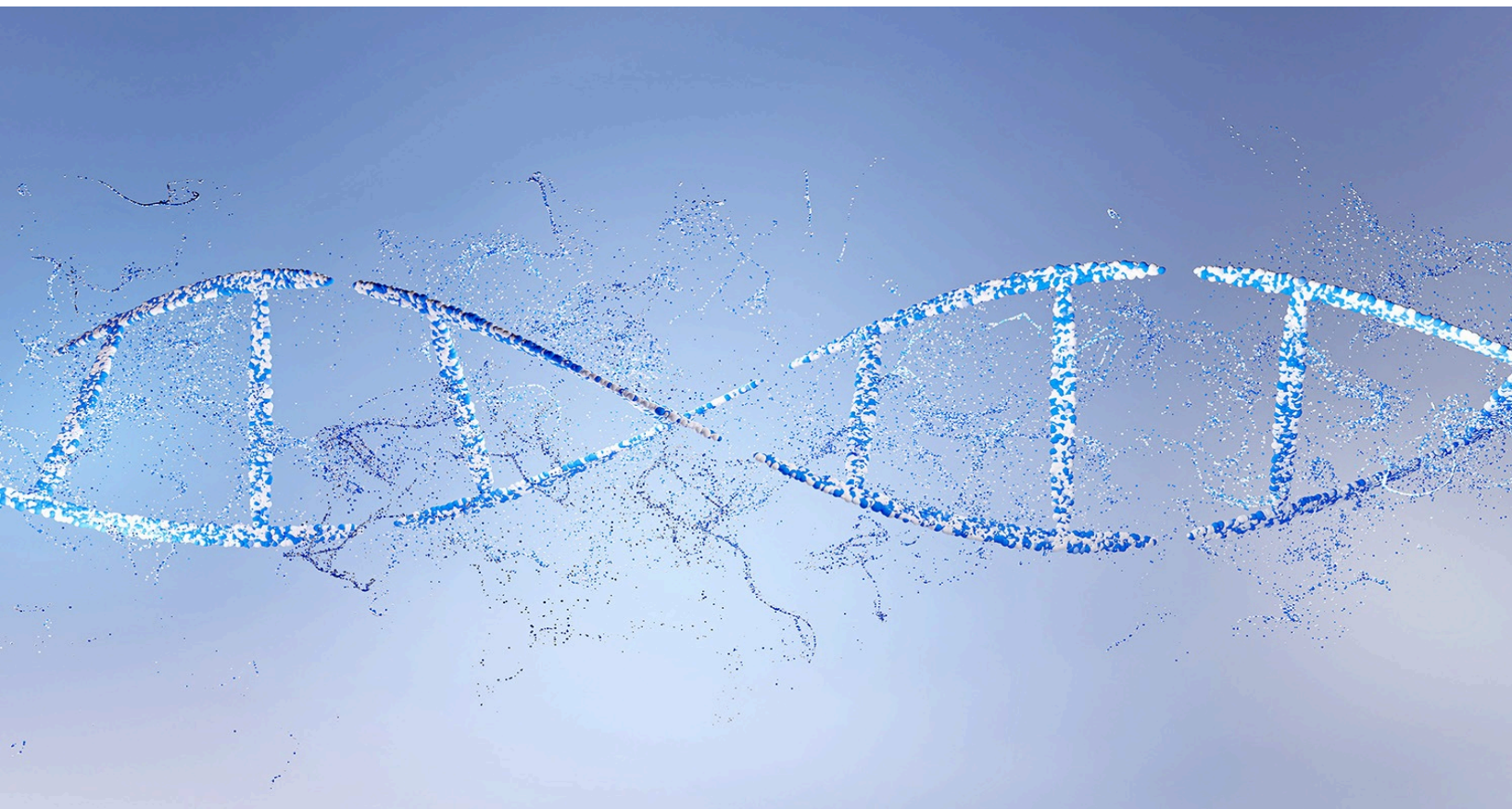


Life Sciences Practice

A vision for medical affairs 2030: Five priorities for patient impact

In 2018, we foresaw medical affairs playing a more strategic role and contributing greater patient impact. That future is now; there's work to be done to realize it and reach the next level vision.

