

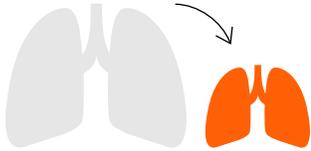
Measuring Care Management

Maximize the value of your care management program.

The Value of Care Management

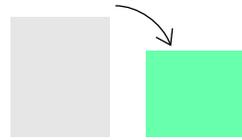
Innovative healthcare organizations around the country are using carefully-planned care management initiatives as a strategic tool to maximize the impact of each care manager, improve patient health outcomes, and reduce utilization.

41.5% reduction in ED visits for COPD patients



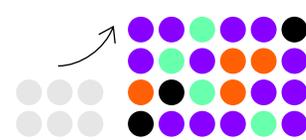
A Northeast hospital system participating in an ACO began analyzing ED visits over time by practice and provider, along with utilization drivers like primary diagnosis and utilization trends for patients with specific conditions. They found that patients with COPD were frequently going to the ED to be treated for pneumonia. They established a quality measure across all care settings to understand whether patients with COPD were getting their pneumococcal vaccinations, used their quality team to identify high risk patients, and conducted an outreach campaign to get COPD patients vaccinated. A year after launching the vaccination campaign, they saw a 41.5% reduction in ED visits for patients with COPD.

Treat-and-release ED visits reduced from 365K to 296K



A multi-state ACO serving 250,000 patients wanted to reduce avoidable ED utilization across its network. The ACO rolled out a patient education campaign, and then used predictive analytics to identify current and predicted high ED utilizers and enroll them in care management workflows. Care managers assessed the root causes of ED use for each patient, and collaborated with the patient and the primary care provider to develop a care plan with appropriate interventions. The ACO reduced avoidable ED visits from 365/k to 296/k and continues to see a downward trend as they roll out more care management initiatives.

3x more patients served by the same care management team



A large Northeast ACO was able to provide care management services to significantly more patients, tripling the number of patients served by its nurse care managers from 2016-2018. By implementing care management technology, insights from aggregated EHR and claims data, standardized workflows, and workforce engagement, the ACO enabled an increase in nurse care manager caseload from an average of 65-70 in 2016 to an average of 91 in 2018.

How You Measure Matters

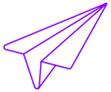
Care management is an important component of population health management, but healthcare organizations sometimes struggle to assess the impact and maximize the value of a given program. Poor measurement strategies can result in organizations cutting their care management programs too early, before they have a chance to show results. Poor measurement can also cause a misalignment between the resources being invested and the organization's ultimate population health goals.

To effectively measure the impact and value of your care management program, think about it as having five distinct phases:



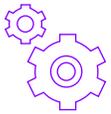
Planning

Initial scoping and sizing exercises along with all the planning activities required for program launch.



Program Launch

Program is getting off the ground and starting to enroll patients.



Operational Stability

Program is operating smoothly, as evidenced by stabilized process measures. However, it is too soon to measure outcomes.



Mature Program

Program has been in place long enough to support outcome measurement.



Transition

Based on program value, you may decide to shut down, modify, or extend the program.

Cross-functional Collaboration

Before you set up a care management program or tackle a care management-related analysis project, you'll want to foster strong collaboration between key parts of your organization.

An example approach:

Stage 1

Analytics and care management should begin collaborating in the program design stage:

- Utilize data to help identify the best way to outreach to patients
- How large the target population should be, and as a result, how many FTEs the program will need
- Size the potential opportunity
- Agree on targets for how much this program can impact the target population

Establish shared expectations about total patient volume the program can serve, the caseload per care manager, and the duration of care

Stage 2

Pull finance teams into the process at this stage:

- Analytics should utilize findings from step 1 to build a base ROI projection
- Finance and analytics need to determine how to best budget for the program and agree to some time horizons when programmatic ROI will be calculated

Your specific organizational structure may differ, but the important take-away is the need to have ongoing discussion and collaboration between these three areas throughout the life of a care management program.



Ultimately, it's about patient care...

Care management is an important clinical strategy to improve patient health and quality of life by reducing the time a patient spends in the emergency department or hospital battling chronic conditions.

However, a care management program can only improve patient care if the organization can implement it in a financially sustainable way. Because we'll be talking extensively about the financial dimensions of a care management program, we wanted to address this point early on.

The goal of bringing together clinicians, financial team members, and data analysts is to build a program that can sustainably provide high-quality care and improve the quality of life for patients.

...and supporting physicians effectively

Care management programs can also help reduce the often-significant burden placed on individual providers.

“Provider burnout is now unfortunately a widely accepted reality,” explains Arcadia Chief Medical Officer Rich Parker, MD. “Part of the problem relates to doctors having to deal with many of the psychosocial problems of their patients in addition to their medical problems. A highly functioning care management team takes over a great deal of that complex care for this cohort of challenging patients, directly resulting in an improvement in provider work life.”



