

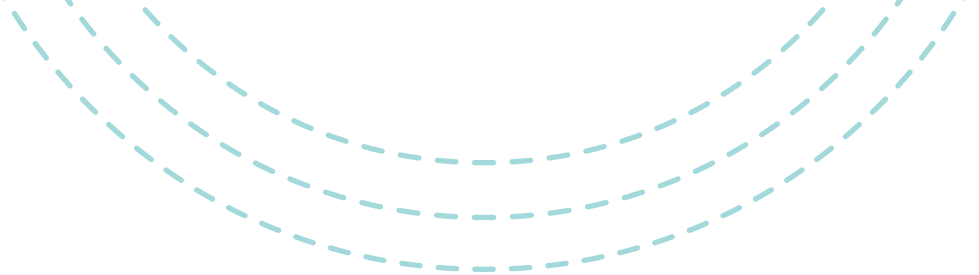
Breaking Down AI

What it Means
for Brand Executives
and the Hidden Value
for Patients



Table of Contents

1. The Challenges Patients Face	p.2
2. Navigating the Healthcare Landscape with AI	p.10
3. Improving Adherence through AI Solutions	p.15
4. Safety Considerations	p.18
5. Future Directions and Possibilities	p.19
6. How to Get Started	p.21
7. Conclusion	p.22



Introduction

Artificial Intelligence (AI) is rapidly emerging as a transformative force in healthcare. “As much as 36% of activities in health and social care could be automated using AI (Chebrolu Kumar, 2020[8]). These productivity gains would reduce the projected deficit of 3.5 million health professionals required by 2030 across the OECD ([OECD, 2023\[9\]](#)).” When its potential is harnessed, it can revolutionize how patients navigate their care journey, receive personalized treatments, and adhere to medical recommendations. This eBook delves into the impact of AI on enhancing the patient experience, focusing on three key aspects: navigation, personalization, and adherence. In this eBook, you will learn how to use technology and AI to forge lasting connections with patients, fostering a positive impact on both health outcomes and the bottom line.

When designing and implementing healthcare technology, it is important to acknowledge the diverse ways in which individuals cope with their conditions, cultural backgrounds, personal preferences, and the range of socioeconomic factors that can impact each patient. AI is opening up a new world of opportunity when it comes to providing personalized support to accommodate each individual’s circumstances, preferences and needs across a diverse patient population.

Building and integrating AI-driven, scalable personalization technologies into the healthcare landscape ensures a more holistic and empathetic approach to patient support. AI technology offers life sciences organizations the capacity to build care structures that resonate with the unique challenges of patients, while fostering a deeper connection between healthcare providers and patients. By providing personalized support and analyzing vast amounts of valuable data, AI can deliver targeted interventions that foster engagement and empowerment, leading to improved adherence rates.

1. The Challenges Patients Face

What Patients Want: The Patient Perspective

In order to develop meaningful patient support programs around the patient journey, we must consider the first step- the critical moment when patients are told their life is about change. Patients assume the role of “navigator” the moment they step outside of their physician’s office after receiving a life-changing diagnosis. Suddenly, individuals must navigate infinite amounts of information, options, opinions, financial decisions, support programs and more. In addition to becoming “patients”, they are also self-advocates, researchers, and need to structure and develop systems for emotional and physical support.

There is a growing interest in redesigning healthcare systems to increase access and coordination across care settings for people with chronic conditions. A study conducted by BMC Health Services, highlights a lack of coordination and defined patient pathways, particularly at the onset of the condition, when seeking a diagnosis, and throughout the care process. The findings of this study were taken from 25 expert interviews that were organized within Levesque’s conceptual framework. On the supply side, patterns of poor patient-provider communication, lack of a holistic therapeutic approach, an urban-rural divide, strict separation between social care and the healthcare system and limited consultation time were among the barriers identified. On the demand side, patients’ ability to perceive a need and to subsequently seek and reach healthcare services was an important barrier, closely linked to a patient’s socio-economic status, health literacy and ability to pay.

In our [webinar with FiercePharma](#) “What Patients Want and How AI Will Deliver”, Leah Rowntree, who had recently entered ongoing treatment for Stage 3 breast cancer, shared her own patient journey experience and the blinding gaps that she was left to fill in on her own. Forced to assume the role of her own “navigator” in what was already an emotionally and physically exhausting journey, Rowntree believed she needed more information about her treatment options and whether these options aligned with her lifestyle and personal values.

