

# WillisMed Health Outcomes Report



A Willis Proprietary Medical and Pharmacy Claims Reporting for:

CITY OF MILWAUKEE  
*May 29, 2015*

Willis

# WillisMed Health Outcomes Report

CITY OF MILWAUKEE

May 29, 2015

## Table of Contents

Overview	1-2
Cost and Utilization	3-4
Relative Risks and Care Gaps	5
Willis Watch List	6-7
Acute and Episodic Conditions	8-10
Chronic Conditions	11-14
High Cost Diagnoses	15
Summary and Action	16-17

The WillisMed Health Outcomes Report provides an analysis of the healthcare information for CITY OF MILWAUKEE. The information is based on eligibility, medical claims, and pharmacy claims data for employees and their families during the reporting period Jan 2014 through Dec 2014 on a paid basis.

### Objective

We use WillisMed to stratify your total population in order to recommend interventions for health management that have been customized to the data contained in this report. These recommendations include, but are not limited to:

- n Wellness Program Opportunities
- n Disease Management Opportunities
- n Case Management Opportunities
- n Improved Access to Care Opportunities
- n Plan Design Opportunities
- n Health Outcomes Incentive Design

### Normative Database

Willis uses the Verisk normative database in order to compare your population's performance to a normative database containing data from 2,371 distinct employer groups and 9.91 million members. The benchmarks include a representative cross-section of data by geography, age, and gender.

### Year Over Year Trend Periods

Prior Period: Paid from Jan 2013 to Dec 2013

Current Period: Paid from Jan 2014 to Dec 2014

# Executive Summary: The Willis Approach

Lower Cost	Medium Cost	Higher Cost
Lower Disease Burden	Medium Disease Burden	Higher Disease Burden
70% of the population 10% of total medical expenses 7% Normative total medical expenses	25% of the population 38% of total medical expenses 35% Normative total medical expenses	5% of the population 52% of total medical expenses 58% Normative total medical expenses

## Population Solutions

### Example: Wellness Programs

Programs that impact overall population health behaviors and health risks to improve overall population health status.

These programs impact employee loyalty and morale; improve absenteeism and presenteeism, and; lower medical costs over time.

- n Identification of risks and gaps in care for preventive services.
- n Incentive strategies that improve member engagement in lifestyle and health behavior change programs.
- n Identify wellness solutions tailored to your organization. Create cultural changes to support employee health.
- n Solutions that identify proven interventions for your organization's demographics, geographic distribution and business needs.

## Targeted Solutions

### Example: Disease Management

Programs that target higher risk and higher cost populations with solutions that address their risks and needs.

These programs lower medical costs more directly and improve absenteeism and presenteeism.

- n Identification of risks and gaps in care for specific conditions that drive medical costs and lost productivity.
- n Risk stratification to identify individuals who are likely to incur higher medical costs.
- n Identify health care access, and disease management strategies that impact health outcomes and medical costs. Value based plan design.
- n Solutions that improve access to healthcare providers (i.e, telemedicine patient advocacy, clinician helpline and medical transparency).

## High Touch Solutions

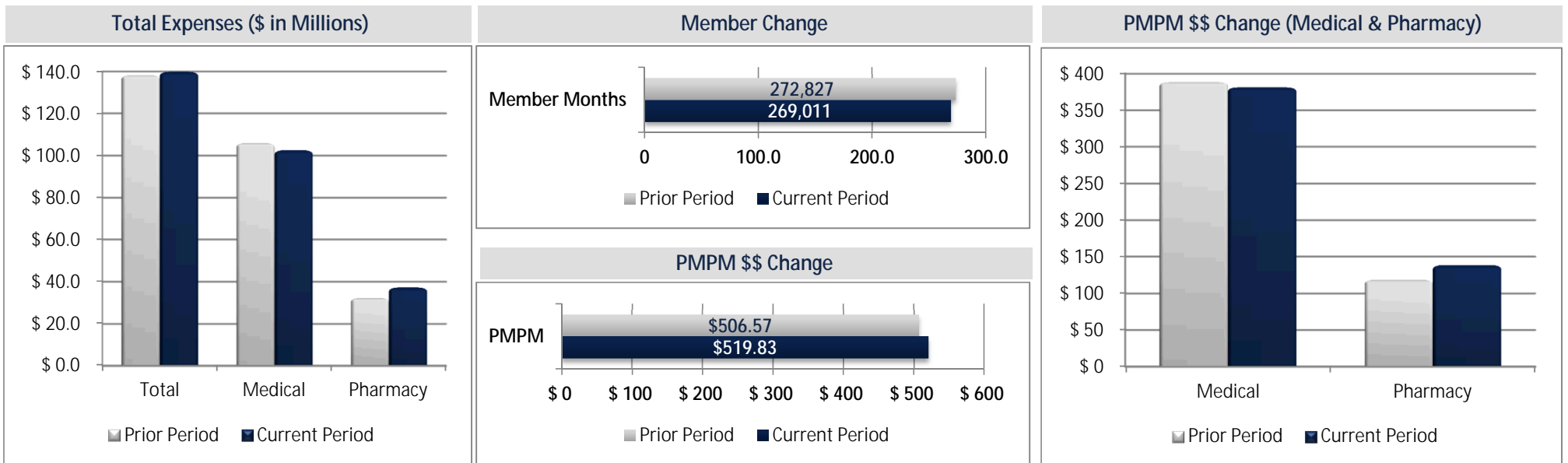
### Example: Case Management

Programs that target high cost claimants with tailored, individual solutions that improve clinical status and reduce medical costs.

