Supplementary Online Content

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

eTable 1. Exclusion Criteria for Eligible Index Cohort, Overall and by Clinical Condition Cohort

		n		Percent removed (%)
1. Medicare population ≥65 years		10,111,157		
2. Exclude admissions with in-hospital death		387,949		3.8
3. Exclude admissions transferred to another acute care facility		183,576		1.8
4. Exclude admissions with less than 30 days follow-up from discharge date		821,527		8.1
5. Exclude admissions discharged against medical advice		45,159		0.5
6. Exclude admissions for primary psychiatric diagnoses		79,862		0.8
7. Exclude admissions for rehabilitation		22,053		0.2
8. Exclude admissions of cancer		187,508		1.9
Final Cohort		**8,382,074**		**17.1**
		n		Percent total (%)
Identify admissions for **Medicine** (Cohort 1)		3,561,772		42.5
Identify admissions for a major **Surgery** (Cohort 2)		2,070,888		24.7
Identify admissions for **Cardiorespiratory** (Cohort 3)		1,344,038		16.0
Identify admissions for **Cardiovascular** (Cohort 4)		887,879		10.6
Identify admissions for **Neurology** (Cohort 5)		517,497		6.2

eTable 2. Leading Clinical Classification Software (CCS) Categories for Index Fallers and Non-Fallers, 2013-2014

Top 10 CCS in Medicine[a]				
Fallers			**Non-Fallers**	
N = 306,318			N = 3,255,454	
CCS	Category Name		CCS	Category Name
231	Other fractures		2	Septicemia (except in labor)
2	Septicemia (except in labor)		159	Urinary tract infections
159	Urinary tract infections		157	Acute and unspecified renal failure
245	Syncope		153	Gastrointestinal hemorrhage
229	Fracture of upper limb		55	Fluid and electrolyte disorders
157	Acute and unspecified renal failure		197	Skin and subcutaneous tissue infections
239	Superficial injury; contusion		237	Complication of device; implant or graft
197	Skin and subcutaneous tissue infections		145	Intestinal obstruction without hernia
230	Fracture of lower limb		146	Diverticulosis and diverticulitis
226	Fracture of neck of femur (hip)		238	Complications of surgical procedures or medical care
Top 10 CCS in Cardiorespiratory[a]				
Fallers			**Non-Fallers**	
N = 35,298			N = 1,308,740	
CCS	Category Name		CCS	Category Name
122	Pneumonia (except that caused by tuberculosis or sexually transmitted disease)		108	Congestive heart failure; nonhypertensive
108	Congestive heart failure; nonhypertensive		122	Pneumonia (except that caused by tuberculosis or sexually transmitted disease)
127	Chronic obstructive pulmonary disease and bronchiectasis		127	Chronic obstructive pulmonary disease and bronchiectasis
131	Respiratory failure; insufficiency; arrest (adult)		131	Respiratory failure; insufficiency; arrest (adult)
103	Pulmonary heart disease		103	Pulmonary heart disease

CCS	Category Name		CCS	Category Name
128	Asthma		128	Asthma
125	Acute bronchitis		125	Acute bronchitis
			56	Cystic fibrosis

Top 10 CCS in Cardiovascular[a]				
Fallers			**Non-Fallers**	
N = 31,656			N = 856,223	
CCS	Category Name		CCS	Category Name
106	Cardiac dysrhythmias			106 Cardiac dysrhythmias
117	Other circulatory disease			100 Acute myocardial infarction
100	Acute myocardial infarction			101 Coronary atherosclerosis and other heart disease
105	Conduction disorders			102 Nonspecific chest pain
102	Nonspecific chest pain			117 Other circulatory disease
101	Coronary atherosclerosis and other heart disease			114 Peripheral and visceral atherosclerosis
114	Peripheral and visceral atherosclerosis			105 Conduction disorders
96	Heart valve disorders			97 Peri-; endo-; and myocarditis; cardiomyopathy (except that caused by tuberculosis or sexually transmitted disease)
97	Peri-; endo-; and myocarditis; cardiomyopathy (except that caused by tuberculosis or sexually transmitted disease)			96 Heart valve disorders
107	Cardiac arrest and ventricular fibrillation			115 Aortic; peripheral; and visceral artery aneurysms

Top 10 CCS in Neurology[a]				
Fallers			**Non-Fallers**	
N = 75,917			N = 441,580	
CCS	Category Name		CCS	Category Name
233	Intracranial injury			109 Acute cerebrovascular disease
109	Acute cerebrovascular disease			112 Transient cerebral ischemia

