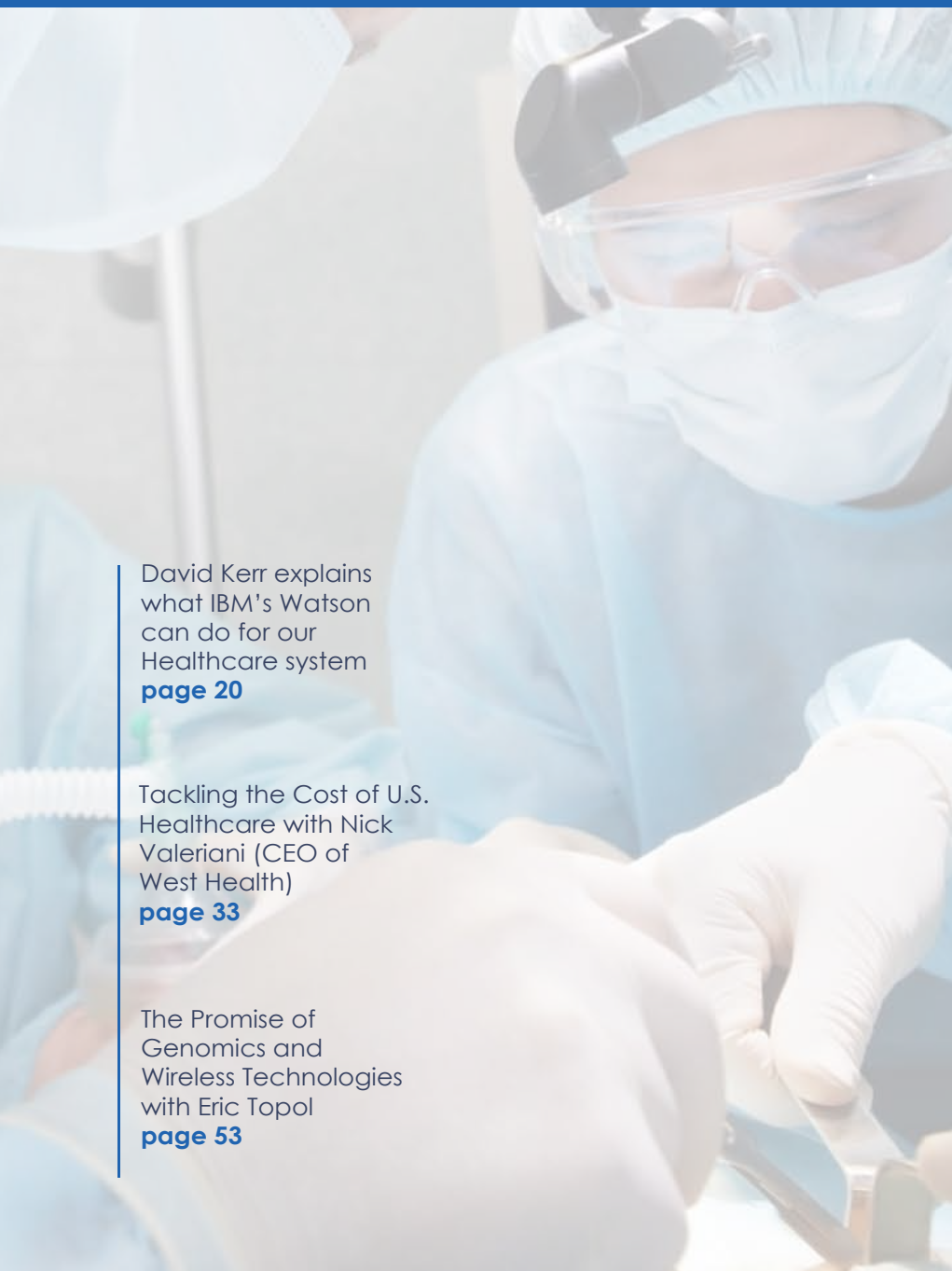




the *Pulse*



The Magazine for the Wharton Health Care Business Conference | February 2014



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Letter from the Editors

January 1 of this year represented the first day for many of the key provisions of the Affordable Care Act. With Medicaid's reach extended in the majority of states, support of premiums in even more, and an increased ability to purchase health insurance, the focus on reforming the U.S. healthcare system is shifting away from questions of expanding access. While the status and reach of the ACA will continue to evolve, the main question facing the system for the years ahead will now be how the system accommodates the new entrants. And, at the same time the industry struggles with increased demand for health care, we are facing a shortage of trained professionals, and an increasingly difficult regulatory environment for life sciences companies.

It is on this problem of innovating care delivery that the staff of the *Pulse* has focused on this year. In collaboration with the Wharton Health Care Business Conference, we first examine the rising trend of consumerism in various subsectors of the industry. What does it take to engage patients further in determining their own health outcomes, and how will payors, providers, and producers need to respond? As in other sectors, consumers appropriate more value as data becomes readily available and outcomes become increasingly measurable. Accordingly, the second section of the magazine focuses on new opportunities unlocked by new data collection, analysis, and distribution technologies in healthcare.

If consumerism and data science are the backdrop of a changing system, the second half of this issue focuses on where delivery is headed. Several efforts have taken shape to "bend the cost curve," as policy experts say, and the *Pulse* speaks with industry leaders on their efforts to reign in costs with new payment models and evolving means of production. We also address the climate for innovation through entrepreneurship, helped along by both established companies and emerging businesses.

With the diligent work of our writers, and the generous help from our colleagues in the Conference, our corporate sponsors, and the Wharton Health Care Management Alumni Association, we hope we have sparked a series of insightful conversations which will continue throughout the conference and over the years to come. We hope you enjoy reading the *Pulse* as much as our staff has enjoyed putting it together. Over the coming year, we'll continue these conversations in some form online, either on the Wharton Health Care Blog or over our HCM Twitter account. Please continue to check in, and to lend us your insight and wisdom, so we can keep the Wharton Health Care community vibrant and up-to-date.

Sincerely

Jonathan Brallier, Kelly Cheng, and Rob Varady

Editors-in-Chief, Pulse 2014

Patient Behavior Change: Opportunities and Challenges

*An Interview with Sundiatu Dixon-Fyle, PhD,
Senior Healthcare Expert at McKinsey & Company*

By Jonathan Brallier

New developments in the fields of behavioral psychology, behavioral economics, and digital technologies are driving renewed interest in patient behavior change. This rapidly growing field has the potential to significantly curb overall health spending, given that preventable, lifestyle-related conditions drive over half of such costs. However, cynics point to the historical failures of methodologies designed to generate sustainable changes in behavior. We spoke with Dr. Sundiatu Dixon-Fyle, a Senior Healthcare Expert at McKinsey & Company's London Office, to learn more.

PULSE: *When you look at the track record of initiatives designed to drive sustained patient behavior change, the results can be discouraging. Some research suggests that up to 90% of smokers that quit smoking end up reverting to old behavior. The results are similarly as disappointing with diet and exercise. It seems that in a lot of ways, we are our own worst enemies in terms of our own health and wellness. Why is that the case?*

Dixon-Fyle: I would agree that the track record is less than compelling in terms of existing published research. However, I believe there is a lag between the current evidence base and a series of promising new approaches in the field of behavior change. Over the last 5-10 years, we have developed new

insights, technologies, and methodologies for driving patient behavior change. I am optimistic that future studies will come to a different conclusion.

That said, the day-to-day environment is becoming increasingly challenging for those who aspire to healthy lifestyles, especially in the developed world. There has been a proliferation of lifestyle options that can perpetuate unhealthy behaviors, limiting opportunity for physical activity, healthy eating, or wholesome entertainment. Labor is becoming increasingly sedentary in our modern economy, and in some places, the design of the healthcare system itself does not necessarily reward prevention and self-care. All these factors up the ante for any behavior change approach.

PULSE: *Could you talk a bit about some of these new discoveries in the field of behavior research that will impact the field going forward?*

Dixon-Fyle: There is now quite a bit of understanding of what drives sustainable behavior change. There are essentially four key levers: motivation, overcoming habit, leveraging decision-making shortcuts, and driving population-level behavior change.

and overcome these beliefs when they represent barriers to behavior change.

The second lever is around overcoming habit, which research suggests drives up to 50% of daily behavior. Patients are not able to change their behaviors in a sustainable way if they cannot overcome counterproductive habits.

The third area is in decision-making shortcuts, or what we call cognitive biases, which are constructs that our mind uses to



Motivation is the single largest lever and is obviously a very important element to understand. This can include people's beliefs about the strength of the association between certain behaviors and their outcomes (for example, the relationship between smoking and lung cancer). Beliefs about social norms also matter, in terms of what people perceive as socially acceptable; family members and peers can be particularly important. Finally, there are the beliefs about individuals' ability to change their behavior. There has been much progress in terms of understanding how to modulate

make sense of information and make decisions quickly. These shortcuts frequently prevent people from behaving rationally. One example is that people will prioritize the pleasure they derive from engaging in an activity in the short term over any long-term negatives. We make up to 15 or 20 eating and drinking decisions per day, and have to make tradeoffs in terms of short-term gain or long-term benefits. We generally prioritize these short-term benefits even though they are not necessarily optimal in the greater context of an individual's lifestyle and health goals. Overcoming this, for example using

different types of incentives, can help for simple behaviors.

Finally, to sustainably change individual behavior, change needs to ripple through a population such that it reaches critical mass at population-level. Defining the relevant population or community helps shape a targeted population-level change approach. A payor member population, for example, is not necessarily a “natural community,” as it may not have the social capital to influence its members in a meaningful way. We are thinking more in terms of schools, workplaces, potentially ethnic communities, and potentially religious communities, among others. The advent of online communities is particularly interesting in this respect, especially since they can be easier to access than traditional forms. PatientsLikeMe is an example of a new type of community that has been created using technology.

PULSE: *What do you see as the role of healthcare providers in driving patient behavior change?*

Dixon-Fyle: My general belief is that care providers need to be engaged to change patient behavior, including primary care physicians, nurses, and the universe of allied health and social care professionals. Everyone who regularly interfaces with patients must be committed to supporting them and have the belief that patients can change their behaviors. They also need to become practitioners of the newer methodologies for engaging patients, including motivational segmentation, brief intervention techniques, motivational interviewing, and in some cases more advanced methods such as cognitive behavioral therapy. It also requires a shift in mindsets. For example, a recent smoking cessation program asked frontline clinicians in hospitals to more systematically engage with their patients on quitting smoking. This isn't generally a

thing that hospital clinicians are accustomed to doing. These mindset shifts can be incredibly challenging to implement given the sheer number of healthcare providers involved. In many cases this is just as challenging as changing patient behaviors.

Another big role for providers is in creating holistic care plans for patients with chronic conditions that address the broader lifestyle issues that patients face. Care plans have traditionally focused on clinical interventions, checkups, and

medication lists, among others. In order to change behaviors, clinicians need to understand patients at a more holistic level and address personal motivations. It is also about communication and wording. For example, instead of saying to a diabetic patient that they need to keep their HbA1C levels down, it can be more effective to position the plan as “having energy every day to spend time with your daughter.” This translates clinical goals to lifestyle goals that are relevant to the patient. It does take time for physicians to understand patients and help them develop these comprehensive lifestyle plans. Doctors need to understand the value of this, be trained to do it, and may need to be incentivized in some way to be willing to devote the time.

PULSE: *Could you talk about the universe of digital applications and other consumer-facing technologies that are already trying to support patient behavior change? How do you see providers interacting with these technologies?*

Dixon-Fyle: Digital health applications are an area of promise, though there are still significant challenges involving adoption and information rights. There are many direct-to-consumer applications that currently offer some value

Care providers need to be engaged to change patient behavior, including primary care physicians, nurses, and the universe of allied health and social care professionals. Everyone who regularly interfaces with patients must be committed to supporting them and have the belief that patients can change their behaviors.

to patients, though the sheer number of offerings can be confusing. Providers are beginning take interest in these applications, and we do see more and more physicians recommending specific applications for certain conditions, such as diabetes. Some physicians are also offering “official” stamps of approval for some applications. This screening of applications by physicians could help separate the wheat from the chaff.

I think that you will really see the value of these applications increase when we reach new levels of data interoperability – that is, when there is interaction between consumer-focused applications and providers’ internal systems. This will require joint ventures between technology providers, application companies, and providers themselves. The largest barriers are in data protection and confidentiality because of the sensitive nature of personal health information.

PULSE: *Over the next 5-10 years, how do you see the field of patient behavior change moving forward?*

Dixon-Fyle: In my view, the field will continue to move forward on a variety of dimensions. One significant push, as we just discussed, will be ongoing innovations in digital technology and mobile applications. This will continue

to create tools, applications, and monitoring systems to personalize information and allow real time mobile access to support behavior change. We will also see personal health management platforms that help people manage and set comprehensive health goals, and loop in family members, friends, and other community members to support the effort.

