

General Orthopaedic Impairments Measure 0428

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IMPORTANCE

Table 1b2a. Performance Scores for all Patients with general orthopaedic Impairments who were Discharged from Treatment in 2011-2013

Year	2011		2012		2013	
# of intake patients	40904		50534		86251	
# completed episodes	17154		22087		35804	
# of clinics	1145		1329		1942	
# of providers	2440		2615		3565	
# of states	41		45		49	
Patient FS Change						
Mean	13.95		13.91		13.23	
Standard Deviation	16.40		16.07		15.60	
Min	-76.90		-84.05		-72.24	
Max	97.45		92.27		92.27	
Quartiles	2.55	Q1	2.69	Q1	2.44	Q1
	11.49	Q2	11.49	Q2	10.59	Q2
	23.51	Q3	23.31	Q3	21.9	Q3
Deciles	-3.36	D1	-3.06	D1	-3.09	D1
	0.33	D2	0.47	D2	0.29	D2
	4.24	D3	4.42	D3	4.04	D3
	7.73	D4	7.94	D4	7.27	D4
	11.49	D5	11.49	D5	10.59	D5
	15.67	D6	15.39	D6	14.36	D6
	20.66	D7	20.36	D7	19.35	D7
	26.87	D8	26.54	D8	25.41	D8
	36.76	D9	35.81	D9	34.78	D9
Risk-Adjusted Patient FS Change - Residual						
Mean	0.38		0.88		0.41	
Standard Deviation	14.67		14.43		14.26	
Min	-73.54		-75.00		-71.76	
Max	69.27		60.85		62.05	
Quartiles	-10.05	Q1	-9.37	Q1	-9.7	Q1
	-1.2	Q2	-0.7	Q2	-1.5	Q2
	9.8	Q3	9.8	Q3	9.1	Q3
Deciles	-16.8	D1	-16.1	D1	-16.0	D1
	-12.0	D2	-11.2	D2	-11.5	D2
	-8.3	D3	-7.6	D3	-8.1	D3
	-4.9	D4	-4.1	D4	-4.9	D4
	-1.2	D5	-0.7	D5	-1.5	D5
	2.6	D6	3.0	D6	2.2	D6

	7.2	D7	7.3	D7	6.4	D7
	12.8	D8	13.1	D8	12.2	D8
	21.3	D9	21.2	D9	20.7	D9
FS Intake Measure						
Mean	51.93634		51.79794		51.19916	
Standard Deviation	14.57966		14.28385		13.7992	
Min	0.03		0.03		0.52	
Max	100		100		100	
Quartiles	42.92	Q1	43.12	Q1	42.78	Q1
	50.41	Q2	50.32	Q2	49.61	Q2
	60.02	Q3	59.14	Q3	58.36	Q3
Deciles	34.94	D1	35.69	D1	35.42	D1
	41.23	D2	41.38	D2	40.9	D2
	44.11	D3	44.21	D3	43.91	D3
	47.32	D4	47.32	D4	46.65	D4
	50.41	D5	50.32	D5	49.61	D5
	53.51	D6	53.07	D6	52.3	D6
	57.54	D7	57.22	D7	55.97	D7
	62.05	D8	62.05	D8	61.49	D8
	70.95	D9	70.48	D9	68.64	D9
FS Discharge Measure						
Mean	66.24097		65.95706		64.84065	
Standard Deviation	17.45204		17.2877		17.23659	
Min	0.52		3.85		0.96	
Max	100		100		100	
Quartiles	52.47	Q1	52.27	Q1	51.87	Q1
	65.62	Q2	65.62	Q2	63.43	Q2
	79.3	Q3	79.1	Q3	77.42	Q3
Deciles	44.35	D1	44.40	D1	43.86	D1
	50.38	D2	50.41	D2	49.12	D2
	55.03	D3	55.03	D3	53.9	D3
	60.88	D4	60.77	D4	58.41	D4
	65.62	D5	65.62	D5	63.43	D5
	70.82	D6	69.45	D6	68.01	D6
	76.46	D7	74.75	D7	73.11	D7
	84.18	D8	81.21	D8	79.63	D8
	92.13	D9	92.28	D9	92.28	D9
Clinician FS Change Score						
Mean	13.83		13.97		13.03	
Standard Deviation	12.23		11.99		10.96	
Min	-55.76		-39.46		-65.91	
Max	92.27		92.27		71.61	

