

ELBOW WRIST HAND MEASURE 0427

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IMPORTANCE

Table 1b2a. "Performance Scores for all Patients with Elbow, Wrist and Hand Impairments who were Discharged from Treatment in 2011-2013

Care Type / Body Part	Orthopedic / Elbow, Wrist, Hand					
Year	2011		2012		2013	
# of intake patients	31255		37272		62512	
# completed episodes	12687		16651		20820	
# of clinics	1063		1261		1717	
# of providers	1891		2119		2550	
# of states	39		44		48	
FS Intake Measure						
Mean	50.0545924		50.41354		48.92658	
Standard Deviation	11.4036878		11.24186		16.0957	
Min	7.38		10.1		2.3	
Max	94.56		94.56		97.96	
Quartiles	44.76	Q1	45.28	Q1	38.30	Q1
	50.3	Q2	50.44	Q2	48.81	Q2
	56.35	Q3	56.05	Q3	60.21	Q3
Deciles	38.12	D1	39.01	D1	29.61	D1
	43.49	D2	44.22	D2	36.66	D2
	46.3	D3	46.33	D3	40.2	D3
	48.02	D4	48.78	D4	43.92	D4
	50.3	D5	50.44	D5	48.81	D5
	52.5	D6	52.57	D6	53.27	D6
	55.2	D7	54.94	D7	58.05	D7
	57.59	D8	57.59	D8	62.11	D8
	61.21	D9	62.06	D9	68.92	D9
FS Discharge Measure						
Mean	61.5482052		61.62197		66.80673	
Standard Deviation	11.1745594		11.15095		15.36128	
Min	19.58		19.51		2.3	
Max	94.89		94.35		97.96	
Quartiles	54.16	Q1	54.01	Q1	57.63	Q1
	59.48	Q2	59.48	Q2	67.08	Q2
	70.18	Q3	70.4	Q3	75.74	Q3
Deciles	48.51	D1	49.00	D1	45.80	D1
	52.56	D2	52.56	D2	54.38	D2
	55.24	D3	55.2	D3	60	D3
	57.56	D4	57.21	D4	63.77	D4
	59.46	D5	59.48	D5	67.08	D5
	62.24	D6	62.81	D6	70.52	D6
	65.61	D7	65.61	D7	74.06	D7
	71.26	D8	73.03	D8	79.79	D8

	79.14	D9	79.5	D9	89.07	D9
Patient FS Change						
Mean	12.01		11.83		18.49	
Standard Deviation	12.19		11.95		16.22	
Min	-40.51		-56.08		-57.73	
Max	84.53		62.30		95.66	
Quartiles	3.07	Q1	3.12	Q1	6.83	Q1
	9.68	Q2	9.59	Q2	16.69	Q2
	19.29	Q3	18.87	Q3	28.73	Q3
Deciles	-0.06	D1	-0.34	D1	0.00	D1
	1.76	D2	1.86	D2	4.72	D2
	4.46	D3	4.47	D3	8.85	D3
	7.04	D4	7.07	D4	12.61	D4
	9.67	D5	9.59	D5	16.69	D5
	12.96	D6	12.77	D6	21.23	D6
	16.84	D7	16.48	D7	25.8	D7
	21.71	D8	21.66	D8	31.39	D8
	29.03	D9	28.6	D9	39.85	D9
Risk-Adjusted Patient FS Change - Residual						
Mean	0.37		0.51		0.43	
Standard Deviation	9.95		9.86		13.20	
Min	-41.99		-47.96		-65.85	
Max	45.82		37.24		47.01	
Quartiles	-6.67	Q1	-6.47	Q1	-8.11	Q1
	-1.11109	Q2	-0.98851	Q2	0.16918	Q2
	6.82266	Q3	6.7752	Q3	8.58043	Q3
Deciles	-11.09	D1	-10.65	D1	-16.26	D1
	-7.96134	D2	-7.69774	D2	-10.3404	D2
	-5.4844	D3	-5.3742	D3	-6.08302	D3
	-3.32041	D4	-3.29307	D4	-2.84195	D4
	-1.1167	D5	-0.98839	D5	0.16918	D5
	1.42796	D6	1.54618	D6	3.21259	D6
	4.66755	D7	4.71846	D7	6.62496	D7
	9.21761	D8	9.29605	D8	10.95238	D8
	14.79225	D9	14.96659	D9	17.60319	D9
Clinician FS Change Score						
Mean	11.40		11.51		17.62	
Standard Deviation	9.09		9.17		12.25	
Min	-31.50		-36.50		-32.02	
Max	64.67		59.15		79.25	
Quartiles	5.52	Q1	5.53	Q1	9.90	Q1
	10.31	Q2	10.54	Q2	17.08	Q2