In terms of health systems themselves, some are certainly more forward thinking than others in terms of engaging with patients on a more holistic level. This includes supporting self-care, joint care planning and decision-making, and putting in place comprehensive patient-facing tools and programmes to support prevention and management of chronic conditions, and help patients and carers navigate health services. I believe that such initiatives will continue to move forward at an increasing pace; potential catalysts include information governance, incentives, and of course the pressure health systems are facing to be more efficient and curb demand.

Overall, I do believe we will continue to see interesting developments in the behavior change field, if for no other reason than its necessity. Some studies indicate that up to 70% of healthcare costs are linked to preventable conditions. Changing patient behavior is perhaps the single largest untapped lever driving healthcare cost savings on a global basis.

Profile



Sundiatu Dixon-Fyle, PhD

Senior Healthcare Expert McKinsey & Company

Since joining the Firm in 2000, Sundiatu has worked primarily in healthcare, focusing on strategy, operations, and performance transformation. She leads the patient engagement and behavior change service line, supporting payors, providers and health systems with strategies to deliver effective, integrated, and innovative patient-centered care. Most recently she has been helping payors deploy strategies and build capabilities to improve quality and productivity through patient engagement and self-care. She has written several papers and is a frequent conference speaker on these topics.

Prior to joining McKinsey, Sundiatu worked for a leading pharmaceutical company as a Senior Project Manager developing self-medication products. She holds a PhD in Molecular Biology from the University of Geneva in Switzerland, and an undergraduate degree in Biochemistry from Imperial College, University of London.

The Evolution of Consumer Centricity in the Health Insurance Business

*An Interview With Terry Booker
Head of Corporate Development, Independence Blue Cross*

By Jonathan Brallier

A rise in consumer-driven health plans, increasing transparency of health information, and a wave of legislation are pushing the healthcare insurance industry to shift its focus to the end-consumer of healthcare services: patients. The Pulse spoke with Terry Booker, the head of Corporate Development for Independence Blue Cross, to understand how health insurers are responding to these challenges.

Pulse: *Can you talk about some of the major trends affecting the health insurance business, particularly with respect to the markets' shifting focus to the consumer?*

Terry Booker: One of the major drivers of consumer centricity is the rise of consumer-driven health plans, whose popularity has increased significantly in the past five to ten years. This is pushing consumers to better understand their cost of care and has had the effect of increasing their purchasing power. However, consumers are frustrated that they have not historically had the information tools to effectively research their options in terms of quality and cost associated with different providers. Consumers also struggle to evaluate the relative “fit” of different health insurance plans compared to their specific needs. Up to this point, they have had a limited set of information to make informed decisions on their healthcare.

However, this is slowly changing, and patients are gaining access to new types of data they have never had before as information and internet technologies continue to give us new ways to manage information. There are also regulatory efforts to increase the granularity of health information and documentation. An example would be the government's mandate that healthcare providers change the way they invoice for services and get paid, using a series of more detailed medical codes (ICD-10). These are to be implemented by October 2014. This will expand the number of codes tenfold, which will eventually give consumers of medical care more information in terms of specific costs associated with medical services. There are also a number of emerging tools that will help patients make sense of the massive increase in information. An example would be Vitals, which gives detailed reviews of doctors and gives patients the ability to book appointments online. Even companies such as Yelp are

moving to produce information on medical professionals.

Pulse: *What type of information is directly available to consumers, and who is providing it?*

Terry Booker: Currently, basic physician reviews are available online. As these platforms evolve, we will see more transparency in terms of the cost of insurance and the cost of care, benchmarked against quality. Consumers have historically not had this transparency in healthcare, and it will significantly affect their purchasing habits. Consumers will eventually be able to obtain detailed cost and quality comparisons between different types of providers for specific medical services or procedures. This information must be clear and easily comprehensible, especially given the complexity of healthcare data. An entire universe of startup companies are aiming to develop and deliver this type of information to consumers; however, insurance companies are in the best position to do so given our role among so many different types of healthcare transactions. We also have the strongest economic incentives to get people more focused on the value of the care they receive.

We do face the basic challenge that members generally don't think of insurance companies as aligned with them for the betterment of their care – so they look at Google, they look at Healthgrades. Part of what we hope to do is to limit the noise and give patients the specific information they need.

Pulse: *In addition to providing better information to consumers in terms of the healthcare provider universe, what else are health insurance companies doing to manage consumerism?*

Terry Booker: One important thing that insurance companies can do is to help members better understand and act on their current coverage. For example, we have found that some of our plan members are not aware that they have a certain number of nutrition visits, or behavioral health visits, that are already paid for. We also must play a role in bringing consumers up to speed on different delivery models for their care, and helping them explore options that best fit their

individual preferences and tastes. For example, if we have a patient with a basic dermatological condition, there are now ways to send a simple photograph of the affected area to the dermatologist, removing the need to visit an office. This saves time and money. We are making an effort to package all these options and tailor plans to specific patients.

Payors can also give patients the tools to make decisions on their day-to-day care, and to serve as a resource to direct them to other media and content specific to their health goals. It's also important to give them information on holistic and preventative medicine, and not just on procedures, which are generally "reactive" in nature. Cost is a function of educating consumers on the best ways to use the health system given their specific condition(s). For example, for a certain ailment, an emergency department visit might be less expensive than an urgent care center. This is not entirely intuitive to patients. These are factors that we're helping our patients consider.

Pulse: *Shifting gears a bit, there are a number of industry analysts and consultants that expect the traditional employer-based coverage market to decline. Could you talk about how you see that market evolving?*

Terry Booker: In a general sense, healthcare insurance companies will need to improve their ability to market to, serve, and retain members in the individual market. The industry has been historically focused on the employer market so this does represent a shift. There will be some employers that will say "here is a fixed sum of money, it's up to you to figure it out."

Such a decision would help employers avoid escalating health costs, as well as escape the complexity of finding the best health plans for a population with widely diverse healthcare needs. However, the bottom line is that many employers will continue to use health benefits as a differentiator in the market for human capital.

Pulse: *Do you think that shift will vary by industry, company size, or on some other dimension?*

Terry Booker: It is likely that employers that have a more uniform workforce, such as fast food or labor-intensive industries, will find less value in using health benefits as a differentiator. These companies may not see healthcare as a factor in attracting and retaining employees. The decision will obviously vary on a case by case basis, and hinges on whether employers view healthcare insurance coverage as an advantage in employee recruitment and retention.

Pulse: *You've talked about consumers, employers and insurers. Do you see the provider landscape changing in response to these trends?*

Terry Booker: Hospitals and physicians are seeking to differentiate themselves in response to the consumers' increasing purchasing power by specializing. I expect to see fewer "department store" hospitals and more specialized landscape of providers that are focused on certain procedures, or certain diseases. That includes differentiating in terms of the quality of physicians, hospital atmosphere, and other dimensions of competitiveness. Some of these systems are advertising by pulling on emotions. For example, I recently heard a tagline along the lines of "would you trust your life with anyone but the best?" The problem is that consumers rarely have the cost and quality information to evaluate these marketing campaigns, which are very much rooted in emotion and reputation. This is not

The bottom line is that many employers will continue to use health benefits as a differentiator in the market for human capital.

necessarily the case in other industries; for example, in the automotive industry, consumers have detailed information and reviews on thousands of different cars. It is our job as health insurance companies to help consumers evaluate and understand the claims of different providers, and the providers best suited to care for patients' specific problems.

Pulse: *How do you see insurance companies' interactions with providers and physicians changing?*

Terry Booker: Providers obviously do not want payors telling them what to do, though we have been successful in helping doctors manage information on cost and quality, and in creating user-friendly decision making tools. The average physician have not previously held conversations on cost and quality with their patients. To the extent that we can make this information available to providers, they can help patients make better decisions.

Pulse: *Looking forward, what is at the top of your strategic agenda over the next several years, in terms of managing consumer-driven healthcare?*

Terry Booker: We will continue to think about ways to use data to help our members make better decisions about healthcare, in terms of

how to best access and use the health system to meet their individual needs. Also, in a more general sense, we will focus on producing, managing, and disseminating data that creates a more efficient, transparent healthcare system.

Profile



Terry Booker

Head of Corporate Development, Independence Blue Cross (IBX)

Terry Booker is responsible for directing Independence Blue Cross' efforts to grow via diversified revenue streams and helping the company's incremental growth of its core businesses in commercial, individual, Medicare and Medicaid business lines.

Prior to joining IBX, Terry was involved in senior business development roles for Novartis Consumer Products, Monsanto, Pharmacia, and Grain Communications. He also had an extensive career in investment banking.

Consumerism in the Life Sciences Industry

An interview with Tony Romito and Ken Munie, Managing Directors in Accenture's Life Sciences Practice

By Nick Crowne

Life sciences businesses are facing a number of challenges associated with meeting new consumer expectations and behavior patterns, including more rigorous support for the efficacy and cost-effectiveness of individual treatments. Life sciences companies must also adapt to changing healthcare industry fundamentals, including alignment between providers and payors, in addition to a wave of government legislation. The Pulse sat down with Tony Romito and Ken Munie, both Managing Directors in Accenture's Life Sciences Practice, to learn more.

Pulse: *How would you define consumerism in healthcare and characterize its influence on the industry in the U.S.?*

Ken Munie: Consumerism in the U.S. is different compared to other markets primarily because of the ability to do direct-to-consumer advertising, as well as the unique payor environment. What has changed more recently is the shift toward outcomes-based reimbursement models. Today, providers and payors are looking at the full spectrum of the disease and increasingly making decisions and implementing protocols based on what delivers the best outcome to the patient. So I see two dynamics, consumerism mixed with this outcomes-based mindset which is actually changing the way the biopharma companies have to operate.

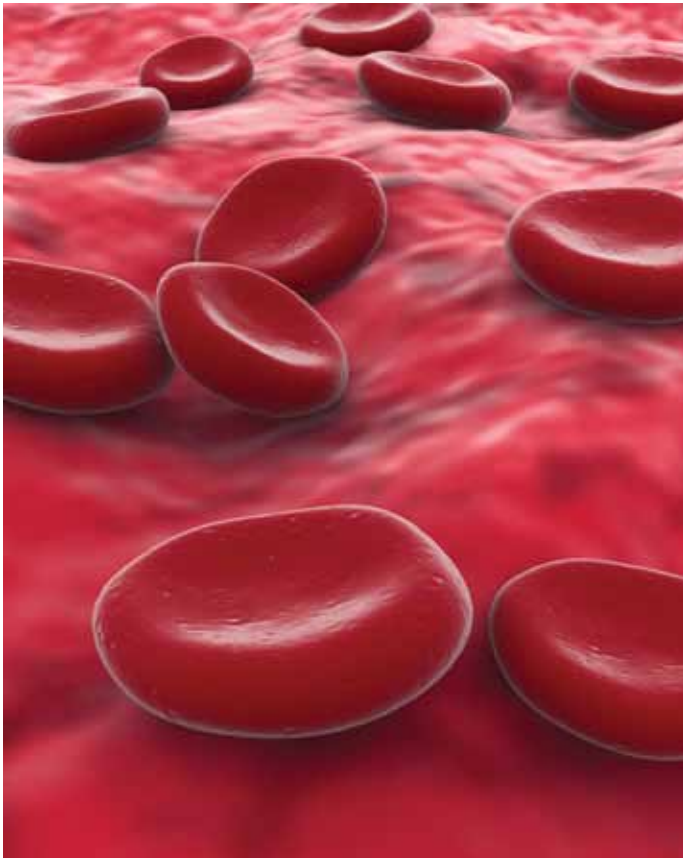
We've seen different payor models emerging. Providers are increasingly bearing the responsibility for outcomes and are merging or integrating with payors. This alignment of incentives is blurring the line between payors and providers. The challenge for our clients in life sciences is understanding how to best coordinate with payors, providers, and patients themselves to help achieve everyone's goal of an improved patient outcome.

Tony Romito: On the life sciences side, one of the other dynamics I would highlight is a shift in patients' expectations. They expect biopharma companies to provide more than pharmaceutical products themselves, including a complementary set of services to support the patient through

treatment. For example, someone who has Type II diabetes needs help managing drug protocol adherence as well as lifestyle aspects of treating that disease.

Life sciences companies become more than just a product company. Consumerism is driving more differentiation not just at a product level but amongst the services that life sciences companies can provide. In terms of the impact on provider systems and payors, it is interesting to highlight that employers were historically the primary customer of payors. With the Affordable Care Act (ACA) and the exchanges, payors have to figure out how to market to and engage individuals directly. This is a major mindset shift for payors, spanning everything from product mix and how they operate to what consumer segments they want to target.

Pulse: *How will revenue models change for life sciences companies if patients have more skin in the game?*



Ken Munie: From the payor/provider perspective, the major shift is on payment and outcomes. It's a transition. Currently, there is a lot of fee-for-service, but the future is expected to be payment on outcomes. It's clearer what payors and providers need to do to achieve better outcomes than life sciences companies, who need to offer a justification for their products in helping to achieve outcomes for a patient population. This isn't necessarily a different revenue model but it requires different capabilities to support population analytics and corresponding measures of patient outcomes. It also requires life sciences businesses to find new collaboration models with payors and providers. That's a capability change.