Planning

Before you begin planning your care management program in any kind of detail, you should start with a basic sizing exercise. You'll want to answer the following questions:

- Who are the patients you would impact with this program?
- Can you identify them early enough to make an impact?
- Are there enough patients with enough medical cost to justify the program?
- If you could impact these patients, what would that impact look like?
- What is your ROI target?
- What type of impact on your target population would you need to have to hit your ROI target?

As you evaluate the volumes of patients you may be able to impact, be sure to consider engagement rate projections as well as enrollment rate projections. Assume that you will need to engage substantially more patients than you will eventually enroll. For Medicaid programs, your engagement rate may need to be twice as high as your desired enrollment rate.

Example: sizing exercise #1

The Care Management team at an ACO believes they can reduce admissions by 10% for patients who suffer from diabetic ketoacidosis (DKA), a condition of dangerously uncontrolled diabetes that can result in coma and death if not treated aggressively with IV insulin and IV fluid in the ER and often in the hospital. The ACO wants to use one dedicated care manager at a cost of \$100k per year.

Here's how they might work with their analytics team to size the potential value of this initiative.

Who are the patients you would impact with this program?	Patients who suffer from DKA.
Can you identify them early enough to make an impact?	Yes
Are there enough patients with enough medical cost to justify the program?	Upon investigation, only 15 patients have DKA.
If you could impact these patients, what would that impact look like?	On average, these patients have 2 inpatient admissions in a given calendar year at an avg. cost of \$10k. In total, only 30 admits can be impacted through the program.
What is your ROI target?	2:1
What type of impact would you need to have to you're your ROI?	The care manager costs \$100k/year, so to achieve a 2:1 ROI the target savings would need to be \$200k/year - the equivalent of 20 admits, a 66% reduction.

As you can see, you would need to target a 66% reduction in admissions for the DKA population for this program to work. This target is too aggressive. The needs of these patients might be better addressed in other ways, or the health system might rethink its approach to building a care management program.

Example: sizing exercise #2

Here's how teams at another health system might answer the same set of questions for a potential hospice outreach and education program.

As patients near the end of their lives, the health system wants to make sure that they receive the appropriate treatments to be comfortable, maintain a good quality of life, and have their preferences about dying honored. The system's Care Management team would like to dedicate one full time FTE (at a cost of \$100k) to educating their patient population about hospice as well as conducting outreach to high risk patients.

Who are the patients you would impact with this program?	Patients approaching end of life within the next 12 months.
Can you identify them early enough to make an impact?	Yes
Are there enough patients with enough medical cost to justify the program?	200 of 500 patients who passed away in the past 12 months did so in hospice.
If you could impact these patients, what would that impact look like?	Internal analysis shows approximately \$5,000 in net savings per patient who receives end of life care in a hospice setting versus an inpatient setting.
What is your ROI target?	2:1
What type of impact would you need to have to you're your ROI?	The cost of the care manager is \$100k so the target savings are \$200k. This would require identifying and enrolling an additional 40 patients in hospice care. This is an 8% point increase in members receiving hospice care.

As you can see, you would need to target a 66% reduction in admissions for the DKA population for this program to work. This target is too aggressive. The needs of these patients might be better addressed in other ways, or the health system might rethink its approach to building a care management program.

Using Predictive Analytics to Maximize Program Value

Predictive analytics can be a powerful tool in the planning stage as you identify your target population and stratify that population for outreach.



Diabetes

Congestive heart failure

4 ED visits

1 hospitalization



Jane and Julie are each managing diabetes and congestive heart failure. Both had 4 ED visits and 1 hospitalization last year for preventable causes. But Jane is much more likely to benefit from enrollment in care management because she has a high mortality risk, moderate demographic risk, and lives in a neighborhood with high poverty but good transportation options.

*Disclaimer: the actual factors that affect patient impactability may be more complex; this example is for illustrative purposes.

But first, what do we mean by predictive analytics?

Most healthcare organizations have limited care management resources and want to make sure those resources are being allocated to the patients most likely to benefit from interventions (as measured by improvements in condition or reductions in cost and utilization).

The problem with traditional stratification approaches

However, traditional approaches to population stratification often use morbidity-based algorithms designed for risk adjustment. These algorithms do not include all the data needed to predict which patients will benefit from interventions, and often flag high cost or high risk patients who are not generally impactable by care management. For example, a patient who suffered major injuries in an automobile accident would be high cost but would not be a good candidate for enrollment in a care management program.

Predictive analytics offer a different lens

Predictive analytics offer a different approach. These algorithms are developed using machine learning over a large, rich data set to determine the characteristics that make a patient most likely to benefit from a care management program.

This is a rich and complex topic, and we are just scratching the surface in talking about the use of predictive analytics in the planning phase. For a clinician-friendly overview on the use of predictive analytics for care management, please check out this explanation from our chief medical officer Rich Parker, MD at arcadia.io/nehimss.



It's not about finding out things that are happening right now.



"How often are my diabetics going to the Emergency Department?"



It's not about finding out exact outcomes in the future.



"Which diabetics are going to end up in the Emergency Department next year?"