These programs target members with the highest medical costs.

- n Identification of high dollar claimants.
- n Cost stratification to identify individuals and clinical drivers of higher medical costs.
- n Identify high cost case management intervention strategies to improve clinical outcomes and mitigate future medical costs.
- n Solutions that support and coordinate the clinical and ancillary issues that arise with serious, or complex medical scenarios.

## Plan Cost



Cost Summary	Current Period	Prior Period	% Chg PP	Norm	% Chg Norm	
<b>Medical Place of Service PMPM Spend</b>						
Inpatient	\$113.82	\$124.90	(8.9%)	\$88.25	29.0%	
Outpatient	\$155.93	\$148.77	4.8%	\$80.68	93.3%	
Office Visits & Imaging, etc.	\$111.47	\$114.53	(2.7%)	\$94.46	18.0%	
<b>Pharmacy PMPM Spend</b>						
Pharmacy	\$138.61	\$118.36	17.1%	\$56.18	146.7%	
<b>Cost Distribution</b>	<b>Members</b>	<b>Costs</b>	<b>Cost/Member</b>	<b>% of Cost</b>	<b>Norm</b>	<b>Delta - Norm</b>
<b>Member Distribution (based on Current Period)</b>						
1%	248	\$35,244,845	\$142,116	25.2%	30.5%	(5.3%)
2-5%	992	\$36,821,261	\$37,118	26.3%	27.7%	(1.4%)
6-15%	2,481	\$33,519,770	\$13,511	24.0%	22.7%	1.3%
16-30%	3,721	\$20,110,971	\$5,405	14.4%	12.1%	2.3%
31-60%	7,442	\$12,736,562	\$1,711	9.1%	6.4%	2.7%
61-100%	9,922	\$1,407,467	\$142	1.0%	0.6%	0.4%
<b>Total</b>	<b>24,806</b>	<b>\$139,840,876</b>	<b>\$5,637</b>			

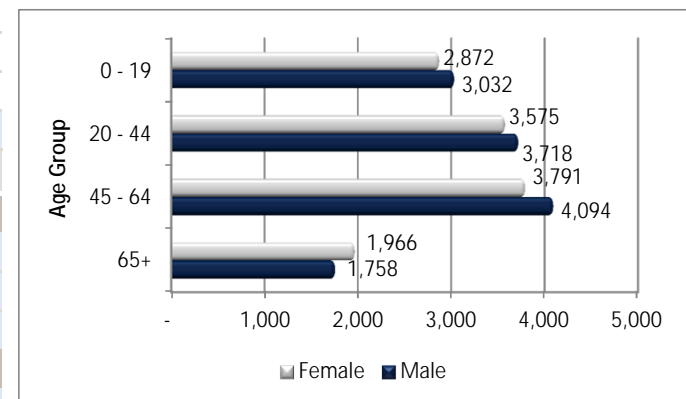
**Comments**

- Total expenses increased by 1.2% over the prior period driven by a 2.6% increase in PMPM cost, offset by a (1.4%) decrease in member months
- PMPM Medical cost decreased by (1.8%), while PMPM Pharmacy cost increased by 17.1%
- Out of the 9,922 members represented in '61-100%' category, 3,314 had no claims, 198 had credit adjustments totaling \$383,119 and 6,410 had claims totaling \$1,790,586
- Total spend is skewed slightly more toward the high cost end of the distribution compared to the norm

## Plan Utilization

Plan Demography and Risk Review	Current Period	Prior Period	% Chg PP	Norm	% Chg Norm
Current Employees	9,745	9,964	(2.2%)		
Current Members	22,269	22,674	(1.8%)		
Dependent Ratio	2.3	2.3	0.4%		
Average Age	41.3	42.3	(2.4%)	35.7	15.5%
Utilization	Current Period	Prior Period	% Chg PP	Norm	% Chg Norm
Emergency Room Metrics					
ER Visits (per 1000)	300.7	295.8	1.7%	260.7	15.4%
% ER Visits Resulting in Admission	47.0%	46.0%	2.1%	37.3%	26.0%
Paid per ER Visit	\$989	\$1,045	(5.3%)	\$963	2.7%
Inpatient Metrics					
Inpatient Days (per 1000)	521.2	573.6	(9.1%)	336.8	54.7%
Average Length of Stay (Days)	5.0	5.3	(4.9%)	4.8	5.3%
Total Admissions (per 1000)	103.5	108.3	(4.4%)	70.4	46.9%
Medical	43.9	47.0	(6.5%)	23.2	89.6%
Surgical	33.2	33.8	(1.6%)	22.1	50.3%
Perinatal	18.2	17.6	2.9%	21.2	(14.4%)
Behavioral	8.2	9.9	(17.5%)	3.9	106.7%
Drug Utilization					
Pharmacy Scripts (per 1000)	16,130.7	16,526.7	(2.4%)	11,419.6	41.3%
Pharmacy Scripts - % Mail Order	-	-		8.7%	(100.0%)
Pharmacy Scripts - % Generic Drugs	84.6%	82.7%	2.3%	79.9%	5.9%
Office Visit Utilization					
Total Office Visits (per 1000)	5,329.3	5,523.0	(3.5%)	4,220.2	26.3%
Regular Office Visits	3,811.4	3,968.9	(4.0%)	3,137.8	21.5%
Preventive Office Visits	508.7	504.5	0.8%	485.5	4.8%
Behavioral Health Office Visits	757.5	792.7	(4.4%)	414.3	82.8%
On-Site Clinic Visits	-	-		-	-
Urgent Care Visits	28.9	20.7	39.3%	-	-
Imaging Utilization					
CT Scan	113.3	143.0	(20.8%)	65.8	72.2%
MRI Scan	88.7	107.2	(17.2%)	68.5	29.6%

