

Investor

SPECIAL REPORT
Deals of the Year

Asset Management

**HEALTH CARE
RUNS INTO THE TECH
REVOLUTION**

Investors

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BALANCING ACT

THE MEMBERS OF THE 2016 ALL-AMERICA EXECUTIVE TEAM SHOW AN UNCANNY ABILITY TO STAY ON TOP OF EMERGING TRENDS IN THEIR INDUSTRIES WHILE MAINTAINING A FOCUS ON DAY-TO-DAY OPERATIONS.

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The recent uproar over drug pricing and worries of a biotech bubble haven't discouraged some savvy asset managers, who believe recent advances in science and technology are about to usher in a new era of drug discovery and consumer-oriented, data-driven medicine.

By Kaitlin Ugolik

Illustration by Brian Stauffer





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VISITORS COULD BE FORGIVEN FOR MISTAKING THE OFFICES OF CROSS-over fund RA Capital Management, near Boston's theater district, for those of a technology start-up. A gleaming white entryway, liberal use of standing desks and a well-stocked communal kitchen are the setting for a team of researchers, analysts and designers poring over numbers and charts. The vibe practically screams "disruption" and "innovation." A closer look at a large collection of blown glass lining the hallways reveals reproductions of individual virus molecules by British artist Luke Jerram. There's Ebola, E.coli, HIV and even avian flu. They lead to a bright conference room dominated by a large screen displaying slide after slide of colorful and intricately detailed maps that may hold the keys to curing those diseases and more.

Bringing to mind Steven Spielberg's science fiction thriller *Minority Report*, RA Capital's 39-year-old co-founder and portfolio manager Peter Kolchinsky, who has a Ph.D. in virology from Harvard University, manipulates a touchscreen showing colorful blocks of text distilling everything that currently is known about diseases such as breast cancer, hepatitis C and Huntington's disease. His firm is invested in various drugs targeting specific molecular mechanisms that trigger disease, but Kolchinsky sees the real potential in the black space of what's unknown about these conditions. Thanks to the confluence of increasing demand and scientific innovation, roadblocks to understanding and treating disease that seemed insurmountable a decade ago have turned into opportunities that could both save lives and be incredibly lucrative for the right investors.

About 200 miles away, in New York, Internet entrepreneur Unity Stoakes is building a small empire of health care technology start-ups in the former headquarters of Goldman Sachs Group. On the 29th floor of 85 Broad Street, a chunk of cozy, hardwood-floored offices owned by coworking-space developer WeWork has been set aside for companies that are part of the StartUp Health network. Since launching in 2014 the network has grown to include 117 companies in more than 50 cities around the world that promise to do everything from in-home dialysis treatments to medical fraud prevention through biometrics. In a small

furnished room that soon will become a studio for recording podcasts, Stoakes, the network's co-founder and president, preaches the gospel of creative destruction. Health care is the only major industry, aside from education, that hasn't been meaningfully disrupted and forced to re-create itself as a result of new technology, he says. That is changing.

Kolchinsky and Stoakes represent dual revolutions that are propelling health care into a new era of personalized, consumer-oriented, data-driven medicine. At the edges of RA Capital's maps are the treatments and therapies that will fill health care investors' portfolios in the months and years to come. StartUp Health's network comprises dozens of companies ready to change the way doctors and individuals communicate about, monitor and address health concerns. Not all of these companies will succeed, but continuing advances in science, coupled with recent regulatory, cultural and demographic shifts (see "The Silver Tsunami," right), have created a convincing optimism that the overwhelming trend is toward more-expedient and successful diagnoses, treatments and cures. For investors interested in capitalizing on this disruption, this means looking beyond hot-button issues like drug prices and a potential biotech bubble to the science and technology that have transformed so much in the sector from empty promise to reality in the past few years.

"You are seeing literally every aspect of what's possible be changed in terms of our health care," Stoakes says. "It's not working on a linear path; it's working on an exponential curve."