It is about using existing information to identify patterns and to infer trends and potential outcomes in the future.



"Which diabetics are likely to use the Emergency Department — but could be steered elsewhere?"

Understand Your Predictive Capabilities During Planning

As you develop your program, you should consider three areas where predictive analytics may be appropriate.

Identifying your target population

Ideally, predictive analytics will help you identify the patients most likely to benefit from care management. These are the patients you should prioritize for clinical review and enrollment in your program.

A couple of important points about using predictive analytics for population identification:

1 | Predictive analytics can help you key in on a target population for a given program, but you should still engage clinicians in review and allow referrals from clinicians across your network. This will help you ensure that all appropriate patients are enrolled.

2 | Predictive analytics is a tool for matching the right patients with the right programs — not a means to limit access to care. Not all patients will be a good fit for a given program, but your organization will have other means of addressing their needs.

Many healthcare organizations build their own patient stratification models to identify members for care management. While these models are great for identifying specific cohorts of patients, they come up short when trying to optimize a program. For instance, a risk stratification model may identify 5,000 members for outreach over the course of a year for a chronic complex care management program. Within that group of 5,000, some patients are more impactable than others.

A predictive algorithm can help sort that list of 5,000 patients from most to least impactable. This enables the healthcare organization to focus outreach and enrollment efforts on the most impactable patients early in the year.

Optimizing outreach activities

Predictive analytics can also be used to stratify your population for outreach. For example, if you are launching a program to reduce aggregate ED utilization, you might use predictive analytics to stratify your patients into three groups based on their likelihood of an avoidable ED visit in the next 12 months. You can then invest your highest-cost intervention efforts in the group most likely to benefit.

Likelihood of Avoidable ED Visit	Intervention	Resource Cost
Highest	Face-to-face appointment with care manager	High
Medium	Outreach by phone from care manager	Moderate
Lowest	Email or mail campaign outreach	Low

Measuring Outcomes

Predictive analytics can be a key component to your approach for measuring program success. We will touch on this later, but during the planning stage it can be beneficial to understand your organization's capabilities in this area. Predictive capabilities are improving rapidly in the healthcare industry, so it is important to understand what predictive scores are available and applicable to any new care management program.

“Payers and providers can achieve the full potential of care management — including a positive ROI (often, above 2:1) — if they substantially improve their ability to identify, reach out to, and engage patients.”

In our experience, technological advancements, including the evolution of big data, decreased cloud computing costs, and improved machine learning capabilities, have created an opportunity for care management to succeed at levels not previously possible.”

Oleg Bestsenny, Jared Scharen, and Amit Shah, MD, “Supercharging the ROI of your care management programs”, published August 2019 by McKinsey & Company.
<https://healthcare.mckinsey.com/supercharging-roi-your-care-management-programs>

Assessing Your Staffing Model

In your sizing exercise, you estimated the likely savings you might be able to achieve through patient interventions to reduce utilization. However, you'll also need to project the costs of the staff needed to execute those interventions. In the sizing example you will gain an understanding of what your target population looks like. At this point you need to determine how many FTEs you will need to outreach to your entire target population and what your cost per FTE is.

Measuring Success

Over the life of your care management program, you will need both process measures and outcome measures. You will want to decide how you will measure success to ensure your structure the program effectively to meet those goals.

Process Measures

Process measures describe your operational performance. They should be defined before the program is launched, but you may want to make some tweaks once your operation is under way. Some examples of process measures include:

- Number of patients enrolled
- Length of enrollment
- Number of patients completing the program

Think about good leading indicators. For example, to assess your likelihood of meeting a target number of patients managed in the program over a year, you should look at caseloads, enrollment rates, and case duration on a daily basis.

Also assess your patient denial rate (when patients are engaged but do not enroll) to identify whether your enrollment targets are at risk. You may need to train care managers to more effectively engage patients.

Outcome Measures

For most programs, the goal is medical expense reduction. However, that kind of broad goal can be difficult to measure. A better strategy is to define a specific clinical objective for the program that impacts medical expense. For example, you may want to reduce emergency department visits or decrease certain kinds of inpatient admissions.

Taking the time to set goals for the program prior to launch allows you to set expectations for what the program will accomplish and how long it will take to show an impact.

Example: outreach program for ED super-utilizers

In this example, an ACO established a program to conduct outreach to patients with heavy emergency department (ED) use, with the goal of reducing their ED utilization. Here are some good and bad outcome measure examples for this program.

Good Outcome Measures



ED utilization/k for patients who enroll vs. decline

This outcome measure is specific and tailored to the intended program impact. By targeting your KPI, you will cut down on natural volatility in your data. This will give you a clearer picture of your program performance.

Median medical expense per member for patients who enroll vs. decline

Using the median medical expense instead of the average will avoid having high-cost outliers skew your figures.

This measure is not as targeted as your ED utilization/k measure. In the (not too unlikely) scenario where ED utilization/k and median medical expense measures do not tell the same story, additional analysis will be needed.

