Real-World
Learnings

Impact
Measurement

O·prime

White Paper:

From Theory to Transformation

Real-World Learnings in Measuring the Impact of Medical Affairs

Mikko Figura, Senior Director, Strategy Consulting

Contributors:
Harriet Whitehead, Account Director
Josh Abbott, Associate Client Services Director
Peter Harrison, Associate Scientific Director

Overview

Medical Affairs is under increasing pressure to demonstrate its value – not in terms of activity delivered, but in terms of difference made.

In our 2025 white paper *Exploring Novel Ways to Measure the Impact of Medical Affairs*, we introduced structured evaluation frameworks – **Theory of Change** and **Contribution Analysis** – as a way to move beyond process metrics and toward credible, real-world impact measurement.

Since then, we have worked with multiple global and in-market Medical teams to implement these approaches in practice.

This white paper shares what we have learned.

> It is not a theoretical discussion; it is a strategic blueprint for Medical leaders who recognize that impact measurement is no longer optional – it is foundational to the future positioning of Medical Affairs.

The core challenge

Impact measurement has moved from being a reporting refinement to a strategic necessity. As pharmaceutical organizations face increasing internal scrutiny over resource allocation, healthcare systems demand measurable value from industry partners, and access to real-world data becomes more sophisticated, Medical Affairs can no longer rely on implicit assumptions of impact. Instead, Medical must articulate – in structured and credible terms – how it contributes to meaningful change in clinical practice and patient outcomes.

There are two structural challenges at the heart of Medical impact measurement.

| 01 | The attribution trap | | Framing the business value | 02 |

1. The attribution trap

Medical Affairs cannot – and should not – link its activities directly to sales or prescriptions.

Instead, Medical ultimately looks to improve patient outcomes – by building HCP knowledge and confidence, supporting best practice clinical decision-making and guideline concordance, and enabling patient progression through care pathways.

But patient outcomes are influenced by a complex web of interrelated factors – socioeconomic, environmental, clinical, therapeutic, biological, behavioral, access considerations, policy issues, and so on.

Thus, direct attribution – *"We did X, therefore Y happened"* – is rarely credible.

2. Framing the business value

When Medical focuses on improving patient outcomes, the business value of this work to the pharma company – at its heart, a commercial entity – can often be poorly articulated.

The strategic distinction is this:

- **Commercial drives market share** within an existing eligible patient population.
- **Medical expands market size** by closing care gaps along the clinical pathway, progressing more eligible patients along the pathway to expand the size of the eligible patient population.

By addressing pathway barriers through educating HCPs and partnering with healthcare systems, Medical delivers a 'triple benefit' for stakeholders:

1. Improvement of **patient** outcomes and experiences.
2. Enhanced **healthcare system** effectiveness and efficiency.
3. More eligible patients progressing to appropriate therapy, thereby developing the market size for their **company's** product in a sustainable, ethical way.

Impact measurement that captures these points can therefore be framed as evidencing responsible market expansion through improved care.

Six key learnings from real-world implementation

Partnering with both global and in-market teams, our work on impact measurement has spanned large-scale transformation programs to smaller, proof-of-concept pilots. Across our work, six consistent key learnings have emerged – learnings that we believe are important for any organization embarking on its own impact measurement journey.

Prime's real-world implementation key learnings

1. The critical mindset shift: from attribution to contribution
2. Behavioral segmentation is foundational, not optional
3. Credible impact starts with intentional design
4. Be realistic about what is measurable in an annual cycle
5. Impact measurement is transformation
6. The data are often already there – what's missing is the framework

1. The critical mindset shift: from attribution to contribution

The single most important – and often most difficult – shift is conceptual.

As discussed earlier, the complexities of the real world make it near-impossible for Medical Affairs teams to directly attribute changes in behaviors or outcomes to their activities. This means that Medical impact is better understood through the lens of contribution. In practice, this means moving away from asking:

"Did we cause this outcome?"

to asking:

"Did we plausibly and meaningfully influence this outcome?"

This distinction is not just semantic. Rather than attempting to prove causality, Medical teams can measure impact by building a structured, evidence-based narrative that demonstrates how their activities plausibly influenced change within a wider system.

In our implementation work, the most credible impact narratives share common characteristics:

- They explicitly acknowledge uncertainty rather than ignore it.
- They demonstrate measurable impact at intermediate levels preceding changes in patient outcomes (knowledge, confidence, behavior).
- They assess alternative explanations for observed changes in clinical practice and patient outcomes, rather than dismiss them.

Contribution is not a compromise – it is a disciplined response to complexity and ambiguity.