Tony Romito: Historically, pharmaceutical companies and payors have been more focused on prescription volume and coverage. Today, pharmaceutical companies are being asked to take more risk by tying the reimbursement with payors to patient outcomes. This has been more prevalent in Europe, particularly in the UK and in Germany, but is gaining traction globally as healthcare approval authorities become more sophisticated in their assessment of life science products.

Pulse: *How would you assess the impact of the ACA and the current regulatory outlook on the ability of life sciences businesses to market to patients?*

Ken Munie: The end goal is better patient outcomes, which creates an imperative to be more involved in not just point-in-time decisions for consumers, but also from cradle-to-grave healthcare decisions. We hope to see life science companies engaging with patients using preventative interventions in order to avoid costly future treatments. That means that there needs to be improved insight around population health and around the interactions that you have with consumers or patients.

Predictive analytics could help providers identify individuals that are at risk for certain ailments and then intervene before disease sets in. We're seeing some pilots in that space, but we're not fully there.

Pulse: *What are some of the new marketing channels that you see your clients using or exploring today that were not as prominent just a couple of years ago?*

Ken Munie: I would hesitate to call them marketing channels. I think they're an engagement channel that companies are using and vary across providers, payors, and biopharma companies, with providers having the most ability to interact with the patient. From the perspective of biopharma companies, social media is certainly a new engagement channel, in addition to building different services and ways of interacting with the customer. These include, but are not limited to, outbound call centers, emails, and text reminders to take medication to increase adherence and compliance, all wrapped together in some sort of coordinated interaction to help create a better patient outcome.

Pulse: *Do you see any fundamental changes in the products themselves, such as improved engagement tools or embedded communication capabilities?*

Ken Munie: There are a lot of companies outside of payors, providers, and life sciences businesses that are bringing products to market that could increase medication adherence. For example, Wi-Fi-enabled pill containers that help improve adherence. What we are working on with our biopharma clients is making sure that they are demonstrating the value of the product beyond the current standard of care. It might require more rigorous R&D or additional endpoints around patient outcomes that aren't necessarily tied to the disease, but tied to the overall health and wellness of the patient.

Pulse: *We've seen meaningful growth in specialty drugs in recent years. Many of these products require ancillary services and reimbursement support. How do you see the continued launch and marketing of these products impacting the reimbursement landscape?*

Ken Munie: Most biopharma companies are focusing on specialty products because it allows them to take better advantage of advances in areas like diagnostics and genomics to target patient populations with large unmet medical needs. Insurance companies want to match costs with the outcome that's being achieved, so you've seen an increase in specialty formularies or specialty tier status where the providers share a certain percentage of the cost of the drug versus a standard co-pay level. In terms of the services, specific arrangements will depend on the drug(s) under consideration. One option is to contract with providers to deliver such services, representing a direct revenue stream to providers from payors, and thus somewhat outside of the control of biopharma companies.

It's been easier to set higher prices for these drugs, and as the last wave of small molecule drugs go generic, the focus will shift to the smaller patient populations with higher cost specialty drugs. I view the future as being more cost constrained.

Pulse: *How are trends influencing physician loyalty and independence impacting the smaller medtech and life sciences companies?*

Ken Munie: You are seeing greater consolidation of providers and a greater percentage of physicians that are employed versus practicing independently. It would actually be easier for smaller companies in that "smaller reach" model. Historically, for a given primary care product, you could have 100,000 physicians across the country that make independent prescribing decisions, which then requires large commercial capabilities and a large salesforce to help educate those physicians.

If you consolidate decision-making in the executive level of these provider systems, it creates a new set of required capabilities in terms of account management, and the ability to demonstrate outcomes that favorably impact the provider's business. But that's also a smaller group. If you have a product

Life sciences companies need to offer a justification for their products in helping to achieve outcomes for a patient population

that improves patient outcomes, you would need a group of account executives to engage with these large provider systems to demonstrate the improved outcomes.

Pulse: *How would you frame the growth outlook for companion diagnostics in pharmaceutical drug development?*

Ken Munie: I don't think there's a universal approach from biopharma companies, but we have seen an increase in acquisitions of companion diagnostics. Going back to the notion of improved patient outcomes, one of the keys to achieving that is to sub-segment populations so that drugs have different outcomes across certain segments of patients, thus highlighting where the highest value is. I would expect to see an increasing focus on companion diagnostics or ways to identify these specific subsets of patients.

Pulse: *How is the emergence of ACOs and patient-centered medical homes impacting the biopharma and life sciences industries?*

Ken Munie: The capabilities required of biopharma and life sciences companies remain the same, including the ability to develop products that improve outcomes of specific patient

populations, wrap services and engagement channels around those products that serve the patient population, and engage with multiple patient care quarterbacks.

Tony Romito: The capability to collaborate effectively is going to be important across the board between payors, providers, and life sciences companies. Each party plays an important role in providing comprehensive patient care. Having a true capability around collaboration is becoming increasingly important. For example, how does the life sciences company enable a provider network to provide the best care in a given therapeutic area where it has particular expertise? This is the type of question that will need to be answered as the industry moves into this new patient era.



Profile



Tony Romito

Managing Director, Accenture's Life Sciences Practice

Tony Romito joined Accenture in 1996 and is a Managing Director in Accenture's Life Sciences Practice. He is responsible for Accenture's market offerings for Life Sciences Pricing & Market Access, which focuses on optimizing client business outcomes within Managed Markets customer channels (e.g. Payors, Hospital Systems, Retailers). Mr. Romito specializes in Life Sciences reimbursement models, and the relationship between needs and incentives for these customers along with the impact on patients.



Ken Munie

Managing Director, Accenture's Life Sciences Practice

Ken Munie joined Accenture in 2004, after completing his MBA at Wharton. He is a Managing Director in Accenture's Life Sciences Strategy Practice and serves as Accenture's Subject Matter Expert for Commercial Strategy and Analytics. In this role, Mr. Munie has extensive experience in analyzing the trends in consumerism impacting the Life Sciences industry and applying the insights to marketing strategies for his clients. Prior to joining Accenture in 2004, Mr. Munie worked in various sales and marketing management roles in the high-tech sector.

The Power of Patient Activation: Helping Patients Help Themselves

*An interview with Dr. Judith Hibbard,
Professor of Health Policy, University of Oregon
and lead author of the Patient Activation Measure®*

By Alli Chandra

Whether it is medication adherence or lifestyle changes, a large percentage of health outcomes are directly influenced by patients. In the shift towards value-based care, it will be critical for providers and payors to understand and appropriately involve patients in the management of their care. In the following article, The Pulse speaks with Dr. Judith Hibbard to examine how to both understand and positively impact patient activation.

Pulse: *How would you articulate the difference between patient activation and engagement?*

Judith Hibbard: Patient activation is about the individual and their own beliefs- their feelings of efficacy and motivation. With patient activation, we measure people’s abilities and interests in proactively managing their health. Patient engagement on the other hand tends to refer to provider and payor strategies on how best to work with patient. One can use the Patient Activation Measure (PAM) to better “engage” with patients by understanding more effectively their needs, motivations, and likely actions.

As part of the effort to measure this concept of patient activation, we had to be precise and clear in developing the definition. By using explicit measurements, we developed a much clearer picture of how patient activation plays out in

different population groups and in different situations. We learned so much when we did in-depth interviews with people at different points along the patient activation continuum (on a scale of 0-100). For example, we saw how people differed in terms of how they understood their situation, how they coped and how they responded to health changes. We could see that people who measured low on the scale of activation were (1) overwhelmed with the task of managing their health; (2) discouraged about their ability to take care of themselves; and (3) unsure about what their role was in the care process.

Pulse: *Some of your studies assessed how patients can make better decisions about both the quality and cost of their healthcare. A major problem is that patients equate high costs with quality. Is part of the problem that doctors are not providing enough information to their patients?*



Judith Hibbard: Unfortunately, physicians are often as clueless as patients about costs. It is not surprising that people equate higher cost with higher quality care, because that's the case with every other sector in our economy. People generally expect a higher quality product if they pay more. We need to help people see that healthcare is different and that they do not necessarily have to pay top dollar to receive high quality care. We can do this by improving the way we present information, such as combining cost and quality metrics in a comparative format.

Pulse: *What are the underlying incentives for healthcare organizations to measure in improving patient activation?*

Judith Hibbard: With healthcare reform, providers are beginning to have their compensation linked to patient health outcomes. Clearly, having more activated and engaged patients will help them achieve those outcomes. Understanding where a patient is on the continuum of activation can help providers “meet patients where they are,” and help them make progress toward better management of their health.

Health insurance companies have an interest in using patient activation for the same reasons as providers. With the PAM, they can segment their enrolled populations and provide more “high touch” support to those who have limited self-management skills (low PAM scores). Enrollees who are more activated can be supported with less costly support. This helps to deploy resources more cost-effectively.

Many hospitals are using the PAM survey to help them prevent readmissions after a hospital discharge. Research shows that patients who score low on the Patient Activation Measure are about twice as likely to be re-admitted within 30 days of a hospital discharge. Hospitals

use this information to provide more support in the post-hospital period to patients who are less activated. There's also interest in the PAM among patient-centered medical homes and Accountable Care Organizations (ACOs).

Pulse: *How has our understanding of patient activation evolved over time?*

Judith Hibbard: We had an early study where we saw that improvements in activation were related to multiple improvements in behaviors. We found that people change more than one behavior when they feel empowered. That was eye-opening as it demonstrated that giving individuals a sense of confidence in their ability to change is a goal unto itself.

A second thing we realized was that so much of what is offered in the community and in clinical settings is mostly taken up by more activated individuals. For example, highly activated individuals are more likely to sign up for health classes or to access patient web portals and medical records online. We find that lower activated patients are less likely to participate in these opportunities and tend to be more passive about their health. Much of what is offered to patients and consumers is not reaching those who need the most help.

Pulse: *Have you found that certain populations of patients are more responsive to efforts designed to increase their PAM?*

Judith Hibbard: Less activated patients generally have lower self-esteem, fewer problem solving skills, and have experienced past failure in trying to manage their health. They more or less believe that they cannot positively impact their health and prefer not to think about managing health problems. All of these issues are relatively large barriers to taking action.

However, we did find that individuals can become more activated with appropriate intervention. In fact, those scoring the lowest move up the scale the most in intervention studies. For example, with interventions tailored to the patients' level of activation, we saw people at the low end of the activation scale move up the most.

Pulse: *Have you seen any relationship between patients' PAM and the strength of their relationship with their primary care physicians?*

Judith Hibbard: Trust and a strong doctor-patient relationship are correlated with higher PAM scores. Patients who trust their doctors and have a good working relationship are more likely to be more activated.

Pulse: *What are some of the most successful or innovative interventions you've seen to increase activation?*

Judith Hibbard: We did a study a few years ago where we worked with a disease management firm's call centers. We trained one group of coaches to tailor coaching to the patient's level of activation while another call center just did usual coaching.

We saw a significant difference in PAM scores, adherence, clinical improvements, and reductions to hospitalization and emergency room visits between the tailored coached group and the group with usual coaching. Patients did much better when the coaching was tailored to their level of activation.

Understanding where a patient is on the continuum of activation can help providers "meet patients where they are" and help them make progress toward better management of their health.

Pulse: *How do you feel about the current state of patient activation in healthcare?*

Judith Hibbard: It is apparent that we need to understand more about patients than their clinical profile, especially because we are counting on patients to carry out so many care protocols on their own at home. We need more information on their ability and motivation to manage their health on a day-to-day basis. I think tools like the PAM will become a standard of care, assessing patients and creating care plans based on both the patient's clinical and behavioral profile.

Health care systems around the globe are finding it necessary to do more with less, and that they cannot do that without their patients' help. Patients represent an important resource. In fact, they may be the last untapped resource in healthcare.

Profile



Judith Hibbard, PhD
Professor Emerita of Health Policy, University of Oregon

Dr. Hibbard is a Professor Emerita of Health Policy at the University of Oregon, lead author of the Patient Activation Measure®, and a recognized international expert on consumerism in healthcare. Over the last 25 years she has focused her research on consumer choices and behavior in healthcare. Her research interests examine such topics as: how consumers understand and use health care information, how health literacy affects choices, enrollee behavior within consumer-driven health plans, and assessments of patient and consumer activation.

Dr. Hibbard advises many health care organizations, foundations, and initiatives such as Bridges to Excellence. She has served on several advisory panels and commissions, including the National Advisory Counsel for AHRQ and the National Health Care Quality Forum, among others. Dr. Hibbard holds a masters degree in Public Health from UCLA and a doctoral degree from the School of Public Health at the University of California at Berkeley.

PULSE: *How do you see Watson fitting into the constantly evolving Health Information Technology (HIT) space? What do you think is Watson's competitive edge?*

David Kerr: HIT is a constantly evolving space not just in the tools but also in our knowledge about medicine. The volume of new knowledge in medicine doubles every five years. This is obviously extremely challenging for physicians to keep up with. That is the challenge with our cognitive and computing platforms that we intend to address through Watson. Watson can understand the natural language that's written in these articles.