Bad Outcome Measures



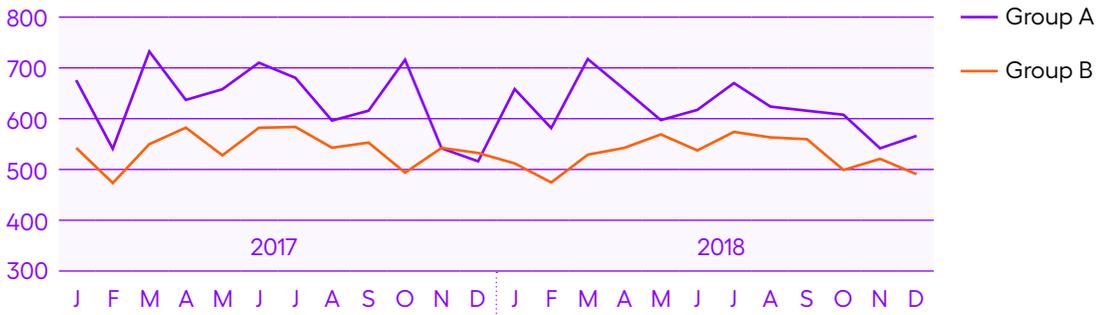
ED utilization/k for the total population

This measure is too broad. For most care management programs, the target population is a small subset of the whole. You can reduce utilization for your target population but have the natural volatility of your whole population overshadow your gains.

Total medical expense for the total population

Again, this measure is too broad. The reduction in medical expense for patients enrolled in a given care management program may well be significant — but not significant enough To cause a meaningful change in TME for your entire population.

ED Utilization per 1k

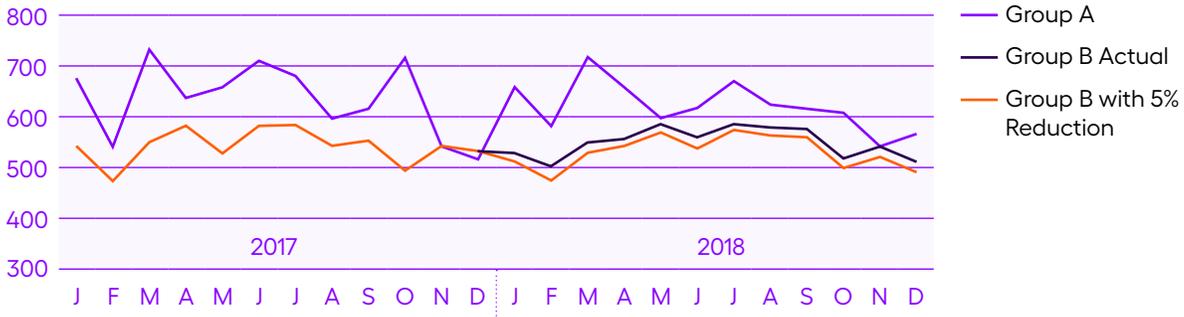


Using the graph above, can you tell which group was enrolled in a successful program that reduced ED utilization/k by 5%? Below are aggregate numbers. Does this tell a different story?

A
Group A experienced a 2.7% decrease in ED per 1k from 2017 (539.2 ED per 1k) to 2018 (527.6 ED per 1k)

B
Group B experienced a 2.2% decrease in ED per 1k from 2017 (638.6 ED per 1k) to 2018 (621.6 ED per 1k)

Given these numbers it would be hard to draw a reasonable conclusion about which group had run a care management program. In actuality, Group B had the 5% reduction in ED utilization/k as shown below.



Danger: volatility

When you evaluate a potential measure, you should look at historical performance trends for that measure. If performance is volatile, the measure may not be a good candidate for use.

For example, let's say your goal is to reduce emergency department visits by 5%. If your historical emergency visit numbers frequently move up or down by 20%, you will not be able to attribute the impact of your program. The volatility would mask your program performance.

Danger: losing the trees in the forest

If you attempt to assess the impact of your program on your overall population, the size and volatility of the overall population may mask your program results.

The graphs to the right show ED utilization/k rates for two real populations within a Medicare ACO: Group A and Group B. The ED utilization/k data for 2017 is real; for 2018, we have reduced ED usage by 5% for one of the groups. In most cases, a 5% reduction in ED usage due to a care management initiative would be considered a success.

This illustration highlights the importance of understanding volatility and of being mindful of how success is measured. Population-level outcomes can be misleading and are generally not good indicators of the success or failure of a program. Taking a more targeted approach is key for measuring success. Here, ED utilization/k is a valid measure — but it is not being applied to a sufficiently targeted population. A better strategy to measure program impact would be to compare target and control populations within the broader group.

Be sure to use targeted key performance indicators (KPIs) that strip out as much noise as possible, and assess the specific population impacted by the program. This is key for drawing accurate conclusions about programmatic success or failure. Later in this paper we will touch on more sophisticated methods for measuring success. In the interim, use process measures to evaluate program performance.