2. Behavioral segmentation is foundational, not optional

A consistent lesson from implementation is that impact cannot be measured meaningfully without behavioral precision.

Care gaps are rarely evenly distributed across a disease landscape. Variation exists between institutions, specialties, geographies, and individual clinicians. Yet Medical Affairs programs are often designed and evaluated at an aggregate level.

If treatment initiation is delayed, the relevant question is not simply whether HCPs are aware of the guideline, but rather:

"Which clinicians are not initiating treatment in line with guidance – and what is driving that behavior?"

Impact measurement becomes credible only when it is anchored in observable practice patterns. That requires identifying where specific care gaps exist, diagnosing the knowledge or confidence barriers contributing to those gaps, and designing interventions for clearly defined segments rather than the entire HCP universe.

When segmentation is grounded in real-world behavior rather than generalized perception, two things happen:

1. Interventions become more targeted and strategically intentional.
2. Measurement can focus on clearly defined behavioral objectives, rather than diffuse educational aims.

Importantly, implementing regular refreshes of segment data allows a dynamic view of how segment membership is changing over time, with HCPs' behaviors and educational needs shifting as their knowledge and confidence base evolves.

The move from broad education across a HCP population to defined behavior change across specific segments is transformative. It establishes a tangible link between intervention and observable movement.

CASE STUDY — Behavioral segmentation for a US oncology client

We are working with a US oncology client bringing novel modalities to market and expanding into new indications. As part of this program, we are performing a granular analysis of the disease landscape, analyzing **what HCPs are doing** (clinical behaviors) and **what HCPs are saying** (beliefs and opinions) to identify where gaps may exist around scientific knowledge and clinical confidence – for example, awareness of medical unmet need in a certain patient population, or guideline-recommended treatment approaches for specific patient subgroups.

To do this, we have combined multiple data sources to provide a comprehensive and robust view of HCP behaviors and beliefs – including claims data, bibliometric analysis, digital listening, and MSL insights.

This analysis enables us to cluster HCPs into groups based on their educational needs, and deliver tailored medical engagement based on those needs. In turn, this gives precise impact measures specific to the required shifts in knowledge, confidence, and clinical practice in each segment.

"The segmentation fundamentally changed how we thought about impact: we could define exactly which behaviors needed to shift, in which segments, and measure movement against those objectives in response to tailored educational engagement – down to an individual level. That clarity strengthened both our strategy and our impact narrative."

Josh Abbott
Associate Client Services Director

3. Credible impact starts with intentional design

One common pitfall we encounter is that measurement of how activities contribute to changes in knowledge, confidence and behavior change is considered only after they have taken place. At that point, teams are left attempting to reconstruct evidence of meaningful change without having defined, in advance, what success would look like and how it will be quantifiably measured.

Credible impact must be designed prospectively. This requires clarity at the outset of planning activities, asking:

1. What specific knowledge or confidence gap are we seeking to close?
2. What behavioral change are we aiming to influence?
3. How will these changes be defined and measured?
4. What is the baseline against which progress will be assessed?

The third and fourth questions require particular consideration around data – what data are needed, does the organization have access to the data (and if not, how will the required information be sourced), and is there a need to integrate multiple data sources using technology and data science solutions to provide a robust view of the relevant measures?

Importantly, measures must be **quantifiable**.

Impact narratives are strengthened when change is expressed in structured, numerical terms – whether that relates to shifts in knowledge and confidence levels, or clinical behaviors. This could be as simple as knowledge assessment surveys using a consistent 5-point Likert scale or involve a more sophisticated solution such as implementing Target Population Outputs (TPOs)[1] to measure progression through a patient funnel. We are increasingly using advanced analytics solutions integrating multiple data sources to track quantifiable changes in beliefs and behaviors over time.

Equally critical is the discipline of baseline measurement. Without a clearly defined starting point, improvement cannot be credibly demonstrated. Claims of "increased awareness" or "improved alignment with guidelines" lack force unless they can be compared against an established reference point.

In practice, the most mature Medical Affairs organizations approach impact measurement with the same discipline applied to clinical development: define the endpoint before initiating the intervention, define how it will be measured, and define what success looks like numerically.

This level of intentionality does more than strengthen reporting; it sharpens tactical planning. When teams are required to articulate, in quantifiable terms, what they expect to change and by how much, activities become more focused, objectives become clearer, and accountability becomes meaningful.