It took 13 years and \$2.7 billion to sequence the first human genome. Today it can be done in a few hours for a few thousand dollars. Just three years ago hepatitis C was for many patients a life sentence to immune system-weakening treatments for a chronic disease; now studies of new drugs indicate a cure is possible within three months of treatment. Researchers are learning not only how to identify which genes might be contributing to a patient's disease and the mechanisms by which they are doing it but also how to edit those genes to alleviate symptoms and implement cures. On November 30 researchers from the San Francisco-based J. David Gladstone Institutes released new findings that show a connection between the BRCA1 gene — a mutation of which is known to increase a patient's chance of developing breast cancer — and Alzheimer's. Researchers now know that BRCA1 proteins not only cause cells to multiply, they interact with neurons, which are depleted rather than divided. This could lead to better prevention and treatment for one of the most baffling brain-related diseases.

"We're just now starting to see the fruits of genomics," says Michael Ringel, global leader of research and product development at Boston Consulting Group, who is studying ways of valuing new methods and outcomes of health care. "The depth of understanding of disease is opening up whole new avenues of treatment."

Provider- and consumer-focused technologies that may sound to some like science fiction — helmets that can detect concussions in real time, pill bottles that tell your doctor if and when you've taken your medication — are now in use, and scientists have the capability to do even more. At the same time, individual consumers are becoming increasingly interested in and capable of tracking their own health. The implementation of the Patient Protection and Affordable Care Act (ACA) has shifted more of the cost of care onto patients as insurers lean on high-deductible plans, giving

71%
THE RECENT DROP
IN THE SHARE
PRICE OF VALEANT
PHARMACEUTICALS
INTERNATIONAL

a new generation of consumers already caught up in a culture of wellness additional incentive to tune into their own health.

"This market is bigger than any company I can imagine," says angel investor Esther Dyson, who has been funding wellness-related entrepreneurs since early 2007.

The U.S. health care market pulls in about \$2.8 trillion in annual revenue, according to PricewaterhouseCoopers, and health care indexes have long outperformed the broader S&P 500. Though the ACA has had its stumbles, it has added more than 10 million people to the U.S. health care system through exchanges and an additional 12 million through Medicaid expansion, and the bulk of the changes the ACA has made to the system are likely to remain in place regardless of who succeeds Barack Obama as president. But 2015 was undeniably difficult for health care investors. Stocks in the sector — especially, traditional drug companies and biotechs — had a volatile year, thanks in large part to a growing chorus of objections to drug pricing practices.

In September a young former hedge fund manager named Martin Shkreli became the face of the U.S.'s drug cost problem when his company, New York-based Turing Pharmaceuticals, made headlines for raising the price of an old toxoplasmosis drug by more than 5,000 percent overnight. Hillary Clinton's response on Twitter, calling the move outrageous and promising a plan to stop such "price gouging," sent health care stocks tumbling. The S&P 500 Health Care Index dropped 5.8 percent in one week. Major biotech players BioMarin Pharmaceutical and Biogen both lost more than 6 percent in one day.

Turing didn't pull down the market single-handedly. At about the same time, Laval, Canada-based Valeant Pharmaceuticals International came under fire for its own pricing practices and its relationship with a network of specialty pharmacies that allegedly pushed only Valeant's drugs. The company's stock fell 71 percent between September 18 and November 17.

Most health care investors, no matter how smart they were, felt the blow from this sell-off. One of Greenwich, Connecticut-based Viking Global Investors' funds — the Viking Long Fund, which had about 43 percent of its assets invested in health care — lost 79 percent

in the third quarter. The hedge fund firm owns almost 5 million shares of Valeant. But even those not invested in Valeant felt the

contagion: Dublin-based Allergan lost 13 percent in the last week of September, and Teva Pharmaceutical Industries, an Israel-based drug-maker, fell more than 10 percent that same week. In a letter to investors at the end of October, Glenview Capital Management founder and CEO Larry Robbins, whose hedge fund firm owned both Allergan and Teva, admitted that its health care positions had "failed to protect your capital, and mine." Glenview, which also was hurt by a drop in shares of Chicago-based pharmaceuticals company AbbVie, was down 13.5 percent for the first nine months of 2015, according to an HSBC Hedge Weekly report.

The past year's experiences showed that even a bet on a company with solid fundamentals and a pipeline of evidence-based therapies or technologies can be subject to the dips and dives of the volatile market. Investors who remember the biotech bubble of 2000 or got hurt in

"We've started to see a lot of companies whose pipelines hadn't fully matured entering a new product cycle that was underestimated."

OLIVER MARTI, Columbus Circle Investors

the recent market stumble may not want to jump into these turbulent waters now. But for those with access to, and a good understanding of, the science just beyond the headlines, the opportunities may be too hard to pass up.

