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Actionable vs. Actuarial Data

How good medical cost data can help you shape future results

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Introduction

Quality medical cost data can be hard to come by. Producing this data requires cleaning up records from myriad sources, developing a consistent claim tagging methodology, applying reliable completion factors, tying results to financial statements, etc.

Assuming cleaned up, reconciled, and tagged data is available – what next? What is the purpose of having quality medical cost data to analyze? Too many medical cost review meetings, with clinicians, actuaries, and executives, have turned up lots of good information on unfavorable trends and utilization/cost levels, but no real guidance around what, if anything, to do about those issues.

Getting that basic level of information from your medical cost data provides the knowledge to appropriately price and budget for emerging results. This basic information is "actuarial" data, and its value is not to be understated. However, what if you could actually fix the issues you see emerging in your data? Being able to change undesirable results provides the ability to shape future financial results. The key to having successful medical cost reviews that lead to truly being able to impact results is in providing actionable data.

This paper will both

a) Outline a basic process for thinking through how to develop effective reporting for improved control over cost outcomes; and

b) Walk through several examples of how to apply that process.

Creating Actionable Reporting – Basic Thought Process

What is actionable data?

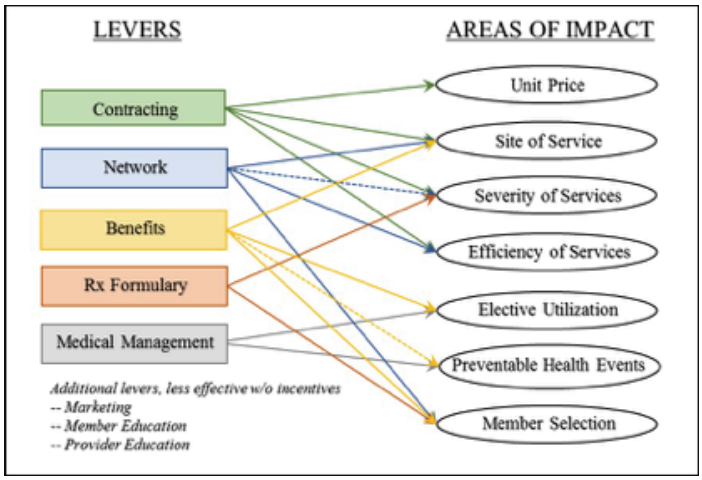
- Data that leads to an action that can positively impact results
- Data that is reported and analyzed in such a way as to identify the true drivers of a higher level identified problem

How do you create actionable data?

1. Identify all of the levers, or items you have control over
2. Identify areas of cost impacted by those levers (see Figure 1 for examples of specific levers and the key areas of cost they impact)
3. Create a reporting suite that provides views of the data related to the identified areas of impact. For example, if elective / discretionary utilization is something that can be influenced through benefits and/or medical management, create a view of your data that shows elective utilization over time alongside member conditions, type of service, cost sharing, etc. These types of views will help identify if/where there is a problem and provide information as to which lever(s) to pull to affect results going forward.
4. Be sure that, in any reporting created, the whole picture is being considered. Partial information can still provide actionable results, but often leads to ineffective or inappropriate actions.

The goal is to create views of data that allow you to precisely identify the areas of cost that need to be impacted, as well as the levers that need to be pulled in order to impact them. Subsequent sections will outline examples of how (and how not) to use data to identify effective action items, starting from a more basic overview of Emergency Room and moving to a more complex membership analysis.

Figure 1: Examples of Levers & Areas they Impac



Example 1: Emergency Care Review – Using Data to Drive Effective Decision-making

This section outlines three different medical cost reviews of the Emergency Room (ER) experience of Commercial Health Plan (CHP). Through this hypothetical case study, I demonstrate that having only basic data views (which is typical of many organizations) can be in-actionable or misleading, and how to create reporting that will lead to effective actionable results.

Review #1: In-actionable (Typical View)

Table 1 shows the medical cost information that is typically reviewed for ER – unit cost, utilization, and trend*. Overall trend is 15% (higher than expected,) driven by both unit cost (9.1%) and utilization (5.4%). With typical unit cost and utilization trends each being 40+ basis points lower than these numbers, management has identified ER as an area of concern. However, they are at a loss as to what to do to slow the cost or frequency trends. Takeaways from the cost meeting are to review ER contracting and member cost sharing. Contracts and benefits both appear in line with competitors, and so no action items beyond pricing/budget considerations come from the review. Subsequent year results for CHP are, unsurprisingly, similar.