Danger: measuring your program too early

It's important to define your outcome goals in the planning phase, so that you can structure your program to execute the interventions that will drive performance in those areas. You will also want to monitor them early in the program. However, you should not base any conclusions on them until you have sufficient data. In the interim, use process measures to evaluate program performance.

Gathering Data

As part of the planning process, you should also determine how much data you will need in order to identify target patients and measure program impact. There are two aspects to this: scope and duration.

- **Scope:** in order to run your measures, do you need a data set that includes claims-based information or clinical information from one or multiple EHRs? Similarly, what data do you need to stratify your patients and identify the best candidates for your program?
- **Duration:** how long will it take before enough data has been captured to assess program performance? If the impact will not be seen until Year 2 of the program, you should set that expectation early on.

Duration varies depending on the program and target population. Estimates are based on a combination of the size of your target population and the volatility of the outcomes you are trying to measure. Once you define and model your program KPIs and complete your sizing exercises, you should be ready to estimate how long you will need to run the program before being able to accurately measure success. Most programs need one full year of enrollment and claims data.

Calculating ROI

Determining return on investment (ROI) for a care management program can sound simple on paper but be complicated in practice. We'll walk through some of the basics here, but an organization doing this type of analysis for the first time may want to consult an experienced analyst.

There are two main approaches to calculating a return on investment (ROI) for a care management program: retrospective review of cohort utilization and the case control method. We do not recommend using these independently; rather, they should be used in tandem along with an assessment of general population factors that might impact program performance.

Retrospective review of cohort utilization

In this method, you would identify a target population in your historical data that is similar to the population being managed in the current measurement period. You would then use cost/ utilization metrics from the historical population to predict what the care managed population's utilization would have looked like without intervention. The variance between predicted and actual can be used to determine programmatic returns.

In this scenario predictive analytics can be a key contributor to identifying the right cohort. Below is a simplistic example for illustrative purposes:

- An ACO is attempting to measure the success of a care management program that began in 2018.
- They used a predictive algorithm to identify patients for the 2018 program.
- They use the same algorithm to identify patients that would have been included if they had launched the program in 2017.
- They then compare health outcomes and trends for the 2017 population versus the 2018 population.

Case control method

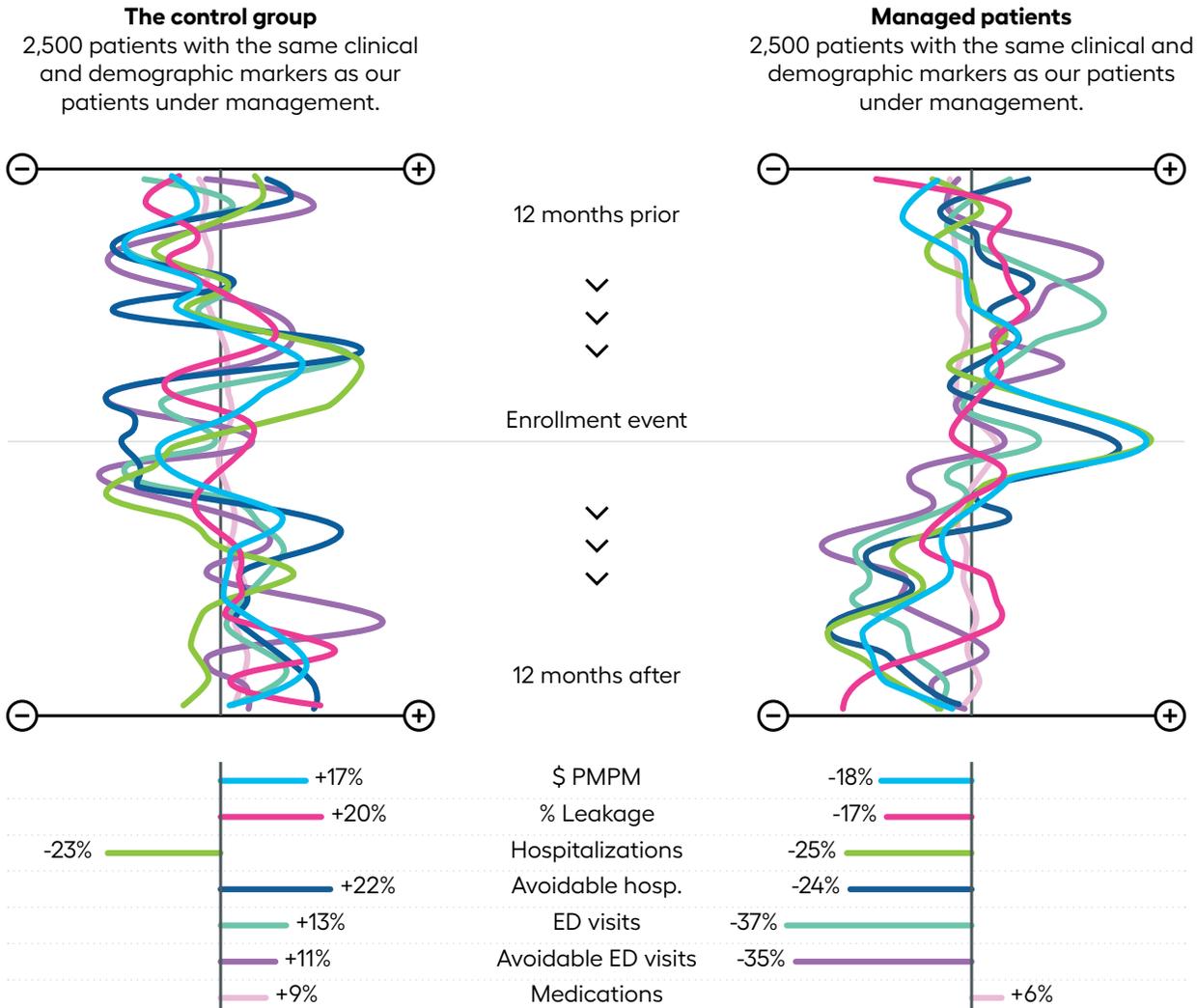
With the case control method, you would compare utilization outcomes between your care managed population and a similar population that was not care managed.

