

## **Introduction**

Section 4121.44 of the Ohio Revised Code requires the Ohio Bureau of Workers' Compensation (BWC) to collect health care data for the purpose of measuring and analyzing "costs, quality, appropriateness of medical care, and effectiveness of medical care delivered by all components of the workers' compensation system."

Part of these measures include a "provider outcome measurement" for evaluating health care providers, according to Ohio Administrative Code section 4123-6-02 (T), on the basis of cost, utilization, and treatment outcomes efficiency and compliance with bureau requirements.

This is achieved by analyzing (at a minimum) line item detail from a medical bill and employee specific information including, but not limited to:

- Demographics;
- Diagnosis allowances;
- Return-to-work and remain-at-work statistics;
- Other data regarding treatment.

## **Description of results**

To perform this required data analysis and to create benchmarks for establishing provider outcome measurements, BWC contracted with the Work Loss Data Institute to analyze BWC claims with dates of injury between Jan. 1, 2000 and Dec. 31, 2003.

Claims in the analysis include roughly 925,000 claims managed by managed care programs (MCOs) through BWC's Health Partnership Program. Excluded were claims managed by self-insured employers, bankrupt self-insured employers, or black lung and marine fund programs.

The attached spreadsheets represent the disability duration outcomes received from Work Loss Data Institute.

The first spreadsheet, titled "Ohio Specific Workers' Compensation Disability Durations per Most Severe ICD-9", provides outcomes for ICD-9s which were listed as the "most severe" in at least 15 claims.

The second spreadsheet, titled "Ohio Workers' Compensation Specific Disability Durations per Common Select Surgical Procedures," reports the duration of disability outcomes following performance of the given CPT codes until the injured worker returns to work."

(Due to licensing restrictions, BWC cannot provide the description of the CPT Code.)

When reviewing these outcomes, it is important to understand the concepts and limitations of the results. Important factors include the following items:

1. The outcomes represent BWC-specific results for the claims allowed during the study period and treated within the rules and processes of the Ohio workers' compensation system. **The results represent actual measurements and not consensus durations of disability, practicing under optimal conditions, or private pay insurance results which may be found in other benchmarks.** While benchmarks are provided such as the Official Disability Guidelines (ODG) and OSHA, those benchmarks do not represent Ohio-specific and perhaps not workers' compensation benchmarks.
2. The Ohio workers' compensation system is based on conditions (ICD-9 diagnoses) specifically recognized in the claim. In this analysis, all lost work days are assigned to the ICD-9 code determined to be "most severe" based on a two-pass process. Initially, all lost days were assigned to each ICD-9 code allowed in the claim. From the entire population of claims, this pass created a distribution of the actual number of lost work days for each ICD-9 in the population of all claims. This distribution was used to determine the median disability duration for each ICD-9 code. A second pass through the population of claims assigned the number of lost work days in the claim to the ICD-9 code with the greatest median disability duration allowed in the claim.
3. The spreadsheet for Ohio Specific Workers' Compensation Disability Durations per Most Severe ICD-9 includes the total number of claims in which the ICD-9 code was considered most severe. It then provides the number and percentage of claims in which:
  - There were zero lost work days;
  - The injured worker has never returned to work or no return to work data was available;
  - There were one or more lost work days.

It also provides the number of days required to return a given decile of those individuals who returned to work but who had missed one or more days back to work. The Ohio workers' compensation median and mean are provided, along with the ODG and OSHA medians when available.

A. It is important to realize that the return-to-work data includes only those claims which had one or more lost work days. This population also includes claims for those individuals undergoing surgery, so lost work days following surgery are included.

B. Claims were assigned to the most severe ICD-9 code at the three-, four- and five-digit level. BWC typically codes only to the more specific five-digit level where one exists. Therefore, many codes indicated in the outcome results may not be recognized by BWC and are indicated in the third column by an "I" ("Invalid" for BWC). Claims in these "invalid" codes also are found in the "valid" five-digit ICD-9 codes. For example, a claim in which the most severe ICD-9 is a herniated lumbar disc (ICD-9 code 722.10) will be found in ICDs 722, 722.1 and 722.10. Only 722.10 is considered valid by BWC.

