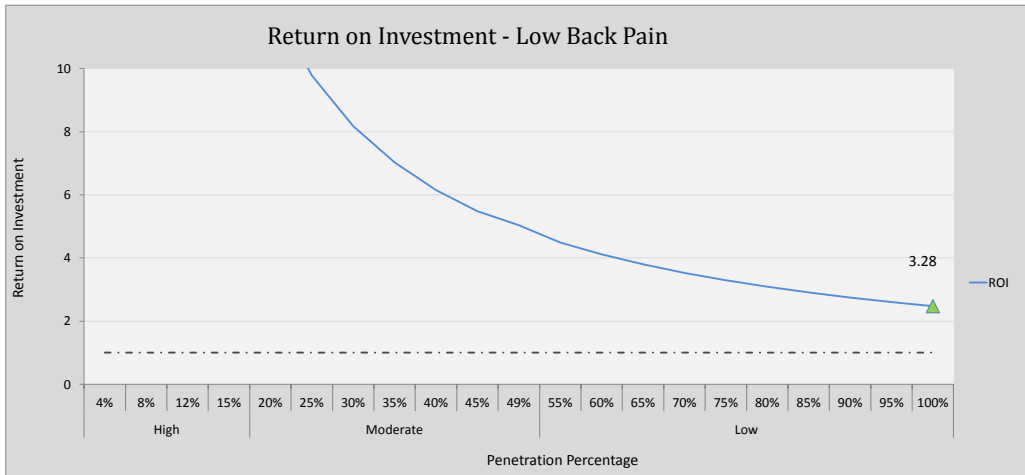


Risk Management Model for Disease Management ROI - Low Back Pain

Risk Level	Penetration Percentage	Number of Members (Marginal)	Event Rate	Expected Events	Cost per Event (average)	Events Avoided Rate	Events Avoided	Gross Savings	Cumulative Gross Savings	Cumulative Expenses (as % of program)	Cumulative Net Savings	Return on partial investment
High	4%	69	154.0%	107	\$ 798,642	2.25%	2.4	\$ 1,921,610	\$ 1,921,610	\$ 32,278	\$ 1,889,332	59.53
	8%	69	154.0%	107	\$ 7,993	2.25%	2.4	\$ 19,233	\$ 1,940,843	\$ 64,555	\$ 1,876,288	30.06
	12%	69	154.0%	107	\$ 4,511	2.25%	2.4	\$ 10,853	\$ 1,951,696	\$ 96,833	\$ 1,854,863	20.16
	15%	52	154.0%	80	\$ 3,156	2.25%	1.8	\$ 5,694	\$ 1,957,390	\$ 121,041	\$ 1,836,349	16.17
Moderate	20%	87	133.0%	115	\$ 2,451	3.00%	3.5	\$ 8,489	\$ 1,965,880	\$ 161,388	\$ 1,804,491	12.18
	25%	87	133.0%	115	\$ 2,009	3.00%	3.5	\$ 6,956	\$ 1,972,836	\$ 201,735	\$ 1,771,100	9.78
	30%	87	133.0%	115	\$ 1,683	3.00%	3.5	\$ 5,827	\$ 1,978,663	\$ 242,082	\$ 1,736,581	8.17
	35%	87	133.0%	115	\$ 1,353	3.00%	3.5	\$ 4,686	\$ 1,983,349	\$ 282,430	\$ 1,700,920	7.02
	40%	87	133.0%	115	\$ 1,054	3.00%	3.5	\$ 3,649	\$ 1,986,998	\$ 322,777	\$ 1,664,222	6.16
	45%	87	133.0%	115	\$ 770	3.00%	3.5	\$ 2,666	\$ 1,989,664	\$ 363,124	\$ 1,626,541	5.48
	49%	69	133.0%	92	\$ 577	3.00%	2.8	\$ 1,598	\$ 1,991,262	\$ 395,401	\$ 1,595,861	5.04
Low	55%	104	82.0%	85	\$ 462	3.35%	2.9	\$ 1,322	\$ 1,992,584	\$ 443,818	\$ 1,548,766	4.49
	60%	87	82.0%	71	\$ 365	3.35%	2.4	\$ 871	\$ 1,993,456	\$ 484,165	\$ 1,509,291	4.12
	65%	87	82.0%	71	\$ 289	3.35%	2.4	\$ 689	\$ 1,994,145	\$ 524,512	\$ 1,469,633	3.80
	70%	87	82.0%	71	\$ 223	3.35%	2.4	\$ 533	\$ 1,994,677	\$ 564,859	\$ 1,429,818	3.53
	75%	87	82.0%	71	\$ 168	3.35%	2.4	\$ 399	\$ 1,995,077	\$ 605,206	\$ 1,389,871	3.30
	80%	87	82.0%	71	\$ 121	3.35%	2.4	\$ 289	\$ 1,995,366	\$ 645,553	\$ 1,349,813	3.09
	85%	87	82.0%	71	\$ 92	3.35%	2.4	\$ 219	\$ 1,995,585	\$ 685,900	\$ 1,309,684	2.91
	90%	87	82.0%	71	\$ 73	3.35%	2.4	\$ 173	\$ 1,995,758	\$ 726,247	\$ 1,269,510	2.75
	95%	87	82.0%	71	\$ 53	3.35%	2.4	\$ 125	\$ 1,995,883	\$ 766,594	\$ 1,229,289	2.60
	100%	87	82.0%	71	\$ 18	3.35%	2.4	\$ 42	\$ 1,995,925	\$ 806,941	\$ 1,188,983	2.47
Total	100%	1736		1912		3.02%	56.9		\$ 1,995,924.63	\$ 806,941.43	\$ 1,188,983.20	2.47