CASE STUDY — Quantifying knowledge changes in rare diseases

We are working with a rare diseases client, facing challenges common to many rare disease spaces: lack of HCP awareness of the condition, delayed and low rates of diagnosis, uncertainty over best practice multidisciplinary care, and variable understanding of patient stratification and treatment selection.

Through patient journey mapping, behavior-based HCP segmentation, and HCP needs analysis, we have identified specific knowledge topics to educate different HCP segments on – ranging from awareness of scientific data, to natural history of disease.

By combining this approach with analysis of clinical behaviors, we are able to demonstrate how quantifiable changes in knowledge levels translates into changes in clinical practice over a longer time horizon.

"Taking a baseline before we began changed the conversation internally. We could show how knowledge levels moved over time, and, critically, go on to link those quantified shifts to observable changes in clinical practice. That line of sight transformed how our impact was understood."
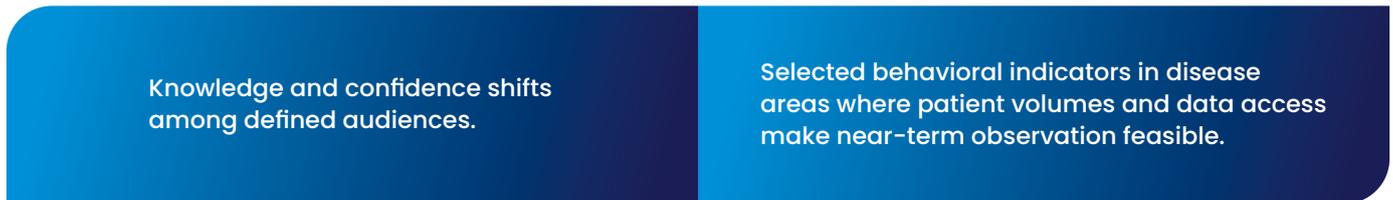
Harriet Whitehead
Account Director

4. Be realistic about what is measurable within an annual cycle

A recurring challenge in Medical impact assessment is misalignment between ambition and timeframe.

Patient outcomes are inherently long-term. They reflect cumulative shifts in diagnosis, referral, treatment decisions, access, and adherence. Expecting these outcomes to demonstrably move within a single annual planning cycle is rarely realistic.

However, this does not mean meaningful impact cannot be measured within 12 months.

What can typically move within an annual cycle are the earlier stages of the causal pathway:

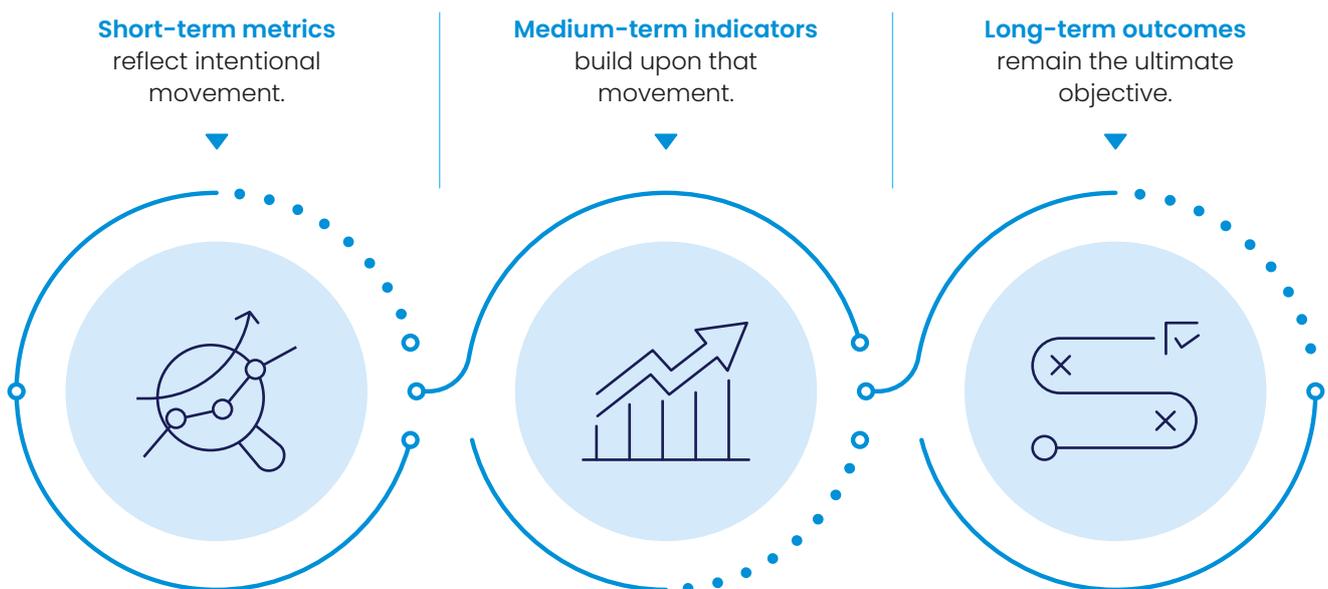| Knowledge and confidence shifts among defined audiences.	Selected behavioral indicators in disease areas where patient volumes and data access make near-term observation feasible.