"The '90s were really a stepping stone," says Oliver Marti, who manages CCI Healthcare, the team at Stamford, Connecticut-based Columbus Circle Investors responsible for the firm's \$1 billion health care strategy. "Over the past few years, we've started to see a lot of the companies whose pipelines hadn't fully matured entering a new product cycle that I think was underestimated by Wall Street."

WHEN SOUTH SAN FRANCISCO-BASED GENENTECH, THE COMPANY credited with creating the U.S. biotech sector, launched its initial public offering in 1980, its stock jumped from \$35 to \$88 a share in less than an hour. Investors who had been enamored by Silicon Valley's electronic

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THE SILVER TSUNAMI

AMERICA IS GETTING OLD. According to the U.S. Department of Health and Human Services, more than 14 percent of the population was over the age of 65 in 2013, the most recent year for which data is available. That number is expected to rise to 21.7 percent by 2040. This graying of the population will lead to a sharp uptick in chronic disease, exacerbated by increasing life spans. Although the toll this will take on the U.S.'s health care system, particularly Medicare, is a serious concern, many investors have found a bright side to the so-called silver tsunami.

"It's a megatrend in demographics that will last through the next decade,

so that creates a persistent source of demand for health care products and services," says Michael Gregory, CIO and head of health care investing at Dallas-based hedge fund firm Highland Capital Management. "It's a rising tide that lifts all boats," he adds, noting that the aging population's needs will put pressure on every part of the health care sector, from pharmaceuticals to medical devices to data management.

Baby boomers are playing a major part in sustaining the trend toward personal wellness. They are aging much differently from their parents, with more interest in and access to information about their health. An April 2014 study conducted by

New York-based StartUp Health showed that investment in digital health more than doubled between the first quarter of 2013 and the same period the following year, and that a major focus of much of that investment was on products for consumers over 50. Venture capital funding for that segment of the market made up 53 percent of all digital health investments between 2010 and 2013. While many tech and digital health companies focus on the coveted Millennial age bracket, seniors — admittedly faced with a steeper learning curve — do appear to be interested in joining the tech revolution.

J.P. Morgan Asset Management made a bet on seniors' resilience

and adaptability in October, when it announced a partnership with AARP, the nonprofit membership organization for people age 50 and older, to create a \$40 million innovation fund. The firm will advise AARP on direct investments in early- to late-stage companies developing products to help older people live independently for longer.

"Asking anyone to change their behavior is difficult," says Kathy Rosa, a portfolio manager in JPMAM's private equity group. "Innovating through technology can make it easier for people to adapt, which creates better outcomes, such as staying at home longer and having better life quality." —K.U.

Talkin' Bout a Revolution

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innovations had become convinced that the same kind of successful returns could be wrought from a new technology in the medical field: genomics, the branch of molecular biology that focuses on mapping the network of genes in the human body. Since the 1860s scientists and doctors had understood the function of DNA, or deoxyribonucleic acid, the self-replicating molecule that carries genetic information and instructions for proteins such as hemoglobin, which carries oxygen through the blood. In the 1970s researchers at Stanford University successfully took genes from one organism and combined them with genes from another to create recombinant DNA — an entirely new DNA sequence that can function on its own — opening the door to discovering the structure and function of genes that play a part in many diseases.

Partnering with the Stanford researchers, Genentech successfully re-created the insulin gene in 1978, and in 1982 the company's first insulin drug, Humulin, won approval from the U.S. Food and Drug Administration. The excitement built as gene after gene was manipulated and duplicated. Investors piled into Genentech and the many other gene-focused biotech companies that quickly followed, betting that their breakthroughs would change the entire health care industry. They were right, but it would take longer than most investors expected.

Knowing the makeup and function of one gene is useful, but without the larger context of how it fits within the body's genetic structure, including its DNA sequence, the impact is limited. In 1990 the U.S. Department of Energy and the National Institutes of Health initiated the Human Genome Project, an international effort to identify all of the genes in human DNA. The project

was initially scheduled to take 15 years; it was completed in 13. Advances in technology sped up the process, but it wasn't fast enough for many biotech start-ups and investors.