We are not a search like Google. We know it's very common for patients and doctors to go to Google and search for a set of keywords. The real benefit of Watson is that we can apply the knowledge to the medical literature as captured inside Watson. We start out with a tool designed for physicians. Ultimately, our long term goal is to help physicians not just help treat the patient, but also provide the patient with useful tools.

Watson has a unique capability to be very specific to the problem-at-hand. It's not a generic search, it's a very specific system to aid the physician in the context of the patient and the individual attributes or characteristics of that patient's diseases and all the co-morbidities that go with it. In oncology care, our first foray, we want to know what an expert physician should take into consideration as they assess a new patient. We've captured all of that new knowledge inside Watson.

PULSE: *Have there been any particular challenges in training Watson to analyze healthcare data?*

David Kerr: There are two main types of data in the context of Watson. The first is the medical knowledge base and published articles. On Jeopardy, we taught Watson how to understand general knowledge of systems of data. However when we turn to medicine, clinical data and reports are published in a specific style that is very different from Shakespeare. There's an abstract, a method, a conclusion, the process, and results. There are different ways of describing a symptom

and different ways of describing the anatomy of the human body over the last couple of years, we've taught Watson to be able to absorb this medical information.

The second type of data is patient data. Patient data is ideally captured as an Electronic Medical Record (EMR) which in the past was less common. However, thanks to the HITECH Act, EMR adoption is growing at an increasing rate. Obviously within the EMR environment, there are challenges in the data structure.

There are often structured fields like blood pressure information, temperature, height, weight, or sex. These are easy enough for Watson to understand. However, there is quite a bit of data that is unstructured and that is where Watson's power lies.

Some of the unstructured data are a macro-language or differing types of text. Watson also does not process images which would include faxed documents, so those types of documents need to have Optical Character Recognition or have to be digitized in some other way. We have taught Watson how to understand notes taken by a physician, a pathologist, even a radiologist. Now, these physician-produced reports can be processed through Watson's natural language processing.

Through this processing, we might run into inconsistent or missing data. Watson can recognize these situations and prompt the physician to provide it. Using this data, Watson can recognize unique situations for specific patients or their disease pathology and help guide the physician to potential treatment options with varying levels of confidence.

PULSE: *Culture-change seems like it would be a huge part of the adaptation of Watson from a physician perspective. How do you think about integrating Watson into the physician routine or does the technology's usefulness sell itself?*

David Kerr: We are talking to a number of hospitals and physicians to get their input on how such a system could be best integrated into their existing workflow. One of our

consistent universal responses is that physicians do not want to re-enter any information that they've already provided. If they've already provided into an EMR, they don't want to have to pull it in again.

Then there's the question of how physicians would like to interact with the system. For example, timing – is Watson something they would want to use with a patient, prior to, or after in the privacy of their own offices? We've received varying inputs on that particular question; some would and some wouldn't use it with a patient. Given the varying usages, we've tailored Watson for each scenario. For example, in the scenario with a patient, the desired mechanism would be through a tablet or similar device. Through that mechanism, the patient and physician can sit together while sharing the information that is known about the patient's disease. We're very cognizant of this and don't want to disrupt the patient and physician workflow.

Most physicians we've spoken to have viewed what IBM is doing with Watson with interest, excitement, and enthusiasm. They are very keen to have the opportunity to start playing with it and see how well it performs.

PULSE: *You have several partnerships with health systems, payors, and providers across the country who are each doing something slightly different with Watson. Do you expect future iterations of Watson to continue to be tailored each individual clients' needs or do you see a more generic usage of the product down the line?*

David Kerr: There's definitely a core capability that we are developing as a result of the collaborations with all of our clients which we call "Watson Healthcare." Within healthcare, Watson is tailored for the medical field including life sciences, pharmaceuticals, well-being and healthy lifestyle capabilities.

On top of that core functionality, there are the specific tailored versions for use cases like streamlining the authorization process, assisting with the diagnoses or treatment of a specific disease, or matching patients with clinical trials. Just recently we announced the Watson Ecosystem to see what some of our early software partners could come up with.

PULSE: *How will the recently launched developer's ecosystem progress? Do you have any hopes or predictions for what types of applications will be developed?*

David Kerr: We started by partnering with several independent software vendors in order to prove the concept. At the end of 2014, we will be broadening the opportunity to participate. We have already launched a website for developers who are interested in using Watson, but this open environment will continue to evolve.

We recognize that there are lots of sources of innovation and we don't have any prescribed notion of what type of applications would be created. When we open up a development platform, we are just as excited as anyone to see what the open community can deliver. What we expect to see is interesting applications

designed to work in a mobile environment on smart phones and tablets. We also think there's an opportunity to engage all participants in the healthcare system like caregivers, patients, physicians, and nurses. We're excited to see all the new ideas.

PULSE: *What do you think is the potential for Watson to impact the consumer experience?*

David Kerr: We have colleagues in different industries right now who are working on a tool known as the Watson Engagement Advisor. It's designed to be a smartphone or iPad application which allows an individual to ask questions

“Our goal is to help the physician community to cope with rapidly expanding knowledge and the increasing number of individuals that will be seeking care from the system, whether it's in the United States or anywhere else in the world.”

and get responses in a particular area. In financial services, an individual might ask about retirement; in consumer electronics, the question might be focused around specific products. As we think about medicine, it's truly about patient engagement. We want to engage patients and their family members in the care and treatment of their condition. To start to address this question, we are seeing patient portals being created by hospital systems. We see an opportunity to make the patient portal very specific to the particular patient and his or her care needs.

This is where Watson's knowledge of the individual condition and specific disease itself can respond directly to a patient's question. We envision a scenario in which Watson can respond in a natural manner, replacing the scenario where a patient asks a nurse, emails his or her doctor, or even calls a hotline. This is a field where right now we don't have a solution quite yet but it has been identified as a future potential.

PULSE: *Some have said that if we get Watson to the right level of sophistication, we could cut out a large part of the*

work that physicians do, perhaps even going so far as to replace them entirely. What is your ultimate hope for how Watson can change healthcare?

David Kerr: We cannot ever see a time when Watson or a similar technology would replace a physician. We do recognize that the demographic trends in the United States will demand and require an increase in productivity in the demands of healthcare. Rather than replace physicians, we believe that Watson will aid them and their supporting team of providers that together form the care delivery that provides for patients. Watson could allow some treatments to be handled by PAs or RNs which today would require a physician, thereby allowing physicians to focus on the patients who really do need his or her care. It's important to understand that Watson is not capable of designing. Nor do we have the ambition to replace physicians. Our goal is to help the physician community to cope with rapidly expanding knowledge and the increasing number of individuals that will be seeking care from the system, whether it's in the United States or anywhere else in the world.

Profile



David Kerr

*Director for Watson Healthcare
IBM Corporate Strategy*

David Kerr is Director, Watson for Healthcare in the IBM Corporate Strategy team where he focuses on the Healthcare industry and Software segments. Mr. Kerr has over 25 years of experience in the IT industry as a technology and business leader for software development and strategy. He led large teams developing systems software and vertical industry solutions prior to assuming his current role in Corporate Strategy. Most recently Mr. Kerr has been focusing on the issues facing the Healthcare industry and working with IBM's Healthcare & Life Sciences team to develop solution strategies for the application of information technology to the improvement of Healthcare quality and costs. He is currently responsible for IBM Watson-based technology strategy applied to Healthcare industry.

A Data-Driven Approach to Physician Network Development

*An Interview with Johnese Spisso, R.N., M.P.A., Chief Health System
Officer at UW Medicine and Vice President for Medical Affairs at
University of Washington*

By Charlie Robinson



The *Pulse* spoke to Johnese Spisso about the dynamic use of data to create a smart and cohesive physician network among diverse groups of physicians across multiple different health system facilities. In addition, she provides valuable insights into the goals and process behind creating an accountable care organization.

PULSE: *A couple years ago, UW Medicine developed strategic affiliations with two community hospitals in Seattle. When those institutions were brought into the UW Medicine system, what was your vision for the health system? What were you trying to achieve with the acquisition?*

Johnese Spisso: UW Medicine leadership integrated Northwest Hospital & Medical Center and Valley Hospital into the UW Medicine 2010 and 2011, respectively, in order to increase our system-wide capacity and continue our mission of improving the health of the community. At a high level, we are transforming UW Medicine into an Accountable Care Organization, and as part of that project, we identified a need for high quality community hospital facilities designed with efficient models for lower-acuity patients, rather than treating all patients at our flagship academic hospitals, which are best suited for highly acute care. This allows us to care for the “right” patient at the “right” facility at the “right” time and achieve the “Triple Aim” in health care of better access to care, improving health for all, and reducing the overall costs. As the newest members of the UW Medicine family, clinicians at Northwest and Valley Hospitals are providing care for our many lower-acuity patients in settings that were designed for this type of care. This has the added benefits of saving costs for the system while working with community institutions that are already well respected.

PULSE: *With this alliance, your team is taking and has taken a proactive and dynamic approach to integrating your various physician networks—private physicians with privileges at newly acquired community hospitals, independent primary care providers at UW Medicine’s community clinics, world-renown employed specialists at UW Medicine’s flagship academic medical centers, and practitioners at your local safety net and trauma hospital.*

What is your big picture plan for UW Medicine’s physician network? How do you plan to get there?

Johnese Spisso: We are trying to create an environment where all our physicians and other clinicians across the system are able to work as a team to make sure patients receive prompt access to care at locations in the community that are both convenient and best suited to their medical needs. That’s a big job with such a large and diverse system and group of

providers. At the same time, we are also welcoming the private practice model and employed physician models at both Northwest and Valley Hospitals, and when needed, placing UW Physicians at these settings to expand service capacity. To do this, we’ve employed a dynamic combination of data tools and a dedicated team of very talented physician outreach specialists. Our service line leaders are using clinical care data to understand the patient pathways in our marketplace—the pathways that patients follow to access care, from primary care physicians, to specialists and surgeons, and then for follow up care. Our teams have been analyzing these data to understand areas where we can improve and enhance the way in which patients in the community are accessing care. Once we identify areas for improvement, our team of managers, physicians, and staff

works to identify solutions to improve the care path. Our ultimate goal is to streamline the way we provide care across multiple system sites to simplify the process by which patients access care.

PULSE: *What are some examples of ways that you have improved this access through the community hospital acquisition, and the smart physician collaboration you’ve described?*

“We’ve employed a dynamic combination of data tools and a dedicated team of very talented physician outreach specialists to understand the patient pathways in our marketplace and streamline the way we provide care across multiple system sites.”

Johnese Spisso: We have worked to expand capacity for our tertiary and quaternary services at our academic hospitals: Harborview Medical Center (the state's sole Level I Adult & Pediatric Trauma & Burn Center) and the University of Washington Medical Center (which provides the most complex care in the region). We have also migrated some of our specialty programs that can be delivered in a community hospital to our new community hospital partners. We have already consolidated several services at Northwest Hospital, including the UW Medicine Hernia Center, UW Medicine Multiple Sclerosis Center, and the UW Medicine total joint center and the UW Medicine midwifery program. These are great examples of services that are really well-suited for the community hospital setting. And our team's cutting edge use of data has bolstered these programs. We have used our data tools to understand the ways in which patients accessed these services historically before the consolidation, and we've used this information to build new patient pathways associated with the new consolidated programs, while streamlining and standardizing these services for the system as a whole.

Pulse: *What is your big picture plan? How would you like the system to look in five or ten years?*

Johnese Spisso: Our big picture plan is to be the leading Accountable Care Organization in the Pacific Northwest. We have all the pieces and the alignment of our leadership teams, physicians and staff. Our focus now is in continuing to improve the patient experience, access to care, and reduce



overall costs while being the leader in quality, safety, and overall value. What will that look like specifically for UW Medicine? We'll have to wait and see. But I can tell you we're off to a great start and the organization is energized about our work ahead!

Profile



Johnese Spisso, RN, MPA

Chief Health System Officer for UW Medicine, Vice President for Medical Affairs, UW

Johnese has over 30 years experience in health care leadership positions. She has worked at UW Medicine for the past 19 years, where she was steadily promoted from Associate Administrator, Patient Care Services to Chief Nursing Officer, to Chief Operating Officer and Executive Director at Harborview Medical Center prior to being promoted to the position of Chief Health System Officer, UW Medicine and Vice President for Medical Affairs, UW in 2007. In this position she is responsible for all clinical entities in UW Medicine including Harborview Medical Center, UW Medical Center, Northwest Hospital, Valley Medical Center, UW Neighborhood Clinics, UW Physicians, Airlift Northwest & Enterprise Shared Services of Information Technology, Pharmacy, Human Resources, News, Community Relations and Marketing.

Challenges and Opportunities with Healthcare Data

An interview with Dr. Charles Saunders, CEO of Healthagen

By Kelly Cheng

As accountable care pushes healthcare data management to the top of executives' priority lists, healthcare IT players must pay attention to changing consumer expectations and regulations regarding privacy, access, and integration. The Pulse spoke with Dr. Charles Saunders, the CEO of Healthagen, to better understand potential avenues for innovation in this space.