An example of this would be looking at differences in utilization for members who enrolled in care management vs. those who were identified for the program but were not enrolled, perhaps because they declined the program or could not be reached. Below is a simplistic example for illustrative purposes:

- An ACO is attempting to measure the success of a care management program that began in 2018.
- They can compare the outcomes of the members who were enrolled in their CCPM program in 2018 with the outcomes of members who were identified but not enrolled in 2018.

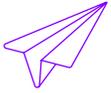
Example: using the case control method

The graphic below depicts the outcomes of care managed patients and a control group on seven key measures over a two-year measurement period. In Year 1, neither group was enrolled in care management. In Year 2, the Managed Patients were enrolled in care management; the Control Group was not enrolled.



On every measure, the population enrolled in care management had better outcomes. (Note: medications can a tricky measure: in some cases, you would expect to see medications increase in a well-managed population as a means to better manage chronic conditions.)

Bottom line: a strong collaboration between analysts, care management leaders, and the financial team will ensure that your program costs and gains are appropriately categorized and modeled. Given the challenges of measuring success it is very important that all key stakeholders understand the strengths and weaknesses of the measurement methodology and results. Some analysis will prove inconclusive.



Program Launch

As your organization starts to roll out the care management program, your analytics focus should shift to these key activities:

Analytics Activity	Description
Set up regular meeting cadence	At first, you will want to meet biweekly with your care management, financial, and analytics teams to review reports, discuss the data and underlying planning assumptions, and decide whether to make adjustments. You will probably move to a monthly cadence after the initial launch.
Implement program reporting	During the launch and ramp-up phase, you should implement reports to track your process and outcome measures. These reports should be reviewed during the regular team meetings, and you will want to budget time to adjust them based on user feedback.
Validate planning assumptions	To create your base model, you made assumptions about program structure and performance. As the program is being rolled out, you should validate and update those assumptions against the operational reality.
Provide clinical program management dashboards	Care management and other clinical leaders have a real need for management dashboards that let them see process-oriented measures and care manager workload. It can be very difficult to overcome a slow start in order to hit year-end targets. Dashboards can help leaders identify and remediate problems early in the program.

The regular cross-functional review of performance data is critical, especially in the first few months of the program. For example, if the care management team is having trouble convincing patients to enroll in the program, the finance team may want to adjust the budget accordingly and the analytics team may want to improve the patient identification approach.

By making sure everyone understands the program from the very beginning, you can provide better support to the care management leaders and drive creative solutions to problems that may come up.



Operational Stability

Your program will hit this phase when the team feels that the program is running smoothly, you see that the process measures have stabilized, and patients are moving through the program at appropriate timelines. This is the most challenging stage of the program from an analytics perspective.

Why so challenging? It's unrealistic to expect immediate perfection, so you will want to adapt to feedback and make changes along the way. However, as you optimize your program, ensure you track these changes so your data and reporting are accurate. For example, clinical review may have excluded patients selected during initial stratification. Here are some of the challenges you may run into, and strategies for overcoming them:

Challenge	Analytics Strategy
<p>So much data! As the care management program starts to generate data, you may get an influx of questions about program performance that can be answered in many different, potentially-conflicting ways.</p>	<p>Keep the organization focused on the specific process measures you identified during your planning phase — this is how success should be evaluated.</p>
<p>Jumping to conclusions Avoid jumping to conclusions about outcome trends before enough time has elapsed for your program to have an impact. Canceling programs too soon means you lose operational and care management strategy learnings.</p>	<p>In communicating outcome trends, be sure to continually set expectations about when impacts should be assessed. You may need to do ongoing stakeholder education and encourage the team to let the program run until you have sufficient data to form performance conclusions.</p>
<p>Patient selection As care managers begin to work with patients, they may determine that some patients selected for care management are not actually impactable.</p>	<p>Continually work with program leaders to tweak and optimize the algorithms used for patient selection. Predictive analytics can be hugely helpful here. All changes and updates to patient selection should be tracked. Depending on the changes, this could impact staffing models and outcome measurement.</p>
<p>Better scaling Create a multidisciplinary team.</p>	<p>Extend nurses and social workers with support staff like community health workers to increase caseloads and ultimately offer services to more patients. This can also help offset labor shortages.</p>
<p>Earning ROI Care management programs may need to be creative to create savings, especially during this phase.</p>	<p>Nurse outreach can drive savings by redirecting future care. When a nurse educates a patient on the benefits of care coordination through an ACO, the patient can be influenced to seek future care in-network. When this messaging is implemented, in-network utilization rates can be measured early on.</p>

