

Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. ICD and CPT codes used for patient selection

Code Type	Code	Description
ICD-9	820.x	Fracture of neck of femur
ICD-10	S72.0xxx	Fracture of head and neck of femur
	S72.1xxx	Pertrochanteric fracture
CPT	27236	Open treatment (fixation or prosthetic)
	27244	Plate/screw fixation (sliding compression screw)
	27245	Intramedullary implant (cephalomedullary nail)
	27130	Total Hip Arthroplasty
	27125	Hemiarthroplasty

eTable 2. mFI-5 scoring criteria

mFI-5 (Component)	Score (Maximum = 5)
Non Independent Functional Status (Partial and Complete)	1
Diabetes mellitus with oral agents or insulin	1
COPD	1
Hypertension Requiring Medication	1
Congestive Heart Failure	1

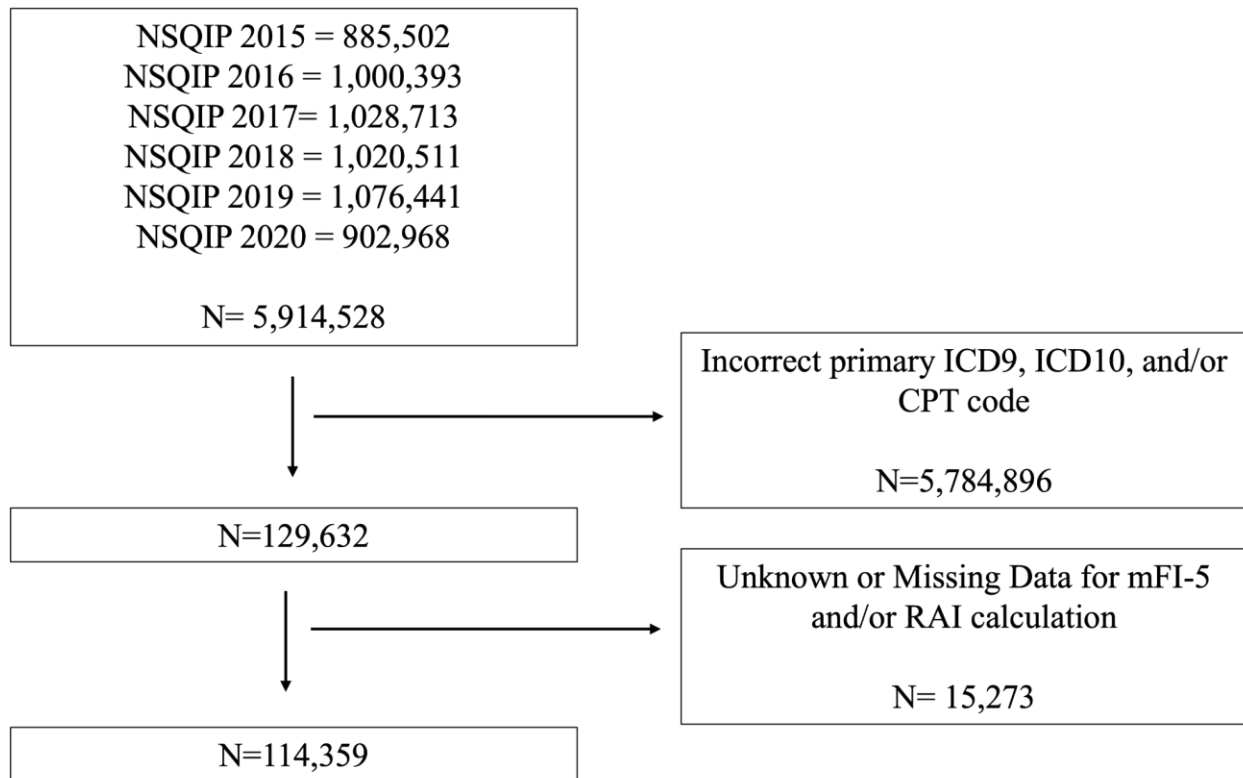
eTable 3. RAI Scoring criteria

RAI (Component)	Score
Sex	+3 if male
Age	+Score weighted by cancer (Supplementary Table 4)
Cancer diagnosis (excluding skin cancer, except melanoma)	Relevant through age variable
Unintentional weight loss >4.5kg over 3 months	+4
Renal failure (and/or dialysis)	+8
CHF	+5
Poor appetite	+4
Shortness of breath at rest	+3
Residency other than independent living (transferred from nonhome or intermediate care unit)	+1
Cognitive deterioration (over past 3 months)	N/A
Activities of daily living	+14 = totally dependent +7 = partially dependent +0 = independent