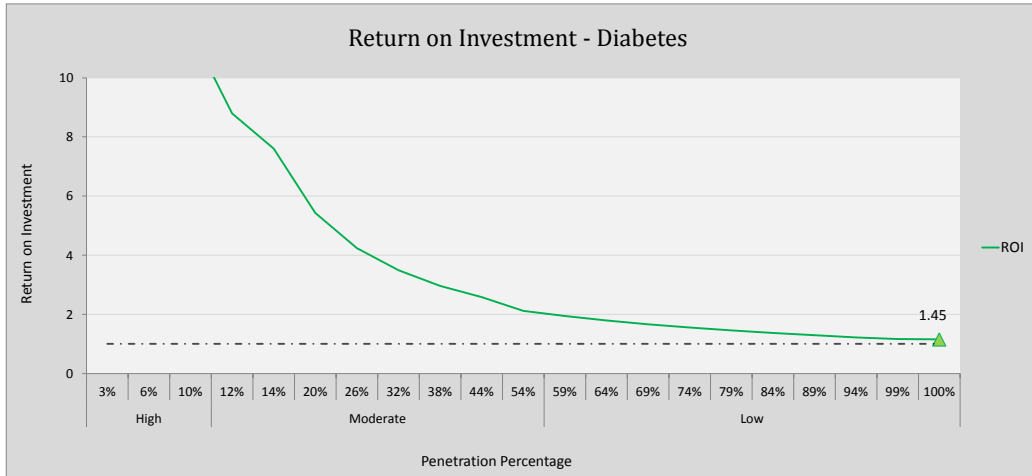


Risk Level: Based on Disease Management data from February 2011
 Penetration Percentage: Based on Disease Management data from February 2011
 Number of Members (Cumulative): Disease Management number, February 2011
 Event Rate: Calculated from MPI Admissions data; Number of Admissions/Number of Members for each disease
 Expected Events: Event Rate multiplied by Number of Members
 Cost per Event: Based on all available MPI Claims data, broken down by percentile, average of percentile was used
 Events Avoided Rate: Is calculated from the actual change in number of events over time and stratified over the severity levels.
 Gross Savings: Cost per Event multiplied by Events Avoided multiplied by Expected Events
 Cumulative Gross Savings
 Cumulative Expenses: Totals \$1.5 Million, "as percentage of program" multiplies \$1.5M by ratio of disease to total
 Cumulative Net Savings: Cumulative Gross Savings less Cumulative Expenses
 Return on partial investment: Cumulative Gross Savings divided by Cumulative Expenses as % of program

Model based on Economic ROI Model for Disease Management Programs by Ian Duncan, FSA, MAAA, FCIA, FIA