Genomics IPOs bombarded the market; in 2000 there were 46 public offerings on U.S. markets, raising \$3.7 billion. That year the bubble burst: After skyrocketing to 1,596 in March, the market cap-weighted Nasdaq Biotechnology Index (NBI) plunged below 1,000 in April. Genentech's stock fell from a high of \$58 per share in March 2000 to \$19 per share during the same period a year later. It hit a low of \$16 per share in 2002 before beginning a slow climb back up.

To some investors, the recent uptick in biotech IPOs looks frighteningly similar. In 2014 there were 71 biotech IPOs in the U.S., 25 percent of total IPO volume, according to Renaissance Capital. In 2015 there were 48 by the beginning of October, raising \$4.6 billion. The NBI fell nearly 27 percent between July, when it reached its all-time high of 4,165, and mid-October, largely as a result of turmoil over drug prices and Valeant. IPOs slowed in response but began to pick up again later in the fall, putting the sector on track for another possible record year.

But the market isn't just dealing with more start-ups and offerings; it's also reckoning with more and better science. Several of 2015's biggest IPOs have been by companies like Austin, Texas-based Mirna Therapeutics that are working on genetically engineered cancer immunotherapies, treatments that bolster a patient's immune system to battle cancer. Others, such as Vancouver, Canada-based ProNAI Therapeutics, are pioneering ways to interfere with specific pieces of DNA to alter the trajectory of disease.

"The next ten to 15 years will be the period of time that is going to fundamentally change human health, and it's happening at a pace that's extraordinary," says Kevin Starr, partner and co-founder of Boston-based venture capital firm Third Rock Ventures.

Starr served as CFO and then COO at Cambridge, Massachusetts-based Millennium Pharmaceuticals during the era of genomics euphoria. He remem-

bers a time in the late 1990s and early 2000s when researchers were working out a way to treat multiple myeloma, a rare cancer of the plasma cells, and they regularly tossed aside as "junk" much of the information in DNA that hadn't yet been identified. They weren't alone: Until the mid-2000s few researchers were aware of the epigenome — the compounds that dictate how the genome functions and record changes in DNA. As it turned out, that "junk" held clues as to how DNA is modified by diseases like cancer.

"When I was at Millennium, we didn't even know there was an epigenome," Starr says. "Now there's a whole regulatory system we're exploring that regulates polygenetic disorders, and there's an entire new class of therapeutics."

Cambridge-based Voyager Therapeutics has clinical trials underway for a novel gene therapy to treat Parkinson's disease and amyotrophic lateral sclerosis, also known as ALS or Lou Gehrig's disease. The company plans to use viruses as carriers for proteins that can combat the genes that may trigger these conditions. Voyager, which is backed by Third Rock, raised \$70 million in a November IPO. Another Third Rock company, SAGE Therapeutics, which raised \$90 million in a July IPO and is also based in Cambridge, is currently conducting a Phase 3 study of a gene therapy for super-refractory status epilepticus, a rare, life-threatening disorder that causes the brain to seize continuously. In earlier trials 71 percent of patients were able to wean off anesthetics and then off SAGE's therapy without relapsing.

In the 1990s it would have taken 15 years for a product like SAGE's anti-seizure drug, known as SAGE-547, to make it from the lab through clinical trials. Now, from a neon paint-splashed office on Boston's Newbury Street, Starr is simultaneously keeping track of about 40 different clinical trials for therapeutics, many of which are showing measurable patient improvement with few side effects. These trials are a microcosm of the progress evident across the industry. That's why, despite recent biotech failures that are fresh in their memories, some asset managers

have taken innovative steps to move the sector forward. Those who have watched from the beginning are aware of the challenges ahead but are comfortable enough with the science to believe that this time will be different.

THOUGH LARRY FEINBERG, FOUNDER and managing general partner at Greenwich-based Oracle Investment Management, was the first to focus a hedge fund solely on health care and biotech, he may be an unlikely evangelist for the current craze. At the peak of the 2000 biotech mania, his firm had one of the world's biggest positions in the sector. When the bubble burst, the humbling experience led to a change in how Feinberg did business. Once an active trader, he now runs Oracle much more like a family office, with longer-term positions. For much of the past decade, that has meant taking advantage of the expansion of the U.S. health care industry through safe bets such as hospitals and established companies. But recent breakthroughs and start-ups

significantly more genetic information than its competition.