Table 1: "Actuarial" Data

Emergency Room	Allowed PMPM	Allwd $/Visit	# Visits
Year 1	$24.6	$1,048.6	281.8
Year 2	$28.3	$1,143.7	297.0
Trend	**15.0%**	**9.1%**	**5.4%**

*Note: Trends and benchmarks are both useful tools for identifying medical cost issues and opportunities. In these examples trends are used, simply for illustration. How and when to effectively use trends and benchmarks is outside the scope of this paper.

Review #2: Actionable but Ineffective (Better View)
Consider instead that the data shown in Table 2 was provided in the medical cost review – detail by ER level of severity. Now, management has a view of the impact of severity changes on overall trends.

CHP reviewed this data and understood that the price portion of unit cost was not their major concern. They saw their key issues being that emergency utilization overall is increasing (+5.4% utilization trend) and that there is likely up-coding of ER claims, as can be seen in the 4.2% increase in % of Level 4/5 visits. This "double whammy" of events is driving the high overall trend.

Management decides they need to impact results in two ways:

1. Reduce utilization by steering members to alternate places of care
2. CHP decides to increase ER copays from $100 to $250 in order to create incentives for members to seek care in lower cost settings.
3. Reduce severity impact by stopping providers from up-coding visits » CHP decides to implement medical reviews of all Level 4 & 5 ER claims to insure appropriateness of coding.

CHP performed another medical cost review in Year 3 and found that ER trends and utilization patterns were largely the same as they were in Year 2. Members did not appear to be deterred from the ER by the higher copay and the net savings from the medical review program was nominal. Now what?

The data and analysis put together for CHP to review didn't identify the heart of their problem. While they did put actions in place to combat the identified issues, their results were not effectively impacted because CHP:

a) Misdiagnosed the true cause of the utilization problem (weren't seeing the whole picture of access to and use of emergency care); and,

b) Implemented an ineffective solution to the severity problem (weren't identifying the appropriate lever to pull).

Review #3: Actionable and Effective (Optimal View)

In order to effectively diagnose a cost or trend problem:

1. Make sure all related costs are included in your analysis (to see the whole picture)
2. Make sure all quantifiable causes are being reviewed (to pinpoint why the trends are occurring)

In the above reviews, one item CHP was missing was a look at all emergency care settings – alongside ER results, what were the results for urgent care, clinic, and after-hours/emergent PCP services? Other key items missing from the analysis were information on whether or not these visits were appropriate to be seen in the ER setting (and if not, why members were choosing to go there anyway), and whether or not the events themselves were preventable.
See Table 3 for a summary of more specific ER information that provides both a holistic view of emergency care being rendered and a categorization of appropriateness of that ER usage.

- Emergencies that could have been provided in a lower cost setting. Potential causes:
  - ◊ Lack of access
  - ◊ Lack of knowledge / certainty of emergency
  - ◊ Lack of monetary incentive
- Emergencies that could have been prevented / avoided altogether through better care. Potential causes:
  - ◊ Lack of knowledge on how to prevent the event
  - ◊ Lack of self-care management

After reviewing this level of data (detail not shown), CHP pinpoints the specific causes of their increased ER utilization/severity:

1. Lack of access to after-hours care (seen in low utilization

Table 2: High Level "Actionable" Data

	YEAR 1			YEAR 2			TREND		
Service Level	Allowed PMPM	Allwd $/Visit	# Visits	Allowed PMPM	Allwd $/Visit	# Visits	Allowed PMPM	Allwd $/Visit	# Visits
Emergency Room	**$24.6**	**$1,048.6**	**281.8**	**$28.3**	**$1,143.7**	**297.0**	**15.0%**	**9.1%**	**5.4%**
Level 1	$0.0	$199.5	1.1	$0.0	$209.4	0.6	-45.5%	5.0%	-48.1%
Level 2	$0.8	$400.7	25.0	$0.8	$420.7	22.0	-7.6%	5.0%	-12.0%
Level 3	$4.9	$641.4	92.0	$5.0	$673.5	89.4	2.1%	5.0%	-2.8%
Level 4	$10.5	$1,215.8	103.3	$12.1	$1,276.6	113.5	15.3%	5.0%	9.9%
Level 5	$8.4	$1,666.7	60.4	$10.4	$1,750.1	71.6	24.4%	5.0%	18.5%
L4/5 as % Tot	*76.6%*		*58.1%*	*79.5%*		*62.3%*	2.9%		*4.2%*

and negative trends for non-ER emergent care categories) » CHP reviewed their network and filled in adequacy gaps in addition to sending members cost and location information on the closest non-ER emergency care options for them.

