

AI adoption guidebook for medical affairs



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Executive summary



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Artificial intelligence (AI) is increasingly being integrated into almost every aspect of pharmaceutical development, unlocking new possibilities in medical affairs. This guidebook explores AI's transformative journey, from revolutionizing data analytics to automating content creation and reshaping drug discovery.

Recognizing that adopting AI can be challenging, especially with the rapid pace of AI advancements and the abundance of data involved, we offer practical strategies to overcome these hurdles and successfully integrate AI into life sciences, especially for medical affairs professionals.

This guide sets out a clear roadmap, from assessing readiness and identifying use cases to selecting suitable AI tools and measuring impact. Join us as we explore how AI can empower medical affairs professionals to improve patient outcomes, enhance healthcare professional (HCP) engagement, and accelerate drug development.





Understanding AI in medical affairs

Medical affairs plays a crucial role in connecting scientific discovery and improved patient care. As the pharmaceutical landscape continues to evolve, AI is becoming an increasingly powerful tool for progress. To remain at the forefront of their field, medical affairs professionals must embrace AI's potential. This technology has the power to change the way medical content is disseminated, making it more accessible and personalized. By fully understanding and adopting AI tools, teams can work more efficiently, gain deeper insights, and make a greater therapeutic impact.

Once considered science fiction, AI has been interwoven into the fabric of our lives in recent years. From machine learning (ML) to large language models (LLM) and generative AI (GenAI), these technologies are already making significant inroads into medical affairs and have a range of current and potential applications. For example, in data analytics, AI can sift through vast amounts of data, even from disparate and unconnected sources, extracting meaningful patterns and insights into patient populations, treatment efficacy, and disease trajectories. This data-driven approach enables proactive risk management across the entire product life cycle, from optimizing clinical trial design and anticipating adverse events, to informing robust commercial and medical strategies.

GenAI has the potential to significantly enhance productivity in medical affairs and change the way content is ingested, processed, and disseminated. It streamlines the creation of scientific content, ranging from publications to presentations, thereby enhancing efficiency and ensuring consistency. Moreover, to improve productivity benefits further, AI can accelerate critical yet often arduous tasks such as content generation and reviews, including the medical-legal review (MLR) process. By automating specific aspects, such as identifying potential compliance issues or flagging areas that require further attention, this approach alleviates much of the administrative burden on medical affairs teams, creating time that can be focused on strategic initiatives and knowledge dissemination.

AI is revolutionizing aspects throughout the entire drug discovery and development process

Drug discovery and development



Target identification, drug design, and clinical trial optimization can all be expedited, significantly reducing the time and costs associated with bringing new drugs to market.

Clinical decision support



AI algorithms can assist healthcare professionals in making informed treatment choices tailored to individual patient needs, which can lead to improved patient outcomes and reduced healthcare costs.

Stakeholder engagement



The ability to capture and analyze real-time data offers a deeper understanding of HCPs and patients' needs or preferences, as well as emerging trends in the medical field.

Patient support



AI-powered chatbots and virtual assistants provide personalized support, offering medication reminders or providing a degree of emotional support.

A practical roadmap for adopting AI in medical affairs

While the potential benefits of AI in medical affairs are clear, successful adoption requires a strategic and well-planned approach. Implementing AI in medical affairs is a journey, not a destination.

Given the rapid pace of AI advancements and the sheer volume of possibilities which can be overwhelming, many organizations may find themselves asking the question:

Where do we start?

Our practical roadmap offers step-by-step guidance and valuable insights to help navigate this journey:

1

Assessing AI readiness



Evaluate your organization's current state. Is your technological infrastructure robust enough? Have you clearly identified areas where AI can deliver tangible value? Conduct a thorough assessment of your data infrastructure, talent pool, and organizational culture to identify strengths, weaknesses, and areas for improvement.

2

Identifying use cases



Identify key areas where AI can deliver immediate value and build upon those successes. Prioritize high-impact opportunities that align with your strategic objectives, such as clinical trial optimization, real-time HCP insights, or personalized patient engagement. Develop a clear business case for each application, outlining the potential benefits, costs, and risks.