Quartiles	6.21	Q1	6.73	Q1	6.31	Q1
	12.75	Q2	12.92	Q2	11.95	Q2
	19.98	Q3	19.57	Q3	18.59	Q3
Deciles	0.43	D1	0.99	D1	1.04	D1
	4.62	D2	5.28	D2	4.94	D2
	7.68	D3	7.98	D3	7.61	D3
	10.27	D4	10.63	D4	9.87	D4
	12.75	D5	12.92	D5	11.95	D5
	15.39	D6	15.23	D6	14.19	D6
	18.07	D7	17.96	D7	16.98	D7
	22.29	D8	21.53	D8	20.47	D8
	29.09	D9	28.11	D9	25.96	D9
Risk Adjusted Aggregated Clinician Residual Score						
Mean	0.13		0.80		0.25	
Standard Deviation	10.98		10.52		9.95	
Min	-57.53		-50.80		-62.87	
Max	55.23		53.90		45.02	
Quartiles	-6.57	Q1	-5.56	Q1	-5.93	Q1
	-0.4	Q2	0.1	Q2	-0.5	Q2
	6.1	Q3	6.3	Q3	5.5	Q3
Deciles	-12.4	D1	-11.1	D1	-11.0	D1
	-8.0	D2	-7.1	D2	-7.3	D2
	-5.2	D3	-4.3	D3	-4.6	D3
	-2.6	D4	-2.1	D4	-2.6	D4
	-0.4	D5	0.0	D5	-0.5	D5
	1.8	D6	2.2	D6	1.8	D6
	4.4	D7	4.7	D7	4.3	D7
	8.0	D8	8.2	D8	7.2	D8
	13.6	D9	14.3	D9	12.3	D9
Clinic FS Change Score						
Mean	14.28		14.39		13.14	
Standard Deviation	10.34		10.80		9.42	
Min	-23.35		-36.97		-65.91	
Max	60.20		92.27		71.61	
Quartiles	8.12	Q1	8.17	Q1	8.06	Q1
	13.32	Q2	13.13	Q2	12.46	Q2
	18.8	Q3	19.07	Q3	17.28	Q3
Deciles	3.52	D1	3.77	D1	3.60	D1
	6.98	D2	7.03	D2	7.09	D2
	9.24	D3	9.23	D3	8.99	D3
	11.45	D4	11.35	D4	10.75	D4
	13.32	D5	13.1	D5	12.42	D5

	15.45	D6	15.23	D6	14.25	D6
	17.52	D7	17.39	D7	16.16	D7
	20.78	D8	20.46	D8	18.66	D8
	27.71	D9	26.37	D9	23.36	D9
Risk Adjusted Aggregated Clinic Residual Score						
Mean	0.37		1.10		0.29	
Standard Deviation	9.18		9.15		8.40	
Min	-39.15		-42.32		-62.87	
Max	33.46		53.90		41.75	
Quartiles	-4.9	Q1	-4.37	Q1	-4.19	Q1
	-0.1	Q2	0.4	Q2	-0.2	Q2
	5.0	Q3	5.3	Q3	4.4	Q3
Deciles	-9.8	D1	-8.7	D1	-8.8	D1
	-6.2	D2	-5.6	D2	-5.3	D2
	-3.9	D3	-3.2	D3	-3.3	D3
	-2.1	D4	-1.5	D4	-1.7	D4
	-0.1	D5	0.3	D5	-0.2	D5
	1.7	D6	2.3	D6	1.3	D6
	3.8	D7	4.4	D7	3.3	D7
	6.7	D8	7.1	D8	5.4	D8
	11.8	D9	11.5	D9	9.7	D9

Table 1b2b. Performance Scores for Patients with general orthopaedic Impairments who were Discharged from Treatment in 2011-2013 within Ranked Clinics 2011-2013

Year	2011		2012		2013	
# of intake patients	13732		20260		36553	
# completed episodes	7315		10883		18203	
# of clinics	111		166		271	
# of providers	15		18		20	
# of states	26		30		34	
FS Intake Measure						
Mean	52.1		52.1		51.5	
Standard Deviation	14.1		13.8		13.5	
Min	1.18		0.03		0.62	
Max	100		99.81		100	
Quartiles	43.53	Q1	43.71	Q1	43.23	Q1
	50.84	Q2	50.9	Q2	50.23	Q2
	59.52	Q3	59.33	Q3	58.58	Q3
Deciles	36.49	D1	36.58	D1	36.35	D1
	41.38	D2	41.39	D2	41.38	D2
	44.92	D3	45.05	D3	44.45	D3

	47.87	D4	48	D4	47.26	D4
	50.84	D5	50.89	D5	50.22	D5
	53.44	D6	53.43	D6	52.8	D6
	57.46	D7	57.44	D7	56.36	D7
	62.05	D8	62.05	D8	61.71	D8
	70.53	D9	68.83	D9	68.53	D9
FS Discharge Measure						
Mean	65.9		65.9		65.4	
Standard Deviation	17.1		16.9		17.1	
Min	0.52		7.38		0.96	
Max	100		100		100	
Quartiles	52.68	Q1	52.64	Q1	51.97	Q1
	65.44	Q2	65.44	Q2	64.07	Q2
	79.1	Q3	79.01	Q3	77.88	Q3
Deciles	44.56	D1	45.35	D1	44.59	D1
	50.88	D2	51.05	D2	50.11	D2
	55.03	D3	55.03	D3	54.48	D3
	60.57	D4	60.86	D4	59.33	D4
	65.44	D5	65.44	D5	64.07	D5
	69.44	D6	68.83	D6	68.53	D6
	74.58	D7	74.41	D7	73.25	D7
	81.21	D8	79.63	D8	79.75	D8
	92.08	D9	92.13	D9	92.28	D9
Patient FS Change						
Mean	13.42		13.53		13.47	
Standard Deviation	15.90		15.51		15.36	
Min	-55.42		-58.02		-51.01	
Max	92.27		92.27		92.27	
Quartiles	2.45	Q1	2.71	Q1	2.67	Q1
	10.96	Q2	11.12	Q2	11.07	Q2
	22.47	Q3	22.57	Q3	22	Q3
Deciles	-3.61	D1	-2.95	D1	-2.86	D1
	0.31	D2	0.69	D2	0.75	D2
	4.07	D3	4.41	D3	4.3	D3
	7.43	D4	7.74	D4	7.57	D4
	10.96	D5	11.12	D5	11.07	D5
	14.84	D6	14.89	D6	14.54	D6
	19.9	D7	19.67	D7	19.42	D7
	25.96	D8	25.96	D8	25.55	D8
	35.16	D9	34.73	D9	34.97	D9
Risk-Adjusted Patient FS Change - Residual						
Mean	0.07		0.70		0.67	

