

Pharmaceuticals & Medical Products Practice

Digital therapeutics and pharma: A blueprint for success from Sanofi's Bozidar Jovicevic

Sanofi's global head of digital therapeutics talks about the benefits of digital therapeutics in improving health outcomes in patients.



The head of digital therapeutics at Sanofi, Bozidar Jovicevic, spoke with McKinsey partner Ivan Ostojic on how digital therapeutics will change the future of healthcare—and the bold moves Sanofi has taken to meet that future. The following are excerpts from their conversation.

McKinsey: How would you define digital therapeutics?

Bozidar Jovicevic: There's no standard definition. At Sanofi, we define them as nonpharmacological, tech-focused solutions that work as a stand-alone therapy or are combined with drugs to improve patient outcomes—and, of course, drive business impact.

McKinsey: Does the world need digital therapeutics? Some people question their value.

Bozidar Jovicevic: I think about that almost every day. It comes down to two things: What determines our health as individuals? And, is this the right time for digital therapeutics?

There's a famous paper from WHO [World Health Organization] that breaks down the determinants of health. About 20 percent is down to medical care—what doctors and healthcare practitioners do, plus the labs and the drugs. About 20 to 30 percent is behavior—diet, exercise, lifestyle, positive thinking, mindfulness techniques, quitting smoking, and things like that. And the rest is environmental, social, genetic, and psychological.

As an industry, we focus on that 20 percent of medical care, but behavior change is huge. In the United States, more than 80 percent of healthcare costs—\$3.4 trillion, almost 20 percent of the whole economy—is spent on diseases that could be *modified or even reversed* through behavior change. So, yes, the world does need digital therapeutics, especially since they don't have side effects.

The other element is timing. If we look at major trends, people are living longer, on average, so there's a rise in chronic diseases associated with aging. Meanwhile, healthcare workers are in short supply, and physicians and nurses don't have

enough time for patients. Yet everyone has powerful computers in their pockets that give them access to technology, education, and information. Put all that together, and it's the perfect moment for digital solutions to come to the market, change behavior, and enhance health outcomes at scale.

McKinsey: What opportunities do digital therapeutics open up for pharma companies?

Bozidar Jovicevic: Many people ask whether digital therapeutics will replace drugs—and whether big pharma should be afraid. The answer is no to both. Digital therapeutics won't replace drugs, except in a very few instances. Instead, the two of them will work together to improve outcomes.

At Sanofi, we think about two scenarios. In the stand-alone scenario, a digital therapeutic is used independently of drugs, often as step one in a treatment algorithm targeting diet, exercise, or lifestyle. In the second scenario, a digital therapeutic is combined with a drug to improve the drug's effect, which creates a whole slew of opportunities. You can differentiate new products and bundle them with drugs, or you can offer them separately.

All these opportunities improve patient outcomes and health—and create new business models. They can help companies grow existing revenues from medicines or create brand-new businesses offering digital-only solutions, with no drugs involved.

McKinsey: What are Sanofi's key areas of focus in capturing the digital-therapeutics opportunity?

Bozidar Jovicevic: We look at this in different ways. One is to focus on diseases or therapeutic categories where a change in behavior can have a huge impact—neural diseases, cardiovascular diseases, diabetes, and others. Another angle is to look at any disease that costs healthcare systems a lot of money, affects large numbers of patients, and can be significantly affected by digital therapeutics. So identifying diseases where we can move the needle is the first step.

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And then there are other questions: How does this therapy work with the healthcare ecosystem and doctors' workflows? How does it work with our current, medicine-based business model? What are our ambitions and our perceived level of risk? How are we going to organize ourselves to capture the opportunities?

There are many variables. But everything starts with finding the therapeutic categories where we can really influence outcomes.

McKinsey: Where will the value come from for companies like yours?

Bozidar Jovicevic: In the short term to midterm, it's likely to be from offering stand-alone digital-therapeutic solutions. That's a new category, with its own P&L [profit and loss], product development, promotional costs, and sources of revenue. Then we have the combination of digital with drugs. From a business perspective, that enables us to grow existing revenues and differentiate our product from competitors'. I don't see any scenarios where we have me-too drugs.

The long-term picture is much more important, but it's intangible and abstract. Digital therapeutics present a big opportunity. They have the potential to become a multibillion-dollar category. The greatest value will be from data. If we know, for instance, when the right time is for a patient to move to the next step in the treatment algorithm, that will be better for everyone in the system.

A few years ago, I heard the CEO of Netflix talking about how they made one of its more successful shows. They said, "If we put this scriptwriter and *this* director and *these* actors together and create a show, there's a high probability it will be successful." All of that came out of data—and people liked it. Netflix is an entertainment-and-media company, but it's a data company, as well. I think that's what's going to happen, in the end, with digital therapeutics too.

McKinsey: We talked about opportunities and value; what about risk?

Bozidar Jovicevic: Our thinking about risk is changing. The question people were asking five to seven years ago was, "Will patients engage with this

product?” A bit later, it was, “Will this product deliver outcomes?” Then three years ago, it was, “How do we bring this smart product to market, from a regulatory standpoint?”

By now, I think we can answer, “Check, check, check.” Yes, patients will use the products, if you design them well. Yes, the products will deliver outcomes—companies have demonstrated that through randomized clinical trials. And yes, regulators in the United States have set a clear pathway for getting to market.