eTable 4. Weighting of age variable by presence of cancer for RAI

Age	Score with cancer	Score without cancer
≤ 19	28	0
20-24	29	1
25-29	29	4
30-34	30	6
35-39	30	8
40-44	31	10
45-49	31	12
50-54	32	14
55-59	32	16
60-64	33	18
65-69	34	20
70-74	34	22
75-79	35	24
80-84	35	26
85-89	36	28

eFigure. CONSORT Flow Diagram



eTable 5. Crosstabulation of mFI-5 and RAI

	RAI Frailty Tiers				
	No. (%)				
Percent Composition of mFI-5 Tier		Robust	Normal	Frail	Very Frail
	Nonfrail	8,252 (32.3)	6,626 (24.3)	6,395 (21.5)	1,838 (5.8)
	Prefrail	10,957 (42.8)	14,480 (53.2)	15,864 (53.4)	9,770 (30.6)
	Frail	5,841 (22.8)	5,522 (20.3)	5,913 (19.9)	14,154 (44.4)
	Severely Frail	522 (2.0)	589 (2.2)	1,515 (5.1)	6,121 (19.2)

eTable 6. Discriminatory accuracy of the RAI and mFI-5 for primary outcome and secondary outcomes

Odds Ratio (95% Confidence Interval)			
	mFI-5	RAI	P-Value
Primary Endpoints			
Mortality	0.61 (0.60-0.62)	0.73 (0.72-0.73)	<0.001
Secondary Endpoints			
eLOS	0.55 (0.55-0.56)	0.57 (0.57-0.57)	<0.001
NHD	0.51 (0.51-0.52)	0.49 (0.48-0.49)	<0.001
Readmission	0.57 (0.56-0.57)	0.56 (0.55-0.56)	0.007
Reoperation	0.53 (0.51-0.54)	0.50 (0.49-0.51)	<0.001
Complications	0.58 (0.57-0.59)	0.58 (0.57-0.58)	0.413

eTable 7. Multivariable analysis controlling for age, sex, race, operative time, and transfer status, for prediction of 30-day outcomes by the RAI and mFI-5

	Odds Ratio (95% Confidence Interval)					
	mFI-5			RAI		
	Prefrail 1	Frail 2	Severely Frail ≥ 3	Normal 26-28	Frail 29-32	Very Frail ≥ 33
Mortality	1.35 (1.24-1.47)	2.11 (1.94-2.30)	3.53 (3.20-3.90)	1.55 (1.35-1.79)	2.97 (2.59-3.42)	6.17 (5.38-7.08)
eLOS	1.23 (1.19-1.28)	1.61 (1.55-1.68)	2.32 (2.19-2.45)	1.43 (1.36-1.50)	1.70 (1.61-1.79)	2.18 (2.06-2.31)
NHD	1.16 (1.12-1.20)	1.17 (1.12-1.21)	1.11 (1.05-1.17)	1.42 (1.35-1.49)	1.44 (1.36-1.52)	0.93 (0.88-0.99)
Major Complications	1.39 (1.29-1.50)	1.83 (1.69-1.98)	2.91 (2.65-3.19)	1.48 (1.35-1.63)	1.87 (1.69-2.07)	2.27 (2.04-2.51)
Readmission	1.34 (1.26-1.43)	1.70 (1.59-1.82)	2.47 (2.27-2.69)	1.43 (1.32-1.55)	1.77 (1.62-1.93)	2.17 (1.99-2.37)
Reoperation	1.17 (1.05-1.30)	1.25 (1.11-1.40)	1.50 (1.28-1.74)	1.33 (1.17-1.52)	1.33 (1.14-1.54)	1.44 (1.27-1.68)