Frail patients attending a multi-disciplinary surgical pre-assessment clinic: identifying predictors of complex discharge after surgery

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Gilder F, Biram R, Menon DK, Ercole A, Romero-Ortuno R
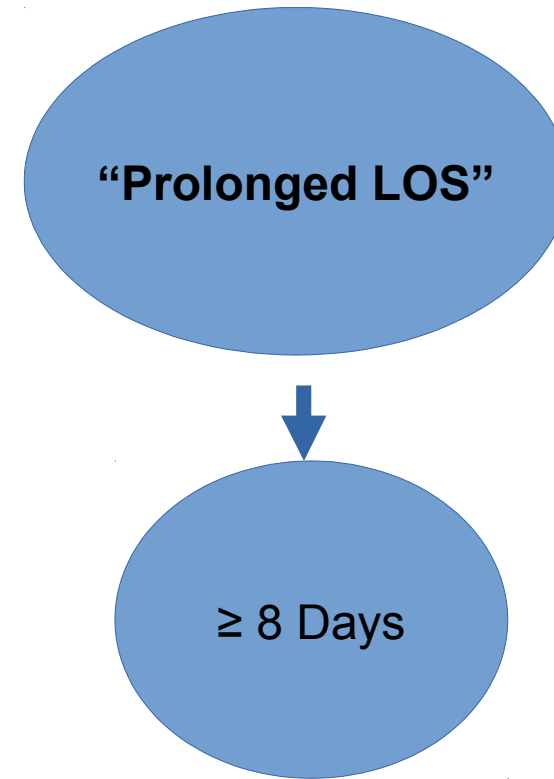
University Division of Anaesthesia