### Member Profile



### Comments

- 50.8% of the members are male and 49.2% of the members are female
- 'ER visits', 'admission rates' and 'paid amounts for ER visits' were all more than the norm
- Medical, Surgical, Behavioral are higher than the norm, while Perinatal is lower than the norm
- Generic drug utilization is more than 'norm' and 'prior period'
- Preventive office visits accounted for 9.5% of total office visits compared to a norm of 11.5%

## Relative Risk Score (RRS) and Care Gap Index (CGI) within the Population

We have used two factors to understand the association between disease burden, quality and cost within your population.

1. The Relative Risk Score (RRS) is a measure of resource use - in total cost or count of outcomes events - relative to an average person (RRS = 1.00).  
A relative risk score of 1.00 means that the person's risk burden (and predicted cost) is equal to the mean (average) in the sample. While an individual with a RRS of 1.50 is predicted to spend one and a half times (50% more) in resources compared to the average person in the benchmark sample.
2. The Care Gap Index (CGI) quantifies the gaps in appropriate medical care that a member is receiving. Depending on the diseases that a member has, the extent of care gaps present serves as one assessment of the standard of care they receive and/or member compliance.

Members are grouped by RRS and then by CGI. This illustrates the cost impact of those members with gaps in compliance with evidence-based care guidelines, either through member non-compliance or peer provider quality.

63.1% of the population is classified with a low Care Gap Index (CGI) and the average Care Gap Index of 2.55 is higher than the norm CGI of 1.14.

	Members Identified	Percent of Members	Percent of Members Norm	Average PMPY	3 Yr. Spend (\$ in millions)	Percent of Spend	Percent of Spend Norm	Average Age
<b>Low Relative Risk Score (&lt; = 1.13)</b>								
Low Care Gap Index (0-2)	10,791	50.1%	61.7%	\$1,790	\$52.1	15.6%	18.1%	29.1
Medium Care Gap Index (3-4)	1,663	7.7%	6.8%	\$2,820	\$13.6	4.1%	3.5%	
High Care Gap Index (+5)	475	2.2%	1.4%	\$4,250	\$6.0	1.8%	1.4%	
<b>Subtotal Low RRS</b>	<b>12,929</b>	<b>60.0%</b>	<b>69.9%</b>	<b>\$2,013</b>	<b>\$71.8</b>	<b>21.5%</b>	<b>23.0%</b>	
<b>Medium Relative Risk Score (&gt; 1.13 and &lt; = 2.69)</b>								
Low Care Gap Index (0-2)	2,191	10.2%	13.0%	\$6,230	\$37.7	11.3%	15.0%	53.0
Medium Care Gap Index (3-4)	1,420	6.6%	4.7%	\$6,760	\$28.1	8.4%	7.4%	
High Care Gap Index (+5)	1,407	6.5%	3.3%	\$6,050	\$25.2	7.5%	5.5%	
<b>Subtotal Medium RRS</b>	<b>5,018</b>	<b>23.3%</b>	<b>20.9%</b>	<b>\$6,330</b>	<b>\$90.9</b>	<b>27.2%</b>	<b>27.9%</b>	
<b>High Relative Risk Score (&gt; 2.69)</b>								
Low Care Gap Index (0-2)	614	2.9%	3.5%	\$19,080	\$31.9	9.5%	14.4%	64.9
Medium Care Gap Index (3-4)	738	3.4%	2.4%	\$19,860	\$42.5	12.7%	13.4%	
High Care Gap Index (+5)	2,241	10.4%	3.3%	\$14,650	\$97.4	29.1%	21.3%	
<b>Subtotal High RRS</b>	<b>3,593</b>	<b>16.7%</b>	<b>9.2%</b>	<b>\$16,477</b>	<b>\$171.7</b>	<b>51.4%</b>	<b>49.1%</b>	
<b>Total</b>	<b>21,540</b>			<b>\$5,431</b>	<b>\$334.4</b>			

## Willis Access and Utilization Watch List

Evaluation of your population's compliance with evidence-based preventive services is critical and should be a key starting point. The following represent the top Gaps in Care and Risks for your population.

