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3M Health Information Systems

# Take action: How predictive analytics can help you improve healthcare value





# I have good data. Now what?

There is no doubt that robust data analytics are critical to managing rising healthcare costs and clinical outcomes. Analytics give you a deep understanding of where your member population stands today. But the true utility of analytics lies in the ability to answer your next questions: *Why are these trends happening, and what should I do about it?*

The insight gained from these questions can help guide important and timely decisions, such as which patient interventions will have the greatest impact on outcomes and costs. It also helps you determine the likely success of different clinical initiatives.

This is the power behind **predictive analytics**.

# Analytics that answer, “What’s next?”

Predictive analytics identify patterns in your data to help you understand what will likely happen to your members in the future. For example:

- You already know that half of those patients treated for heart failure return to a hospital within six months.<sup>1</sup> **What you need to know next: Which of your members are at greatest risk for readmission?**
- You found that five percent of your population accounts for half of your total healthcare expenses this year.<sup>2</sup> **What you need to know next: Which individuals are likely to incur high costs next year?**
- You know a third of drug prescriptions go unfilled.<sup>3</sup> **What you need to know next: Which members forego medication and other types of care—and how does this affect their health status?**



# What can I do with predictive analytics?

As a healthcare executive, you can use predictive analytics to see a “big picture” view of your system, which helps you:

- Predict adverse clinical events for individuals
- Manage population health
- Match patient needs and preferences to the best-fit providers
- Optimize staffing for care management and other high-impact programs
- Assure clinical data is accurate and complete
- Simulate clinical and financial outcomes

## How big is the need for predictive analytics?

Poor health care carries a high price tag. Consider the costs of inefficient care, according to the *Journal of the American Medical Association*<sup>4</sup>:

- Overtreatment: \$192 billion
- Failures of care delivery: \$128 billion
- Gaps in or lack of care coordination: \$35 billion

Predictive analytics can pinpoint risks in time to change course, leading to costs savings and healthier populations.





# What makes predictive analytics *actionable*?

To identify who will be your most vulnerable, high-cost members, you must first identify the kind of analytics that will help your physicians take action. Most predictive analytics produce a score to gauge what might happen tomorrow. Unfortunately, that doesn't help clinicians or patients make the right choices. They need information that can guide clinical choices and determine the probability of success, with enough lead time to change the course of care.

But how do you know which predictive analytics are actionable?

They're often based on predictive models that embody the design components described on the following pages.

## Stability

For predictive analytics to be actionable, they must first be considered reliable. This trait is determined by a model's **stability**—the degree to which a model tests consistently over time.

Health care is constantly changing. Prices fluctuate, technology advances, clinical practices evolve and payment practices change. When a predictive model has strong stability, its algorithms remain accurate and reliable despite healthcare changes.

This means you can confidently measure and evaluate care delivery and provider performance year-over-year.

## Flexibility

While a foundational level of stability is critical, it's also important that a predictive model have the flexibility to account for variations in your data due to local issues, such as geography, culture and socio-economic factors.

An ideal degree of flexibility means a predictive model can work across various markets. It remains relevant regardless of the population you cover—whether that includes large hospitals with high Medicaid populations or small critical access hospitals.

Predictive models should also rely mostly on patient classification systems (such as the **3M™ APR DRGs** or the **3M™ Clinical Risk Groups**) rather than diagnosis codes. When a model isn't bound to a code set, it has the flexibility to work with both ICD-9 and ICD-10. This means your analytics will remain relevant for facilities across the continuum of care and allow for longitudinal study.



## Accuracy

Predictive analytics is not an exact science. By nature, predictions come with some uncertainty, especially in the business of health care. However, you should expect your predictive model to yield average confidence scores. Confidence ratings are a way to measure the accuracy of a predictive model and indicate how certain you can be of a probability.

## Clinical relevance

Prediction models must have sophisticated risk adjustments built in to account for patients' health status, utilization of services and other environmental factors such as payer status and socio-economic determinants of health. This helps assure your analytics are both clinically and environmentally relevant.

## Scalability

When it comes to actionable analytics, systems that can blend claims data and electronic health record (EHR) data have a clear advantage due to depth and breadth of information. While claims data is a strong starting point for healthcare analytics, it's best if your predictive model has the capability to incorporate other codified data (e.g., lab data and health status data) as patient medical records become available. An ideal predictive model isn't limited to specific data sets, but instead supports additional "layers" of data as information becomes available and is updated.



## Linked to cost and quality

Predictive analytics should focus on measures that deliver a strong return on investment, which are those that have a significant impact on cost and quality, are clinically predictable, and for which clinical interventions exist.

## Integrated with multiple platforms and workflows

Predictive analytics are actionable only to the degree that they are usable. It's important that models produce probabilities for certain outcomes along with flags that indicate what actions to take to affect those outcomes. These flags should be meaningful to the providers using the information and readily available within the tools and workflows that administrators and care providers use. This means you want *integrated* platforms, not stand-alone solutions, to provide real-time and retrospective results for decisions made at the point of care.