	16.28	Q3	16.16	Q3	24.14	Q3
Deciles	0.99	D1	1.49	D1	2.97	D1
	4.23	D2	4.37	D2	7.96	D2
	6.57	D3	6.79	D3	11.34	D3
	8.57	D4	8.62	D4	14.35	D4
	10.3	D5	10.54	D5	17.07	D5
	12.27	D6	12.46	D6	19.59	D6
	14.8	D7	14.82	D7	22.42	D7
	17.9	D8	17.8	D8	26	D8
	22.31	D9	22.83	D9	32.31	D9
Risk Adjusted Aggregated Clinician Residual Score						
Mean	0.20		0.69		0.55	
Standard Deviation	7.88		7.87		10.37	
Min	-35.73		-47.06		-56.91	
Max	30.39		31.49		42.11	
Quartiles	-4.77	Q1	-4.38	Q1	-5.38	Q1
	-0.50192	Q2	-0.08834	Q2	0.39554	Q2
	4.67066	Q3	4.88531	Q3	6.10883	Q3
Deciles	-8.85	D1	-8.29	D1	-11.75	D1
	-5.85516	D2	-5.27615	D2	-6.9649	D2
	-3.7248	D3	-3.47512	D3	-4.00739	D3
	-2.20645	D4	-1.73702	D4	-1.58478	D4
	-0.51092	D5	-0.09664	D5	0.37285	D5
	1.16794	D6	1.61311	D6	2.34683	D6
	3.3464	D7	3.64347	D7	4.75221	D7
	6.34097	D8	6.47558	D8	7.56022	D8
	10.66368	D9	11.03594	D9	12.97427	D9
Clinic FS Change Score						
Mean	11.60		11.69		17.65	
Standard Deviation	7.69		7.58		9.73	
Min	-19.20		-11.04		-26.53	
Max	58.43		56.08		79.25	
Quartiles	6.75	Q1	6.83	Q1	12.17	Q1
	10.69	Q2	10.98	Q2	17.25	Q2
	15.41	Q3	15.22	Q3	22.35	Q3
Deciles	3.05	D1	3.39	D1	6.59	D1
	5.64	D2	5.76	D2	10.64	D2
	7.66	D3	7.58	D3	13.2	D3
	9.25	D4	9.54	D4	15.42	D4
	10.66	D5	10.97	D5	17.25	D5
	12.07	D6	12.34	D6	19.1	D6
	14.02	D7	14.26	D7	21.02	D7

	16.61	D8	16.5	D8	24.16	D8
	20.71	D9	20.28	D9	27.91	D9
Risk Adjusted Aggregated Clinic Residual Score						
Mean	0.34		0.60		0.46	
Standard Deviation	6.84		6.71		8.36	
Min	-35.63		-29.06		-55.01	
Max	28.21		28.00		41.31	
Quartiles	-3.76	Q1	-3.44	Q1	-3.83	Q1
	-0.3539	Q2	0.14194	Q2	0.24517	Q2
	4.12892	Q3	4.01942	Q3	4.69003	Q3
Deciles	-7.31	D1	-7.11	D1	-9.17	D1
	-4.78767	D2	-4.28626	D2	-4.87974	D2
	-2.91504	D3	-2.578	D3	-2.79351	D3
	-1.70858	D4	-1.18375	D4	-1.02406	D4
	-0.37723	D5	0.12027	D5	0.24517	D5
	1.06805	D6	1.55647	D6	1.82178	D6
	2.94865	D7	3.03632	D7	3.54927	D7
	4.95688	D8	5.24023	D8	6.00305	D8
	8.46983	D9	8.74443	D9	9.84823	D9

Table 1b2b. Performance Scores for Patients with Elbow, Wrist and Hand Impairments who were Discharged from Treatment in 2011-2013 within Ranked Clinics 2011-2013

Care Type / Body Part	Orthopedic / Elbow, Wrist, Hand					
Year	2011		2012		2013	
# of intake patients	12616		15842		26325	
# completed episodes	6155		8838		9906	
# of clinics	86		115		128	
# of providers	31		30		39	
# of states	27		30		30	
FS Intake Measure						
Mean	49.3366579		49.73786		47.77347	
Standard Deviation	11.5608666		11.19473		16.30809	
Min	19.51		10.1		2.3	
Max	92.13		89.35		97.96	
Quartiles	44.56	Q1	44.71	Q1	37.65	Q1
	49.46	Q2	50.3	Q2	47.63	Q2
	55.91	Q3	55.96	Q3	59.93	Q3
Deciles	36.69	D1	37.73	D1	27.88	D1
	42.54	D2	43.29	D2	35.68	D2
	45.76	D3	46.18	D3	39.48	D3
	47.57	D4	47.86	D4	42.54	D4