Category	Condition	Description	Members with Gap or Risk	Members	Actual	Norm
<b>Gaps in Care</b>						
Emerging Issues	Medical Cost > \$1000	Patients with pharmacy costs >50% of their medical cost.	3,816	15,908	24.0%	18.3%
General	All individuals	Individuals without any claim in the last 12 months.	1,885	20,847	9.0%	14.1%
Emerging Issues	Hospitalization	Patients without office visit within 7 days after discharge.	1,816	3,188	57.0%	59.0%
General	> \$1,000 in ambulatory cost	Patients without office visit in the last 12 months.	1,017	15,347	6.6%	5.3%
Preventive Care	>= 51 years old	Patients without long office visit in the last 2 years.	593	7,695	7.7%	15.9%
<b>Risks</b>						
Multi-Disease Metrics	ER Visits	Patients with ER visits on Saturday and/or Sunday.	3,557	7,844	45.4%	41.9%
Multi-Disease Metrics	All individuals	Patients with prescriptions for more than 15 drug classes in the analysis period.	2,324	21,849	10.6%	4.0%
Multi-Disease Metrics	>10 years old with ER visits	Patients with two or more ER visits in the last 12 months.	991	6,950	14.3%	17.8%
Cardiovascular Disease	All individuals	Patients with chest pain-related ER visit in the analysis period.	815	21,849	3.7%	2.1%
Pulmonary	Asthma	Patients taking more than four inhalers in the analysis period.	599	1,042	57.5%	45.4%

## Willis Wellness Watch List

Evaluation of your population's compliance with evidence-based preventive services is critical and should be a key starting point. The U.S. spends billions on acute and chronic care of questionable value, while basic, evidence-based preventive services are not being performed as often as recommended. One of the most important aspects of this report is represented on this page. These may identify key areas to focus on for wellness and prevention.

The following details screening and preventive tests and the associated compliance with these tests for the entire population. Each category is sorted by your organization's highest number of members with gaps in care, or with risks. This data is based on Verisk definitions and may differ from the Carrier/ASO standards.

Category	Condition	Description	Members with Risk or Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>						
Preventive Care	>=50 years old	Patients without any colorectal cancer screening in the last 24 months.	6,046	7,964	75.9%	72.4%
Preventive Care	Women >20 y/o	Women without pap smear in the last two years.	4,277	7,085	60.4%	49.9%
Preventive Care	Men >50 years old	Men without PSA level in the last 2 years (controversial test).	2,285	3,671	62.2%	51.1%
Preventive Care	Women >=49 y/o	Women without mammogram in last 12 months.	2,258	4,209	53.6%	57.2%
Depression	Members with any two of these- claims for Pain_Syndrome, opiates, insomnia or sleep medications in the last 12 months	Patients without any antidepressants in the last 12 months.	1,815	2,718	66.8%	65.6%
<b>Risks</b>						
Depression	Depression (or on antidepressants)	Patients with any two of these: new pain codes (joint pain, backpain, neck pain, abdominal pain, headache), opiates, insomnia or sleep medications.	1,917	3,535	54.2%	39.1%
Diabetes	Diabetes	Patients with hypertension or taking antihypertensive drugs.	1,652	1,933	85.5%	74.0%
CAD/MI	CAD	Patients with antidepressants in the analysis period.	352	1,194	29.5%	25.7%
Cancer	Cancer	Patients with skin cancer (excludes melanoma).	345	1,100	31.4%	27.2%
Cancer	Cancer	Patients with skin cancer (excludes melanoma).	345	1,100	31.4%	27.2%

**HEDIS® analog**: Healthcare Effectiveness Data and Information Set is a widely used set of performance measures in the managed care industry, developed and maintained by the National Committee for Quality Assurance (NCQA). HEDIS® consists of a set of performance measures utilized by more than 90 percent of American health plans that compare how well a plan performs in these areas: • Quality of care • Access to care • Member satisfaction with the health plan and doctors. HEDIS® ensures health plans are offering quality preventive care and service to members. It also allows for a true comparison of the performance of health plans by consumers and employers.



## Top Acute & Episodic Conditions

The following chart contains the top acute & episodic conditions / diseases based on total paid. This chart also presents utilization patterns of members with acute and episodic conditions with respect to office visits, emergency room visits and hospital admissions. Comparisons to Norm often reflect key areas of under, or over-utilization for each condition.

Diseases	Total Members		Total paid	PMPY		Office Visits per Member		ER Visits per Member		Admission per Member	
	Actual	Norm		Actual	Norm	Actual	Norm	Actual	Norm	Actual	Norm
Back Pain	2,463	2,593	\$ 31,970,014	\$ 13,403	\$ 8,405	10.94	8.47	0.57	0.49	0.20	0.13
Cancer	952	657	\$ 20,029,487	\$ 21,922	\$ 22,962	12.02	10.92	0.62	0.47	0.44	0.31
Neck Pain	898	1,038	\$ 11,212,760	\$ 12,781	\$ 8,238	11.35	8.79	0.54	0.45	0.17	0.12
Headache	481	587	\$ 7,586,161	\$ 16,227	\$ 10,315	13.26	10.04	1.25	0.98	0.24	0.19
Major Depression	493	384	\$ 7,463,301	\$ 15,973	\$ 11,539	20.18	16.29	0.87	0.77	0.33	0.28
Liver and Biliary Disease	110	179	\$ 5,948,726	\$ 58,036	\$ 24,423	13.47	9.28	2.14	1.14	1.32	0.51
Major Trauma	137	120	\$ 5,400,161	\$ 41,997	\$ 35,590	10.90	10.74	1.68	1.26	1.10	0.71
Home Infusion	33	58	\$ 4,265,580	\$ 131,249	\$ 81,563	20.15	15.78	1.88	1.57	2.03	1.26
Skin Ulcer (excl. decubitus)	95	61	\$ 1,984,767	\$ 22,012	\$ 31,742	16.01	15.62	1.12	1.08	0.99	0.69
High Risk Pregnancy	93	131	\$ 1,386,738	\$ 15,788	\$ 10,957	4.95	7.33	0.60	0.53	0.66	0.54