This article is a collaborative effort by [Jeffrey Algazy](#), [Alba Garcia](#), [Sean Ryan](#), [Ann Westra](#), and [Alexandra Zemp](#), representing views from McKinsey's Life Sciences Practice.



The white paper *A vision for medical affairs in 2025*, published five years ago, describes a future in which innovation in digital technology and biological sciences would explode at an exponential pace. Medical-affairs teams would reshape their role, delivering greater impact for patients and becoming a coequal third pillar of pharmaceutical companies alongside R&D and commercial. Today, just a few years later, the importance of medical-affairs leadership has come into even sharper focus as the industry and world have reacted to the COVID-19 pandemic, the meteoric development of mRNA vaccines, and a complete upending of the pharma–physician engagement model.

Navigating a rapidly changing landscape

The dynamism of the industry continues. A massive investment in science—in 2021, biotech venture funding hit an all-time high of almost **\$47 billion**¹—has fueled a robust pipeline with diverse modalities across therapeutic areas. Real-world-evidence (RWE) capabilities have advanced and scaled, with a massive proliferation of new types of data to support existing treatments. In the clinic, healthcare practitioners (HCPs) and patients have access to 75 percent more assets per indication than they did ten years ago. With more therapeutic options available, staying current with scientific literature and guidelines has become an overwhelming task for community and academic physicians.

Other meaningful shifts are on the horizon. HCPs as a cohort are becoming younger and more diverse. As they become more comfortable with technology than their predecessors, HCPs' communication, learning, and clinical care have been transformed by telehealth appointments, remote patient monitoring, in-app patient messaging, and other digital innovations.

Across all three pillars—R&D, commercial, and medical affairs—the industry has invested billions of dollars into data scientists and engineers, integrated data sets, and technology that changes how work gets done. This trend will likely accelerate as external forces such as the 2022 Inflation Reduction Act in the United States and the health technology assessment regulation in the European Union pressure the pharma operating model.² Companies are responding to substantial changes in how they operate by integrating new technology across the value chain to drive performance, efficiency, and collaboration.

Natural language processing models and generative artificial intelligence (gen AI) are already transforming traditional activities. Pharmaceutical companies are experimenting with gen AI for real-time insight collection and synthesis, automation of medical writing, and production of images, animations, and videos, disrupting the standard creative-agency model.

Accelerating progress toward a bolder vision for medical affairs

How will medical affairs accelerate its impact on patient outcomes in this dynamic context? Since 2018, medical affairs leaders across the industry have embraced the vision and core deliverables to become a true third pillar of the organization (see sidebar, “Core deliverables for medical affairs in 2030”). However, the journey is not yet complete. Progress in truly transforming medical affairs has been hindered by capability gaps, budgetary constraints, organizational misalignment, and competing priorities. Despite these challenges, the case for medical affairs to play a leading role is stronger than ever, and now is the time to act

¹BioCentury BC IQ, April 2022; S&P Capital IQ for M&A deals, April 2022; IQVIA Pharma Deals for all other deals outside of M&A, April 2022.

²Inflation Reduction Act of 2022, US Congress, 2021–22; Regulation (EU) 2021/2282 of the European Parliament and of the Council, European Parliament, Council of the European Union, December 15, 2021; “Inflation reduction act tamps down on prescription drug price increases above inflation,” Centers for Medicare & Medicaid Services press release, updated March 30, 2023.

Core deliverables for medical affairs in 2030

The white paper, *A vision for medical affairs in 2025*, laid out a vision for medical affairs anchored around four core deliverables. This vision has resonated across the industry over the past five years, with some organizations using the framework as a reference point for their core pillars and others using it to structure the communication of their medical priorities and impact. Discussions with more than 100 medical affairs leaders across the industry suggest the vision presented in 2018 will largely hold true in 2030. Medical affairs leaders have significantly sharpened their aspirations for greater uptake of data and analytics across all deliverables.

