

THE MSL

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Strategic MSL-KOL Partnerships Beyond Relationship Building: A Framework Informed by Real-World Practice

Navigating the Microbiome Frontier: The Expanding Role of the Medical Science Liaison in Microbial Therapeutics

The Phoenix Strategy: The Strategic Mandate of MSLs in the Aftermath of Clinical Trial Attrition

Strategic Insights for Global Pharma: Strengthening Cancer Care Pathways in Cameroon

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Letter from the Editor

By Cherie Hyder, PharmD, MSL-BC | Spring 2026

Welcome back, MSL Journal Readers!

As we move into the summer season, I am delighted to share this latest online edition of The MSL Journal – a collection of insights, practical strategies, and perspectives designed to support excellence in the evolving Medical Science Liaison role and, more broadly, the medical affairs profession.

The role of the MSL continues to expand in both complexity and impact opportunities! In this issue, we explore many of the capabilities that distinguish high-performing field MSL professionals today. From leveraging strategic insights to navigating complex healthcare environments and harnessing the power and efficiency of AI in novel ways, our contributing authors examine the skills shaping the future of medical affairs.

You will also find valuable perspectives on evidence generation and value demonstration – both critical focus areas that aid in communicating scientific and clinical impact to stakeholders. As the demands on MSLs continue to grow, we address the equally important topic of burnout and share tips to avoid this situation. Avoiding burnout highlights approaches to sustain performance excellence, resilience and professional fulfilment.

Influence remains a cornerstone of successful stakeholder engagement, and current content in this edition focuses on building credibility, navigating objections with confidence and fostering meaningful scientific exchange. We also spotlight best practices for launch readiness where cross-functional collaboration and strategic execution can significantly impact patient outcomes and access.

I encourage you to take time to read this rich edition of The MSL Journal; explore new ideas and tips that will help you in your field role and learn from amazing colleagues who share vital insights as medical affairs thought leaders! Just as we learn from KOLs, we have much to learn from each other! Whether you are a seasoned MSL or leader or early in your career, I am confident you will find useful ideas and inspiration that support your continued growth and success.

Thank you for being part of our professional community and for your ongoing commitment to advancing science, supporting healthcare professionals, and ultimately improving patient care.

On behalf of the editorial team, I wish you and your families a wonderful, relaxing, and rejuvenating summer! Keep reading and growing! Excellence is a journey, never a destination, and we learn best when we can adapt great ideas into our approach for optimal MSling!

Cheers!

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AI Slop or Real-World Experience? Why MSL Training Facilitators Need Actual Field Medical Experience

By Samuel Dyer, MD, PhD | Spring 2026

As artificial intelligence (AI) continues to reshape Medical Affairs and the Medical Science Liaison (MSL) profession, one question is becoming increasingly important across the industry:

Can someone effectively train MSLs without ever having worked as an MSL or led an MSL team?

Part of what prompted this article was the growing number of individuals on LinkedIn and other social media platforms advertising MSL consulting, coaching, and training services despite having little or no actual MSL or Medical Affairs experience, which raises important questions about credibility, expertise, and the future quality of MSL training.

This discussion has become even more relevant as AI tools now allow virtually anyone to rapidly create training content, slide decks, workshop materials, and even simulated case studies. While AI has undoubtedly improved efficiency and accessibility, it has also introduced a growing concern across many professions: AI-generated “expertise” without real-world experience.

Recently, I conducted a LinkedIn poll asking members of the MSL and Medical Affairs community to understand if this is a concern (Table 1).

Table 1: Importance of Prior MSL/MSL Leadership Experience for Training Facilitators. “While attending an MSL training program at your company, how important is it that the facilitator has prior MSL/MSL leadership experience?”

Survey Response Percentage	
Very Important	92%
Not Important	7%
Total Responses	219

These results suggest a strong consensus across the profession that experience matters.

The MSL role is one of the most nuanced, complex, and relationship-driven positions within the pharmaceutical, biotechnology, diagnostics, and medical device industries. While scientific knowledge is essential, to be successful, MSLs must navigate difficult key opinion leader (KOL) interactions, communicate scientific information in high-pressure environments, manage compliance boundaries, interpret nonverbal communication, respond to unexpected objections, and build long-term trust with healthcare professionals. These are skills that are difficult to fully understand through AI-generated content alone.

Those with direct MSL or Medical Affairs experience are often better equipped to discuss situations involving KOL engagement, field medical strategy, stakeholder dynamics, and the realities of navigating complex Medical Affairs environments. These insights are valuable components of training programs because they reflect practical experience that AI cannot replicate.

Importantly, this is not simply a theoretical preference within the MSL profession. There are meaningful practical implications for both KOLs and MSLs themselves. One often overlooked concern is compliance. Individuals who have never worked as an MSL or MSL leader may understand the role only superficially and base their knowledge on articles they have read, social media posts, AI-generated content, or conversations with others. However, understanding what MSLs do is very different from having personally navigated the legal, regulatory, and compliance complexities of the role. An inexperienced trainer may unintentionally provide advice that is inaccurate, non-compliant, or even potentially dangerous from a regulatory perspective.

For example, recommendations regarding scientific exchange, off-label discussions, interactions with KOLs, documentation practices, medical conference activities, speaker programs, or collaboration with commercial teams often require a nuanced understanding of company policies, industry regulations, and real-world role-specific best practices. Advice that appears reasonable on paper may pose significant medical-legal, regulatory compliance, or reputational risks for an organization if applied incorrectly in the field. The wrong guidance provided during training can have serious ramifications not only for the MSL but also for the company itself.

Simply reading about the MSL role, interviewing a few MSLs, or relying on AI-generated summaries is not enough. The nuances

matter.

The complexity of the role becomes even more apparent when examining the breadth of activities MSLs perform globally. According to the 2025 MSL Salary and Compensation Survey conducted annually by the MSL Society, which included 1,100 MSL professionals from 44 countries, MSLs are responsible for a remarkably diverse set of activities.¹

Table 2: Activities Performed by MSLs Globally. “Which of the following activities do you participate in? (select all that apply).”

Activity	Percentage	Number
Attending medical conferences (and other conference support)	98%	811
KOL relationship management	98%	808
Educating KOLs & other Health Care Professionals	97%	798
Delivering scientific presentations	95%	784
Gathering Insights	91%	752
Responding to Medical Information Requests (MIR)	79%	650
Competitive intelligence gathering	78%	644
Supporting investigator-led research (IITs, ISTs, etc.)	72%	596
Training and supporting sales force	71%	588
Mentoring/Training new MSLs	70%	576
Supporting Advisory Boards	68%	563
Providing input for Medical Strategy	66%	549
Supporting and coordinating company-sponsored research/trials	66%	548
Tools Development (slides, training materials, etc.)	60%	499
Identifying and training speakers	57%	468
Material Review (publications, educational materials, slides, etc.)	51%	424
Medical publications	26%	215
Continuing Medical Education (CME) activities	23%	190
HEOR presentations or research	12%	102
Managed Care Activities	9%	71
Other	2%	15

This survey illustrates why experience matters. The MSL role extends beyond scientific presentations and KOL engagements. It encompasses strategic planning, clinical research support, compliant interactions, speaker development, advisory boards, publications, medical information responses, and cross-functional collaboration, among others. Someone who has never performed these various activities will likely struggle to appreciate the complexities, challenges, and compliance considerations associated with them.

From the KOL perspective, interactions with MSLs often impact scientific understanding, awareness of emerging clinical data, patient management considerations, and participation in research initiatives. KOLs expect MSLs to communicate with confidence, accuracy, credibility, and contextual understanding. When MSLs are trained by individuals lacking experience in field medical affairs, there is a risk that training becomes overly scripted, superficial, or disconnected from the realities of scientific exchange.

KOLs can often recognize when conversations lack depth or practical understanding. This can undermine trust, reduce the quality of engagements, and ultimately weaken long-term scientific relationships among KOLs, other health care professionals (HCPs), and Medical Affairs initiatives.

From the MSL perspective, practical training matters because field medical interactions are rarely predictable. MSLs frequently encounter difficult questions, emotionally charged discussions, skeptical KOLs and HCPs, compliance-sensitive situations, and complex scientific discussions that require judgment developed through experience. Individuals who have personally navigated these situations are better equipped to prepare MSLs for the realities of the role rather than simply teaching generalized AI-produced content.

This becomes even more important when considering what KOLs themselves value most from MSLs.² In a survey of 245 KOLs

across 29 specialties in the United States, they identified scientific expertise and meaningful scientific exchange as the primary value that MSLs bring to clinical practice.²

Table 3: What KOLs Value Most from Medical Science Liaisons. “What Do MSLs Provide That Is Most Valuable to You and/or Your Practice?”

Valuable Activity	Percentage
Scientific updates on new/existing drugs and devices	49%
Clinical trial data	22%
Drug/device development updates	12%
Safety information related to use	7%
Research opportunities (clinical trial involvement)	5%
Speaking/participation opportunities	3%
Other	1%

This data reinforces that the MSL role is fundamentally built on credibility, scientific depth, trust, and value-added engagements. If companies want MSLs to engage KOLs effectively, the individuals training them should have direct experience navigating the same conversations and challenges.

Artificial intelligence has a role in MSL training. AI can help streamline preparation, organize information, summarize literature, generate discussion prompts, and support training development.³ However, there is also growing concern around overreliance on what many now refer to as “AI slop,” meaning general low-quality, superficial, or inaccurate AI-generated content that creates the impression of expertise without sufficient depth, context, or practical understanding.

This becomes particularly concerning when individuals with limited or no experience in field medical affairs rely heavily on AI-generated content without the expertise to critically evaluate its accuracy, nuance, or applicability. AI systems can generate convincing language, but they often produce inaccurate scientific interpretations, unrealistic scenarios, generalized MSL-KOL dynamics, or recommendations that fail to reflect the realities of compliance and current medical affairs practices.

Without direct experience, it can be difficult to distinguish quality educational content from polished yet fundamentally flawed material. This creates several risks:

- Training programs may unintentionally teach unrealistic approaches to KOL engagement.
- MSLs may receive guidance that is inconsistent with regulatory or compliance expectations.
- Scientific discussions may lose depth and contextual relevance.
- Organizations may unintentionally weaken scientific credibility with external stakeholders.
- KOL trust and long-term relationship quality may decline.
- Companies may face unnecessary legal, compliance, or reputational risks resulting from poor training practices.

AI may generate a training slide on handling difficult KOL interactions. But can it truly teach someone how to recover from a challenging scientific discussion with a frustrated KOL? Can it replicate the emotional intelligence required to manage a tense interaction during a medical conference? Can it explain the subtle organizational dynamics among medical affairs, commercial, and external stakeholders, based on years of direct experience?

This issue extends beyond training quality alone. It ultimately impacts KOL relationships, scientific credibility, patient outcomes, compliance risk, and the overall strategic effectiveness of medical affairs organizations. Findings from multiple publications consistently reinforce the importance of scientific integrity, meaningful scientific exchange, practical judgment, emotional intelligence, and direct experience in medical affairs in the evolving healthcare landscape.^{3–5} Direct MSL and MSL leadership experience still provides the practical judgment, contextual understanding, and credibility that many MSLs and KOLs clearly value.

According to the MSL community, that difference matters.

References

1. MSL Society. (2025). *Global MSL Salary and Compensation Survey*. MSL Society Research Report. www.themsls.org
2. MSL Society. (2020). *2020 United States KOL survey: What healthcare professionals value most from Medical Science Liaisons*. MSL Society Research Report. www.themsls.org

3. Dyer S J, Shannon E, Kraemer J (April 16, 2026) Perceptions, Utilization, and Impact of Artificial Intelligence on Medical Science Liaisons: A Global Cross-Sectional Survey of Medical Affairs Professionals. *Cureus* 18(4): e107157. doi:10.7759/cureus.107157
4. Dyer S, Hyder C, Kraemer J. Challenges of Key Performance Indicators and Metrics for Measuring Medical Science Liaison Performance: Insights from a Global Survey. *Pharmacy*. 2025; 13(2):51. <https://doi.org/10.3390/pharmacy13020051>
5. Dyer S J, Ingebretsen R, Kraemer J (May 22, 2026) Alternative Clinical Careers for Physicians: A Mentor-Focused Study of Medical Science Liaison Career Awareness During a Wilderness Medicine Program in Chamonix-Mont-Blanc, France. *Cureus* 18(5): e109427. doi:10.7759/cureus.109427

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Dr. Samuel Dyer is the CEO of the Medical Science Liaison Society and has over 26 years of international MSL experience. During his career, he has managed MSL teams and operations in over sixty countries across the United States, Canada, Europe, Africa, the Middle East, Australia, and New Zealand. He has facilitated the successful launch of pharmaceutical and medical device products for both Fortune 500 pharmaceutical companies and small biotechnology companies. Dr. Dyer has coached, interviewed, and reviewed the CVs of countless aspiring MSLs. His insights and guidance have resulted in hundreds of aspiring MSLs successfully breaking into their first roles.

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KOL, Thought Leader, or External Expert? Why the Original Term Still Dominates in Medical Affairs

By Samuel Dyer, MD, PhD | Spring 2026

Few topics in Medical Affairs generate as much recurring discussion as the terminology used to describe highly influential physicians and health care professionals (HCPs). While some organizations have attempted to move away from the term "Key Opinion Leader" (KOL) in favor of alternatives such as "Thought Leader" or "External Expert," the term KOL remains deeply embedded within the pharmaceutical, biotech, diagnostics, and medical device industries.

The terminology organizations choose is not simply a semantic issue. These terms impact communication, influence organizational culture, affect training and engagement strategies, and reflect how Medical Affairs professionals approach scientific relationships with external experts. Over the past decade, some industry professionals have questioned whether KOL is outdated or overly commercialized. Others argue that it remains the clearest and most universally understood term.

Key Opinion Leader is historically the original and most widely used term within Medical Affairs. However, given the growing emphasis on scientific exchange and HCP engagement, the Medical Science Liaison Society sought to examine whether preferences for this terminology had changed over time.

In 2017, the Medical Science Liaison Society conducted the first-ever survey examining the preferred terminology used to describe physicians and HCPs whose opinions are highly regarded and influence other physicians ¹. The global survey included 473 Medical Affairs professionals.

Table 1. 2017 Global Survey on Preferred Terminology: *What term do you think should be used when referring to the physicians and other HCPs whose opinions are highly regarded and influence other physicians?*

Preferred Term	Percentage	Number of Participants
Key Opinion Leader (KOL)	42%	198
Thought Leader (TL)	14%	66

Preferred Term	Percentage	Number of Participants
Medical Expert (ME)	13%	62
External Expert (EE)	6%	27
Other Terms	25%	120
Total	100%	473

The findings demonstrated that although several alternative terms were being used across the industry, ‘KOL’ was the dominant and most recognizable term globally in 2017. Interestingly, the relatively large “Other Terms” category also suggested substantial fragmentation regarding terminology preferences at that time.

Over the last 10 years, some organizations began distancing themselves from the term KOL for a variety of reasons. Some believed the term sounded too commercially focused, while others felt the phrase “opinion leader” could imply influence beyond scientific expertise. In response, alternative terms such as Thought Leader, Medical Expert, External Expert, Key Thought Leader, Scientific Expert, and Opinion Leader began appearing within Medical Affairs.

Despite these efforts, many professionals continued using the term KOL in daily conversations and operational discussions. Having facilitated Medical Science Liaison (MSL) training programs at 87 pharmaceutical, biotech, diagnostic, and medical device companies in 22 countries, I have consistently observed that even for those organizations that formally prefer alternative terminology, discussions during training sessions almost inevitably revert back to the term KOL because of its familiarity, simplicity, and universal recognition.

To determine whether terminology preferences had shifted over time, the Medical Science Liaison Society recently conducted another global survey in May of 2026. Importantly, participants were specifically instructed to answer based on their personal preference, not necessarily the terminology used internally by their company. The global survey included 328 Medical Affairs professionals and revealed some interesting findings.

Table 2. 2026 Global Survey on Preferred Terminology: *What is the best term to use when referring to physicians and other HCPs whose opinions are highly regarded and influence other physicians?*

Preferred Term	Percentage	Number of Participants
Key Opinion Leader (KOL)	64%	210
Thought Leader (TL)	25%	82
External Expert (EE)	8%	26
Other	2%	10
Total	100%	328

Interestingly, the term KOL has not only remained strongly favored but is now preferred by a significantly greater percentage of Medical Affairs professionals than in 2017. In fact, preference for the term rose from 42% in 2017 to 64% in 2026, representing an increase of more than 50%!

The findings suggest that despite ongoing debates regarding terminology, KOL continues to resonate strongly with Medical Affairs professionals globally. While alternative terminology, particularly Thought Leader, has gained traction, none have displaced KOL as the overall preferred term.

There are three broad possible reasons KOL persists so strongly across Medical Affairs.

First, KOL has become historically entrenched within Medical Affairs operations and strategy. The term has been used for decades in scientific congress planning, advisory boards, publication strategy, CRM systems, strategic engagement planning, and MSL training programs.

Second, KOL remains universally recognized. MSLs, Medical Directors, physicians, consultants, agencies, and vendors all immediately understand what the term means and commonly use the term. In global organizations where cross-functional and cross-regional communication is essential, universally recognized terminology provides substantial practical value. This continued focus on influential physicians and HCPs also aligns with broader discussions surrounding the measurable impact of MSLs and how scientific engagement with KOLs contributes to education, evidence dissemination, insight generation, and ultimately more informed clinical decision-making 2.

Third, the term is operationally efficient. KOL is concise, familiar, and easy to use in both conversation and written

communication. This consistency is also important from a Medical Affairs operations perspective, particularly as organizations continue evaluating KPIs and metrics related to KOL engagement, scientific exchange, and field medical effectiveness 3.

There is also an important distinction between “Thought Leader”, “External Expert,” and “KOL.” Both Thought leadership and External Expertise may imply broader visibility, public influence, speaking presence, or social media engagement, whereas KOL traditionally refers more specifically to scientific and clinical influence among professional peers. As a result, many Medical Affairs professionals may view these terms as related, but not necessarily interchangeable.

At the same time, these findings do not suggest that alternative terminology lacks value. In some organizations, terms such as External Expert may better align with company culture, compliance philosophy, or strategic positioning. Ultimately, however, terminology alone does not define the quality or integrity of scientific engagement. Whether organizations use the term KOL, Thought Leader, or External Expert, the more important issue is how these relationships are approached, managed, and supported within an ethical, evidence-based framework.

Additionally, as artificial intelligence (AI) continues to reshape Medical Affairs, including how MSLs prepare for scientific engagements, analyze insights, and personalize interactions with KOLs, discussions surrounding influential HCPs will likely continue evolving alongside these technological advances 4.

Clearly, findings from both global surveys suggest that the term “Key Opinion Leader” (KOL) remains deeply embedded in the Medical Affairs profession. Despite years of discussion about alternative terminology, KOL remains the preferred term for the majority of Medical Affairs professionals worldwide.

References:

1. Medical Science Liaison Society: Global survey on preferred terminology for influential physicians and healthcare professionals. 2017. Available www.themsls.org
2. Dyer S J, Shannon E, Kraemer J (April 16, 2026) Perceptions, Utilization, and Impact of Artificial Intelligence on Medical Science Liaisons: A Global Cross-Sectional Survey of Medical Affairs Professionals. *Cureus* 18(4): e107157. doi:10.7759/cureus.107157
3. Dyer S J, Hyder C, Kraemer J, et al. (March 12, 2026) Measuring the Impact of Medical Science Liaisons: A Global Cross-Sectional Survey of Evaluation Practices and Perceptions. *Cureus* 18(3): e105099. doi:10.7759/cureus.105099
4. Dyer S, Hyder C, Kraemer J: Challenges of key performance indicators and metrics for measuring medical science liaison performance: insights from a global survey. *Pharmacy (Basel)*. 2025, 13:51. 10.3390/pharmacy13020051

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The Three Pillars of MSL Performance Measurement: Value Creation, Patient Outcomes, and Return on Investment

By Yusuke Izumi, MBA | Spring 2026

Abstract

Background: Effective Medical Science Liaison (MSL) performance measurement requires a comprehensive framework that captures the multidimensional nature of MSL contributions to pharmaceutical organizations and healthcare systems.

Objective: To establish a three-pillar framework for MSL performance measurement encompassing value creation indicators, patient outcome linkage, and return on investment consciousness.

Methods: This conceptual framework was developed through analysis of current MSL performance measurement practices, integration of established business performance measurement principles, and consideration of pharmaceutical industry-specific requirements.

Results: The three-pillar framework provides a balanced approach to MSL performance measurement, addressing both strategic and operational requirements while maintaining focus on ultimate patient benefit. Each pillar contributes essential perspectives on MSL effectiveness and organizational value creation.

Conclusions: Implementation of the three-pillar framework enables more comprehensive and strategically aligned MSL performance measurement, supporting improved decision-making regarding MSL activities and resource allocation.

Keywords: *MSL Performance, Value Creation, Patient Outcomes, Return on Investment, Performance Framework*

Introduction

The complexity of Medical Science Liaison (MSL) roles demands equally sophisticated performance measurement approaches that capture multiple dimensions of value creation. Traditional single-metric approaches fail to reflect the multifaceted contributions MSLs make to pharmaceutical organizations, healthcare providers, and ultimately, patients (Dyer et al., 2025). A comprehensive framework must balance immediate operational requirements with long-term strategic value creation.

The proposed three-pillar framework addresses this complexity by establishing distinct but interconnected measurement domains: value creation indicators, patient outcome linkage, and return on investment consciousness. This framework ensures that MSL performance measurement captures both the immediate organizational benefits and the ultimate patient-centered outcomes that justify MSL activities.

Pillar 1: Value Creation Indicators

Value creation indicators focus on measuring how MSL activities generate tangible benefits for healthcare stakeholders. Unlike traditional activity metrics, value creation indicators assess the quality and impact of MSL contributions rather than their quantity. These indicators recognize that MSL success should be measured by the value delivered, not the effort expended.

Key value creation indicators include clinical evidence utilization rates, treatment optimization contributions, diagnostic accuracy improvements, and adverse event management enhancements. These metrics directly connect MSL activities to healthcare improvements, providing clear evidence of professional impact beyond simple interaction counting.

The Japan Pharmaceutical Manufacturers Association (2019) emphasizes that MSL activities should contribute to improving medical care quality and maximizing patient benefits. Value creation indicators operationalize this principle by measuring how effectively MSLs achieve these objectives through their scientific exchanges and collaborative activities.

Implementation of value creation indicators requires establishing baseline measurements of healthcare provider knowledge and clinical decision-making patterns, then tracking improvements attributable to MSL interactions. This approach transforms performance measurement from passive documentation to active value assessment.

Pillar 2: Patient Outcome Linkage

Patient outcome linkage establishes direct connections between MSL activities and improvements in patient health outcomes. This pillar acknowledges that the ultimate justification for MSL activities lies in their contribution to better patient care and improved health outcomes.

Patient outcome linkage operates through a causal chain: MSL activities → healthcare provider behavior change → improved clinical decision-making → enhanced patient outcomes. Each link in this chain must be measurable and attributable to MSL contributions. This requires sophisticated measurement approaches that can track outcomes across extended timeframes and multiple healthcare interactions.

Specific patient outcome indicators include quality of life improvements, treatment adherence rates, clinical effectiveness measures, and healthcare utilization optimization. These indicators require collaboration with healthcare providers and access to patient outcome data, making them more complex to implement but ultimately more meaningful than traditional metrics.

The temporal dimension of patient outcome linkage presents unique challenges, as MSL activities may not manifest in measurable patient improvements for weeks or months. Performance measurement systems must accommodate these delays while maintaining clear attribution links between MSL activities and patient outcomes.

Pillar 3: Return on Investment Consciousness

Return on investment (ROI) consciousness ensures that MSL performance measurement considers the economic efficiency of value creation activities. This pillar recognizes that pharmaceutical organizations operate under resource constraints and must optimize their investment in MSL activities for maximum patient and organizational benefit.

ROI consciousness in MSL performance measurement differs fundamentally from traditional sales ROI calculations. Instead of measuring revenue generation, MSL ROI focuses on the relationship between investment in MSL activities and the creation of patient and healthcare system value. This includes healthcare cost savings, productivity improvements, and patient satisfaction enhancements.

Specific ROI indicators include cost per patient outcome improvement, efficiency of clinical evidence dissemination, healthcare system cost savings attributable to MSL activities, and knowledge transfer effectiveness ratios. These indicators help organizations optimize their MSL investment strategies while maintaining focus on patient benefit.

ROI consciousness also encompasses opportunity cost considerations, ensuring that MSL activities represent the most effective use of organizational resources for achieving patient outcome objectives. This perspective supports strategic decision-making about MSL deployment and activity prioritization.

Integration Framework

The three pillars function most effectively when integrated into a coherent measurement system rather than implemented as independent metrics. Integration ensures that improvements in one pillar do not come at the expense of others and that overall MSL performance reflects balanced achievement across all three dimensions.

The integration framework employs a balanced scorecard approach, weighting each pillar according to organizational priorities

and strategic objectives. This flexibility allows organizations to emphasize patient outcomes during product launch phases, focus on value creation during market development, or prioritize ROI during resource optimization periods.

Successful integration requires establishing clear relationships between the three pillars, recognizing that value creation and patient outcomes ultimately drive ROI, while ROI consciousness ensures sustainable and scalable value creation. This interdependence strengthens the overall measurement system by creating internal consistency checks and balances.

Conclusion

The three-pillar framework for MSL performance measurement provides a comprehensive approach to evaluating MSL effectiveness while maintaining focus on patient benefit and organizational value creation. By balancing value creation indicators, patient outcome linkage, and return on investment consciousness, organizations can develop more sophisticated and strategically aligned performance measurement systems.

Implementation of this framework requires organizational commitment to more complex but more meaningful performance measurement approaches. The investment in sophisticated measurement systems is justified by improved MSL effectiveness, better resource allocation decisions, and ultimately, enhanced patient outcomes.

Future development of this framework should focus on establishing standardized measurement methodologies for each pillar and developing industry benchmarks that enable comparative performance assessment across organizations and therapeutic areas.

References

Dyer, S., Hyder, C., & Kraemer, J. (2025). Challenges of key performance indicators and metrics for measuring medical science liaison performance: Insights from a global survey. *Pharmacy*, 13, 51. <https://doi.org/10.3390/pharmacy13020051>

Japan Pharmaceutical Manufacturers Association. (2019). *Consensus statement on medical science liaison activities*. JPMA.

Theron, P., Britland, M., Holder, D., Ikeda, Y., Rewers, R. F., & Tikku, A. (2021). Promoting best practices for medical science liaisons position statement from the APPA, IFAPP, MAPS and MSLS. *Therapeutic Innovation & Regulatory Science*, 55(6), 1139-1144.

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Yusuke Izumi, MBA

He is a results-driven Medical Operations and Excellence leader with nearly 20 years in pharma and biotech, spanning Senior MSL, MSL Lead, Field Medical Excellence, Medical Operations, and Medical Excellence & Medical Information leadership roles. He specializes in optimizing medical operations, orchestrating cross-functional delivery, and leading digital transformation to boost efficiency, compliance, and customer value, particularly in rare diseases. With deep expertise in medical information management, system implementation, and global-local regulatory alignment, he consistently designs cost-effective solutions that streamline processes and elevate stakeholder satisfaction.

A strategic, collaborative leader, he builds high-performing teams and embeds continuous improvement, standardization, and

best practices across organizations. Known for reliability and pragmatism, he advances enterprise initiatives, strengthens field medical impact in rare disease portfolios, and delivers measurable outcomes aligned with organizational and customer objectives.

Successfully Handling KOL objections

By Kimberly Cremers | Spring 2026

What's your first reaction when challenged by a KOL? What is your gut reaction? The art of being an MSL involves turning uncomfortable moments into meaningful insights valuable to your company and, more so, to the physician's patients.

Gaining a deeper understanding of the actual concern can strengthen your KOL relationships by turning this "objection" into a meaningful discussion by asking the right questions. The best MSLs shine through these times and gain valuable insights in the process. In fact, those MSLs want the physician to object! Nora Dunne, actress, director, and SNL alum, said, "Your job is not to please the audience; your job is to engage the audience." And it is in the engagement that they will be pleased. Don't shrink, engage! Here are some ideas on how.

When faced with a challenging question, your first step is to gain clarity. You could start by using the skill of paraphrasing (this traditional approach gets you in sync and signals that you understand). You can then ask clarifying questions to get additional facts:

- I want to be sure I understand your comment, it seems the essence of your concern is _____ (safety, price, formulary, etc.)?
- What aspect of the data led you to that statement?
- What are you using for comparison?
- Tell me more. This and the "what else?" question help the physician begin to teach you...become a willing student...you are in the professor's office!