### Comments

- Total paid represents all costs, including those for claims unrelated to the condition for members with the condition. For example, a member with two chronic conditions would be counted under both conditions along with their total paid dollars for all of their conditions.
- High specificity criteria of one inpatient or two outpatient claims is used to identify a member with a disease; Outpatient claims includes all non-inpatient claims.
- Ranking conditions by total paid for the member per year allows us to focus on the largest clinical drivers of cost.
- The organization's overall 'Risk Index' of 12.07 is higher than the norm of 5.76. (The Risk Index is based on a combination of diagnosed diseases, recommended procedures completed to address the diseases and prescription drugs administered to address the diseases.)

## Acute & Episodic: Musculoskeletal Conditions

Musculoskeletal Conditions are one of the key reasons for lost workforce productivity in a population. These Gaps in Care may offer some insights into treatment patterns for your covered population.

Condition	Description	Members with Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>					
Patients with intervertebral disc disorder, back pain, neck pain or osteoarthritis	Patients with >2 x-rays of the same body part, limited to spine, neck, hip, knee, shoulder	529	5,084	10.4%	7.2%
Patients with intervertebral disc disorder, back pain or neck pain	Patients with continuous use of opiates for more than 12 months	365	3,717	9.8%	5.0%
Patients with Intervertebral disc disorder or back pain or neck pain, with seizure medication, muscle relaxants, benzodiazepines or opiates	Patients with more than 5 prescribing providers for the mentioned drugs	314	925	34.0%	25.5%
Patients with 2 or more outpatient visits for intervertebral disc disorder, back pain or neck pain in any 90 day period	Patients with durable medical equipment charges of >\$2000	193	4,205	4.6%	3.8%
Low back pain(new diagnosis)	Patients with CT or MRI within 6 weeks of initial diagnosis of low back pain	109	1,111	9.8%	14.8%

## Acute & Episodic: Behavioral Health Conditions

Behavioral Health Conditions are a very common co-morbidity with other, more costly chronic conditions. They are also a key reason for lost workforce productivity in a population. These Gaps in Care and Risks offer some insights into treatment patterns for your covered population. They may also provide hints to underdiagnosis.

Condition	Description	Members w/ Risk or Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>					
Members with any two of these- claims for Pain Syndrome, opiates, insomnia or sleep medications in the last 12 months	Patients without any antidepressants in the last 12 months.	1,815	2,718	66.8%	65.6%
Pain Syndrome related ER visit in the last 12 months	Patients without office visit(s) in the last 12 months	214	491	43.6%	51.8%
Patients started on ADHD medication	Patients without adequate monitoring of ADHD medications.	104	277	37.5%	56.1%
Patients >=18 y/o with bipolar disorder on SSRI in the last 12 months	Patients without a mood stabilizer in the last 12 months.	90	107	84.1%	85.5%
Depression	Patients without office visit in last 12 months.	81	1,631	5.0%	4.1%
<b>Risks</b>					
Depression (or on antidepressants)	Patients with any two of these: new pain codes (joint pain, backpain, neck pain, abdominal pain, headache), opiates, insomnia or sleep medications.	1,917	3,535	54.2%	39.1%
Depression	Patients taking SSRI and bupropion in the analysis period.	212	1,641	12.9%	10.5%
Depression	Patients with more than one hospitalization in the analysis period.	181	1,641	11.0%	5.7%
Depression	Patients with depression-related hospitalization in the analysis period.	110	1,641	6.7%	5.1%
Individuals 16 to 50 y/o with \$5,000 to \$25,000 spend in the last 12 months	Patients identified as potential somatizers.	86	1,467	5.9%	5.2%

## Top Chronic Conditions

The following chart contains the top chronic conditions / diseases based on total paid. This chart also presents utilization patterns of members with chronic conditions, for total office visits, emergency room visits and hospital admissions. Comparisons to Norm often reflect key areas of under, or over-utilization for each condition.

Diseases	Members		Total paid	PMPY		Office Visits per Member		ER Visits per Member		Admission per Member	
	Actual	Norm		Actual	Norm	Actual	Norm	Actual	Norm	Actual	Norm
Hypertension	5,091	2,228	\$ 56,256,155	\$ 11,705	\$ 9,120	8.52	7.83	0.49	0.42	0.25	0.17
Hyperlipidemia (High Cholesterol)	4,356	1,479	\$ 42,578,754	\$ 10,266	\$ 7,475	8.24	7.60	0.40	0.28	0.19	0.10
Osteoarthritis	2,404	720	\$ 30,943,751	\$ 13,609	\$ 14,680	10.87	11.43	0.54	0.54	0.28	0.27
Diabetes	2,154	1,297	\$ 29,840,929	\$ 14,720	\$ 11,670	9.23	8.63	0.54	0.48	0.28	0.21
Coronary Artery Disease (incl. MI)	1,289	434	\$ 18,127,896	\$ 14,908	\$ 19,866	10.57	10.36	0.74	0.78	0.46	0.45
Chronic Renal Failure	485	127	\$ 10,895,386	\$ 24,288	\$ 36,080	11.69	13.01	1.09	1.02	0.71	0.68
Asthma	1,019	465	\$ 10,327,745	\$ 10,647	\$ 7,972	9.30	9.19	0.69	0.69	0.16	0.16
Cerebrovascular Disease	660	188	\$ 10,132,397	\$ 16,649	\$ 25,740	11.35	11.62	1.04	1.15	0.57	0.64
Congestive Heart Failure	416	96	\$ 10,044,816	\$ 27,020	\$ 41,736	12.26	13.68	1.37	1.57	0.94	1.12
Atrial Fibrillation	666	176	\$ 9,277,015	\$ 15,258	\$ 22,229	11.61	12.40	0.97	0.91	0.66	0.59