By keeping the organization focused on the agreed-upon measures of success during this phase, the analytics team can support effective decision-making.



Mature Program

The timing of the transition to this phase will depend on the type and volume of the care management program, but typically you need at least a year of full claims run-out data before you can begin to assess program outcomes.

When you start evaluating program performance, it is critically important to have close collaboration between analysts, financial leaders, and care management leaders. Slight nuances can have major implications for reporting, so everyone needs to understand what is happening operationally.

The program you launched is not your current program. You will need to revisit your outcome measures to make sure that they accurately reflect program performance.

Solicit input from care managers

It is critically important for your analysts to have regular conversations with your care managers. How do your care managers describe the impacts they are having on patients? Insights from care managers may help you identify program benefits you had not previously considered.

Danger: coarse comparison of costs

Sometimes organizations try to measure performance by comparing a list of patients in the program and not in the program and looking at the aggregate costs associated with each group. This is not a good strategy.

Generally, patients in care management are very sick both when they enter the program and when they exit it. Because of their clinical needs, they will generally remain high utilizers compared to a population of average risk. Looking at aggregate medical expense does not provide adequate insight into program performance.

Measure your program as it is, not as it was

Now you can reap the benefits of the time you invested in defining success during the planning phase. By focusing the team on the intended impacts of the program, you will be better able to assess its success.

Here are some key questions you should evaluate to ensure your reporting accurately reflects the evolution of your program:

Evolution Area	Analytics Strategy
Who is actually in the program?	Be sure you are measuring the right patients. In one case, we saw patients enroll in the program one day and disenroll the next. This would have thrown off the results.
Are the measures nuanced and program-specific?	This is a consideration in earlier phases as well. Ensure you have a clear understanding of the specific impacts the program is intended to drive. For example, look at both readmissions and admissions. Have you been able to reduce readmissions but not admissions or ED visits?
Do you have the right comparison group?	Make sure you select the right set of patients for comparison to your population under care management. One effective approach is to use the patients who were selected for the program but declined to enroll.
Can you see trends graphically?	Always visualize your data and look at trends graphically. This will give you insights or areas of inquiry you might not otherwise have. However, be cautious when exploring highly-volatile data.
Do you need more information on large variances?	If you see large increases or decreases in utilization or cost groups that are out of scope for the care management program, collaborate with care managers to assess if a variance is caused by the care management program or should be considered noise.



Transition

Once a program has been operating in a mature state and its impact can be evaluated, the organization should determine whether to cut, change, or extend the program.

At this stage, you have a fully operational program and will have made some assessments about the impact this program has had on the enrolled patient population. Now you will need to determine whether your care management program is viable in the long term.



If you decide to extend your program, you should look to optimize the value it provides your patient population and providers.

- Analyze your target population from the prior year. Would the program have been more successful if it had focused on a smaller, sicker population — or could it have been scaled up while still maintaining a high ROI?
- Revisit your patient identification methodology. Improvements to an existing predictive model or patient stratification model can create operational efficiencies. Refining your predictive model is a great opportunity to reengage clinicians.
- Begin to conduct a deeper analysis on your program. What changes can you test to see whether they improve outcomes? Can you model the impact of potential changes using your historical data? Be sure to consider the use of operational data as well as patient population and clinical data.