In other settings – particularly rare or episodic conditions – behavioral movement may require longer observation.

The leadership task is therefore not to compress long-term outcomes into short-term reporting cycles, but to design measurement frameworks that recognize staged progression of impact.

This requires explicitly mapping the pathway from activity to long-term outcome. When Medical teams clearly articulate how educational interventions are expected to influence knowledge, how knowledge is expected to influence behavior, and how behavior cumulatively contributes to patient and system outcomes, annual measures gain strategic meaning.

In this context, a 12-month knowledge shift is not an isolated metric; it is evidence of movement at a defined stage within a longer-term roadmap. Similarly, early behavioral indicators signal directional momentum toward broader clinical and system objectives.

Impact narratives become more credible when they demonstrate progression rather than premature endpoint claims. They show that:

Short-term metrics
reflect intentional movement.

Medium-term indicators
build upon that movement.

Long-term outcomes
remain the ultimate objective.

5. Impact measurement is transformation

Implementing structured impact measurement is organizational change.

Moving from activity reporting to behavioral and outcome-oriented measurement alters how Medical teams plan, execute, and evaluate their work. It introduces new expectations around accountability, data integration, and can challenge established habits.

For these reasons, wide-scale adoption of new impact frameworks often requires deliberate change management, particularly from a cultural perspective.

Attempting to embed a fully mature, organization-wide impact model can generate resistance; teams may perceive the shift as burdensome, overly analytical, or misaligned with the realities of day-to-day execution. Without visible evidence of value, enthusiasm can wane.

In practice, the most successful transformations begin differently.

Rather than mandating wholesale adoption, leading organizations often start with a defined proof-of-concept – applying structured impact design and contribution-based evaluation to a specific initiative, therapeutic area, or geographic market. By demonstrating a clear line of sight from activity to measurable progression – whether in knowledge, behavior, or early pathway indicators – the approach proves its practical value.

When teams see that structured impact measurement sharpens strategy, strengthens narratives, and enhances credibility with senior stakeholders, adoption accelerates organically.

Change management in this context is fundamentally about building belief. Starting with focused, well-executed pilots creates the internal confidence required to extend impact frameworks more broadly across portfolios and markets.

CASE STUDY — Starting small in neurology

We are working with a neurology client to amplify their long-term data through a targeted digital communication program, aiming to address knowledge gaps around their treatment and its role in clinical practice.

As part of this project, we have mapped a causal pathway from our digital program to short-term changes in scientific knowledge, medium-term changes in clinical behaviors, and long-term changes in experiences and outcomes amongst a specific patient subgroup.

We are taking an iterative approach to demonstrating the impact of this program: alongside building a longer-term view of how the program will contribute to impact goals, our initial focus has been on demonstrating short-term changes in knowledge as a way of building comfort and familiarity with this new approach to impact measurement. This has been a manageable, tangible way for the team to implement a new structured way of thinking about impact measurement.

"Mapping the full causal pathway gave us a long-term vision for impact, but starting with one focused program made it practical. By demonstrating measurable knowledge shifts first, we built confidence in the framework – and that created the momentum to think more strategically about linking activities to behavioral and patient outcomes."

Peter Harrison
Associate Scientific Director

6. The data are often already there – what's missing is the framework

Across our implementation work, one pattern is consistent: most organizations already possess much of the data required to demonstrate real-world behavior change.

Claims data, EMR trends, MSL insights, and digital analytics collectively provide meaningful visibility into knowledge levels and clinical behaviors. The limitation is rarely data availability; it is structure and integration.

> Without a clear framework linking activities to defined behavioral objectives, datasets remain siloed. Metrics are reported independently rather than synthesized into a coherent contribution narrative.

The attribution mindset discussed in learning 1 (above) compounds this problem. When organizations believe data must prove direct causality, existing behavioral indicators can feel insufficient because they cannot conclusively isolate Medical's influence. As a result, valuable datasets go underused because they do not meet an unrealistic evidentiary standard.

A contribution-based approach changes the question. Instead of asking whether data prove causation, in this approach we should ask whether the totality of evidence demonstrates plausible progression along a defined causal pathway.