One strategy is to immediately work to find the "real" question or challenge, the deeper issue the KOL is considering? "Can you give me an example of that from perhaps a patient you are seeing?" is a better response than attempting to reiterate and provide a review. The next step is to ask a few more respectful but probing questions, which will get to the root of the question and clarify the KOL's objection. Ask questions to facilitate deeper thinking about their comment:

- What brought you to that conclusion?
- What do you think would happen if...?
- Why do you think that is the case?
- What impact do you think that will have?
- What type of data would address your concerns?

The art of being an MSL is about asking the right questions and engaging the physician. Be careful not to challenge but to explore and allow the 'teacher' to have their say.

Focus not on the physician or the medication in discussion, but on the impact on the patients on whom we are both focused. Remind yourself that in the mind of the KOL, this is all about patients, not about your drug.

Uncomfortable asking probing questions? Understandable! Our relationships with KOLs are critical and may feel fragile as they are developing, so probing the KOL's objection should be deliberate, respectful, and skilled. Proceeding sincerely with the goal of providing information to support the best care for patients will make the tenuous MSL more confident and therefore more comfortable and more competent as a connector.

While being respectful doesn't diminish your value. You have expertise that the physician needs to serve their research and patients, and the physician has given you their time. You have something no one else can give during this visit, so don't allow yourself to be intimidated. Probing questions=physician interest. If the doctor doesn't challenge you or at least ask a good question, then the value of scientific exchange is lost.

In an advisory board of 45 physicians eager to hear from a research expert, it became clear he liked himself very much! During

his presentation, a physician asked a question. Looking down his nose, the PhD responded, “The question you meant to ask me was ____” Guess what? No more questions for the rest of that morning.

When challenged, avoid becoming defensive or panicking to please, as this may end the conversation quickly and won’t help you become the artist you are working to become. Frame your questions and tone to convey genuine interest in learning more and, ideally, to find the root of the objection. Is this an opportunity to ask questions related to your company’s medical strategy (i.e. key intelligence questions/topics)?

Whether you’re in person or on Zoom, physically lean in to show interest and keep your eyes to be confident. The eyes are the windows of the soul. Act as if you are confident, and you will be. Remember, you are the expert here!

If you don’t know the answer, admit it, and take a note on paper, which will indicate you are serious about gaining an answer. Consider this response: “Thank you. I’m going to make a note and bring it back to our scientists. This is really helpful.” The follow-up is with “When is a good day for us to meet and discuss what I learn?” (Securing a follow-up visit in your calendars!)

With preparation, being challenged by a KOL won’t have you running for the door, even when you’re taken by surprise. Be sure your questions are open-ended, requiring the KOL to think critically about their comments and expand on their thoughts. Give them time to respond (3-5 seconds) and don’t interrupt (it’s rude and worse, it confuses the other person), as it will derail the KOL’s thought process and the insights you are hoping to gain! Ask-Wait-Listen-Respond. Acknowledge their response with body language (a head nod or by leaning in) and listen closely to hear what they are saying. Avoid thinking about your response, as you will miss the nuances of their reply!

Anticipate challenging questions/comments and practice your response aloud with a colleague (they will likely face the same objection), or aloud when you are alone in your car or record a Zoom meeting with yourself answering the question. Multiple practice sessions give you what actors call “muscle memory,” which is the ability to go to options effortlessly. Practice makes perfect!

Being questioned by a KOL, whether it’s easy or difficult, is an opportunity for further discussion, and ideally, a more meaningful one! Use this opportunity to strengthen your relationship and prove your value for the company and to your KOL. Their patients will appreciate it.

About the authors:



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Kim Cremers, PharmD, is a licensed pharmacist with over 20 years of experience in medical affairs within the pharmaceutical and biotech industry. Throughout her career, she has demonstrated success in leading medical affairs teams across six companies, handling products throughout their lifecycle and spanning various therapeutic areas. Presently, she utilizes her extensive background as an external consultant, aiding organizations in the development or enhancement of their Medical Affairs capabilities, specifically MSLs.

As the Founder and CEO of Petrichor Medical Affairs Consulting, Dr. Cremers provides strategic guidance, planning, training, and executional support tailored to organizations seeking to establish, optimize, or expand their MSL team. Aligned with her passion for teaching about the pivotal role of pharmacists within the industry, Dr. Cremers has developed and teaches “Introduction to the Pharmaceutical Industry” to graduate pharmacy students, providing comprehensive insights spanning the drug development

continuum, from early-stage development to Medical Affairs, including the role of our commercial colleagues. Kim partners with Kevin O'Connor to support teams working to optimize their impact.



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Kevin E. O'Connor, CSP, CEC is an executive coach, professional speaker, and teacher. Kevin holds three Master's degrees, and his expertise focuses on scientific professionals who are charged with leading and influencing medical professionals. He teaches graduate students at Chicago's Loyola University, is faculty for the American Association for Physician Leadership (AAPL), and the American College of Healthcare Executives. (ACHE). Kevin partners with Kim Cremers, PharmD, providing support to teams working to optimize their impact.

Moments of Truth - Voices from the Launch Arena

By Marcus West | Spring 2026

Introduction

It's launch time. The heavy lifting of R&D and interaction with HCPs, regulators, and patient groups has been concluded, and a coordinated 'battle plan' has been signed and sealed. Time to exhale? Far from it. Product launches require a particular intensity and commitment to survive a precarious period that is still being shaped by changing demands and regulatory pressures across healthcare systems. Fault lines can easily develop if organisations sit back and admire their hard work and anchor ambition to traditional formulae.

This new Launch Age, which is being forged in the pandemic's aftershocks, scientific advances and digital disruption, is littered with potential sinkholes and crevasses where hope, good intentions, and profit projections can easily disappear. It is a demanding, complex, and volatile environment with companies now launching multiple products across multiple indications a year rather than landmark blockbuster events. Regulators are also placing more demanding and specific emphasis on engagement with patients, while the influence of real-world evidence – across multiple healthcare systems – is creating a fresh reimbursement dynamic.

Value, access, and affordability are always launch touchstones, but they are now subject to more nuanced metrics factored around engagement and performance. And all this in a world where healthcare data are on an exponential growth curve and information is being consumed, and often easily diffused, across multiple channels and where launches come thick and fast in bustling condition areas where differentiation is essential.

Launch is way more than a countdown and blast-off. This Moments of Truth whitepaper is powered by unprecedented levels of front-line industry experience and their voices provide unique insights into this critical and hyper-competitive sector of pharma.

Focus and Synchronise

Relying on routines and mechanisms that have served well over the last generation of launches will not equip an organisation to

prosper in the current, changing climate. Launches cannot cling to the strength of the science, new class entry or the firepower of thousands of field representatives, says Dana Maiman, Chief Executive Officer of IPG Health, a collective of over 45 diverse agency brands, which has a deep understanding from biopharma start-ups to Top 20 global pharmaceutical companies.

“Everything about launches can be summed up in three letters – BAM. Blockbusters Are Made,” she says. “Today, all the different pre-launch pillars need to be implemented and executed exquisitely.

“While building to that blockbuster status may look a bit different today, there are numerous components that have remained critical throughout the years, including: maintaining focus and energy, and the ability to communicate effectively and clearly with teams and key stakeholders. Setting a clear vision and direction from the start and continuing to measure all activities and efforts against that purpose is paramount.”

She underscores the need for a synchronised, collaborative approach across an organisation, adding: “It’s important to remember that all launches come with potential scenarios and curve balls. The teams that succeed are those who pivot with passion, remind each other of the bigger picture goals and make decisions to prioritize, maintain consistent communication to stay aligned, motivated and ensure prompt issue resolution, and match talent to task, ensuring we’re leveraging our teams skills and competencies to drive greater efficiency and productivity, and that they understand how their roles and contributions support the overall strategy.”

Those skills and competencies are transitioning, with industry needing to work harder to forge meaningful connections with HCPs, who continue to be time-pressed and operate as digital nomads, who channel-hop through content storms. A detailed map of physician interests and touchpoints, along with the awareness levels of patient groups, has become a launch imperative, connecting the swirling virtual and in-person contours of this landscape needs elevated levels of communication and collaboration.

Kathleen Gillooly, Group Management Director at healthcare agency AREA 23, observes: “First impressions matter – in life certainly, and equally so, in pharmaceutical launches. While the importance of launch is often well understood, especially when a new product is entering the market, there is a tendency in the industry to follow tried and true methodologies that can lead to lackluster results in the days, weeks and months that follow Day 1. As new technologies, new capabilities and higher-than-ever stakes set the stage for launch in the emerging future, it’s more important than ever that launch planning evolve to better allow for emerging complexities, contrasting insights, and shorter windows of planning.

Succeeding across all factors takes huge investment, cross-department collaboration and a bold approach to marketing and communication. Gillooly sees the launch as an opportunity to refresh and disrupt approaches.

She adds: “Launches, whether they are as a new therapeutic entrant to the market or of a new clinical dataset or indication, represent critical moments of inflection across a product’s lifecycle and require purposeful investment of time and expertise to get right. Taking advantage of these lifecycle opportunities with disruptive marketing and creative strategies that frame your products’ unique points of differentiation can have exponentially positive or negative impacts for the months and years ahead. Positive launches can reshape marketplace perceptions and turn a stagnant sales curve into a positive peak that delivers halo impact for years to come. Some even have the potential to reshape a category altogether. Conversely, poorly managed launches can create an unwanted lasting impression that requires an abundance of commercial resources to undo. Brands that fall prey to poor planning are left with unwanted cleanup and audience confusion that requires a clarification of their role amongst an increasingly competitive set.”

“Brands that can take a more modern approach, that allow for more individuality and adapt quickly are set to win big – in terms of customer relevance, marketplace differentiation and in overall cost efficiencies.”

Catarina Santos, Executive Director Medical Launch Region Europe in Novartis, believes that a flexible-dynamic culture is a key to navigating launch challenges and she states: “Face time with HCPs is reducing, which places greater importance on getting your engagement and communications in shape for launch. Our ‘air time’ in terms of education and partnership building is shortening and a lot is changing across healthcare systems that puts launch excellence at risk. Preparing a good launch plan, supported by the right culture, is becoming more and more important.”

Culture, communication and clarity have emerged as launch components that sit alongside the science, patient engagement and market awareness as keys to success.

The power of the story

With a multitude of connection and engagement points available across a product and patient journey, the need for a curated narrative is essential. Staccato, self-contained communications that punch out on timetable rigidity can undermine potential reach with HCPs, KOLs and patients.

“Telling the same story, with the depth and context appropriate for the audience and channel, is essential. Finding the right lexicon – words that can help differentiate or create a sense of urgency while clearly and credibly communicating our brand story – is one of our most powerful tools for doing that,” says Ariel Buda-Levin, President, Medical Communications across AREA 23 on Hudson, ProHealth, and Trio.

“Many times, a lexicon is designed internally amongst agencies and clients, but we find that the step of vetting with both KOLs and community treaters is essential to ensuring the language resonates and conveys the message we hope it will. KOLs are not usually the main audience for the lexicon or the messaging but, since we need their advocacy, it’s important to consider their perspective and likelihood of adapting that language. The right lexicon, socialized appropriately, takes on a life of its own, and KOLs are the drivers of that, adapting the language into their podium presentations and publications.”

This discipline needs to work internally and externally and Mardene Miller, President, Neon, the New York-based creative marketing and advertising agency, observes: “Message resonance across an organization is extremely important because it rallies cross-disciplinary groups behind a consistent brand story to communicate to their respective external stakeholders. It helps your stakeholders understand the company’s vision, mission, and goals. Without that consistency, the value proposition of a product may either not be realized (launch) or may erode (established brand), and uptake or utilization can be limited or possibly niche. Inconsistent messages can lead to customer confusion and dilute the brand’s identity, ultimately undermining impact and effectiveness.”

Having an ‘inside-out’ enthusiasm and passion for a core brand narrative improves an organisation’s morale and can increase the likelihood of messages sticking with key target audiences, she says.

Clarity and Simplicity

A product’s success rate is clearly energised if it grabs the attention of KOLs, HCPs and patients and conceptual creativity is a prime element of any campaign. But the more workhorse qualities of education and engagement are also vital to reach and retain audiences. This is achieved by robust and relevant messages that are easily and swiftly understood.

“As a new product moves from pre-launch to launch, it is crucial to properly educate both physicians and patients on the clinical data that underpins the brand’s differentiators. It is also important to maintain relationships with KOLs,” says Sommer Bazuro, PhD, Chief Medical Officer, IPG Health.

“Often, the need for branded education is underestimated, especially when the product involves novel clinical trial designs, endpoints, complicated dosing schedules, or associated biomarkers. Physicians, despite their medical training, require clear, simplified explanations of these elements to confidently prescribe the product and communicate effectively with their patients.”

She adds: “Simplifying complex scientific information with a narrative and visuals enhances engagement, aids memory retention, and supports decision-making. When the science behind a product is made accessible, healthcare professionals and patients are more likely to connect emotionally with the brand, leading to better adoption and adherence to treatment protocols.

“By simplifying the science and maintaining strong advocacy, the brand can secure a successful launch and achieve sustained impact in the market.”

The new Patient Paradigm

Launching a new product now has a core obligation to connect with the patient on a much deeper level than basic brand awareness. Patients are knowledgeable about and empowered in their treatments so the communication thread needs to entwine them as well as KOLs and HCPs.

Marc van Unen, Business Unit Head, Cardiovascular for Bristol Myers Squibb, has led multiple launches across different condition areas involving a range of modalities and devotes critical attention to patients and niche markets.

“When we’re talking about preparing the product, we need to understand how the patient moves through the healthcare system, which can be very different by country to country. We need to look at what leverage points we can influence to smooth that journey, increase patient flows and make it easier for them. Knowing where we could intervene to bring benefit it is important,”

he says.

He cites the example of an anticoagulant therapy that reduced the need for young patients to visit the clinic every six weeks for blood tests. “For them it was a huge benefit,” he adds. “These are the areas where you can intervene and improve patient flow and also have a good benefit for the physician. In terms of the story, it is about looking at where the product has a critical benefit.”

Van Unen is a strong advocate of building social capital with interdependent launch teams and laying the ground for them to become highly motivated and generate initial momentum for a product.

Investing in those internal connections and listening to, and understanding, the needs and drivers of HCP and patient behaviour can be labelled soft skills but they are increasingly recognized as the route to significant dividends.

Laura Catalusci, Group Director, Learning Strategy, YuzuYello, observes: “Shifting from pre-launch to launch priorities involves a tremendous behavioural shift. Not only a shift of physician diagnosis and prescribing behaviours but a shift requiring patients to gain a renewed understanding of their treatment options and assessment of how treatment changes affect their day-to-day routines and health outcomes.

“The focus at launch tends to be on awareness, awareness, and awareness. But what happens if patients get an Rx and don’t exactly know what to do with it or how to stick with it? That’s where the often-overlooked Patient Support Program experiences really shine. Brands need a launch plan and program aimed at catching those with prescriptions and guiding them through the access and adherence process before they get lost.”

Medical Affairs teams increasingly view the value of the patient as a stakeholder with a voice in discussions of endpoints and a key audience for education and evidence dissemination that is delivered with plain language.

Real World Connections

A sharp focus on the needs of financial decision-makers in hospitals, health systems and medical groups is an essential strand of value communications and a balanced flow of content across channels needs to be achieved around a launch. Messages need to land with clarity and consistency while also being tailored to the diverse factors that influence their day-to-day and impact their choices.

“This area is frequently overlooked,” says Joshua Bueller, Director, Strategic Planning, McCann Health Managed Markets. “These organized customers have different value drivers than traditional payers, having not only to manage care for their patients but also manage costs for their organizations. Real-world evidence (RWE) planning can also be an afterthought and is typically focused on in the postlaunch environment. However, there is now a growing trend to integrate RWE strategy between medical and commercial pharma teams to support long-term market access and product positioning. One final example that is typically overlooked is moving managed care customers from awareness to retention of key product information and value statements.

“Addressing these areas proactively during the transition from prelaunch to launch can help ensure a smoother market access process and better overall launch outcomes in today’s managed care environment.”

Get Personal and Go Digital

Mike Guarino, Chief Commercial Officer, IPG Health, is a launch veteran and advises on creating a product narrative that is consistent across organisations as early as possible to create the foundation of a communication platform.

Significantly, he majors on the personal, giving it a high value rating in a product’s potential. “One frequently overlooked but powerful approach cultivated in consumer products marketing and evolved for pharma marketing is the use of emotion to create ownable space for brands,” he says. “The ability to connect viscerally often activates a more influential brand association, enabling marketers to move beyond the typical ‘reasons to believe’. This emotion-based marketing approach has been supported by a wide range of behavioural sciences studies.

“Now, with the proliferation of Large Language Models (LLMs) and the integration of AI within our strategic process, we’re able to more rapidly uncover often hard-to-articulate emotional insights across all customer types – from the highly influential thought leader specialist to the mom searching for the right treatment for her child.”

KOLs have been a powerful downstream force for product awareness and take-up, but a new cohort of Digital Opinion Leaders (DOLs), who operate in and influence digital communities, are playing vital roles in healthcare roles, and need to be integrated into launch strategies. This requires careful planning to ensure message consistency and clarity across all channels, says Jack

Vance, Managing Director, Data and Activation, IPG Health and SOLVE(D).

"The first step is to carefully select the right DOLs and, by using social listening tools and

network analysis, brands can pinpoint DOLs who align with their values and have the authenticity needed to effectively deliver key messages," he says. "Establishing a collaborative relationship with DOLs is crucial. Digital platforms are dynamic, with messages evolving rapidly. Co-creating content with DOLs ensures that messaging remains consistent while allowing their unique voices to resonate with their audience.

"Offering clear guidelines coupled with creative freedom strikes a balance between brand consistency and authentic engagement."

Data-driven insights can track DOLs' engagement and message dissemination levels and allow for real-time adjustments to ensure unified messaging across all digital touchpoints.

"DOLs have become essential to modern healthcare launches. By strategically identifying, collaborating with, and integrating them into a broader strategy, we can ensure clear, consistent, and impactful messaging across the digital landscape," he adds.

Conclusion

Market feedback and research draw a picture of an increasingly crowded and specialised world of product launches.

A study by QuintilesIMS revealed a competitive and innovative environment and observed that the focus was turning to 'more specialist therapy areas, limited key launch countries, healthcare budgets, doctor attention time, and even patients.' 1

With many new and disparate factors in play, it forecasted: "Achieving true Launch Excellence will become even more challenging."

Maintaining clarity and consistency of message that works internally and externally has never been more important, as the economic and scientific case will need to resonate across different audiences as well as be robust, flexible and durable across a product's life cycle.

Formulaic launches are unlikely to prosper, so constructing bespoke approaches with in-built adaptability that can weather fluctuating markets and shifting demands is paramount. This can only be achieved with a strong focus on communication, and a willingness to listen, understand, and respond.

Launch is a time to be creative, collaborative and to have a bold vision that can be shared with KOLs, DOLs, HCPs, and patients. Telling your story with clarity and compassion is never more important than at launch.

Launch Notes:

- **Abandon assumptions: No two launches are the same.**
- **Invest in internal and external communications.**
- **Ensure creative and practical collaboration across all departments.**
- **Differentiate your product, your company and the unique support to patients it can offer with a powerful, consistent narrative.**
- **Be hyper-relevant to understand customer's experiences.**
- **Dig deeper for the human truths involved in choosing treatments or managing a condition.**
- **Make the science accessible with clear, concise branded education for HCPs and patients**
- **Leverage the clinical experience of trialists and clinicians to underscore product benefits.**
- **Develop strategies to navigate increased payer management and support practices in achieving coverage and reimbursement is essential to achieve brand success.**
- **Deploy Ambassador Experience Tracking and expand it to include just-prescribed patients.**

Reference:

1. <https://www.iqvia.com/-/media/quintilesims/pdfs/launch-excellence-v.pdf>

About the author:



Marcus West

I have directed 35 plays and coached performances for 30 years. I have worked with the likes of LA director, Robert Benedetti, US playwrights, Edward Albee and Will Eno, voice coaches, Kristin Linklater and Cicely Berry, Alexander teacher, Nadia Kevan, LA acting coach, Ivana Chubbuck, British playwright and screenwriter, Stephen Jeffreys, LA screenwriting master teachers, Steven Kaplan, Chris Vogler and Michael Hauge. I use these experiences with the world's leading performing arts practitioners and my own background in theatre, to inform my work in presentation coaching. I work with a host of CEOs and their firms around Australia including KPMG, DLA Piper, CBA, QBE, Merck, and BOQ, as well as politicians and barristers, to help them present their message with punch. I am also a talent coach with Seven, Nine, SBS, ABC, and Fox Sports working with reporters and presenters on their presentation and storytelling skills, as well as many of Australia's leading sportspeople. Clients have included Michael Slater, Wally Lewis, John Aloisi, Sharelle McMahon, Lara Bingle, Mark Ferguson, Ben Fordham, Allison Langdon, Mike Baird, Jonathon Brown, Glen Boss, and Tom Carroll.

In the past five years, I have created a new performance coaching app called 60 Seconds which is a crystallization of my experience.

Strategic MSL-KOL Partnerships Beyond Relationship Building: A Framework Informed by Real-World Practice

By Maria Abunto, MD, MPH, MBA | Spring 2026

A Case Study Featuring Dr. Maria Abunto and Dr. Justin D. Pykare
Published in collaboration with AMSLE and RAMA

Introduction

The Medical Science Liaison (MSL) role is evolving toward strategic scientific collaboration beyond just relationship building. The complex healthcare landscape demands that field insights be systematically captured, synthesized, and translated into operational strategy. HCP engagements should be anchored in shared scientific objectives and driven by genuine clinical curiosity. The modern MSL must create impact by facilitating digital innovation that improves workflow and by elevating key opinion leaders (KOLs) from information recipients to strategic partners.

When insights are gathered with defined objectives and aligned priorities, partnerships shift from well-managed relationships to true scientific collaborations. Recently, members and leaders of the Aspiring Medical Science Liaisons at Emory (AMSLE) and the Rutgers Aspiring MSL and Medical Affairs (RAMA) societies came together to examine one such strategically cultivated MSL-KOL partnership that is influencing clinical decision-making and advancing patient outcomes (1,2).

A Lasting MSL-KOL Partnership is Differentiated by a Shared Clinical Problem

Dr. Maria Abunto, a seasoned Medical Science Liaison (MSL), first met Dr. Justin Pykare, Director of Health Informatics, during a

scientific meeting focused on cancer screening. While many initial interactions in such settings remain transactional, this exchange quickly revealed a meaningful alignment between Dr. Abunto's scientific insights and the clinical realities faced by Dr. Pykare and the patient population he serves.

This alignment was not incidental. Prior to the meeting, Dr. Abunto had prepared extensively by researching Dr. Pykare's Federally Qualified Health Center (FQHC), the community it serves, and the structural and clinical barriers likely to influence implementation of screening strategies. FQHCs serve medically underserved populations and operate within unique financial and operational constraints that can influence implementation of screening strategies. This preparation enabled a more substantive scientific exchange grounded in the operational context of care delivery. As Dr. Abunto later reflected:

"Knowing that my focus was on colorectal cancer screening, having all of that information was critical to have a successful meeting, build relationships, and get feedback for my internal colleagues." – Dr. Abunto

Dr. Pykare was navigating real barriers to patient access, including insurance coverage, social determinants of health, and workflow constraints. By addressing concerns specific to his clinical environment, the conversation moved beyond information sharing to collaborative problem-solving.

Dr. Abunto explained:

"During our conversations, I made sure to ask him what was most valuable to him—what information or support would really make a difference in his practice. This builds trust, mutual respect, and shared learning." – Dr. Abunto

Through active listening and thoughtful questioning, Dr. Abunto identified an unexpected alignment: Dr. Pykare worked with patients in addiction clinics at risk for liver cancer, a population relevant to a diagnostic test in her company's pipeline. That insight was shared internally, demonstrating how field insights gathered during engagement can inform future scientific and strategic planning. At the heart of these interactions was a shared commitment that Dr. Pykare clearly emphasized:

"We're always trying to get to the same route — improve those patient outcomes." – Dr. Pykare

Early alignment on shared clinical and scientific priorities established the foundation for a collaboration that has continued for more than six years. From the outset, the engagement extended beyond traditional scientific exchange to include identification of real-world challenges within clinical practice and consideration of how emerging evidence could inform practical solutions. This alignment enabled a sustained partnership characterized by bidirectional learning, contextualized evidence translation, and a shared commitment to improving patient care within complex clinical environments.

Over time, this collaboration moved beyond scientific dialogue to generate tangible improvements in patient care. One example emerged through efforts led by Dr. Abunto and Dr. Pykare to address colorectal cancer (CRC) screening barriers among uninsured patients within the FQHC setting. Many patients faced significant challenges accessing screening due to lack of insurance coverage. Through continued collaboration, Dr. Abunto connected Dr. Pykare and the clinical team with additional stakeholders, including leadership within the Department of Health Equity and Access. Together, the teams implemented a patient assistance program that allowed uninsured patients to access CRC screening through an external ordering portal at no cost to either the patient or the health center, helping close a critical gap in preventive care.

As the collaboration progressed, insights generated through these engagements supported further operational improvements. The initiative ultimately contributed to the development of a direct interface with the electronic health record (EHR), enabling clinicians to place CRC screening orders and receive results seamlessly within the clinical workflow. Prior to this improvement, the process required paper order forms and results to be signed, faxed, and manually uploaded into the system, creating delays and administrative burden for clinicians and staff. By streamlining ordering and results integration, the initiative not only expanded access for uninsured patients but also improved efficiency for all patients undergoing CRC screening.

From this collaboration, six elements emerged that characterize high-impact MSL-KOL partnerships.

A Framework for High-Impact MSL-KOL Partnerships

Drawing from the collaboration of Drs. Abunto and Pykare, six elements emerged as central to building partnerships that move beyond routine engagement. Each builds upon the last, with the first three forming the foundation and the latter three reflecting what becomes possible when that foundation is established.

Foundation

Preparation Grounded in Context: Effective engagement begins with researching the healthcare organization, patient population,

and systemic barriers prior to first contact.

Shared Problem Definition: Meaningful partnership begins with understanding the clinician's environment, not assumptions about their needs.

Trust, Credibility & Mutual Respect: This element sustains all others and is built over time through consistency, honesty, and genuine clinical curiosity.

What Follows

Strategic Scientific Exchange: Scientific dialogue tailored to real-world clinical context and barriers most relevant to the KOL's patient population.

Insight Activation: Field insights are synthesized and brought back internally to inform organizational strategy, pipeline priorities, and educational initiatives.

Patient Outcomes: The purpose underlying every element of the framework and the shared commitment that keeps both parties aligned over time.

Figure 1. Core Elements of High-Impact MSL-KOL Partnerships: A Framework for Advancing Health Care.

Core Elements of High-Impact MSL–KOL Partnerships

A Framework for Advancing Health Care Through MSL–KOL Collaboration



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AMSL

RAMA

This pyramid depicts six hierarchical elements underlying effective MSL–KOL partnerships, progressing from foundational competencies (base) to patient impact (apex). Lower layers — Preparation Grounded in Context, Shared Problem Definition, and Trust, Credibility & Mutual Respect — represent what MSLs bring to the relationship. Upper layers — Strategic Scientific Exchange, Insight Activation, and Patient Outcomes — represent what effective engagement produces. MSL, Medical Science Liaison; KOL, Key Opinion Leader. Figure generated using Claude (claude-sonnet-4-6; Anthropic, 2026).

Two Perspectives, One Goal: Aligning MSL and KOL Lenses

The relationship between MSLs and KOLs reflects two complementary perspectives united by a shared goal: improving patient outcomes through the effective translation of scientific evidence into clinical practice.

From the MSL lens, engagement is rooted in strategic scientific exchange. As Dr. Abunto noted, early in her career, she believed

success was primarily about mastering the science, but later realized that:

“Success comes from connecting science to strategy. I learned how deeply MSLs and KOLs shape not just research, but real healthcare decisions.” – Dr. Abunto

MSLs function as scientific bridges, communicating emerging data, gathering field insights, and translating real-world clinical feedback into internal strategies that inform research, market access, and medical affairs initiatives. Achieving this requires not only deep scientific expertise but also empathy, analytical thinking, and technological fluency as healthcare increasingly incorporates AI and data-driven tools.