### Comments

- Total paid represents all costs, including those for claims unrelated to the disease, for members with the disease. For example, a member with two chronic conditions would be counted under both chronic conditions along with their total paid dollars for all of their conditions.
- High specificity criteria of one inpatient or two outpatient claims is used to identify a member with a disease; Outpatient claims includes all non-inpatient claims.
- Ranking conditions by total paid for the member per year allows us to focus on the largest clinical drivers of cost.
- The organization's overall 'Risk Index' of 12.07 is higher than the norm of 5.76. (The Risk Index is based on a combination of diagnosed diseases, recommended procedures completed to address the diseases and prescription drugs administered to address the diseases.)

## Chronic Condition: Cardiovascular Disease

Cardiovascular conditions are the leading driver of medical costs and lost productivity in most covered populations. This chart shows your company's top Gaps in Care and Risks for this diagnostic category.

Condition	Description	Members w/ Risk or Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>					
Hypertension	Patients without diuretics in the last 24 months.	3,045	4,732	64.3%	69.3%
Hypertension on 2 or more agents in the last 12 months	Patients without thiazide diuretic in the last 24 months.	1,986	2,945	67.4%	64.0%
Anti-Hyperlipidemic Agents	Patients without laboratory tests in the last 12 months.	1,865	4,637	40.2%	17.2%
Diuretic	Patients without serum potassium level in the last 12 months.	1,363	2,318	58.8%	33.0%
Patients with Hypertension with at least one additional cardiovascular risk factor	Patients not receiving medications from at least 2 different antihypertensive drug classes	935	3,569	26.2%	32.7%
<b>Risks</b>					
CAD	Patients with hypertension or taking antihypertensive drugs.	1,123	1,194	94.1%	87.1%
CAD	Patients with hyperlipidemia.	942	1,194	78.9%	31.3%
All individuals	Patients with chest pain-related ER visit in the analysis period.	815	21,849	3.7%	2.1%
CAD	Patients with antiplatelet or anticoagulants in the analysis period.	673	1,194	56.4%	46.7%
Hypertension	Patients with more than one hospitalization in the analysis period.	598	4,826	12.4%	5.3%

## Chronic Condition: Endocrine Disease (includes Diabetes)

Diabetes is another leading driver of medical costs and lost productivity in most covered populations. This chart shows your company's top Gaps in Care and Risks for this diagnostic category.

Condition	Description	Members w/ Risk or Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>					
Diabetes	Patients without semiannual HbA1c test in the last 24 months.	1,509	1,883	80.1%	72.8%
Diabetes	Patients without retinal eye exam in the last 12 months.	1,076	1,922	56.0%	69.0%
Diabetes	Patients without micro or macroalbumin screening test in the last 12 months.	1,024	1,922	53.3%	37.3%
Diabetes	Patients without serum creatinine in the last 12 months.	962	1,922	50.1%	22.3%
Diabetes	Patients without lipid profile test in the last 12 months.	959	1,922	49.9%	29.1%
<b>Risks</b>					
Diabetes	Patients with hypertension or taking antihypertensive drugs.	1,652	1,933	85.5%	74.0%
Diabetes	Patients with hyperlipidemia.	1,342	1,933	69.4%	20.0%
Diabetes	Patients with oral antidiabetic agents in the analysis period.	1,309	1,933	67.7%	67.6%
Men > 60 years old	Patients with diabetes.	591	2,074	28.5%	18.0%
Diabetes	Patients with insulin in the analysis period .	577	1,933	29.9%	28.0%

## Chronic Condition: Pulmonary Disease

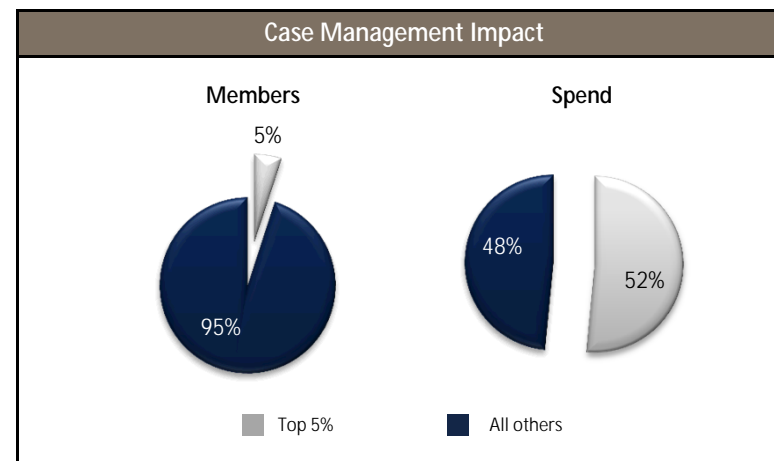
Pulmonary Conditions are an important driver of medical costs and lost productivity in many covered populations. This chart shows your company's top Gaps in Care and Risks for this diagnostic category.