3

Selecting AI tools



Choose the right tools for the job. Not all AI applications are created equal and there are a range of technology platforms available. Consider solutions from external technology experts or open-source platforms, weighing factors such as scalability, interoperability, transparency, and user-friendliness. Conduct a thorough evaluation of available AI tools, and select those that best meet your specific needs and requirements. External partners can bring valuable experience and capabilities to build AI solutions optimized for the pharmaceutical industry.

4

Implementing AI solutions



Develop and deploy AI solutions in a phased approach, starting with pilot projects and gradually scaling up. Adopting a "fail fast, fail often" mentality while keeping the project scope tight, allows for learning by doing through experience and adjusting as needed. Ensure proper integration with existing systems and workflows. Provide ongoing training and support to users to ensure successful adoption, while keeping them in the loop and properly defining key requirements and success criteria.

5

Measuring impact



Establish clear key performance indicators to track the effectiveness of your AI initiatives. Regularly assess and refine your approach based on real-world data. Monitor and evaluate the impact of AI on key metrics such as efficiency, productivity, and patient outcomes. Utilize data-driven insights to continuously improve your AI strategies.



"To truly enable the transformational potential of AI requires investment in the platform, people, and processes as well as creating a **holistic understanding of how to leverage technologies to enhance commercialization strategies.**

Investing in training to ensure that teams are supported throughout the process of implementation and beyond, is instrumental for



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the successful adoption of AI in any organization."

At Envision Pharma Group, we understand that an AI platform alone is not enough to drive performance. That's why we offer 4Sight – our holistic AI and technology approach that aligns platform, people empowerment, and process optimization to maximize the impact of medical insights derived from AI.

By providing the right training, resources, and operating procedures, our proprietary medical insights-enabling approach 4Sight helps medical affairs teams extract actionable intelligence from their data and translate those insights into outstanding medical performance.

Platform



Implementing the right platform that can automate high volumes of data efficiently is vital for obtaining timely actionable information.

People



Investing in training and change management programs to empower teams is essential for the successful execution of impactful insights throughout the product life cycle.

Process



The right processes should be in place to enable efficient discovery, delivery, and utilization of these insights.

Performance



The right combination of platform, people, and process can drive outstanding medical affairs performance by providing timely, actionable insights that enhance the medical insights journey.



Overcoming challenges to AI adoption

The path to adoption is not without its challenges. Many organizations experience hesitation, stemming from concerns about the unknown and the potential risks associated with deploying AI solutions.

It's important to adopt a holistic approach while addressing common barriers to effective AI implementation.



Cultural resistance to change



Challenge

The introduction of any new technology can be met with skepticism. Medical affairs teams may have specific concerns about AI, including its impact on jobs, how medical affairs roles will change, and the benefits of implementing AI tools.

Solution

Leadership buy-in and commitment. Securing support from the top is crucial for driving AI initiatives forward, with leaders championing AI adoption, allocating resources effectively, and creating a culture of innovation. By demonstrating tangible benefits, organizations can foster enthusiasm and momentum for AI initiatives.

Developing a comprehensive change management plan can help address potential resistance and ensure smooth AI adoption. Change management plans should include communication, training, and support for employees throughout the process.

Skills gaps and lack of AI expertise



Challenge

Organizations often need to upskill their workforce or acquire new talent to harness AI effectively. Training and development opportunities are required to bridge these gaps.

Solution

Education and training programs. Empowering medical affairs teams with the appropriate knowledge and skills helps them to leverage AI tools effectively. A comprehensive education program should cover training on AI concepts, tools, and ethical considerations, tailored to the specific roles within medical affairs.



Data accessibility



Challenge

Ensuring that data is readily available and usable for AI applications can be a significant challenge. Organizations need to invest in data governance strategies and data infrastructure to overcome this hurdle.

Solution

Humanize the data. Starting with data collection, take care to make sure the data being collected serves the project’s specific needs. Then make the data accessible and understandable so that stakeholders can easily utilize it in their daily workflow.

Implementing strategies to make data not just accessible but also actionable is at the core of humanizing data. It’s about breaking down complex information into clear, concise insights that everyone in the organization can use. AI should be seamlessly integrated into everyday operations, not just a tool for data scientists.