4. The spreadsheet for Ohio Workers' Compensation Specific Disability Durations per Common Select Surgical Procedures is limited to common select procedures used to treat musculoskeletal conditions on an elective basis. For each specific CPT code, the numbers of procedures are indicated; along with the number of days required from the date of the procedure for a given decile of individuals undergoing the procedure to return to work. A given procedure may be used more than once in a claim or multiple procedures may be found in the same claim. The number and percent of "open cases" represent those claims in which the injured worker has not returned to work, or for which no return-to-work date is available in the claim file.
5. Many confounding factors are not available in the claims data, or could not be included in the analysis. An earlier analysis of the data found poor correlation between the duration of disability and the level of work activity performed by the individual at the time of injury, to the extent that the level of work activity was not considered in this particular analysis. On an individual case basis, it is believed that the level of work activity to which the individual must return is an important return-to-work factor. However, on this population-based outcome analysis, this assumption could not be supported. Among the reasons this assumption may not have been validated in this population include:
  - The fact that many injured workers may have returned to less physically demanding jobs;
  - The specific level of work activity may have been misclassified;
  - Motivation, other confounding factors and psychosocial factors could not be addressed by the analyses.

## Ohio Specific Workers' Compensation Disability Duration Outcomes for Select Surgical Procedures

- Notes: \* Data represents Ohio state fund claims with dates of injury from Jan. 1, 2000 through Dec. 31, 2003.  
 \* CPT codes represent procedures commonly used to treat musculoskeletal conditions only.  
 \* Number of procedures indicates the number of claims in which the CPT code was performed. Some claims may have more than one CPT.  
 \* Disability duration percentile determined using those cases with one or more days lost work time in which there has been a return to work.  
 \* Disability duration measured from date of procedure until return to work.  
 \* If number of procedures less than 200, use duration of disability percentile information with caution since accuracy may be less precise.

CPT Code	No. of Procedures	0-day Cases	% 0 days	Lost-day Cases	% Lost-day Cases	10th %	20th %	30th %	40th %	50th %	60th %	70th %	80th %	90th %	100th %	Ohio Med.	Ohio Mean	ODG Med.	Open Cases	% Open
22558	480		0%	171	36%	88	118	173	234	313	363	365	365	365	365	313	260.22	140	309	64%
22612	1,129		0%	397	35%	88	128	177	214	265	312	365	365	365	365	265	246.94	140	732	65%
22630	754		0%	299	40%	80	121	152	187	226	269	353	365	365	365	226	231.55	140	455	60%
22842	692		0%	263	38%	84	121	166	216	277	326	365	365	365	365	277	248.16	140	429	62%
22851	1,126		0%	462	41%	62	97	139	184	227	288	365	365	365	365	227	227.94	140	664	59%
23120	2,598	2	0%	1,879	72%	32	51	65	83	103	128	159	213	352	365	103	135.82	42	717	28%
23130	1,289	1	0%	909	71%	32	51	64	82	101	121	157	220	339	365	101	135.12	56	379	29%
23410	1,434	2	0%	1,048	73%	34	55	80	96	115	142	168	213	315	365	115	140.60	70	384	27%
23412	1,720	1	0%	1,205	70%	39	55	79	96	116	138	172	214	334	365	116	142.87	70	514	30%
23415	501		0%	374	75%	39	60	77	96	117	140	181	257	365	365	117	152.92	56	127	25%
23420	2,221	2	0%	1,617	73%	37	58	79	96	116	141	174	235	357	365	116	146.72	70	602	27%
23450	62		0%	46	74%	17	56	73	91	115	122	132	163	243	365	115	119.61	42	16	26%
23455	336		0%	226	67%	44	61	79	88	96	116	145	200	324	365	96	134.31	42	110	33%
24102	29		0%	21	72%	13	34	42	62	70	79	90	196	365	365	70	113.43	28	8	28%
24350	389	1	0%	287	74%	15	33	46	59	73	95	132	200	344	365	73	117.40	28	101	26%
24351	226	2	1%	160	71%	24	41	52	60	68	80	103	178	299	365	68	110.77	28	64	28%
25000	646	4	1%	421	65%	16	26	34	42	48	61	78	109	241	365	48	85.67	42	221	34%
25115	287		0%	207	72%	17	30	43	51	60	69	85	111	187	365	60	82.79	42	80	28%
25320	200		0%	142	71%	11	18	59	90	115	137	166	200	309	365	115	130.78	35	58	29%
25447	159		0%	99	62%	40	68	82	87	95	128	221	305	365	365	95	158.36	84	60	38%
26055	930	3	0%	639	69%	10	16	20	27	33	43	55	79	137	365	33	59.03	28	288	31%
26145	178	2	1%	131	74%	12	23	33	41	52	64	80	135	201	365	52	86.10	21	45	25%
27332	22		0%	17	77%	15	26	45	54	65	93	94	108	229	365	65	91.29	56	5	23%
27403	35		0%	29	83%	46	53	93	137	188	191	255	365	365	365	188	190.59	56	6	17%
27405	60		0%	47	78%	54	68	104	131	156	172	217	348	365	365	156	182.87	60	13	22%
27407	39		0%	31	79%	34	44	59	87	101	143	165	213	358	365	101	141.58	60	8	21%
27418	46		0%	26	57%	47	75	94	102	116	179	365	365	365	365	116	190.96	42	20	43%
27425	441		0%	326	74%	21	41	51	58	76	91	117	167	337	365	76	114.19	41	115	26%
27427	33		0%	27	82%	39	61	95	98	118	130	131	213	365	365	118	141.74	60	6	18%
27428	46		0%	33	72%	37	64	91	128	143	172	200	267	365	365	143	167.76	60	13	28%
27446	55		0%	36	65%	54	64	74	92	109	151	169	200	365	365	109	147.39	84	19	35%