Risk Management Model for Disease Management ROI - Diabetes

Risk Level	Penetration Percentage	Number of Members (Marginal)	Event Rate	Expected Events	Cost per Event (average)	Events Avoided Rate	Events Avoided	Gross Savings	Cumulative Gross Savings	Cumulative Expenses (as % of program)	Cumulative Net Savings	Return on Partial Investment
High	3%	20	109.0%	22	\$ 432,266	3.10%	0.7	\$ 297,529	\$ 297,529	\$ 9,469	\$ 288,061	31.42
	6%	20	109.0%	22	\$ 33,818	3.10%	0.7	\$ 23,277	\$ 320,807	\$ 18,937	\$ 301,869	16.94
	10%	27	109.0%	30	\$ 8,967	3.10%	0.9	\$ 8,230	\$ 329,036	\$ 28,406	\$ 300,630	11.58
Moderate	12%	14	150.0%	20	\$ 5,138	4.00%	0.8	\$ 4,187	\$ 333,223	\$ 37,874	\$ 295,349	8.80
	14%	14	150.0%	20	\$ 3,552	4.00%	0.8	\$ 2,894	\$ 336,117	\$ 44,187	\$ 291,930	7.61
	20%	41	150.0%	61	\$ 2,659	4.00%	2.4	\$ 6,501	\$ 342,617	\$ 63,124	\$ 279,494	5.43
	26%	41	150.0%	61	\$ 2,159	4.00%	2.4	\$ 5,278	\$ 347,895	\$ 82,061	\$ 265,835	4.24
	32%	41	150.0%	61	\$ 1,768	4.00%	2.4	\$ 4,322	\$ 352,217	\$ 100,998	\$ 251,219	3.49
	38%	41	150.0%	61	\$ 1,398	4.00%	2.4	\$ 3,417	\$ 355,634	\$ 119,935	\$ 235,699	2.97
	44%	41	150.0%	61	\$ 1,052	4.00%	2.4	\$ 2,573	\$ 358,207	\$ 138,872	\$ 219,335	2.58
	54%	68	150.0%	102	\$ 690	4.00%	4.1	\$ 2,812	\$ 361,018	\$ 170,434	\$ 190,585	2.12
Low	59%	34	101.0%	34	\$ 431	4.25%	1.5	\$ 629	\$ 361,647	\$ 186,215	\$ 175,432	1.94
	64%	34	101.0%	34	\$ 315	4.25%	1.5	\$ 459	\$ 362,106	\$ 201,996	\$ 160,110	1.79
	69%	34	101.0%	34	\$ 229	4.25%	1.5	\$ 334	\$ 362,440	\$ 217,777	\$ 144,663	1.66
	74%	34	101.0%	34	\$ 168	4.25%	1.5	\$ 244	\$ 362,684	\$ 233,557	\$ 129,127	1.55
	79%	34	101.0%	34	\$ 118	4.25%	1.5	\$ 171	\$ 362,855	\$ 249,338	\$ 113,517	1.46
	84%	34	101.0%	34	\$ 87	4.25%	1.5	\$ 126	\$ 362,981	\$ 265,119	\$ 97,862	1.37
	89%	34	101.0%	34	\$ 75	4.25%	1.5	\$ 109	\$ 363,090	\$ 280,900	\$ 82,190	1.29
	94%	34	101.0%	34	\$ 59	4.25%	1.5	\$ 86	\$ 363,176	\$ 296,681	\$ 66,495	1.22
	99%	34	101.0%	34	\$ 37	4.25%	1.5	\$ 53	\$ 363,229	\$ 312,462	\$ 50,767	1.16
	100%	7	101.0%	7	\$ 17	4.25%	0.3	\$ 5	\$ 363,234	\$ 315,618	\$ 47,616	1.15
Total	100%	679		838	\$ 46,278,891.59	3.99%	33.6	\$ 581,643.65	\$ 363,233.93	\$ 315,618.22	\$ 47,615.71	1.15

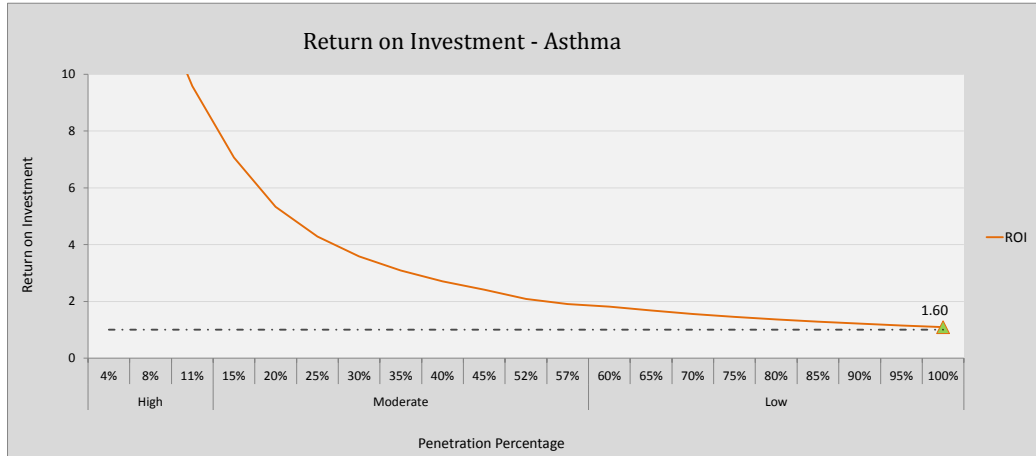


Risk Level: Based on Disease Management data from February 2011
 Penetration Percentage: Based on Disease Management data from February 2011
 Number of Members (Cumulative): Disease Management number, February 2011
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 Cumulative Gross Savings
 Cumulative Expenses: Totals \$1.5 Million, "as percentage of program" multiplies \$1.5M by ratio of disease to total
 Cumulative Net Savings: Cumulative Gross Savings less Cumulative Expenses
 Return on partial investment: Cumulative Gross Savings divided by Cumulative Expenses as % of program