Ultimately, she felt she didn’t have enough information to advocate for herself, or to even know what information she should be asking for. “What I really wanted to know was what the next year of my life in treatment was going to look like. I was going in blind. There are people that I have met who have been recommended certain treatments, but they refuse to take them due to their values (movement, quality of life etc). If the healthcare provider knew these values at the outset, and open, informative dialogue about risks and expectations were laid out, they might have chosen to take that option” she says.

“

What I really wanted to know was what the next year of my life in treatment was going to look like. I was going in blind.

There are people that I have met who have been recommended certain treatments, but they refuse to take them due to their values (movement, quality of life etc).

If the healthcare provider knew these values at the outset, and open, informative dialogue about risks and expectations were laid out, they might have chosen to take that option.

These gaps of information and not knowing exactly what information she needed or should be asking for caused a higher level of stress than was necessary.

“Everyone is different when it comes to values- the level of risk they’ll take or pain they’ll tolerate. This should be taken into consideration, but it often isn’t. That is why I think we’re really far away from being at the point of understanding those patient journeys and personalizing them. How can you help me navigate when I don’t know the destination?” said Rowntree.

Patients undergoing treatment face a myriad of challenges. With raised awareness about preventative medicine, patients are increasingly interested in taking more ownership (and gaining a deeper understanding) of their own healthcare journeys and treatment outcomes.

A holistic and thoughtful approach to patient care involves not only considering the ultimate destination – a state of improved health or well-being – but also acknowledging the diverse ways in which individuals want to 'travel' towards that goal. This encompasses tailoring treatment plans, communication styles, and support mechanisms to align with the preferences and values of each patient.



“

As patients begin their journey on therapy, they want to understand exactly what is going on and how they can optimize their treatment outcomes. In our conversation, Rowntree stated “I wanted to be able to connect the dots. I didn’t trust humans or even myself to do that anymore. So many things were missed in the possible prevention of my advanced breast cancer diagnosis that could have been picked up if those dots had only been connected earlier. When I began treatment, it was the ‘looking back perspective’. I want medicine to be more preventative. How can AI be used to pull these data points together? No one is doing that work for me, so the onus was on me, and I didn’t have the tools”.

Rowntree is not alone - a study by the NACHC revealed the following:

46%

of patients stated they did not have enough access to reliable information during diagnosis & treatment

77%

shared that the inability to manage symptoms and side effects was one of their biggest health challenges

70%

of patients heavily valued educational content provided

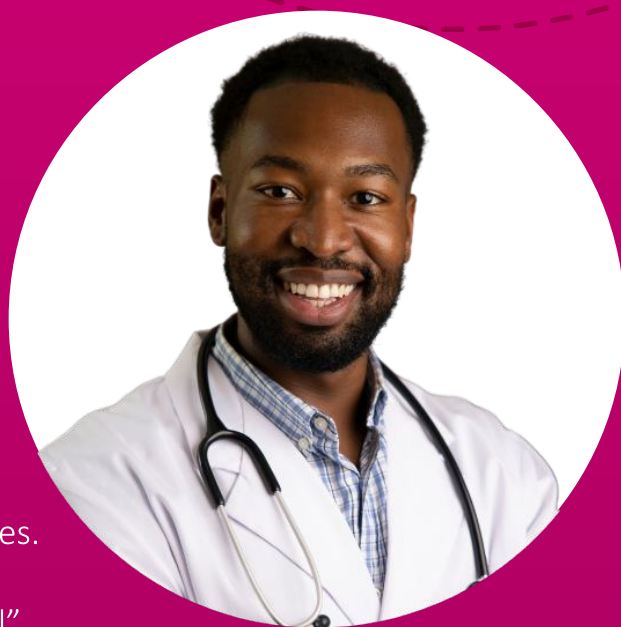
100M+

of patients heavily valued educational content provided

The HCP Perspective

In today's post-COVID era of healthcare, healthcare providers are experiencing burnout- studies suggest that over fifty percent of providers experience symptoms related to burnout, which is significantly higher than the general population. In a survey conducted in the U.S. on the topic of physician burnout, findings show that nearly all physicians in the U.S. said they feel regularly burned out and over half of them have considered either leaving the profession or adopting non-patient-facing roles.