Standard Deviation	14.37		14.15		14.15	
Min	-64.02		-60.46		-55.29	
Max	51.70		56.00		55.29	
Quartiles	-10.01	Q1	-9.26	Q1	-9.54	Q1
	-1.55	Q2	-0.89	Q2	-1.1865	Q2
	9.17	Q3	9.47	Q3	9.19	Q3
Deciles	-16.94	D1	-15.97	D1	-15.81	D1
	-11.99	D2	-11.10	D2	-11.35	D2
	-8.39	D3	-7.51	D3	-7.75	D3
	-5.10	D4	-4.29	D4	-4.51	D4
	-1.56	D5	-0.89	D5	-1.19	D5
	2.13	D6	2.71	D6	2.43	D6
	6.64	D7	6.93	D7	6.60	D7
	12.06	D8	12.54	D8	12.43	D8
	20.59	D9	20.82	D9	21.10	D9
Clinician FS Change Score						
Mean	12.21		13.08		14.87	
Standard Deviation	3.71		4.73		4.49	
Min	7.53		6.31		7.43	
Max	21.56		23.63		24.40	
Quartiles	10.23	Q1	8.84	Q1	11.92	Q1
	10.78	Q2	12.44	Q2	13.61	Q2
	14.51	Q3	14.45	Q3	16.38	Q3
Deciles	7.75	D1	6.49	D1	8.03	D1
	7.83	D2	8.06	D2	10.21	D2
	8.58	D3	8.84	D3	11.92	D3
	10.23	D4	10.62	D4	12.33	D4
	10.43	D5	11.04	D5	12.65	D5
	10.52	D6	12.44	D6	13.61	D6
	10.69	D7	13.14	D7	15.63	D7
	10.78	D8	13.78	D8	16.32	D8
	11.34	D9	14.45	D9	16.38	D9
Risk Adjusted Aggregated Clinician Residual Score						
Mean	-1.63		0.20		2.17	
Standard Deviation	3.68		4.68		4.90	
Min	-6.92		-7.79		-5.13	
Max	8.13		11.38		11.77	
Quartiles	-4.77	Q1	-4.15	Q1	-1.77	Q1
	-2.13	Q2	-0.68	Q2	0.98	Q2
	0.40	Q3	1.98	Q3	4.65	Q3
Deciles	-6.63	D1	-5.11	D1	-4.60	D1

	-4.98	D2	-4.35	D2	-2.39	D2
	-4.88	D3	-4.15	D3	-1.77	D3
	-4.77	D4	-1.76	D4	-1.43	D4
	-3.48	D5	-1.06	D5	-1.01	D5
	-3.02	D6	-0.68	D6	0.98	D6
	-2.76	D7	-0.37	D7	2.61	D7
	-2.13	D8	0.57	D8	3.00	D8
	-1.12	D9	1.98	D9	4.65	D9
Clinic FS Change Score						
Mean	13.35		13.50		13.31	
Standard Deviation	4.65		4.74		4.18	
Min	4.65		3.60		4.92	
Max	39.83		38.01		30.40	
Quartiles	10.46	Q1	10.43	Q1	10.75	Q1
	12.65	Q2	12.84	Q2	12.7	Q2
	15.3	Q3	15.66	Q3	15.33	Q3
Deciles	8.50	D1	8.08	D1	7.91	D1
	10.1	D2	9.83	D2	10.14	D2
	11.2	D3	10.83	D3	11.16	D3
	11.92	D4	11.8	D4	12.14	D4
	12.69	D5	12.81	D5	12.86	D5
	13.73	D6	13.76	D6	13.91	D6
	14.96	D7	14.79	D7	14.99	D7
	16.16	D8	16.27	D8	16.21	D8
	17.73	D9	18.58	D9	18.85	D9
Risk Adjusted Aggregated Clinic Residual Score						
Mean	0.01		0.68		0.50	
Standard Deviation	4.37		4.32		4.09	
Min	-7.59		-10.26		-9.74	
Max	21.57		18.65		15.55	
Quartiles	-3.05	Q1	-2.38	Q1	-2.27	Q1
	-0.40	Q2	0.23	Q2	0.10	Q2
	2.28	Q3	3.04	Q3	2.56	Q3
Deciles	-4.74	D1	-3.94	D1	-4.24	D1
	-3.74	D2	-2.78	D2	-2.67	D2
	-2.34	D3	-1.97	D3	-1.71	D3
	-1.53	D4	-1.12	D4	-0.93	D4
	-0.30	D5	0.10	D5	0.11	D5
	0.56	D6	1.07	D6	0.92	D6
	1.72	D7	2.06	D7	1.95	D7
	3.08	D8	3.42	D8	3.45	D8
	4.94	D9	5.27	D9	5.61	D9