Pulse: *What is Healthagen's role in the industry's transition toward accountable care?*

Dr. Saunders: Healthagen has a comprehensive set of enabling capabilities for accountable care that include technology, data analytics and care management solutions – technical solutions as well as human services – that we deliver in collaboration with healthcare providers. We also provide financial management tools to providers that enable them to assume risk and to coordinate care. Finally, we offer tools and services for consumers so that they can be actively engaged in their own care.

Pulse: *Within the overall health IT industry, what are the next disruptive trends and how will Healthagen handle them?*

Dr. Saunders: First, the shift in risk and accountability to providers and the evolution of the tools for them to manage risk is now more integrated into electronic health records. Naturally, workflows will become increasingly automated.

Second, we're seeing increased consumer engagement with transparent information for decision-making, using new mobile solutions that make this convenient. This is accompanied by care delivery that relies on social networking.

Big data analytics is the third disrupter, where diverse information sets are applied to manage the health of both populations and individuals in more insightful and powerful ways. This information is increasingly available to individuals.

The final major shift is the eventual reconfiguration of the delivery of healthcare using innovative lower cost models. This could include accountable care and patient-centered medical home constructs, retail clinic models, creative use

of mid-level practitioners in care delivery, social care giving, and telehealth, to name a few.

We are on the leading edge of many of those trends, in providing the tools and capabilities to catalyze this transformation.

Pulse: *In light of these disruptions, what should payors consider as they look to the next decade?*

Dr. Saunders: Payors need to be highly collaborative with the delivery system in the future and work together to reduce cost and improve quality and patient satisfaction with incentives that are aligned across the industry. The business model of

price discount wars between providers and payors are a win-lose strategy of the past. Payors need to think about individuals less as members of employers and more as consumers who have financial skin in the game and care deeply about how they interact with a healthcare system. This means a focus on the overall experience, as measured by data on the value delivered, and data on consumer satisfaction.

Pulse: *How are providers becoming savvier in terms of managing and sharing their data?*

Dr. Saunders: Larger health systems, particularly those that are clinically integrated and in large metropolitan areas, have made infrastructure and capability investments over the years. I think that they

will eventually see themselves as managers of risk as much as managers of care, and will be in a position to effectively operate as local health plans, or “mini-Kaisers” if you will. For that reason, they understand the need to share and collaborate with patient data. It will be a long time before this happens in secondary communities and rural areas, though there is geographic variation. We don't expect every health system to want to operate and manage risk in the same ways as Geisinger or Kaiser, but we are seeing an interest from many.

I am encouraged by some of the trends we're seeing in the use of personal technology. For example, seniors are one of the fastest growing segments among iPad users.

Pulse: *Two of the disruptive trends you mentioned focus on consumer access to data. What are some of the most important pieces of data that they should be able to access from their plan or provider?*

Dr. Saunders: Consumers should have access to information that helps them solve for an acute care problem and guides them to the most appropriate healthcare provider. The information should include the languages spoken, whether the provider is in their network, and what their co-pays and deductibles will be. Additionally, personal health records and claim histories should be easy to understand and specific to patients. At the end of a visit, consumers should be able to use HSA's to pay for their care and see results and a summary. This is all specified under Meaningful Use II criteria.

If patients are not in need of acute care, they should have access to information that helps them to understand their health risk factors, such as hypertension or high cholesterol, and manage those risk factors. The tools need to be convenient and should be informed by health plan data on that individual drawn from their health risk appraisals, claims, and other sources of personal health information.

Consumers should be able to manage their benefits by selecting the most cost-effective options with the coverage needed based on their specific benefits plan and needs. Tying all of this together presents consumers with a different way of interacting with the healthcare system that is an end-to-end experience. The experience is more convenient and easier to understand when consumers have transparent information.

Regarding consumer device data, it remains to be seen which kinds of applications are effective versus those which are just fun, but do not move the needle on the cost of care. One initiative at Aetna – our CarePass application – allows consumers to permit different health-related apps to share their personal data in a more integrated way. If you want to personalize your apps and share information on weight reduction, fitness, and such among them, you can have an ecosystem of applications that are informed by what you know about yourself and what your health plan knows. That's

a big of a wave of the future and we're trying to enable that with innovative technology in the digital mobile space with iTriage and CarePass.

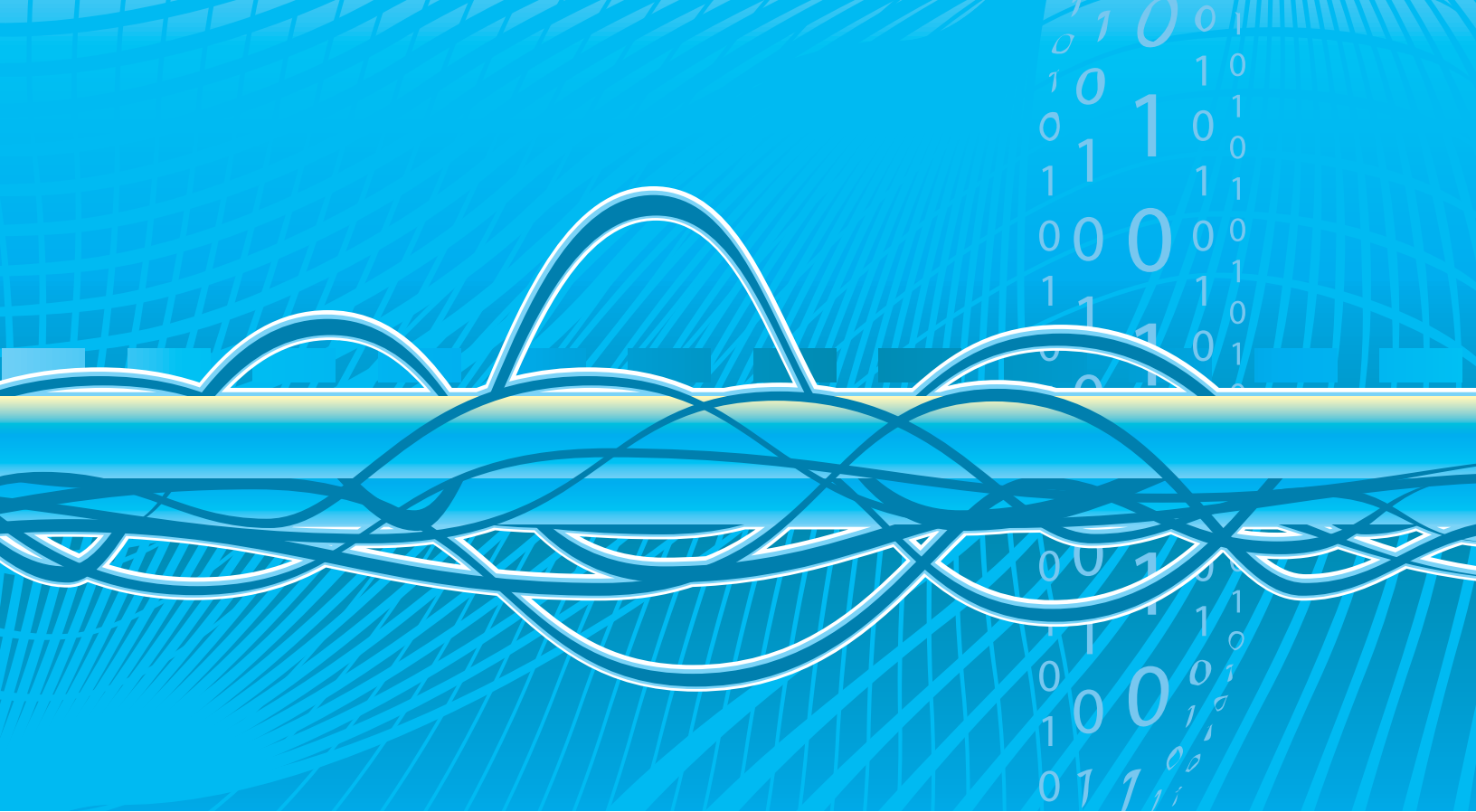
Pulse: *For consumers who don't feel as comfortable using an app or using the online site or the portal, how would you empower them to make healthcare decisions?*

Dr. Saunders: I am encouraged by some of the trends we're seeing in the use of personal technology. For example, seniors are one of the fastest growing segments among iPad users. This has relevance because as the population ages, you'll see the need and desire for aging seniors to remain independent as long as they can. One way they'll do that is by coordinating caregivers through their own micro social network to help with their needs. We've developed a couple of solutions for social caregiving that are in pilot right now. One is called InvolveCare, which is primarily aimed at caregivers of seniors, and another one called Neo, which is for parents of sick newborns. Using these social caregiving solutions, you activate the care team around the individual to help to keep them well, even though the patients aren't actually using the technology. Once you plug in health plans, delivery systems, care navigators, and others, you have an ecosystem that is tailored to the needs of that individual.

Pulse: *Do you have any advice for healthcare entrepreneurs who are looking to bring new solutions into the industry?*

Dr. Saunders: Times of change are also times of opportunity, especially opportunities to invent new business models. The Affordable Care Act provides a landscape for that, as does the explosion in technology and social trends. There's a lot of capital out there looking for new solutions, whether it's with a venture or private equity community or with large strategics, such as Aetna and other large companies.

Incubators or accelerators provide both small seed capital, as well as guidance via the experience of other successful entrepreneurs and investors. I'd encourage entrepreneurs to consider such incubators.



One challenge with startup companies in industries such as ours is to attracting the attention of plan sponsors. If you're selling to a risk-bearer, whether it's a health and wellness service or consumer-oriented solution, consumers generally don't pay for their own healthcare. That will change in the future, but in many short-term opportunities, the sales approach is to reach a plan sponsor -- the employer, payor, government agency, etc. It's hard for three people in a garage to enlist the attention of one of the largest banks in the world. Healthagen can act as a sales distribution channel for entrepreneurs and small companies.

Take iTriage as an example. When Aetna acquired iTriage, they had roughly 2.5 million downloads, and a small team in Colorado. Now they have access to 4,500 employers with Aetna insurance and 22 million Aetna lives, the attention of the marketplace, and over 10 million downloads. Large strategic arms, such as Healthagen, can provide this type of springboard or distribution channel for healthcare startups.

Profile



Charles E. Saunders, M.D.

CEO, Healthagen

Charles E. Saunders, M.D., is chief executive officer of Healthagen, an Aetna company. Healthagen brings together a wide range of payor-neutral population health management solutions and health information technology capabilities. Dr. Saunders is responsible for leading the development and growth of Healthagen's products, services and global opportunities. Prior to joining Healthagen, Dr. Saunders served as executive in residence at Warburg Pincus, one of the world's largest and oldest private equity firms. He has held a number of other significant leadership positions during his career, including CEO of Broadlane, Inc., President of EDS Healthcare Global Industry Solutions; Chief Medical Officer of Healtheon / WebMD; Principal of A.T. Kearney; and Executive Director of San Francisco General Hospital Managed Care Programs.



The Future of
Healthcare Delivery

Tackling the Cost of U.S. Healthcare

An interview with Nick Valeriani, CEO of West Health

By Kelly Cheng

West Health is an independent initiative funded by philanthropists Gary and Mary West to reduce healthcare costs in the U.S. The initiative began in 2009 with a focus on wireless technologies as applied to healthcare. Going into its fifth year, West Health has moved toward a multi-pronged approach through a medical research organization, policy center, investment fund, and incubator. The Pulse caught up with CEO Nicholas Valeriani to understand the latest opportunities to address healthcare costs in the U.S.

Pulse: *Looking back at 2013, what were some of West Health's biggest accomplishments?*

Nick Valeriani: In 2013, we focused on taking on the most daunting challenges in healthcare: the absolute amount and the increasing trajectory of costs. Recent estimates show that healthcare spending has reached \$2.8 trillion, with upwards of \$750 billion deemed wasteful and not contributing to improved clinical and economic goals.

Our proudest accomplishment for 2013 was significantly advancing interoperability, delivering on the great work this organization has researched over the years to enable medical devices and healthcare systems to securely connect and exchange information. This includes launching the Center for Medical Interoperability, a neutral forum led by hospital and health system CEOs. If achieved, interoperability in the U.S.

is projected to save \$30 billion a year in costs when devices can communicate with each other. We committed to being the voice for this opportunity in Washington, DC; for example, our chief medical officer Dr. Joe Smith testified before Congress on the need for proactive reimbursement policies that align stakeholder incentives. Because of this voice, we were able to bring together multiple stakeholders and work with both sides of the aisle for the public's benefit.

Another focus was on the chronically ill and how to manage them when they are discharged from the health system; keep in mind, approximately 75% of healthcare spend is focused on the chronically ill. This came about through what we call WESTECH -- a new technology platform we're researching that may automate coordinated care protocols for the chronically ill. As an example, the technology could compare real-time vials tracked by medical devices in the home



against an established care plan, and alert a care coordinator of any important health changes. We also announced a collaboration with Vanderbilt University Medical Center and West Corporation to study the WESTECH platform.

Additionally, we initiated new research models to become care delivery experts in cardiometabolic and musculoskeletal diseases, two of the top cost drivers with a combined total of \$912 billion in annual spend, in order to find savings.