2. Lack of self-care management » CHP identified asthma and diabetes as two top conditions with high avoidable ER usage and created care management programs targeting those members, making sure they have affordable access to their medications and are educated on how to prevent emergency health events.

When CHP performed another medical cost review in Year 3, they found that their ER utilization had decreased and consequently so had ER severity, and overall ER trends were under control. The overall cost of emergency care, across all settings, was down. The problem with providers up-coding ER visits had become less of a concern as more members were avoiding emergency room events and receiving care in appropriate lower cost settings. However, revisiting provider contracting to create incentives that align with appropriate coding of care would be a more effective lever to pull than the implementation of medical review.

Example 2: Site of Service Review – Using Data to Identify Unseen Opportunities

Too often, medical cost and trend data is scoured only for problem areas. The focus of medical cost reviews becomes high trend categories of service and the drivers of those high trends. While these are critical areas to understand and address, opportunities for savings are not limited to high trend or high cost categories of service.

This example will show two different ways of looking at surgeries. The first approach lends itself simply to identifying a problem trend. The second allows a review of potential opportunities for savings, even where there may not be an overall problem.

Table 4 shows surgical cost and utilization results for CHP by the various places surgeries are performed. CHP management reviews the trends in this table and sees that there isn't much concerning here to focus on, and then they move on. In terms of "actuarial" results, that conclusion is OK – there is nothing to be alarmed about for pricing or budget review since PMPM and utilization trends are negative (-0.9%, -1.4%, respectively). However, in terms of cost savings opportunities, this table is difficult to interpret. There is no clear way for CHP to evaluate whether surgeries are being performed in the appropriate setting. There could be shifting from Inpatient to Outpatient (OP) on surgeries, and further shifting from Outpatient to Surgical Centers (ASC) and to Professional Office), but since surgeries can move across all of these lines, there is no definitive answer here.

A way to better hone in on what's really happening with site of service is to isolate surgeries that are able to be performed in multiple locations. Table 5 shows a subset of surgeries that are "moveable" and categorizes them as to whether they are IP/OP moveable, OP/ASC moveable, or OP/ASC/Office moveable. This view allows CHP to focus on surgeries that they can actually impact. After reviewing these results, CHP management quickly sees that there isn't much movement happening between IP/OP or OP/ASC, but the OP/ASC/

Table 3: "Whole Picture" Actionable Data on Emergency Room

	YEAR 1			YEAR 2			TREND		
Service Level	Allowed PMPM	Allwd $/Visit	# Visits	Allowed PMPM	Allwd $/Visit	# Visits	Allowed PMPM	Allwd $/Visit	# Visits
Emergency Room	**$24.62**	**$1,048.6**	**281.8**	**$28.31**	**$1,143.7**	**297.0**	**15.0%**	**9.1%**	**5.4%**
Level 1	$0.02	$199.5	1.1	$0.01	$209.4	0.6	-45.5%	5.0%	-48.1%
Level 2	$0.83	$400.7	25.0	$0.77	$420.7	22.0	-7.6%	5.0%	-12.0%
Level 3	$4.92	$641.4	92.0	$5.02	$673.5	89.4	2.1%	5.0%	-2.8%
Level 4	$10.46	$1,215.8	103.3	$12.07	$1,276.6	113.5	15.3%	5.0%	9.9%
Level 5	$8.39	$1,666.7	60.4	$10.44	$1,750.1	71.6	24.4%	5.0%	18.5%
Urgent Care	**$0.67**	**$201.0**	**40.0**	**$0.61**	**$201.0**	**36.7**	**-8.2%**	**0.0%**	**-8.2%**
Minute Clinic	**$0.02**	**$85.2**	**3.1**	**$0.02**	**$88.9**	**2.7**	**-9.1%**	**4.4%**	**-12.9%**
PCP After Hours	**$0.00**	**$69.6**	**0.1**	**$0.00**	**$70.8**	**0.1**	**1.7%**	**1.7%**	**0.0%**