From the KOL perspective, the priority is clinical practicality. Leaders such as Dr. Pykare, working in an FQHC, operate within time constraints, administrative burdens, and patient access challenges, and for them, the value of MSL engagement lies in the translation of scientific data into meaningful patient outcomes. As Dr. Pykare noted when describing the demands of his day-to-day work:

“We’re always managing competing priorities.” – Dr. Pykare

This reality shapes how clinicians approach new evidence. Rather than evaluating data in the abstract, the key question is always how it affects patients:

“As a KOL, when we’re looking at evidence, I absolutely want to make sure that the evidence will translate into outcomes and improvements for our patients.” – Dr. Pykare

This makes concise, practice-relevant interactions essential. High-impact partnerships arise when MSLs understand these realities and work alongside clinicians to translate science into actionable solutions for patient care.

Impact: What Differentiates High-Impact from Transactional Partnerships?

A key determinant of whether an MSL-KOL partnership becomes high impact rather than transactional lies in the presence of depth, alignment, and value creation. Transactional interactions are often characterized by undifferentiated or passive information transfer and output-driven metrics (quantity over quality). Such exchanges involve limited personalization, minimal follow-up, and no clear connection to the KOL’s real-world clinical challenges.

In contrast, meaningful collaboration extends beyond the delivery of scientific materials. High-impact partnerships are built on preparation, contextual understanding, and mutual strategic alignment. Recognizing this, Dr. Abunto approached the initial engagement as more than a routine introduction. Prior to the meeting, she tailored her talk to anticipate questions related to patient insurance coverage, reimbursement, and current screening guidelines, issues directly relevant to the operational realities of care within an FQHC setting.

This preparation did not go unnoticed. Reflecting on the interaction, Dr. Pykare emphasized the importance of intellectual engagement in the scientific exchange, noting that:

“One of the most important things for an MSL to do is to show clinical curiosity.” – Dr. Pykare

When engagements focus on identifying unmet clinical needs and aligning scientific evidence with real-world practice, MSL-KOL relationships can evolve into genuine collaborations capable of influencing clinical decision-making and improving patient care.

Lessons Learned: Redefining Value Through Purpose, Impact, and Shared Outcomes

For Medical Affairs organizations seeking to elevate clinical contributions of field medical teams, several themes emerge for strengthening the impact of MSL-KOL partnerships. Meaningful scientific exchange begins with contextual preparation — developing a clear understanding of the clinical environment, the patient population served, and the operational challenges facing healthcare providers. At the same time, effective training for MSLs must extend beyond scientific expertise. Competency in emotional intelligence and a broader understanding of the healthcare ecosystem — including payer dynamics, coverage, and reimbursement structures — are increasingly essential for meaningful engagement with clinical stakeholders. Ultimately, the daily activities of field medical teams should reflect the organization’s mission to connect scientific evidence with improved patient care. As Dr. Pykare observed:

“MSLs and KOLs want to align science and patient care together so we can connect patient care with business and have strong patient outcomes.” – Dr. Pykare

Conclusion: Implications for RAMA, AMSLE, and the Next Generation of MSLs

When guided by shared purpose, MSL-KOL partnerships can move beyond the exchange of information to become catalysts for meaningful change. In this case, the collaboration extended beyond improving patient care to influencing the development and mentorship of future MSLs.

For organizations such as RAMA and AMSLE, this model offers a blueprint for the future of Medical Affairs. Training the next generation of MSLs will require not only excellence in scientific communication but also technological fluency, emotional intelligence, and collaborative leadership. The partnership between Dr. Abunto and Dr. Pykare illustrates how intentionally, strategically aligned engagement can shape the evolution of field medical practice. By fostering clinical curiosity and aligning scientific exchange with real-world clinical needs, Medical Affairs organizations can prepare future MSLs to build impactful collaborations that ultimately advance patient outcomes.

“Having the opportunity to host Dr. Abunto and Dr. Pykare at multiple AMSLE events allowed our members to observe firsthand how an MSL-KOL relationship can develop into something far deeper than a transactional interaction. We are grateful to both of them for openly sharing their experiences and for helping aspiring Medical Science Liaisons better understand how thoughtful scientific engagement and genuine curiosity can translate into real improvements in patient care.” – Aspiring Medical Science Liaisons at Emory (AMSLE)

“The guidance from Dr. Abunto and Dr. Pykare has been integral to our understanding of MSL roles, the business side of the profession, and, of course, the relationship between MSLs and KOLs. The insights they shared provided us with meaningful firsthand perspectives from both an experienced MSL and a KOL, greatly enriching our understanding of the field. Their willingness to engage with our questions and support our development as aspiring MSLs was invaluable. We hope to one day contribute to the field of medical affairs by supporting evidence-based clinical decision making, translating scientific discoveries from the laboratory into real-world therapies, and helping clinicians access the resources and information they need to provide the best care for their patients.” – Rutgers Aspiring MSL and Medical Affairs (RAMA)

Disclaimer: Artificial intelligence (AI) tools, including ChatGPT and Claude, were used to assist with organization, language refinement, formatting, and figure/image generation. All scientific concepts, interpretations, and manuscript content originated from the authors, who reviewed and approved all AI-assisted outputs.

References

1. MSL & KOL Partnerships: From First Contact to Real-World Impact. Virtual educational event featuring Dr. Maria Abunto and Dr. Justin D. Pykare. May 20, 2025. Hosted by Aspiring Medical Science Liaisons at Emory (AMSLE) and Rutgers Aspiring MSL and Medical Affairs (RAMA).
2. Aspiring Medical Science Liaisons at Emory (AMSLE) and Rutgers Aspiring MSL and Medical Affairs (RAMA). Navigating the Healthcare Business. Virtual educational event featuring Dr. Maria Abunto and Dr. Justin D. Pykare. October 28, 2025. Hosted by Aspiring Medical Science Liaisons at Emory (AMSLE) and Rutgers Aspiring MSL and Medical Affairs (RAMA).

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Maria Abunto, MD, MPH, MBA

Dr. Maria Abunto is a physician executive and digital health innovator with over two decades of experience building and scaling medical, clinical, and AI-enabled platforms across academia, pharma, biotech, diagnostics, and health systems. Her career spans hands-on clinical practice, NIH-based research, and senior medical leadership roles supporting technology-enabled care delivery.

A recognized AI Ambassador and featured speaker at national and international conferences, Dr. Abunto is known for translating complex science, technology, and regulatory requirements into scalable operational models. She has built and led high-performing, cross-functional teams spanning clinical operations, medical affairs, diagnostic product development, data science, and business development—successfully launching new capabilities from the ground up and operating effectively in fast-growth, high-accountability environments.

Dr. Abunto also serves as a leader of the Healthcare Businesswomen's Association (HBA) Pittsburgh, where she has played a pivotal role in relaunching and expanding the regional presence of the global nonprofit organization. Through strategic partnerships, sponsorship development, and community engagement, she is building a platform that advances women in healthcare leadership, entrepreneurship, and innovation across the Pittsburgh ecosystem.

In her current roles as Medical Consultant for Cancer Fund and Medical Director of AMBA Venture, Dr. Abunto advises early- and growth-stage companies on evidence generation and operational scalability. She partners with founders, sponsors, and health systems to align clinical strategy, technology, and execution—driving measurable impact for patients, sponsors, and healthcare networks while enabling sustainable growth.

Dr. Abunto is an Adjunct Professor at Duquesne University, where she teaches Public Health 101 and inspires students to think critically about improving community health.



Justin D. Pykare, DNP, APRN, FNP-BC, NI-BC

Dr. Justin D. Pykare is a nurse leader, informatics strategist, and clinician-educator whose career bridges advanced practice nursing, health system innovation, and academic leadership. He holds a Doctor of Nursing Practice degree from Kent State University and is board-certified as a Family Nurse Practitioner and in Nursing Informatics. A four-time graduate of Kent State University, Dr. Pykare has built a career centered on integrating clinical excellence with data-driven strategy to improve outcomes across complex healthcare systems.

Dr. Pykare serves as Director of Health Informatics at ONE Health Ohio, a Federally Qualified Health Center dedicated to serving underserved communities across Northeast Ohio. In this role, he leads enterprise-level initiatives aligning clinical practice, analytics, and technology to advance quality metrics, strengthen chronic disease prevention, and drive value-based care transformation. His leadership emphasizes workflow optimization, data transparency, and interdisciplinary collaboration to enhance both patient outcomes and operational performance.

Committed to scholarship and professional advancement, Dr. Pykare serves on the Editorial Board of the Journal of Doctoral Nursing Practice and is an Adjunct Assistant Professor of Clinical Practice at The Ohio State University College of Nursing, where he mentors and prepares advanced practice nursing students for leadership in clinical and system-level roles. His academic and professional work focuses on responsible digital health integration, primary care innovation, and advancing nursing leadership through informatics.

Grounded in faith and service, Dr. Pykare is deeply devoted to his wife and their five children. Outside of his professional work, he enjoys running, fitness, and investing time with his family. His mission remains steadfast: to improve access, equity, and quality of care for underserved populations through compassionate leadership and purposeful innovation.



Alexa A Snyder

Alexa (Lexi) Snyder is a PhD candidate in Biochemistry, Cellular and Developmental Biology at Emory University, where her research focuses on understanding the mechanisms of HIV-1 drug resistance and hypersusceptibility. Her work integrates structural biology, virology, and biochemical approaches to examine how viral mutations influence treatment outcomes and inform the development of next-generation antiviral strategies. She has also contributed to projects involving HIV, SARS-CoV-2, hepatitis B virus (HBV), and MPOX antiviral and vaccine development. Over the past three years, she has played a central role in establishing Aspiring Medical Science Liaisons at Emory (AMSLE) as a chartered organization within the Laney Graduate School and now serves as its President, developing programming and industry partnerships that provide trainees with meaningful exposure to medical affairs careers. She believes the most impactful science happens at the intersection of research, medicine, and industry and is building her career around that space.



Nedine Abdelhamid

Nedine Abdelhamid is a PhD candidate in Biomedical Sciences at Rutgers University with a focus on Infection, Immunity, and Inflammation. She conducts research in a liver transplant laboratory studying immune dysfunction in liver transplant candidates with cirrhosis and how it may influence patient selection for liver transplantation, transplant outcomes, and post-transplant

management. She serves as Co-President of the Rutgers Aspiring MSL and Medical Affairs (RAMA) Group, where she collaborates with leadership to coordinate industry speaker events and professional development opportunities for trainees and professionals interested in medical affairs careers. Her goal is to contribute meaningfully to the field of transplantation by helping translate scientific discoveries into improvements in transplant care and therapeutics that improve patient outcomes and support evidence-based clinical decision-making



Sumiyya Raheem, MS

Sumiyya Raheem is a PhD candidate in molecular biology, genetics, and cancer at Rutgers New Jersey Medical School. Her research focuses on TRPV6 ion channel physiology and modulation. This work has contributed to peer-reviewed publications in molecular biology journals as well as presentations at international conferences, most recently the Biophysical Society Meeting. In addition to her research, she has taken on multiple leadership roles including serving as a co-president of Rutgers Aspiring MSL and Medical Affairs (RAMA) Group, where she collaborates with where she collaborates with leading medical affairs professionals to develop and coordinate industry speaker events and professional development initiatives for trainees and professionals interested in medical affairs careers. She is passionate about operating at the intersection of science and industry, translating complex research into strategic insights that support innovation and improved patient outcomes.



Jonica L. Brown

Jonica Brown is a PhD candidate in the Molecular and Systems Pharmacology program at Emory University, where her research focuses on the role of cholesterol in modulating the cystic fibrosis transmembrane conductance regulator protein (CFTR) ion channel dysfunction in the rare disease, cystic fibrosis. She serves on the executive board of Aspiring Medical Science Liaisons at Emory (AMSLE) as Financial Officer, where she organizes networking and educational events that introduce trainees to career opportunities within medical affairs while overseeing the organization's financial planning and budget management. Jonica is passionate about translating complex scientific data into meaningful dialogue and looks forward to a career in medical affairs where she can combine scientific communication and relationship building to help advance clinical practice and improve patient outcomes.



Pragya Saxena, PhD

Pragya Saxena, PhD, is a postdoctoral scientist at Emory University with over six years of translational research experience in inflammation, immunology, and neuro-urolgy. Her research has focused on identifying inflammatory mechanisms underlying bladder dysfunction and neuropathy, combining pharmacologic, genomic, and computational approaches to better understand disease pathways. Through collaborations with clinicians, engineers, and healthcare stakeholders, she has developed a strong interest in translating scientific discoveries into clinically meaningful insights. Pragya is actively engaged in the Medical Affairs community through the Aspiring Medical Science Liaison Society at Emory, where she organizes professional development programs and facilitates dialogue between trainees and industry medical affairs leaders.



Luis Garza-Martinez

Luis Garza-Martínez is a PhD candidate in Biomedical Sciences at Rutgers New Jersey Medical School. His journey in science began after coming to the United States on a tennis scholarship, where he competed for New Mexico State University. His experiences as a research technician, first during his undergraduate studies and later at NYU, sparked a strong interest in science and ultimately led him to pursue a PhD.

His research focuses on how cellular senescence shapes the metabolism and immune function of CD8+ T cells in the context of biological aging. This work has contributed to peer-reviewed publications in immunology and aging research, as well as presentations at international conferences. At Rutgers, he also co-founded and co-led the RAMA group, connecting aspiring MSLs with industry professionals and KOLs.

In addition to his academic training, Luis has gained experience in medical affairs and the pharmaceutical industry. During his internship at Haleon, he collaborated with members of other medical affairs departments to support strategic medical initiatives and contributed to advisory board planning.



Christopher Simmons, PharmD

Christopher Simmons is an aspiring Medical Science Liaison with over eight years of experience in community pharmacy. Currently serving as the Pharmacy Affairs & External Scientific Engagement Chair for the AMSLE Executive Board, Chris plays a pivotal role in bridging the gap between academic learning and real-world industry applications. In this capacity, he empowers AMSLE members to navigate the evolving landscape of medical affairs and drug development.

A seasoned communicator, Chris has presented at prestigious forums including ASMA, SUSOP, and SCCM. His signature style blends rigorous data with compelling storytelling, ensuring complex clinical information resonates long after the presentation ends. Deeply passionate about advancing diabetes management, Chris is known for his infectious energy and his ability to foster collaborative, high-impact relationships across the healthcare ecosystem.



Luisa Fernanda Gomez-Alatorre, PhD

Dr. Luisa Fernanda Gomez-Alatorre is a Medical Science Liaison at Eisai, where she supports scientific exchange within the neurology therapeutic landscape. She holds a PhD in Neuroscience from Rutgers University and has over a decade of research experience spanning neuropsychiatric disorders, neurobiology, and translational neuroscience. In her role, she engages with healthcare professionals and key opinion leaders to facilitate evidence-based dialogue on disease mechanisms, biomarkers, and emerging therapeutic approaches in neurodegenerative disease. Dr. Gomez-Alatorre is also a co-founder of the Rutgers Aspiring MSL and Medical Affairs (RAMA) group and is passionate about advancing scientific communication, mentorship, and collaboration across the medical affairs community.

From Field Conversations to Strategic Impact: How NotebookLM Is Reshaping the MSL-KOL Relationship

By Judith Carreño | Spring 2026

The role of the MSL (Medical Science Liaison) has always required an uncommon combination of:

Scientific depth, relational intelligence, and strategic agility.

However, as the volume of publications grows, the availability of RWD (Real World Data) becomes increasingly overwhelming, and KOL expectations become more complex, even the most experienced MSL teams face a shared structural challenge:

“How can we consistently extract, synthesize, and act upon the scientific knowledge contained in hundreds of field interactions, publications, and exchanges at medical congresses?”



NotebookLM, a generative artificial intelligence tool developed by Google, offers a compelling answer to this challenge—not as a replacement for the MSL’s scientific judgment and reasoning, but as a cognitive amplifier that can transform how field medical teams prepare, execute, and follow up on interactions with KOLs.

This is why it is important to integrate this technology into the team’s daily workflows, moving toward a scenario where the focus is on improving the efficiency of how scientific conversations are structured and enhancing the quality of the medical insights generated.

How do we approach scientific conversations with impact? Depth over volume

One of the most immediate applications of NotebookLM in the MSL context is the preparation of those visits that can sometimes generate significant pressure.

Traditionally, preparing for a strategic meeting with a KOL required gathering publications, clinical trials, congress abstracts, and competitive intelligence from multiple sources—a process that can take hours and still leave gaps.

With NotebookLM, an MSL can upload a curated and segmented set of references tailored to the type of conversation they want to have (recent publications from the KOL, relevant clinical guidelines, and internal medical review materials) and explore that content using natural language queries.

The tool synthesizes information across sources (allowing the MSL to decide when and how to use specific data), identifies connections that might not have been previously considered, and enables a richer and more personalized scientific dialogue.

It can also adapt outputs to the MSL's preferred format—whether infographics, podcasts, or study-style guides.

For managers overseeing teams across multiple therapeutic areas, this capability has a multiplying effect: it allows MSLs with different levels of experience to enter KOL conversations with a similar level of preparation depth, reducing variability and elevating the team's overall scientific presence.

Structuring insights after field interactions

With experience, we realize that the value of a conversation with a KOL rarely lies in the conversation itself. It lies in what happens afterward: how scientific and strategic insights are captured, synthesized, and translated into actionable intelligence for medical affairs.

And this is precisely where many teams lose value—not due to lack of effort, but due to the absence of a structured methodology for insight extraction.

NotebookLM can act as a thought-structuring partner in this post-interaction phase. An MSL can document the key points from a discussion with a KOL and then use the tool to identify emerging themes, highlight potential evidence gaps, or connect the KOL's perspective with existing data.

The result does not replace medical judgment but provides a scaffold that helps the MSL articulate more precise and strategically relevant insights.

Additionally, information can be uploaded in multiple formats—such as PDFs, presentations, videos, or audio files. This functionality is also useful for identifying insights from meetings, courses, and congresses, which can then be organized into structured explanatory text.

With NotebookLM, it becomes possible to consolidate information from multiple sources and organize it by categories, such as disease area or therapeutic field.

If we learn how to apply these tools thoughtfully, we can significantly improve the quality of the input that feeds cross-functional strategic discussions and deliver meaningful value to the organization.

Consistency of medical content across the team

Consistency is a frequent term in medical affairs strategy documents, yet notoriously difficult to operationalize in the field.

Each MSL brings their own scientific background, communication style, and interpretative lens to interactions with KOLs. While this diversity is an asset, it can also introduce variability in how medical content is externally communicated.

NotebookLM, when used with a shared library of approved medical content (publications, medical information documents, key dossiers), can help teams develop a common scientific language.

MSLs can use the tool to validate their understanding of complex data, identify areas of uncertainty, and build more precise scientific narratives before engaging with KOLs.

This function is particularly relevant in onboarding processes, where new MSLs must rapidly acquire deep knowledge of a therapeutic area. Instead of relying solely on structured training programs, new team members can use NotebookLM to explore evidence dynamically, ask questions at their own pace, and develop scientific fluency more efficiently.

A strategic perspective for field medical leaders

For MSL Managers and Field Medical Directors, integrating NotebookLM represents both a strategic opportunity and a leadership responsibility.

The opportunity lies in scaling team performance—enabling more consistent, deeper, and better-aligned KOL interactions. The responsibility lies in establishing clear guidelines for tool usage, ensuring that MSLs understand its limitations, and keeping human judgment at the center of every field interaction.

The MSLs who will benefit most from tools like NotebookLM are not those who use them to reduce effort, but those who use them to elevate the level of what a field interaction can achieve.

When preparation is deeper, insights are more precise, and the scientific narrative is better aligned with the KOL's research priorities, the MSL-KOL relationship becomes a more genuine and productive scientific exchange.

And that is what we have always aspired to.

AI tools, when used thoughtfully and within an appropriate compliance framework, can simply make that goal more consistently achievable.

Disclaimer:

AI tool (Claude, Anthropic) was used solely to support limited translation from Spanish to English and to refine the language for publication purposes. The strategic perspectives and professional insights reflect the author's own experience and judgment

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With a solid scientific background, he has built his career at the intersection of Medical Affairs and the pharmaceutical industry, with a focus on bridging scientific evidence generation and business strategy to deliver meaningful value for healthcare stakeholders and organizations.

Since May 2025, he has been serving as MSL Manager at IBSA Iberia, where he leads Medical Affairs strategy across multiple therapeutic areas, including Fertility, Dermoesthetics, Osteoarticular, and Urogynaecology.



Judith Carreño

Judith holds a degree in Biomedical Sciences from the Universitat Autònoma de Barcelona and a Master's in Scientific Departments of the Pharmaceutical Industry from ESAME Pharmaceutical Business School.

She began her career in research at the UAB's Biological Anthropology Department, before transitioning into the pharmaceutical industry. She joined CSL Behring as a Medical Affairs professional, followed by a role as Medical Education Coordinator EMEA at Establishment Labs.

Since January 2025, she has been part of IBSA Iberia, where she has held MSL roles in Uro-Gynecology and Osteoarticular, and currently serves as Medical Advisor for Uro-Gynecology.

Empathy to Execution: The Role of Medical Affairs in Operationalizing Patient Advocacy

By Gregory Grevera, DNP, FNP-BC, BCPA | Spring 2026

Abstract

Patient engagement is widely recognized as a priority across the life sciences industry. Yet many organizations still struggle to translate patient insights into meaningful operational decisions. Medical Affairs professionals sit at a unique intersection of science, clinical practice, and patient experience. This article explores how Medical Affairs/MSLs can move patient advocacy from conversation to execution by integrating patient insights into development strategy, clinical trial design, and cross-functional decision-making.

Introduction

This article examines how Medical Affairs/MSLs can operationalize patient advocacy by translating patient insight into real-world decisions that improve clinical development and patient outcomes.

In one real-world scenario, a routine outpatient surgical plan revealed a critical gap. A patient with multiple comorbidities and limited mobility was scheduled for same-day discharge. As more procedures shift to outpatient settings to improve efficiency and reduce cost, the margin for misalignment between protocol and patient reality becomes smaller. What appears appropriate on paper can quickly become unsafe without consideration of the patient's full context. While the plan met clinical criteria, it did not reflect the patient's ability to safely recover outside a monitored setting. Only after additional questioning and advocacy was the plan adjusted.

This situation is not unique. It reflects a broader challenge seen across healthcare and drug development. This same disconnect between clinical intent and patient reality is amplified in clinical development, where protocol decisions directly impact feasibility and outcomes.

Most organizations value patient insight and engage with patient advocacy groups. However, those insights often remain

disconnected from the systems that drive decisions. Closing this gap requires more than intention. It requires structure. Empathy without structure creates noise. Structure without empathy creates harm. Impact requires both.

The Growing Importance of the Patient Voice

Patient engagement has evolved from an aspirational concept to a strategic expectation across the development lifecycle. Regulatory and industry frameworks increasingly emphasize the importance of incorporating patient perspectives into drug development. The U.S. Food and Drug Administration has formalized this through its Patient-Focused Drug Development initiative, reinforcing the need to systematically capture and apply patient experience data in decision-making [1].

Despite this progress, many Medical Affairs teams still struggle to demonstrate how patient input changes decisions in practice.

Patient advocacy organizations bring forward perspectives that extend beyond traditional clinical endpoints. They illuminate the lived experience of disease, the daily tradeoffs patients make, and the practical barriers that influence access to care and trial participation. When these insights are integrated effectively, they can improve trial feasibility and support recruitment and retention when applied to protocol design and patient experience. However, the presence of insight alone does not guarantee impact.

Why Medical Affairs Is Uniquely Positioned

Medical Affairs occupies a critical position at the intersection of science, clinical practice, and patient experience. Through ongoing engagement with clinicians, investigators, and patient communities, Medical Affairs professionals are often the first to identify disconnects between clinical intent and real-world feasibility.

These gaps are not always obvious during protocol design. They may emerge as visit schedules that do not align with standard care, logistical burdens that limit participation, or recruitment strategies that fail to reach the appropriate patient populations. In other cases, communication is scientifically accurate but not actionable for patients or caregivers.

Because Medical Affairs operates across functions and maintains external credibility, it is uniquely positioned to translate these insights into actionable recommendations. The role is not limited to communicating science. It includes ensuring that scientific strategy can be implemented effectively in real-world settings.

Moving from Listening to Implementation

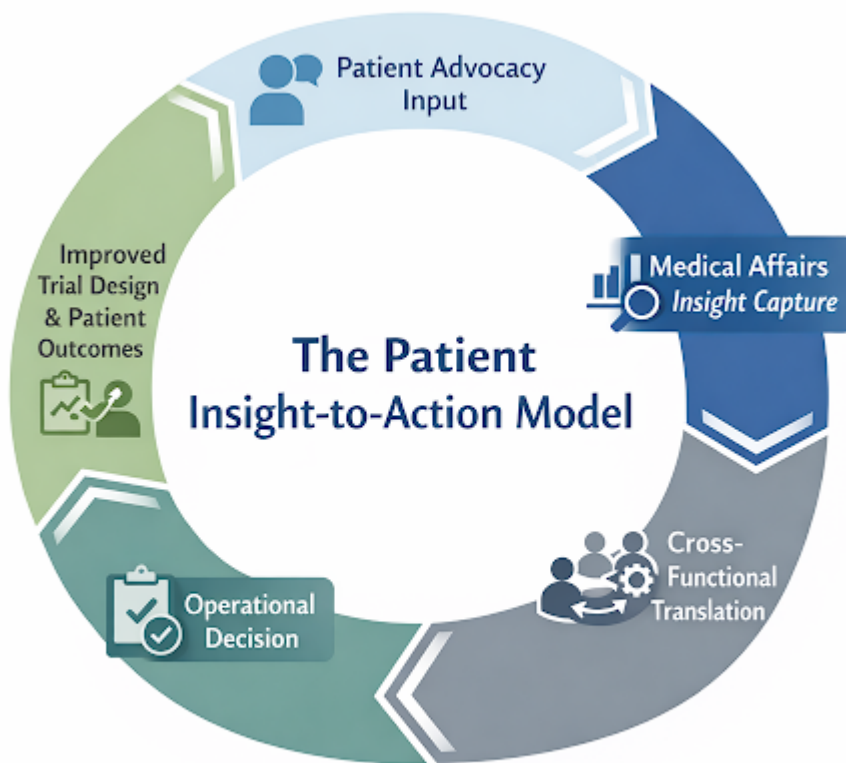
Listening to patients and advocacy groups is necessary, but it is not sufficient. The value of patient engagement emerges only when insights influence decisions.

Structured engagement approaches such as advisory boards, patient interviews, and partnerships with advocacy organizations have been associated with measurable improvements in clinical trial design and execution [2]. These insights can lead to meaningful operational changes, including reducing protocol burden, improving access through logistical support, refining recruitment strategies, and enhancing patient-facing materials.

In one neuro-oncology program experience, the absence of patient advocacy input during Phase 2 protocol design led to an MRI schedule that was nearly double the standard of care. From a clinical perspective, the design was defensible. From a patient perspective, it was not feasible. Patient advocacy groups later made clear that many patients would not be able to comply with multiple MRI visits per month due to travel, cost, and functional limitations. The protocol required revision before effective enrollment could occur, delaying study progress and highlighting the operational risk of excluding patient voice early.

Integrated input from Medical Affairs and MSLs alongside patient advocacy groups would have surfaced this feasibility gap earlier by aligning scientific intent with real-world patient burden before protocol finalization.

In practice, even small adjustments informed by patient and caregiver input can significantly improve trial performance and patient experience. This often includes translating patient feedback into protocol amendments, site-level adjustments, or changes in patient-facing materials. Insights alone do not change outcomes. Decisions and follow-through do.



Building Effective Advocacy Partnerships

Sustained impact requires more than engagement. It requires structured, trust-based partnerships with patient advocacy organizations. Organizations that are effective in this space define the purpose of engagement clearly, establish expectations upfront, and maintain transparency in how insights will be used.

Transparency, in this context, is not simply communication. It is a repeatable workflow. It begins with a clear ask, followed by timely synthesis of insights, explicit explanation of what changed and what did not, and a visible effort to close the loop with stakeholders.

The Clinical Trials Transformation Initiative highlights the importance of early and ongoing engagement with patient groups, supported by defined processes and consistent communication [3]. When these elements are in place, trust strengthens and engagement becomes more efficient and impactful.

A Practical Framework for Medical Affairs Teams

Operationalizing patient advocacy requires a structured and repeatable approach. Medical Affairs teams can begin by identifying relevant patient communities early in development and engaging them through structured interactions. Insights must then be translated into formats that support cross-functional decision-making, ensuring that clinical, regulatory, and access teams can act on them.