When objectives are clearly articulated and expected behavioral shifts are prospectively designed into programs, existing datasets become powerful. Claims trends, EMR signals, and structured MSL insights can be interpreted collectively to show directionality and momentum. This is where technology can be a powerful enabler, integrating multiple datasets to generate insights aligned to a clear measurement framework – and integrating new datasets where there is a tangible need for them, such as analyzing publications, congresses, and digital channels to extract additional insight on beliefs and opinions.

Impact capability, therefore, is not primarily a data acquisition challenge; it is a framework challenge that, once addressed, guides focused, intentional data integration.

Organizations that progress in impact maturity do so by first establishing a structured model that defines what should move, how it will be observed, and how multiple data sources will be integrated. They are often then able to better leverage the data they already hold, and augment these data in focused ways.

Revisiting an earlier case study

As mentioned in learning 2 (above), we are utilizing multiple data sources to generate a comprehensive analysis of HCP behaviors and beliefs for our US oncology client. A high proportion of the data being used are existing data the client had access to – claims data and MSL insights – and are being supplemented by additional bibliometric analysis and digital listening.

The real value of these datasets comes in integrating them into a structured framework, initially allowing us to segment clinicians based on their educational needs, then ultimately allowing us to track changes in knowledge, beliefs, and behaviors over time to demonstrate impact.

Our impact model is providing the structure needed to integrate these datasets with intentionality, and is being executed through our AI-enabled data analysis platform. This provides a centralized platform for data integration and analysis, which we are then feeding into the client's CRM system to seamlessly integrate into their existing workflows.

This is providing the client with valuable insights that were not previously captured across disparate data sources, including exposing gaps between physicians' expressed beliefs and their actual clinical practice.

The medical impact maturity model

Across organizations, we consistently observe a progression in how Medical Affairs impact is conceptualized and measured.

This progression can be understood as a four-level maturity curve.

Level 1: Activity reporting

At this level, measurement focuses on delivery:

- Events executed.
- HCPs reached.
- Materials developed.
- Touchpoints delivered.

▶ This provides visibility of operational activity, but says little about whether meaningful change occurred.

Level 2: Output measurement

Here, the focus shifts from delivery to immediate outputs:

- Knowledge acquisition.
- Confidence shifts.
- Engagement depth.
- Satisfaction or perceived relevance.

▶ This level begins to assess whether activities had proximal effects on HCP understanding or perception.

It is a necessary and important step forward, but stops short of evaluating how these changes contribute to real-world behavior change.

Level 3: Behavior change

At this level, measurement focuses on observable changes in clinical practice. Examples include:

- Referral patterns.
- Testing uptake.
- Treatment initiation rates.
- Guideline concordance.
- Time to diagnosis or treatment.

▶ This is a critical inflection point, where measurement moves from largely self-reported measures to observable behaviors.

Demonstrating behavior change – even in selected segments or geographies – significantly strengthens the credibility of Medical's impact narrative.

Level 4: Outcomes

The highest level of maturity focuses on long-term outcomes, including:

- Patient survival or progression-free survival.
- Reduced disease burden.
- Improved quality of life.
- Reduced diagnostic delay at population level.
- System-level efficiency gains.

▶ These outcomes often require multi-year tracking and are influenced by multiple stakeholders and system factors.

At this level, Medical's contribution is understood within the broader healthcare ecosystem – not in isolation.

Data and technology as an enabler

Progression in impact maturity is closely linked to the organization's ability to integrate and interpret diverse data sources. While many Medical teams already have access to rich real-world datasets, advancing from activity reporting to behavioral and outcome measurement requires structured integration of these data. Increasingly, digital infrastructure and AI-enabled analytics can support this progression.
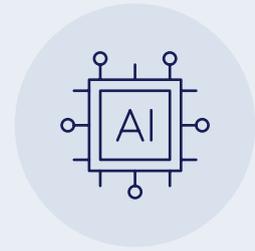
Moving up the curve

Progression from one level to the next requires deliberate shifts in focus.

Moving from Level 1 to Level 2

Organizations must:

- Define clear educational objectives upfront as part of activity planning.
- Establish structured, repeatable measurement tools.
- Capture baseline data before interventions.