	YEAR 2		
Emergency Category	Allowed PMPM	Allwd $/Visit	# Visits
Total Emergency Room	**$28.31**	**$1,143.7**	**297.0**
Emergent / ER Appropriate	$14.15	$1,633.8	104.0
Emergent / Other Setting	$9.91	$1,334.3	89.1
Emergent / Avoidable	$2.83	$571.8	59.4
Not Emergent	$1.42	$381.2	44.6

Table 4: Approach 1 – Surgery by Place of Service

	YEAR 1			YEAR 2			TREND		
Surgery by POS	PMPM	Util/K	% Util	PMPM	Util/K	% Util	PMPM	Util/K	% Util
Total	**$311.2**	**1,050.6**	**100.0%**	**$308.3**	**1,036.0**	**100.0%**	**-0.9%**	**-1.4%**	**0.0%**
Inpatient	$182.0	71.4	6.8%	$186.9	69.4	6.7%	2.7%	-2.7%	-0.1%
Outpatient	$87.2	206.4	19.6%	$77.4	200.0	19.3%	-11.2%	-3.1%	-0.3%
Surgical Center	$14.7	131.4	12.5%	$15.1	124.3	12.0%	2.7%	-5.4%	-0.5%
Office	$27.3	641.5	61.1%	$28.9	642.3	62.0%	6.0%	0.1%	0.9%

Table 5: Approach 2 – Moveable Surgeries by Setting Options

	YEAR 1			YEAR 2			TREND		
Surgery by POS	PMPM	Util/K	% Util	PMPM	Util/K	% Util	PMPM	Util/K	% Util
Total	**$102.1**	**547.2**	**52.1%**	**$106.8**	**546.4**	**52.7%**	**4.6%**	**-0.1%**	**0.7%**
IP / OP	$51.9	55.6	100.0%	$54.9	56.6	100.0%	5.6%	1.8%	0.0%
Inpatient	$32.8	14.3	25.7%	$36.5	14.6	25.8%	11.4%	2.1%	0.1%
Outpatient	$19.2	41.3	74.3%	$18.4	42.0	74.2%	-4.2%	1.7%	-0.1%
OP / ASC	$23.8	107.0	100.0%	$23.1	103.4	100.0%	-2.8%	-3.3%	0.0%
Outpatient	$15.7	41.3	38.6%	$14.4	40.0	38.7%	-8.2%	-3.1%	0.1%
Surgical Center	$8.1	65.7	61.4%	$8.7	63.4	61.3%	7.6%	-3.5%	-0.1%
OP / ASC / Office	$26.4	222.1	100.0%	$28.8	226.5	100.0%	9.2%	2.0%	0.0%
Outpatient	$14.8	41.3	18.6%	$15.7	46.0	20.3%	5.7%	11.4%	1.7%
Surgical Center	$5.6	52.5	23.7%	$7.0	58.4	25.8%	24.5%	11.2%	2.1%
Office	$6.0	128.3	57.8%	$6.2	122.0	53.9%	3.5%	-4.9%	-3.9%

Office category appears to show shifting in the wrong direction, with a 3.9% decrease in Office surgeries and a 1.7 % increase in Outpatient surgeries.

Further review by type of surgery, review of network adequacy, etc. will allow CHP to understand why this is happening and develop action plans around which levers to pull to influence these results. And, the opportunity doesn't stop with this high level approach to reviewing surgeries by site of service. In addition to looking for shifting of services, you can also develop and compare to benchmarks by setting. For example, even though there is no significant shifting between IP and OP in the results below, the portion of those types of surgeries being performed IP (currently at 25.7%, Table 5) could be closer to 10%, which would result in savings even where there are no red flags.

Example 3: Member Condition Review – Using Data in Untraditional Ways

What happens if, after reviewing basic cost data, there seems to be high cost and trend issues across service categories? Too often, organizations will prioritize the top concern areas (largest $) and dig further within those service categories (e.g., lab, emergency room, pharmacy) when the issues are really being driven by member conditions (e.g., diabetes, cancer).