"I've never seen anything like what's going on right now in terms of drug development, in terms of results of products in clinical studies and coming to the market," Feinberg says. "Now I'm breaking my own rules."

In Boston, on RA Capital's futuristic maps, developed by a team of in-house researchers, Kolchinsky points out key insights from current research on breast cancer, which like many types of the disease is really a group of different mutations. Oncology is the furthest ahead in the race to identify and address diseases by targeting and treating specific gene mutations, but the most talked-about gene-targeting breakthrough in recent months wasn't for a cancer; it was for hepatitis C, an inflammatory virus that affects the liver. "As we come to better understand the molecular basis of diseases and diagnose exactly what is wrong, it becomes a lot easier to say, 'Here is the tool or combination of tools that would solve that,'" Kolchinsky says.

"I've never seen anything like what's going on right now in terms of drug development, in terms of results of products in clinical trials and coming to the market."

LARRY FEINBERG, Oracle Investment Management

with promising pipelines have proved too hard for Feinberg and many other asset managers to ignore.

Now Feinberg argues for the necessity of taking "scientific risk," above and beyond market risk, to make real money in health care. This translates into investments in companies like Durham, North Carolina-based Chimerix, which plans to report Phase 3 trials of the first-ever therapy for the prevention of cytomegalovirus, a common infection related to the viruses that cause conditions such as mononucleosis and chicken pox, in early 2016. Oracle also has positions in several medical robotics companies and in Menlo Park-based Pacific Biosciences of California, the first to offer third-generation gene sequencing, providing

Although several new treatments for hepatitis C have made headlines for their prices — Harvoni and Sovaldi, from Foster City, California-based Gilead Sciences, cost about \$1,000 per pill — they are far more effective than any treatment that existed before. Harvoni, which the FDA approved in October 2014, effectively cured 94 percent of patients in three months and nearly 100 percent of patients after six months by inhibiting the protein that replicates the hepatitis C virus.

"People call it expensive, but we're talking about a cure in eight to 12 weeks, versus prior therapies that often required a lifetime of treatment," Marti of CCI, which owns nearly 3.5 million shares of Gilead as of its most recent

13F filing. "And it's only penetrating a very small percentage of the estimated hepatitis C market."

As many as 150 million people around the world have hepatitis C, according to the World Health Organization, and curing the virus on a large scale would be one step toward eliminating many cases of liver cancer. The next step: targeting hepatitis B. RA Capital has made at least one past investment toward that end, in Pasadena, California-based Arrowhead Research Corp., which is working on an injection. Finding a cure for this virus has turned out to be much more difficult, but Kolchinsky points to the value of Arrowhead's research in understanding those hurdles. The important thing to remember going forward, he says, is that these advances are no longer happening in a vacuum; the breakthroughs will continue.

"As people appreciate that biotech is not operating in the dark and understand that genetic medicine is giving us blueprints, we're starting to see a remarkable change for the sector," Kolchinsky says. "When gene therapy cures a disease, you do not revert to the mean; you do not take that back."

The problem for some investors is that massive breakthroughs aren't discovered and implemented overnight, and in the meantime other factors influence the market. Many analysts look at a company like Cambridge-based WAVE Life Sciences, which raised \$102 million in a November 11 IPO and is working on DNA therapies for rare diseases, and worry that it isn't worth its recent \$350 million market cap because of what it hasn't yet produced: earnings and FDA-approved treatments.

"The public markets are not well equipped for parsing science data," says Kolchinsky, whose firm owns 25 percent of WAVE. He prescribes a science-based, rather than strategy-based, outlook.

RA Capital started out in 2002 as a public-focused fund but has since transformed into a crossover fund, focusing on the science and pipelines behind investment targets, both public and private. The firm has an in-house research group, dubbed TechAtlas, that creates

its disease-specific maps. Kolchinsky believes that to take full advantage of current and future biotech developments, investors will have to set aside their loyalties to particular strategies.

"If we come up with a way to cure Huntington's disease, it won't matter which bucket your money came out of," he says, referring to an inherited neurodegenerative malady that affects about 30,000 Americans. "If you're only a public guy, you need to figure out how to broaden that mandate and invest in that drug. It's worth figuring out how to get the flexibility you need to be a part of that."