This is about shifting from delivery metrics to intentional learning metrics.
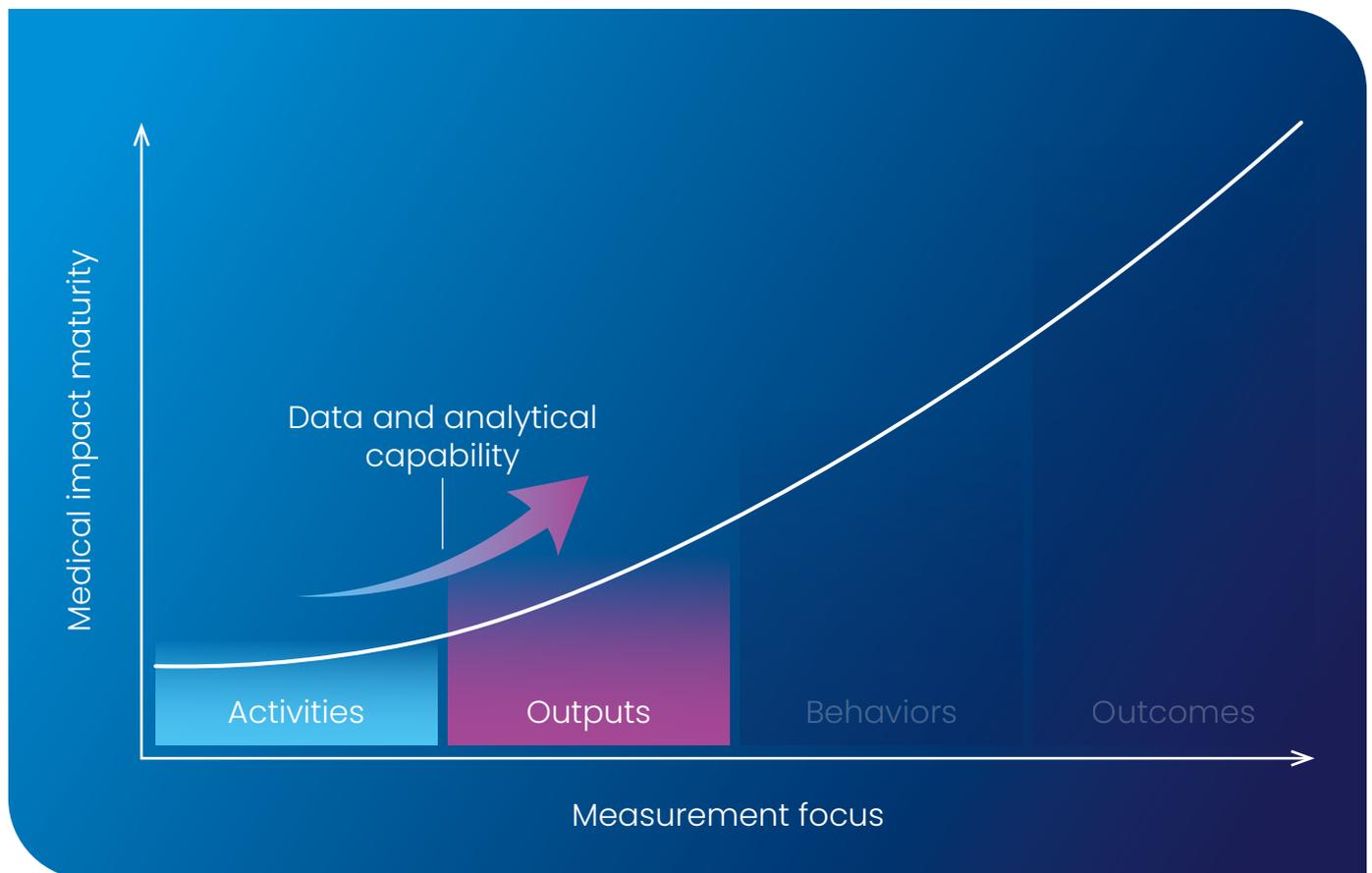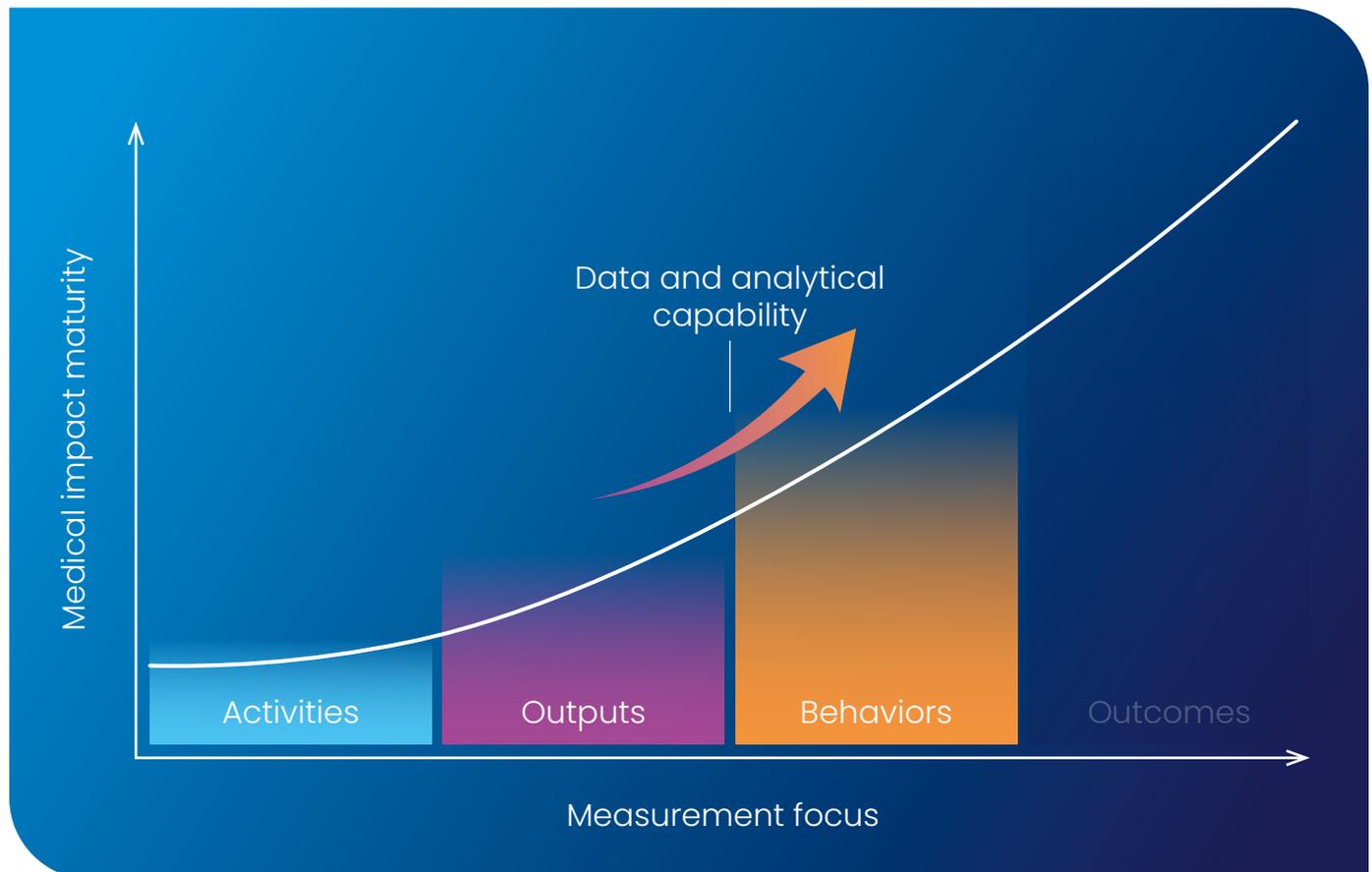
Moving from Level 2 to Level 3