	49.46	D5	50.3	D5	47.63	D5
	51.85	D6	52.07	D6	51.55	D6
	54.45	D7	54.42	D7	56.79	D7
	56.72	D8	56.72	D8	61.46	D8
	60.93	D9	61.17	D9	67.82	D9
FS Discharge Measure						
Mean	61.4008871		61.15692		66.64572	
Standard Deviation	10.9791297		10.85542		15.07451	
Min	19.58		19.51		2.3	
Max	92.13		92		97.96	
Quartiles	54.21	Q1	53.97	Q1	57.96	Q1
	59.44	Q2	59.14	Q2	67.02	Q2
	70.18	Q3	68.18	Q3	75.28	Q3
Deciles	48.73	D1	48.96	D1	45.81	D1
	52.56	D2	52.36	D2	54.51	D2
	55.23	D3	54.6	D3	60.21	D3
	57.48	D4	56.67	D4	63.77	D4
	59.44	D5	59.12	D5	67.02	D5
	61.81	D6	61.77	D6	70.5	D6
	65.51	D7	65.51	D7	73.47	D7
	70.72	D8	70.72	D8	78.41	D8
	79.5	D9	79.5	D9	88.52	D9
Risk-Adjusted Patient FS Change - Residual						
Mean	0.50		0.39		0.77	
standard Deviation	9.84		9.76		13.20	
Min	-41.99		-47.96		-56.24	
Max	32.90		37.24		47.01	
Quartiles	-6.41	Q1	-6.51	Q1	-7.67	Q1
	-0.92514	Q2	-1.07012	Q2	0.51707	Q2
	6.87109	Q3	6.27161	Q3	8.92082	Q3
Deciles	-10.93	D1	-10.68	D1	-15.97	D1
	-7.69521	D2	-7.73841	D2	-9.90951	D2
	-5.19762	D3	-5.44961	D3	-5.79421	D3
	-3.1828	D4	-3.34186	D4	-2.47294	D4
	-0.92634	D5	-1.07792	D5	0.51516	D5
	1.40142	D6	1.30155	D6	3.41631	D6
	4.75281	D7	4.23308	D7	6.94033	D7
	9.11642	D8	8.79836	D8	11.33299	D8
	14.85294	D9	14.68156	D9	17.78591	D9
Clinician FS Change Score						
Mean	12.70		12.33		19.86	
standard Deviation	4.27		4.04		4.84	

Min	4.51		4.90		9.67	
Max	22.59		25.20		39.77	
Quartiles	9.76	Q1	10.31	Q1	16.96	Q1
	12.07	Q2	12.31	Q2	20.01	Q2
	15.11	Q3	14.04	Q3	21.89	Q3
Deciles	7.12	D1	7.29	D1	13.93	D1
	9.34	D2	8.76	D2	15.88	D2
	10.31	D3	10.37	D3	17.77	D3
	11.17	D4	11.09	D4	18.99	D4
	12.13	D5	11.7	D5	20.01	D5
	13.76	D6	12.55	D6	20.85	D6
	14.84	D7	13.16	D7	21.46	D7
	17.16	D8	13.62	D8	22.28	D8
	19.46	D9	14.4	D9	26.36	D9
Risk Adjusted Aggregated Clinician Residual Score						
Mean	0.65		0.56		0.48	
standard Deviation	3.74		3.57		3.47	
Min	-7.76		-6.78		-7.87	
Max	11.37		13.49		13.03	
Quartiles	-1.94	Q1	-1.43	Q1	-1.69	Q1
	-0.21005	Q2	-0.26166	Q2	0.03637	Q2
	1.81121	Q3	1.49089	Q3	2.63642	Q3
Deciles	-3.26	D1	-2.86	D1	-3.72	D1
	-2.3273	D2	-1.843	D2	-2.00797	D2
	-1.45535	D3	-1.32359	D3	-0.8988	D3
	-0.65745	D4	-0.65672	D4	-0.32769	D4
	-0.06237	D5	-0.41345	D5	0.03637	D5
	0.7421	D6	-0.09404	D6	0.89429	D6
	1.30652	D7	0.37576	D7	1.86637	D7
	4.20799	D8	1.12895	D8	3.15212	D8
	6.84043	D9	2.17157	D9	4.78724	D9
Clinic FS Change Score						
Mean	12.42		12.13		19.50	
standard Deviation	4.29		3.70		4.95	
Min	5.99		4.18		9.41	
Max	31.33		25.20		42.23	
Quartiles	9.70	Q1	9.74	Q1	16.10	Q1
	11.64	Q2	11.93	Q2	19.35	Q2
	14.15	Q3	14.22	Q3	21.69	Q3
Deciles	7.46	D1	7.96	D1	13.52	D1
	9.14	D2	9.05	D2	15.47	D2
	10.19	D3	10.05	D3	16.71	D3