"We are witnessing the results of what is increasingly an unsustainable business model", researcher Sweeney-Platt told Fierce Healthcare. "Patient-centered care is being crowded out by the incredible growth of administrative requirements both from payers and government agencies." 83% feel that AI could help with this.



Through AI-powered analytics, doctors can analyze vast amounts of patient data with unprecedented speed and precision, leading to earlier detection of diseases and more personalized treatment plans. Additionally, AI-driven virtual assistants are streamlining administrative tasks, allowing doctors to devote more time to direct patient care. As a result, healthcare professionals envision a future where AI not only improves clinical outcomes but also enhances the overall patient experience, fostering greater trust and satisfaction in the healthcare journey.

Pharma Perspective

Jennifer Tremblay, Global Brand Head at Sanofi shares how she envisions the future of healthcare and the patient experience with AI. In a discussion regarding how systems and regulations that are set up to increase patient safety can often leave the patient feeling more isolated, she stated, “Even though they may be well intended, they sometimes prevent pharmaceutical companies from being able to empower and inform patients” said Tremblay. One of the ways in which she imagines a future of improved patient outcomes is through supporting patients to be able to connect with peers or healthcare providers on their own terms.



“The value in that kind of patient support is beyond any metric that we can see in other areas of treatment. At Sanofi, we created something called the Connectedness Scale which is an internal initiative that measures how patient support is being delivered and valued- beyond the drug therapy itself. Support was one of the main pillars of this. Fostering a community of people living with the same disease allows them to form close bonds, be a source of information and knowledge transfer, and improves the outlook for their lives living with a disease. What we’ve seen is that their treatment never operates in a vacuum and that learning is really important in everything we do going forward” states Jennifer. “Using technologies like RxPx, we’ve been able to match people to help find those connections to help them in facilitating information gathering and support. Nudges they receive are based on data and they are served with personalized content, connections and recommendations.”

Over the past ten years, RxPx has been at the forefront of AI innovation in healthcare, developing various AI tools. We're helping our partners apply AI across a range of patient-centric tools, leveraging both generative and predictive AI models.

Here are some of the ways we are helping support patients along their journey:



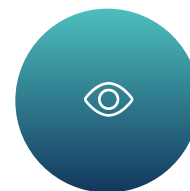
Intelligent AI Buddy

Onboarding assistant/chatbot that helps patients navigate health challenges and help patients find other people like them using a probabilistic user model with collaborative filtering



Intelligent Content Recommendation Engine

Provides data-driven content recommendations to assist overworked HCPs that lack time to recommend trusted educational content utilizing predictive modeling



AI Cognitive Behavior Triage Assistant

Helps identify patient mental health challenges and need for recommendation of support



AI Nurse Assistant

Detection and reporting of adverse events using natural language processing



Intelligent Content Moderation Assistant

Detect user content that might violate community guidelines using natural language processing



