Real Content Integrity & Artificial Intelligence:
The Evolving Role of Medical Review in Digital Transformation
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Abstract
As pressure mounts to accelerate content delivery and explore the possible use of Artificial Intelligence (AI), Medical Affairs organizations are examining how digital transformation intersects with existing medical review processes. A recurring question is whether and how organizations are viewing digital transformation efforts alongside existing medical review models.

Organizations expect medical review to function as a strategic capability, yet many experience it as a fragmented or downstream process, creating challenges related to consistency, resourcing, and leadership burden. Before AI can meaningfully enhance review workflows, organizations are grappling with how, or if, AI can effectively support medical review.

This discussion explored how organizations position medical review today and what role it plays in enabling responsible innovation. Drawing on participants real-world experience and peer-to-peer dialogue, participants shared what works, what doesn't, and how they are navigating the balance between innovation, scientific rigor, and regulatory accountability.

Participants brought diverse perspectives shaped by decades of experience across multiple organizations, highlighting the variability in how the industry structures, executes, and values medical review.

While best practices are emerging, many organizations are still navigating the gap between ideal-state medical-review models and real-world operational constraints.

Objectives were:

- To gain perspective on how medical review is being positioned within digital transformation efforts.
- To generate peer discussion around common challenges, operating models, and realities of medical review in today's regulatory environment.
- To explore real-world perspectives on the role and limitations of Artificial Intelligence in supporting medical review workflows.

Executive Summary

- Canopy conducted this session to validate what needs to be true if advanced technologies are to bring added value to the Medical Legal Regulatory (MLR) process and, more specifically, to medical review.
- We grounded the session in establishing how the current positioning of medical review can facilitate improvements through digital transformation, or Artificial Intelligence more directly.
- Operational realities of MLR review and growing complexities of content management are barriers to AI adoption.
- At the same time, participants identified a clear need to maximize the value of their time through quality control and reduced manual effort.
- For technology and, more specifically, Artificial Intelligence to positively impact medical review or MLR broadly, it needs to offer real value to the human reviewers accountable for the process.

Model for Discussion

Defining the Problem -> What Possible Solutions Exist -> What, If Any, Recommendation Could Drive Improvement

Defining the Problem

Medical, Legal, and Regulatory (MLR) review is a collaborative review process designed to ensure medical and commercial messaging is scientifically supported, adherent to relevant regulations, and in line with corporate risk tolerance. Under ideal conditions, MLR teams operating with well-aligned workflows, healthy collaboration, and clear communication priorities get efficient, high-quality communication to HCPs, patients, and caregivers.

In practice, MLR teams and our medical review colleagues share a set of common barriers:

Right Person, Right Role, Wrong Skill Set
Medical Directors, recruited for their clinical acumen and therapeutic expertise, may have a knack for collaboration and content review, but the truth is that most of them aren't excited by this type of work – no matter how objectively important it is. A lack of real training or mentorship focused on medical review and its associated regulations tends to increase the general dread. Becoming truly accomplished at medical review requires above-average commitment, especially in a resource-constrained environment.

Version (Out of) Control:
A lack of version control is remarkably effective at creating rework for medical review and everyone involved in the content process. Even the best Standard Operating Procedures (SOPs) struggle to kill this issue root and branch.

It's human nature: Content owners typically begin the process using the most familiar or easily accessible version. That version may or may not capture nuances in the previously approved version, reintroducing previously litigated issues.

For example, one Advisor noted that internal analysis found that approximately **60%** of materials in circulation required reassessment or retirement, yet no systematic process existed to identify or act on them.

Some of this frustration can be offset with exceptional version hygiene. But even if the piece itself hasn't changed *at all* from the previously approved version, regulatory interpretations, corporate risk tolerance, and reviewer outlook almost certainly will have.

Like Sisyphus rolling the boulder back up the hill, reviewers typically have little choice but to start over and review the piece in its entirety.

Roads? Where We're Going, We ~~Don't~~ Need Roads
As investment continues to fuel commercial activation and the expectation for content grows, governance processes like MLR have received no additional resourcing and little time to adapt SOPs for expectations that didn't exist even a few years ago. As a result, medical review and MLR teams are forced to build processes without a road map. For example:

- Feedback from one review cycle to the next was never reliably carried over to related or derivative materials. The expanding matrix of channels, messages, ad units, audiences, and creative support needed to harmonize modern go-to-market executions has created infinitely more opportunities for the process to break down.