Implementation requires translating insights into concrete changes in protocol design, recruitment strategy, and patient support. Finally, measurement and feedback are essential to sustain credibility. Tracking the impact of engagement and communicating outcomes back to patient partners reinforces trust and demonstrates value.

When applied consistently, this approach transforms patient engagement from an isolated activity into an operational capability.

Conclusion

Patient advocacy is not simply an external engagement function. It is a strategic input that can improve the quality, relevance, and execution of drug development.

Medical Affairs professionals are uniquely positioned to translate patient insight into action. By combining empathy with structure, they ensure that patient perspectives inform not only communication, but decision-making.

The future of Medical Affairs will extend beyond scientific exchange. It will be defined by the ability to ensure that science is shaped and delivered in ways that reflect how patients actually live.

Action Area	What to Do
Treat patient insight as input	Use patient feedback to inform decisions, not just context
Identify real-world gaps	Look for disconnects between protocol and clinical reality
Engage early	Involve patient groups before key decisions are made
Translate insights	Convert feedback into clear, actionable recommendations
Close the loop	Show how input influenced outcomes
Measure impact	Track changes in trial feasibility, access, and engagement

References

1. U.S. Food and Drug Administration. Patient-Focused Drug Development: Collecting Comprehensive and Representative Input. 2020.
2. Levitan B, Getz K, Eisenstein EL, et al. Assessing the financial value of patient engagement. Therapeutic Innovation & Regulatory Science. 2018.
3. Clinical Trials Transformation Initiative (CTTI). Effective Engagement with Patient Groups Around Clinical Trials.

AI Acknowledgment

Generative AI tools were used to support structuring, editing, and language refinement. All content, interpretations, and conclusions are the author’s own.

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From Insights to Impact: Redefining the Strategic Role of the MSL

By Eli Garcia | Spring 2026

Medical Affairs has long been defined by scientific credibility. Accuracy, balance, and compliance remain essential foundations. However, in a healthcare environment shaped by data overload, increasing system complexity, and evolving stakeholder

expectations, scientific excellence alone is no longer enough.

The question facing Medical Affairs today is not *what we know*, but *how we translate knowledge into value*. This shift is particularly relevant for the Medical Scientific Liaison (MSL), whose role is increasingly expected to move beyond scientific exchange toward strategic contribution.

This article proposes a practical reframing of the MSL role around three capabilities: value translation through insights, multichannel communication as connection, and transformation of knowledge into real-world impact.

Table 1. Evolution of MSL Capabilities from Scientific Exchange to Strategic Partnership

Capability Dimension	Traditional MSL	Transitional MSL	Strategic MSL
Primary focus	Scientific exchange	Insight management	Value translation
Decision orientation	Accuracy and balance	Synthesis and patterns	Decision relevance
Engagement model	Predominantly face-to-face	Multichannel presence	Multichannel orchestration
Knowledge use	Information delivery	Knowledge integration	Impact-driven initiatives
Organizational role	Reactive support	Proactive contribution	Strategic partnership

The evolution of the MSL role reflects a shift from information delivery toward strategic value creation, requiring advanced analytical, communication, and systems-thinking capabilities.

From Insight Collection to Value Translation

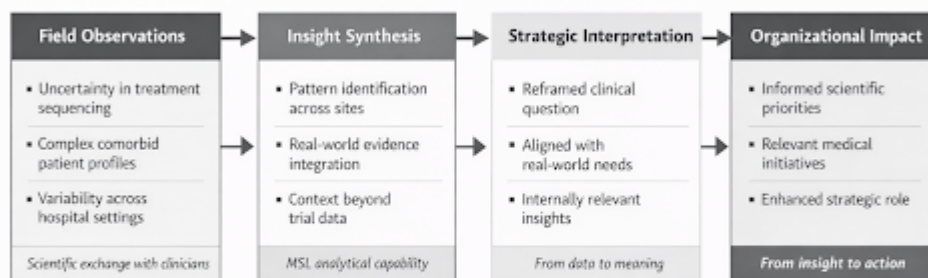
Insights are often described as the “currency” of the MSL. Yet, in many organizations, insights are still treated as static outputs rather than strategic inputs. The difference lies not in collecting more insights, but in **interpreting them critically and connecting them to decision-making**.

In an oncology setting focused on a specific solid tumor, repeated field interactions revealed a consistent challenge: clinicians were less concerned about efficacy data and more about treatment sequencing in complex, comorbid patients; an area insufficiently addressed in pivotal trials.

Rather than reporting these observations in isolation, the MSL integrated patterns observed across different hospital types, emerging real-world evidence, and variability in clinical practice driven by system constraints. This synthesis reframed internal scientific discussions, influencing evidence-generation priorities and shaping future medical initiatives.

The value was not in the insight itself, but in its interpretation and contextualization. This example highlights a critical evolution of the MSL skill set: data literacy, analytical thinking, and strategic judgment are now as important as scientific knowledge. The MSL becomes a translator of value, not merely a collector of information.

Figure 1. Translating Field Insights into Strategic Impact: An MSL Case Example



This figure illustrates how the strategic value of the MSL emerges when field observations are synthesized, interpreted, and translated into organizational decisions, moving beyond scientific exchange toward real-world impact.

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Communication Beyond Delivery: Connecting in a Multichannel Environment

Medical Affairs traditionally excels at face-to-face scientific dialogue. However, stakeholder engagement today is inherently multichannel, and effective communication requires more than replicating the same message across platforms.

In a rare disease context, where expert communities are small and time-constrained, relying solely on in-person interactions proved insufficient to sustain meaningful engagement. The Medical Affairs team redesigned its approach. Core scientific narratives were adapted into concise written formats for asynchronous use, while high-complexity discussions were reserved for deeper interactions. Digital touchpoints were used to extend—not replace—scientific conversations.

Equally important was a shift in tone. Communication moved from “explaining the science” to **connecting science with clinical uncertainty, operational reality, and unmet needs**. This required the ability to write with intent, adapt messages to different stakeholder profiles, and balance short-term interactions with long-term relationship building.

Multichannel excellence is not about presence; it is about orchestration. The MSL must understand when to engage, how to adapt the narrative, and how to maintain coherence across channels over time.

From Knowledge Accumulation to Real-World Impact

Medical Affairs sits at a unique intersection: deep knowledge of the molecule, the pathology, the healthcare system, and internal organizational dynamics. Too often, this knowledge remains fragmented.

In a chronic disease setting, variability in patient follow-up and outcome tracking emerged as a systemic challenge. Rather than positioning this as a purely clinical issue, the MSL acted as a strategic connector—aligning clinicians, hospital management, and internal teams to co-create a local improvement initiative.

The result was not a scientific exchange, but a tangible enhancement of patient pathways and data quality. Medical Affairs was perceived not as a support function, but as a credible partner in solving real healthcare problems.

This shift—from transmission to transformation—is where Medical Affairs delivers its greatest impact. Strategic projects related to data, pathways, or innovation represent a natural evolution of the MSL role beyond traditional scientific engagement.

Redefining Excellence in the MSL Role

The evolution of the MSL is not about abandoning scientific rigor, but about expanding relevance. Excellence today requires

critical thinking, data fluency, advanced communication capabilities, and the ability to convert knowledge into collaborative, high-impact initiatives.

The MSL of the future is a **translator of value, an orchestrator of engagement, and a catalyst for meaningful change**. The real question is whether organizations are ready to enable this evolution.

Disclaimer: AI-assisted tools were used to support the drafting and editing of this article. All content was reviewed, edited, and approved by the author, who takes full responsibility for its accuracy and integrity.

References

Medical Affairs Professional Society (MAPS). *Medical Affairs 2025: Strategic Evolution and Professional Capabilities*. **2023**.

Anderson A, et al. *The Evolving Role of the Medical Science Liaison*. *Therapeutic Innovation & Regulatory Science*. **2019**.

Getz K. *Real-World Evidence and Its Growing Role in Medical Decision-Making*. *Applied Clinical Trials*. **2018**.

Kotler P, Kartajaya H, Setiawan I. *Marketing 5.0: Technology for Humanity*. Wiley. **2021**.

Harvard Business Review. *Data-Driven Decision Making in Complex Organizations*. **2017**.

European Medicines Agency (EMA). *Real-World Data and Real-World Evidence Framework*. **2023**.

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Strategic Insights for Global Pharma: Strengthening Cancer Care Pathways in Cameroon

By Franck Tchafa, PhD | Spring 2026

Overview

Cancer care across Africa is experiencing rapid changes. Our recent discussion with frontline clinicians in Cameroon, a West Central African country, highlighted both urgent current challenges and the momentum toward meaningful progress. We held a virtual roundtable with physicians and nurses from various parts of Cameroon's cancer ecosystem, and several key themes emerged that are highly relevant to global pharma and Medical Science Liaisons (MSLs) working to improve oncology pathways in the country and across Africa. Major themes included diagnostic gaps, inconsistent treatment access, prevention hurdles, clinical trial readiness, and lessons learned from HIV programs. All themes that can be directly supported through enhanced collaborations with global pharma, including the scientific exchange, evidence development, and partnership efforts of field medical teams.

Screening and Early Diagnosis

One of the most pressing issues highlighted was the persistent gap in cancer screening and early diagnosis. High out-of-pocket costs continue to limit screening access for many patients, particularly in low-income and rural communities. As a result, individuals often present with advanced diseases, reducing treatment options and survival outcomes. In Cameroon, essential diagnostic tests are still outsourced abroad (mostly to France), creating delays that slow the entire care pathway. These challenges underscore the need for locally anchored diagnostic capacity that is affordable, accessible, and integrated into community health systems. Many modern oncology therapies rely on biomarker-driven decisions (e.g., HER2, PD-L1, BRCA, EGFR, ALK). When biomarker testing is delayed or unavailable, treatment selection becomes constrained, and real-world outcomes diverge from clinical trial expectations. This diagnostic context presents a clear opportunity for MSLs to support local access strategies and diagnostic partnerships, which can even be incorporated into clinical trial protocols, to encourage participation in first-line trials or broader biomarker-informed trials.

A Global Challenge, Not an African Exception

The treatment landscape in Africa at large, but in Cameroon more specifically, is evolving, with targeted therapies becoming more visible in select markets. However, access remains uneven. Affordability barriers, limited availability in public facilities, and fragmented referral pathways prevent many patients from benefiting from modern oncology treatments. Our roundtable participants emphasized the need to stop thinking of Africa as a monolith. There are regions with great medical centers and infrastructure comparable to Western urban centers, while others lack basic oncology services, underscoring that the issue of uniform access to adequate care is not limited to Africa. Even in the US, we see large disparities that depend more on a patient's zip code and education than on the disease type or proximity to a medical center. Developing partnerships that expand access approaches will serve to improve continuity of care and ensure that therapeutic innovations reach patients equitably. This framing underscores the importance of hyper-local scientific engagement and a nuanced understanding of regional practice patterns across Africa.

Prevention and Vaccine Hesitancy

Prevention efforts also face obstacles. Despite the HPV vaccine being free in Cameroon, misinformation continues to fuel vaccine hesitancy.

Clinicians stressed that improving uptake requires community-level education and trusted messengers who can address concerns directly. Strengthening HPV vaccination rates remains one of the most powerful tools for reducing cervical cancer

incidence¹⁰ across Cameroon and the continent at large. MSLs can play a key supportive role here by providing clear, evidence-based scientific information on HPV vaccination, equipping clinicians with data to address common misconceptions, and sharing global best practices on community-level prevention strategies.

Clinical Trial Readiness

A particularly encouraging insight from our roundtable was the strong appetite among healthcare professionals to participate in clinical trials. Many expressed enthusiasm for hosting Phase 2/3 trials and contributing to global research. Yet readiness remains limited by a lack of collaboration, infrastructure gaps, insufficient research training, and lingering mistrust within some communities.¹¹ These barriers present clear opportunities for investment, site development, and long-term partnership models to strengthen Africa’s role in global clinical research.^{12,13} This is precisely where field medical teams can accelerate Africa’s integration into global research networks by identifying motivated investigators and emerging research centers, helping assess site readiness through evidence-based conversations, and supporting scientific discussions that clarify protocol requirements.

Lessons from HIV programming

Participants also pointed to powerful lessons from successful HIV programs that can be adapted to cancer care. Strategies that transformed HIV outcomes, including youth outreach, school-based education, engagement of religious leaders, and the empowerment of community champions, are highly relevant to cancer awareness, early detection, and prevention efforts today.^{14,15} MSLs can help translate these lessons by supporting clinicians who are building local awareness programs.

Looking Ahead

The session concluded with 100% satisfaction, reflecting the value participants found in the dialogue. Many reported a deeper understanding of clinical trials, renewed motivation to educate patients, and strong enthusiasm for expanding research opportunities. The discussion reaffirmed the desperate need for experts with a unique role in this landscape that will bring deep cultural insight, trusted networks, clinical and strategic expertise, and proven trial-readiness frameworks that help global pharma build meaningful, sustainable partnerships across African healthcare systems. MSLs are key members of this expert community who bring exactly the combination that clinicians emphasized as essential for sustainable partnerships. For MSLs and global field medical teams, here is a strategic imperative to engage Africa not as a peripheral region, but as a critical partner in global cancer innovation.

Participants information

Specialties	Years in Practice	Cancer Types Experience
General Practitioner	21+ (1)	Breast (25%)
Surgery	11-20 (3)	Prostate (25%)
Nephrologist	6-10 (2)	Leukemia (17%)
Gynecologist	1-5 (5)	Lung (8%)
Pediatrician		Gynecologic (8%)
Public Health Physician		Kidney (8%)
Registered Nurse		Skin (8%)
Occupational Hazard Nurse		
Superior Nurse		

References

1. Ilbawi, A. M., & Anderson, B. O. (2015). Cancer in Africa: The way forward. *The Lancet Oncology*, 16(8), e394–e436.

2. Sankaranarayanan, R. (2014). Cancer prevention and early detection in low- and middle-income countries. *Annals of Global Health*, 80(5), 412–417.

3. Essomba, R. G. et al. (2021). Diagnostic delays and barriers to cancer care in Cameroon. *BMC Health Services Research*, 21, 1–10.

4. Meric-Bernstam, F. et al. (2021). Limitations of biomarker testing in low-resource settings. *Nature Reviews Clinical Oncology*, 18, 579–590.

5. Tsu, V. D., & Jeronimo, J. (2016). Biomarker testing and precision oncology in LMICs. *Cancer*, 122(3), 353–362.
6. Singh, G. K., & Jemal, A. (2017). Socioeconomic and geographic disparities in cancer mortality in the United States. *Cancer Epidemiology, Biomarkers & Prevention*, 26(4), 541–553.
7. Yabroff, K. R. et al. (2020). Health insurance, socioeconomic status, and cancer outcomes. *JCO Oncology Practice*, 16(7), 409–417.
8. Gallagher, K. E. et al. (2022). HPV vaccine uptake and hesitancy in sub-Saharan Africa. *The Lancet Global Health*, 10(1), e59–e72.
9. Tchounga, B. et al. (2021). HPV vaccine acceptance in Cameroon: A cross-sectional study. *BMC Public Health*, 21, 1–10.
10. Bruni, L. et al. (2021). Global impact of HPV vaccination on cervical cancer. *The Lancet*, 397(10275), 375–386.
11. Alemayehu, C. et al. (2018). Clinical trial capacity in sub-Saharan Africa: A systematic review. *Trials*, 19, 1–12.
12. Ezeanolue, E. E. et al. (2019). Building research capacity in Africa. *Global Health Action*, 12(1), 1670003.
13. Hedt-Gauthier, B. L. et al. (2018). Research partnerships in Africa: Lessons learned. *BMJ Global Health*, 3(4), e001107.
14. Shulman, L. N. et al. (2013). Lessons from HIV for cancer control in Africa. *Journal of Global Oncology*, 1(1), 3–11.
15. Gopal, S. et al. (2014). Applying HIV program strategies to cancer care in Africa. *The Lancet Oncology*, 15(7), e268–e278.

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Henriette Balinda, PhD

Senior Research Scientist at UT Health San Antonio Mays Cancer Center

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Associate Director, Field Medical Affairs, Regeneron
Founder, CEO Feat Healthcare

Dr Alima Tchafa is a global health leader, cancer biologist, and strategic healthcare executive with over two decades of experience in basic, translational, and clinical research. Her significant roles in the industry include medical affairs, where she participated in the launch of several impactful oncology products. She has also managed clinical operations, overseeing national and international solid tumor clinical trials, and in medical writing, supporting scientific planning and execution of medical meetings and market research projects. Her academic journey includes completing high school on three continents (Africa, Europe, and North America) and holding a PhD in biomedical sciences, a master's in biomedical engineering, an Executive MBA.

The MSL as a Multidisciplinary Connector in Cell and Gene Therapy Delivery

By Sanil Sansar, PhD | Spring 2026

Disclosure:

The views, thoughts, and opinions expressed in this article belong solely to the author and do not necessarily reflect the views or positions of any other individual, organization, employer, or company associated with them.

Introduction

Cell and gene therapies (CGT) have redefined what is possible in medicine, and, in doing so, it has challenged what is required to deliver medicine safely and effectively. The treatments entail extraordinary scientific complexity: intricate manufacturing processes, strict logistics, narrow administration windows, and clinical workflows spanning entire institutions. The physician who ultimately prescribes a CGT is, in many respects, just one node in a highly coordinated network of specialists who must understand, prepare for, and execute their role meticulously.

This reality positions Medical Science Liaisons (MSLs) in a uniquely consequential role. In the CGT space, scientific education is not only informative; it is operationally essential. When members of the care team lack the knowledge needed to support complex therapies, the consequences can echo outward, affecting the adoption and use of a product. These may include delayed authorizations, product handling errors, missed monitoring windows, or patients who ultimately never receive treatment. MSLs who understand this dynamic situation and engage the full breadth of the treatment team with the same rigor they apply to physician engagement become something more than scientific resources. They become enablers of therapy delivery itself.

This article discusses how MSLs can most effectively engage the diverse stakeholders involved in CGT programs, including transplant coordinators and nursing teams, pharmacists, cell therapy laboratories, financial teams, and hospital administrators. It also examines why this engagement is critical not just for scientific literacy, but also for successful real-world patient access.

Expanding the Definition of Key Stakeholders

One of the most important shifts an MSL can make when entering the CGT space is to expand their definition of a “key stakeholder”. In traditional pharmaceutical settings, MSL engagement frequently focuses on a relatively defined set of thought leaders, investigators, and specialist physicians. In cellular therapy programs, the treatment pathway itself requires a broader reach.

Transplant coordinators sit at the operational heart of many cellular therapy programs. They are often the individuals managing the day-to-day logistics of patient eligibility assessments, donor searches, procedure scheduling, and cross-departmental communication. Their effectiveness depends not just on administrative competence, but on a genuine understanding of the therapy itself, how it is manufactured, the timeline of apheresis to infusion, and how clinical variables can affect that timeline. When MSLs engage coordinators with this level of scientific depth, they are not simply sharing information; they are helping coordinators anticipate problems prior to their occurrence and make decisions with the full picture in view.

A similar logic applies to nursing teams. Nurses often have the most direct, sustained contact with patients during therapy administration and the critical post-infusion period. Sometimes, an in-service education session by MSLs is warranted for the infusion nurses to ensure the determination of proper logistics of transfer of the product from the cell lab to the clinic. Recognizing early signs of toxicities such as cytokine release syndrome and neurotoxicity, comprehending the nuances of product-specific monitoring requirements, and knowing when escalation is necessary are all essential to patient safety. MSL engagement with frontline nursing staff, customized to the realities of their clinical environment, builds the kind of practical scientific fluency that directly protects patients.

Clinical Pharmacists and Cell Therapy Laboratories: Safeguarding Product Integrity, Preparation, and Administration

Clinical pharmacy and cell therapy laboratory teams operate at a critical juncture in the therapy delivery chain, between the manufacturing facility and the patient. Their decisions during product receipt, verification, storage, preparation and handling chain of custody carry direct implications for product integrity and patient safety. The handling requirements may be highly specific, the storage conditions tightly controlled, and the consequences of protocol deviations could be severe. MSLs who engage pharmacy and cell lab teams with a clear articulation of the product’s biological characteristics, handling requirements, and the scientific rationale behind the institutional protocols they are being asked to follow will find that pharmacists are deeply motivated partners. These are professionals trained to think rigorously about drug safety and what they need is the scientific foundation to apply that rigor to a new class of therapies where MSLs play a critical role in education.

Access, Infrastructure, and the Broader Institutional Network

Even when clinical teams are fully prepared, patients may still face barriers to treatment if the institutional infrastructure around them is not properly aligned. The financial and administrative architecture of a cellular therapy program is, in many ways, as complex as the science itself. Prior authorization processes, reimbursement pathways, and payer negotiations require specialized expertise. Delays in any one of these areas may have a serious impact on patients who may not have the luxury of time.

Although MSLs do not typically lead access conversations, they are particularly suited to support them. Financial coordinators and access teams benefit from having a clear scientific understanding of the therapy they are advocating for, including what it is, how it works, and why it represents a meaningful clinical advance. By liaising with their internal market access colleagues to ensure that scientific resources and talking points are appropriately adapted for payer audiences, MSLs can meaningfully reduce the friction that stands between a clinical recommendation and an approved treatment.

At the leadership level, hospital administrators and program directors shape the conditions under which all of this work takes place. Decisions about staffing, facility investment, training infrastructure, and program expansion are ultimately made at the administrative level, and they are made more effectively when administrators have a clear picture of what a cellular therapy program actually requires. MSL engagement with institutional leadership is not about marketing a product; it is about ensuring that the people making structural decisions have the scientific context to make them well. Centers that clearly understand the resource intensity of a cell therapy program before it is adopted are far better positioned to build sustainable programs capable of delivering consistently excellent care.

Conclusion

The delivery of cell and gene therapies is fundamentally a team effort. No single clinician or department carries this work alone, and no single point of failure is trivial when the tolerance for error is this narrow. What ultimately allows such complex therapies to move from clinical evidence to patients who receive them is a shared foundation of scientific understanding across the entire care team. MSLs are uniquely positioned to build that foundation. Not because they are the only source of scientific expertise, but because they can move fluidly across the key players with a consistent scientific narrative designed for the precise needs of each audience.

As the CGT landscape continues to mature and expand with more products, more treatment centers, and more patients who might benefit, this connective role will only grow in importance. The MSLs who recognize, embrace, and execute this responsibility with rigor will not simply be supporting therapy delivery; they will be making it possible.

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Sanil Sansar is a seasoned Senior Medical Science Liaison in hematology and cell therapy. He currently serves as a Senior MSL at Gamida Cell, where he supports innovative therapies in the stem cell transplant field. He has over 5 years of experience in medical affairs, including prior roles at Sanofi and Kadmon Pharmaceuticals, where he supported launch and post-approval education and research efforts in chronic graft-versus-host disease (cGVHD) and rare diseases.

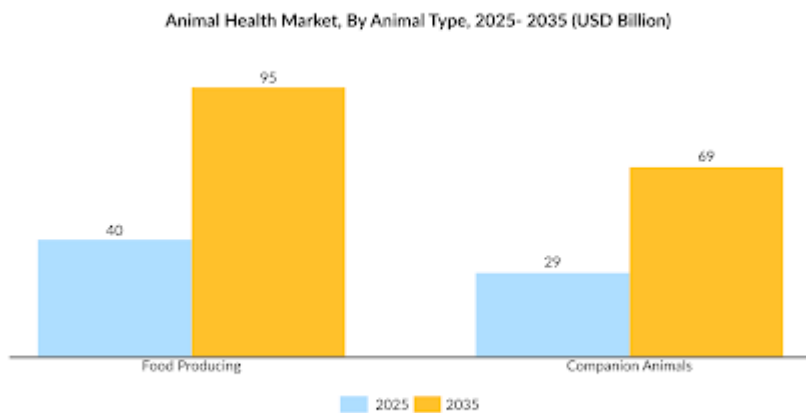
Sanil brings deep expertise in engaging transplant centers, interpreting complex data, and identifying unmet needs in stem cell transplantation and multiple myeloma areas. He has played a key role in onboarding major academic institutions, developing tailored engagement plans to drive awareness and optimize clinical integration of novel therapies. Sanil is passionate about improving patient access to transformative therapies and continues to advocate for innovation in hematologic malignancies and cellular medicine.

The Veterinary MSL: The Dark Horse in a Market on the Verge of Blooming

By Ruben Foj Ibars, MSc | Spring 2026

"Ladies and gentlemen, the animal health market has exploded".

Over the past few decades, the animal health industry has undergone a profound transformation, particularly within the companion animal segment. In developed countries, the strengthening of the animal-human bond has resulted in increased attention to animal welfare and a growing willingness of pet owners to invest in veterinary care. This societal shift has translated into sustained expansion of the animal health market. Recent analyses estimate the global animal health market at approximately USD 68.6 billion in 2024 and project it to reach more than USD 162 billion by 2035, with a compound annual growth rate of around 8%¹.



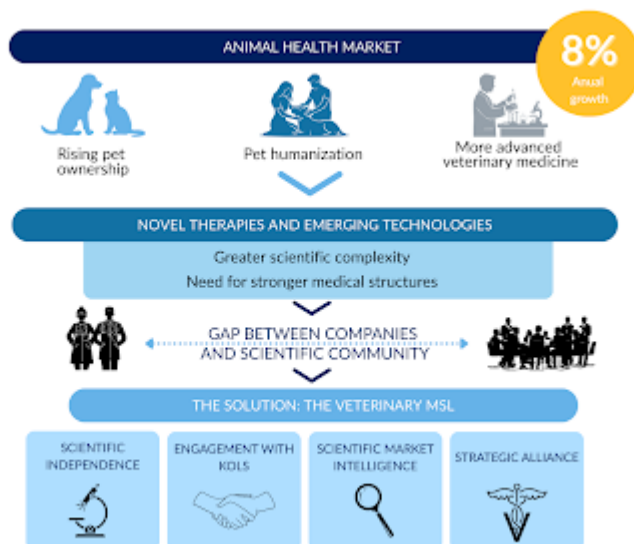
Within this landscape, companion animals represent one of the fastest-growing segments. Increasing pet ownership, the humanization of pets, and greater awareness of preventive veterinary medicine are among the key drivers behind this growth.

Parallel to this market expansion, the scientific landscape of veterinary medicine has evolved considerably. Veterinary pharmaceutical portfolio is increasingly benefiting from drug development originally carried out in human medicine. New biotechnological therapies, including monoclonal antibodies, DNA vaccines or recombinant proteins are reshaping the veterinary medicine paradigm, forcing companies to adapt their internal structures, strengthen their scientific capabilities, and develop new specialized roles in order to remain competitive in an increasingly complex and innovation-driven market.

In response to this growing complexity, animal health companies have gradually adapted their organizational structures. However, rather than establishing fully independent scientific functions, the veterinary industry has often relied on hybrid roles intended to bridge the gap between scientific knowledge and commercial activities. These positions typically operate within marketing or sales departments and combine elements of commercial responsibilities with a higher-than-average level of technical expertise.

While these hybrid roles have provided a pragmatic solution for companies facing increasingly complex products, they remain embedded within commercial teams, often prioritizing product support and promotional objectives rather than independent scientific exchange. Consequently, they do not fully address the need for a dedicated scientific interface between pharmaceutical companies and the veterinary community.

In the human pharmaceutical industry, this demand has long been met by Medical Science Liaisons (MSLs). However, veterinary companies seeking to introduce this pioneering role face significant challenges. With few precedents to follow, they can either copy the MSL job description from human pharma or look to other animal health companies for guidance. Both approaches have significant limitations: the first may not align with the specific needs of the veterinary field, and the second offers little direction, as most companies still rely on hybrid roles. As a result, many struggle to define a dedicated scientific position that truly acts as an interface between industry and the veterinary community.



