

Digital health: from buzzword to solutions

Q&A with Lena Rogovin

Lena Rogovin is digital health and life sciences research analyst at Start-Up Nation Central where she defines and analyzes the sector's latest investment, technology, and corporate trends in Israel and globally; and contacts with leading Israeli digital health ecosystem players.

Clairfield is celebrating its 15th anniversary this year. What did the digital health sector look like 15 years ago?

About 15 years ago, digital health had just emerged as a buzzword. There was no clear definition of what it was exactly, apart from a very vague effort to find a common name for the intersection of healthcare and emerging computerized technology. In the beginning, digital health was widely used as another name for healthcare IT, referring mostly to operational rather than clinical processes. Examples of the first digital health solutions are the digitalization of medical records and hospital logistics. In the next stage of the sector development, around 10 years ago, remote monitoring and telemedicine came into play. An example of one of the first telemedicine players is the US company Teladoc Health, founded in 2002.

What is the most impactful application of digital technology to healthcare?



There are many more than one. At some point digital health can disrupt the global healthcare system. Major applications are better outcomes, improved access to care, and decreased cost of care. This can be achieved by bringing digital health innovations to all areas of healthcare, from early detection (or even prediction), to diagnostics, continuous monitoring, and treatment. With tech getting more mature, early prediction can lead to

prevention. On the non-clinical side, digital health can help streamline operational processes in hospitals and cut pharma R&D costs and time. With regard to the application of specific technologies, artificial intelligence and machine learning are definitely the leading technologies and in Israel we see this trend very clearly. About 85% of total investments in the Israeli digital health sector in 2018 were in start-ups that utilize AI solutions.

How is artificial intelligence changing the healthcare sector?

AI can be applicable to all healthcare industry domains. Today in Israel, which is especially strong in AI, we see many startups offering decision support for pathologists, radiologists and even surgeons, as well as prediction and early detection solutions. This is only the beginning, and most of these technologies have yet to prove their efficacy, but the potential to improve care and diagnostic quality is enormous.

In the future, AI solutions can help to solve the problem of a lack of physicians, make diagnostics more accessible and precise, and help the system to deal with growing amounts of data while becoming a driver for the development of personalized medicine. In a different context, AI solutions that are being applied to operational workflow in healthcare systems are attracting more and more attention and are sometimes easier to adopt as no regulatory approval is needed.

How does digital health affect the pricing ecosystem of healthcare?

Digital health is still in its early days, and there is not enough evidence of cost savings yet, however cost of care is one of the major challenges that digital health companies are trying to resolve. Some of the positive examples are:

- Use of interoperable electronic medical records (EMR), leading to lower numbers of unnecessary duplication of diagnostic tests and images (X-rays, MRIs, CTs, etc).
- Cost of home hospitalization/telemedicine is one-third of the cost of a regular hospital stay or visit, according to various estimates.
- Diagnostics and early prediction of diseases with the help of AI leads to lower costs of patient care in the future.

Another more general trend is mergers between different kinds of players in the healthcare space, for example CVS/Aetna and Optum

Health/DaVita. These mergers can lead to a change in business models and have an effect on pricing.

Do you see the application of digital health integrating into other areas (payments and so on)?

Yes, of course. One of the original ideas behind digitalizing Israeli medical records 25 years ago was to digitalize codes for medical procedures to facilitate payments, and with more and more data accumulated it has gradually turned into a basis for development and implementation of clinical as well as operational solutions, including predictive analytics and decision support. Today, we see an intersection of digital health and "insurtech," that is, platforms optimizing the choice of health plans for physicians and patients (an Israeli company called VIM), natural-language-processing-based systems for automated coding of the data from patients' reports (another Israeli company called NYM), as well as solutions for the personalization and simplification of patients' billing processes.

Do you see the digital health start-up environment becoming too saturated? What does it take to break out and succeed in this niche?

It is a natural point in any industry life-cycle – rapid growth followed by a slowdown in growth and then consolidation. Digital health M&A globally is driven by digital health companies themselves – more than a half of the deals in the sector are digital health companies buying other digital health companies. In order to succeed, a start-up needs a viable business model. Today, there are many start-ups that offer niche solutions while targeting large tier-one customers. This is not easy to achieve. Companies that can build platforms, create partnerships and convince potential clients of their solutions will succeed.

Will startups stand on their own or become integrated into larger entities?

Both scenarios are possible – it depends on the product. Most large corporates in the healthcare world are very conservative and slow in decision-making when it comes to something completely new for them. Once there is more evidence of added value from digital health solutions, for example, an increase in revenues or a decrease in costs, we will see more activity from corporates and more integration. I would assume that start-ups developing solutions for medical device manufacturers or pharmaceutical companies are more likely to become acquisition targets for these players, while those developing solutions for healthcare providers are more likely to stay independent or be consolidated into larger peers. In most cases, platform solutions have higher chances of succeeding than niche solutions.

How can corporate finance solutions best assist start-ups in digital health?

Since this is a young sector, corporate finance involvement is still limited, but more and more traditional financial institutions, including global investment banks and family offices, are starting to look at the digital health sector. In addition to obvious services such as offering attractive financing models that increase shareholder value, there should also be an educational component, as most founders are not familiar with existing financing models and issues. In addition, bringing the right strategic investors that can open doors to potential customers and partners is essential for this sector. Money alone is not sufficient for the sector to advance.

Which subsectors are gaining the most interest?

Looking at digital health globally, the lion's share of funding is going into segments relating to patient empowerment, i.e. solutions designed to help a patient become a customer, as in any other service industry, rather than a passive receiver of medical services.

In Israel, there is strong interest in decision support and diagnostics, subsectors with the highest share of deep-tech AI driven solutions.

The sector is heading towards platforms and offering actionable items. There are a lot of companies offering remote monitoring solutions, and the technology is becoming more and more advanced but the market is already looking for the next step – how this data can be analyzed and used for prediction, diagnostics, personalized treatment, etc.

Where do you see the impact of digital health on healthcare 15 years from now?

In a perfect world, digital health will become an integral part of the global healthcare industry, helping to overcome lack of scalability, access to care, and pricing challenges. In real life though, there is still a huge gap between what digital health start-ups offer and what healthcare providers and patients really need. While some digital health solutions, such as electronic medical record applications, wearables that track vital signs, and some telemedicine solutions, have already become parts of our everyday lives, there is a long way to go before digital health makes a dramatic impact on the healthcare industry in general. To make it happen, there needs to be more communication and understanding between all the stakeholders including doctors, insurers, entrepreneurs, and IT teams. ■

