At JPM 2018: Three Challenges That Will Define Health Care's

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At a momentous time for the health care sector, thousands of executives and investors are gathering in San Francisco this week for the annual J.P. Morgan Healthcare Conference. I look forward to this event every year. It's a rare opportunity to hear so many diverse perspectives, from industry leaders to entrepreneurs and innovators who are all tackling challenges that once seemed far from reach.

Consider just a few of the major developments of the last year: The first attempt at in-body gene editing, the first FDA approval of a gene therapy for blindness, and the first FDA approvals of CAR-T immunotherapies for cancers. And on the digital health front, we saw compelling proof of concepts that featured the diagnostic power of machine learning. At Stanford, for example, researchers developed an algorithm to analyze chest X-ray imagesthat can diagnose up to 14 types of medical conditions and is able to diagnose pneumonia better than expert radiologists working alone.

However, as we enter what is sure to be one of the most consequential eras of modern medicine, there are many more challenges that must be resolved. Can we remove the barriers that have kept digital health from living up to its full potential? How can we ensure that new medical breakthroughs are accessible to everyone? And, is our industry ready to embrace the pursuit of prevention as eagerly as the next blockbuster drug? These are the questions on my mind as I prepare for this year's conference.

Challenge #1: Realizing the True Potential of Digital Health

At J.P. Morgan, I'll be moderating a panel discussion with several health technology experts to address the question, "Is digital health at an inflection point?" I believe the answer is a resounding yes. The technologies that underpin digital health—from consumer devices to enterprise analytics—have evolved and are reshaping how we approach medical research and patient care. They are also starting to influence, in meaningful ways, how people engage in their own health.

An example of this is the new digital health study between Apple and Stanford Medicine, which will evaluate the Apple Watch's ability to

diagnose irregular heart rhythms such as AFib—a leading cause of stroke that is believed to go significantly underdiagnosed. Democratizing medical research in this way is only possible because wearables have become an everyday part of people's lives.

But for all our progress, fully seizing the digital health opportunity remains a challenge. This can be seen most clearly with electronic health records (EHRs), which are widespread, but are failing to make the impact on health care that many predicted. One reason for this is a continued lack of interoperability between EHRs, which today essentially function as islands of health data.

In our fragmented health care system, where patients often move across multiple settings of care and visit a range of specialists, EHRs should improve coordination and create consistency. But that isn't the case. A recent study by Harvard Business School researchers found that fewer than one in three hospitals can fully share patient records. Health care delivered precisely demands a coherent, longitudinal view of patients. This remains one of the most important and lucrative opportunities for innovators: Resolving how to bring our industry's wealth of siloed health data together.

Challenge #2: Making Innovation Accessible to Everyone

New breakthroughs in medicine carry significant price tags. This has always been true, but an emerging class of gene therapies and immunotherapies, with costs in the hundreds of thousands, represents a paradigm shift. Just a few days ago, the maker of Luxturna gene therapy, which restores sight in people suffering from a rare form of blindness, announced that its therapy will be sold at $425,000 per eye. The novel cancer therapies Yescarta and Kymriah carry similar list prices. These kinds of treatments are revolutionary, but today, few can afford them. Unless we solve for the challenge of accessibility, we risk adding to already significant health disparities that exist in America.

There's no easy solution—but there's also plenty of opportunity for innovators to think creatively. One intriguing idea comes from University of Washington economist Anirban Basu, who took on one aspect of the cost equation: The fact that insurance plans are reluctant to shoulder the burden of an astronomically priced cure only to have the now-healthy recipient switch plans a few years down the road. Basu proposes using a health currency called HealthCoin, which insurers could purchase when "buying a cure" and then sell it at a depreciated rate when the patient switches plans or ages into Medicare.

Investment in basic science is another way to bring down cost and to promote competition. Look at the wave of hundred-dollar DNA tests now available to help patients identify their risks for genetic diseases. Much of the credit goes to the Human Genome Project, a collaborative effort funded by the National Institutes of Health and similar entities from around the world. The project's efforts to produce the first complete sequencing of the human genome cost an estimated $500 million. In little more than a decade, commercial prices for whole-genome sequencing have fallen below $1,500 and continue to drop.

Finding ways to make medical breakthroughs accessible to all will require the same innovative spirit that drove those breakthroughs in the

first place.

Challenge #3: Placing Equal Emphasis on Prevention

Perhaps the biggest challenge for the health care industry is embracing the critical goal of prevention with the same energy and enthusiasm as we do the pursuit of cures. While the biggest commercial opportunities in health care have traditionally come from providing treatment and developing new medicines, can we create new business models that focus on wellness and helping people to thrive? Can the health care industry tackle the vexing issues of behavior change and environmental factors that we know are the biggest determinants of health?

In a variety of ways, Stanford Medicine has worked to put solutions into practice. Our unique virtual primary care program, for example, combines virtual physician engagement, in-person visits, and health coaching to give patients a personalized, holistic approach to maintaining health. And through our SPHERE initiative, we're focusing on using Precision Health tools to address social determinants of health in underserved ethnic and racial groups. However, these are early efforts and we can only do so much from our perch in the Bay Area. Real transformation will require the involvement of many players spanning policy, public health, social services, and the innovation community—to name a few.

We live in a time of remarkable progress in medicine. Our genetic destiny is becoming malleable, and new technologies will soon accelerate medical discoveries and help to tailor care to each individual's unique situation. This is a historic opportunity to shape the health of generations to come. If we can address the challenges I've outlined, the results will be profound.

#JPM18

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Ben Castleberry
Chief Marketing Officer at Code Quick

Great article! Accessibility to affordable care continues to be a struggle. I share your concerns as to

how we as healthcare professionals can make this happen. Thanks for sharing!

2mo

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Lloyd, Thank you for the article! For me EHR was a big disappointment, it tended to detract from the patient encounter rather than improve upon it.. I utilized a scribe to workaround EHR's and allow me to be more present to the patient but I agree ..there is no reason to have EHR "silos" with one vendor refusing to communicate with another...the patient should come first! ...we need to

...see more

an, Stanford University School of Medicine