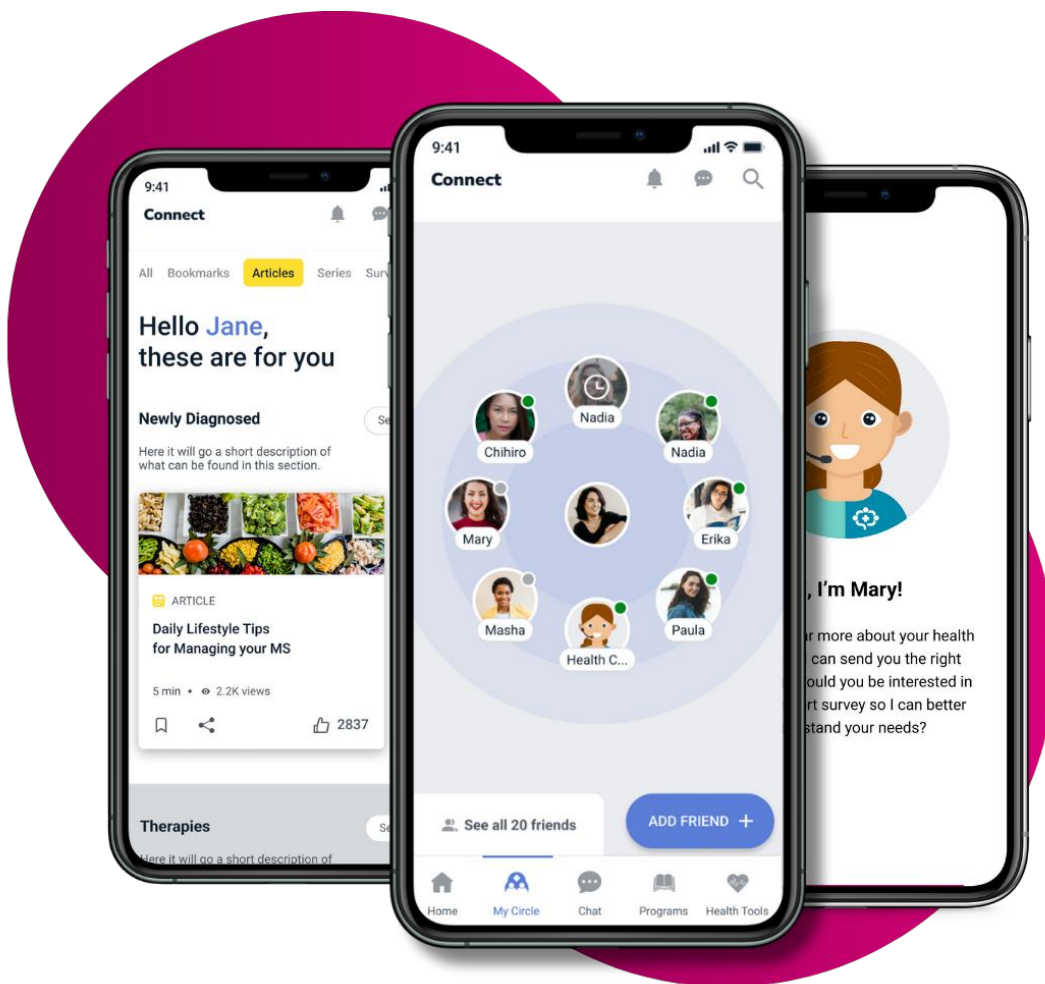
Enhance MLR Efficiencies

Speed up review times with learning models designed with medical, legal, and regulatory requirements in mind.

Greg Klein, CEO and Founder of Nuvera, a consulting company specializing in creating innovative patient-centric solutions says, “Pharma is the voice of authority when it comes to seeing someone through from diagnosis to symptom progression through to end points. If you’re seeing it all, the question I have is how are you not taking the time to put resources into all of these areas? The real challenge arises from the fact that they’re just not being compensated for it holistically”.

“This barrier needs to be removed”, he adds, “as pharma is the only true architect of that care”.

When asked how Pharma can take a more holistic approach and what tools do they have at their disposal to do it, he answered that “AI could provide support and act as a buddy along the way. AI can help patients navigate their treatment journeys and take a lot off of their plate. For the provider, knowing exactly where the patient is in their journey is where the real opportunity lies.”



2. Navigating the Healthcare Landscape with AI

Having explored the diverse perspectives in the healthcare system in Chapter 1, we will now turn our focus to the AI solutions that are empowering the revolution of patient-centered care.

AI-Driven Navigation Solutions: AI-powered tools streamline the patient journey by providing personalized guidance, appointment scheduling, and routing to appropriate healthcare resources. The healthcare system can be a labyrinth; with many services, providers, and information. Navigating through this maze can be overwhelming for patients, often resulting in confusion and inefficiencies.

To mitigate these challenges, AI can serve to facilitate the following:

1.

Patient Education: Providing patients with clear and comprehensive information about the healthcare system, including available services, how to access them, and what to expect, can empower them to make informed decisions about their care. At RxPx, we have developed an ‘Intelligent AI Buddy’ within our patient platform which provides an onboarding assistant/chatbot that helps patients navigate health challenges. The AI Buddy will also help patients find other people like them using a probabilistic user model with collaborative filtering.

2.

Care Coordination: Implementing systems for better coordination among healthcare providers can help streamline the patient's journey through the healthcare system. This involves ensuring that all providers involved in a patient's care are communicating effectively and working together to deliver comprehensive and cohesive care. Systems such as RxPx’s patient and HCP platforms are holistically interconnected and designed with AI and machine learning automation to initiate interventions and educated conversations between HCP and patient as well as between HCP and caregiver.

3.