ESTHER DYSON WANTS TO ELIMINATE the need for complex new drugs altogether. Dyson, who made early bets on Facebook and LinkedIn, has more recently turned her attention to how basic nutritional information paired with innovative technology can improve health and allow investors to capitalize on a growing culture of consumer wellness. Health — as opposed to health care — should be an asset class in its own right, she contends. "The returns would be so much better for everybody if you just think longer-term and keep people from being sick," she says.

To Dyson, investing in prevention means funding companies such as Omada Health, a San Francisco-based enterprise that provides employers and health insurers with a digital program aimed at preventing diabetes. Omada recently completed a \$48 million Series-C round, bringing total funding to more than \$77 million.

Dyson has founded a nonprofit known as HICCup that has launched five community case studies to show that a collaborative prevention effort based on individual health data and known science about diet and exercise can create as much value as the latest tech innovation by preventing disease. The project, called the Way to Wellville, is taking place in Muskegon, Michigan; Lake County, California; Spartanburg, South Carolina; Clatsop County, Oregon; and Niagara Falls, New York.

"There's not a new idea in it," Dyson says. "It's implementing old ideas; actually doing it is the new idea." But

the methods of gathering patient data are certainly new, and they are an easier point of entry to the consumer wellness craze for many investors, though hurdles remain.

When Fitbit, the San Francisco-based maker of wearable activity monitors, launched in 2007, it was one of the first tech start-ups to take advantage of individuals' increasing desire to track personal health data. As people pay more out of pocket for health care, the incentive to follow certain measures of their own health grows. But it's hard to value a company like Fitbit because consumers and investors don't often know how to use the information that its devices gather. After Fitbit went public in June, opening at \$30.40 a share, its stock price steadily rose, topping \$50 on August 5. By mid-November, however, analysts' predictions of a fall had proved true as investors realized Fitbit's devices didn't provide much more than a count of steps and calories.

The ability to gather big data has been the focus of much health technology innovation in recent years. Now, experts say, the next task is to figure out how to use that information. Mountain View, California-based personal genome information company 23andMe was an early victim of this problem. The company hit a snag in 2013, when the FDA ordered it to stop selling its DNA-analysis product because of the possibility that consumers would be misinformed by false positives, false negatives or errant information about their genes. But the ban was lifted this past fall, and the privately held company, which is valued at more than \$1 billion, according to research firm VC Experts, is now selling an adjusted version of the kit.

The company is also forging partnerships with Big Pharma to turn its data into drugs. In fact, investors who are focused on New York-based Pfizer's upcoming megamerger with Allergan may be missing the real opportunity at the drugmaker: A year ago Pfizer announced a partnership with 23andMe that gives the pharmaceuticals giant access to more than 600,000 individuals' data for research purposes. The first study was

launched in May with the goal of better understanding and developing personalized treatments for patients with lupus.

"People think it's the person who owns the data who has the power," says Belen Carrillo-Rivas, Pfizer's head of R&D innovation projects. "It's not. It's the person who understands the data."

StartUp Health's Stoakes compares the current struggle to get a handle on health data — and the corresponding surge of start-ups attempting to do just that — to the early days of the Internet. Stoakes and Steven Krein, who launched StartUp Health in 2011, began their careers as web entrepreneurs. "To put it in context, I would say we're at 1994 Internet, when Netscape was going public," says Stoakes.

In this scenario Fitbit or San Francisco-based information technology provider Castlight Health would be Netscape Communications, blazing a new trail and inspiring a wave of followers. Some of those followers are in StartUp Health's network, including AdhereTech, which has developed a smart pill bottle that helps track and improve adherence to medication regimens, and Dermio, a virtual dermatological consultation service. Stoakes believes the next generation of health tech start-ups will include devices that can be embedded to measure vital signs and communicate them to doctors, clothes that can measure dehydration and nutrient levels, and skin-patch drug-delivery systems dropped off by drones. If that sounds a little frightening, Stoakes is quick to point out that doctors have been embedding products like pacemakers and intrauterine devices for decades.

The individual pieces of a true health care revolution — in which more diseases are prevented, conditions are caught and understood sooner and can be treated with targeted, individualized methods — are being fine-tuned and primed for better speed and accuracy. The next step will be to fit them together.

"A lot of the heavy lifting and hard work has been done," says Stoakes. "There's a robust market now for change to occur, and there will be a great opportunity over the next five years for it to happen very quickly." •