Pulse: *What types of solutions does West Health look for?*

Nick Valeriani: We're focused on finding solutions that advance an automated, coordinated and connected healthcare system in order to transform healthcare delivery and reduce the burden of healthcare costs for all Americans. I can point to some of the work we're doing with WESTECH and the chronically ill as just one example of how we're researching solutions in all three of these areas. We're exploring how automation can improve the efficiency of the healthcare workforce by freeing up healthcare professionals so that they can focus on the highest value work; we're researching how system innovation and financial alignment of a collective care team can improve care coordination, hopefully resulting in better outcomes; and we're seeking solutions to advance connectivity, which we see as essential in order to have real-time monitoring and on-demand information sharing. Collectively, all of this research seeks to help advance an automated, connected and coordinated system that provides quality care for patients throughout their entire lives.

Pulse: *What stakeholders are needed to accomplish these goals?*

Nick Valeriani: The challenges in healthcare are so significant that no one stakeholder can drive improvements and change alone. For example, the leadership of the Center for Medical Interoperability includes hospital and health system CEOs, and there are mechanisms in place to provide a forum for CIOs, the vendor community and regulators in Washington, D.C. We're creating a community of stakeholders that can be aligned and activated.

Pulse: *What are some barriers to adoption of innovation in healthcare? For example, users of new technologies may be concerned about decreasing the human touch in healthcare, or entrepreneurs may be concerned about regulatory barriers.*

Nick Valeriani: Part of the issue is that care pathways are not always well understood or standardized. Healthcare will forever be a person-to-person process, but our work focuses on the potential to disseminate standards in healthcare. Our ultimate goal is to have the most efficient and effective healthcare delivery system; one that is accessible wherever and whenever you need it.

Regulatory challenges are also important to us. As we built out our research technology capabilities, we realized we needed the policy arm. For example, in telemedicine, there are many challenges to implementing legislation that enables telemedicine capability such as laws governing the ability to practice medicine across state lines.

We are active on Capitol Hill providing testimonies and commenting on pending legislation. Because we are non-partisan, non-profit, and independent, we are becoming a trusted resource for the needed changes in healthcare delivery.

Pulse: *In addition to lowering health costs by way of interoperability, what are other promising opportunities in lowering health costs?*

Nick Valeriani: When you look at the demographics of the U.S. population, for example, the growth in the elderly population and the increasing prevalence of chronic disease among the entire population, there's an opportunity to better manage the chronically ill. Our efforts with WESTECH and care coordination are focused on this. Secondly, there's an opportunity to maintain the health and well-being of the rest of the population. This includes getting people to take personal accountability for their own well-being and lifestyle decisions and to stay healthy by monitoring their risk factors.

We also need to think about where care is delivered in this country. Much of it can be delivered at home. Hospitals should be left for only the most acute conditions. The healthcare system needs to meet patients where they are. It needs to be more convenient and easier to navigate.

At West Health, our goal is establishing new and more effective ways of working through automating, connecting and coordinating care delivery. Today, the system is overwhelming. The healthcare environment needs to interact with patients as we do in other parts of our lives – such as banking or online shopping. These experiences are streamlined and smart. We need the same from our healthcare system. Healthcare is

the most complex and important interaction consumers will ever have and we believe we are uniquely positioned to be the catalyst for a system that is accessible and user-friendly.

Pulse: *Any additional advice for healthcare executives on tackling costs?*

If achieved, interoperability in the U.S. is projected to save \$30 billion a year in costs when devices can communicate with each other.

Nick Valeriani: Today's healthcare spending is unsustainable and is going to bankrupt our country. It is a national crisis impacting our global competitiveness, national security, and overall productivity. At West Health, we are taking on big, systemic, complex problems that no one else is willing to tackle, like interoperability. All of these challenges mean we need to think differently about working with partners who aren't the obvious ones to work with. We believe breakthrough ideas can come from anywhere and we want to know about them and lead the effort to make them a reality. We have to be selfless during this

process because, if we are successful at transforming our nation's healthcare system, we will affect not only today's population, but generations to come. The employees at West Health have diverse skills, are experts in their fields, and are passionate about pushing the boundaries of what's possible to drive change in such a complex system. We believe change is possible and that we can achieve it.

Profile



Nicholas J. Valeriani
CEO, West Health

In his role as chief executive of the collective West Health effort, Nicholas J. Valeriani brings valuable expertise in engineering, operations, medical devices and diagnostics, entrepreneurship and non-profit leadership that make him uniquely qualified to advance the mission to lower health care costs through the Gary and Mary West Health Institute, Gary and Mary West Health Policy Center, Gary and Mary West Health Investment Fund and West Health Incubator. Valeriani established himself as a visionary healthcare leader over a 34-year career with Johnson & Johnson where he led several corporate functions and was a member of the corporation's executive committee as corporate vice president of human resources; worldwide chairman of medical devices & diagnostics; and as vice president of the Office of Strategy & Growth.

Driving Value-Based Care Outside of the Hospital: The Future of Home Healthcare

An interview with John Driscoll, CEO of CareCentrix

By Jonathan Lanznar

As the provisions of the ACA begin to take hold, there is an increasing emphasis on cost containment, creating a desire to move care out of the traditional hospital setting. The Pulse caught up with John Driscoll, CEO of CareCentrix, to discuss why home healthcare is poised for significant growth in the coming years and how CareCentrix is positioned to capture much of that growth.

Pulse: *Since the passage of the ACA there has been increased focus on the home health industry. Outside of the absolute growth in the patient base, what do you see as the main factors driving the increased?*

John Driscoll: There are really three factors. One is that the biggest driver of healthcare costs is the total volume of inpatient stays. To the extent that we can improve access, stability and care in the home, we can reduce length of stay, in nursing bed days per thousand, and lower cost. Another is that there is an increasing ability to manage vulnerable patients in the home. Finally, patients and families are displaying a preference for healing in the home.

The ACA has many different provisions that support a focus on post-acute care not only as a lower cost setting, but a place where you can drive and measure better outcomes. Whether in evaluating consumer satisfaction or penalizing hospitals

for readmission rates or creating more transparency about the risks of hospital stays, the ACA makes clearer the superiority of the home, where appropriate, as a place to age and heal.

Pulse: *Despite the fast growth and some of the provisions you're talking about, reimbursement rates are being cut for home health care. How is the industry reacting now, and how do you expect it to react in the future?*

John Driscoll: The industry is consolidating in a lot of ways and people are trying to mask incremental reimbursement cuts by increasing volume. But I don't think that is the solution today or in the future. The solution is really for the industry to transition from volume-based reimbursement to value-based reimbursement. CareCentrix is focused on this and we are taking the lead around performance-based compensation that relates to improving care, lowering costs and delivering predictable and more favorable healthcare outcomes. If you

don't move from volume to value, you're going to be roadkill on the health reform highway.

Pulse: *Are there specific initiatives that CareCentrix or other players are examining which exemplify that shift to value-based reimbursement?*

John Driscoll: Sure. For example, we are leveraging our network approach with best practice protocols to develop an industry-leading readmissions program. In Florida, we've reduced readmissions 20% year over year in a commercial population. We also have a sleep apnea program where, through a combination of technology, services and telemetry,



we are empowering people to do their sleep tests and manage their care at home rather than in a sleep lab. These product-based approaches lend themselves to a value-based reimbursement model where we are paid when we deliver better outcomes for health plans.

As a network model, we work for health plans and we compensate home health agencies. Historically, the agencies were paid for how many units they consumed. As you

transition from measuring the number of claims you submit to the number of patients whose lives you improved, your ability to earn more money increases dramatically. Home care as a percentage of the total dollars in healthcare is still very small. Paying our sector better to do its job reduces costs throughout the entire industry.

Pulse: *Can you describe some of the benefits and challenges of using a network model in home health?*

John Driscoll: The advantages are that it is endlessly flexible and extendable. We are the only national network, and we know how to do what we do well everywhere in the country.

We can mix and match to whatever the plan or risk-bearing entity wants to buy. What we try to do is leverage our network using protocols, data, and contracts to compensate the agencies that work with us appropriately for doing the right things.

The challenge is, like everything else in healthcare, not everybody works for us. But that is true of everything except fully integrated, Kaiser-like solutions. For the most part, healthcare is a highly fragmented system where entities don't work well together. As a network model, we address that

fragmentation and get agencies to work better with each other. In general, that's the spirit of a lot of healthcare reform.

Pulse: *One of the main challenges in home health is a shortage of qualified staff. What are some of the strategies CareCentrix is using to address the dearth of well-trained professionals?*

John Driscoll: There are really three strategies that are critical. One, you have to pay them more to show up and do their job, and that's why we're working on performance based reimbursement. The second is that you need to give the parties in the healthcare system the ability to practice at the top of their license. Nurses, aids or doctors should only be doing most complex work they can be doing and nothing more. The third is to develop efficient models for delivering care, because there is an abundant supply of good people if you use them well.

Pulse: *Hearst recently acquired Homecare Homebase. With such growth in the industry, are you seeing many new entrants? What type of company do you think could enter and challenge the status quo?*

John Driscoll: I think it's going to be those entities that are aimed at reorganizing healthcare to deliver better outcomes at lower cost, or those that are serving the old participants in new ways or new participants in new ways. The path to really dramatically reducing our cost per covered population is clear, we're just not moving fast enough down it.

We have 20th century infrastructure in the 21st century. I think there is a lot of opportunity to not just improve practices

and protocols, but for information services companies to improve technology and data to assist the hardworking professionals to do the right thing.

Pulse: *What do you think the impact of the introduction of new models of care, such as ACO's and Patient Centered Medical Homes, will be on the home health industry.*

“Healthcare has 20th century infrastructure in the 21st century”

John Driscoll: Any entity that can help assist in care transition, stability, healing, support - there is a very large business there. However, no entity - ACO, PCMH, pick your favorite acronym - can survive without the collaborative approach that we take with our network model. The risk in all of these models is that people do not work well as a network of care providers, and that's what CareCentrix is good at.

The reason we're focused on home health is because it is under- penetrated, under-organized and highly-dependable as a lower cost setting that is an easier and better place to manage the patient. I'm not worried about the form that change will take as long as we are doing what we do well and making sure that people are getting the right care in the lowest cost setting with the best quality.

Profile



John Driscoll,
CEO of CareCentrix

John Driscoll brings more than 25 years of health care experience to CareCentrix as CEO. Prior to CareCentrix, John served as president at Castlight Health, a healthcare technology company. Previously, John worked at Medco and founded the Surescripts ePrescribing Network. John also served as an advisor to Oak Investment Partners, and held a number of senior operating positions at Oxford Health Plans.

John has a B.A. and M.B.A. from Harvard University as well as an M.Phil from Cambridge University in England. John is the chairman of the Truman National Security Project and is an advisory board member of Bread for the World.

Industry at a Glance

Home Care Providers in 2013

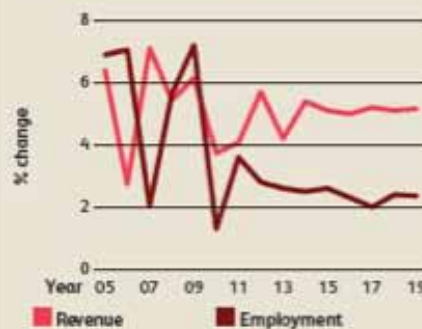
Key Statistics Snapshot

Revenue **\$74.2bn** Annual Growth 08-13 **4.8%** Annual Growth 13-18 **5.2%**
 Profit **\$4.2bn** Wages **\$38.2bn** Businesses **303,440**

Market Share
 There are no Major Players in this industry

p. 27

Revenue vs. employment growth



Federal funding for medicare and medicaid

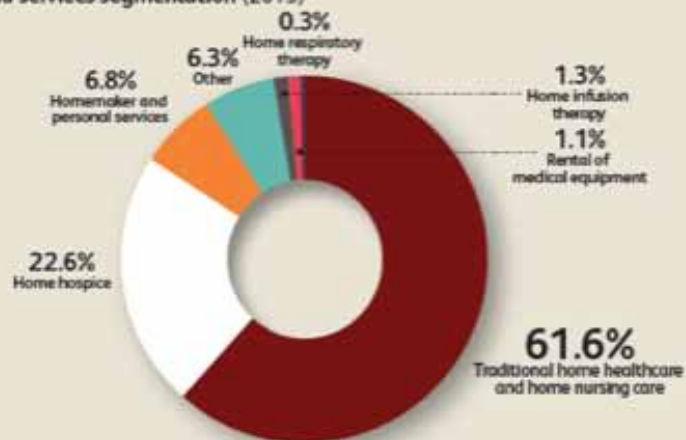


SOURCE: WWW.IBISWORLD.COM

Key External Drivers
 Federal funding for Medicare and Medicaid
 Number of adults aged 65 and older
 Number of people with private health insurance
 Per capita disposable income

p. 5

Products and services segmentation (2013)



SOURCE: WWW.IBISWORLD.COM

Industry Structure

Life Cycle Stage	Growth	Regulation Level	Heavy
Revenue Volatility	Low	Technology Change	Medium
Capital Intensity	Low	Barriers to Entry	Low
Industry Assistance	High	Industry Globalization	Low
Concentration Level	Low	Competition Level	High

FOR ADDITIONAL STATISTICS AND TIME SERIES SEE THE APPENDIX ON PAGE 36

Virtually Integrated Care: Blurring the lines between Payor and Provider

An Interview with Mike Long, CEO of Lumeris

By Rob Varady

While many of the successfully integrated healthcare systems around the country have struggled to replicate their models in new markets, the technology and advisory firm Lumeris is piloting a different approach. Rather than keeping the moving pieces together under one roof, they focus on the enabling technology and cooperative contracting to lower costs without sacrificing quality. We sat down with Mike Long to ask about why their model works, and what their success means for the broader industry.

