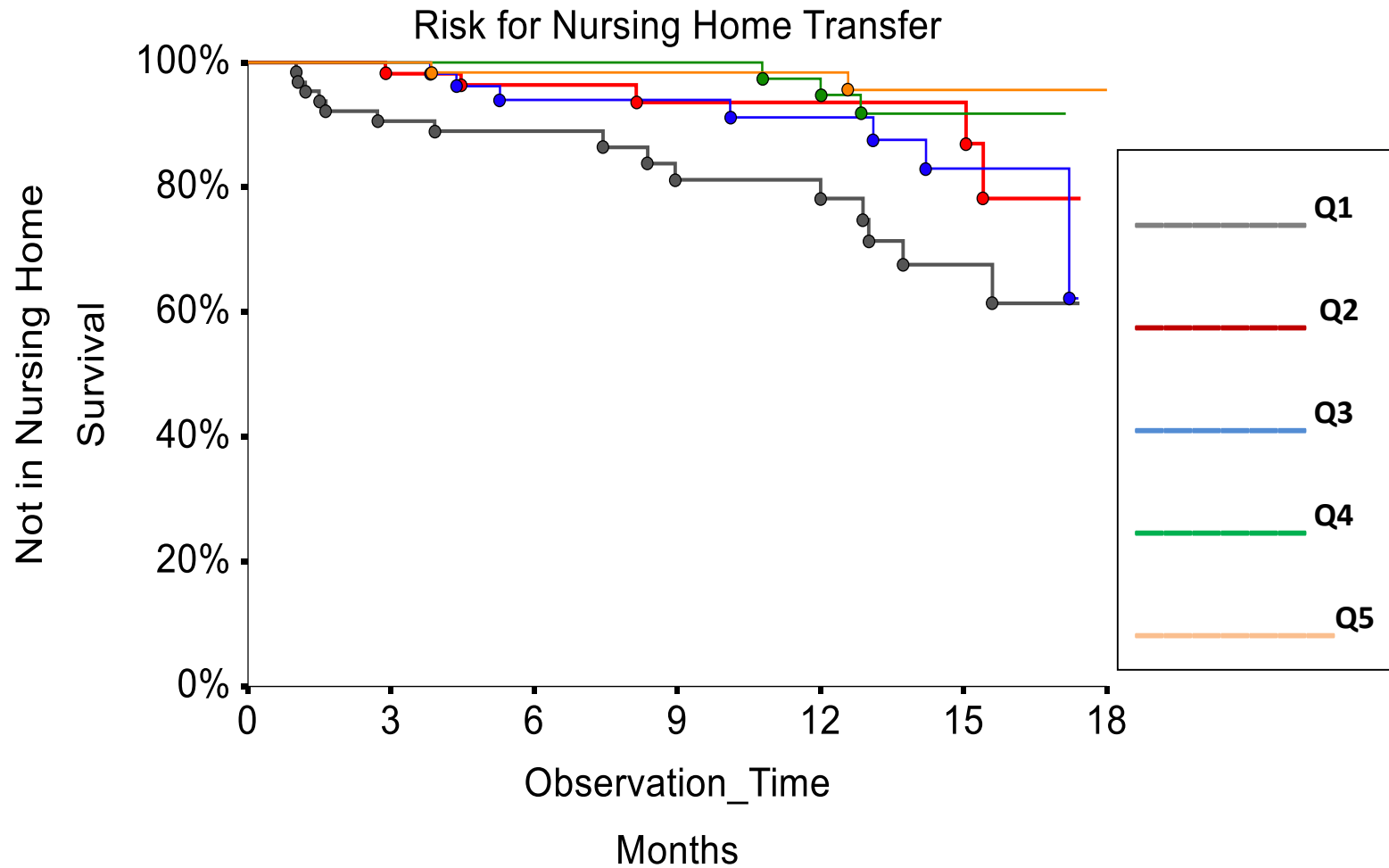


Mortality

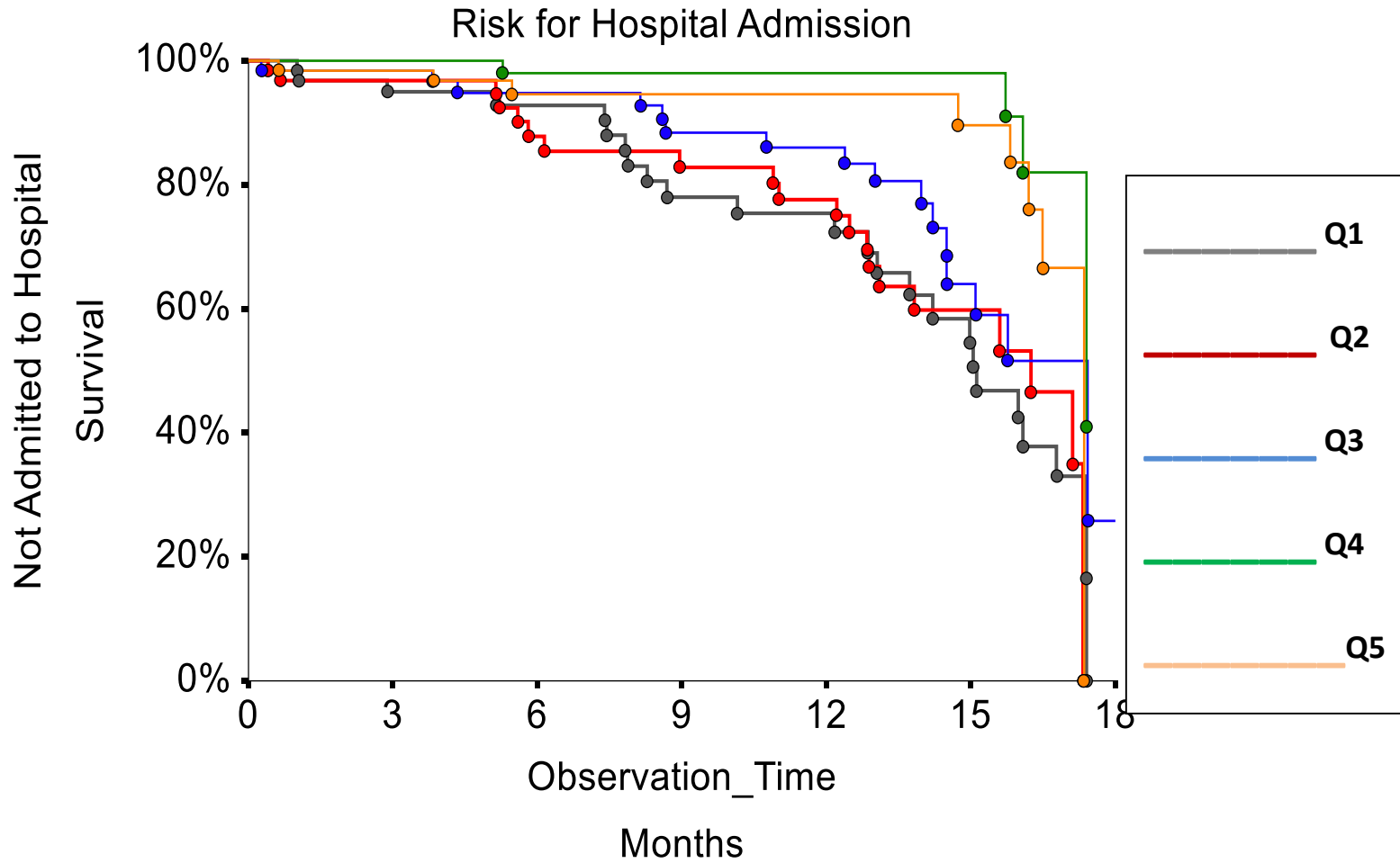
Clinical Frailty Scale -CFS



Nursing Home Transfer Gait Speed



Hospital Admission EQ5D-5L



Multivariate Analyses

Cox Proportional Hazards Models-p Values

Test	Mortality R2-24% P<0.000	Nursing Home R2-16% P<0.000	Hospital Admission R2- 20% P<0.000
Age	NS	0.02	NS
Sex	NS	NS	NS
CFS	0.014	NS	0.003
EQ-VAS	<0.001	NS	0.004
Gait Speed	NS	0.01	NS
Grip Strength	NS	NS	NS
MNA	NS	NS	NS
WST	NS	NS	NS
MOCA	NS	NS	NS
GDS	NS	0.01	NS
EGFR	0.04	NS	NS
Hgb	0.02	NS	NS
Cardiac Diagnosis	NS	NS	NS
Neuro. Diagnosis	NS	NS	NS
Cancer –Active Dementia DX	NS	X <0.001	NS

Who Should Get a “FACTS” Assessment?



Comparison of Mean Frailty Values by CFS Score

		CFS 2-4	CFS 5-7	p
EQ5D	Mean	84.1	70.5	0.000
Gait Speed	Mean	0.92	0.54	0.000
Grip Strength	Mean	23.5	15.2	0.002
MNA	Mean	12.8	11.7	0.002
MoCA	Mean	26	19.8	0.000
GDS	Mean	0.6	1.4	0.000
MYB -Failed	no. (%)	0 (0%)	58 (20.4 %)	0.002
WST -Failed	no. (%)	3 (8%)	64 (24%)	0.050
VAS- Fatigue	Mean	12.6	22.9	0.019
VAS -Pain	Mean	7.7	17.2	0.017
# Drugs	no. (%)	4.9	6.1	0.025
Age	Mean	82.5	89.1	0.000



FACTS

- **It is worth embedding simple Frailty measures into “Usual Care” for Elderly Individuals**
 - < 1 hour /year nursing time to do entire assessment- < Cost of a CT/ MRI
 - Accepted and valued by most patients (>80% voluntary test rate)
 - Excellent Face Validity for physical and mental problems affecting older people
- **Frailty Measures Strongly Predict:**
 - Death
 - Nursing Home Transfer
 - Hospital Admission
- **Frailty Measures are stronger predictors of poor outcomes than medical diagnoses, Multiple Comorbidities and Polypharmacy**
- **Consider Deploying a 2 stage assessment process:**
 - Screen with CFS
 - For CFS>4- Do FACTS Assessment or add individual frailty measures based on resources



- **Facts Investigators**

- Ted Rosenberg -MD MSc FRCP(C)
- Rory Lattimer- MSc
- Vikki Hay- BScN
- Patrick Montgomery MD FRCP(C)

- **Thanks**

- Liza Zacharias- assistance with Audit
- Joyce Constantine –VIHA Library
- Dr. Margaret MacGregor – Dept. Family Medicine
- Dr. Jonathan Berkowitz- Sauder School-Statistical Advice

- **Team/Patients and Families**