Table 1b.4a Disparities Data Years 2011-2013

Year	2011		2012		2013	
# of intake patients	40904		50534		86251	
# completed episodes	17154		22087		35804	
# of clinics	1145		1329		1942	
# of providers	2440		2615		3565	
# of states	41		45		49	
Race Question						
# answered	1612		1442		917	
White	1323	82.07%	1165	80.79%	729	79.50%
Black/African American	134	8.31%	107	7.42%	106	11.56%
Asian or Pacific Islander	23	1.43%	39	2.70%	17	1.85%
American Indian, Aleut, Eskimo	10	0.62%	17	1.18%	7	0.76%
Other	122	7.57%	114	7.91%	58	6.32%
Gender	40903		50532		86248	
Male	13717	33.54%	16992	33.63%	29415	34.11%
Female	27186	66.46%	33540	66.37%	56833	65.89%
Average Age	52.1		52.4		53.9	
Standard Deviation	15.9		16.1		16.4	
Min	14		14		14	
Max	108		108		100	
14-19	545	2.12%	717	2.24%	985	2.09%
20-29	1757	6.83%	2209	6.92%	2957	6.27%
30-39	3378	13.14%	4024	12.60%	5433	11.51%
40-49	5564	21.64%	6567	20.56%	8791	18.63%
50-59	6074	23.62%	7516	23.53%	10898	23.09%
60-69	4581	17.81%	6002	18.79%	9326	19.76%
70-79	2744	10.67%	3563	11.15%	6291	13.33%
80-89	993	3.86%	1240	3.88%	2294	4.86%
90-99	79	0.31%	106	0.33%	212	0.45%
100-109	2	0.01%	1	0.00%	2	0.00%
	25717		31945		47189	
Payer Source						
# Answered	40800		50475		86251	
Indemnity Insurance	797	1.95%	959	1.90%	1250	1.45%
Litigation	382	0.94%	458	0.91%	579	0.67%
Medicaid	1919	4.70%	2287	4.53%	3283	3.81%
Medicare A	1109	2.72%	1396	2.77%	1095	1.27%
Medicare B	6633	16.26%	8583	17.00%	20734	24.04%
Patient	473	1.16%	634	1.26%	1091	1.26%
HMO	4934	12.09%	5651	11.20%	9846	11.42%

Preferred Provider	16232	39.78%	20136	39.89%	32557	37.75%
Workers Comp	2448	6.00%	2942	5.83%	4490	5.21%
No Fault	266	0.65%	375	0.74%	948	1.10%
Other	4136	10.14%	5017	9.94%	6758	7.84%
Early Intervention	1	0.00%	2	0.00%	4	0.00%
School	4	0.01%	2	0.00%	11	0.01%
No Charge	50	0.12%	72	0.14%	114	0.13%
Auto Insurance	1384	3.39%	1879	3.72%	3351	3.89%
Medicare C	32	0.08%	82	0.16%	140	0.16%
Education						
Desktop Version of PI - Education Responses						
# Answered	624		328		81	
1st - 8th grade	13	2.08%	3	0.91%	3	3.70%
Some high school	44	7.05%	12	3.66%	1	1.23%
High school diploma	191	30.61%	90	27.44%	33	40.74%
GED or equivalent	38	6.09%	12	3.66%	7	8.64%
Some college but no degree	142	22.76%	79	24.09%	15	18.52%
College degree (undergraduate)	118	18.91%	88	26.83%	16	19.75%
Postgraduate course work but no advanced degree	20	3.21%	15	4.57%	5	6.17%
Postgraduate degree (college Masters, Doctorate of Professional)	58	9.29%	29	8.84%	1	1.23%
WEB Version of PI - Education Responses						
# Answered	953		1088		821	
Less Than 1st Grade	0	0.00%	13	1.19%	2	0.24%
1st, 2nd, 3rd Or 4th Grade	1	0.10%	4	0.37%	9	1.10%
5th Or 6th Grade	5	0.52%	5	0.46%	6	0.73%
7th Or 8th Grade	12	1.26%	11	1.01%	9	1.10%
9th Grade	8	0.84%	13	1.19%	12	1.46%
10th Grade	13	1.36%	27	2.48%	18	2.19%
11th Grade	22	2.31%	13	1.19%	21	2.56%
12th Grade No Diploma	26	2.73%	24	2.21%	33	4.02%
High School Grad-Diploma or Equiv (GED)	161	16.89%	199	18.29%	141	17.17%
Some College But No Degree	209	21.93%	206	18.93%	167	20.34%
Associate Degree-Occupational/Vocational	52	5.46%	73	6.71%	39	4.75%
Associate Degree-Academic Program	60	6.30%	59	5.42%	46	5.60%
Bachelor's Degree(ex:ba, ab, bs)	239	25.08%	258	23.71%	189	23.02%
Master's Degree(ex:MA, MS, MEng, MEd, MSW)	96	10.07%	138	12.68%	101	12.30%
Professional School Deg(ex:MD, DDS, DVM)	26	2.73%	20	1.84%	15	1.83%
Doctorate Degree(ex:PhD, EdD)	23	2.41%	25	2.30%	13	1.58%
Income						
# Answered	1227		1204		703	