	10.68	D4	11.13	D4	17.62	D4
	11.47	D5	11.93	D5	18.91	D5
	12.07	D6	12.53	D6	19.84	D6
	13.37	D7	13.04	D7	20.73	D7
	14.22	D8	14.43	D8	21.69	D8
	16.49	D9	15.24	D9	24.07	D9
Risk Adjusted Aggregated Clinic Residual Score						
Mean	0.64		0.49		0.75	
standard Deviation	3.90		3.17		3.92	
Min	-6.77		-5.75		-8.97	
Max	20.46		13.40		16.48	
Quartiles	-1.91	Q1	-1.25	Q1	-1.57	Q1
	0.03022	Q2	-0.10426	Q2	0.36952	Q2
	2.62158	Q3	1.94764	Q3	2.87694	Q3
Deciles	-3.40	D1	-3.11	D1	-3.63	D1
	-2.30171	D2	-1.8195	D2	-2.06309	D2
	-1.79432	D3	-0.9923	D3	-1.33446	D3
	-0.8697	D4	-0.44416	D4	-0.65892	D4
	-0.15432	D5	-0.127	D5	0.19086	D5
	0.41117	D6	0.22699	D6	0.71212	D6
	1.74686	D7	1.57381	D7	1.60467	D7
	2.62903	D8	2.22623	D8	2.87694	D8
	3.92593	D9	3.36339	D9	4.09091	D9

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

Care Type / Body Part	Orthopedic / Elbow, Wrist, Hand					
Year	2011		2012		2013	
# of intake patients	31255		37272		62512	
# completed episodes	12687		16651		20820	
# of clinics	1063		1261		1717	
# of providers	1891		2119		2550	
# of states	39		44		48	
Race Question						
# answered	1498		1047		294	
White	1263	84.31%	889	84.91%	233	79.25%
Black/African American	71	4.74%	59	5.64%	19	6.46%
Asian or Pacific Islander	24	1.60%	12	1.15%	12	4.08%
American Indian, Aleut, Eskimo	33	2.20%	13	1.24%	2	0.68%
Other	107	7.14%	74	7.07%	28	9.52%

Gender						
Male	12893	41.25%	15221	40.84%	25304	40.48%
Female	18362	58.75%	22050	59.16%	37208	59.52%
Average Age	49.77153 1		50.039 18		51.68 973	
Standard Deviation	16.88224 6		17.138 4		17.51 164	
Min	14		14		14	
Max	100		110		100	
14-19	982	5.25%	1320	5.61%	1402	5.17%
20-29	1577	8.44%	1956	8.31%	2062	7.60%
30-39	2356	12.60%	2878	12.23%	3014	11.11%
40-49	3996	21.38%	4758	20.22%	4712	17.37%
50-59	4380	23.43%	5638	23.96%	6258	23.07%
60-69	3114	16.66%	3962	16.84%	5147	18.97%
70-79	1571	8.40%	2076	8.82%	3140	11.57%
80-89	662	3.54%	854	3.63%	1243	4.58%
90-99	55	0.29%	87	0.37%	149	0.55%
100-109	1	0.01%	5	0.02%	3	0.01%
	18694		23534		27130	
Payer Source						
# Answered	31189		37240		62512	
Indemnity Insurance	384	1.23%	593	1.59%	967	1.55%
Litigation	41	0.13%	46	0.12%	66	0.11%
Medicaid	1458	4.67%	1902	5.11%	2736	4.38%
Medicare A	866	2.78%	1117	3.00%	810	1.30%
Medicare B	4130	13.24%	5412	14.53%	13335	21.33%
Patient	474	1.52%	526	1.41%	1208	1.93%
HMO	3300	10.58%	3521	9.45%	6683	10.69%
Preferred Provider	11975	38.39%	14293	38.38%	22512	36.01%
Workers Comp	5265	16.88%	6058	16.27%	8799	14.08%
No Fault	39	0.13%	67	0.18%	130	0.21%
Other	3016	9.67%	3336	8.96%	4664	7.46%
Early Intervention	4	0.01%	5	0.01%	2	0.00%
School	6	0.02%	13	0.03%	22	0.04%
No Charge	33	0.11%	45	0.12%	55	0.09%
Auto Insurance	140	0.45%	210	0.56%	411	0.66%
Medicare C	58	0.19%	96	0.26%	112	0.18%
Education						
Desktop Version of PI - Education Responses						
# Answered	881		533		0	
1st - 8th grade	27	3.06%	18	3.38%	0	#DIV/0! !