Condition	Description	Members w/ Risk or Gap	Current Members	Actual	Norm
<b>Gaps in Care</b>					
Asthma	Patients without spirometry test in the last 12 months.	780	1,034	75.4%	64.2%
Asthma	Patients without inhaled corticosteroids or leukotriene inhibitors in the last 12 months.	490	1,034	47.4%	38.7%
COPD	Patients without pneumococcal assessment or PPV vaccine in the last 24 months.	413	480	86.0%	85.6%
COPD	Patients without spirometry testing in the last 12 months.	381	480	79.4%	64.5%
Asthma - HEDIS analog	Patients without appropriate medication for persistent asthma in the last 12 months.	373	871	42.8%	14.0%
<b>Risks</b>					
Asthma	Patients with more than two nebulizers in the analysis period.	735	1,042	70.5%	62.8%
Asthma	Patients taking more than four inhalers in the analysis period.	599	1,042	57.5%	45.4%
Asthma	Patients with more than three prescriptions for albuterol in the analysis period.	429	1,042	41.2%	31.9%
Sleep Apnea	Patients with polysomnography study and CPAP in the analysis period.	344	920	37.4%	43.4%
COPD	Patients taking oral steroids in the analysis period.	250	481	52.0%	57.2%

## High Cost, High Disease Burden

The following summarizes members who have incurred a high total spend (Top 5%), based on total cost and diagnosis. These members will generally benefit from Case Management.

Top Paid Diagnosis	Members	Cost	Average Spend
Osteoarthritis	109	\$5,092,868	\$46,724
Cancer Therapies	37	\$3,756,811	\$101,535
Intervertebral Disc Disorders	49	\$3,097,239	\$63,209
Joint Derangement	86	\$2,879,153	\$33,479
Procedure Complications	20	\$2,488,118	\$124,406
CAD	29	\$2,335,428	\$80,532
Renal Failure	17	\$2,223,036	\$130,767
Musculoskeletal Disorders	44	\$1,939,703	\$44,084
Lower GI Disorders	24	\$1,504,265	\$62,678
Rehabilitation Therapies	16	\$1,309,873	\$81,867
Septicemia	15	\$1,293,132	\$86,209
Misc Skin Diseases	25	\$1,257,922	\$50,317
Complicated GI Disorders	19	\$1,239,720	\$65,248
Atrial Fibrillation	16	\$1,166,756	\$72,922
ENT and Upper Resp Disorders	28	\$1,159,201	\$41,400
Pregnancy Complications	37	\$1,112,644	\$30,071
Breast Cancer	16	\$1,100,049	\$68,753
Diabetes Mellitus	22	\$1,099,194	\$49,963
Congenital Anomalies	19	\$1,080,175	\$56,851
Myocardial Infarction	15	\$1,068,266	\$71,218
All Other	597	\$33,862,553	\$56,721
<b>Total Top 5%</b>	<b>1240</b>	<b>\$72,066,106</b>	<b>\$58,118</b>



### Comments

- n Understand the case management vendor trigger points for identification of members to participate
- n Understand how the vendor reaches out to the member to engage in the program
  - What is their success rate in members accepting?
  - What are the reasons that a member would not engage?
- n Understand how the vendor reports cost savings from the case management program
- n Understand the reporting provided by case management vendor

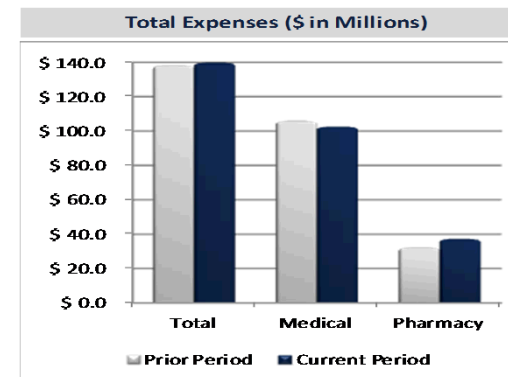


## SUMMARY: The Willis Opportunity Cost Estimate

### SNAPSHOT: Your Top Medical Drivers (Current Period: Jan 2014 to Dec 2014)

Acute / Episodic Conditions	Members	Total paid
Back Pain	2,463	\$31,970,014
Cancer	952	\$20,029,487
Neck Pain	898	\$11,212,760
Headache	481	\$7,586,161
Major Depression	493	\$7,463,301

Chronic Conditions	Members	Total paid
Hypertension	5,091	\$56,256,155
Hyperlipidemia (High Cholesterol)	4,356	\$42,578,754
Osteoarthritis	2,404	\$30,943,751
Diabetes	2,154	\$29,840,929
Coronary Artery Disease (incl. MI)	1,289	\$18,127,896