The focus must move to:

- Behavioral segmentation based on real-world data.
- Identification of measurable care gaps.
- Integration of claims, prescribing, or institutional data.
- Designing programs explicitly to influence defined behaviors.

This transition requires stronger data integration and closer alignment with analytics capabilities.
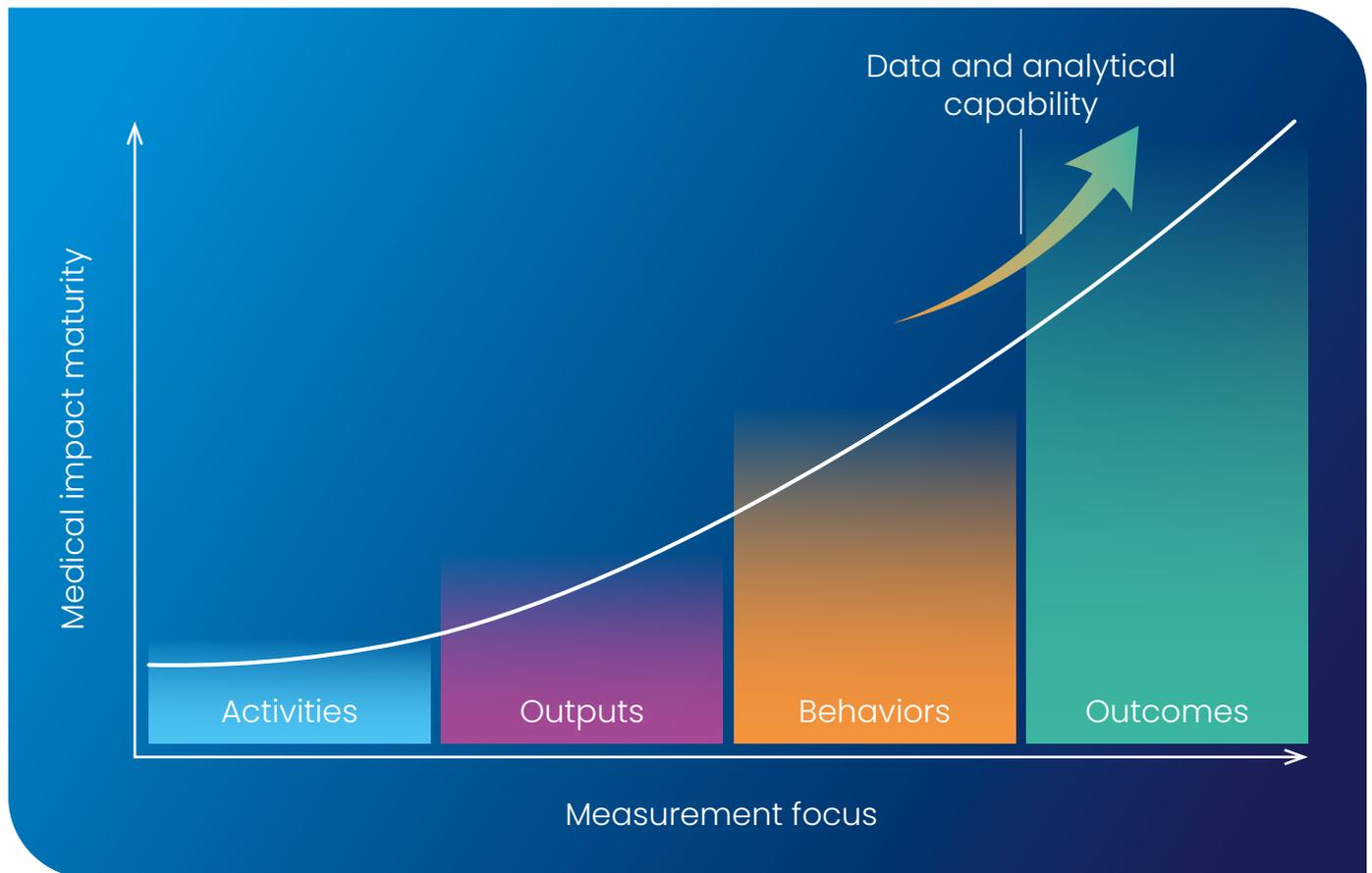
Moving from Level 3 to Level 4

This requires:

- Longitudinal tracking.
- Multi-year strategic commitment.
- Partnership with healthcare systems.

At this level, Medical's work is framed not as isolated educational activity, but as contributing towards system wide optimization.

Organizations rarely leap from Level 1 to Level 4 in a single transformation. Maturity is built through disciplined progression:

- First measure what you deliver.
- Then measure what HCPs learn.
- Then measure what they do differently.
- Finally, measure what changes for patients and health systems.

The goal is structured advancement toward demonstrable, real-world impact. Focused, tech-enabled integration of multiple data sources can be a powerful enabler.

Conclusion

Medical Affairs is operating in a more scrutinized and data-enabled environment than ever before. Activity metrics alone are no longer sufficient; impact must be articulated in structured, credible terms.

This requires a disciplined analysis of how Medical Affairs is contributing towards real-world outcomes, by designing impact prospectively, quantifying objectives, establishing baselines, and aligning measurement with realistic time horizons – all enabled by a structured impact framework guiding purposeful data integration.

As organizations progress from reporting activity to demonstrating behavior change and, over time, linking that change to patient and system-level outcomes in increasingly sophisticated data-driven ways, Medical Affairs' role becomes clearer: driving ethical and sustainable market development, by closing care gaps and enabling appropriate patient progression to the point of the company's product being indicated.

Impact measurement is what makes that critical contribution visible.

Reference

1. Atun R. Target Population Outputs (TPOs): Creating High-Value Health Systems Through Strategic Public-Private Partnerships. https://hsph.harvard.edu/wp-content/uploads/2024/10/TPO-Harvard_HSIL_3Dec2023.pdf. Accessed March 1, 2026.

prime