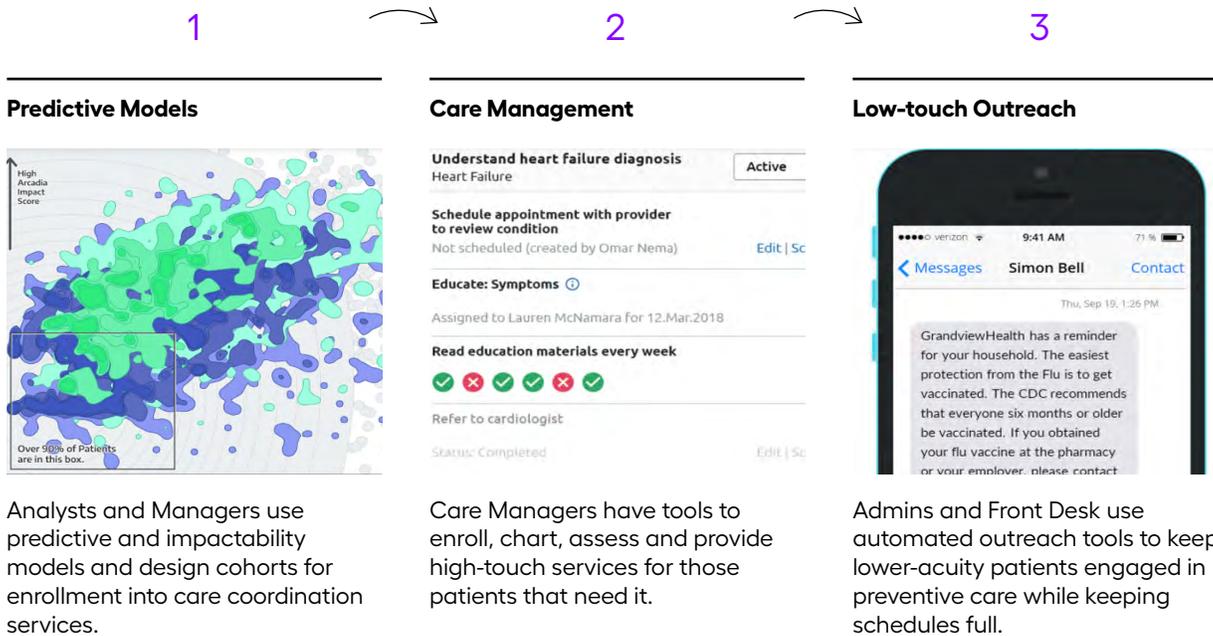


You should also look at whether your current program can be the springboard to other successful initiatives.

- Are there cohorts of patients not served by the current program who might be a good fit for a new initiatives?
- What unmet needs have you identified?
- What can the lessons learned from this program contribute to work elsewhere?

Arcadia Analytics and Your Care Management Program

Arcadia Analytics offers a fully integrated care management application built on the richest foundation of clinical, operational, and administrative data from EHR, claims-based, and other data sources. From population identification through care planning through patient outreach, you can match the right patient to the right intervention.



Meanwhile, your analysts can access that same rich data asset through a self-service toolkit. Arcadia Foundry empowers your teams to use any number of tools — Python to SQL, Qlik to Tableau — to analyze care management performance.

- Reporting model: a simplified 10-table schema for rapid reporting and analytics.
- Data details: richer data, including unstructured notes running closer to the source.
- Sandbox database: an empty, scalable sandbox database to upload your own data and procedures.

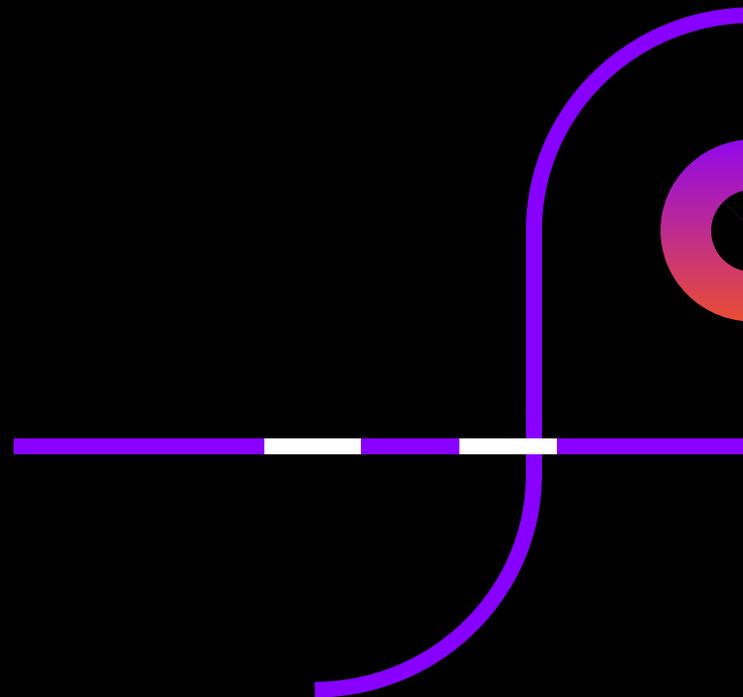
Whether your analysts use our web-based front end, customize our Tableau care management reports, or run their own database queries with complete flexibility and control, Arcadia Analytics gives you the information you need to maximize the value of your care management program.

Arcadia Customer Insights Team

Our customer insights team partners with our customers to help them promote success in value based care by making the most of their data. We create actionable reports and help customers unlock actionable insights from their vast array of healthcare data. Our experienced analysts can be engaged to help clients design, monitor, and measure data-driven care management programs.



→ **Learn more at arcadia.io** — or contact us for a consultation at hello@arcadia.io



About Arcadia

Arcadia is dedicated to happier, healthier days for all. We transform diverse data into a unified fabric for health. Our platform delivers actionable insights for our customers to advance care and research, drive strategic growth, and achieve financial success. For more information, visit arcadia.io.