### Ohio Specific Workers' Compensation Disability Duration Outcomes for Select Surgical Procedures

CPT Code	No. of Procedures	0-day Cases	% 0 days	Lost-day Cases	% Lost-day Cases	10th %	20th %	30th %	40th %	50th %	60th %	70th %	80th %	90th %	100th %	Ohio Med.	Ohio Mean	ODG Med.	Open Cases	% Open
27447	448		0%	200	45%	62	90	103	116	136	163	194	242	347	365	136	165.44	84	248	55%
29805	270		0%	156	58%	23	42	70	92	110	135	174	244	328	365	110	140.33	70	114	42%
29806	264		0%	168	64%	40	54	74	91	106	119	153	207	270	365	106	131.77	70	96	36%
29807	676		0%	467	69%	33	59	76	90	103	129	158	194	299	365	103	133.34	70	209	31%
29822	1,533		0%	1,078	70%	30	47	62	77	93	117	152	209	341	365	93	130.10	70	455	30%
29823	2,361		0%	1,592	67%	26	45	60	80	96	122	157	213	320	365	96	130.73	70	769	33%
29824	1,601		0%	1,058	66%	25	44	60	76	90	110	148	200	304	365	90	125.40	70	543	34%
29825	148		0%	92	62%	18	29	49	82	103	145	196	273	347	365	103	143.42	70	56	38%
29826	6,427		0%	4,422	69%	25	45	59	76	93	113	149	200	317	365	93	126.47	70	2,005	31%
29827	640		0%	402	63%	27	51	69	88	100	120	145	180	263	365	100	123.95	70	238	37%
29835	25		0%	15	60%	12	16	17	19	20	25	30	39	157	338	20	53.73	42	10	40%
29837	48		0%	34	71%	18	24	40	48	61	68	128	338	365	365	61	123.62	42	14	29%
29838	66		0%	40	61%	14	17	19	27	43	54	100	128	180	365	43	76.25	42	26	39%
29848	1,062	8	1%	813	77%	16	27	34	41	50	59	68	88	132	365	50	69.30	42	241	23%
29870	436		0%	301	69%	17	23	31	38	50	61	82	128	263	365	50	88.50	56	135	31%
29873	180		0%	100	56%	25	33	48	58	68	88	136	216	310	365	68	116.42	56	80	44%
29874	422	2	0%	313	74%	12	18	30	38	44	59	82	142	320	365	44	93.33	56	107	25%
29875	1,106	2	0%	788	71%	16	25	34	43	54	66	89	131	237	365	54	90.28	56	316	29%
29876	750	2	0%	501	67%	16	26	38	47	58	73	95	138	256	365	58	94.81	56	247	33%
29877	5,415	9	0%	3,948	73%	17	26	34	42	52	64	86	127	234	365	52	88.46	56	1,458	27%
29879	987	2	0%	705	71%	19	31	41	53	62	76	96	145	263	365	62	99.57	56	280	28%
29880	2,258	1	0%	1,695	75%	18	27	37	44	54	67	90	131	235	365	54	91.70	56	562	25%
29881	9,961	24	0%	7,286	73%	14	23	31	40	47	59	75	102	192	365	47	78.28	56	2,651	27%
29882	475	1	0%	373	79%	25	40	53	61	75	95	118	149	289	365	75	108.71	56	101	21%
29883	42		0%	37	88%	13	44	48	58	62	81	92	170	285	365	62	106.76	56	5	12%
29884	122		0%	75	61%	18	38	47	51	59	74	94	135	310	365	59	99.41	56	47	39%
29885	25		0%	18	72%	19	45	67	81	88	101	155	359	365	365	88	144.56	56	7	28%
29888	1,879		0%	1,483	79%	26	44	60	72	90	108	133	172	267	365	90	117.16	56	396	21%
29889	50		0%	34	68%	58	64	92	122	135	186	199	270	365	365	135	167.26	56	16	32%
29894	66		0%	43	65%	44	50	54	69	85	87	133	228	365	365	85	129.23	63	23	35%
29895	159		0%	108	68%	25	51	66	81	87	115	150	173	257	365	87	120.57	63	51	32%
29897	168		0%	114	68%	20	31	51	66	82	97	133	197	307	365	82	118.11	63	54	32%
29898	345		0%	234	68%	24	44	60	80	90	115	150	217	365	365	90	131.37	63	111	32%
62263	278		0%	75	27%	10	27	80	131	210	365	365	365	365	365	210	210.36	84	203	73%
62264	171	1	1%	22	13%	23	47	96	143	181	203	318	326	365	365	181	187.00	84	148	87%
62282	265		0%	118	45%	14	30	47	87	150	220	321	365	365	365	150	179.66	84	147	55%
62287	515		0%	179	35%	30	62	99	124	178	241	342	365	365	365	178	199.64	84	336	65%
62290	2,272		0%	667	29%	51	107	167	219	286	343	365	365	365	365	286	244.99	84	1,605	71%
62310	4,146	16	0%	1,149	28%	30	63	119	168	223	274	328	365	365	365	223	213.14	84	2,981	72%
62311	21,711	49	0%	7,625	35%	25	54	97	146	205	271	360	365	365	365	205	206.35	84	14,037	65%
62319	862	2	0%	312	36%	19	35	73	123	173	240	293	365	365	365	173	188.45	84	548	64%