Health Literacy Initiatives: Improving health literacy among patients can help them better understand their health conditions, treatment options, and how to navigate the healthcare system. This may involve providing educational materials in plain language, using visual aids, and offering support services such as patient navigators. AI content recommendation systems ensure that the right content reaches the right patient at the right time.

As an example, RxPx launched a patient community to support women as they prepared for and recovered from C-section surgery. Leveraging AI content recommendation tools and user behaviors, it was possible to surface the right content at the right time to ensure that users had the valuable resources they needed, when they expressed a need for them and based on where they were in their journey.



4.

Technology Solutions: Leveraging technology, such as electronic health records (EHRs), telemedicine, and patient portals, can facilitate communication and information sharing among patients and providers, making it easier for patients to access healthcare services and manage their health information. RxPx launched a multi-country, multi-product, end-to-end multiple sclerosis patient support program, connecting patients with doctors throughout their treatment journey, while improving compliance through monitoring and the generation of real-time insights. These technology solutions were complemented by a team of registered nurses and automation to assist patient follow up and education. The program produced 83%-98% adherence rates across the MS drugs in the PSP, as well as 74% faster time to treatment (shortened from ~6 weeks to 11-16 days).



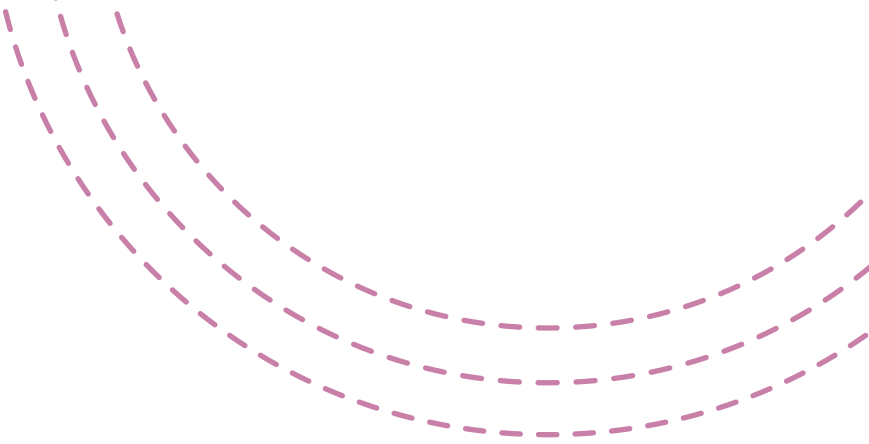
5.

Patient Advocacy: Empowering patients to advocate for themselves within the healthcare system can help them overcome barriers and navigate challenges more effectively. This may involve providing resources and support to help patients assert their rights, communicate their needs, and navigate complex healthcare situations.

RxPx developed a patient community platform for individuals with sickle cell disease who were expressing that they were not receiving the care they needed at hospitals during a pain crisis as their experience was not believed. By connecting them with a group of peers who were experiencing the same thing, they were able to have their experiences validated, with many expressing that they finally felt seen and heard.

In addition, by leveraging AI content recommendation tools, patients who were expressing issues with self-advocacy and healthcare system management were able to find the information quickly as well as share it with others.

Implementing AI can improve all of these patient navigation hurdles. AI in combination with collaboration among patients, providers, and healthcare organizations, we can work towards simplifying the healthcare system and improving the overall patient experience.



What to Consider

Deciding how to implement AI is a critical decision that can significantly impact patient engagement and treatment outcomes and affect your bottom line.

Consider the scalability and flexibility of the technology to accommodate potential growth and evolving needs.

The solution should demonstrate the ability to integrate seamlessly with existing healthcare systems, ensuring a smooth and efficient user experience for both patients and healthcare professionals. Compatibility with various devices and operating systems is crucial to maximize accessibility.

For example, within the RxPx Patient Platform, we use Natural Language Processing to capture Adverse Events (AEs) in the feed and group sessions. The user is notified that what they have typed may be an AE. The Adverse Event is then sent to the RxPx Community Manager. The Community Manager then completes the manufacturer's AE process within 24 hours. Every month, RxPx reconciles and reports on this data.

Within the context of a live chat with the Community Manager, if an AE is mentioned, the Community Manager follows the AE flow without triggering the Natural Language Processor.

The Community Manager then completes the manufacturer's AE process within 24 hours. Every month RxPx reconciles and reports on this data. Within the context of a live chat with the Community Manager, if an AE is mentioned, the Community Manager follows the AE flow without triggering the Natural Language Processor.