What’s left is what I call the “last mile of digital therapeutics.” Will payers adopt this new category? If so, how fast? We don’t know. Second, how do we commercialize these products? Our current commercial channels in pharma, with or without sales reps, may not be the right ones. So I would say, market access and how to commercialize are the biggest risks. Some of the risks we used to worry about aren’t risks any longer, which is good news.

McKinsey: How will the digital-therapeutics business model differ from today’s pharma business model?

Bozidar Jovicevic: When we talk about business models, there’s a danger we might think that digital therapeutics are just like drugs, only digital. So a doctor prescribes a drug, and a digital therapeutic as well, and everything else is the same—development, commercialization, market access. But the way products are commercialized will be different, in fact, and that will have a huge spillover effect.

Digital therapeutics will be used by more patients, but the price will be lower, which makes sense. Doctors will see fewer sales reps. Even today, 50 percent of US doctors don’t see reps, and an average sales visit lasts a couple of minutes. The productivity of that model is declining.

I think digital therapeutics will spur the kind of experimentation that happens with all new commercial models. We already see consumer-healthcare companies combining paid media with e-commerce and telemedicine to bring products to market. I’m excited about what’s coming, and I see it having an impact on pharma as well.

McKinsey: Sanofi recently announced a deal with the app provider Happify to produce a digital therapeutic. How do you plan on incorporating it into your business model?

Bozidar Jovicevic: Happify has shown in both real-world situations and randomized clinical trials that using a mobile app can reduce anxiety and depression. When Sanofi was looking at multiple sclerosis [MS], we saw that the top five symptoms patients experience include anxiety, depression, and fatigue—yet most MS drugs don’t address them. So we see this partnership as an opportunity to treat patient holistically—mind and body. Physical and mental health are connected. For example, reducing depression in patients with MS has a direct effect on relapses.

So we plan to bring a better solution to patients. It won’t be aimed only at patients on our drugs; it will be for patients with MS on any drug, bringing them that extra component of mind health. It will be one of the first to showcase that this approach can work. That’s exciting.

McKinsey: Sanofi’s collaboration with Happify is an example of how the healthcare ecosystem is changing. What will the next stages of evolution look like?

Bozidar Jovicevic: There are a lot of questions about where digital therapeutics fit in and what pharma’s role should be. I think pharma should play a big role in digital therapeutics. And partnership

models have the best chance of delivering successful outcomes because they give you the best of both worlds. You have a big company, with scale and global reach and a certain rigor in everything it does, and a start-up that's agile and brings user experience, design, rapid prototyping, paid media, and other capabilities. Merging the two cultures creates something that works and can be scaled quickly.

Then there's the question of how digital therapeutics fit into the broader ecosystem. How will payers pay for this? Will it be per outcome or per patient per month? The latter is more likely, because that's how the systems are set up. Attribution is difficult to deliver for paying per outcome. As for doctors, digital therapeutics have to fit into their workflows and will probably involve the same amount of work or more, rather than less. We need to think carefully about how we do all this. But it will definitely improve the quality of care and, ideally, patient outcomes.

McKinsey: Do you think companies from pharma and digital therapeutics will evolve into an ecosystem?

Bozidar Jovicevic: Yes. It's a good match: agility from start-ups and scale from big companies. Another interesting match will be with the big tech players, which are increasingly becoming health companies. Tim Cook has said that Apple's biggest legacy will be in health. Then there's Amazon's partnership with JPMorgan Chase and others.

I think we'll see interesting partnerships among pharma and healthcare players, tech companies, and start-ups. Payers and tech companies are forming partnerships, too, but we don't know how that will play out.

McKinsey: How do payers and providers need to change to bring digital therapeutics to patients more effectively?

Bozidar Jovicevic: Both of them will play a huge role in whether or not digital therapeutics get adopted. With payers, there's a healthy dose of skepticism. They're asking, "What is this? Could it work for my overall population, not just the 3 or 4 percent of patients who are already engaged with their health? Will it reduce my costs?" If digital-therapeutic companies take these questions seriously and show—through randomized clinical trials and real-world settings—that they can deliver lower costs and improved population health, there's a fair chance payers will speed up adoption.

When it comes to providers, there's always some inertia with the adoption of any new category or innovation. We have to think through doctors' workflows and make sure we don't unleash a flurry of new questions from patients, because physicians aren't paid to spend their time explaining things. Our digital-therapeutic solutions must address that. We could have a service on the back end: a nurse or coach to answer questions. We could have an educational component so that when the doctor steps in, they work with a patient who is already engaged, educated about their disease, and more adherent. Then the patient and doctor can have a conversation that requires human interaction, which would be time well spent.

It all takes thought, but once physicians and providers see the value of digital therapeutics, they will start to use them.

McKinsey: Are digital therapeutics the future of healthcare? What will it take to succeed?

Bozidar Jovicevic: They certainly represent a huge opportunity. The world needs them because they can drive behavior change at scale. Everyday apps, such as Instagram, are already affecting our behavior. And we have video games that people are happy to play for hundreds of hours. We can use the same technologies for something good: being healthier and happier. It's a bright future.

[T]en years from now, I'd love to see prescribing and using digital therapeutics become just standard of care—a normal thing, like prescribing a drug. That would reshape the practice of medicine.

Twenty years from now, I'd like to be able to look back and say, "We were on the right track. We were trying to pioneer something that's good for the world." And ten years from now, I'd love

to see prescribing and using digital therapeutics become just standards of care—a normal thing, like prescribing a drug. That would reshape the practice of medicine.

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