Some high school	96	10.90%	58	10.88%	0	#DIV/0! !
High school diploma	308	34.96%	194	36.40%	0	#DIV/0! !
GED or equivalent	49	5.56%	29	5.44%	0	#DIV/0! !
Some college but no degree	172	19.52%	93	17.45%	0	#DIV/0! !
College degree (undergraduate)	158	17.93%	95	17.82%	0	#DIV/0! !
Postgraduate course work but no advanced degree	25	2.84%	16	3.00%	0	#DIV/0! !
Postgraduate degree (college Masters, Doctorate of Professional)	46	5.22%	30	5.63%	0	#DIV/0! !
WEB Version of PI - Education Responses						
# Answered	492		426		289	
Less Than 1st Grade	3	0.61%	6	1.41%	1	0.35%
1st, 2nd, 3rd Or 4th Grade	5	1.02%	6	1.41%	2	0.69%
5th Or 6th Grade	6	1.22%	10	2.35%	4	1.38%
7th Or 8th Grade	14	2.85%	10	2.35%	7	2.42%
9th Grade	11	2.24%	18	4.23%	9	3.11%
10th Grade	8	1.63%	8	1.88%	9	3.11%
11th Grade	12	2.44%	14	3.29%	7	2.42%
12th Grade No Diploma	16	3.25%	11	2.58%	12	4.15%
High School Grad-Diploma or Equiv (GED)	105	21.34%	97	22.77%	63	21.80%
Some College But No Degree	98	19.92%	86	20.19%	64	22.15%
Associate Degree-Occupational/Vocational	24	4.88%	20	4.69%	15	5.19%
Associate Degree-Academic Program	17	3.46%	24	5.63%	9	3.11%
Bachelor's Degree(ex:ba, ab, bs)	94	19.11%	64	15.02%	50	17.30%
Master's Degree(ex:MA, MS, MEng, MEd, MSW)	54	10.98%	35	8.22%	29	10.03%
Professional School Deg(ex:MD, DDS, DVM)	14	2.85%	11	2.58%	5	1.73%
Doctorate Degree(ex:PhD, EdD)	11	2.24%	6	1.41%	3	1.04%
Income						
# Answered	1016		730		232	
\$10,000 - 25,000	238	23.43%	141	19.32%	28	12.07%
\$25,000 - 50,000	289	28.44%	195	26.71%	59	25.43%
\$50,000 - 75,000	203	19.98%	173	23.70%	44	18.97%
\$75,000 - 100,000	121	11.91%	108	14.79%	40	17.24%
Over \$100,000	165	16.24%	113	15.48%	61	26.29%

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	2010	17	NR+	5	NR+
b. Construct validity	2008-2010	4,863	NR+	538	26
c. Sensitivity to change	2008-2010	4,863	NR+	538	26
d. Responsiveness	2008-2010	4,863	NR+	538	26
e. Exclusions analysis	2013	27714	4,889	1769	48
f. Risk adjustment modeling	2011-2013	27714	4,889	1769	48
g. Performance patient level	2008-2010	4,863	NR+	538	26
h. Performance individual clinician level	2013	15382	566	402	44
i. Performance individual clinic level	2013	15185	681	257	37
j. Missing data	2011-2013				
	2011	31929	3839	1241	39
	2012	36603	4563	1425	44
	2013	65541	7366	2147	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

Female	65%
Intake FS (mean)	46
Age (mean)	50 yr
Surgery	52%
Comorbidities	
None	39%
1	38%
2 or 3	11%
4 or more	19%
Fear	60%
Payer	
Medicare B	37%
Patient	0%
HMO	42%
PPO	19%
WC	1%
Other	1%

Table 1.6c Characteristics of patients in analyses b-d

	mean	SD	min	max
Intake FS	50	12	11	94
Discharge FS	63	12	19	100
FSCH	13	13	-36	75
Risk-adjusted FSCH	13	3	4	21
Age (mean±SD, min, max in years)	51	16	18	95
Age Category (%)	Age 18 to <45 33 Age 45 to 65 47 Age >65 to 75 12 Age >75 8			
Gender	% female 60 Missing 0			
Acuity of Symptoms (%)	Acute (0 to 21 days) 21 Subacute (22-90 days) 37 Chronic (>90 days) 42			
Surgical History (%)	None 59 One or more 41 Missing 0			
Payer Source (%)	Indemnity Insurance 2 Litigation 1 Medicaid 1 Medicare A 4 Medicare B 13 Patient private pay 1 Health Maintenance Organization 10 Preferred Provider Organization 36 Workers' Comp 20 Auto Insurance 1 Other 13 Missing 0			
Number of Functional Comorbidities (%) a	None 42 One 25 Two 15 Three or more 18 Missing 0			
Fear of Avoidance	No fear 53 Intimidated 47 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 for 2013 only)

