Chronic Disease Analysis: Trends and Opportunities for Purchasers

Studied Community, Three Employers, 2013-2017Q1

With Data through 2017Q3

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Key Takeaways:

1. The cohort of members in the community with one of the six chronic diseases is increasing at a rate of approximately 226 per quarter, or 7.5 per thousand members.

2. In the community of Studied Community, 64% of the health care spend is associated with this chronic cohort.

3. In 2016, the employers spent $17,640 PMPY on individuals with diabetes, $13,825 PMPY on those with CAD, and $10,399 PMPY on those with HTN.

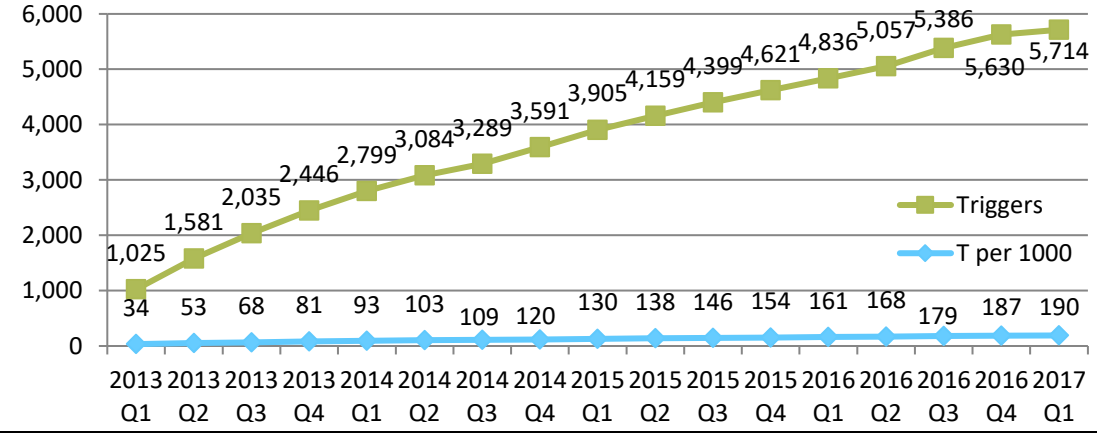
4. Looking at all six of the studied chronic conditions, the trend in preventative care has been decreasing over time, while the trend in PACs has been increasing.

Employers are more burdened than ever by the high cost of health care in the US. We are paying more for health care, but we are not actually getting healthier. Employees with chronic conditions are especially concerning as they drive a large portion of the health care spend. The *Centers for Disease Control* estimates that 70% of employers' health care costs nationwide are directly or indirectly attributable to chronic disease.
More than ever employers need transparency in what they are purchasing and actionable information based on reliable data. Claims data can provide insight into specific employer populations, and help employers understand how best they can manage health care spend and their employees with chronic conditions.

The Growing Burden of Chronic Disease

The PROMETHEUS model allows for analysis of claims data to identify (or "trigger") persons with chronic diseases over time. The six conditions of interest are Diabetes Mellitus (DM), Coronary Artery Disease (CAD), Chronic Obstructive Pulmonary Disease (COPD), Asthma, Hypertension (HTN), and Gastroesophageal Reflux Disease (GERD).

Figure 1: Cohort Triggers, by Trigger Date of Chronic Condition, 2013-2017Q1



The power of data and PROMETHEUS:

Use your health care data to make informed decisions to empower proactive purchasing. The Colorado Business Group on Health (CBGH) uses a model called PROMETHEUS to identify and analyze quality waste in the health care system. CBGH is able to identify persons with chronic conditions and follow them through time to determine whether they are receiving adequate care for their condition, or whether they are suffering from **Potentially Avoidable Conditions (PACs)** and costs.