Aims

Is it possible to identify which frail patients are at risk of clinically relevant discharge outcomes using information available in the pre-assessment clinic?
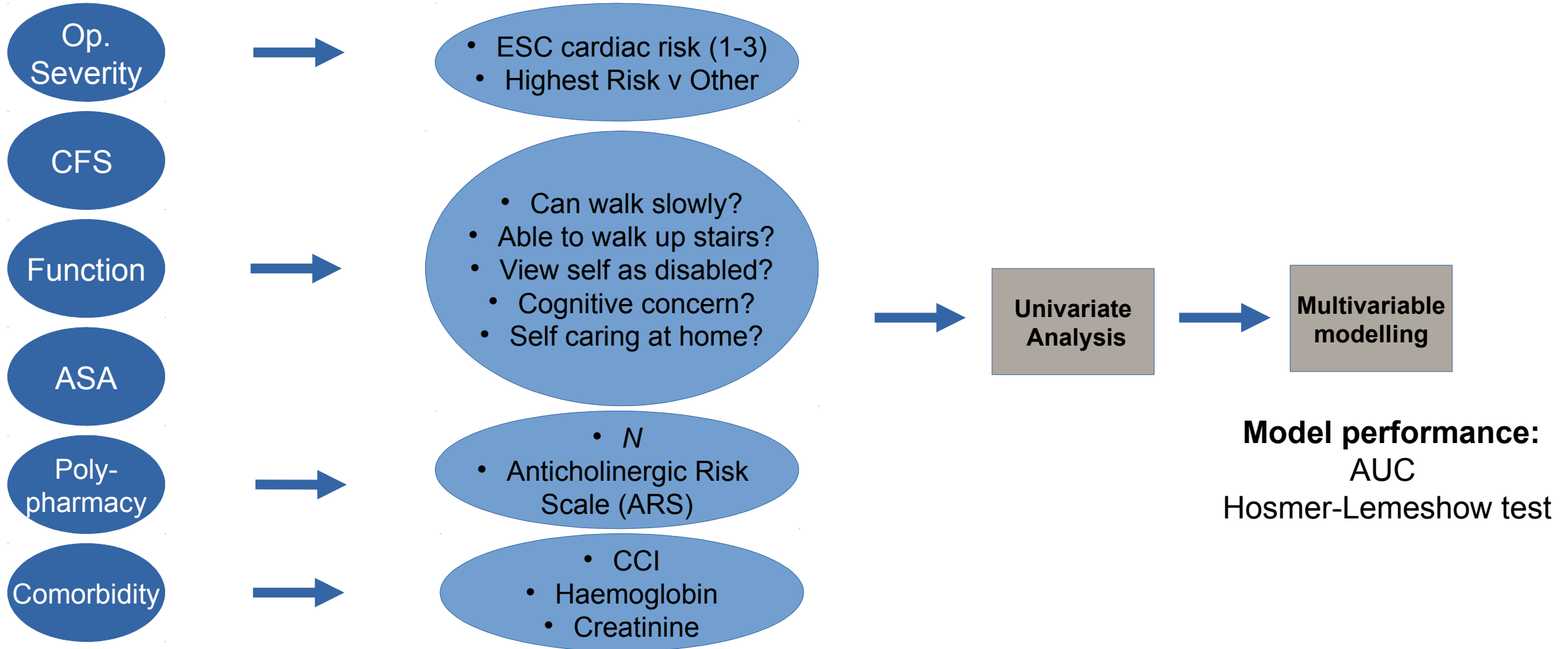
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Outcomes
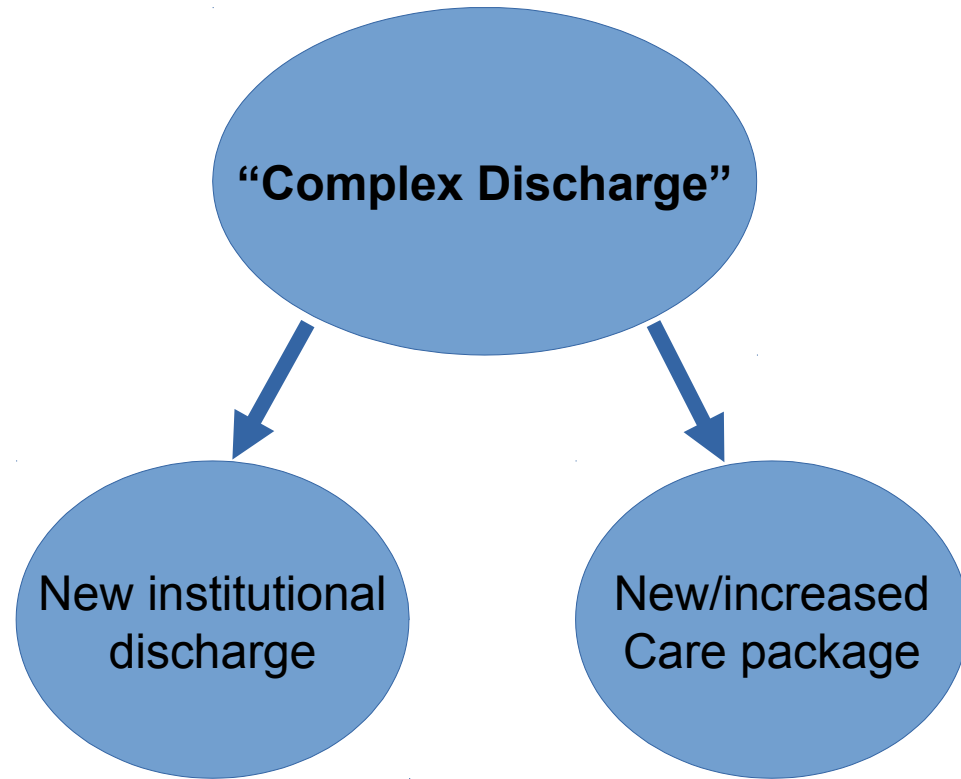
Methods

- Retrospective review of frailty pre-assessment clinic

- Approved Service evaluation (PRN 6517)

- All attendances: January 2016 – June 2017

- 554 appointments

- 332 Included

- **Exclusions**
  - No surgery (114)
  - TCI in future (30)
  - Day Case (68)
  - Others (14)

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Candidate Predictors & Methods

Results: Population

Mean (SD) Age: 80 (7.2)

CFS ≥ 5: 59%

Median [IQR] CCI: 2 [1-3]

Median *n* of drugs: 8 [6-12]

Median ARS: 0 [0-1]

Complex Discharge: 50 (15%)
Prolonged LOS: 95 (29%)

Speciality	n
Breast	3
Colorectal	22
Endocrine	2
ENT (Ear Nose & Throat)	15
General Surgery	15
Gynaecology	17
HPB	7
Maxillofacial	4
Neurosurgery	1
Orthopaedics	133
Plastics	3
Upper gastrointestinal	5
Urology	69
Vascular	36