# Got questions about the future? We have answers.

We know the future of health care can be uncertain. That is why 3M coupled its classification expertise with multi-stage mathematical models that refine patient assessment with clinical, pharmaceutical, demographic and socio-economic data to bring you *actionable* predictive analytics.

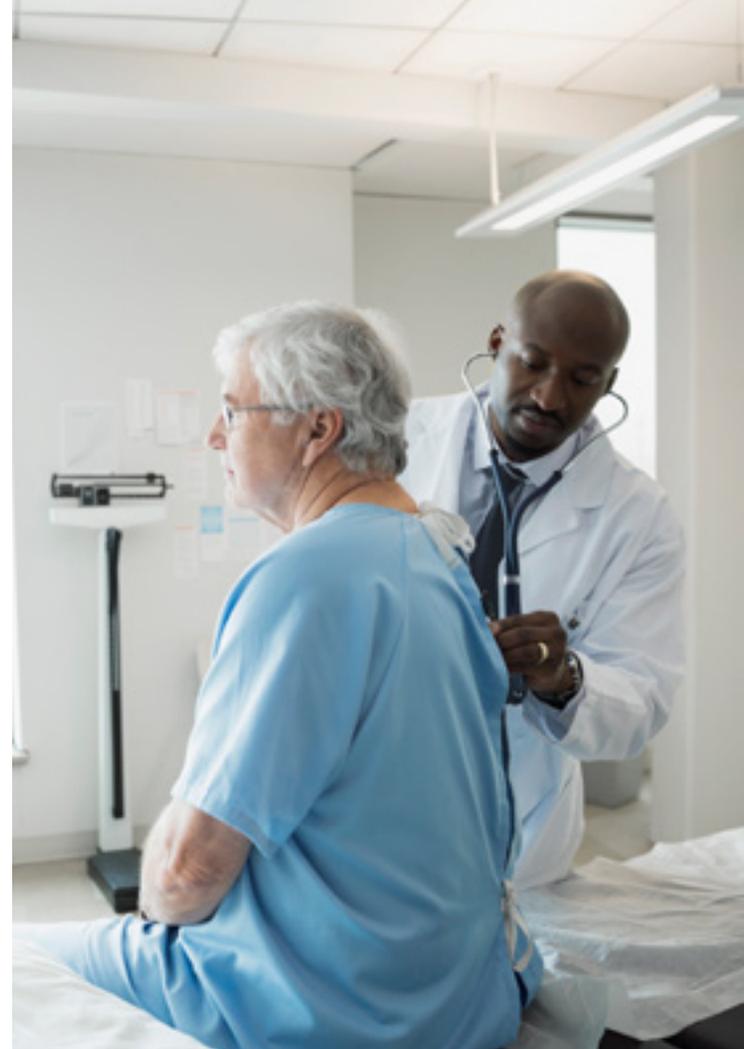
Our selection of methodologies and predictive models deliver exactly the information you need to answer your most pressing concerns:

## How much will my sickest patients cost me and what are their likely health outcomes?

**3M™ Clinical Risk Groups (CRG)** let you compare patients to determine if you are paying too much for their care, as well as build models that predict patients' future expenses or health outcomes. 3M CRGs assign each individual to a single, mutually exclusive, risk-adjusted clinical group. This lets you compare the relative future resource needs, costs, debility, and mortality of different patient groups, given their clinical characteristics and severity of illness.

## How much can improved coding impact my future cost savings?

**The 3M™ Hierarchical Clinical Category (HCC) Gaps in Care** predictive model identifies individuals who have a level of care inconsistent with their burden of illness, as defined by an HCC score. This model flags gaps in coding, which is a signal to review the patient record, correct how it's coded (e.g., for a previously undiagnosed condition) and recalculate an appropriate HCC. This model is especially useful for health plans and providers participating in health insurance marketplaces, which are evaluated and reimbursed based on HCCs.



## Where can care managers make the biggest impact now *and* down the line?

### **The 3M<sup>SM</sup> Persistent High Need Individuals Predictive Model**

identifies those who consume significant resources—health services, pharmaceuticals, case management—year after year. Investing resources to intervene with patients who consistently require costly health care has a much bigger payoff than focusing on those who may require a lot of resources one year, but not the next. This model lets you identify persistent super-utilizers so you can assign resources for the greatest impact on outcomes and costs.

## Which members will likely require intense care and resources?

Managing current super-utilizers is a little like doing damage control after a crisis hits. Necessary work, but unfortunate if the crisis could have been avoided in the first place. **The 3M<sup>SM</sup> Emerging High Need Individuals Predictive Model** pinpoints those who are likely to develop persistent, high-cost healthcare demands—if you don't intervene. This model uses patient demographics, 3M CRGs and healthcare utilization patterns to help care managers proactively engage with these patients before they contribute to excessive costs.

Ready to start making informed, timely decisions that will lead to better care at lower costs?

Call **800-367-2447** to speak with a 3M representative today, or learn more at **our website.**

# References

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