\$10,000 - 25,000	208	16.95%	182	15.12%	132	18.78%
\$25,000 - 50,000	288	23.47%	251	20.85%	157	22.33%
\$50,000 - 75,000	250	20.37%	286	23.75%	132	18.78%
\$75,000 - 100,000	172	14.02%	215	17.86%	117	16.64%
Over \$100,000	309	25.18%	270	22.43%	165	23.47%

Table 1.5. Measured Entities by level of analysis and Data Source

Table 1.5 Measured Entities by level of analysis and Data Source					
Analysis	Data source (years)	Entities tested			
		Patients	Clinicians	Clinics	States
a. Test-retest reliability	2008-2010	41	NR+	10	8
b. Construct validity	2008-2010	7751	NR+	633	26
c. Sensitivity to change	2008-2010	7751	NR+	633	26
d. Responsiveness	2008-2010	7751	NR+	633	26
e Exclusions analysis	2011-2013	79079	8,596	2239	48
f. Risk adjustment modeling	2000-2003	306,556	3447	552	40
g. Performance patient level	2008-2010	7751	NR+	633	26
h. Performance individual clinician level	2011-2013				
	2011	9276	556	332	35
	2012	11609	684	406	36
	2013	23181	1365	744	44
i. Performance clinic/group practice level	2011-2013				
	2011	10133	885	214	31
	2012	12581	1038	261	34
	2013	25028	1810	511	41
j. Missing data	2011-2013				
	2011	41669	4511	1316	41
	2012	50371	5353	1475	45
	2013	86649	8444	2234	50
+ NR=not reported					
*Clinicians with 10+ patients with FS measures at intake & discharge.					
**Clinics with 10+ patient per clinician for small clinics (up to 4 clinicians) or 40+ patients for large clinics (5 or more clinicians), with FS measures at intake & discharge					

Table 1.6a Characteristics of patients in test-retest reliability analysis

Gender F	68%
Intake FS	61
Age	40 yr
Surgery	48%
Comorbidities	
None	35%
1	36%
2 or 3	16%
4 or more	13%
Fear	72%
Payer	
Medicare B	5%
Patient	0%
HMO	55%
PPO	33%
WC	7%
Other	0%

Table 1.6c Characteristics of patients in analyses d-f (sample 1)

	mean	SD	min	max
Intake FS	52	17	4	95
Discharge FS	66	18	7	100
FSCH	14	18	-71	85
Risk-adjusted FSCH Predicted	14	4	-4	26
Risk-adjusted FSCH Residual	0	15	-64	45
Age (mean±SD, min, max in years)	53	15	18	96
Age Category (%)				
Age 45 to 65	29			
Age >65 to 75	46			
Age >75	16			
Missing	9			
Female (%)	67			
Acuity of Symptoms (%)				
Acute (0 to 21 days)	22			
Subacute (22-90 days)	25			
Chronic (>90 days)	53			
Missing	0			
Surgical History (%)				
None	88			
One or more	12			
Missing	0			
Payer Source (%)				
Indemnity Insurance	3			
Litigation	1			
Medicaid	1			
Medicare A	5			
Medicare B	17			
Patient private pay	1			
Health Maintenance Organization	10			
Preferred Provider Organization	42			
Workers' Comp	6			
Auto Insurance	2			
Other	12			
Missing	0			
Number of Functional Comorbidities (%)				
None	24			
One	25			
Two	21			
Three or more	30			
Missing	0			
Fear of Avoidance				
No fear	51			
Intimidated	49			
Missing	0			

Table 2b3.2a Sensitivity analysis of exclusion criteria for age: Comparison of beta coefficients and R² of risk adjustment models predicting FS at discharge (Data combined 2011-2013)