Here are four core deliverables for medical affairs that we laid out in 2018 that are still critical going forward¹:

1. *Innovate evidence generation*: Lead rapid-cycle, integrated evidence generation across health economics and outcomes research, real-world evidence, and Phase IIIb/IV studies grounded in data-informed prioritization to address evidence needs and reduce quantifiable patient unmet needs.
2. *Accelerate access*: Generate high-quality evidence and content to enable access and drive changes in access and healthcare delivery across the healthcare ecosystem for the benefit of all patients.
3. *Transform medical engagement*: Orchestrate data-backed and AI-driven tailored medical affairs engagement across all channels to upgrade medical decision making across all physicians and patients.
4. *Step up medical leadership*: Become the “third pillar” of the organization by investing in new capabilities and upgrading impact-oriented performance to provide strategic direction to the organization for maximum patient-level impact.

¹ Matthias Evers, Brindan Suresh, Ann Westra, and Alexandra Zemp, *A vision for medical affairs in 2025*, McKinsey, June 12, 2019.

decisively. To help catalyze this change, this paper lays out how medical affairs leaders can take bold steps forward to execute and scale the vision (Exhibit 1).

Five priorities to accelerate the impact of medical affairs

Medical affairs leaders should focus on five priorities to successfully deliver on the vision laid out in 2018.

1. Boost medical affairs leadership to achieve next-level patient impact

Successful medical affairs teams usually have leaders who embrace mindsets and leadership practices that raise organizational performance and impact. They bring the best of medical affairs expertise to the company to improve patient outcomes. Medical affairs teams will likely look

significantly different in 2030, with broader skill sets supplementing existing clinical expertise. Analytics and digital and data talent will need to be actively cultivated by hiring different types of profiles, rotating talent to and from other functions, investing in competency-building programs, and establishing diverse medical teams with various areas of expertise within them. Medical affairs executives can focus on three areas to accelerate progress toward the vision:

- *Embracing enterprise leadership.* To catalyze change and scale medical affairs impact, leaders at all levels will need to think about leadership differently. One CEO framed the question this way: How would it change your leadership approach if you thought about medical affairs not as a function but as a business unit devoted entirely to improving patient outcomes? Successful medical affairs leaders will advocate for greater investment, build new talent and capabilities, and embrace an improved personal leadership model. Thinking and acting at the enterprise level rather than the functional level, setting and

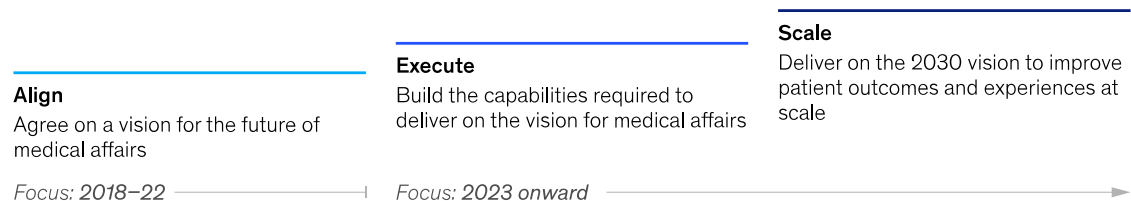
delivering on bold aspirations, and overemphasizing communication internally and externally to align others can move these aspirations forward more quickly. Leaders can shift their teams away from a siloed and narrowly focused mentality to lead more broadly across medical affairs, the organization, the industry, and healthcare in general. They can act as the voice of the patient and physician internally and the medical voice of the company externally.

- *Increasing the impact orientation of medical activities.* While most medical affairs leaders have embraced improving patient outcomes as a core objective, few have systematically reconsidered how medical activities can be prioritized, measured, and resourced to expand this impact. Going forward, improved patient outcomes and reductions in suboptimal care will likely support the business cases for medical affairs investment. Granular, physician-level impact metrics will become the currency that medical affairs leaders use to ensure that resources, talent, and budgets are allocated to their teams.

Exhibit 1

Delivering on the vision is a critical priority for medical affairs leaders going forward.