Variable	Sample includes patients 14+ N= N=27714		Sample includes patients 18+ N= 26746	
	Beta, CI	P	Beta, CI	P
Constant	58.9, 57.72 to 60.18	P<0.001	58.3, 57.02 to 59.59	P<0.001
Intake FS	0.4, 0.41 to 0.43	P<0.001	0.4, 0.41 to 0.43	P<0.001
Age (continuous)	(-)0.1, (-)0.08 to (-)0.05	P<0.001	(-)0.1, (-)0.06 to (-)0.04	P<0.001
Acuity:				
0-7 days (REF)				
8-14 days	(-)0.5, (-)1.56 to 0.52	0.330	(-)0.8, (-)1.87 to 0.26	0.139
15-21 days	(-)2.2, (-)3.21 to (-)1.23	P<0.001	(-)2.5, (-)3.47 to (-)1.45	P<0.001
22-90 days	(-)3.6, (-)4.49 to (-)2.73	P<0.001	(-)3.8, (-)4.74 to (-)2.94	P<0.001
91 days to 6 months	(-)6.2, (-)7.16 to (-)5.28	P<0.001	(-)6.4, (-)7.36 to (-)5.44	P<0.001
Over 6 months	(-)8.0, (-)8.88 to (-)7.08	P<0.001	(-)8.2, (-)9.10 to (-)7.25	P<0.001
Gender:				
Male (REF)				
Female	(-)2.0, (-)2.32 to (-)1.66	P<0.001	(-)2.0, (-)2.29 to (-)1.61	P<0.001
Payer:				
Indemnity				
Insurance	(-)0.8, (-)2.18 to 0.57	0.254	(-)0.8, (-)2.24 to 0.57	0.244
Litigation	(-)4.5, (-)9.13 to 0.20	0.060	(-)4.3, (-)8.96 to 0.38	0.072
Medicaid	(-)3.8, (-)4.77 to (-)2.83	P<0.001	(-)3.9, (-)4.89 to (-)2.85	P<0.001
Medicare A	(-)2.3, (-)3.72 to (-)0.94	0.001	(-)2.5, (-)3.93 to (-)1.14	P<0.001
Medicare B	(-)1.6, (-)2.09 to (-)1.10	P<0.001	(-)1.8, (-)2.31 to (-)1.31	P<0.001
Patient	(-)1.2, (-)2.55 to 0.06	0.062	(-)1.5, (-)2.79 to (-)0.12	0.033
HMO	0.0, (-)0.57 to 0.56	0.991	0.0, (-)0.62 to 0.53	0.876
Preferred				
Provider (REF)				
Workers Comp	(-)4.8, (-)5.32 to (-)4.36	P<0.001	(-)4.7, (-)5.16 to (-)4.19	P<0.001
No Fault	(-)4.6, (-)7.99 to (-)1.21	0.008	(-)4.4, (-)7.80 to (-)0.96	0.012
Other	(-)1.9, (-)2.57 to (-)1.27	P<0.001	(-)2.0, (-)2.63 to (-)1.30	P<0.001
Early Intervention	13.2, (-)12.78 to 39.08	0.320	Omitted due to low frequency	
School	5.3, (-)5.26 to 15.92	0.324	5.9, (-)4.69 to 16.52	0.274
No Charge	(-)4.2, (-)9.34 to 0.85	0.102	(-)3.0, (-)8.23 to 2.17	0.253
Auto Insurance	(-)2.3, (-)4.14 to (-)0.48	0.013	(-)2.2, (-)4.05 to (-)0.35	0.02
Medicare C	(-)1.5, (-)5.01 to 2.08	0.418	(-)1.7, (-)5.21 to 1.89	0.359
Surgical history:				
No surgery (REF)				
1 or more surgeries	1.0, 0.65 to 1.33	P<0.001	1.0, 0.66 to 1.34	P<0.001
Fear Avoidance-Physical:				
Not Elevated (REF)				
Elevated	(-)1.0, (-)1.36 to (-)0.73	P<0.001	(-)1.0, (-)1.37 to (-)0.73	P<0.001

Number of comorbidities:					
None (REF)					
One	(-)0.8, (-)1.38 to (-)0.31	0.002	(-)0.7, (-)1.26 to (-)0.15		0.013
Two	(-)1.3, (-)1.84 to (-)0.72	P<0.001	(-)1.1, (-)1.70 to (-)0.55		P<0.001
Three or more	(-)2.9, (-)3.42 to (-)2.47	P<0.001	(-)2.8, (-)3.29 to (-)2.32		P<0.001
Model R²	0.260		0.247		