Variable	Sample includes patients 14+ N=79079		Sample includes patients 18+ N=78068	
	Beta, CI	P	Beta, CI	P
Constant	50.8, 49.93 to 51.58	P<0.001	50.4, 49.54 to 51.22	P<0.001
Intake FS	0.6, 0.59 to 0.61	P<0.001	0.6, 0.60 to 0.61	P<0.001
Age (continuous)	(-)0.1, (-)0.08 to (-)0.07	P<0.001	(-)0.1, (-)0.08 to (-)0.06	P<0.001
Acuity:				
0-7 days (REF)				
8-14 days	(-)2.4, (-)2.98 to (-)1.81	P<0.001	(-)2.3, (-)2.92 to (-)1.74	P<0.001
15-21 days	(-)3.5, (-)4.10 to (-)2.96	P<0.001	(-)3.5, (-)4.07 to (-)2.92	P<0.001
22-90 days	(-)5.8, (-)6.33 to (-)5.33	P<0.001	(-)5.8, (-)6.28 to (-)5.27	P<0.001
91 days to 6 months	(-)8.0, (-)8.56 to (-)7.48	P<0.001	(-)7.9, (-)8.48 to (-)7.40	P<0.001
Over 6 months	(-)10.3, (-)10.78 to (-)9.79	P<0.001	(-)10.2, (-)10.72 to (-)9.71	P<0.001
Gender:				
Male (REF)				
Female	(-)1.0, (-)1.19 to (-)0.77	P<0.001	(-)0.9, (-)1.16 to (-)0.73	P<0.001
Payer:				
Indemnity	0.0, (-)0.85 to 0.81	0.960	0.0, (-)0.87 to 0.80	0.936
Insurance				
Litigation	(-)2.8, (-)3.98 to (-)1.70	P<0.001	(-)2.9, (-)4.02 to (-)1.73	P<0.001
Medicaid	(-)2.8, (-)3.37 to (-)2.15	P<0.001	(-)2.9, (-)3.54 to (-)2.29	P<0.001
Medicare A	(-)0.5, (-)1.19 to 0.27	0.218	(-)0.5, (-)1.24 to 0.22	0.169
Medicare B	(-)0.5, (-)0.82 to (-)0.19	0.002	(-)0.6, (-)0.88 to (-)0.25	P<0.001
Patient	0.1, (-)0.95 to 1.07	0.903	0.0, (-)1.05 to 0.99	0.948
HMO	0.1, (-)0.20 to 0.49	0.409	0.2, (-)0.20 to 0.50	0.396
Preferred Provider (REF)				
Workers Comp	(-)5.9, (-)6.36 to (-)5.46	P<0.001	(-)5.9, (-)6.31 to (-)5.41	P<0.001
No Fault	(-)5.9, (-)7.00 to (-)4.89	P<0.001	(-)5.9, (-)6.96 to (-)4.84	P<0.001
Other	(-)0.4, (-)0.75 to 0.01	0.053	(-)0.3, (-)0.72 to 0.04	0.083
Early Intervention	19.6, 3.42 to 35.69	0.018	19.5, 3.41 to 35.66	0.018
School	2.9, (-)6.95 to 12.81	0.561	3.0, (-)6.87 to 12.88	0.551
No Charge	(-)1.4, (-)4.12 to 1.34	0.319	(-)1.3, (-)4.09 to 1.39	0.335
Auto Insurance	(-)2.9, (-)3.42 to (-)2.37	P<0.001	(-)2.9, (-)3.40 to (-)2.34	P<0.001
Medicare C	1.2, (-)1.29 to 3.66	0.349	1.1, (-)1.35 to 3.60	0.372
Surgical history:				
No surgery (REF)				
1 or more surgeries	(-)3.5, (-)3.81 to (-)3.19	P<0.001	(-)3.5, (-)3.80 to (-)3.18	P<0.001
Fear Avoidance-Physical:				
Not Elevated (REF)				
Elevated	(-)0.9, (-)1.13 to (-)0.72	P<0.001	(-)1.0, (-)1.17 to (-)0.75	P<0.001
Number of comorbidities:				

None (REF)				
One	(-)1.3, (-)1.78 to (-)0.85	P<0.001	(-)1.3, (-)1.81 to (-)0.87	P<0.001
Two	(-)2.2, (-)2.59 to (-)1.74	P<0.001	(-)2.1, (-)2.58 to (-)1.72	P<0.001
Three or more	(-)4.2, (-)4.60 to (-)3.87	P<0.001	(-)4.2, (-)4.60 to (-)3.86	P<0.001
Model R²	0.320		0.319	

Table 2b5.2b Distribution of Clinician Performance Categories by Year

Year	Performance level	N Clinicians (%)
2011	Low performance	59 (10.6)
	Average performance	412 (74.1)
	High performance	85 (15.3)
	Total	556 (100.0)
2012	Low performance	79 (11.5)
	Average performance	513 (75.0)
	High performance	92 (13.5)
	Total	684 (100.0)
2013	Low performance	192 (14.1)
	Average performance	1028 (75.3)
	High performance	145 (10.6)
	Total	1365 (100.0)

Table 2b5.2c Distribution of Clinic Performance Categories by Year

Year	Performance level	N Clinics (%)
2011	Low performance	38 (17.8)
	Average performance	129 (60.3)
	High performance	47 (22.0)
	Total	214 (100.0)
2012	Low performance	43 (16.5)
	Average performance	167 (64.0)
	High performance	51 (19.5)
	Total	261 (100.0)
2013	Low performance	105 (20.5)
	Average performance	340 (66.5)
	High performance	66 (12.9)
	Total	511 (100.0)