- Several Advisors noted meaningful differences between US and international/affiliate structures, with smaller markets often relying on a single reviewer for all material types — creating a prioritization burden with no clear resolution.

- Solutions that only work on paper. Claims documents and libraries are great in theory, but they don't address the root issue: Does the context support the use of this claim? Does the language used accurately reflect the approved claim and supporting data?

What Possible Solutions Exist

As experts in their field, Advisors cited multiple excellent reasons why the MLR review process defies easy automation and highlighted the obvious issues with overreliance on Artificial Intelligence. Compliance is contingent on accountability, which requires human oversight. Regulators can't hold an application accountable for violations any more than attorneys could hold a car accountable for a crash.

To that point, a recurring theme was the balance between leveraging automation and preserving the scientific judgment required for high-quality medical review. With those considerations out of the way, the advisory group identified two key opportunities for technology to add value to the MLR review process:

Improving the Quality of Content Submissions

Given multiple iterations, overlapping use cases, matrixed project owners and agencies, and changing outlooks over time, it is incredibly common for reviewers to receive low-quality submissions. For example:

- Low-effort content that anticipates reviewers will "fill in the blanks" in terms of strategic alignment, parent-child relationships, adequate reference support, and even brand standards.
- Unsupported content, particularly in the creative concept phase. This tends to occur when new project owners or agency partners are not thoroughly onboarded.

  (Both examples above are very common "hurry up and wait" outcomes in which skipped steps earlier in the pre-submission process have a significant downstream impact on review teams.)
- Content that was formerly approved but is now being proposed in a new context, requiring a reexamination of the supporting data – essentially starting over. As one Advisor shared, even when source materials have already been reviewed and approved, minor adaptations for a different market, format, or audience can trigger a full re-review cycle.

➢ **Takeaway:** Improving the objective quality standard for a given piece of content ***before*** human review would dramatically reduce manual discovery and effort needed in the scenarios described above. It would also arm reviewers with the rationale and supporting data required to respond to low-quality submissions quickly, simplifying communication.

Reducing Manual Effort Required for Reviewers

- Medical reviewers are high-value employees. Instead of spending most of their time contributing to the strategic vision, it's not uncommon for these roles to spend hours on work (and rework) pertaining to content requirements.

- Linking and tagging received special mention here for good reason. Claim language is seemingly never leveraged the same way twice in content and certainly not in the same format as the approved claim. Even the most meticulously maintained library is of little help if the relationship is unclear.

- **Takeaway:** Review demands high accountability and expertise. Because reviewers are rarely, if ever, assessing the same content in the same context twice, it's a role prone to fatigue. The growing expectation for content with unique versions across audience, geography, and platform is making this even more tedious.

What Recommendations Could Drive Improvement

Solutions currently driving digital transformation and Artificial Intelligence enablement are not going to work for MLR review. The upstream variables alone are disqualifying, as is the need to offer real value to human beings accountable for content integrity. Downstream, applications that try to anticipate possible versions of the claim and "match" the reference effectively copy and paste the wrong answers, which then linger in reference libraries for years. Suggestions:

- **Meet the Claim in the Moment:** Rather than amassing claim libraries that try to anticipate claim variants, what if we could substantiate with evidence in real time? Is this claim language supported by relevant data? Why or why not? Provide the reviewer with an at-a-glance view that they quickly assess and render a judgement on vs. requiring them to rebuild the case from scratch.
- **Make It Easy to Do Right**: Review teams will never have control over pre-submission activities. Artificial Intelligence solutions that can quickly determine the quality of a given piece with supporting rationale save Reviewers the manual effort of providing this feedback and position content owners and agencies to create higher-quality content in fewer rounds.

- **Takeaway:** Technology like Artificial Intelligence can improve the MLR review process and support reviewers. To advance, organizations must recognize that MLR review requires human oversight and accountability and that the manual effort currently required for quality review is not sustainable. Solutions that contemplate both realities have the potential to drive positive change.

As a result of many advisory conversations, including the 3/23/26 MAPS Americas Roundtable summarized here, Canopy has leveraged our experience as the industry's leading MLR Solution provider to meet this need. In May 2026, we introduced Scout by Canopy, a structured AI platform purpose-built to support Medical, Legal, and Regulatory (MLR) content review across the full content lifecycle. For more information, please visit us here.

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