Member condition impacts are one of the most difficult for an organization to tackle. Even if they concluded that they have much sicker members than they previously had (causing very high trends and cost/budget issues), management is often at a loss as to how to address the issue. Usually, the response is price increases, which can actually exacerbate a problem of anti-selection.

Well-organized, actionable, data can help point to areas management would be able to impact. Here are a few steps to take to get a deeper understanding of your member population:

- **Step 1: Attach conditions to all members** (e.g., arthritis, asthma, cancer, COPD, CHF, diabetes, mental health, healthy), making sure to attach all relevant conditions to a member to be able to measure impacts of co-morbidities.
- **Step 2: Organize costs for effective review.** Categorize costs as directly related to and not directly related to the identified condition. Further classify costs by key categories – major cost categories as well as elective vs. not. Make sure to highlight services that support self-care (professional, pharmacy) as well as services that are potentially preventable. These classifications help to highlight connections between levers (care management) and areas of impact (preventable events).
- **Step 3: Create layers of reports to hone in on issues.** This step creates efficiency in the process of identifying actionable issues. Reporting should be focused on actionable results – i.e., what can be influenced? Look back at the levers and areas of impact: Unit price, Site of Service, Severity of Services, Efficiency of Services, etc. These items are all potentially able to be impacted. Creating reporting that quantifies these elements of cost of care will allow you to quickly analyze which issues are driving a

Table 6: High Level Member Condition View

Condition	YEAR 1			YEAR 2			TREND		
	% Mem	PMPM	PMPM (by condition	% Mem	PMPM	PMPM (by condition	% Mem	PMPM	PMPM (by condition
Total	100.0%	$991.7	$991.7	100.0%	$1,108.0	$1,108.0	0.0%	11.7%	11.7%
Healthy	31.0%	$64.39	$207.7	31.0%	$67.24	$216.9	0.0%	4.4%	4.4%
Cancer	3.0%	$87.14	$2,904.6	4.5%	$161.07	$3,579.3	1.5%	84.8%	23.2%
Diabetes	6.0%	$55.93	$932.1	6.5%	$67.15	$1,033.1	0.5%	20.1%	10.8%
Other Chronic	60.0%	$784.23	$1,307.0	58.0%	$812.51	$1,400.9	-2.0%	3.6%	7.2%

problem. From there, you can further evaluate which lever is appropriate to pull to influence your results.

As a simplified example, suppose a high level member-condition analysis at CHP is created as shown in Table 6.

Cancer and Diabetes both seem to be conditions driving the overall double-digit trend, with Cancer trends at 85%. From this simple chart, you can see that patients with Cancer diagnoses are up 1.5% points in Year 2 and that costs for patients with Cancer diagnoses are up over 20%. From these results, you would want to explore the possibility of anti-selection, network issues, and contracting issues related to Cancer spend. The layers of reporting created in step 3 above allow you to quickly review:

- Unit prices, severity, and utilization by Cancer Facilities
- Impact of cost-outlier members on overall trend.

Management's review finds a substantial utilization jump at a very high-cost facility. CHP recently added this facility in-network, while competitor health plans do not have this facility in-network. This network change has caused significant anti-selection and a shift towards much higher cost of care overall. CHP management can now discuss action items around addressing the identified network issue.

Conclusion

Having access to well-tagged data, endless suites of reports, and/or a sophisticated data interface does not mean an organization is getting the information it needs to impact financial results. The key to impacting financial results is to have information that allows you to quickly identify:

- Areas of concern (what is happening)
- Causes of the problem (why it is happening)
- Mitigating actions (what levers to pull to fix it)

This paper highlights an analytical thought process for the development of clear, concise, and actionable reporting. This process could lead to the development of a comprehensive custom reporting solution, or it could lead to adding key ad hoc reports to enhance a solution already in place. Each organization needs to assess its needs and resources (data availability, software sophistication, staffing time and expertise, access to clinician input, etc.) before deciding at what level and how to incorporate actionable reporting into their cost reviews.

There are many ways of organizing, tagging, and summarizing data, and what might be right for one organization may not be as effective for another. The basic process outlined above, however, is universally valuable and its applications extend far beyond the few examples reviewed in this paper.

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