**Ohio Specific Workers' Compensation Disability Duration Outcomes for Select Surgical Procedures**

CPT Code	No. of Procedures	0-day Cases	% 0 days	Lost-day Cases	% Lost-day Cases	10th %	20th %	30th %	40th %	50th %	60th %	70th %	80th %	90th %	100th %	Ohio Med.	Ohio Mean	ODG Med.	Open Cases	% Open
62350	84	1	1%	20	24%	5	12	14	17	75	104	132	193	365	365	75	114.15	84	63	75%
63005	33		0%	21	64%	57	64	122	166	171	191	224	365	365	365	171	186.76	70	12	36%
63012	98		0%	46	47%	51	70	91	136	152	230	300	365	365	365	152	197.48	70	52	53%
63020	61		0%	39	64%	26	47	58	70	76	109	200	218	278	365	76	125.08	70	22	36%
63030	2,783	2	0%	1,788	64%	38	51	63	82	102	130	180	254	365	365	102	145.33	70	993	36%
63042	516		0%	244	47%	38	57	91	108	142	190	251	365	365	365	142	177.94	70	272	53%
63045	67		0%	32	48%	39	60	65	76	112	154	154	222	318	365	112	145.22	70	35	52%
63047	1,173		0%	531	45%	45	62	89	109	143	182	244	338	365	365	143	176.66	70	642	55%
63075	1,156	1	0%	672	58%	42	55	71	90	104	136	185	263	365	365	104	151.48	56	483	42%
63650	427		0%	56	13%	49	95	153	306	346	365	365	365	365	365	346	259.54	112	371	87%
63685	220		0%	33	15%	60	93	125	241	337	365	365	365	365	365	337	254.61	112	187	85%
64475	4,888	14	0%	1,362	28%	26	61	103	154	208	265	349	365	365	365	208	207.61	112	3,512	72%
64622	710	1	0%	165	23%	46	95	127	174	210	265	342	365	365	365	210	218.34	112	544	77%
64721	8,157	11	0%	6,194	76%	18	30	39	46	54	66	82	109	186	365	54	82.87	56	1,952	24%