Steps for delivering medical affairs vision



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- *Championing innovation.* To improve patient outcomes at scale, medical affairs leaders will need to spearhead innovative initiatives that address white spaces and evolve the healthcare ecosystem. We see several leading medical affairs teams reorienting their focus from trying to match peers through cross-industry benchmarks to taking a cleansheet approach to building a fit-for-purpose organization that improves patient outcomes at scale. One example of an emerging white space is health equity, which 80 percent of medical affairs leaders see as a top priority over the next few years.

2. Integrate end-to-end data and analytics

The amount of healthcare data available is estimated to have reached 2 zettabytes, or 2 trillion gigabytes, in 2022.³ This explosion in data provides a unique opportunity for better medical affairs decision making. Specifically, it is now possible to close the loop by measuring deviations from optimal care in claims data, reorienting strategies, and quantifying the impact of medical affairs activities to reduce suboptimal care (Exhibit 2).

Today, medical analytics capabilities are often scarce or not fully dedicated to medical affairs, and progress toward building them has been slow. Leading organizations have already begun to focus on three priorities to deliver the promise of integrated data and analytics in medical affairs:

- *Establishing medical data and analytics capabilities.* Medical affairs leaders are starting to prioritize building robust end-to-end data and analytics capabilities. Across the industry, there are several workable models that use either owned medical affairs resources or ring-

fenced medical affairs resources in R&D or commercial. A clearly articulated digital and analytics strategy, including critical use cases, requires resources, and the road map forward will enable progress. To generate immediate impact, the initial focus can be existing data sources and tools to help build the case for additional investment in more advanced analytics, automation, richer data sets, and performance-tracking systems.

- *Integrating digital and analytics into day-to-day decision making.* The fast-evolving landscape of data, analytics, and AI is already revolutionizing the way medical affairs operates. Looking forward, analytics can be integrated into the daily decisions of everyone in medical affairs to generate and test hypotheses, inform prioritization, and rapidly measure impact. For example, data that quantifies the education needs of individual HCPs can be used to focus medical engagement on those who most need it and monitor its impact on care delivery. Medical affairs can focus on a data infrastructure that allows timely access to the right data by the right user for each use case. Significant change management will be needed to build a culture of data-driven decision making within medical affairs.
- *Automating repetitive noncore activities.* With expanded expectations for medical affairs, teams will need to operate at the top of their potential. They will need to prioritize the high-impact activities while deprioritizing but still delivering traditional activities, such as medical review and medical-information standard responses. Automation, including recent breakthroughs in gen AI, could significantly increase efficiency across all of medical affairs. For example, gen AI can scan a broad range of sources, including external interactions, social

³“Total amount of global healthcare data generated in 2013 and a projection for 2020,” Visual Capitalist, July 25, 2018.

media, surveys, trial data, and real-world data, to instantaneously produce insights and recommendations for evidence generation plans, medical strategies, and other applications. An emerging gen AI capability could also observe and generate actions in the digital or physical world to optimize medical processes such as medical review.

3. Differentiate medical strategies

Medical affairs plays a critical role in defining successful asset, franchise, and launch strategies. However, in many pharma companies, medical strategies and plans tend to repeat the previous year's strategic objectives and tactics rather than set continuously more ambitious priorities; the

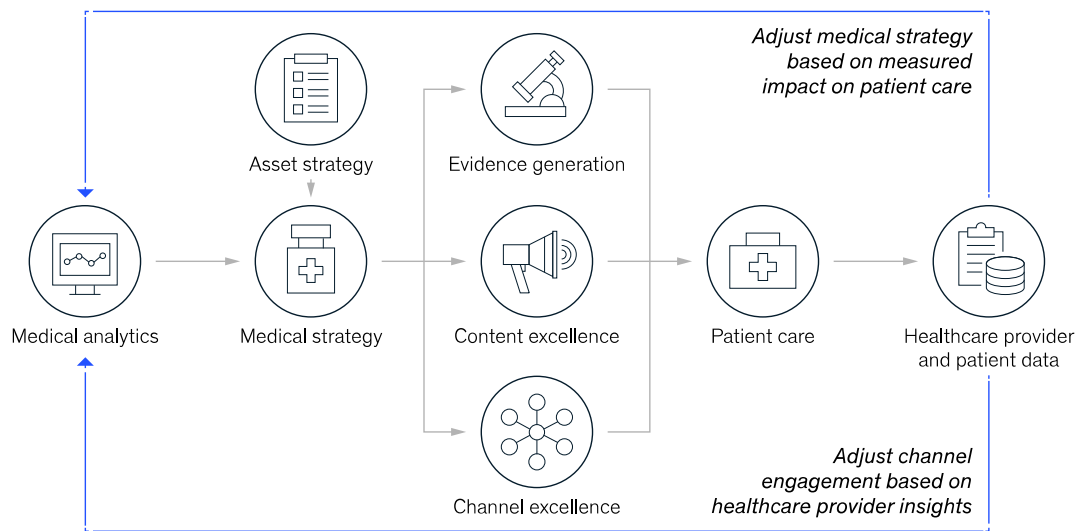
strategy-setting process of the future will likely be substantially more cross-functional and better integrated across the three pillars. Successful medical affairs leaders will focus on the following:

- *Enhancing compliant cross-functional collaboration to sharpen strategy.* At the brand level, medical affairs strategy setting has become increasingly siloed, driving companies to revisit the collaboration model across medical, R&D, and commercial. Successful medical affairs teams can commit to developing integrated medical strategies for each therapy and collecting and sharing medical insights about external stakeholders

Exhibit 2

Data and analytics feedback loops allow impact to be measured and engagement improved over time.

Example data and analytics feedback loop



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across the organization to elevate cross-functional strategies.

- *Continuously developing plans to deliver a more ambitious strategy.* Medical affairs can up its game in defining strategies that will truly impact patient outcomes at scale over the next three to five years. Leaders will need to lay out annual strategies with a continuously expanding set of medical affairs activities—especially in digital and data and analytics—that demonstrate meaningful, measurable progress each year toward an ambitious vision. Medical affairs may also benefit from a more agile model to adapt to external changes such as new therapeutic options, new evidence, and changes in clinical practice. Internal processes that enable real-time adjustment of medical strategies and tactics and quicker review and approval of external communications may become the minimum requirement.
- *Aligning resources to medical priorities.* Achieving more in medical affairs will be difficult with current budgets and resource allocation. Transformations typically require tens of millions of dollars, but McKinsey research has shown that worldwide medical affairs spending has remained flat over the past five years and has decreased by about 20 percent relative to revenue. Medical affairs leaders may need to examine their current budget allocation to automate or deprioritize some activities and refocus resources on other areas with greater impact. Articulating a compelling narrative around why increased budgets are needed for a transformation and what impact the budgets will have on patients and the company will be crucial to realizing this vision.

4. Align evidence generation with stakeholder needs

Advanced techniques for generating evidence have increased exponentially in recent years. In the future, pharma companies will likely use AI and RWE analytics more holistically and with greater sophistication and agility, unlocking billions in value across their portfolio. Evidence generation will also likely become more collaborative going forward, developed in partnership with industry, academic physicians, and others. Although many evidence generation activities sit outside their department, medical affairs leaders are well positioned to identify evidence gaps because of their deep knowledge of physician, patient, and payer needs and drive initiatives and change across cross-functional teams. Here are three points for leaders to consider:

- *Leading integrated evidence generation planning.* Many leaders develop evidence generation plans in silos, focusing on studies that meet the needs of a function rather than the needs of the wider organization and its external stakeholders. Only 20 percent of leading pharmaceutical companies develop a truly cross-functional, integrated evidence generation plan across the life cycle of a product. It is critical to bring together the right set of internal leaders, integrate existing data sets of stakeholder evidence needs, and define thoughtfully sequenced plans that produce a steady flow of evidence to support ongoing dialogue with external stakeholders. Looking forward, medical affairs can lead an integrated process that uses data and insights to identify the evidence needs of patients, healthcare providers, payers, regulators, and other stakeholders and select the best evidence tool to deliver them.