In line with this, scarcely any animal health departments within the pharmaceutical industry are currently considering the incorporation of the veterinary MSL role into their teams. This reality underscores, with complete clarity, the urgent need to enhance the visibility and recognition of the strategic value that MSLs bring to Medical Affairs. Only by doing so will companies be compelled to transform their internal structures to integrate this essential player. In other words, it is crucial to convince internal decision-makers that the veterinary MSL is a professional figure that they can no longer afford to ignore. For this purpose, it is strongly recommended to present robust, evidence-based arguments that clearly demonstrate why the MSL has become a critical scientific function within Medical Affairs, arguments that organisations must fully embrace, namely:

- The veterinary MSL represents a scientifically independent player whose operational autonomy from Marketing and Sales triggers genuine trust among KOLs, who gradually come to recognize the absence of promotional bias and regard them as a credible and neutral scientific reference, mainly committed to evidence and scientific rigor.
- Such independence enables the MSL to set up a direct and worthwhile bidirectional channel of communication, acting as the cornerstone that helps bridge the gap between corporate objectives and the unmet needs of the scientific community. Consequently, companies can operate with greater clarity in an increasingly competitive environment.
- Through periodic updates that tackle strictly scientific insights, such as participation in studies, support with publications and deep face-to-face scientific discussions, the MSL becomes the preferred reference contact for KOLs. Experts rely on them as a trustworthy source of information on company products with the capacity to address specific questions in the therapeutic area, share recent publications, support the interpretation of newly generated evidence and even collaborate as a connector for potential research partnerships or clinical field studies.
- From the corporate side, the continuous presence of the veterinary MSL in the field allows them to assess the real world of veterinary practice and its scientific dynamics, as well as competitor activities and emerging trends. All these elements collectively provide a whole picture of the market and its short- to mid-term direction. These insights could help the company make strategic decisions with precision, anticipate challenges, identify potential risks and define evidence-based, well-aligned strategic plans capable of generating new opportunities that yield a competitive advantage in a fast-evolving and increasingly saturated market environment.
- Ultimately, the veterinary MSL embodies a transversal, trustworthy and opportunity-generating function. This strategic ally not only represents a visible reference of scientific consistency within the company but also acts as the relational anchor for external experts and the internal engine of strategic intelligence. This unique combination strengthens the capability of the organization to manage critical scientific challenges and reinforces the competitive advantages that could shape its long-term positioning in the animal health sector.

In a nutshell, the first steps should get to the core of the issue: underscoring the compelling value that the MSL role can offer to the veterinary pharmaceutical industry. As a first meaningful step toward that objective, collaborative hybrid activities must be promoted, taking advantage of both the robust, nearly 60-year experience initiated in 1967 within human Medical Affairs² and the know-how of professionals in the veterinary pharmaceutical industry and KOLs across the animal health sector. The setting up of these synergetic initiatives with experts representing two sides of the same coin would foster the development of a baseline consensus document that the veterinary pharmaceutical industry could use as a reference when it is willing to move forward, leave its comfort zone and include this core, stakeholder-facing function within Veterinary Medical Affairs organizational

structure.

It is time for the veterinary sector to take the plunge and bet on this dark horse if it really wants to avoid being left behind in this race to conquer the veterinary market!

REFERENCES

- Market Research Future. *Animal Health Market Size, Share, Trends Forecast 2035*. Market Research Future. Available at: <https://www.marketresearchfuture.com/reports/animal-health-market-7163>
- The MSL Society. *What is a Medical Science Liaison (MSL)*. The MSL Society. Available at: <https://themsls.org/what-is-an-msl/>



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Together, they are shaping a pioneering and often under-recognized role in the veterinary industry. With few precedents to follow, they are tailoring the MSL function to the real-world of veterinary medicine, building practical frameworks and educational standards while bridging the gap between science and clinical practice. They contribute to the life-cycle management of a recombinant vaccine against canine leishmaniosis and to raise awareness about this parasitic disease all over Europe.

Integrated Evidence Generation Planning: Optimizing Strategy Through Medical Insights

By Dustin M. Dunham, DMSc, DC, MBA, FRSM, FRSPH, FACHDM | Spring 2026

The Evolving Role and Dynamic Capabilities of the Medical Science Liaison (MSL)

The role of the MSL has evolved significantly within the modern pharmaceutical and MedTech industries. Once seen as a predominantly reactive support function, Medical Affairs is now widely recognized as a strategic business partner that translates scientific insights into actionable go-to-market strategies.¹ As field-based clinical experts, MSLs are uniquely positioned to develop peer-to-peer relationships with healthcare professionals (HCPs) and key opinion leaders (KOLs). These engagements support high-quality, bidirectional scientific exchange² – ranging from disease-state- and product-specific education to the systematic collection and interpretation of medical insights and voice-of-customer (VOC) feedback. In this capacity, MSLs serve as a critical conduit between industry and the medical community, ensuring that scientific information is communicated accurately and that therapeutic and diagnostic advancements are shaped by real-world medical needs.³

The modern MSL role has matured and now encompasses a wide range of responsibilities. These include handling complex medical inquiries; creating and sharing omnichannel educational content; leading the development of medical narratives and scientific publications; conducting literature reviews; guiding congress strategies and analyzing competitive intelligence; and identifying, profiling, and engaging scientific experts within the healthcare ecosystem. Increasingly, MSLs are also involved in digital transformation efforts, such as integrating artificial intelligence, implementing data-driven engagement strategies, and supporting cross-functional strategic education.⁴ Overall, these skills establish the MSL as a vital stakeholder in the evidence-to-impact process throughout product lifecycles.

Cross-Functional Integrated Evidence Generation Planning (IEGP)

A burgeoning value-add contribution from Medical Affairs is shaping evidence generation strategies that support clinical differentiation, product innovation, and effective lifecycle management. This development reflects escalating demands in the biotechnology and pharmaceutical sectors for robust, data-driven evidence to inform regulatory decisions, payer evaluations, and clinical practice. Central to this mission is the IEGP – a unified, cross-functional roadmap that aligns the evidence needs of diverse internal and external stakeholders, including clinicians, patients, regulators, policymakers, and health technology assessment (HTA) bodies.⁵

Contemporary evidence generation has advanced far beyond traditional interventional clinical trials. Modern strategies now include real-world evidence (RWE), data gap analyses for specific populations (such as pediatrics, geriatrics, rare diseases, and historically marginalized or disenfranchised groups), post-marketing safety and effectiveness evaluations, label expansion considerations, and comparative effectiveness research (CER). These approaches focus on real-world relevance, improved decision-making, patient-reported outcomes, cost efficiency, and sophisticated analytical techniques. An IEGP functions as a comprehensive guide that covers peri- and post-approval evidence optimization, highlights evidence gaps, prioritizes claims-matrix outputs, and presents a clear, multimodal approach to meeting unmet medical needs.^{6,7}

A fully developed IEGP involves coordinated efforts across Phase IIIb/IV studies, investigator-initiated or investigator-sponsored research collaborations, real-world data (RWD) collection frameworks, registry capabilities, and health economic outcomes research (HEOR). As a living document, updated every 6-18 months to remain aligned with changing disease landscapes, an IEGP scores proposed research initiatives using evidence-impact rubrics, evaluations of design feasibility and timelines, risk mitigation strategies, and return on investment (ROI).⁸

When implemented effectively as a cohesive, cross-functional strategy, the IEGP translates broad evidence-generation principles into tailored, actionable workstreams designed to meet specific clinical, patient, regulatory, and payor needs. Interconnected research frameworks show the potential to reduce duplications of research efforts, guide temporal and financial prioritization, enhance regulatory readiness, accelerate payer coverage and reimbursement, and promote clinical adoption. Additionally, operational efficiencies built into the IEGP framework enable systematic monitoring of study performance milestones, scrutiny of research expenses, evaluation of evidence investments, and ongoing assessment of the ROI.

Strategic Shaping of the IEGP through MSL Field Insight Initiatives

As an enterprise-wide strategic tool, the IEGP is designed to align holistic research priorities at the portfolio level, break down

functional silos, and optimize the allocation of scientific and financial resources. Its effectiveness, however, depends on meaningful, real-world, pressure-tested clinical insights that reflect the needs and perspectives of patients, HCPs, KOLs, regulators, and payors. Herein lies the unique opportunity for MSLs – as field-based scientific partners – to both directly and indirectly influence IEGP development and evolution. Operating at the intersection of industry and clinical practice, MSLs gather high-value insights through trusted, peer-to-peer scientific exchanges; these interactions enable MSLs to unearth subtle and nuanced clinician sentiments, emerging diagnostic and therapeutic trends, sources of clinical inertia, aspects of the patient journey, feedback on product performance, and the perceived value of new evidence.

MSLs glean insights from a wide range of platforms. Traditional one-on-one KOL engagements remain foundational, while group-based scientific forums – such as advisory boards, focus groups, clinical roundtables, user group meetings, and expert consensus panels – allow for broader perception collection. Scientific congresses also serve as high-yield environments for analyzing presentations and posters, spotting emerging literature, monitoring clinical trial results, tracking guideline updates, and gathering competitive intelligence. More novel mediums – including digital opinion leader (DOL) interactions, online platform analytics, and omnichannel engagement tools – offer additional ways to gather real-time voice of the customer data. Internally, Medical Affairs works with Pharmacovigilance, Medical Information, Market Access, and other cross-functional segments to combine insights and maintain a finger on the pulse of the ever-evolving clinical community.⁹

Recent experiences in launching novel diagnostic radiopharmaceuticals have reaffirmed the criticality of field medical insights. Both the oncology and cardiovascular imaging sectors have observed the introduction of innovative tracers that have reshaped the diagnostic landscape for metastatic breast cancer and coronary artery disease, respectively. New Fluorine-18 (F-18) radiotracers have transformed positron emission tomography (PET) by enabling highly specific molecular imaging, shifting diagnostic approaches from general metabolic activity to precise, targeted biological characterization. Despite robust phase I-III clinical data and successful regulatory approvals, clinical adoption of such agents can be slow due to ingrained habits and clinical inertia, systemic or organizational friction, guideline fatigue, and reimbursement and insurance hurdles. Peri-launch field insights garnered by MSLs have been pivotal for identifying evidence gaps that serve as hurdles to clinical adoption as HCPs, payors, and other stakeholders require data beyond traditional phase-III safety and efficacy information. Insights support the notion of implementation science as a systematic study of methods for driving appropriate uptake and integration of evidence-based practices into real-world and clinical settings, bridging the “know-do gap.”¹⁰

These diverse inputs require a structured, compliant, and technological framework for collecting, synthesizing, and translating insights into strategic intelligence that guides go-to-market strategies and IEGPs. Insight frameworks help identify high-impact learnings from everyday observations, leading to real-time insights that influence medical strategy, affect market access, and support evidence generation. An effective framework must also be compliant, adaptable to the size and scope of a field MSL team, technologically capable, and focused on prioritizing actionable insights that can shape market entry, product launches, and/or lifecycle management strategies. Equally important are regularly scheduled feedback loops—often quarterly or biannually—that ensure insights are shared across functions, incorporated into IEGP updates, and evaluated for clear business strategic impact.

Through this structured, data-driven approach, MSLs become key contributors to evidence planning and go-to-market strategies. Their insights guide the prioritization of research questions, identify unmet clinical needs, refine protocol designs, and shape HEOR/RWE strategies tailored to reimbursement and access factors.⁹ Feedback from MSLs can spark investigator-initiated research concepts, validate or modify clinical value propositions, anticipate external stakeholder concerns, and highlight evidence gaps that might hinder adoption or patient access. In doing so, MSLs serve not only as scientific communicators but also as vital architects of an adaptive IEGP—ensuring that evidence plans stay clinically relevant, aligned with business priorities, and adaptable to the changing healthcare environment.

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References:

1. Farrington AD, et al. The value and deliverables of medical affairs: Affiliate perspectives and future expectations. *Pharmaceut Med*. 2023.
2. Dyer SJ, et al. Measuring the impact of medical science liaisons: A global cross-sectional survey. *Cureus*. 2026.
3. Medical Science Liaison Society. MSL guidelines. 2025. [themsils.org]
4. Fröling E et al. Artificial intelligence in medical affairs: A new paradigm with novel opportunities. *Pharmaceut Med*. 2024.
5. Prescient Healthcare Group. Developing a best-in-class integrated evidence plan. 2024.
6. Capkun G, Olson MS. Integrated evidence planning for enhancing patient care: Harnessing the power of real-world

- evidence. *Clin Pharmacol Ther.* 2025.
7. Lee WC et al. The evolution and future of integrated evidence planning. *Expert Rev Pharmacoecon Outcomes Res.* 2025.
 8. Lumanity. Integrated evidence generation planning: From strategy to execution. 2026.
 9. ACMA. Harnessing the power of real-world evidence in medical affairs. 2025.
 10. Rubin R. It takes an average of 17 years for evidence to change practice – The burgeoning field of implementation science seeks to speed things up. *JAMA.* 2023.

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Navigating the Microbiome Frontier: The Expanding Role of the Medical Science Liaison in Microbial Therapeutics

By Elizabeth Kupferer, PhD, WHNP-BC | Spring 2026

Introduction

In recent years, few areas of biomedical science have generated as much excitement as the study of the human gut microbiome. Once viewed simply as a collection of commensal organisms inhabiting the gastrointestinal tract, the microbiome is now understood to be a dynamic and complex ecosystem that profoundly influences human health. Significant advances in analyzing the microbiome using techniques such as metagenomics, metabolomics, and systems biology have revealed that the trillions of microbes living within the human body play critical roles in human health and disease, such as immune function, metabolism, neurological signaling, and disease susceptibility.

These discoveries have led to a new class of therapeutics, microbial-based therapies designed to restore or manipulate microbial communities to treat disease. From microbiota restoration therapies targeting recurrent *Clostridioides difficile* infection to engineered bacterial consortia being explored in oncology and metabolic disorders, microbial therapeutics are moving from experimental concept to clinical reality.

As the science evolves, the Medical Science Liaison (MSL) plays an increasingly important role in translating emerging microbiome research into meaningful clinical dialogue. In this rapidly developing field where mechanisms are complex and many therapies represent first-in-class innovations the scientific depth and credibility of the MSL become critical.

Understanding the Scientific Complexity of the Microbiome

Unlike traditional pharmacologic targets that focus on a specific receptor or signaling pathway, microbiome science operates within the framework of ecological systems. The gut microbiome functions as an integrated biological network composed of bacteria, fungi, viruses, archaea, eukaryotes as well as their genes and metabolites that are interacting with host physiology.

Research over the past several decades has demonstrated that microbial communities influence numerous biological processes including immune system maturation, energy metabolism, and inflammatory regulation. Landmark initiatives such as the Human Microbiome Project helped characterize the immense diversity of microbial populations within the human body and their association with disease states (Human Microbiome Project Consortium, 2012).

Importantly, the microbiome is not static. Its composition is constantly shifting in response to diet, lifestyle, antibiotics, and environmental exposures. These variables not only add layers of complexity but also immense challenges to therapeutic development. For clinicians, understanding how microbial therapies function and how external factors may influence their efficacy is extremely important.

This is where the MSL's ability to synthesize complex scientific information becomes invaluable. By translating emerging research into clinically relevant insights, MSLs help bridge the gap between microbiome science and patient care.

First-in-Class Therapies

Microbial therapeutics represent entirely new treatment paradigms. Unlike small molecules or monoclonal antibodies, these therapies rely on altering the microbial community structure by delivering live biotherapeutic organisms and thus modulating the microbial metabolites.

With first-in-class therapies, health care providers naturally have questions that extend beyond traditional pharmacology. Common scientific discussions may include:

- How durable is microbial colonization following treatment?
- How do antibiotics or diet influence therapeutic outcomes?
- What biomarkers predict response?
- How does microbiome modulation interact with host immunity?

Early microbiome therapeutics FDA-approved for the prevention of recurrent *C. difficile* infection demonstrate the potential of microbial restoration approaches to prevent disease recurrence (Bryant, J. A., et. al. (2026); Khanna et al., 2016; Feuerstadt et al., 2022; Feuerstadt, P., et. al., 2025;). However, broader applications in oncology, autoimmune disease, and metabolic disorders remain areas of active research.

In this environment of emerging science, MSLs serve as trusted scientific partners who facilitate evidence-based discussion, contextualize early clinical data, and support thoughtful exploration of new therapeutic mechanisms.

Essential Skills for MSLs in the Microbiome Space

Supporting microbiome-focused therapies requires a diverse set of scientific and professional competencies.

Scientific Depth

MSLs working in this field must possess strong foundational knowledge in microbiology, immunology, and systems biology. Increasingly, familiarity with technologies such as metagenomic sequencing, metabolomics, and bioinformatics is beneficial for interpreting emerging data.

Translational Thinking

Because microbiome science spans basic research and clinical medicine, the ability to translate mechanistic discoveries into potential clinical relevance is essential. MSLs often help investigators and clinicians connect laboratory findings with patient outcomes.

Scientific Communication

Microbiome science can be conceptually complex. Communicating ecological interactions, microbial metabolites, and host-microbe signaling pathways in a clear and engaging manner requires refined scientific storytelling.

Intellectual Agility

The microbiome field evolves rapidly. New discoveries frequently reshape existing hypotheses about disease mechanisms and therapeutic potential. MSLs must remain intellectually curious and adaptable as the science advances.

Credibility with Key Opinion Leaders

Engaging leading researchers and clinicians requires a strong scientific foundation. Many MSLs bring doctoral-level training and clinical expertise that allows them to participate meaningfully in peer-to-peer scientific exchange.

Doubling Down on MSL Expertise in Emerging Therapeutic Areas

When working with innovative treatment modalities, credibility becomes one of the MSL's most valuable assets. Investigators exploring microbiome-based interventions often operate at the leading edge of translational science. In these discussions, the MSL must bring not only knowledge of company-sponsored data but also a broad understanding of the surrounding scientific landscape.

Successful MSLs in this space rely on several guiding principles:

- **Scientific rigor:** grounding discussions in peer-reviewed evidence
- **Transparency:** acknowledging the evolving nature of the data
- **Curiosity:** fostering collaborative dialogue with investigators
- **Field insight:** communicating emerging scientific perspectives back to internal teams

By maintaining this balance, MSLs help organizations remain scientifically responsive while ensuring that emerging therapies are introduced responsibly within the medical community.

The Expanding Horizon of Microbial Therapeutics

The future of microbiome therapeutics is promising. Researchers are now exploring applications that extend far beyond infectious disease.

Emerging areas include:

- engineered microbial consortia designed to produce therapeutic metabolites
- microbiome modulation to enhance cancer immunotherapy responses
- gut-brain axis interventions targeting neurological conditions
- metabolic disease therapies influencing glucose and lipid metabolism
- precision microbiome medicine tailored to individual microbial profiles

As scientific understanding deepens, microbial therapies may ultimately influence treatment strategies across numerous medical specialties.

For MSLs, this represents an exciting opportunity to participate in shaping the translation of groundbreaking science into clinical practice.

Conclusion

The study of the human microbiome has opened an entirely new chapter in our understanding of health and disease. Microbial therapeutics challenge conventional approaches to drug development, introducing novel mechanisms and clinical questions that require thoughtful scientific dialogue.

Within this evolving landscape, Medical Science Liaisons play a pivotal role. Their ability to interpret complex data, engage in peer-level scientific exchange, and facilitate collaboration between industry and the medical community positions them at the forefront of innovation.

As microbial therapeutics continue to mature, the curiosity, expertise, and adaptability of MSLs will be essential in guiding these transformative therapies from scientific discovery to meaningful patient benefit.

Selected References

Human Microbiome Project Consortium. (2012). Structure, function and diversity of the healthy human microbiome. *Nature*, 486(7402), 207–214.

Turnbaugh, P. J., et al. (2007). The human microbiome project. *Nature*, 449, 804–810.

Bryant, J. A., et. al. (2026). The impact of an oral purified microbiome therapeutic on the gastrointestinal microbiome. *Nature medicine*, 32(1), 186–196.

Khanna, S., et al. (2016). Microbiota restoration therapy for recurrent *Clostridium difficile* infection. *Journal of Infectious Diseases*, 214(2), 173–181.

Feuerstadt, P., et al. (2022). SER-109, an oral microbiome therapy for recurrent *Clostridioides difficile* infection. *New England Journal of Medicine*, 386, 220–229.

Feuerstadt, P., et. al. (2025). PUNCH CD3-OLS: A Phase 3 Prospective Observational Cohort Study to Evaluate the Safety and Efficacy of Fecal Microbiota, Live-jslm (REBYOTA) in Adults With Recurrent *Clostridioides difficile* Infection. *Clinical infectious diseases* 80(1), 43–51.

Lynch, S. V., & Pedersen, O. (2016). The human intestinal microbiome in health and disease. *New England Journal of Medicine*, 375, 2369–2379.

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A Personal Reflection: 4 Shifts That Helped Me Become a More Effective MSL

By Tessa van de Wal, MSc | Spring 2026

Introduction

The reason I chose to work as a Medical Science Liaison (hereafter MSL) was never just the science. Coming from a background in nursing science, I have always been driven by the question of how scientific advances translate into better care for patients. Having now worked in the pharmaceutical industry for some time, I have learned that being an effective MSL means staying true to your original motivation. For me, that means keeping the patient at the center of everything we do, even when our role is not directly at the bedside. In this article, I will share 4 shifts that have helped me become a more effective MSL.

Shift 1: From science to meaningful value for patient care

Science is the foundation of the MSL role. It is even embedded in the job title itself: Medical *Science* Liaison. Through my passion for healthcare, I have learned that science is indeed essential to advancing medical knowledge and improving treatment options, but at the same time, I believe it is crucial to look beyond data and start with the patient: the person living with a chronic disease, striving to maintain quality of life.

I work in nephrology, where this patient-centered mindset feels more relevant than ever. In nephrology, patients often live with their disease for many years, frequently requiring lifelong treatment and multidisciplinary care to preserve all aspects of their wellbeing as much as possible.

The impact of medical decisions therefore, goes far beyond data, it directly affects mental well-being and the lives of people living with a disease, as well as those of their families. This is what makes nephrology such an inspiring field to work in.

The first shift, which forms the foundation of our work as MSLs, is moving away from focusing solely on what the data shows and placing equal emphasis on why it matters. This means shifting from simply presenting scientific results to asking what these findings truly mean for patients and their wellbeing. How does this data support meaningful conversations between healthcare professionals and patients, and how can it empower shared decision-making that aligns medical choices with what matters most to the individual patient?

Do not get me wrong, science remains essential. But it should not be the message itself. The patient stays where they belong: at the center of everything we do.

Shift 2: From activities to intent: working from a medical plan

The second shift that has helped me make my work more impactful is learning to start my medical activities from a clearly defined medical issue.

In practice, this means taking a step back before jumping into action. First, analyze what the underlying medical problem is. From that problem, define the objective: what are we actually trying to achieve? Only then do you determine which activities will truly contribute to reaching that goal.

It may sound obvious, but how often do we begin with the opposite question: What are we going to do?

Coming from a nursing background, I am a natural doer. I was used to quickly creating a list of action points and moving straight into execution. During my MSL training, however, I learned the importance of not starting with actions, but with the intended outcome.

Approaching your work in this way often leads to very different activities than the ones you would have originally planned. Some

initiatives turn out to be less relevant, while others suddenly become much more meaningful.

While developing and executing a medical plan, it is equally important to maintain focus. Ask yourself: When will this be successful?' A medical plan helps to create clarity and direction, not only for yourself but also for your broader team.

Therefore, the essence of this second shift is to approach your work with intent. Make sure your efforts are connected to the objective, rather than simply completing activities for the sake of being busy. Work together with external experts and colleagues from other departments to build a solid understanding of the medical need.

It is far better to invest time in a thorough analysis at the beginning than to spend energy on activities that ultimately have a limited impact.

Shift 3: From responding to requests to creating opportunities

The third shift that strengthened my effectiveness as an MSL is consciously embracing an entrepreneurial mindset: not waiting for opportunities to appear, but actively identifying them and helping to bring them to life.

Taking initiative has always been part of who I am. However, within the MSL role I learned how important it is to channel that natural drive in a focused and meaningful way. Of course, responding to questions from the field remains a key responsibility. But if we limit ourselves to what is being asked, we may overlook many possibilities to create additional value for healthcare professionals and ultimately for patients.

By spending time engaging in conversations and listening carefully to challenges and frustrations, you start to recognize needs that are not always expressed as direct requests. Sometimes the real opportunities lie between the lines.

An entrepreneurial MSL connects those dots. We translate insights from daily practice into ideas for collaboration, education, or scientific exchange. We

initiate discussions, bring stakeholders together, and explore what we could build collectively. This proactive attitude can lead to impactful outcomes: co-creation projects, tailored educational initiatives, partnerships, or events that truly reflect what the field needs.

By actively seeking opportunities instead of waiting for them, the MSL becomes a partner in healthcare.

Shift 4: From staying within your own organization to collaborating beyond it

The fourth shift that broadened my perspective as an MSL is looking beyond the boundaries of my own organization and actively seeking collaboration across the wider healthcare landscape, including with peers from other pharmaceutical companies.

When we focus only internally, we risk limiting our view to our own strategies, priorities, and solutions. Yet many of the challenges in healthcare are bigger than any single organization. They require shared thinking, joint responsibility, and collective action.

True collaboration becomes especially powerful in co-creation initiatives, where different perspectives, expertise, and experiences come together. By working with external partners, you discover new approaches, learn how others address similar barriers, and often find inspiration that you can translate back into your own work.

In the Netherlands, for example, I had the opportunity to be an active member of the Young Innovators of Medicines (YIM), part of the Association of Innovative Medicines. Engaging with peers from other companies allowed me to exchange ideas, discuss common challenges, and learn from different ways of working. It strengthened my understanding of the broader system and highlighted how much we can achieve when we move beyond organizational borders.

For me, this shift reinforced the idea that an MSL is not only a representative of a company but also a partner in the healthcare community. By building bridges, sharing insights, and learning from one another, we contribute to progress that ultimately benefits patients.

Conclusion

Becoming an effective MSL is not about adding more to your to-do list. It is about meaningful shifts in the way we think and work.

By keeping the patient at the center, working from clear medical intent, actively creating opportunities, and collaborating beyond our own organization, we strengthen our ability to make a difference. Not only for healthcare professionals, but ultimately for the people living with the disease.

For me, these four shifts continue to shape how I approach my role every day. They remind me why I started this journey in the first place: translating science into better care.

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Tessa is a Medical Science Liaison at Medice, specializing in nephrology. With a background in nursing and a Master's degree in Nursing Science from Utrecht University, she brings experience from clinical practice, academia, and the pharmaceutical industry. In her current role, she focuses on scientific exchange with healthcare professionals, medical education, and supporting the translation of clinical evidence into practice to improve patient care.

The Value Medical Affairs Is Leaving on the Table-And How a More Systematic Approach Can Unlock It

By Paul Riley, MBA, PhD, CMgr | Spring 2026

Medical Affairs generates enormous value. Every day, Medical Science Liaisons have high-quality scientific conversations with clinicians who shape practice, influence peers, and test evidence against reality. Few functions in pharma have this level of access, trust, and depth.

And yet, much of the potential value from these interactions is quietly lost.

Not because MSLs are not asking good questions, or because insights are not being captured – but because learning is often **unsystematic**. Valuable signals remain fragmented, anecdotal, or underused, rather than being deliberately shaped into

something that informs strategy.

The issue is not effort. It is structured.

Insight Is Abundant - Strategic Learning Is Not

Most Medical Affairs teams collect insights. Field notes are written, systems are populated, themes are discussed. But collecting insight is not the same as **learning with intent**.

Too often, medical strategies are defined early, and MSL engagement is expected to support and execute against them. Insights flow back, but they are rarely designed to test whether the underlying assumptions were right in the first place.

This means Medical Affairs frequently misses the chance to answer higher-value questions, such as:

- Which uncertainties genuinely matter to clinicians now?
- What evidence would change confidence, not just understanding?
- Where does the medical narrative feel internally coherent but externally fragile?

Without a systematic approach to answering these questions, organisations risk mistaking activity for progress.

Where Value Is Lost

The table below captures a pattern that many MSLs will recognise:

What happens today	Value that is lost
Insights gathered opportunistically	Signals are hard to compare or prioritise
Conversations vary widely by MSL	Patterns emerge slowly or not at all
Assumptions remain implicit	Weak points surface late, when change is costly
Learning is retrospective	Strategy is adjusted reactively, not deliberately

None of this reflects a lack of capability. It reflects the absence of a shared learning design.

Systematic Does Not Mean Rigid

When people hear “systematic,” they often worry about scripted conversations or reduced autonomy. In practice, the opposite is true.

A systematic approach does not dictate what MSLs must say. It clarifies what the organisation needs to *learn*, and allows skilled MSLs to explore those questions in their own voice, using scientific judgement and relationship awareness.

For example, instead of broadly asking MSLs to “gather insights,” teams might agree to focus learning around a small number of strategic uncertainties:

Strategic uncertainty	What systematic learning explores
Data interpretation	Where clinicians hesitate or disagree
Evidence relevance	Which outcomes influence real decisions
Adoption barriers	What still needs to be proven to move forward

This creates coherence across field activity without reducing authenticity.

Why Timing Matters

One reason value is lost is that learning often happens **after** key decisions are made. When insights challenge assumptions late, the organisation has limited room to adapt without disruption.