About the Data:

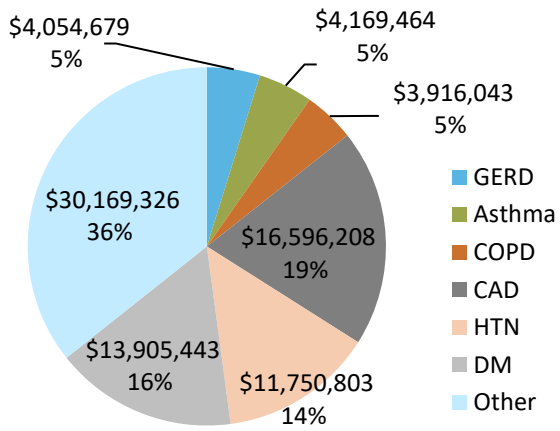
The data shown here represent three employers/ purchasers in the Studied Community. Data from 2013-2017Q2 was used. For ease of interpretation, data has been annualized (presented yearly) when appropriate. All of the data that is referenced in this report refers to people in this data set that are between the ages of 18 to 64. All dollar amounts reported are plan *and* member spend.

The six chronic conditions that are analyzed are Diabetes (DM), Coronary Artery Disease (CAD), Chronic Obstructive Pulmonary Disease (COPD), Asthma, Hypertension (HTN) and Gastroesophageal Reflux Disease (GERD). Persons and their associated spend are not duplicated in this data. If a person has more than one of these six conditions, they are only represented once based on a hierarchy of conditions that is assigned.

Utilizing evidence-based care playbooks, two important categories of spend are calculated. First, those associated with **Potentially Avoidable Complications (PACs),** and second, costs that are related to care that would be **Expected** for the condition of interest.

For the three employers in the Studied Community, over the 4 ¼ year data interval, there were 5,714 members identified with one of the six chronic conditions (Figure 1). There were 30,043 members within our population of interest (ages 18-64). This means that 19.0% of the Studied Community claimant population has at least one of these six chronic conditions. Figure 1 shows by quarter, when these patients triggered. The chronic population has risen for two reasons. First, it takes up to 12 months of data to trigger the members who were "chronic" at the beginning of the study period. Second, as employees age, their risk of developing a chronic disease increases. Of the 5,714 chronic individuals, 33% triggered with either coronary artery disease (CAD) or hypertension (HTN), while 16% have diabetes. Both the prevalence and the cost of these conditions is alarming. Figure 2 shows the annualized spend for the community. The six conditions account for the majority of the total spend. The plans are spending approximately $54.4 MM/year on people with one of these six conditions.

Figure 2: Annualized Chronic Spend as a Percentage of Total Spend, Studied Community, 2013-2017Q1



The total spend on everyone in the population of interest was $84.5 MM/year (on average). This means that **64% of community health care dollars were spent on the 19% of members who have one of the six chronic conditions**.

Figure 3: Yearly Average Spend/Claimant for Three Chronic Conditions, Studied Community, 2013-2017Q1

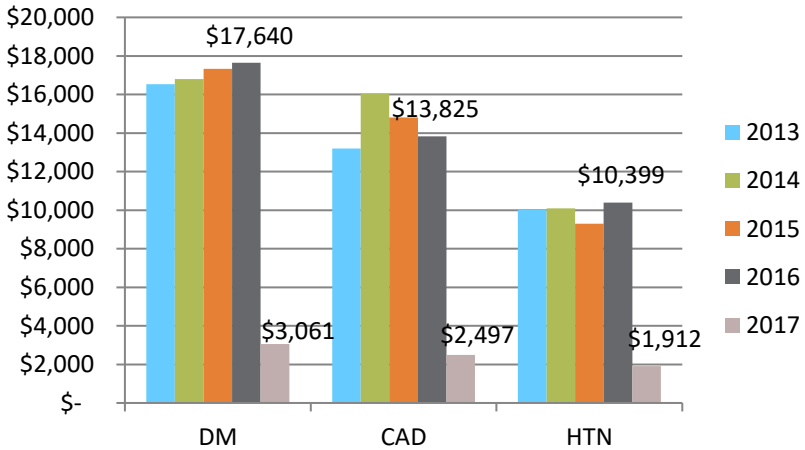


Figure 4: Annual Average Spend Associated with PACs, Studied Community, 2013-2017Q1