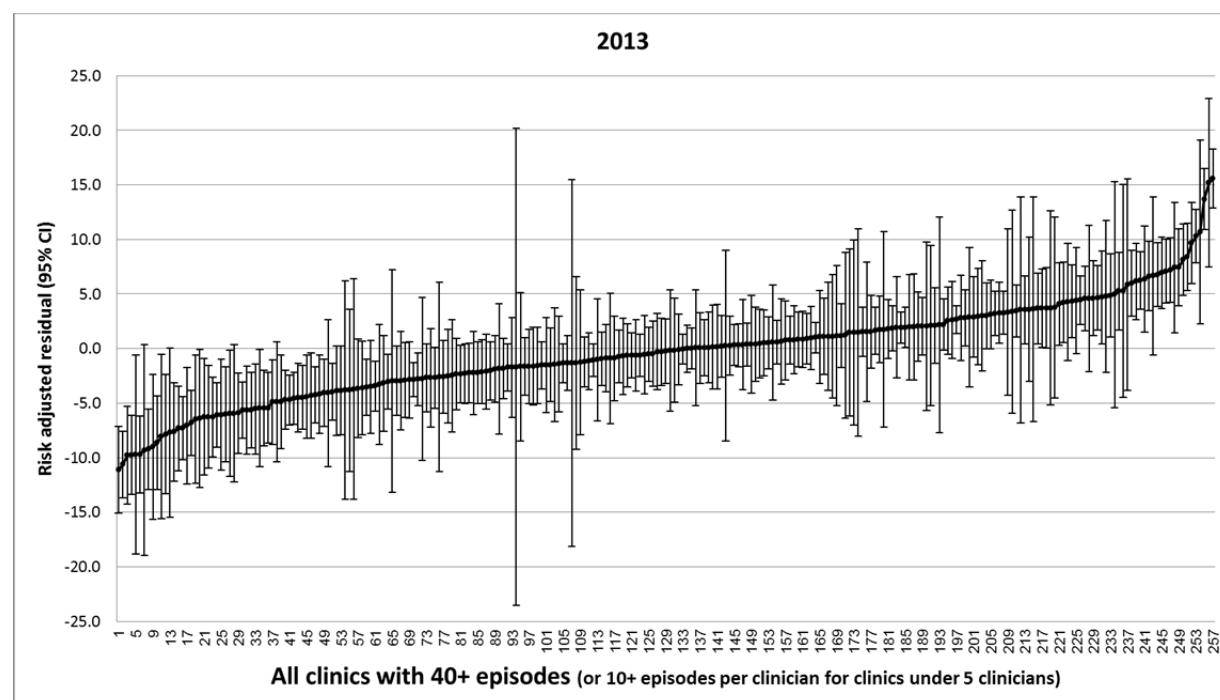
Table 2b5.2b Distribution of Clinician Performance Categories by Year

Year	Performance level	N Clinicians (%)
2013	Low performance	75 (13.3)
	Average performance	420 (74.2)
	High performance	71 (12.5)
	Total	566 (100.0)

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

Year	Performance level	N Clinics (%)
2013	Low performance	51 (19.8)
	Average performance	164 (63.8)
	High performance	42 (16.3)
	Total	257 (100.0)