Model based on Economic ROI Model for Disease Management Programs by Ian Duncan, FSA, MAAA, FCIA, FIA

Risk Management Model for Disease Management ROI - Asthma

Risk Level	Penetration Percentage	Number of Members (Marginal)	Event Rate	Expected Events	Cost per Event (average)	Events Avoided Rate	Events Avoided	Gross Savings	Cumulative Gross Savings	Cumulative Expenses (as % of program)	Cumulative Net Savings	Return on Partial Investment
High	4%	22	182.0%	41	\$ 487,999	1.35%	0.5	\$ 267,620	\$ 267,620	\$ 10,375	\$ 257,245	25.79
	8%	22	182.0%	41	\$ 7,277	1.35%	0.5	\$ 3,991	\$ 271,610	\$ 20,750	\$ 250,860	13.09
	11%	17	182.0%	30	\$ 4,013	1.35%	0.4	\$ 1,651	\$ 273,261	\$ 28,531	\$ 244,730	9.58
Moderate	15%	22	137.0%	31	\$ 2,751	2.00%	0.6	\$ 1,683	\$ 274,944	\$ 38,906	\$ 236,038	7.07
	20%	28	137.0%	38	\$ 2,195	2.00%	0.8	\$ 1,678	\$ 276,622	\$ 51,875	\$ 224,747	5.33
	25%	28	137.0%	38	\$ 1,791	2.00%	0.8	\$ 1,369	\$ 277,991	\$ 64,844	\$ 213,147	4.29
	30%	28	137.0%	38	\$ 1,433	2.00%	0.8	\$ 1,096	\$ 279,086	\$ 77,812	\$ 201,274	3.59
	35%	28	137.0%	38	\$ 1,108	2.00%	0.8	\$ 847	\$ 279,933	\$ 90,781	\$ 189,153	3.08
	40%	28	137.0%	38	\$ 910	2.00%	0.8	\$ 695	\$ 280,629	\$ 103,750	\$ 176,879	2.70
	45%	28	137.0%	38	\$ 745	2.00%	0.8	\$ 569	\$ 281,198	\$ 116,718	\$ 164,480	2.41
	52%	39	137.0%	54	\$ 566	2.00%	1.1	\$ 606	\$ 281,804	\$ 134,874	\$ 146,929	2.09
	57%	28	137.0%	38	\$ 426	2.00%	0.8	\$ 326	\$ 282,129	\$ 147,843	\$ 134,286	1.91
Low	60%	17	127.0%	21	\$ 342	2.25%	0.5	\$ 164	\$ 282,293	\$ 155,624	\$ 126,668	1.81
	65%	28	127.0%	35	\$ 272	2.25%	0.8	\$ 217	\$ 282,510	\$ 168,593	\$ 113,916	1.68
	70%	28	127.0%	35	\$ 211	2.25%	0.8	\$ 168	\$ 282,678	\$ 181,562	\$ 101,116	1.56
	75%	28	127.0%	35	\$ 158	2.25%	0.8	\$ 126	\$ 282,803	\$ 194,531	\$ 88,273	1.45
	80%	28	127.0%	35	\$ 118	2.25%	0.8	\$ 94	\$ 282,897	\$ 207,499	\$ 75,398	1.36
	85%	28	127.0%	35	\$ 88	2.25%	0.8	\$ 70	\$ 282,968	\$ 220,468	\$ 62,500	1.28
	90%	28	127.0%	35	\$ 68	2.25%	0.8	\$ 54	\$ 283,022	\$ 233,437	\$ 49,585	1.21
	95%	28	127.0%	35	\$ 51	2.25%	0.8	\$ 40	\$ 283,062	\$ 246,405	\$ 36,657	1.15
	100%	28	127.0%	35	\$ 21	2.25%	0.8	\$ 17	\$ 283,079	\$ 259,374	\$ 23,704	1.09
Total	100%	558		768	\$ 46,278,891.59	2.01%	15.4	\$ 207,556.19	\$ 283,078.52	\$ 259,374.03	\$ 23,704.49	1.09



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