- *Operationalizing innovative approaches to generate evidence quickly.* In a dynamic therapeutic landscape, new data will be needed within months, not years. Executing at this pace will require embracing innovative and scalable analytical approaches that can be built once and reused across assets and therapeutic areas to capture their full value. By 2030, AI tools will scan internal and external databases for signals, generate hypotheses against these signals, and design trials. New methodologies will generate evidence across bridged data sets linking claims, electronic medical records, trial, registry, and omics data. Medical affairs leaders will need to advocate loudly for the adoption of analytical approaches and trial designs that fast-track the production of the needed evidence across development, RWE, and health economics and outcomes research. Establishing an effective evidence-generation engine will depend on close collaboration across the three pillars to align on common definitions and a tool kit that allows for scalability and sustainability.

- *Enabling stakeholders to experience evidence in different ways.* Looking forward, medical affairs leaders will continue to play a leading role in getting needed evidence into the hands of physicians, patients, payers, and others quickly. There is also an opportunity for more customized evidence packages that are tailored to specific stakeholder needs. Interactive evidence dashboards in the hands of a medical science liaison (MSL) could enable a more dynamic conversation, allowing HCPs and payers to engage with the data in real time, customize data subsets to specific patient populations, and apply analytical approaches to patient data. Improvements to the visualization of data across channels will enable HCPs to quickly understand the data and its implications for their clinical practice.

5. Orchestrate medical engagement

By 2030, medical affairs will dramatically broaden the stakeholders it engages with, moving beyond key opinion leaders to scientific exchange with community physicians, payers, and other value-based decision makers and more in coordination with other external-facing teams. Digital engagement will be the only scalable medical affairs solution to measurably reduce suboptimal care delivery across large patient populations. An unpublished 2022 McKinsey survey of US physicians found that more than a quarter of them want less face-to-face and more digital pharma engagement over the next few years. Sixty percent of respondents said the integration of pharma company interactions across channels was crucial to their experience. In the past few years, most medical affairs teams have begun building new digital channels, content formats, and approaches for tailoring the engagement to various HCP segments; however, it appears no organization is delivering the envisioned orchestration of channels for an integrated experience (Exhibit 3).

Commercial organizations have made more progress using analytics to understand HCP preferences and provide tailored engagement to the needs of the individual HCP and others. Some data and analytics may be leveraged compliantly by medical affairs, but modules specific to medical affairs will need to be developed to measure medical impact on HCP education, clinical decision making, and patient outcomes. To realize the full potential of engagement excellence, medical affairs leaders can invest in the following:

- *Building the foundation for data-backed engagement.* Delivering on the aspiration of channel and content excellence may require tailoring each engagement to the needs of individual HCPs and others. In a larger stakeholder environment, leaders can establish

a data-backed understanding of each HCP along the entire clinical-care journey, engaging strategically to educate the HCPs who present the greatest opportunity for improved patient outcomes. Industry leaders are starting to put in place mechanisms to collect HCP-related data to inform best-in-class execution by MSL teams. In the future, medical affairs may be able to extract and integrate all available HCP data, including, but not limited to, customer relationship management tools, advisory boards, MSL insights, medical website data,

medical records, claims data, congress attendance, and social media.