Evaluate the solutions commitment to data security and compliance with healthcare regulations.

The platform should adhere to industry standards, such as HIPAA, to safeguard sensitive patient information. Additionally, assess the approach to ongoing maintenance, updates, and support, ensuring that the platform remains current with technological advancements and regulatory changes.

Seek a vendor that prioritizes user engagement by offering features like real-time communication tools, educational resources, and community-building functionalities.

The effectiveness of patient support relies on an intuitive and interactive platform that encourages meaningful interactions among users.

Find a partner who is leveraging AI to offer a digital health solution that is able to be tailored to each patient's needs, conditions, capabilities, and limitations.

Unlike a one-size-fits-all approach, a customized solution uses Artificial Intelligence to create a patient model, which is then used to provide personalized services at individual, caregiver, and community levels. Adaptation and personalization through Artificial Intelligence in a digital health platform take various forms, including (but not limited to):

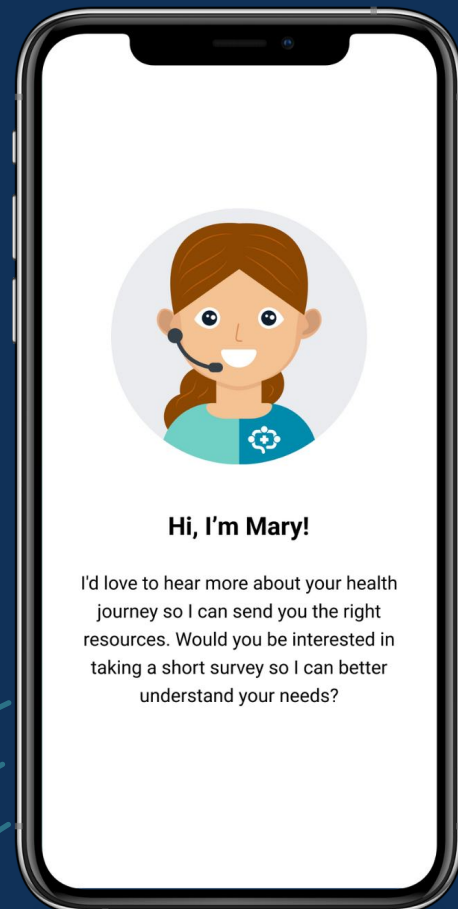
- Personalizing the support network to enhance patient support effectiveness.
- Capturing and monitoring the patient's journey, providing the right support at the appropriate stage.
- Utilizing AI to reduce the effort and cognitive load required for patients to access necessary services on the platform.
- Actively monitoring and tracking changes in patients' social, mental, physical, and wellness aspects to offer the necessary support.
- Using AI to create a safe and supportive online community, where patients feel secure and supported, thanks to community listening mechanisms.
- Employing AI to accurately predict patients' adherence and compliance behaviors, allowing for timely intervention when needed.

These diverse applications of AI in digital health highlight the commitment to offering care that is tailored to each individual, improving patient engagement and treatment effectiveness.

3. Improving Adherence through AI Solutions

Patient adherence, or the degree to which individuals follow their prescribed treatment plans, is a critical factor in understanding the effectiveness of a therapy. Generally, adherence rates of 80% or higher are required to achieve optimal therapeutic efficacy. However, it is estimated that adherence for chronic medications is only around 50% ([US Pharmacist, 2018](#)). Understanding and improving patient adherence not only contributes to better health outcomes for individuals but also plays a significant role in evaluating the success of medication therapies and informing future R&D efforts within the healthcare industry. A [study by the AMA](#) uncovered that there are 8 common reasons why patients don't take their medication as prescribed:

- ✓ Fear
- ✓ Too many medications
- ✓ Mistrust
- ✓ Misunderstanding
- ✓ Worry
- ✓ Lack of symptoms
- ✓ Depression
- ✓ Cost



Research has also found that “every dollar spent improving adherence saves seven dollars in total health care costs”. According the CDC, successful strategies to improve medication adherence include 1) ensuring access to providers across the continuum of care and implementing team-based care; 2) educating and empowering patients to understand the treatment regimen and its benefits; 3) reducing barriers to obtaining medication, including cost reduction and efforts to retain or re-engage patients in care; and 4) use of health information technology tools to improve decision-making and communication during and after office visits.