CCS	Category Name		CCS	Category Name
95	Other nervous system disorders		95	Other nervous system disorders
83	Epilepsy; convulsions		83	Epilepsy; convulsions
112	Transient cerebral ischemia		81	Other hereditary and degenerative nervous system conditions
81	Other hereditary and degenerative nervous system conditions		113	Late effects of cerebrovascular disease
227	Spinal cord injury		110	Occlusion or stenosis of precerebral arteries
79	Parkinson`s disease		85	Coma; stupor; and brain damage
113	Late effects of cerebrovascular disease		111	Other and ill-defined cerebrovascular disease
85	Coma; stupor; and brain damage		79	Parkinson`s disease

Top 10 CCS in Surgical[b]				
Fallers			**Non-Fallers**	
N = 297,208			N = 1,773,680	
CCS	Category Name		CCS	Category Name
146	Treatment; fracture or dislocation of hip and femur		152	Arthroplasty knee
222	Blood transfusion		222	Blood transfusion
153	Hip replacement; total and partial		153	Hip replacement; total and partial
147	Treatment; fracture or dislocation of lower extremity (other than hip or femur)		231	Other therapeutic procedures
148	Other fracture and dislocation procedure		54	Other vascular catheterization; not heart
161	Other OR therapeutic procedures on bone		61	Other OR procedures on vessels other than head and neck
145	Treatment; fracture or dislocation of radius and ulna		3	Laminectomy; excision intervertebral disc

eTable 3. Clinical Characteristics of Older (≥65) Medicare Beneficiaries Overall and by Fall Injury Status for U.S. Hospital Discharges, 2013-2014

	Overall		Fallers		Non-Fallers		p-val [*]
	n = 8,382,074		n = 746,397		n = 7,635,677		
Cohort (%)							
Medicine (n= 3,561,772)	42.5		41.0		42.6		<.001
Cardiorespiratory (n= 1,344,038)	16.0		4.7		17.1		
Cardiovascular (n= 887,879)	10.6		4.2		11.2		
Neurology (n= 517,497)	6.2		10.2		5.8		
Surgical (n= 2,070,888)	24.7		39.8		23.2		
[*] Compares fallers and non-fallers. Chi-square test is used to compare proportions.							
Note: Falls were assessed at the index discharge.							

eTable 4. Unplanned 30-Day All-Cause Readmission Prevalence Among Older (≥65) Medicare Beneficiaries by Acute Geriatric Cohort, Across Five Clinical Index Discharge Cohorts, Overall and by Fall Injury Status, 2013-2014

	Overall		Index FRI Acute Geriatric Cohort				Index Cognitive Impairment Acute Geriatric Cohort		
			Yes		No			Yes	No	
	$n =$ 8,382,074		$n =$ 746,397		$n =$ 7,635,677		p-val	$n =$ 1,367,759	$n=$7,014,315	p-val
By Cohort (%)									
Medicine ($n=$ 3,561,772)	16.0		13.4		16.3		<.001	16.1	16.0	0.10
Cardiorespiratory ($n=$ 1,344,038)	18.5		19.0		18.5		0.019	18.1	18.6	<.001
Cardiovascular ($n=$ 887,879)	12.7		13.8		12.7		<.001	15.5	12.3	<.001
Neurology ($n=$ 517,497)	12.3		13.4		12.1		<.001	13.4	12.0	<.001
Surgical ($n=$ 2,070,888)	10.2		11.4		9.9		<.001	15.2	9.7	<.001

eTable 5. Percentage of 30-Day Unplanned All-Cause Readmissions of Older (≥65) Medicare Beneficiaries Overall and among FRI and Cognitive Impairment Index Cohorts, by Index Clinical Condition, 2013-2014

	Medicine	Surgery	Cardio-respiratory	Cardio-vascular	Neurology
	% (Rank)	% (Rank)	% (Rank)	% (Rank)	% (Rank)
Overall [a]	5.5 (3rd) N = 31,161 (570,530)	4.2 (4th) N = 8,806 (210,146)	4.4 (7th) N = 10,957 (248,966)	4.4 (4th) N = 4,984 (112,685)	7.9 (3rd) N = 5,046 (63,635)
FRI Index Cohort [b]	12.1 (1st) N = 4,962 (41,111)	7.2 (2nd) N = 2,429 (33,913)	8.6 (3rd) N = 576 (6,708)	9.6 (2nd) N = 417 (4,368)	15.0 (1st) N = 1,531 (10,201)
Cognitive Impairment Cohort [c]	7.2 (2nd) N = 9,049 (126,510)	6.3 (2nd) N = 1,583 (25,189)	5.8 (6th) N = 1,987 (34,217)	6.7 (4th) N = 1,029 (15,421)	9.5 (2nd) N = 1,614 (17,014)

[a] n=8,382,074; [b] n=746,397; [c] n=1,367,759