### Gaps in Care Opportunity Cost\* (Time Period: Mar 2012 to Feb 2015)

	Members	Average PMPY	Calculated Opportunity (10%)	Calculated Opportunity (25%)	Calculated Opportunity (50%)	Calculated Opportunity (100%)
<b>POPULATION SOLUTIONS: Low Relative Risk Score (&lt;= 1.13)</b>						
Low Care Gap Index (0-2)	10,791	\$1,790				
Medium Care Gap Index (3-4)	1,663	\$2,820	\$171,289	\$428,223	\$856,445	<b>\$1,712,890</b>
High Care Gap Index (+5)	475	\$4,250	\$116,850	\$292,125	\$584,250	<b>\$1,168,500</b>
<b>TARGETED SOLUTIONS; Medium Relative Risk Score (&gt; 1.13 and &lt;= 2.69)</b>						
Low Care Gap Index (0-2)	2,191	\$6,230				
Medium Care Gap Index (3-4)	1,420	\$6,760	\$75,260	\$188,150	\$376,300	<b>\$752,600</b>
High Care Gap Index (+5)	1,407	\$6,050	-\$25,326	-\$63,315	-\$126,630	<b>-\$253,260</b>
<b>HIGH-TOUCH SOLUTIONS: High Relative Risk Score (&gt; 2.69)</b>						
Low Care Gap Index (0-2)	614	\$19,080				
Medium Care Gap Index (3-4)	738	\$19,860	\$57,564	\$143,910	\$287,820	<b>\$575,640</b>
High Care Gap Index (+5)	2,241	\$14,650	-\$992,763	-\$2,481,908	-\$4,963,815	<b>-\$9,927,630</b>
<b>Total</b>			<b>-\$597,126</b>	<b>-\$1,492,815</b>	<b>-\$2,985,630</b>	<b>-\$5,971,260</b>

\* It is important to understand that the Gaps in Care Opportunity Costs are a calculated value based on your population's risk scores, care gap indices and average PMPY over the time period. It is intended as an estimate of potential savings that might be realized by reducing care gaps in your population.

## ACTION: The Willis Continuum of Strategies

This WillisMed Health Outcomes Report is foundational to your organization's data-driven strategies to improve health risks, lower medical costs and mitigate lost productivity. This Continuum of Strategies is intended as a menu of possible solutions for your organization.

	BASIC	MODERATE	PROGRESSIVE
<b>Population Solutions</b>			
<b>Wellness Programs</b>	<b>Employer-Developed Programs</b> <b>Carrier Wellness Communications</b> Employee Health Education Biometric Screenings Health Risk Assessments Health and Wellness Fairs Self-care guides Wellness Events Newsletters Prevention awareness	<b>Carrier Programs</b> <b>Employer Wellness Materials</b> Employee Wellness Portal Health Vending / Cafeteria Activity Tracking Device Behavior Change Programs Company Wide Challenges Tobacco Cessation <b>Wellness Committee</b> <b>Onsite immunizations</b>	<b>Third-Party Vendors</b> <b>Third-Party Wellness Communications</b> Culture of Health Onsite Weight Management Programs Onsite Fitness Center Onsite Health Coaching Integration w/Social Media, Mobile Apps <b>Wellness Center / Office</b> <b>Branded Wellness Program</b> <b>Age / gender preventive care</b>
<b>Incentives</b>	<b>Incentives for registration</b> <b>Incentives for participation</b> <b>Preventive screening rewards</b>	<b>Incentives for behavior changes</b> <b>Reward for utilization</b> <b>Points-based incentive programs</b>	<b>Incentives for health outcomes</b> <b>Reward for getting results</b> <b>"Smart" points-based incentive programs</b>
<b>Targeted Solutions</b>			
<b>Improved Access</b>	Education about carrier resources Carrier patient advocacy Member assistance services Online provider network information	<b>Patient Advocacy solutions</b> <b>Third-Party Nurse Help Line</b> Physician consultation services Carrier transparency solution	Visiting Nurse Onsite Health Clinic Telehealth / Telemedicine Vendor Transparency Vendor
<b>Disease Management</b>	Carrier disease management services Web-based condition coaching Disease-specific online resources	Carrier disease management services Telephonic condition coaching Disease-specific programs and solutions	Third-Party disease management Face-to-face disease management Disease-specific Third-Party solutions
<b>Absence Intervention</b>	Absence policies and communications Return to work accomodation	Employee Assistance Program Stay at work accomodation	Short term disability warm transfer Voc Rehab and Ergonomics Assessment
<b>High Touch Solutions</b>			
<b>Case Management</b>	Carrier-Based Case Management Carrier Catastrophic Claims Solution	Catastrophic case management vendor Third-Party Telephonic Second Opinion	Centers of Excellence RN Home Visit Program
<b>Other Solutions</b>	Patient Advocacy Program	Stop-Loss Coverage	Long term disability care management
<b>Medical and Rx Plan Design</b>			
<b>Medical Plan</b>	Traditional plan PPO Single Tier Premium Differentials	HDHP/HSA Consumer-Driven Plan Changes Tiered Premium / Coverage	Full Replacement CDHP Value-Based Design Employee earned contributions
<b>Pharmacy Plan</b>	Rx: Two or Three-Tier Design Rx: Quantity Limits Rx: Precertification	Rx: Brand-Deductible Rx: Mandatory Mail Order / Generic Eliminate OOP costs for select medications	PBM Carve out Specialty Rx Carve out Eliminate all OOP costs for selected conditions