Results: Complex Discharge

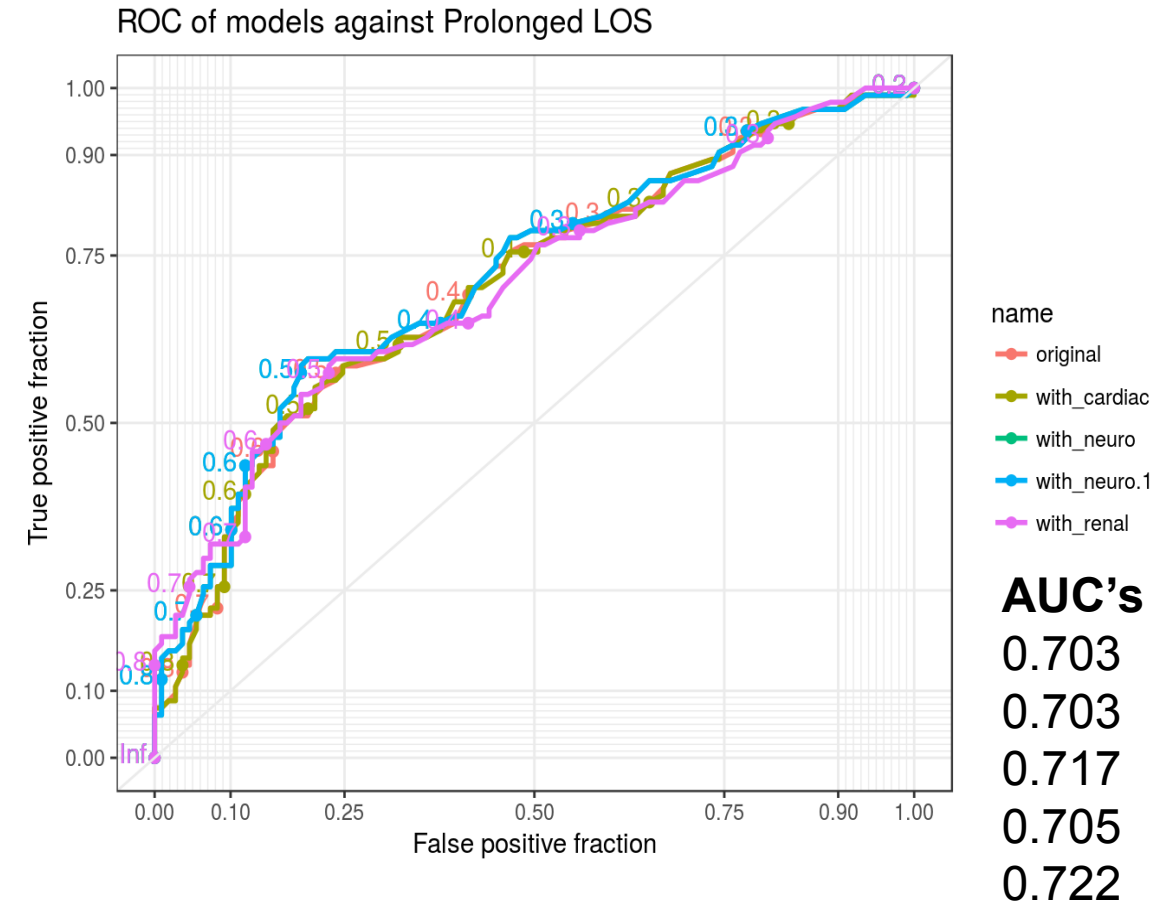|	Odds ratio (95% CI)	P value
Age	1.09 (1.04-1.14)	<0.001
Surgical Risk Level 3	9.66 (3.39-28.08)	<0.001
Able to walk briskly/up stairs	0.10 (0.01 – 0.53)	0.03
Consider self disabled?	2.72 (1.36 – 5.64)	0.006
Cognitive impairment?	2.80 (1.11 – 6.80)	0.024

- Frailty & Comorbidity significant at univariate level **not** in multivariable
- Presence of post-operative complications doesn't improve discrimination

ROC of models against Complex Discharge

name
- discharge_original
- discharge_with_any
- discharge_with_cardiac
- discharge_with_neuro
- discharge_with_renal