Pulse: *You and your partners decided that you needed to build a health plan in order to implement your vision for integrated care in St. Louis. Why did you decide that was the right mechanism?*

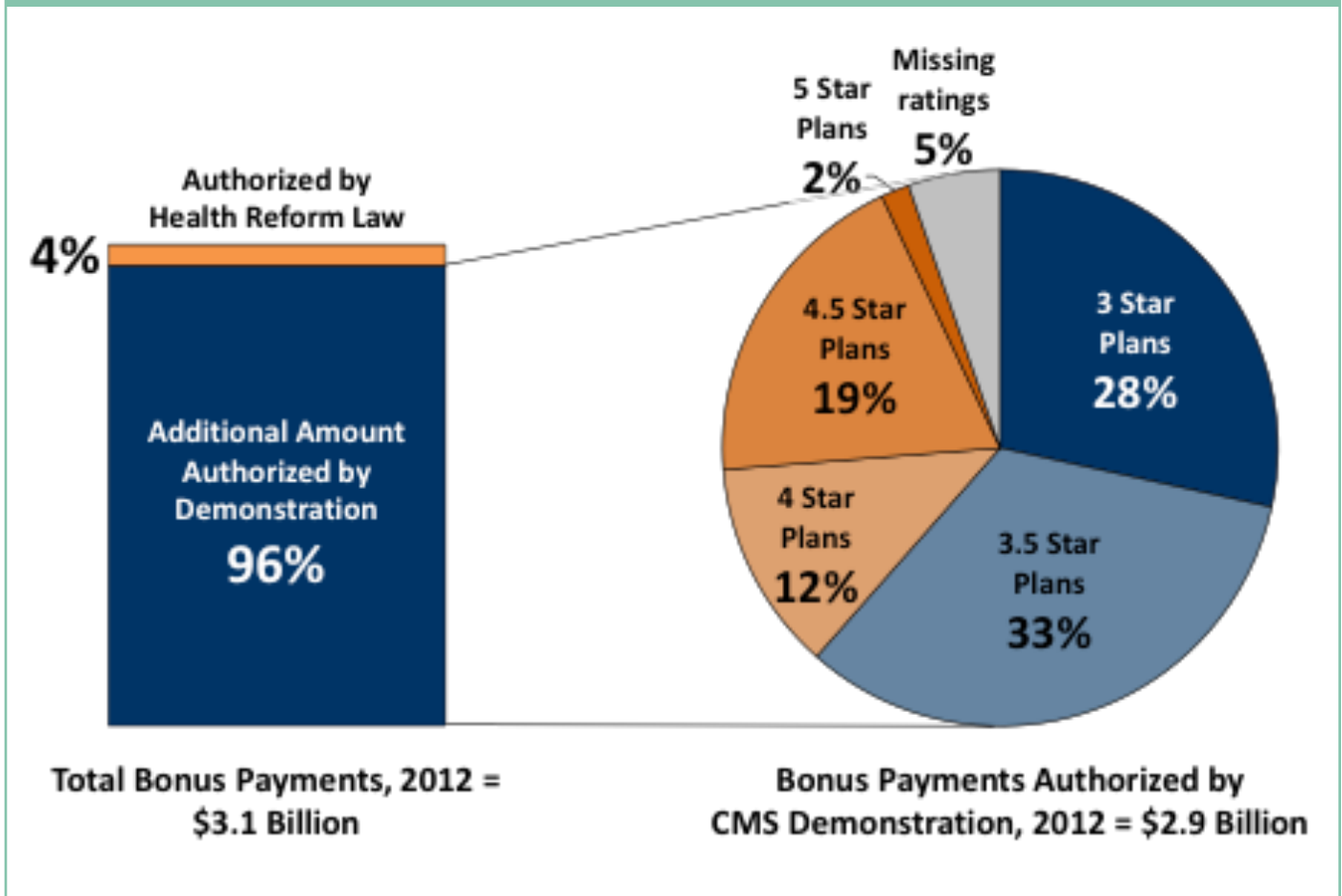
Mike Long: Well, we never intended to go out and set up a health plan.

My partners and I had worked on a number of significant efforts to integrate the information supply chain in healthcare. One that got a lot of notoriety was a company called Healtheon WebMD. The aim of the company, and of WebMD as a whole, was to deliver better information at the point of care. We became

committed to the concept of population health management, and we felt that what was lacking was better technology. We were convinced that at some point the technology would be so good and the access to the information so ubiquitous that clinical workflows in the U.S. healthcare system could begin to respond to some really interesting insights, essentially a form of cost-benefit tradeoff for every healthcare service.

This isn't to say that there should be a tradeoff between saving money and producing the clinical outcomes. As a matter of fact, in healthcare there's an inverse correlation between spending more money and getting better results. This has been proven time and time again. But in the current system,

Projected Bonus Payments to Medicare Advantage Plans, By Plan Rating



at the point of care, neither the clinician nor the patient--the only two parties in the room deciding how 80% of the healthcare dollars in the system are spent--is responsible for costs.

So that's the problem. We were confident that the perverse incentives in the US healthcare system would change. I feel you should always be on the right side of economics because it drives behavior change more effectively than anything else, except maybe religion. Once new incentives were in place, we figured that technology would be the critical first step to penetrating workflows, so we wanted to be a significant provider of some really cool technologies that would unlock actionable insights at the point of care.

So that's why we set up Essence Healthcare. We were actually just trying to organize a population with whom we could test the efficacy and viability of our innovations. We needed to refine our technologies in a real-world laboratory featuring different incentives for clinicians and consumers. With that we'd be able to measure outcomes over five, six, or even seven years to determine the impact of population health management approaches. Once we got an insurance license, we started growing the membership. We partnered with providers; we didn't purchase any components of the supply chain. The doctors remained independent, the hospitals remained independent. And we established ourselves as what we called a collaborative payor.

We would provide the infrastructure, the systems, the technology. We would capture all the learnings from collaborative coordinated care models and measure the results. Despite our not owning the means of production, we found that we could put in place incentives for everyone to want to collaborate and produce better outcomes. Further, not only are the clinical outcomes remarkable, but the costs are down – we’ve unlocked about 30 percent or more in efficiency, which generates a lot of surplus, which we then share with providers. What we find is that physicians who are accountable for both financial and clinical outcomes produce better results and make more money. And hospitals actually perform well in our model. There’s some pain associated with lower hospital utilization of bed days; length of stays shorten. But they also get an offset from participating in the surplus that gets generated from delivering more efficient healthcare.

And then what we got out of it was the opportunity to capture all the technologies and processes for delivering coordinated, accountable care. We packaged that knowledge into a subsidiary company called Lumeris. Now there’s a lot of interest in the market to replicate the model we’ve proven over the last eight years. So Lumeris became the technology and services company we always wanted to form.

Pulse: *How do you measure the success of your model?*

Mike Long: It’s measured along many dimensions. Essence grew very rapidly because it turned out that our commercial goals were completely consistent with those of consumers looking for a better healthcare experience. Our membership grew to about 40,000 seniors in a relatively short period of time and now it’s the largest Medicare Advantage plan in St. Louis and it’s also the highest rated. We’ve achieved a 4.5 Star rating from CMS for three years in a row, which puts us in the top 5 percent of all Medicare Advantage plans in the country. And we have aspirational goals for improving on that even though the margin is very difficult. That means that not only were we getting the cost right, but also the quality.

In our industry, people often refer to Don Berwick’s triple aim – lower per capita costs, improved population health and

a better patient experience. But we also consider a fourth dimension, which is physician satisfaction. We believe that physicians are a critical bridge to a reformed healthcare system, since ultimately accountability will shift from institutions to physicians to consumers. We believe that enabling behavioral change among physicians will drive tremendous near term benefits.

Pulse: *Such a high Star rating yields significant bonuses from CMS. After 2014, though, the size of those bonuses shrinks dramatically. How important are these temporary payments in supporting the development of Lumeris through its learning phase?*

Mike Long: They are very important. It’s our laboratory. It has helped fund a significant part of the R&D. You can use carrots and sticks to generate better performance in the short term, but carrots are the more effective tool in the long term because they drive innovation

These payments were a good deal for CMS because it has been able to ratchet down its payments and continually force the industry to become more efficient. 25 percent of Medicare beneficiaries are in these private Medicare Advantage programs, all of which do not perform as well as you would expect. I mean there are a lot of 2 ½ star rated plans out there and CMS is going to continue to put pressure on them by paying for quality. CMS built in positive incentives so those incremental revenues supplement the continually tightening capitated payments.

Pulse: *If a company were interested in following in the footsteps of Essence and Lumeris, but were starting up in 2013 and not 2010, would they be able to achieve what you have achieved?*

Mike Long: I’d love to say that it’s too late, that we’ve already captured the market, but it’s a big, complex market and healthcare is hyper-local. That said, if you’re doing a startup today, you are going to have to realize a couple of things. This is really hard and it requires a tremendous amount of domain expertise which has to be injected with a big dose of

idealism. And that's not been true in healthcare. For the last 30 years the safest bet for healthcare investors is to bet against change. Most money's been made in healthcare essentially gaming the old model. And that's why the introduction of new technologies in healthcare has almost always led to higher prices, which is the opposite of the introduction of technology in other industries which generally lead to deflation of cost as well as improved performance. This is why smart guys coming out of business school think they can apply logic from other industries to healthcare but are frequently disappointed because there are so many barriers to direct change.

Those barriers are coming down so it's a very exciting time. But do not underestimate that they still exist. And part of it is a generational shift as well. It will require a lot of openings in executive suites for the final push here. But that's what's going

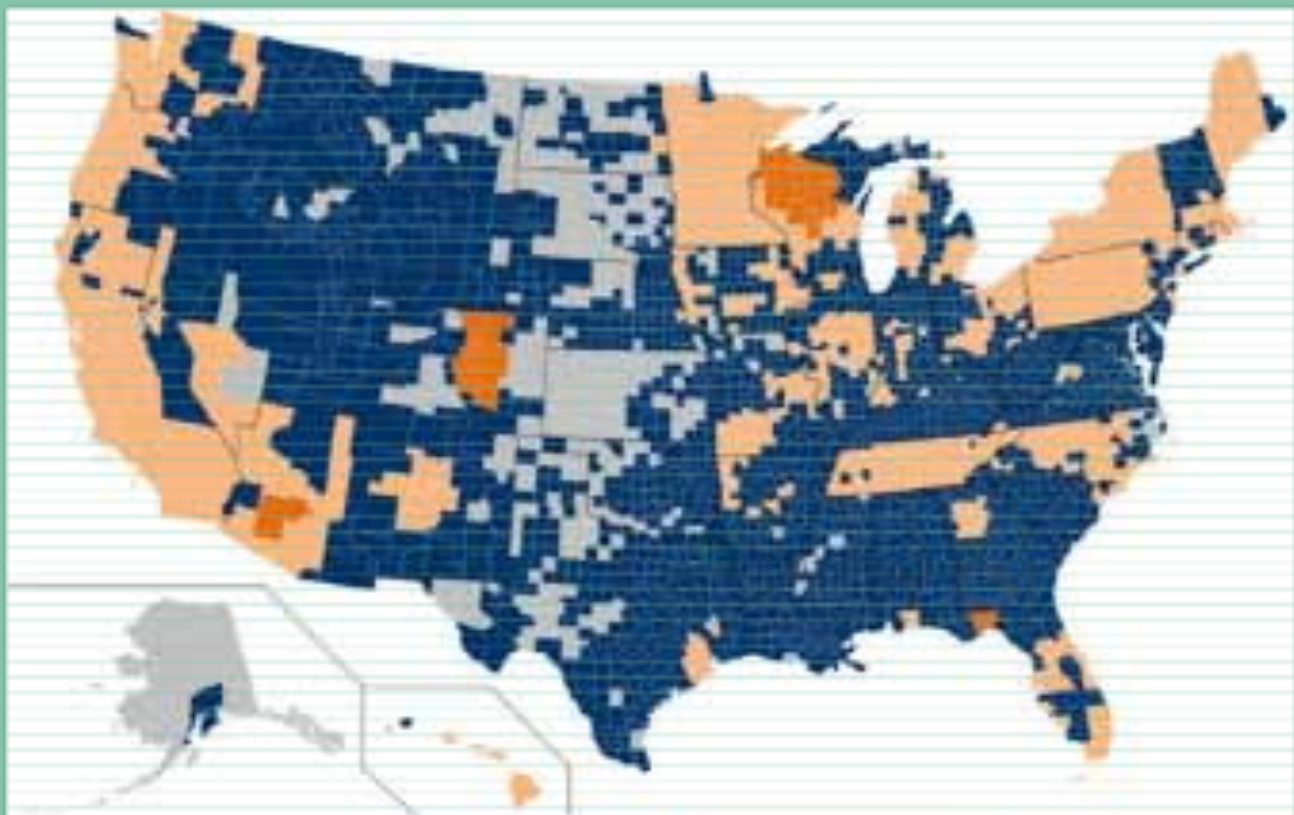
to happen. There are great leaders in this industry that have been waiting for this moment for a long time and that are now stepping up. That's really exciting to see.