Figure 2b52a. Plot of aggregated residual scores with 95% CI bars in 2013

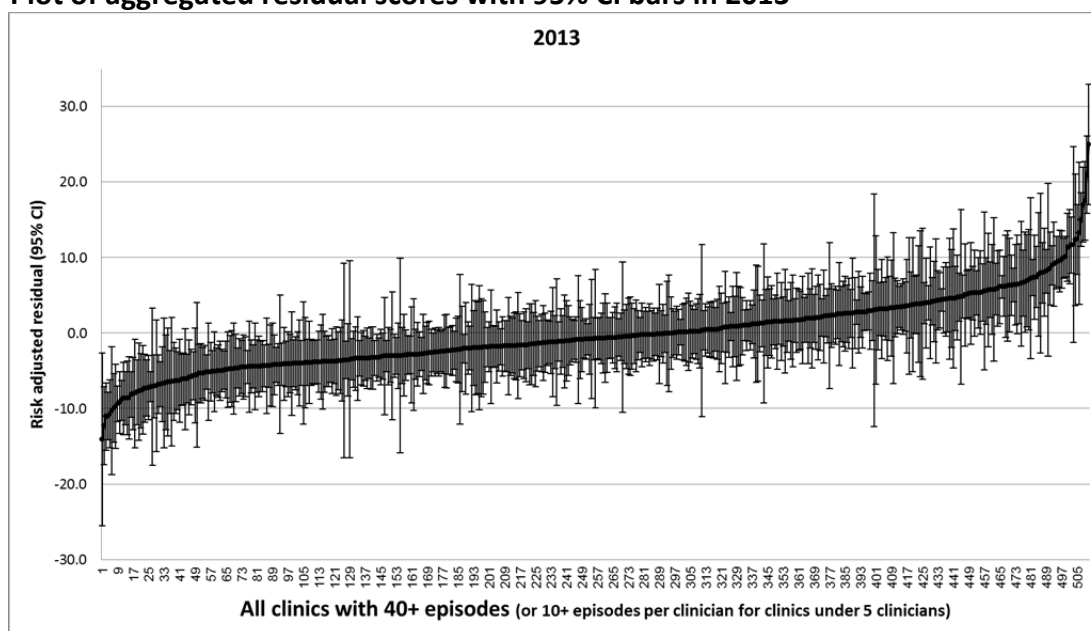


Table 2b7.1 MISSING DATA ANALYSIS AND MINIMIZING BIAS

	Year	Complete data (group 1)			Missing data (groups 2&3)			P-value
		Total N	% missing		Total N	% missing		
Factors higher or more prevalent in patients with complete data								
Age (years): Mean(SD)	2011	52.9 (16.2)	18510	0.0%	49.9 (15.5)	10193	0.0%	<.001
	2012	53.3 (16.2)	22789	0.0%	50.1 (15.7)	14018	0.0%	<.001
	2013	54.9 (16.5)	40062	0.0%	51.0 (15.9)	26257	0.0%	<.001
Payer: Medicare B age 60 or more	2011	17.1%	18428	0.4%	11.4%	10174	0.2%	<.001
	2012	17.6%	22743	0.2%	11.8%	14009	0.1%	<.001
	2013	24.6%	40062	0.0%	15.4%	26257	0.0%	<.001
Factors higher or more prevalent in patients with missing data								
Acuity: Chronic - over 3 months	2011	50.4%	18500	0.1%	54.9%	10186	0.1%	<.001
	2012	51.0%	22780	0.0%	54.0%	14015	0.0%	<.001
	2013	51.5%	40014	0.1%	54.4%	26202	0.2%	<.001
Payer: Medicaid	2011	3.3%	18428	0.4%	6.2%	10174	0.2%	<.001
	2012	3.3%	22743	0.2%	6.1%	14009	0.1%	<.001
	2013	2.6%	40062	0.0%	5.0%	26257	0.0%	<.001
Factors with similar values or prevalence between patients with complete or missing data								
Intake FS: Mean(SD)	2011	52.3 (14.0)	18510	0.0%	51.7 (14.5)	10193	0.0%	0.003
	2012	52.0 (13.8)	22789	0.0%	51.4 (14.4)	14018	0.0%	<.001
	2013	51.4 (13.3)	40062	0.0%	51.1 (14.0)	26257	0.0%	<.001
Number of comorbidities: Mean(SD)	2011	4.0 (2.9)	18478	0.2%	4.1 (3.0)	10173	0.2%	0.004
	2012	3.9 (3.0)	22776	0.1%	4.0 (3.1)	14015	0.0%	0.002
	2013	4.4 (3.2)	40057	0.0%	4.4 (3.3)	26255	0.0%	0.079

Gender (Female)	2011	66.1%	18510	0.0%	66.4%	10192	0.0%	0.623
	2012	66.3%	22789	0.0%	66.6%	14018	0.0%	0.597
	2013	65.9%	40062	0.0%	65.5%	26257	0.0%	0.214
Surgical history: 1 or more	2011	12.5%	18223	1.6%	12.7%	10058	1.3%	0.551
	2012	13.0%	22599	0.8%	13.0%	13913	0.7%	0.956
	2013	13.0%	39996	0.2%	12.6%	26203	0.2%	0.097
Payer: Medicare B age under 60	2011	1.9%	18428	0.4%	2.4%	10174	0.2%	0.003
	2012	2.0%	22743	0.2%	2.9%	14009	0.1%	<.001
	2013	3.0%	40062	0.0%	3.9%	26257	0.0%	<.001
Exercise history: 1 or more / week	2011	67.5%	18013	2.7%	65.8%	9963	2.3%	0.003
	2012	68.2%	22422	1.6%	67.2%	13848	1.2%	0.039
	2013	66.5%	39967	0.2%	65.0%	26199	0.2%	<.001
High Fear Avoidance at intake (Physical)	2011	68.8%	18200	1.7%	68.4%	10011	1.8%	0.502
	2012	63.2%	22535	1.1%	62.7%	13893	0.9%	0.316
	2013	58.7%	39794	0.7%	58.9%	26095	0.6%	0.595
Difference not supporting potential for selection bias								
Differences supporting potential for selection bias								
Differences interpreted as not clinically important								