AUC's
0.746
0.747
0.746
0.755
0.750

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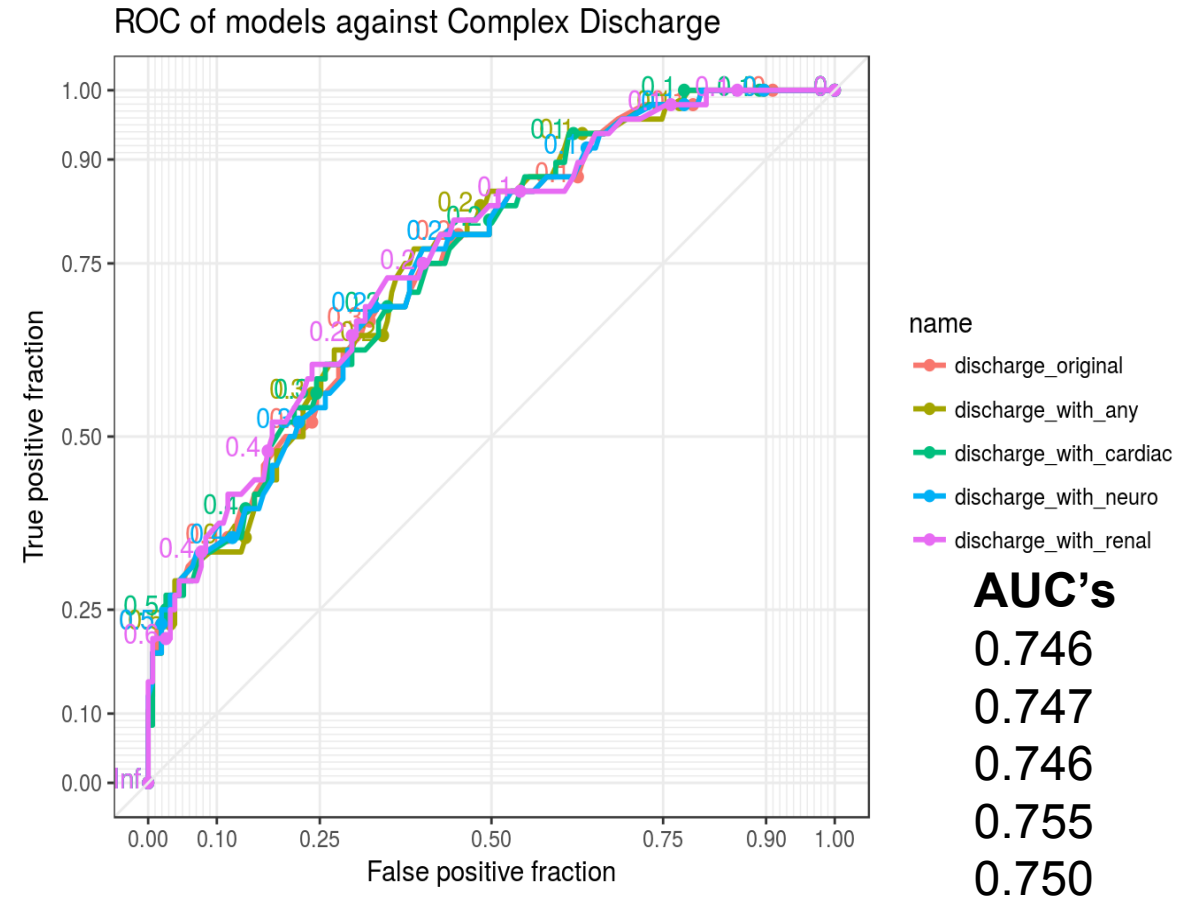
Results: Prolonged LOS

	Odds ratio (95% CI)	P value
Age	1.05 (1.01 – 1.09)	0.008
Surgical Risk Level 3	12.00 (5.00-30.74)	<0.001
Consider self disabled?	2.52 (1.46-4.42)	0.001
Provide Self Care?	0.43 (0.24-0.80)	0.007

- Frailty significant at univariate level **not** in multivariable
- Presence of post-operative complications doesn't improve discrimination
- Cognitive risk not significant in either uni or multivariable analysis.

ROC of models against Prolonged LOS

name
- original
- with_cardiac
- with_neuro
- with_neuro.1
- with_renal

AUC's
0.703
0.703
0.717
0.705
0.722

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Conclusions

- Use of pre-operative information can aid in identifying those at risk of relevant discharge related outcomes

- On multi-variable modeling frailty becomes non-significant

- Age, level of surgical insult, and self-reported disability are consistent risks

- Implementation of such tools could aid in:
  - Targeted discharge planning input
  - More efficient clinic utilisation
  - Shared decision making

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