



LEADERSHIP PERSPECTIVES

THE IMPACT OF DIGITAL ON HEALTHCARE

Installment #6 of a multi-part series



JOHN PRACYK, MD, PHD, MBA

In the Perspectives series, MAPS Americas Region President, **John Pracyk, MD, PhD, MBA** speaks with leaders from Johnson & Johnson, where John is Integrated Leader, Medical Affairs, Preclinical and Clinical Research at DePuy Synthes Spine (a J&J company). Rather than publishing each interview separately, John has chosen to organize these interviews by topic, distilling the opinions of J&J thought leaders to demonstrate consensus or offer distinct viewpoints on issues of importance for the practice of Medical Affairs.

Digital is transforming Pharmaceutical, Medical Device, Vision, and Consumer Healthcare organizations. Digital is also a bit of an enigma as it can range from health-focused Digital technologies (telehealth), patient engagement applications (“apps”) for a variety of applications, and healthcare delivery efficiencies that have the potential to make a more personalized and more precise medical experience.

Here we speak with some of the top Medical Affairs leaders from Johnson & Johnson as they share their perspective on the impact of Digital on Healthcare.

Question: How do you see Digital expanding the product’s therapeutic context?





Jennifer Davidson, DO

Vice President, Medical Affairs, Cardiovascular, Metabolism, & Retina, Janssen, J&J

I think the goal for data generation is to drive more personalized care that is appropriate to specific patient populations and to develop a deeper understanding of how those benefits confer a specific advantage to the individual patient.

In looking towards the future, I think it will be interesting to see how Digital is going to change the regulatory environment with the wealth of data that we're going to be collecting over time.

Undoubtedly, Digital health will help us better understand the implications of our medicines and therapeutics upon different patient populations. In the end it will help us to develop more effective therapies with a more wide-reaching impact.





Paul Burton, MD, PhD

Vice President, Chief Global Medical Affairs Officer, Janssen, J&J

- The biggest enabler of Medical Affairs is Digital medicine. Everyone knows Digital will be an enabler of increase speed and accuracy of diagnosis and hopefully treatment.
- Digital will facilitate knowledge translation that tells you about the disease and the best treatment for it. COVID-19 has just accelerated that, and Medical Affairs is on the forefront.
- The future for Medical Affairs is going to be that combination of deep scientific information, being able to translate that information into knowledge and then clinical practice using Digital tools to engage our patients and customers more effectively.
- If Digital is able to increase the speed to diagnosis, the accuracy of diagnosis, and to triage patients to more effectively, then it can really move the needle in terms of outcomes.
- When I think of Digital health care and I would say Medical Affairs is directly at the epicenter.





Husseini Manji, MD, FRCPC

Global Head, Science for Minds, J&J

- Telehealth is essentially a pure Digital technology. One of its unique benefits is that it can be continuously collected and it's clearly much more objective. Let me give you an example:
 - If you have a patient in clinic and you inquire about their signs and symptoms over the last two or three weeks; they're going to give you information, but it will be heavily influenced by events of the last 24 hours. This is an "Immediacy Effect" type of bias.
 - Alternatively, Digital technologies collect information continuously over time in an objective manner. This cumulative summation can be very powerful in mitigating the "Immediacy Effect".
- Digital also allows you to focus on what really matters out of the data meticulously collected over time and not be distracted by the sheer volume. Think is analogous to the electronics term of "signal to noise" ratio.
- Although this may seem counterintuitive, Digital health because of its constant connectedness can facilitate a more meaningful human interaction, which is what medicine is really about.
- Artificial intelligence and machine learning will not only do some of the things we used to do, like reading radiographs, but it will take it to the next level in developing deeper insights from this greater volume of data points across the totality of these activities.
- Admittedly, the challenges of privacy and data ownership will have to be reconciled. However, if we do it correctly, Digital Health could be transformational to the Pharmaceutical industry.





Rajesh Mishra, MD, PhD

Vice President, Global Medical & Clinical Sciences, Consumer Health, J&J

- ▣ I think Digital in Consumer Health is not different from what you just described in the Pharma and MedTech sectors; if anything, it's more important because consumers are more empowered by the expectation of having sufficient information for them to make purchasing decisions.
- ▣ They have access to a lot more competitive reviews of the product. Just think of Amazon and how these reviews influence their decision-making.
- ▣ Look at what we experienced during the great acceleration of the COVID-19 pandemic, where real time digitization (telehealth) completely changing the game of how people are expecting to interact with their health care provider.
- ▣ Conversely, health systems and integrated delivery networks have all admitted that telehealth is here to stay.





Rajesh Rajpal, MD

VP, Chief Medical Officer, Global Head of Clinical & Medical Affairs, Vision, J&J

- Digital is allowing us to access real time information and data for more “in-the-moment” decision making, which is incredibly impactful.
- Being able to use artificial intelligence, machine learning we will be able to develop better products and be able (unlike ever before) to identify where the unmet medical need is the greatest utility of this “big data” approach.
 - For example, I have seen algorithms that were able to identify the gender and age of the patient with very high reliability and predictability, yet those inputs were not part of the data set. That’s quite remarkable.





Tony Hong, MBA

VP, Integrated Leader, Preclinical & Clinical Research and Medical Affairs, Cardiovascular & Specialty Solutions, J&J

- One medical device can easily be used by hundreds of surgeons; but, no two will use it identically. Inherent in that variability, we need to learn how the population of surgeons have been able to improve their workflow (efficiency) and outcomes (efficacy).
- Digital now allows us to start aggregating this data to democratize the practice of surgery. Such fundamentally new knowledge will help us treat more lives, more effectively and more meaningfully.
- If I'm going to provide my expertise as a surgeon, then that is such a small aspect of the greater global surgical practice. Digital will help with scaling the best practices to impact greater lives and paint the big picture with the data.
- Medical Affairs professionals with their ability to understand that data and interpret it in meaningful ways, will be immensely more valuable to organizations moving forward.
- Medical Affairs sits squarely at the intersection of Digital data and clinical practice and stands to profit from being able to provide the critical expertise in distilling this into actionable insights.





Mark Wildgust, PhD

VP, Global Medical Affairs, Oncology, Janssen, J&J

I love the idea of using Digital technologies and devices to help us.

- For example, how many times have we known if our medicines help patients with something more abstract, such as their fatigue?
- It's always been very hard to show that. But can wearing an "I-Watch" help you with that?
- Similarly, can our medications be leading to better sleep patterns? You could never imagine doing that before.
- Can we show that they are moving more with documented ambulation confirmed by a wearable?

We now have this device that sits on your arm that can do that. It can tell your blood pressure as well as even tell you if you have atrial fibrillation and cardiac insufficiency.

I think the real question is, how can we use Digital technology to access data that helps answer questions that we just simply couldn't answer before?

However, that is not the most remarkable part. Big data is just a collection of information, the real consequential part is how do you prosecute your understanding that information?

Simply put, do you have the right data sources themselves that have the right information to be able to address the right question?

With Digital, the possibilities are simply awesome. I think it really comes down to our creativity and how fast will we be able to adjust to this new influx of information.