Table 2b7.2 a Summary of FS Data Collection at Admission and Discharge

Year at episode start	Patients at admission N= 182121 Women: 66.2 % Age (Mn; SD; Range): 52.4; 16.2; 14-113		Patients after 6 months from admission N=178689			
			Has DC FS + N (%)	Reason for Missing FS at DC N (%)		
	FS N (%)	FS missing* (NPA) N (%)	% represents CR	Open episode	NPA at DC	Unknown
2011	41669 (99.5)	211 (0.5)	18510 (44.4)	12966 (31.1)	1243 (3.0)	8950 (21.5)
2012	50371 (97.8)	1137 (2.2)	22789 (45.2)	13564 (26.9)	4798 (9.5)	9220 (18.3)
2013	86649 (97.7)	2084 (2.3)	40062 (46.2)	20330 (23.5)	13991 (16.1)	12266 (14.2)
Total	178689 (98.1)	3432 (1.9)	81361 (45.5)	46860 (26.2)	20032 (11.2)	30436 (17.0)

+Only data from closed episodes with status/discharge FS are included in the aggregate dataset for calculation of risk adjustment coefficients.

*FS missing at intake with NPA completed indicating reason for missing data

CR = Completion rate = Number of discharged patients who had FS at DC/ Number of patients who had FS at intake, includes episodes that are still "open".

Table 2b7.2 b Mean and SD of of average number of patients in clinics (all clinics):

Year	N Clinics	Patients with intake FS data Mean N (SD)	Has DC FS		Does not have DC FS Mean N (sd)
			Mean N (SD)	Mean CR(SD)	
2011	1316	31.7 (42.4)	14.1 (21.4)	44.3 (31.1)	17.6 (25.7)
2012	1475	34.1 (45.2)	15.5 (23.7)	47.3 (30.8)	18.7 (26.7)
2013	2234	38.8 (50.1)	17.9 (26.3)	44.8 (28.0)	20.9 (28.3)

CR = Completion rate = Number of discharged patients who had FS at DC/ Number of patients who had FS at intake, includes episodes that are still "open".

Table 2b7.2c Mean and SD of average number of patients in clinics with 40+ complete episodes per year (or 10+ complete episodes per clinician for clinics under 5 clinicians):

Year	N Clinics	Patients with intake FS data Mean N (SD)	Has DC FS		Does not have DC FS Mean N (sd)
			Mean N (SD)	Mean CR(SD)	
2011	214	86.8 (63.9)	47.4 (32.8)	58.9 (17.6)	39.4 (38.7)
2012	261	88.6 (67.9)	48.2 (37.9)	58.8 (17.8)	40.4 (38.9)
2013	511	90.0 (72.2)	49.0 (38.0)	59.2 (16.7)	41.0 (40.4)

CR = Completion rate = Number of discharged patients who had FS at DC/ Number of patients who had FS at intake, includes episodes that are still "open".

Table 2b7.2 d Relationship between Clinic Aggregated Residual Score and Clinic Completion Rate (CR)

Pearson Correlations (r)			Clinic CR
2011	Residual	r	.093
		Sig. (2-tailed)	.174
		N clinics	214
2012	Residual	r	.139
		Sig. (2-tailed)	.025
		N clinics	261
2013	Residual	r	0.069
		Sig. (2-tailed)	.118
		N clinics	511

Table 2b7.2e Average residuals at the clinic level by completion rate categories

Year	CR category	Mean residuals	N clinics	Std. Deviation
2011	Lowest to <10	3.3*	1	.
	10 to <20	1.1*	3	10.12945
	20 to <30	3.7*	8	4.4

	30 to <40	.6	17	5.2
	40 to <50	1.3	40	4.0
	50 to <60	-.4	43	5.1
	60 to <70	-.1	45	4.8
	70 to <80	1.5	33	5.7
	80 to <90	4.0	15	4.7
	90 to Highest	4.8	9	8.0
	Total	1.1	214	5.2
2012	Lowest to <10	.4*	1	.
	10 to <20	-5.0*	1	.
	20 to <30	2.2*	7	3.9
	30 to <40	.2	32	4.9
	40 to <50	1.5	36	5.3
	50 to <60	.0	64	4.5
	60 to <70	.6	51	4.9
	70 to <80	.0	36	3.9
	80 to <90	.9	19	4.6
	90 to Highest	7.3	14	10.0
	Total	.9	261	5.3
2013	10 to <20	-2.2*	3	4.6
	20 to <30	1.6	15	5.7
	30 to <40	1.0	44	4.1
	40 to <50	-.6	89	4.8
	50 to <60	-1.1	121	4.1
	60 to <70	-.8	104	4.4
	70 to <80	-.1	79	5.2
	80 to <90	-.1	37	4.2
	90 to Highest	4.4	19	7.7
	Total	-.3	511	4.8
CR = Completion rate = Number of discharged patients who had FS at DC/ Number of patients who had FS at intake, includes episodes that are still "open".				
* Average residuals for CR categories that had less than 10 clinics				