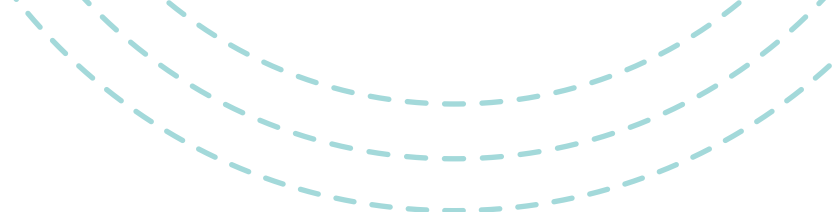
Using the latest AI technology, RxPx’s solutions take a personalized and adaptive approach to tracking medication adherence and providing the strategies mentioned above for better adherence. Applying this approach allows pharmaceutical companies to:

-  Better understand their patients
-  Apply effective interventions where needed
-  Help patients along their health journey

Leveraging AI to Increase Patient Adherence

Our approach places a strong emphasis on personalized, non-intrusive support that meets patients where they are in their health journey and combines AI with human workflows. We think carefully about what ‘jobs’ the patient needs and wants to do, and then analyze the best technology solution to help them achieve their goals. This ranges from the AI buddy checking in on medication reminders to the human Community Manager facilitating group discussions and programs to AI powered cognitive behavioral support.

At the core of our approach is the utilization of AI-driven algorithms that analyze vast amounts of patient data to identify patterns and trends related to adherence behaviors. By harnessing the insights, we can tailor the platform experience to suit the unique needs and preferences of each patient.



One of the key advantages of AI-driven soft adherence is its ability to personalize the patient experience. Through ongoing interactions with our platform, patients build a rapport with Community Managers, who through the support of AI technology, are able learn and adapt to their individual preferences, behaviors, and challenges over time. This personalized approach not only fosters a sense of trust and engagement but also enables us to deliver recommendations that resonate with each patient on a deeply personal level.

AI enables us to uncover hidden insights and correlations within patient data that may not be immediately apparent at first glance. We can identify patterns that correlate with specific personality traits, lifestyle factors, and more. Armed with this knowledge, we can proactively identify individuals who are at higher risk of non-adherence and tailor interventions to address their unique needs and circumstances.

Our Solutions at Work

A global pharmaceutical brand engaged us to help address their challenge of non-adherence. Clinical trials showcased a 50% discontinuation of this pharmaceutical brand's therapy within the first 8 weeks*. RxPx worked with the brand to develop an app-based patient community to seamlessly onboard patients to their oral oncolytic, provide educational content and insights to address their questions, and connect them with peers & Community Managers to leave 'no patient alone'.

"The whole process was so easy, from the moment I was prescribed the medication. Home delivery, support from the App, [Community Manager]'s daily tips, etc." - Patient feedback from our Oncology adherence program

How well did this solution improve patient adherence? There was a 21% increase in patients who stayed on this brand's therapy past the first 8 weeks. And 70% of patients kept using the app for at least 1 year compared to the industry average of 18%. To learn more about the program's success, [you can read our full case study here.](#)

Source: RxPx study

4. Safety Considerations

The use of patient data in AI applications raises concerns about patient safety and data. Robust measures must be put in place to safeguard sensitive information, avoid bias, and ensure that patients are receiving the right information. Technology and healthcare providers need to be cognizant of the human bias and make sure it's diverse and reflective of the patient population. As you start to implement AI at your own organization, you need to make sure you are constantly looking for accuracy in the model. That means, looking at how it is performing, and having that human checkpoint. AI can't just be left to run on its own. Humans need to be involved to ensure that the performance of the algorithms are acceptable.

Based on our deep experience providing safe and secure applications, we have developed this helpful safety checklist:

- Closely monitor performance/ accuracy of the AI model for the desired application
- Use trusted sources used for training, recommendations and prompt responses- this means looking closely at the datasets, and making sure that sources are highly trusted- which is incredibly important in healthcare.
- Ensure the protection of patient privacy and data
- Training data should be reflective of the target community and have diversity. This can be challenging in the case of clinical trials, when it's not a diverse population, you're only getting results in a specific subset. To learn more about how RxPx is revolutionizing clinical trials and improving diversity in patient recruitment and support, [read our press release](#)
- Detect and manage any bias in the model

5. Future Directions and Possibilities

AI will continue to evolve, opening up new possibilities for enhancing the patient experience in healthcare. Advancements in natural language processing, computer vision, and predictive modeling will further transform care delivery. The ultimate goal of AI in healthcare is to empower patients, fostering active participation in their care decisions, promoting wellness, and improving quality of life. At RxPx we are leading this innovation. We are constantly innovating to provide better support for nurses and doctors to offload the workload and personalize care, and be a buddy to patients along every step of their journey.