Earlier, more deliberate learning allows Medical Affairs to influence:

- Which data gaps truly need addressing
- How evidence is framed and prioritised
- Where future investment will have the greatest impact

In other words, systematic learning increases *decision quality*, not just insight volume.

What This Unlocks for Medical Affairs and MSLs

When learning is treated as a strategic asset rather than a by-product, several things change.

For organisations, Medical Affairs becomes a source of **risk reduction and clarity**, not just scientific exchange. Strategy is informed by external reality earlier, when it still matters.

For MSLs, the role becomes more clearly connected to impact. Field conversations are no longer just valuable individually; they contribute to a shared understanding that shapes direction.

This also elevates professional development. MSLs sharpen their ability to identify patterns, surface contradictions, and articulate what those mean for decision-making – skills that are increasingly recognised as critical for senior Medical Affairs roles.

Turning Latent Value into Real Value

Pharma already invests heavily in Medical Affairs. The opportunity is not to do more, but to **use what is already happening more deliberately**.

By designing learning systematically – clarifying what matters, comparing insights across stakeholders, and feeding them back into strategic decisions – companies can unlock value that is currently being left on the table.

The conversations are already happening. The expertise already exists. What is needed is a more intentional way of turning those conversations into learning that shapes the future.

In a complex medical environment, value does not come from knowing more. It comes from **learning better, sooner, and together**.

Disclaimer: This article was created with the help of AI (ChatGPT). All concepts and topics were developed by the author.

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The Future of Medical Affairs: What Stays Human, and What Does Not?

By Christopher Hansen | Spring 2026

Disclaimer: The ideas discussed in this manuscript belong to the authors and do not represent views or endorsements of their employers

Introduction: Medical Affairs in the Age of AI

We are living in a transformative moment in medical affairs. For the first time, the instantaneous availability of data and information allows for the strategic integration of real-world evidence, digital health data, and biomarker-mediated algorithms to facilitate engagement with healthcare providers. Future strategies will be more efficient, intelligent, and personal than ever before. This new era requires partnership between medical affairs organizations and machine-based intelligence in ways that both streamline and capitalize upon innovation.

As we continue to grow and evolve, we must establish a fundamental expansion of medical affairs capabilities. Artificial Intelligence (AI) has rapidly become part of our core infrastructure that will optimize scientific exchange, increase opportunities for evidence generation, and accelerate clinical insight generation to advance scientific strategy. The question is no longer whether AI will impact how medical affairs functions, but how medical affairs will lead its integration.

There are increasing opportunities for organizations to amplify data generation, strategic analysis, and actions based on insight collection to improve patient care. In a world where data is synthesized in seconds, and predictive algorithms anticipate unmet needs before they are voiced, medical teams must expand their capabilities by replacing “things of old”, while focusing on what remains irreplaceable and human.

The Value of Medical Affairs Becomes More Human

As our society moves towards automation and machine-based handling of traditional tasks, many predict the need to accommodate a psychological void in human connection. Experts predict growth in community initiatives, experiential hospitality, and “high touch healthcare”. In medical affairs, it is likely that the workload associated with things like literature monitoring, slide deck generation, insight aggregation, and CRM notations will almost certainly decline. This will be met by opportunities for growth in insight interpretation, evidence gap, identification, AI governance, and most importantly, *human connection*.



Figure 1. Changing landscape in medical affairs evolution.

(Image generated by Subagiarta and Hansen 2026, using AI-enhancements of Microsoft Office content through ChatGPT)

To stay valuable, the element that will become irreplaceable is the relationships formed with healthcare providers. While a medical information request could be synthesized in seconds – with or without a MSL – healthcare providers will benefit from the engagement with field personnel for human connection and peer-level confirmation of scientific and clinical data.

While opportunities for AI-enabled medical affairs strategies seem limitless, we must also anticipate the likelihood of friction. The introduction of new capabilities for organizations is likely to create signal overload, change fatigue, and problems with a lag in efficient governance. As we move into an “all in on AI” mindset, we must predict and embrace agility when introducing new technologies. This will require leadership teams to encourage intentionality in AI adoption while assessing readiness when introducing new tools.

What Technology Should Absorb and Why That’s Progress

If the value of Medical Affairs becomes more human, then we must be equally clear about what should not remain human. AI is particularly well suited for high-volume, pattern-based, and repeatable work. The cycle between insight generation, strategic planning, and field execution shortens. Medical, commercial, and analytics teams increasingly operate within shared data environments, reducing fragmentation, and enabling coordinated action. Decisions move with greater speed, but also with greater interdependence. When delegated appropriately, these capabilities do more than create efficiency. *They reshape operational design.*

This compression of time and effort carries cross-functional implications. As organizations evolve, functional overlap in capabilities is inevitable. It will be important for organizations to embrace and join forces across medical, commercial, and patient service groups to facilitate enterprise capabilities based on determining when and how the right function is deployed at the right time.

Speed alone, however, is not progress. The true advancement lies in redirecting professional focus toward what cannot be automated: challenging assumptions behind a signal, evaluating the clinical relevance of emerging patterns, identifying meaningful evidence gaps, and safeguarding scientific integrity within strategic decisions.

In practice, the risk is not over-absorption by technology. The more consequential challenge is the reluctance to relinquish legacy models of productivity. When contribution continues to be measured by activity rather than impact, progress stalls despite expanded capability.

Evolution Beyond Adoption

The shift towards the future is no longer about tools, but about the functional role of medical affairs. As intelligent systems scale, the responsibility of the Medical Affairs professional expands. The profession moves from managing information to governing its interpretation, from generating outputs to safeguarding standards.

As AI compresses the distance between insight generation and strategic discussion, Medical Affairs increasingly operates at the intersection of data, cross-functional planning, and scientific interpretation. In this environment, stewardship becomes central. Not to slow progress, but to ensure that rigor keeps pace with speed. Stewardship means understanding how models are built, questioning assumptions, clarifying uncertainty, and being explicit about limitations.

Healthcare providers do not look to Medical Affairs for data alone. They seek interpretation and validation grounded in scientific integrity. Internal teams depend on medical judgment to ensure that emerging insights are translated responsibly and aligned with evidence standards. Evolution beyond adoption is therefore less about expanding technical fluency and more about strengthening professional discipline. As intelligent systems scale, the standard for accountability must grow with them. Technology can accelerate analysis, but it cannot assume accountability. Trust remains the foundational element of every Medical Affairs relationship.

Conclusion: A Challenge to the Profession

The future of Medical Affairs will not be defined by how quickly we adopt new tools. It will be shaped by how we thoughtfully and strategically, we evolve. We are already operating in an automated era. Some elements of our work should -and will- shift to intelligent systems. But the core of the profession, grounded in human relationships, does not diminish our capabilities; it sharpens them.

The opportunity before us is not to compete with AI, but to elevate what makes our role uniquely human. If we lead this transformation with clarity and purpose, this transformation positions Medical Affairs to help define the future of healthcare.

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Beyond the Scientific Paper: How MSL Selection Assessments Reveal the Strategic Reality of Medical Affairs

By Martina Riosalido, MS | Spring 2026

Medical Affairs is often described as a function in transformation. Yet, for many of us working in this space, that description is already outdated. In practice, the transformation has largely happened. What we are seeing now is not an early signal of change, but the operational reality of the role.

One of the clearest places where this reality becomes visible is in MSL recruitment processes.

Through my work as a mentor in **MSL Expert & Mentoring**, I have supported many professionals preparing for Medical Affairs interviews. Over time, I have seen how the assessment itself often reveals what a company truly expects from an MSL. More than a hiring exercise, it becomes a reflection of how that organization understands the role in real life.

For that reason, MSL selection assessments are worth examining. They show, with increasing clarity, that the role of the Medical Science Liaison (MSL) is no longer defined only by scientific communication. It is increasingly defined by the ability to connect science, insights, stakeholders, and strategy.

From scientific expertise to strategic contribution

Traditionally, MSL assessments were based on a scientific paper presentation. Candidates were asked to review a publication, usually linked to a pivotal clinical trial, and present their interpretation. This format evaluated core foundations of the role: literature appraisal, scientific rigor, communication skills, and clinical understanding.

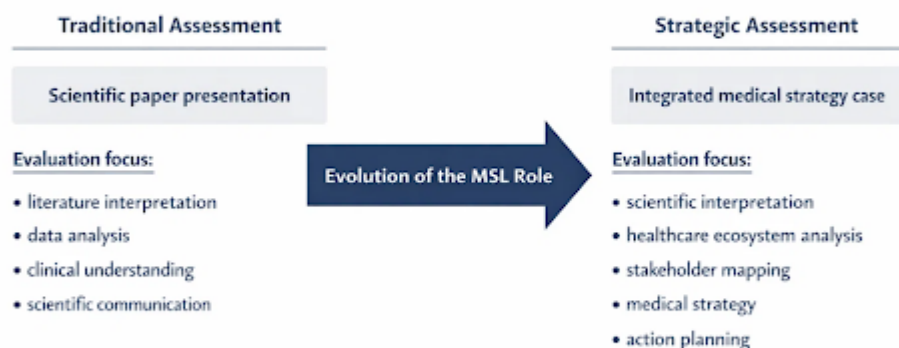
Those foundations still matter. Scientific excellence remains central to the MSL role. Without scientific depth, there is no real credibility in peer-to-peer engagement with healthcare professionals.

What has changed is that scientific expertise on its own is no longer enough to reflect the full reality of the role.

Today, MSLs operate in a much more complex environment where clinical evidence interacts with access, institutional priorities, patient needs, healthcare system constraints, and broader organizational strategy. This is consistent with how Medical Affairs has evolved from a support function into a strategic connector between R&D, Commercial, and the healthcare ecosystem [1,2].

That is why the traditional scientific-paper exercise has increasingly evolved into something broader.

Figure 1. Evolution of MSL Selection Assessments



Instead of asking only whether a candidate can explain the science, many organizations now ask whether the candidate can understand what that science means in context. The assessment is shifting from scientific presentation toward strategic interpretation.

What companies are really assessing now

In many current MSL selection processes, candidates are no longer asked simply to explain a study. They are asked to think more broadly. They may be asked to analyze the medical landscape of a therapy area, identify unmet needs, map relevant stakeholders, anticipate barriers to implementation or access, and propose scientific engagement priorities.

This means that the assessment is no longer asking only: **Can this person explain the evidence?** It is also asking: **Can this person understand what the evidence means in the real world? Can this person connect science with the healthcare ecosystem? Can this person think like a Medical Affairs professional, not only like a scientist?**

From a mentoring perspective, this is where many candidates struggle. Not because they lack knowledge, but because they often prepare for interviews as if the role were still narrower than it really is.

In practice, many companies are already looking for professionals who can operate with a broader strategic mindset. This aligns with the growing role of Medical Affairs in evidence generation, stakeholder engagement, lifecycle planning, and healthcare transformation [2-4].

The MSL as an insight generator

One of the clearest signs of this evolution is the increasing importance of insights.

The Strategic Scientific Partner is not only expected to communicate data. The MSL is expected to recognize patterns, identify unmet needs, interpret what stakeholders are saying, and translate those observations into something useful for the organization.

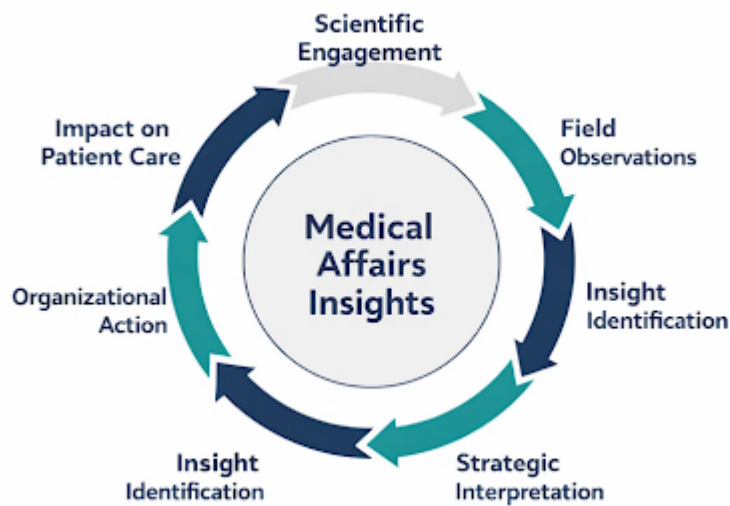
That is very different from simply collecting feedback.

It requires listening, contextual understanding, scientific judgment, and strategic interpretation. A useful definition from the literature describes an insight as a deeper understanding of the “why” behind trends in information that helps determine whether action is warranted [5].

MSLs sit in a unique position within the healthcare ecosystem. Through conversations with clinicians, investigators, institutions, and other stakeholders, they often detect the tension points of the system before they are visible elsewhere. They hear where the data resonates, where it creates uncertainty, and where practice still does not reflect the evidence.

That is why the MSL role has become increasingly important not only for scientific exchange but also for organizational learning.

Figure 2. Medical Affairs Insight Cycle



Scientific engagement leads to field observations; observations become insights; insights inform strategic interpretation; and that interpretation can support organizational action and, ultimately, patient care.

Beyond the product: understanding the ecosystem

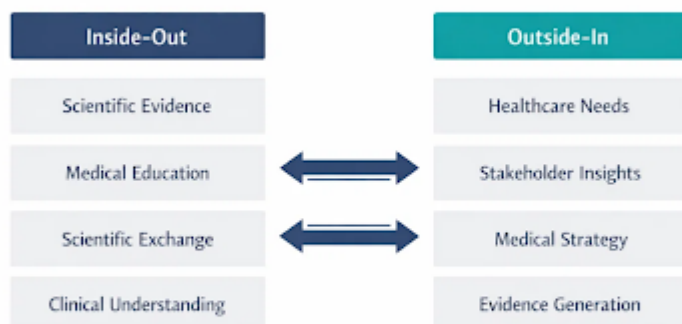
Another major difference in current assessments is the emphasis on the broader healthcare ecosystem.

Candidates are increasingly expected to think beyond the product and beyond the publication. They need to understand that the value of Medical Affairs does not live only in data dissemination. It also lives in how science interacts with clinical pathways, institutional priorities, access dynamics, payer expectations, patient realities, and cross-functional decisions.

This is one of the reasons why many assessments now include stakeholder mapping, action planning, or strategic case resolution.

The MSL is increasingly being evaluated as someone who can operate in two complementary directions: **inside-out**, translating scientific evidence into valuable external engagement; and **outside-in**, bringing stakeholder needs and ecosystem realities back into Medical Affairs strategy [1,6].

Figure 3. Inside-Out and Outside-In Dynamics in Medical Affairs



This is not a theoretical model. It reflects how many Medical Affairs teams already work.

Medical Affairs across the lifecycle

Another reason why the paper-only assessment has become insufficient is that Medical Affairs contributes across the full lifecycle of a medicine. This includes identifying evidence gaps before launch, engaging experts early, supporting data generation, informing scientific positioning, generating post-launch insights, and contributing to real-world evidence and lifecycle optimization [2-4,7].

Figure 4. Medical Affairs Across the Product Lifecycle



This lifecycle contribution reinforces the idea that the MSL role must increasingly be understood within a strategic continuum rather than as a narrow, tactical field function.

What does this mean for the future MSL

If we are honest about the day-to-day work of many MSLs, then we also need to be honest about the profile the role now

requires.

Scientific expertise remains essential. But in addition, the role increasingly requires insight generation, ecosystem intelligence, evidence literacy, strategic thinking, communication adaptability, and understanding of healthcare value. These expectations are consistent with competency frameworks now emerging in Medical Affairs [8,9].

From my perspective as a mentor, one of the most important mindset shifts for candidates is this: they need to stop seeing the MSL role only as a scientific communication role and start seeing it as a strategic Medical Affairs role that happens to be field-facing.

Figure 5. From Scientific Liaison to Strategic Scientific Partner: Core Competencies of the Future MSL



That evolution does not make the role less scientific. It makes it more complete.

Final reflection

MSL selection assessments are becoming more strategic because the role itself is already more strategic.

That is the real message.

We are not looking at a hypothetical future model. We are looking at a profession that has already expanded in scope, complexity, and value.

Many candidates still prepare for interviews as if they only need to prove scientific knowledge. But what companies increasingly want to see is whether the candidate can think, interpret, connect, and contribute like a true Medical Affairs professional.

The Strategic Scientific Partner is still a scientific expert. But not only that.

The Strategic Scientific Partner is also an insight generator, a scientific connector, and a strategic partner within the healthcare ecosystem.

And in many teams today, that is no longer the future of the role. It is simply the reality of the work.

References

1. Dhanda A, Frøstrup AG, Dahl P. The value and deliverables of Medical Affairs: affiliate perspectives and future expectations. *Pharm Med.* 2023;37(6):417-24.
2. Leal Beckouche M, Resler Plat G, Marinich JA, Moreno C, Moreno M, Gostkorszewicz J, et al. The evolution of Medical Affairs central teams: shaping strategic action and driving healthcare transformation through scientific interaction. *Pharm Med.* 2026;40(1):9-18.

3. Regadera L, Pérez Domínguez A, et al. The evolution of in-field Medical Affairs: introducing the Strategic Scientific Advisor. *Pharm Med*. 2025.
4. Medina J, Sánchez-Covisa J, Nuevo J, Galvez-Fernandez M, García A, Pimentel B, et al. Shaping the future of evidence generation: real-world data to drive healthcare transformation and patient-centered decisions. *Pharm Med*. 2026.
5. Cadogan AA, Lau J, Whorowski S, Kelsch GR, Oreper J, Chavez L, et al. Defining insights. *Ther Innov Regul Sci*. 2023;57(6):1229-37.
6. Farrington AD, Frøstrup AG, Dahl P. The value and deliverables of Medical Affairs: affiliate perspectives and future expectations. *Pharm Med*. 2023;37(6):417-24.
7. Jandhyala R. Guest editor foreword: real-world evidence and Medical Affairs. *Curr Med Res Opin*. 2023;39(12):1537-9.
8. Weekes A, Britland M, Saha C, McErlane S, Ansari N, Thurley D, et al. Development of a competency framework for Medical Affairs professionals in Australasia. *Pharm Med*. 2025;40:61-8.
9. Gupta SK, Nayak RP. An insight into the emerging role of regional medical advisor in the pharmaceutical industry. *Perspect Clin Res*. 2013;4(3):186-9.

Alternative Author's Note

*This article was conceptualized and authored by **Martina Riosalido, MSc, PhD candidate**, with the support of artificial intelligence tools, including **ChatGPT** for language support and manuscript structuring, and **Sora** for the conceptual design and generation of accompanying visual figures. All written and visual content was critically reviewed, validated, and finalized by the author to ensure accuracy, relevance, and alignment with her professional expertise and independent scientific judgment.*

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Martina is the founder of MSL Expert & Mentoring, a strategic mentoring and training initiative created to support the development of Medical Science Liaisons and Medical Affairs professionals across the pharmaceutical and biotechnology industries. With more than 20 years of experience in scientific engagement, medical strategy, and international leadership, she is the creator of the proprietary MARIPOSA Method®, a framework designed to transform individual potential into strategic, purpose-driven talent. Her work sits at the intersection of science, communication, and ethical leadership, with a strong focus on empowering the next generation of MSLs. More information is available at www.mslmentoring.com.

AI and Digital Health Applications Through the Lens of Ethics & Compliance

By Hans Joachim Hutt, MD | Spring 2026

Introduction

Artificial intelligence and digital health applications (known in Germany as DiGA — Digitale Gesundheitsanwendungen), including AI-assisted diagnostics, digital therapeutics, wearable-derived endpoints, and AI-powered chatbots, are reshaping how healthcare is delivered and how evidence is generated.

For Medical Science Liaisons (MSLs), these technologies are not abstract concepts discussed in boardrooms; they directly affect day-to-day scientific exchanges with healthcare professionals (HCPs), investigator education at trial sites, and the standards to which every field interaction is held.

This article translates the ethical and compliance framework for AI in pharma into actionable guidance for MSL field teams. It addresses five core questions and, for each, highlights what the answers mean for the MSL sitting across the table from an oncologist, a clinical trialist, or a digital-health innovator.

1. Ethical Principles That Shape Every MSL Conversation on AI

The four-principle framework of medical ethics “autonomy, beneficence, non-maleficence, and justice,” remains the reference point, but AI adds new dimensions to each:

- Autonomy and informed consent: When an MSL discusses an AI-enabled companion diagnostic or a DiGA with an HCP, the conversation should go beyond efficacy data. HCPs need clear, understandable explanations of what the tool does, what data it processes, where its limitations lie, and how human oversight is maintained. Consent – whether from a patient using a digital therapeutic or an investigator adopting a novel digital endpoint – is only genuine when these points are transparent. MSLs are often the first scientific peer an HCP turns to with questions about a new technology; ensuring that the information shared enables truly informed decisions is a core MSL responsibility.

- Non-maleficence beyond clinical errors: In the AI context, harm extends to privacy risks, false alarms, alert fatigue, and cybersecurity vulnerabilities. An MSL presenting data from an AI-supported tool should be prepared to discuss not only clinical performance but also these broader safety dimensions. For example, if a wearable generates excessive false-positive alerts in a monitoring study, this creates clinical burden and a type of harm that deserves the same candid discussion as an adverse drug reaction.

- “Justice” e.g., regarding bias and equitable access: If the training data behind an AI tool underrepresent certain populations, the tool may perform differently across patient subgroups. MSLs supporting investigator-initiated trials or advising HCPs on digital tools should proactively share what is known about validation cohorts and potential bias, so that clinicians can make informed decisions about applicability in their own patient populations.

Practical Takeaway for Field Teams:

Before discussing any AI or digital health tool with an HCP, prepare a concise “transparency brief” covering: intended use, data inputs and outputs, known limitations, validation populations, and the role of human oversight. Treat it as you would a benefit-risk summary for a new molecule.

2. Compliance Guardrails: What Industry Codes Mean for MSL Interactions

Pharmaceutical industry codes, including those of IFPMA and EFPIA mandate the strict separation of scientific/medical information from promotional content, factual balance, substantiation of claims, and transparency in HCP interactions. When AI enters the picture, these guardrails require specific translation for the field:

- No “black-box” marketing promises: MSLs should avoid positioning AI capabilities in vague, unsubstantiated terms. If an AI tool claims to improve diagnostic accuracy, the MSL should be ready to share the published evidence, including study design, endpoints, comparators, and confidence intervals, as exactly as they would for a therapeutic claim.

- Clear labeling of intent: Every MSL interaction on AI should make explicit whether the content is medical/scientific information or relates to a product with promotional dimensions. If an AI chatbot delivers content to HCPs on behalf of the company, that content should have gone through legal, medical and regulatory (LMR) review, with documented version control and a defined update cadence.
- Transparency of value transfers: Digital channels should not become vehicles for hidden influence. Sponsorship of AI tools, provision of digital health platforms, or data-sharing arrangements all fall under transfer-of-value reporting. MSLs should be aware of these obligations and be ready to disclose relevant relationships proactively.

Practical Takeaway for Field Teams:

When an HCP asks about an AI feature or digital health application, apply the same compliance checklist you use for any scientific exchange: E.g. Is your response on-label? Is it substantiated by approved evidence? Has the material been through LMR review? If any answer is “no” or “unclear,” escalate before responding.

3. Data Privacy and Patient Sovereignty in the Field

Confidentiality is a cornerstone of medical practice, and regulations like the GDPR codify the principles of purpose limitation, data minimization, and integrity. For MSLs, these are not abstract legal concepts, but they surface in concrete field scenarios:

- Discussing digital therapeutics: When an HCP asks how a DiGA handles patient sleep data, the MSL should be able to explain what is collected (sensor data, usage patterns), why, who may access the information, and how patients can opt out without compromising care. This “privacy-by-design” narrative demonstrates that the company treats patient sovereignty as a design principle, not an afterthought.
- Supporting clinical trials with digital endpoints: Wearable-derived endpoints such as continuous heart rate monitoring, actigraphy, or stride velocity generate vast volumes of patient data. MSLs educating investigators on digital trial protocols should clearly communicate data governance: how data flows from the device to the database, what pseudonymization or anonymization steps are applied, and how retention and deletion policies protect participants. Investigators are gatekeepers of patient trust; equipping them with clear privacy information strengthens site engagement.
- Real-world evidence discussions: When MSLs facilitate conversations about real-world data generated by AI tools, they should be prepared to address whether patients provided granular, understandable consent and whether the data can be used for purposes beyond the original intent.

Practical Takeaway for Field Teams:

For every digital health or AI-enabled product in your portfolio, maintain a one-page data-privacy fact sheet covering: data types collected, purpose, third-party access, anonymization methods, retention periods, and patient opt-out options. Use it as a reference during HCP and investigator meetings.

4. Clinical Accountability, Human-in-the-Loop, and the MSL’s Role in Investigator Education

A foundational principle: clinical accountability remains with human practitioners. AI can support clinical judgment but should not replace it without clearly defined roles and responsibilities. This principle has direct implications for MSL activities:

- Educating investigators on AI-supported trial tools: As digital endpoints and AI-assisted data analysis become more common in clinical trials, MSLs increasingly serve as the bridge between the sponsor’s digital-health team and the investigator. This means helping investigators understand: (a) the intended use and validated performance of the AI component, (b) how uncertainty is communicated (e.g., confidence scores, flagged outliers), (c) what “human-in-the-loop” means in practice and that the clinician retains the authority and responsibility to override AI-generated outputs, and (d) how performance drift is monitored and managed over time. MSLs supporting site education should ensure investigators know exactly where the AI’s role ends and the clinician’s judgment begins.
- Discussing AI-driven recommendations with HCPs: When an HCP in clinical practice encounters an AI tool that suggests a diagnosis or treatment pathway, the MSL’s role is to provide the evidence behind the tool’s algorithm, including how it was trained, validated, and what its known error rates are. The message should always be clear: the AI is a decision-support tool, not a decision-maker.
- Regulatory context for software as a medical device (SaMD): MSLs should be conversant in the regulatory classification of AI tools they discuss. Risk management, usability engineering, cybersecurity requirements, and post-market surveillance

obligations for learning systems are all fair topics for investigator education. For adaptive or continuously learning AI systems, additional controls apply: governed updates, re-verification and re-validation after model changes, and traceability of model and dataset versions.

Practical Takeaway for Field Teams:

When preparing for investigator meetings involving digital endpoints or AI-enabled tools, build a “human-in-the-loop” explainer into your site education materials. Cover: what decisions the AI informs, what decisions remain with the clinician, how to report unexpected AI behavior, and where to escalate concerns. This is analogous to the adverse-event reporting education you already provide and extend it to AI incidents.

5. Managing AI Risks and “Digital Side Effects” – The MSL as an Early Warning System

Pharmacovigilance is well established in pharma; for digital health solutions, it is complemented by post-market surveillance, incident management, and cybersecurity reporting. MSLs are uniquely positioned to serve as an early warning system:

- Detecting signals in the field: Just as MSLs capture unsolicited safety reports during HCP interactions, they should be alert to reports of AI malfunctions for example, an algorithm systematically producing incorrect recommendations, a digital endpoint device generating unreliable data, or a cybersecurity incident affecting patient data. These observations should be routed through defined reporting pathways (Medical, Safety, Compliance, IT Security) with the same urgency as pharmacovigilance signals.
- Transparent communication: If an AI tool is found to have a systematic flaw, ethical practice demands prompt correction and clear communication to users with no delay driven by reputational concerns. MSLs may be asked to communicate corrective actions to HCPs or investigators; doing so openly and factually reinforces the trust that underpins every MSL/HCP relationship.
- Distinguishing event types: It is important to differentiate clinically relevant AI events (e.g., a recommendation leading to a medication error) from privacy or security incidents (e.g., a data breach). Both require rigorous response, but through appropriate and potentially different processes. MSLs should understand these distinctions and know which internal pathway to activate.
- Audit trails and documentation: Every MSL interaction related to an AI tool should be documented in the CRM with the same diligence as any other HCP engagement. This creates the audit trail necessary for compliance review and, if needed, regulatory investigation.

Practical Takeaway for Field Teams:

Add “digital adverse events” to your field reporting awareness. If an HCP reports an unexpected AI behavior, a device malfunction affecting a digital endpoint, or a data-privacy concern, treat it as a reportable event. Document it, route it to the appropriate internal function, and follow up. Your CRM note should capture: what happened, which product/tool was involved, what the clinical or data impact was, and what the HCP’s expectation for follow-up is.

Quick-Reference:

MSL Field Checklist for AI and Digital Health Interactions

Key Questions to ask yourself before the HCP interaction:

Ethics: Can I clearly explain the tool’s purpose, limitations, data handling, and human oversight to this HCP?