Cost and resource constraints



Challenge

Implementing AI can require significant investment in technology, infrastructure, and talent, which can lead to a careful evaluation of the costs and benefits of developing a sustainable AI strategy.

Solution

Pilot projects and proof of concepts. Starting with small-scale pilot projects to test AI solutions helps with demonstrating their value before scaling up. This approach enables iterative learning and refinement of AI strategies.

Ethical concerns



Challenge

Issues such as data privacy, algorithmic bias, data bias, and transparency require careful consideration and mitigation. It is essential to establish clear ethical guidelines and ensure compliance with relevant regulations.

Solution

Ethical frameworks and guidelines. Establishing clear guidelines from the outset helps ensure that AI is developed and deployed responsibly by all employees across an organization. Effective ethical frameworks should address issues of bias, fairness, and transparency.





“The journey toward a fully realized AI-driven future in pharma may be complex, but the **rewards for those who successfully navigate this path will be transformative**. With the right strategies and partnerships in place, the pharmaceutical industry is poised to usher in a new era of innovation, efficiency, and ultimately, improved patient care.”



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The importance of cross-functional collaboration

Fostering collaboration between medical affairs, IT, data science teams, data engineers, and other departments helps break down silos and facilitate seamless AI integration through open communication and knowledge sharing across teams.



Adhering to best practices:

Data management



Ensure data quality, security, and compliance with all relevant regulations. Implement robust data governance policies and invest in data security measures.

Ethical considerations



Prioritize systems that are trained on clean/standardized data to address potential issues of bias, fairness, and transparency in AI algorithms and the bias that exists in the source data. Establish clear ethical guidelines and conduct regular audits to ensure compliance.

Collaboration with AI experts



Partner with a cross-functional team including data scientists, AI engineers, software developers, subject matter experts, and user experience designers to maximize the value and impact of your AI solutions. Leverage their expertise to develop, deploy, and maintain AI systems. External partnerships can bring together all of these experts in one place, adding significant value to AI projects.

Embrace a multi-model approach



Leverage the power of various AI models, including GenAI, large language models, diffusion foundation models, and conventional ML algorithms to create comprehensive solutions, address complex challenges, and achieve optimal results.




The future of medical affairs in the AI era

AI is poised to redefine the roles of medical affairs professionals, empowering them to become adept at interpreting and strategizing based on AI-driven insights, while using generative tools to expedite content creation, curation, and MLRs.

The ability to capture and analyze real-time data offers deeper insights into the needs and preferences of HCPs, patients, and other stakeholders, as well as emerging trends in the medical field. This empowers medical affairs teams to tailor their engagement strategies and deliver more relevant and timely information.

By fostering meaningful interactions between medical affairs professionals and HCPs, the process can streamline clinical trials and equip sales representatives with nuanced medical information.

With this potential, medical affairs professionals will evolve from reactive problem-solvers to proactive opportunity identifiers, anticipating challenges, and seizing opportunities.



The evolution will extend beyond individual roles, **reshaping the entire pharmaceutical landscape**. With AI at the forefront, personalized medicine, targeted interventions, and proactive risk management will become the norm, leading to more effective treatments and improved patient outcomes.




Looking ahead, we can expect AI to become increasingly accessible, even for smaller organizations. This shift will undoubtedly drive innovation across the industry, leveling the playing field and enabling smaller companies to compete with larger ones. By integrating with other emerging technologies, such as wearables and augmented reality, AI can help create powerful solutions for medical affairs and allow for the collection and analysis of real-world data, ultimately leading to more personalized and effective treatments.

Finally, the automation of routine tasks by AI will free up medical affairs professionals to focus on strategic initiatives, resulting in improved efficiency, productivity, and cost savings across the board.

Strategically embracing the AI-powered future

The convergence of AI and medical affairs represents a potentially transformative force. There are nearly unlimited opportunities, but with these come many challenges. Medical affairs leaders must embrace AI by fostering a culture of innovation and proactively addressing any concerns that arise. Through partnering with external AI experts, medical affairs teams can harness the full potential of this technology to drive value for patients, HCPs, and their organizations.

Discover how Envision can help you shape a future where AI empowers your medical affairs teams to reach new heights and improve patient care

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