Other organizations who are leading the charge include OPTT Health, who has developed an AI toolkit to improve behavioral health outcomes. They have developed an intelligent step-care model to support mental health challenges and uncover the context behind behavioral change to provide personalized support at scale.

York University has spearheaded a project that uses AI for a patient-centric approach to product requirement analysis, which includes: Community Mining mechanisms to understand user/community needs, mapping users/community needs and requirements to available health and wellness services, and intelligent and personalized patient navigation by listening.

With co-investment from DIGITAL, Canada's Global Innovation Cluster for digital technologies, RxPx is launching an 'AI Clinical Buddy System', to leverage artificial intelligence towards enhancing patient recruitment, adherence, diversity, and engagement in clinical trials. The project is an innovative partnership between RxPx and industry leaders OPTT, UMed, Aparito, AxialBridge, the University of British Columbia, York University, and distinguished researchers from the UK and Canada. Using machine learning, as well as persuasive, generative, and predictive AI approaches, the AI Clinical Buddy System provides an opportunity to reduce operation overheads, enhance patient physical and behavioral tracking, and improve adherence, retention, and engagement.

You can read more about this initiative [here](#).



6. How to Get Started

Here is a simple checklist you can use at your own organization to enact meaningful change and get started implementing AI for a better patient experience.

Start with defining the patient value Speak to patients find out what they need/want, what makes their jobs easier? Do some market research!

- What jobs does the patient need to do?
- How would AI make these jobs easier?

AI as an Agent of Authenticity (create a relationship between the patient and your brand- make sure you've got trust, privacy and security in place as the backbone of the relationship.)

- Compassionate design and use cases
- Embed and establish trust factors

Avoid The Buzz, Find the Experts

- AI is not simply a chatbot- Agent as Ambassador
- Privacy, security, quality is paramount

Consider All Stakeholders

- Tremendous opportunities for transformation (for all stakeholders!)
- Tailored solutions

Conclusion

As AI becomes increasingly integrated into healthcare systems, its potential to enhance the patient experience is limitless. By leveraging AI-driven navigation, personalization, and adherence solutions, healthcare providers can deliver more efficient, effective, and patient-centered care. However, realizing the full benefits of AI requires collaboration among stakeholders, adherence to ethical principles, and a commitment to continuous innovation.

A heartfelt note from our CEO:

AI has a tremendous potential to lighten the patient burden and help do jobs that improve the life and outcomes of our patients. It also has a critical role to play in empowering stakeholders and delivering data insights, pathways and efficiencies that fast track our collective ability to transform and personalize healthcare.

We have been working in AI for many years at RxPx, embedding it as a companion or 'buddy' to the patient journey and provider support.

But at the start of each design sprint we ask not what technology can do, but rather what value we want to deliver to the patient and how to use AI to meet them where they are - and help them on the next step of the journey.

Lynda Brown Ganzert, CEO, RxPx



When it comes to the proliferation of AI in healthcare, it is important to ensure your organization does not get left behind. With RxPx, we take on the technical burden and offer support to our clients in onboarding and running these programs. Reach out today to learn more about what we do and how we are enabling life sciences companies to provide these types of patient experiences at scale.

If you'd like to know how we are working with the world's leading Pharma brands to enable AI- enhanced solutions to improve the patient journey, book your personalized demo today.

About RxPx - No Patient Alone

RxPx is an innovative, AI-supported, digital health SaaS platform designed specifically for the needs of life sciences. Available in 127 countries and 12 languages, RxPx makes life easier for patients, caregivers and HCPs and helps customers deliver unparalleled value while differentiating their therapeutic brands. With a No Patient Alone mission, the RxPx platform helps streamline specialty therapy workflows and personalized patient support to help life sciences companies deliver safe, scalable and highly impactful programs for their brands

www.rpx.health

Book A Demo