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



2b7.1 MISSING DATA ANALYSIS AND MINIMIZING BIAS

		Complete data (group 1)			Missing data (groups 2&3)			
Year		Total N	% missing		Total N	% missing	P-value	
Factors higher or more prevalent in patients with complete data								
Age (years): Mean(SD)	2011	50.6 (16.8)	14290	0.0%	47.9 (16.8)	7338	0.0%	<.001
	2012	50.7 (17.3)	16850	0.0%	48.2 (16.8)	9623	0.0%	<.001
	2013	52.7 (17.4)	29272	0.0%	49.5 (17.3)	19104	0.0%	<.001
Surgical history: 1 or more	2011	39.2%	14103	1.3%	34.9%	7246	1.3%	<.001
	2012	37.9%	16722	0.8%	33.4%	9570	0.6%	<.001
	2013	38.5%	29228	0.2%	32.4%	19067	0.2%	<.001
Payer: Medicare B age 60 or more	2011	13.5%	14233	0.4%	10.0%	7333	0.1%	<.001
	2012	14.4%	16822	0.2%	10.0%	9619	0.0%	<.001
	2013	21.0%	29272	0.0%	15.5%	19104	0.0%	<.001
Factors higher or more prevalent in patients with missing data								
Intake FS: Mean(SD)	2011	49.5 (10.9)	14290	0.0%	50.4 (11.3)	7338	0.0%	<.001
	2012	49.9 (10.8)	16850	0.0%	51.1 (11.0)	9623	0.0%	<.001
	2013	47.8 (15.9)	28157	3.8%	50.5 (15.9)	18675	2.2%	<.001
Acuity: Chronic - over 3 months	2011	39.5%	14281	0.1%	42.0%	7326	0.2%	0.001
	2012	41.1%	16842	0.0%	43.3%	9619	0.0%	0.001
	2013	40.5%	29251	0.1%	43.9%	19077	0.1%	<.001
Payer: Medicaid	2011	3.2%	14233	0.4%	5.2%	7333	0.1%	<.001
	2012	3.5%	16822	0.2%	6.5%	9619	0.0%	<.001
	2013	2.8%	29272	0.0%	5.5%	19104	0.0%	<.001
Factors with similar values or prevalence between patients with complete or missing data								
Number of comorbidities: Mean(SD)	2011	3.0 (2.7)	14268	0.2%	3.0 (2.8)	7323	0.2%	0.589
	2012	2.8 (2.8)	16840	0.1%	2.9 (3.0)	9618	0.1%	0.008
	2013	3.3 (3.1)	29269	0.0%	3.3 (3.2)	19101	0.0%	0.697
Gender (Female)	2011	60.0%	14290	0.0%	57.9%	7338	0.0%	0.004
	2012	59.3%	16850	0.0%	59.7%	9623	0.0%	0.538
	2013	60.2%	29272	0.0%	58.8%	19104	0.0%	0.003
Payer: Medicare B age under 60	2011	1.4%	14233	0.4%	1.9%	7333	0.1%	0.011
	2012	1.7%	16822	0.2%	2.2%	9619	0.0%	0.006
	2013	2.6%	29272	0.0%	3.3%	19104	0.0%	<.001
High Fear Avoidance at intake (Physical)	2011	65.3%	14095	1.4%	64.9%	7222	1.6%	0.561
	2012	59.1%	16690	0.9%	58.4%	9567	0.6%	0.293
	2013	55.3%	29137	0.5%	55.1%	19028	0.4%	0.549
Exercise history: 1 or more / week	2011	68.1%	13901	2.7%	68.8%	7159	2.4%	0.292
	2012	69.2%	16604	1.5%	68.7%	9511	1.2%	0.450
	2013	67.9%	29196	0.3%	68.5%	19083	0.1%	0.174
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=137065 Women: 63.3% Age (Mn; SD; Range): 50.5; 17.3; 14-112		Patients after 6 months from admission N= 134073			
	FS N (%)	FS missing* (NPA) N (%)	Has DC FS + N (%) % represents CR	Reason for Missing FS at DC N (%)		
				Open episode	NPA at DC	Unknown
2011	31929 (99.4)	191 (0.6)	14290 (44.8)	10301 (32.3)	833 (2.6)	6505 (20.4)
2012	36603 (97.1)	1090 (2.9)	16850 (46.0)	10130 (27.7)	3412 (9.3)	6211 (17.0)
2013	65541 (97.5)	1711 (2.5)	29272 (44.7)	17165 (26.2)	9964 (15.2)	9140 (13.9)
Total	134073 (97.8)	2992 (2.2)	60412 (45.1)	37596 (28.0)	14209 (10.6)	21856 (16.3)

+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 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	1241	25.7 (46.9)	11.5 (24.0)	44.8 (33.3)	14.2 (28.0)
2012	1425	25.7 (46.8)	11.8 (24.1)	48.3 (32.3)	13.9 (28.1)
2013	2147	30.5 (59.6)	13.6 (28.3)	45.7 (30.7)	16.9 (35.9)
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	148	106.5 (88.1)	56.5 (46.3)	60.2 (21.5)	50.0 (55.5)
2012	168	107.3 (86.6)	57.5 (46.5)	59.3 (19.6)	49.7 (54.2)
2013	272	127.4 (115.8)	64.4 (54.8)	57.0 (18.6)	63.0 (70.7)

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
2013	Residual	r	.047
		Sig. (2-tailed)	.435
		N clinics	283

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

Year	CR category	Mean residuals	N clinics	Std. Deviation
2013	10 to <20	0.4*	7	5.0
	20 to <30	-1.7	14	6.2
	30 to <40	-0.2	36	4.9
	40 to <50	-0.7	43	4.6
	50 to <60	-0.6	49	4.8
	60 to <70	0.2	60	4.7
	70 to <80	-0.5	41	7.0
	80 to <90	-1.6	21	5.7
	90 to Highest	2.1	12	6.8
	Total	-0.4	283	5.3

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”.

* Average residuals for CR categories that had less than 10 clinics