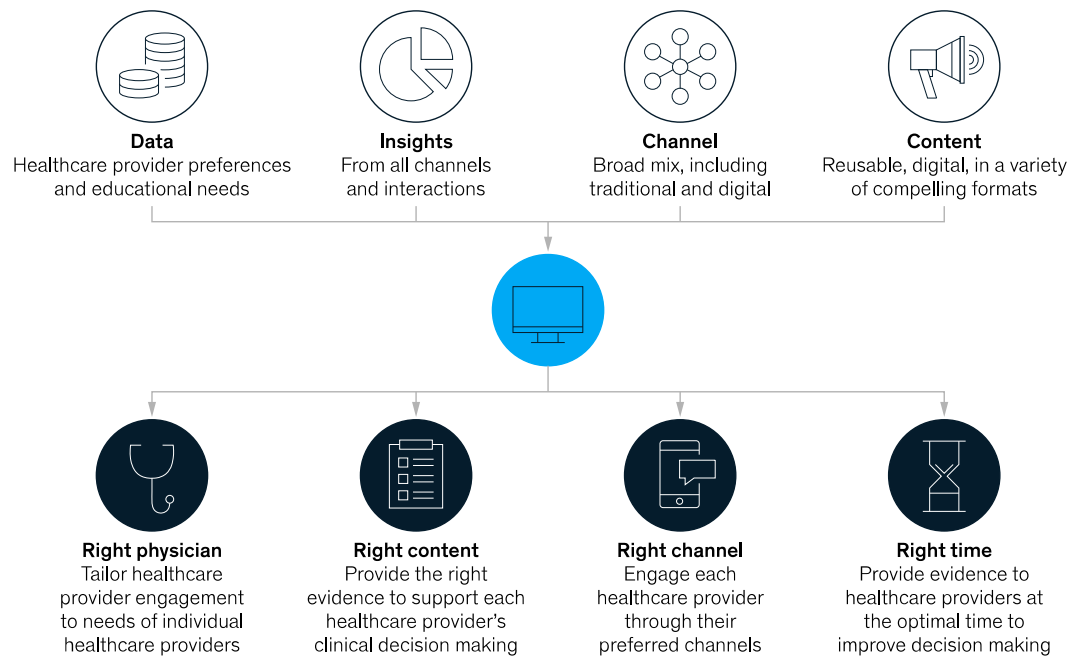
- *Broadening and coordinating channels.* HCPs are used to engaging with medical affairs via traditional channels like MSLs, but they also spend a significant portion of their day—both within and outside of work hours—online. An estimated 14 percent of healthcare professionals spend more than four hours and 42 percent spend more than two hours a day on social media sites.⁴ Future medical affairs

Exhibit 3

Channel and content excellence enable personalized, analytically driven physician engagement.

Example channel and content orchestration

○ Input ● Personalized suggestion



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⁴ Mohammad Noah Khan et al., "A study to see the effect of social media usage among healthcare providers," *Cureus*, 2021, Volume 13, Number 6.

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engagement will be coordinated across traditional channels such as MSLs, medical-information call centers, congresses, and websites, in addition to the digital channels HCPs already use. A seamless, coordinated, and compliant HCP experience across various channels and topics along the clinical journey would allow HCPs to pick up where they left off, interacting with the organization to access the information they need when they need it.

- *Transitioning to new content formats.* To deliver compelling content to capture physician attention and convey a lasting message, medical affairs can create compelling scientific narratives and develop new formats and engaging visuals that better reinforce key concepts, improve retention, and deliver “snackable” modular content. For example, a journal article can be converted to a digital story that quickly grabs and maintains attention with animated data visualizations. Gen AI is quickly gaining momentum and can have powerful applications, including using publications, trial data, and existing medical content to instantaneously develop new audio, image, text, simulation, and video content.

The full journey to orchestrated engagement is not a minor upgrade to existing capabilities but an iterative, step-by-step journey over a multiyear transformation. Moving toward digital can reshape or replace traditional medical affairs roles, particularly how MSLs engage HCPs. Robust metrics can help leaders assess the impact of each step and, most importantly, incorporate new ways of working across medical affairs and other functions.

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The path forward

Achieving each of the five priorities outlined in this paper will have a significant impact on patients and on the medical affairs team. Because the priorities are strongly interdependent, the full potential of transformative patient benefits can come from the successful implementation of all five simultaneously. Not all organizations will be prepared to invest now in the full-scale medical affairs transformation laid out here, but this vision should be a cross-industry rallying cry, mobilizing medical affairs to prepare for the future. Progress within an individual company may be uneven, with some regions or assets moving faster than others. Each company will tailor its approach to expand its strengths and address its opportunities for transformation. Here is a good set of next steps that can be taken:

1. translating the 2030 medical affairs vision into the annual strategic priorities and budget needed for top assets
2. investing now to build capabilities, including data and analytical capabilities, focusing initially on existing data sets and tools and then building scalable tools that can be used across geographies, therapeutic areas, and medical activities
3. adjusting the operating model and ways of working to enable real-time modification of day-to-day activities informed by new data and analytics outputs
4. laying out a five-year road map to impact patient outcomes and experiences at scale, including upgrading talent, heading off potential roadblocks, and rallying the organization to create a collective urgency