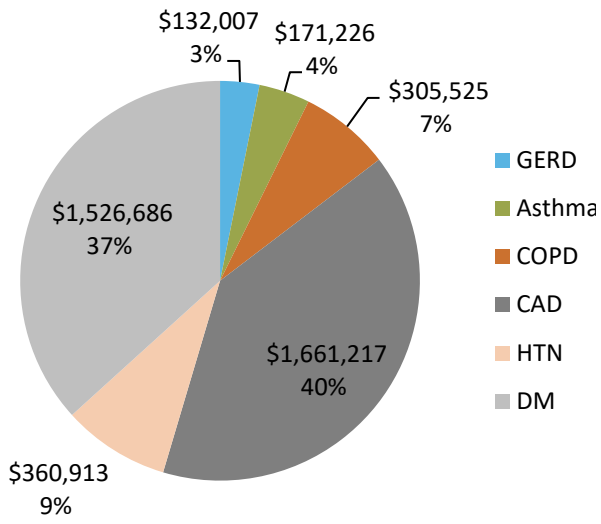


Figure 3 shows yearly expenditures, averaged per person, for the three most expensive of the chronic diseases. Due to adjudication lag for inpatient claims, the values for the final quarter are partial.

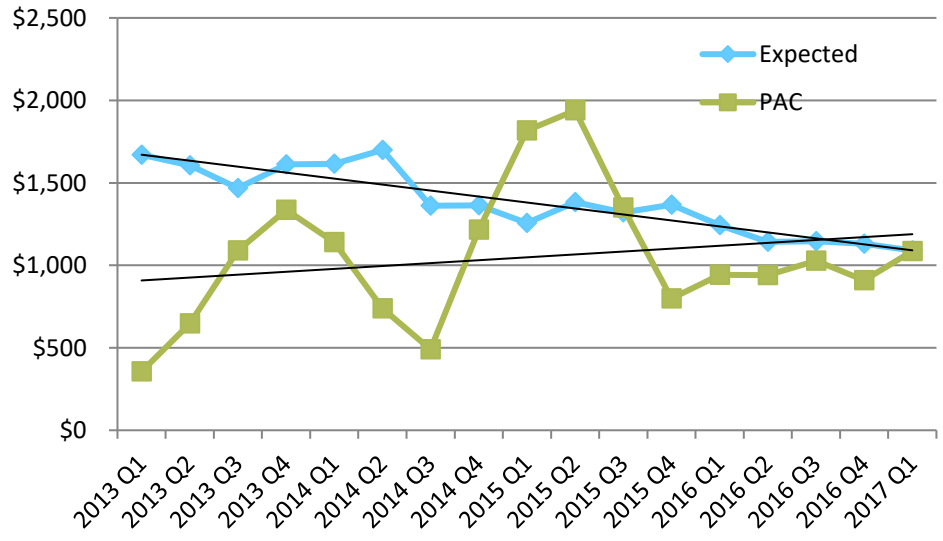
The Burden of PACs

Of the total spend described, Figure 4 shows the portion of the dollars that were deemed to be potentially avoidable care. In total about 4.6% or $4.1 million dollars of spend per year were deemed to be PACs. Approximately 77% of PACs were produced by people with either CAD or diabetes.

The Relationship between PAC and Expected/Preventative Care

Figure 5 below shows the trends of utilization of expected care and PACs for employees with any of the 6 chronic conditions. The blue line shows expected care. Over the four year period, the expected care was decreasing steadily (as indicated by the solid black trend line). The green line shows the spend on PACs. PAC spend clearly has more variation associated with it. Overall however, the trend of PACs is increasing. This observation speaks strongly to the fact that people with chronic diseases *need* to get their expected/ preventative care. We have seen in many different communities, and for many different employers, that more expected care results in fewer PACs. Conversely, less expected care results in a much more costly spend in services that are potentially avoidable. Over the last four years, the trend in PACs for CAD has increased by 139% while the trend in Expected care has decreased to approximately 66% of its value in 2013Q1.

Figure 5: Comparing Expected Care and PACs, Per Claimant Per Quarter, All Chronics, Studied Community, 2013-2017Q1



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