Compliance: Is my content on-label, substantiated, LMR-reviewed, and clearly labeled as scientific/medical (not promotional)?

Data Privacy: Can I describe what patient data the tool collects, why, who accesses it, and how patients can opt out?

Clinical Accountability: Am I making clear that the AI supports but does not replace the clinician’s judgment?

Risk Reporting: Do I know the internal pathway for reporting AI-related incidents, data breaches, or device malfunctions?

Documentation: Will my CRM entry provide a complete, audit-ready record of this interaction?

Closing Perspective

The ethical and compliance landscape for AI and digital health is evolving at pace. For MSLs, this is not a distant regulatory exercise but it is the fabric of daily HCP engagement, investigator education, and evidence interpretation. By grounding every AI-related interaction in the principles of transparency, patient sovereignty, human accountability, and rigorous documentation, MSLs ensure that digital innovation strengthens rather than erodes the trust that makes scientific exchange possible.

The MSL who can articulate not only what an AI tool does but also how it is governed, how patients are protected, and where the human remains in the loop will be the most valued scientific partner in the age of digital health.

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Dr. med. Hans Joachim Hutt is a former Medical Affairs, Market Access, Governmental Affairs Leader in distinguished pharmaceutical companies as Boehringer Ingelheim, sanofi, Pharmacia, BMS, SPMSD, and LEO Pharma. He is a Medical Doctor from the University of Mainz, Germany, and holds a medical degree from the University of Essen, Germany. After years of medical training in internal medicine and clinical pharmacology, he joined the pharmaceutical industry in 1989.

During his career, he has managed MSL teams with other departments as Regulatory Affairs, Pharmacovigilance, Clinical Operations, and Medical Affairs in Germany, Austria & Switzerland. He has facilitated the successful launch of pharmaceutical products for big and mid-sized pharmaceutical companies. He contributed to evidence generation, guideline appraisal, lifecycle management, and held responsibility/accountability for value-added dossiers and pricing negotiations for new molecular entities.

Dr. Hutt has coached, interviewed, and reviewed the CVs of many aspiring MSLs. His insights and guidance have resulted in MSLs successfully breaking into their first roles and fostering careers within the industry.

He has been a keynote speaker and moderated many conferences on various industry-related topics, including creating teams, management, MSL training, and proper utilization of a competency framework used to measure MSL performance.

Dr. Hutt has also served as a resource and consultant on many compliance-related projects for several organizations, including the German Code of Conduct Body (AKG e. V.), chairing a committee assessing audited organizations regarding HCP-/HCO-Compliance. For the German trade association BPI, he acts as a senior expert focusing on patient support programs, medical education, and AI.

He was recently announced as a member of the expert group „off-label“ at the German drug authority and acts as Information Officer according to the German Drug Law. As a consultant, he assesses business plans of start-ups developing digital health applications/devices in Germany and Singapore.

The Skill No One Talks About: Reading the Room in Field Medical

By Rohan Zaveri, PharmD | Spring 2026

In the professional development of Medical Science Liaisons (MSLs), the industry typically prioritizes a “hard-skill” trifecta: therapeutic mastery, clinical data fluency, and formal communication. Training modules usually focus on clinical data results, disease state presentations, objection handling, and alignment with medical strategic imperatives. Yet, the invisible skill that differentiates good from impactful MSL remains largely underdeveloped: the ability to read the room.

This goes beyond understanding simple body language. In the context of scientific exchange, this refers to the capacity to interpret intent, energy, pacing, and unspoken cues and adjust accordingly. It is during this real-time calibration that scientific exchange becomes a strategic partnership.

The importance of this dynamic is not merely anecdotal. According to a multi-organization position statement on MSL best practices published in *Therapeutic Innovation & Regulatory Science*, “excellent communication and interpersonal skills are essential” for establishing the credibility necessary for productive scientific exchange.¹ While scientific acumen provides the ticket to entry, the ability to navigate one’s approach to the immediate interpersonal environment often dictates whether that entry leads to a meaningful clinical impact.

Interpreting Response Latency

The speed of response is often the most immediate indicator in a scientific exchange. When a Key Opinion Leader (KOL) offers rapid, confident feedback, it usually signals a high level of familiarity with the existing data or therapeutic landscape. In these moments, looping back to foundational slides is a missed opportunity. The real opportunity lies in advancing the dialogue towards subgroup analyses, nuanced data interpretations, or future implications for practice.

Conversely, measured pauses may reflect uncertainty or critical evaluation of the subject. Effective MSLs recognize these moments and resist the urge to fill the silence. By allowing for reflection, the MSL respects the KOL’s analytical rhythm, often leading to much more profound clinical insights than a rushed presentation would allow.

Recognizing “Leaning In” vs. Disengagement

A KOL’s shift in posture, a change in vocal tone, or a sudden drill-down into patient selection criteria are all signals of heightened engagement. These are “green lights” for the MSL to abandon a rigid agenda. The most impactful interactions are rarely the ones that follow a slide deck linearly; they are the ones where the MSL has the agility to follow the KOL’s curiosity.

Equally informative are the areas that receive little engagement. When a KOL skips over certain discussion points or data points, that is equally informative as it may reflect skepticism, competing priorities in practice, or perceived irrelevance. Rather than pushing through these points defensively, seasoned MSLs lean into the silence with curiosity. Using open-ended questioning to uncover *why* a certain dataset feels irrelevant can provide the home office with more strategic insights.

Moving Toward Adaptive Field Medical Work

As the MSL role matures, our training modules should evolve. Preparation for field work should encompass not only the *what* of the science, but also the *how* of the interaction. Reading the room is not just a mysterious “soft skill” only for a charismatic few; it is an analytical discipline developed through deliberate practice and reflective mentorship. Incorporating training on situational awareness, conversational pacing, and active listening into field medical development programs may enhance both individual performance and organizational impact.

References

1. Theron P, Britland M, Holder D, Ikeda Y, Rewers RF, Tiku A. Promoting Best Practices for Medical Science Liaisons Position Statement from the APPA, IFAPP, MAPS and MSLs. *Ther Innov Regul Sci*. 2021;55(6):1139-1144. doi:10.1007/s43441-021-00310-y

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Outside of work, Rohan is a certified breathwork and meditation instructor dedicated to improving mental health and well-being in his community. He enjoys hiking, painting, and playing the ukulele, and is passionate about integrating mindfulness and creativity into professional and personal growth.

Influence Without Authority: The Future Skill Set for Medical Science Liaisons

By Keith Willis | Spring 2026

The Medical Science Liaison (MSL) role has relied on influence rather than authority. MSLs rarely control budgets or formal decisions, yet they play a critical role in shaping how organizations understand clinical practice, emerging research, and the needs of healthcare professionals.

What is changing is the environment in which MSLs operate. Healthcare systems are more complex. Scientific information is

expanding at an unprecedented pace, driven by the use of real-world data and the increasing emphasis on outcomes data. At the same time, artificial intelligence and advanced analytics are transforming how organizations interpret information and generate insights. As a result, the MSL role is evolving from a scientific role to a more strategic one.

The MSL role will still require deep scientific credibility, but success increasingly depends on the ability to interpret insights, communicate them clearly, and influence decisions across the organization.

The Expanding Role of the MSL

Historically, the MSL function focused on scientific exchange and responding to medical inquiries from healthcare professionals. While that responsibility remains essential, expectations have expanded significantly.

Many Medical Affairs organizations now expect MSLs to act as strategic partners, translating insights into understanding. Conversations with key opinion leaders, researchers, and clinicians surface patterns that influence clinical development, evidence generation, and medical strategy.

MSLs serve as a bridge between the medical community and matrix teams. Rather than relaying information, they synthesize insights from the field and help organizations interpret their implications for patients, providers, and future research.

Industry perspectives on the future of Medical Affairs emphasize that medical teams translate real-world insights into strategic decisions that improve patient outcomes. Yet the role is changing before our eyes. The rapid growth of data intelligence, real-world evidence, and artificial intelligence is transforming how insights are generated and applied. The future of Medical Affairs is not on the horizon; it's already here.

AI Is Changing the Workflow—Not the Value of the Role

Artificial intelligence is accelerating the transformation of the MSL role. AI tools can summarize scientific literature, analyze large data sets, and identify patterns across research and clinical practice. These capabilities enable MSLs to prepare more efficiently, synthesize information more quickly, and identify trends that may be difficult to detect.

However, AI does not replace the MSL. Instead, it changes where the value is created.

As technology handles more analytical work, the MSL's role increasingly centers on interpreting the meaning of the data in real-world clinical settings. Conversations with healthcare professionals, understanding clinical nuance, and translating insights into meaningful recommendations remain human capabilities.

Research on the future workforce indicates that as automation expands, human skills such as judgment, communication, and collaboration become increasingly valuable. For MSLs, this entails combining scientific expertise with digital fluency while maintaining strong relationships with diverse stakeholders.

Moving Beyond Insight Collection

One of the most significant opportunities for Medical Affairs is moving beyond collecting insights from the field. MSLs routinely gather valuable feedback from healthcare professionals about treatment barriers, clinical challenges, and research gaps. The challenge is ensuring those insights influence decisions.

High-performing MSL teams focus on synthesizing insights across multiple interactions, identifying patterns, and translating them into actionable information for internal stakeholders.

Instead of reporting isolated observations, MSLs increasingly help organizations answer broader questions such as:

- What challenges are clinicians encountering in practice?
- Where are evidence gaps emerging?
- What questions are healthcare professionals asking that our organization has not addressed?

When insights are framed within these larger themes, they become far more valuable and can inform strategy across Medical Affairs, clinical development, the commercial team, and patient education.

The Rising Importance of Communication and Influence

As the industry becomes more data-driven, human skills are even more important.

MSLs operate at the intersection of science, relationships, and strategy. They engage with healthcare professionals, collaborate with cross-functional teams, and communicate scientific insights across multiple audiences.

Scientific knowledge opens the door to the role, but communication and influence determine how effectively MSLs create impact.

Strong MSLs ask thoughtful questions, listen carefully to clinicians, and translate scientific evidence into insights that resonate with diverse stakeholders. They build trusted relationships with key opinion leaders while helping their organizations understand developments in the field.

These skills are important because MSLs contribute to discussions on evidence generation, medical education, and patient outcomes.

A Strategic Connector in the Healthcare Ecosystem

MSLs will increasingly focus on connecting science, insights, and relationships across the healthcare ecosystem. By combining scientific expertise, digital tools, and strong communication skills, MSLs can help organizations better understand clinical realities and respond more effectively to the needs of patients and providers.

In a role defined by influence rather than authority, the ability to connect people, insights, and strategy may ultimately be the most valuable skill of all.

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Keith Willis is the President of Core Management Training. His experience includes sales, sales leadership, operations, and sales training in diverse therapeutic areas. He has worked with several large pharmaceutical companies including Ciba Geigy, Johnson and Johnson, Wyeth, Pfizer, Otsuka, and Bristol Myers Squibb. Keith utilizes his rich experience to offer tailored solutions that empower clients from various sectors to achieve excellence in their performance.

When Passion Meets Pressure: Scientific Scope, Strategic Expectations, and Burnout Risk in the Modern MSL Role

By Adil Anwar, PhD, MBA | Spring 2026

Abstract

Background: The Medical Science Liaison (MSL) role has expanded alongside the growing scope of Medical Affairs, with increased involvement in clinical development support, evidence generation, and cross-functional strategy, as well as scientific

exchange with external experts, real-world evidence development, insights generation to inform organizational decision-making, and support for medical education and data dissemination.

Objective: To describe practical drivers of burnout risk among MSLs and summarize individual and organizational approaches that may support role sustainability.

Summary: Emerging benchmarking and Medical Affairs reports indicate persistent occupational stress among MSLs and MSL leaders, frequently attributed to increased workload intensity, travel, administrative burden, and evolving expectations that outpace resourcing. Burnout may present as fatigue, reduced professional efficacy, and disengagement, with implications for retention and quality of scientific exchange.

Conclusions: Treating burnout as an operational and leadership risk, through clearer prioritization, role/territory design, and expectations focused on scientific quality, may improve sustainability and long-term engagement in the field.

Keywords: medical affairs; medical science liaison; burnout; workload; field medical; leadership; well-being

Introduction

Medical Science Liaisons (MSLs) are often the face of Medical Affairs in the field, serving as scientific peers for external experts and a bridge back to internal teams. The role has expanded beyond relationship building. Many MSLs translate complex datasets for diverse audiences, support trial execution, guide investigator-initiated research, and feed insights into brand and clinical strategy. While this broader influence is valuable, unclear prioritization and unrealistic workload design can erode well-being over time.

The Modern MSL Landscape

Rapid scientific progress and rising internal expectations shape the contemporary MSL environment. Many MSLs cover large geographies and multiple therapeutic areas, requiring ongoing review of mechanisms of action, guideline updates, and competitive developments. Hybrid engagement has maintained access, but it can also extend the workday into evenings and travel days. Documentation, customer relationship management updates, material review, and frequent virtual touchpoints add administrative load and may contribute to an “always on” experience without commensurate resourcing.

Recognizing Burnout as a Professional Risk

Burnout in MSLs may develop gradually and can include persistent fatigue, reduced professional efficacy, and disengagement from work that was previously meaningful. In practice, MSLs may report decreased focus during scientific discussions, diminished satisfaction from field interactions, or a perception that effort no longer aligns with impact. Because many MSLs demonstrate high ownership and performance orientation, early indicators may be minimized as temporary workload fluctuations, delaying support.

Burnout in Medical Science Liaisons: What the Data Suggest

Recent benchmarking suggests burnout is both common and persistent among field medical professionals. Survey work from the Medical Science Liaison Society has reported ongoing occupational stress among MSLs and MSL leaders, with frequently cited contributors including workload intensity and administrative burden.

Additional Medical Affairs reports describe expanding expectations for trial support, investigator-initiated studies, and cross-functional deliverables, while staffing models and performance metrics may not evolve at the same pace. Field teams also cite travel demands and growing administrative requirements (for example, virtual meetings, system updates, and compliance documentation) as contributors. Collectively, these factors suggest burnout risk is influenced by role design and operating norms, not solely by individual coping capacity.

Key Drivers of Burnout in Medical Affairs

Several factors tend to stack on top of one another: high workload intensity, travel that compresses recovery time, and expanding responsibilities that come without clear trade-offs. Digital fatigue, including back-to-back virtual meetings plus documentation and CRM requirements, adds to the cognitive load. Field roles can also be isolating on tough weeks, especially across large, dispersed territories. When role clarity is inconsistent or scientific impact is not recognized, motivation can drop further. Any one of these is manageable; together, they can create a cycle that gradually undermines engagement and retention.

Building Resilience: Individual and Organizational Actions

Addressing burnout takes work on both sides of the equation, what the individual can control and what the organization designs. For MSLs, small, consistent practices matter: protecting non-negotiable recovery time, setting clearer boundaries around “always on” responsiveness, and prioritizing high-value scientific discussions over sheer activity counts. Mentoring, peer check-ins, and regular scientific debriefs can reduce isolation and help normalize the reality that the workload can be heavy. Just as important is reconnecting with the core purpose of Medical Affairs, advancing evidence and improving patient care, especially during demanding stretches.

For organizations, burnout prevention is largely a leadership and operating-model issue. That starts with realistic territory design, clearer prioritization when new responsibilities are added, and performance expectations that reward scientific quality rather than volume. Managers who notice early signs of overload, ask specific questions in check-ins, and are willing to rebalance priorities make a measurable difference. Structured development opportunities, recognition tied to scientific impact, and practical cross-functional support (for example, reducing low-value administrative load) help sustain teams as the scope of Medical Affairs continues to broaden.

The Role of Leadership in Sustaining Medical Affairs

Leadership sets the tone for what is sustainable. Managers who lead with empathy, protect focus time, and hold regular, candid check-ins make it easier to talk about workload before it becomes a problem. Simple habits, including transparent prioritization, intentional team connection, and acknowledging meaningful scientific contributions, reinforce trust and a sense of belonging. In that sense, empathy is not separate from performance; it helps preserve the conditions required for consistently strong scientific work.

Looking Ahead

As Medical Affairs continues to evolve, burnout should be treated as a professional risk and not as a personal failing or an issue addressed only after an individual is struggling. More durable approaches combine protected recovery time, explicit prioritization (including what will not be done), and stronger peer connection across field teams. When organizations build sustainability into role design and leaders model healthy operating norms, MSLs are more likely to remain engaged, and the quality of scientific exchange may improve for stakeholders.

A sustainable future for MSLs depends on balance: scientific rigor and operational demands, as well as space to recover. Teams that build wellness into territory planning, goal-setting, and leadership habits tend to keep experienced talent longer and protect the quality of their external conversations. When MSLs are supported and energized, patients, clinicians, and the broader healthcare community ultimately benefit.

References

1. Medical Science Liaison Society (MSL Society). Benchmarking and/or survey reports on MSL well-being and occupational stress. Accessed March 2026. (Add exact report title, year, and URL if available.)
2. Additional Medical Affairs benchmarking reports describing MSL workload, travel, and administrative burden. Accessed March 2026. (Add exact citation details.)

Disclosure/Disclaimer

The views expressed are those of the author and do not necessarily reflect those of the author’s employer or its affiliates. This article is intended for educational discussion within the Medical Affairs community and does not constitute medical advice.

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Adil is a dedicated leader in Medical Affairs with a strong background in oncology and hematology, working across both solid and liquid tumors. As the Director of Medical Affairs at Taiho Oncology, Dr. Anwar supports the U.S. Medical Field Team, focusing on meaningful scientific engagement and fostering collaboration with a clear commitment to putting patients first.

With a doctorate in Biochemistry and Molecular Biology and an MBA in healthcare management, Dr. Anwar brings a blend of scientific expertise and business insight to the table. Over the years, Dr. Anwar has published more than 26 research papers in journals of international repute with high impact factors and has contributed to a book chapter. Dr. Anwar plays a key role in advancing excellence in the field, guiding advisory boards, developing frameworks for gathering insights, and supporting important work in oncology as well as myeloid diseases.

Beyond scientific and operational leadership, Dr. Anwar is passionate about developing future leaders and building a positive organizational culture. Whether mentoring colleagues or contributing to professional growth initiatives, Dr. Anwar's approach

combines scientific rigor, strategic vision, and a genuine desire to improve patient outcomes through innovation, teamwork, and data-driven decision-making.

Understanding the Two Types of Scientific Exchange Following 2025 SIUU Guidance

By Susan Giacalone, MSN, BCMAS, BC-MSL | Spring 2026

Medical Science Liaisons (MSLs) play a central role in facilitating the exchange of scientific and clinical information with healthcare professionals (HCPs). Within a continuously evolving regulatory landscape, it is essential that MSL engagement, related to unapproved uses of approved or cleared medical products, aligns with the appropriate FDA framework governing communications.

Two key FDA guidance documents shape expectations: (1) the January 2025 Final Guidance on Communications from Firms to Health Care Providers Regarding Scientific Information on Unapproved Uses (SIUU) and (2) the 2011 Draft Guidance on Responding to Unsolicited Requests for Off-Label Information. Which guidance applies and the regulatory expectations that follow depend on how the interaction is initiated and how the scientific information is delivered.

The 2025 SIUU guidance covers proactive, firm-initiated scientific communications, including the distribution of published source materials or firm-generated summaries derived from those materials. The 2011 Unsolicited Requests guidance covers reactive, HCP-initiated inquiries, where the firm provides scientific information only after receiving a bona fide, unsolicited question.

These two pathways differ in their initiation, evidence requirements, and mechanisms of communication. Below are five critical distinctions MSLs must understand to engage compliantly and credibly.

Proactive SIUU vs. Reactive Unsolicited Requests

Scientific engagement by MSLs falls into two distinct regulatory pathways depending on who initiates the interaction and what type of information is being shared. These pathways—SIUU and Unsolicited Scientific Requests—serve different purposes but work together to support responsible, evidence-based scientific exchange.

1. Proactive vs. Reactive Engagement

Who initiates the conversation determines the cascade of regulatory guidelines that follow.

When the company initiates communication—for example, an MSL proactively shares a peer-reviewed reprint or a firm-generated summary on an unapproved use—SIUU guidance applies.

In contrast, unsolicited scientific exchange applies when an HCP asks first. For example, a clinician approaches an MSL at a congress booth and asks an off-label question.

This key, preliminary difference drives all other regulatory expectations thereafter

2. Published vs. Flexible Evidence Requirements

How the conversation is initiated determines the evidence an MSL can rely on.

Under SIUU, evidence must come from published scientific sources (i.e., peer-reviewed articles, clinical practice guidelines, reference texts, or digital clinical resources). This ensures proactive communication is fully anchored in established, peer-reviewed evidence.

While SIUU prohibits the use of unpublished data or data on file, the unsolicited request pathway allows more tailored, scientific depth for reactive requests. Responses may incorporate a broader range of data if needed to directly answer the question, including case-by-case use of unpublished data handled through medical information processes.

3. Proactive Distribution vs. Controlled, Tailored Responses

The expected format of communication also varies. In both cases, the tone must remain scientific and balanced.

SIUU communications may include proactive distribution of reprints, clinical guidelines, or firm-generated summaries that clearly separate scientific content from promotional materials.

Bespoke answers tailored to HCP inquiry are only permitted by unsolicited exchanges, which involve controlled, individualized responses (i.e., medical information letter, email follow-up, or private discussion) strictly addressing the specific question asked.

Understanding these boundaries helps MSLs maintain scientific credibility while reducing the risk of inadvertently crossing into noncompliant communication.

4. Public vs. Nonpublic Settings

How the conversation begins also affects how and where it must proceed.

SIUU materials can be proactively provided in appropriate HCP-focused settings, such as at a congress booth or during scheduled scientific engagements.

When an unsolicited request is made in a public forum (e.g., social media or during a public Q&A), MSLs must acknowledge the question briefly and redirect the individual to a private channel before responding in full to prevent detailed off-label information from being publicly disseminated.

5. Enforcement Protections and Documentation Standards

Though each pathway offers regulatory clarity, FDA expectations for documentation differ to protect both the integrity of scientific exchange and the organization's compliance posture.

Under circumstances where SIUU guidelines are adhered to, the FDA states it does not intend to treat the communication alone as evidence of a new intended use, given the information is truthful, balanced, and sourced appropriately.

For unsolicited requests, the FDA emphasizes the importance of documentation to verify the truly unsolicited nature of the request and adherence to non-promotional, scientifically grounded communication standards.

What This Means for MSL Practice

In today's environment, MSLs must navigate two contrasting but complementary types of scientific exchange:

- SIUU = Proactive, published-evidence-based, firm-initiated communication
- Unsolicited Requests = Reactive, HCP-driven, tailored scientific responses

Together, these pathways protect organizational integrity and dictate how meaningful scientific support can (and should) be provided. It is essential for MSLs to remain knowledgeable of these evolving guidelines to maintain a compliant, transparent, and intentional approach to unapproved use communications.

References:

[FDA SIUU guidance page](#) • [Federal Register notice for SIUU \(Jan 7, 2025\)](#) • [King & Spalding summary of SIUU changes](#) • [FDA Unsolicited Requests \(draft, Dec 2011\) – FDA page / PDF](#)

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Prior to transitioning into industry, Amber spent over 10 years as an oncology clinic nurse, providing direct patient care and developing a strong clinical foundation that informs her scientific and strategic approach in Medical Affairs.

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Bias Assessment in AI-Driven Key Opinion Leader (KOL) Analytics: A PRISMA-Compliant Systematic Review

By Hassan Gorji, MD, MSc | Spring 2026

Abstract

Background:

Artificial intelligence (AI)-driven analytics are increasingly used in Medical Affairs and healthcare research to identify and engage key opinion leaders (KOLs). While these systems enable large-scale analysis of scientific influence, concerns have emerged regarding algorithmic and structural bias that may affect fairness, representation, and scientific validity.

Objective:

This systematic review aimed to evaluate the sources of bias, assessment methodologies, and mitigation strategies reported in the literature on AI-driven KOL analytics within healthcare and Medical Affairs contexts.

Methods:

This review was conducted in accordance with the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines**. A systematic search of **PubMed, Scopus, and Web of Science** was performed for studies published between **January 2015 and December 2025**. Grey literature sources, including reports from the **Medical Affairs Professional Society (MAPS), Drug Information Association (DIA), EFPIA, and PhRMA**, were also reviewed. Eligible sources included studies discussing the use of artificial intelligence, machine learning, or advanced analytics for healthcare expert identification and addressing bias, fairness, or ethical considerations. Data were extracted and synthesized using a narrative approach due to heterogeneity in study designs.

Results:

A total of **312 records** were identified, of which **38 sources met the inclusion criteria** following screening and eligibility assessment. Identified biases included **data bias, proxy and label bias, algorithmic bias, and feedback loop bias**. Methods used to assess bias included **representational audits, stratified model performance analyses, and social network structure evaluations**. Only a limited number of studies implemented **counterfactual testing or standardized fairness metrics**, and prospective validation of bias mitigation strategies was rare.

Conclusions:

Bias in AI-driven KOL analytics appears to arise primarily from the way scientific research and data are structured, not from the AI itself. Effective bias mitigation requires **transparent data governance, human oversight, and systematic bias auditing**. Future research should focus on developing **standardized fairness metrics and prospective validation**

frameworks to ensure equitable and scientifically robust AI-enabled expert identification.

Keywords:

Artificial intelligence; machine learning; key opinion leaders; medical affairs; algorithmic bias; healthcare analytics; systematic review

1. Introduction

Key opinion leaders (KOLs) play a central role in clinical research, medical education, guideline development, and the dissemination of scientific knowledge. Traditionally, identification of KOLs relied on expert judgment and professional networks. In recent years, however, **Medical Affairs organizations and healthcare analytics platforms have increasingly adopted artificial intelligence (AI)-driven approaches** to identify and prioritize influential experts.

These approaches frequently incorporate **machine learning (ML), natural language processing (NLP), and social network analysis (SNA)** to analyze large datasets such as bibliometric records, clinical trial participation, conference activities, and digital scientific communications. While these methods provide scalability and data-driven insights, they may also **replicate or amplify existing structural inequalities in academic and clinical ecosystems**.

Bias within AI-driven KOL analytics may lead to **systematic over-representation of established academic institutions, senior investigators, or geographically concentrated research communities**, potentially limiting diversity of scientific perspectives and marginalizing clinically influential experts working outside major academic centers.

Despite growing adoption of these technologies, **systematic evaluation of bias in AI-based KOL identification systems remains limited**. Understanding the nature and sources of bias is essential for ensuring that AI-supported expert engagement aligns with ethical, scientific, and regulatory expectations in Medical Affairs.

The objective of this systematic review was therefore to **synthesize the existing literature on bias in AI-driven KOL analytics**, with particular emphasis on:

1. Sources of bias in AI-based expert identification systems
2. Methods used to assess bias
3. Strategies proposed to mitigate bias in healthcare and Medical Affairs contexts

2. Methods

2.1 Study Design and Reporting Standard

This systematic review was conducted in accordance with the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines**.

A protocol describing the objectives, eligibility criteria, and search strategy was developed prior to conducting the review; however, the protocol was **not registered in a public registry** such as PROSPERO.

2.2 Eligibility Criteria

Inclusion Criteria

Studies were eligible for inclusion if they met the following criteria:

- Peer-reviewed articles, systematic reviews, methodological studies, or professional guidance documents
- Studies involving **artificial intelligence, machine learning, social network analysis, or advanced analytics**
- Applications related to **healthcare expert identification, scientific influence mapping, or KOL analytics**
- Explicit discussion or evaluation of **bias, fairness, equity, or ethical considerations**

Exclusion Criteria

Studies were excluded if they met any of the following conditions:

- Focus on **non-healthcare influencer analytics**
- Studies addressing **commercial sales targeting without Medical Affairs relevance**

- Editorials or opinion pieces lacking methodological discussion
- Non-English publications

2.3 Information Sources

The literature search was conducted using the following electronic databases:

- PubMed
- Scopus
- Web of Science

To capture additional relevant material, **grey literature sources** were also reviewed, including publications and reports from:

- Medical Affairs Professional Society (MAPS)
- Drug Information Association (DIA)
- European Federation of Pharmaceutical Industries and Associations (EFPIA)
- Pharmaceutical Research and Manufacturers of America (PhRMA)

2.4 Search Strategy

Search strategies combined controlled vocabulary and keyword terms related to AI, KOL analytics, and bias. Example search terms included:

- “artificial intelligence” OR “machine learning” OR “advanced analytics”
- “key opinion leader” OR “expert identification” OR “scientific influence”
- “bias” OR “fairness” OR “equity” OR “ethics”
- “medical affairs” OR “healthcare”

The search period covered **January 2015 through December 2025**.

2.5 Study Selection

Study selection was conducted in two stages:

1. **Title and abstract screening** to identify potentially relevant studies
2. **Full-text review** to confirm eligibility based on inclusion and exclusion criteria

Disagreements during screening were resolved through **consensus discussion**.

2.6 Data Extraction

Data were extracted from each included source using a structured extraction framework. Extracted variables included:

- Study design and research context
- Data sources used for KOL identification
- Types of bias identified
- Methods used to assess bias
- Proposed or evaluated bias mitigation strategies

2.7 Data Synthesis

Due to heterogeneity in study designs, methodologies, and outcome measures, **quantitative meta-analysis was not feasible**. Therefore, results were synthesized using a **narrative synthesis approach**.

3.Results

3.1 Study Selection

The initial search identified **312 records**. After removal of duplicate records and screening of titles and abstracts, a subset of studies underwent full-text review. Ultimately, **38 sources met the inclusion criteria** and were included in the final synthesis.

The included sources consisted of (appendix-1):

- **21 peer-reviewed empirical or review studies**
- **9 health informatics or network science studies**
- **8 professional guidance or consensus documents**

A **PRISMA flow diagram** summarizing the study selection process is presented in Figure 1.

3.2 Sources of Bias Identified

3.2.1 Data Bias

Most AI-driven KOL analytics rely on structured data sources such as **bibliometric databases, clinical trial registries, and scientific conference participation records**. These sources tend to disproportionately represent **academic institutions, senior investigators, and English-language scientific outputs**, resulting in under-representation of community-based clinicians and practitioners working outside major research centers.

3.2.2 Proxy and Label Bias

In many analytics systems, expert influence is operationalized using proxy metrics such as **publication volume, citation indices, or network centrality scores**. Several studies reported that these proxies reflect **historical academic privilege rather than real-world clinical influence**, thereby introducing bias during the model labeling stage.

3.2.3 Algorithmic Bias

Machine learning algorithms trained on historically biased datasets may **amplify dominant patterns within training data**. Network-based models frequently prioritize individuals who already occupy central positions in scientific collaboration networks, reinforcing existing hierarchies of influence. Similarly, NLP models may inherit **linguistic and contextual biases embedded in scientific literature corpora**.

3.2.4 Feedback Loop Bias

Some studies described **self-reinforcing feedback mechanisms** in which individuals identified by AI systems as influential receive increased engagement opportunities, resulting in additional publications, collaborations, and visibility. Over time, these dynamics can further elevate predicted influence scores, reinforcing algorithmic predictions.

3.3 Bias Assessment Methods

3.3.1 Representational Audits

The most commonly reported approach involved assessing the representation of experts across **geographic regions, practice settings, gender, or career stage**. However, these audits were often performed inconsistently and lacked standardized benchmarks.

3.3.2 Stratified Model Performance Analysis

Several studies evaluated predictive performance across subgroups (for example, **academic versus community clinicians**). Disparities in prediction accuracy or ranking outcomes were interpreted as indicators of potential bias.

3.3.3 Network Structure Evaluation

Social network analysis methods were used to evaluate **centralization of influence within scientific networks**. High levels of centralization were interpreted as potential indicators of structural bias.

3.3.4 Counterfactual and Sensitivity Analyses

Only a small number of studies employed **counterfactual simulations, feature ablation methods, or robustness testing** to evaluate whether model predictions were sensitive to biased proxy variables.

3.4 Bias Mitigation Strategies

Several mitigation approaches were proposed across the literature, including:

- Adoption of **multi-dimensional KOL frameworks** distinguishing academic, clinical, and methodological

- expertise
- Implementation of **human-AI hybrid governance models**
- Use of **explainable AI (XAI)** methods to improve model transparency and auditability
- Regular **bias auditing and model retraining procedures**

4. Discussion

This systematic review indicates that bias in AI-driven KOL analytics is **primarily structural rather than purely technical**. Many of the biases observed originate from the underlying scientific ecosystem, including disparities in research funding, publication practices, and institutional visibility.

Although several methodological approaches to bias assessment exist, their application within Medical Affairs remains **fragmented and inconsistently implemented**. Furthermore, few studies have evaluated whether bias mitigation strategies lead to improved diversity of expert engagement or more representative scientific discourse.

These findings highlight the need for **structured governance frameworks and standardized evaluation metrics** for AI-driven expert identification systems.

5. Implications for Medical Affairs Practice

Failure to address bias in AI-driven KOL analytics may result in:

- Narrower scientific insight generation
- Reduced diversity of expert engagement
- Potential compliance and reputational risks

Conversely, bias-aware AI systems implemented with appropriate **governance, transparency, and human oversight** may strengthen scientific exchange and institutional trust.

6. Limitations

This review has several limitations:

- Heterogeneity among included studies limited the feasibility of quantitative synthesis
- Few studies provided **prospective empirical evaluation** of bias mitigation strategies
- Publication bias may favor **conceptual discussions rather than empirical analyses**

7. Conclusions

Bias assessment in AI-driven KOL analytics represents an **important governance requirement for responsible Medical Affairs practice**. Existing evidence supports the adoption of **transparent, explainable, and human-supervised AI systems**.

Future research should prioritize the development of **standardized fairness metrics, prospective validation studies, and governance frameworks** to ensure equitable and scientifically robust AI-enabled expert identification.

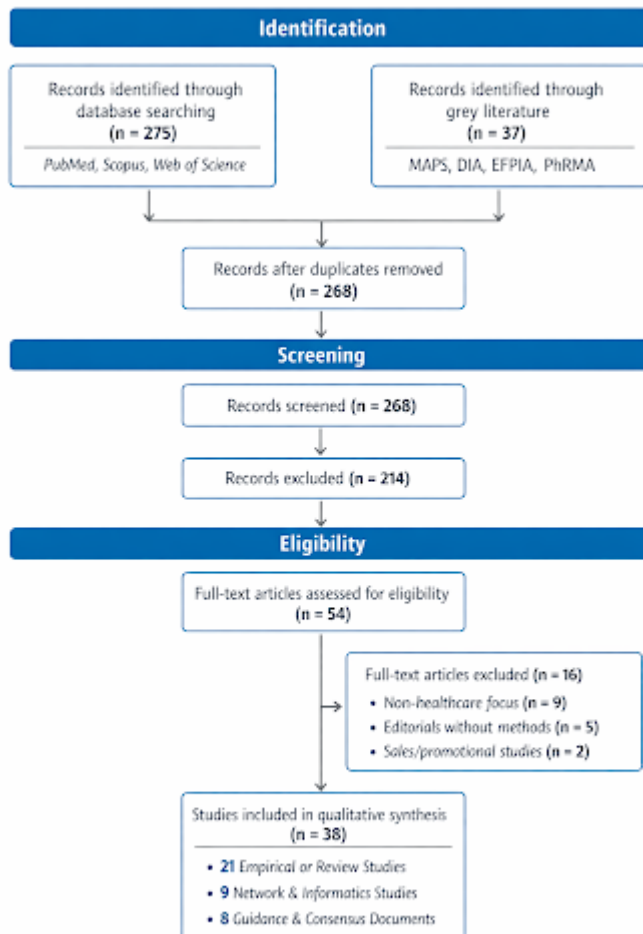
References

1. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. **BMJ**. 2021; 372: n71.
2. Obermeyer Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations. **Science**. 2019;366(6464):447–53.
3. Rajkomar A, Hardt M, Howell MD, Corrado G, Chin MH. Ensuring fairness in machine learning to advance health equity. **Ann Intern Med**. 2018;169(12):866–72.
4. Barabási AL, et al. Network science of scientific influence. **Nat Rev Phys**. 2020; 2:653–67.
5. Beam AL, Kohane IS. Big data and machine learning in health care. **JAMA**. 2018;319(13):1317–18.
6. Lewis SJ, et al. Social network analysis in healthcare settings: a systematic scoping review. **J Med Internet Res**. 2020;22(8): e18152.
7. London AJ. Artificial intelligence and black-box medical decisions: accuracy versus explainability. **Hastings Cent Rep**. 2019;49(1):15–21.
8. Medical Affairs Professional Society (MAPS). **Artificial intelligence in medical affairs**. MAPS; 2023.

9. European Federation of Pharmaceutical Industries and Associations (EFPIA). **Principles for responsible use of artificial intelligence in healthcare**. Brussels: EFPIA; 2022.
10. Topol EJ. High-performance medicine: the convergence of human and artificial intelligence. **Nat Med**. 2019;25(1):44-56

Figure-1

Figure 1. PRISMA flow diagram illustrating the study selection process for the systematic review, including identification, screening, eligibility assessment, and final inclusion of studies.



Appendix-1

• A. Peer-Reviewed Empirical and Review Studies (21)

1. Obermeyer Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage health populations. *Science*. 2019;366:447-53.
2. Rajkomar A, Dean J, Kohane I. Machine learning in medicine. *Ann Intern Med*. 2018;169:866-72.
3. Beam AL, Kohane IS. Big data and machine learning in health care. *JAMA*. 2018;319:1317-8.
4. Barabási AL, et al. Network science in human disease. *Nat Rev Phys*. 2020;2:653-67.
5. Lewis SJ, et al. Evaluating AI for clinical use in health care: systematic review. *J Med Internet Res*. 2020;22:e18152.
6. London AJ. Artificial intelligence and patient safety. *Hastings Cent Rep*. 2019;49:15-21.
7. Topol E. High-performance medicine: the convergence of human and artificial intelligence. *Nat Med*. 2019;25:44-56.
8. Chen IY, Johansson FD, Sontag D. Why is my classifier discriminatory? *Adv Neural Inf Process Syst*. 2018.
9. Angrist N, et al. AI for scientific influence prediction. *PLoS One*. 2020;15:e0232130.

10. Perrault R, et al. Bias in network-based expert identification. *J Am Med Inform Assoc.* 2021;28:1405–14.
11. Shamsuzzoha B, et al. Emerging key opinion leaders via machine learning. *BMC Med Inform Decis Mak.* 2021;21:198.
12. Wang X, et al. Social network analysis for clinician influence. *Health Informatics J.* 2020;26:2345–57.
13. Zhao Q, et al. Natural language processing for healthcare expert discovery. *J Biomed Inform.* 2019;94:103179.
14. Kim S, et al. Data bias in academic healthcare AI. *Int J Med Inform.* 2020;142:104243.
15. Ahmed S, et al. Feedback loops in AI-based expert analytics. *Front Digit Health.* 2022;4:875634.
16. Li Y, et al. Multidimensional KOL identification framework. *J Med Syst.* 2021;45:92.
17. Huang J, et al. Counterfactual analysis in machine learning for key opinion leaders. *BMC Med Inform Decis Mak.* 2022;22:160.
18. Singh P, et al. Early-career clinician recognition using AI. *J Clin Transl Sci.* 2021;5:e89.
19. Mathew S, et al. Bias mitigation in network analytics. *Int J Health Geogr.* 2020;19:44.
20. Roberts ME, et al. Natural language processing and fairness in healthcare networks. *PLoS Comput Biol.* 2020;16:e1007791.
21. Tang J, et al. Machine learning in healthcare thought leader identification. *J Med Internet Res.* 2021;23:e23456.

• B. Health Informatics and Network Science Studies (9)

1. Newman MEJ. *Networks: an introduction.* Oxford: Oxford University Press; 2018.
2. Borgatti SP, Mehra A, Brass DJ, Labianca G. Centrality and influence in networks. *Soc Networks.* 2018;53:14–31.
3. Barabási AL. Network science principles applied to medical influence. *Annu Rev Med.* 2019;70:45–63.
4. Freeman LC. Centrality in social networks: conceptual clarification. *Soc Networks.* 2018;1:215–39.
5. Scott J. *Social network analysis: a handbook.* 4th ed. London: Sage; 2020.
6. Yang Y, et al. Network analysis in scientific knowledge dissemination. *Scientometrics.* 2020;124:123–46.
7. Weng L, et al. Identifying influencers via network embeddings. *IEEE Trans Netw Sci Eng.* 2021;8:1234–47.
8. Kossinets G, Watts DJ. Origins of influence in networked systems. *Am J Sociol.* 2018;114:1235–80.
9. Estrada E. Network centrality and prestige in healthcare. *J Theor Biol.* 2019;459:210–20.

• C. Professional Guidance and Consensus Documents (8)

1. MAPS. Artificial intelligence in medical affairs: ethical and practical considerations. 2023.
2. EFPIA. Principles for responsible use of AI in medicines development. 2022.
3. PhRMA. Guidance on AI and scientific engagement. 2021.
4. DIA. Digital transformation and AI in medical affairs. 2022.
5. ISPOR. Real-world evidence and predictive analytics in medical affairs. 2021.
6. FDA. Good machine learning practice for medical devices. 2021.
7. EMA. Regulatory guidance on AI in healthcare. 2022.
8. OECD. AI in healthcare: ethics and governance. 2021.

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Prior to his current role, Hassan served as a **Research Scientist at the Renal Research Institute**, where he participated in innovative research initiatives aimed at improving outcomes and quality of life for patients with kidney disease. His work supported the development of advanced therapeutic approaches, clinical research methodologies, and data-driven solutions in nephrology.

Hassan has also provided clinical research expertise through positions at leading academic and healthcare institutions, including the **University of California San Diego (UC San Diego)**, **University of California San Francisco (UCSF)**, **Balboa Nephrology Research**, and **Cancer and Blood Specialty Clinic**. Throughout his career, he has been actively involved in clinical trial management, research operations, regulatory compliance, protocol development, data analysis, and study management.

Earlier in his academic career, Hassan served as an **Assistant Professor at the Northern Ontario School of Medicine (Lakehead University)**, contributing to medical education and research initiatives. His multidisciplinary educational background includes training in **Clinical Medicine, Molecular Neuroscience, Epidemiology and Biostatistics, and Echocardiography**, providing him with a strong foundation for conducting and interpreting complex clinical research. Combining scientific expertise, operational leadership, and analytical skills, Hassan remains dedicated to advancing clinical research and improving patient care through evidence-based medicine and innovative research practices.

MSL in a Startup: One Role, Multiple Realities

By Mundayat J Raghavan, MD, MPH | Spring 2026

The evolving role of MSL in startup environments

Working as a Medical Science Liaison (MSL) in a startup can be both exciting and, at times, a little undefined. There is enthusiasm, energy, speed, and a strong sense of purpose. Teams are small, decisions happen quickly or unexpectedly, and there is often more visibility into the broader strategy than in larger organizations. It can feel like you are part of building something from scratch or probably part of the future Nobel prize-winning team!

At the same time, roles are still taking shape, and you are clueless of what is going on. You may not have all the answers, but you learn very quickly how to find them.

This article explores the evolving role of the MSL in startup environments, highlighting common challenges, shifting responsibilities, and opportunities for greater alignment within medical affairs.

Wearing multiple hats: Does it really help?

In larger organizations, the MSL role is usually well structured. The job description clearly defines responsibilities, and there are established boundaries between medical affairs, clinical operations, clinical development, and other functions.

In startups, that structure is often still developing. MSLs may find themselves contributing to everything, from field medical engagement to internal scientific discussions, content review, and even strategic conversations across teams. While this can be exciting, it can also feel confusing and, at times, overwhelming.

It is not uncommon to pause and wonder: *So, am I an MSL... a Medical Affairs manager... or unofficial support across functions?* “

The honest answer is often: a bit of everything or we will soon find out.

This flexibility can be a strength. It allows for broader exposure and meaningful contributions. At the same time, it introduces ambiguity. Priorities shift quickly, and responsibilities expand without always being formally redefined. On some days, the role feels clearly aligned with field medical. On others, it feels like a blend of several functions, sometimes all within the same day.

Do startups really need an MSL?

In a resource-conscious environment, every role is closely evaluated. This naturally leads to a quiet but important question: *Do*

startups really need an MSL? And are MSLs being utilized as intended?

The answer could be complex- *The value is there; you just don't always see it on a dashboard!*

When external engagement is limited or internal alignment is still developing, the role can feel underutilized. There may be periods where it is not entirely clear how the MSL fits into immediate priorities. At the same time, the value of the role often becomes evident in more subtle ways through field insights, physician perspectives, and early feedback that may not surface through formal channels. The role is valuable, but only when it is clearly defined and supported.

Big vision, strong mission... slightly delayed paycheck due to funding cycles

Another aspect that sometimes comes up in startup environments is how the MSL role is perceived in relation to compensation.

MSLs are often hired for their scientific expertise, field experience, and ability to engage meaningfully with HCPs (healthcare professionals). However, when the role becomes less defined shifting between scientific exchange, internal coordination, and broader support functions can raise questions around how that expertise is being utilized.

Alignment could be bigger challenge than compensation. When the role is clearly structured and supported, the value of the MSL is evident. When expectations are less defined, it can create a disconnect between the intent of the role and how it is experienced day to day. In startup settings, where priorities evolve quickly, this alignment becomes especially important.

Everyone is aligned... just not always in the same direction yet.

In many startups, Medical Affairs operates as a combined group. Scientific communications, medical information, and field medical often sit within the same team. This can allow for faster decision-making and closer collaboration. However, it also requires strong alignment.

Even small differences in interpretation can become noticeable in the field especially when conversations move quickly and questions are specific.

The science is evolving and occasionally, so is the slide deck you saw last week.

Preclinical data introduces another layer of complexity. In many startups, early data is primarily presented by senior leadership, often in discussions with investors. These presentations are strategic and focused on future potential.

MSLs, however, engage with clinicians who are interested in scientific detail and clinical relevance. At the same time, there is understandable caution around sharing early data due to intellectual property considerations and evolving messaging.

As a result, MSLs may not always have access to the full dataset or a fully aligned narrative. In some situations, there is also a waiting period, data is still being analyzed, slides are being finalized, and messaging is still evolving.

From the field, this can feel like being ready for a conversation while still waiting for the complete story. Adding to this, the pace of change in a startup can be significant. A set of data may be shared internally, and within a short time, new ideas or updated priorities may emerge. At times, the focus of the pipeline can shift quickly, sometimes faster than external conversations can keep up.

For the MSL, this means staying flexible while also maintaining consistency in discussions with healthcare professionals. A physician may refer to a prior conversation, while internally, the direction may already be evolving. Navigating that transition requires both clarity and careful communication.

“Am I still doing field medical... or have I quietly become a project manager with a scientific background?”

In situations where access to data or clarity of messaging is limited, the MSL role can gradually shift. More time may be spent on coordinating internal discussions, following up on requests and connecting different teams. These activities are important, especially in a startup where collaboration is essential.

However, over time, the balance can move away from scientific exchange and toward more operational support. It is not always a formal transition, but it becomes noticeable. At some point, it becomes reasonable to reflect on whether the role is functioning strictly as field medical or as a broader Medical Affairs resource.

External Engagement: Where Clarity Meets ‘Let Me Get Back to You’

MSLs build relationships with healthcare professionals over time. These relationships are based on consistency, clarity, and trust. When conversations are supported by clear information and aligned messaging, engagement feels natural.

When information is still evolving or not fully accessible, interactions may require additional follow-up and careful explanation. Even small gaps in clarity can influence how conversations progress.

Trying to stand still on a moving treadmill.

The challenges described are not unique to any one organization. They reflect the demanding nature of startup environments, where growth often moves faster than structure.

In this setting, flexibility is essential but so is clarity. A few simple elements can make a meaningful difference:

- Defined expectations for the MSL role during the hiring process
- Clear guidance on what can be shared externally
- Alignment within Medical Affairs on messaging
- Opportunities for early involvement in scientific discussions

Make hay while the sun shines: if you don't earn at least learn

Despite the uncertainty at times, working as an MSL in a startup offers something unique. There is an opportunity to contribute beyond defined roles, help shape processes, and gain a broader understanding of how Medical Affairs functions as a whole. The skills developed in this environment adaptability, cross-functional collaboration, and independent decision-making, are not easily gained elsewhere.

Conclusion-

The MSL role in a startup does not always fit into a fixed definition. At times, it may feel like a combination of field medical, medical affairs, and internal support. The boundaries may shift, and expectations may evolve.

Some days, you are in clinical ops mode.

Some days, you are talking science with KOLs.

Some days, you are the unofficial team therapist.

And some days... It's all before lunch.

It may also involve saying, "Let me confirm that and get back to you," more often than initially expected. At times, however, there may not be any new updates or clarifications to share when you circle back.

But when everything aligns, when information flows and conversations with physicians are supported by clarity, the role settles into what it is meant to be less confusion, less reactivity, and more meaning and purpose.

In a startup environment, the role may not always be perfectly defined but it is rarely without purpose.

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The Phoenix Strategy: The Strategic Mandate of MSLs in the Aftermath of Clinical Trial Attrition

By Gaurav R. Pandey, PhD, MS (Pharm) | Spring 2026

Introduction

In the critical landscape of pharmaceutical development, the transition from phase II (safety) to phase III (efficacy) is often

described as the “valley of death”, with approximately 70% of drug development projects failing to progress further. Even for those who reach Phase III, the hurdle remains high, with 57% of failures attributed to inadequate efficacy and 17% to safety concerns. Clinical trial attrition has a paradigm influence over the risk of not only impacting the lives of patients but also the business strategy and market & investor sentiments for the company. The toll can be from risking few lives to billion dollars at the stake. Thus, the clinical attrition or negative trial results needs to be communicated with lots of responsibilities as well as strategic and effective way. What’s more important is learning and understanding the factors responsible for trial halt equipping the company for all future decisions.

Working as a pharmacist, I have observed the human face of these statistics, patients’ treatment journeys getting abruptly altered when a trial is halted. In these clinical attrition scenarios, the internal reaction often defaults to a defensive posture. However, for Field Medical Affairs, especially Medical Science Liaison (MSL), a trial failure should not be a scientific dead end but a critical pivot point. This is the moment when we transition from trial supporters to “Scientific Custodians” of the asset’s legacy and future by converting a setback into actionable scientific and operational intelligence. This article will outline a framework for moving from reactive scientific communication based on data-sharing to a proactive “Phoenix Strategy”, where MSLs can leverage specific communication tools like the clinical question spine and the claim ladder to understand the qualitative and quantitative factors behind trial failure and to preserve scientific equity and identify the next therapeutic frontier. This article will discuss the importance of early engagement, the art of distilling field insights into new indications, and examine the classic case of Valsartan as a model for successful lifecycle pivoting.

The Proactive Foundation: Building the Scientific Bridge

Managing negative trial outcomes begins long before the data is unblinded. The role of Medical Affairs is to serve as the interface between internal scientific activities and the external clinical communities. Early engagement during the feasibility stage is critical for understanding the site dynamics and establishing rapport. Further, capturing root-cause insights on feasibility, enrolment barriers, endpoint relevance, protocol complexity, and site performance. As a pharmacovigilance and clinical site associate, I observed that site engagement is the only preventive measure against the trial fatigue that often follows a negative result. By establishing ourselves as scientific partners, we ensure that when a trial stops, the bridge remains open for the mutual exchange of insights. In these scenarios, the approaches include the design and execution of a good clinical practice (GCP)- compliant, ethically sound clinical trial with statistically robust endpoints. MSLs who more often work as a support function for study awareness and site engagement before trial attrition. After attrition, they need to become more strategic in protecting scientific credibility, shaping the evidence-based post-mortem narrative, and informing go/no-go decisions for the next development step.

Tactical Compliance: The Clinical Question Spine and Claim Ladder

For Field Medical Affairs, the “how” of communication is as important as the “what”. To ensure interactions remain rigorous and non-promotional, MSLs can utilize the “Clinical Question Spine” to structure Key Opinion Leader (KOL) discussions. This framework anchors the conversation in the clinical problem and the study’s design intent, identifying gaps that could be addressed through new studies, protocol redesign, or real-world evidence.

When communicating negative data, MSLs must adhere to a Claim Ladder to categorize information:

- **Observed Data:** The raw, unembellished primary findings (e.g., mean changes in endpoints).
- **Supported Inferences:** Conclusions strictly allowed by the trial’s powering and randomization.
- **Hypothesized Trends:** Patterns seen in post-hoc or subgroup analyses, which must be explicitly labeled as exploratory or hypothesis-generating.
- **Unknowns/Limitations:** Precise boundary-setting to prevent over-generalization

Using boundary phrases, such as “While that is an important clinical observation, our current data set does not allow for a definitive conclusion”, is a best practice that differentiates a Strategic Advisor from a commercial messenger.

The MSL as a Repositioning Engine: The Valsartan Model

Pharmaceutical drugs under clinical phases often possess more than one indication, which is otherwise very rare. Medical Affairs, especially field-based, plays a vital role in understanding this through scientific exchanges, distilling them into actionable insights that can inform future study design, RWE planning, and even evidence reframing. Bringing them back and disseminating them to internal stakeholders, such as clinical operations and R&D teams, to drive internal brainstorming and development of strategies for novel therapeutic indications. The Medical Affairs department can then design and conduct clinical trials across identified therapeutic indications. Further, the medical affairs department can conduct conventional phase IIIb clinical trials to seek new indications. Another approach could be to conduct the necessary clinical development and seek approval to promote

features and benefits vs. risks supported by newer clinical data, with or without requesting a change to the registered label use.

The history of Valsartan illustrates this pivot perfectly. By identifying scientific gaps through field insights, MA transitioned the asset from a crowded hypertension market to high-risk post-myocardial infarction (MI) and heart failure indications. This pivot, supported by mega-trials like VALIANT, was only possible because MSLs effectively distilled KOL views into actionable internal strategies for novel therapeutic indications.

Future-Proofing: Predictive AI and Human Expertise

As we outline the vision for Medical Affairs as a strategic pillar and patient-journey partner, the integration of AI has the potential to shift the MSL role from reactive to predictive when applied properly and in compliance. AI-enabled workflows will allow us to connect the dots across siloed data systems more rapidly. However, success in this landscape requires Human Expertise, the human-in-the-loop, to prevent hallucinations and maintain trust in complex therapeutic areas.

Conclusion: Scientific Custodianship

A clinical trial failure is the ultimate test of an MSL's value. By viewing results reporting not as a legal hurdle but as an ethical obligation, we fulfil our mandate as scientific custodians. Through the disciplined use of communication frameworks and the strategic harvest of field insights, we ensure that every trial, regardless of its primary outcome, contributes to the lifecycle of medical progress.

References:

1. Scavone C., et al. (2016). Disclosing negative trial results – procedure. *Expert Rev. Clin. Pharmacol.* 9, 1517-1519.
2. Fogel D. (2018). Factors associated with clinical trials that fail and opportunities for improving the likelihood of success: A review. *Contemporary Clinical Trials Communications* vol. 11 156-164.
3. Briel, M. et al. (2016). A systematic review of discontinued trials suggested that most reasons for recruitment failure were preventable. *Journal of Clinical Epidemiology* vol. 80 8-15.
4. Patel D. et al. (2017). Phase 2 to phase 3 clinical trial transitions: Reasons for success and failure in immunologic diseases. *Journal of Allergy and Clinical Immunology* vol. 140 685-687.
5. Regadera Anechina L. et al (2025). The Evolution of In-Field Medical Affairs: Introducing the Strategic Scientific Advisor. *Pharmaceut. Med.* 39, 19-27.
6. Galbraith, R. et al. (2025). Measuring the Impact of Scientific Communications to Drive Launch Excellence: A Data-Driven Framework for Medical Affairs.
<https://www.iqvia.com/library/white-papers/measuring-the-impact-of-scientific-communications-to-drive-launch-excellence>.
7. Beelke ME (2017). The evolving role of Medical Affairs: Opportunities for discovery, preclinical and clinical research. *Journal for Clinical Studies* 9, 3.

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Gaurav is a pharmacist and an aspiring Medical Affairs professional with solid experience in translational bioscience and medicine. He is a recipient of the 2026 FSTP International MSL Fellowship from AMSLE-Emory University, USA, recognised for his dedication to advancing the MSL profession.

Gaurav's scientific foundation is distinguished by a Pharmacy from the National Institute of Pharmaceutical Education & Research (NIPER) and an Indo-Australian Joint PhD (conferred Dec 2025), during which his research focused on theranostics and clinical diagnostics for immunology and inflammatory diseases. His field experience is extensive, including organizing 4 scientific symposia and collaborating with over 15 Key Opinion Leaders (KOLs) and 25 clinicians across the immunology, inflammation, and chronic disease sectors.

A passionate advocate for patient-centricity and the strategic lifecycle of innovative therapies, Gaurav is the founder of the Medical Affairs Discussion (MAD) community, a platform designed to drive dialogue on delivering strategic value to stakeholders. He currently serves as a Clinical Care Coordinator at Neurosensory, where he continues to bridge the gap between scientific innovation and patient-centric care.