Pulse: *Looking at your clients, are the majority health plans with an existing customer base, or providers who want to engage in more risk sharing contracts?*

Mike Long: The concept of provider and payor is a dated concept. There is not going to be a payor world in 10 years that is distinct from providers. It may be sooner. So don't think in terms of payors and providers. We exist today in the scene between what is a payor world and a provider world.

We're trying to enable business models that will eliminate the distinction over time. This doesn't mean that it's all going to be

Location of Medicare Advantage plans with 4 or more stars and 5 or more stars, 2011



No rated contracts
in county

No enrolees in
plans with 4+ stars

At least 1 enrolee in
4 or 4.5 star plan

At least 1 enrolee in
5 star plan

in one corporate structure. I mean there are models like that in the market. They're called integrated delivery networks where the doctors are owned corporately, the hospitals are owned, the insurance company and the risk management; it's only one big corporate structure. Kaiser, that's a model that's about 7 percent of the market now and they'll likely double over the next five to ten years.

But the model that we think will survive is what we call a virtual integrated delivery network, where any component of the supply chain, whether it's risk management or primary care physicians or ambulatory care facilities, can remain independent and be entrepreneurial while still being part of a virtual system where there's complete data transparency and collaboration.

Pulse: *Still, the majority of the market today is neither integrated nor accountable. Accountable care in any form is still, in some ways, a pilot program. Under what conditions is it taken up rapidly, and under what conditions are we still seeing mostly Fee for Service in 2030?*

Mike Long: There is a tipping point, and it's probably 20 percent. People talk as if there is a gradual, one-to-one displacement: a

dollar fee for service shifts to a dollar risk. It doesn't work that way. Instead it is going to be a step function change. There will be a point at which it makes sense for the provider to accelerate adoption of risk-based contracts, securing the revenues from those agreements and then changing the cost structure underneath that. Many providers have said that the tipping point is at about 20 percent of revenues coming from risk contracts, because that's where the provider's cost structures don't work anymore. At that point you're kind of forced to have two cost structures, one for your fee for service business and one for your risk contract business. I don't know a single CEO that knows how to manage two cost structures – a high cost structure and a low cost structure – under the same roof.

If you're going to run a company well, you need to know what your goals are. How do you earn money? If the answer is not uniform, then it is hard to communicate, and therefore hard to implement. When companies realize they need to make this choice, the tipping point comes. It will occur in different companies at different times, but I think in five years it will occur throughout the system.

Profile



W. Michael Long,
CEO of Lumeris Corporation

Mike is currently Chairman and Chief Executive Officer, Essence Group Holdings Corporation and Lumeris Corporation. Essence operates health care's most effective virtual integrated delivery network (vIDN) for accountable care. Lumeris delivers technologies, methodologies and learnings to hospitals, payors and physicians committed to delivering high-quality, low-cost and high-satisfaction accountable health care services. Previously, Mike led teams that built Continuum, a multi-billion dollar global leader in insurance software; Healtheon/WebMD, the largest consumer health information and transaction clearinghouse; and NEOS, a leading geosciences company that focused on imaging of the earth's subsurface.

Assessing the Opportunity for Biosimilars: An Insider's Perspective

An interview with Ameet Mallik, Global Head of Biopharmaceuticals & Oncology Injectables for Sandoz, Inc.

By Jonathan Lanznar

With the arrival of the pharmaceutical patent cliff, the increasing prevalence of biologic medicines and a strong concern for cost containment, there has been an increasing focus on generic biologic medicines, or biosimilars. With the industry still in its infancy and confronted with a variety of challenges, the Pulse wanted to understand the true opportunity for biosimilars. We caught up with Ameet Mallik, Global Head of Sandoz Biopharmaceuticals and Oncology Injectables a leader in the field of biosimilars, to discuss their strategic focus in the field as well as what concerns are legitimate, and what is just hype.

Pulse: *Sandoz is a well-established leader in the small molecule generics business, and is taking the role of first mover in biosimilars. What's driving you to be so bullish on biosimilars and what's your long-term goal?*

Ameet Mallik: Overall, Sandoz is focused on delivering affordable, high-quality medicines to increase access to patients. That includes both small molecule and biologic drugs. Today, nearly 25 percent of pharmaceutical sales are biologics. As

the landscape of the whole industry is shifting toward biologics, we want to be at the head of the line.

Beyond fitting with our vision, we find biosimilars attractive for four key reasons. First, there is a large market opportunity. If you look at the pipeline in the pharma industry, roughly 30 percent of the molecules in clinical trials are biologics. And when you look at the patent landscape over the next 5 to 10 years, an ever-increasing proportion

of the molecules going off patent are biologics.

Second, the regulatory pathway is much clearer than it was five years ago. We now have regulatory pathways in all major countries. With the FDA, the PMDA in Japan, the EMA in the EU, and other major markets' regulators issuing guidelines, we have a much clearer opportunity.

Third, to succeed in biosimilars you need a combination of capabilities typically found in either traditional generic or branded pharma companies. Our position within Novartis puts us at a strong advantage. For example, branded pharma companies have the analytic and process optimization expertise to develop a potential biosimilar. They also need to conduct clinical testing,

“In the end, I don’t think you can treat this as a generic market and just offer product at a lower price...packaging, device complexity, and support services will matter... because ultimately payors, physicians and patients don’t want disruption.

which many companies in the generic space do not have the resources or experience to successfully manage. Generic companies, on the other hand, often operate leaner. So while some branded pharma companies may have the capability to develop biosimilars, they can overdo it in terms of spending on the programs.

Fourth, there is commercialization. This is a hard market to capture. It’s a long lead-time and very expensive compared to small molecule generics. In the generics space, there are not many players who have the capabilities and can actually invest at the high level that’s required to have a broad biosimilars portfolio. In the branded pharma space, some companies with the capabilities have nonetheless not succeeded in operating their biosimilars division within a traditional pharma structure. We have had a lot of success already, and each of our three in-market biosimilar products are the number one biosimilar in their respective categories. We are also increasingly surpassing a number of the originator products.

Pulse: *While there is a clear opportunity, much of the discussion remains around challenges and barriers to the success of biosimilars. What are some of the barriers you hear about most often and which do you think are really affecting your business?*

Ameet Mallik: The regulatory challenge jumps to the top of that list, and I think it is much less of a challenge than people anticipate. Usually people who talk about the regulatory challenges aren’t interfacing enough with the FDA, EMA and other regulatory bodies. Of course there is going to be some uncertainty, but biosimilars will be a reality from a regulatory standpoint. I think there is very low risk for regulatory challenges as a barrier, although review timing remains uncertain.

Pricing and cost is a second challenge. Pricing always depends on a variety of factors. Remember, these products oftentimes cost \$50,000-\$100,000 or more, per year per patient. So if you’re talking about a 20-30% price discount, that’s significant. But I don’t think cost alone will win this game. You need to have a comparable offering too.

Which brings us to the third barrier: market penetration. We have a 10-30% market share for all of our biosimilars across Europe, and that market includes the originators. A few years ago, people had a lot of questions about how penetration would evolve. I think it is actually going quite well, considering how many players are in the market.

Pulse: *Is adoption of biosimilars and willingness to pay more challenging when treating chronic disease?*

Ameet Mallik: I think adoption will depend on multiple factors. It’s going to depend on the molecule and data, but also on the market and the payor status. Beyond meeting the high regulatory standard, payors will also want a product offering that’s comparable to the originator (original branded biologic product), meaning a device that is easy for patients to use and services that support chronic disease treatment.

In the end, I don’t think you can treat this as a generic market and just offer product at a lower price. High quality and consistent supply are definitely critical. Beyond that, packaging, device complexity, and support services will

matter. There is a lot that goes along with drug production because ultimately payors, physicians and patients don't want disruption.

We saw this with Omnitrope, our human growth hormone in the US, which is a very similar market to the TNF-alphas (products like Remicade, Humira, and Enbrel). At launch we focused on discounting. At the end of the day we had very low share and were the seventh player in the market. When we refocused on those other elements beyond price, our product really took off, and now we've cornered approximately 20% of the market.

It's not easy, and it took us time to learn. You can't just employ traditional strategies from branded pharma or traditional generic strategies. It requires a combination and varied approach. But while it is difficult, I don't see any major hurdles that are going to hold us back from gaining significant adoption over time.

Pulse: *Many feel the US regulatory pathway is still pretty onerous and*

fairly undefined. Do you think this will drive some firms to ignore the biosimilar pathway and simply go towards a slightly differentiated Biologics License Application (BLA) for which they'll be able to get the 12 years of exclusivity?

Ameet Mallik: I think there are some players who are going down the BLA pathway if they can demonstrate the differentiation. But, there are two key points to think about.

First, with the biosimilar pathway you get extrapolation across indications. With a drug like Avastin, think about how many indications there are and imagine if you had to replicate studies in every indication. Then going through the BLA pathway would be extremely expensive.

Second, there are IP factors to consider. Companies have to think about whether they can develop a true "biobetter" product to get regulatory approval. It would need to have some additional safety or efficacy that is meaningful to patients and physicians. Then the payors

will pay for it. That bar is increasingly high, and with the exception of a few companies, we haven't seen a lot of success.

Pulse: *There is a lot of talk about biosimilars in emerging markets. How do you think about focusing your biosimilar strategy on emerging markets versus some of the more traditional highly regulated markets?*

Ameet Mallik: The majority of the opportunity exists in the regulated markets. These are markets which require a very high quality offering, a situation which favors companies like ours. That being said, we still see high growth in emerging markets. Even though there is less regulatory scrutiny and a prevalence of local players, there are always segments which want to pay for high quality care. There is big potential to expand our market size, since many patients currently don't get treatment. Still, for us the priority is in the regulated markets.

Profile



Ameet Mallik,

Global Head of Biopharmaceuticals at Sandoz, Inc

Ameet Mallik has been Global Head of Biopharmaceuticals and Oncology Injectables at Sandoz International GmbH since August 2009. Mr. Mallik joined Sandoz as Head Biopharmaceuticals in August 2009. He joined Novartis Pharma in 2005 and served as the Head of Global Strategic Planning, after previous work at McKinsey and Abbott Labs. Mr. Mallik graduated with a BSc in Chemical Engineering and an MSc in Biotechnology from Northwestern University, and later with an MBA from the Wharton School at the University of Pennsylvania.

Understanding the roadblocks to deploying health IT

*An interview with John Glaser,
CEO, Health Services, Siemens Healthcare*

By Jenny Chen

The Pulse spoke with John Glaser, CEO of Health Services at Siemens Healthcare to understand the key advantages for health care organizations that mindfully deploy IT initiatives. The risks in a conservative industry are high, but Glaser's experience in successful deployments point to leadership and management challenges as stronger influences than the type of technology used.



Pulse: *Just as a brief overview and introduction, what are the main ways in which you've seen information technology change the landscape of health care?*

John Glaser: I think there are two main ways in which IT has changed health care. The first way is pretty clear; it has given us a lot of data. And an effective use of this data can make care more efficient, provide better quality, and increase safety. This use of technology also extends into other areas like the administrative processes or the billing process.

This said, the other way is to answer what exactly it is that technology does, and to find ways of distilling the data we have. Technology enables us to master complexity. The only way to increasingly take on complex analysis, complex processes, and complex business models is through powerful technology. We see this happening in retailing, manufacturing etc. In the years ahead, technology will enable us to devise a more complex reimbursement model, to introduce a growing array of medical knowledge, and to create complicated health systems. The major impact, some of which we see now and some of which we will see, is that it allows us to take on more much complexity in payment schemes, care delivery models, care practices, or other areas.

Pulse: *In prior speeches, you've mentioned that the role of IT is slowly shifting from supporting transactions to intelligent analysis. How is this shift taking place?*

John Glaser: I think we see models of intelligence wrapped around a transaction in all facets of our lives. The example I use often is if someone buys a book on Amazon, Amazon will come back with other recommendations. It is the act of taking a very fundamental transaction and leveraging it through

the use of intelligence. And in health care, there are a lot of different forms of this intelligence. There is intelligence that sits right behind the entry of a transaction. For example, if the doctor writes a prescription or the nurse documents a problem, the intelligence will tell you that this makes sense, or that this is a good choice. It is the classic clinical decision support in ordering. Another form of intelligence is in the form of reminders, for example when a prescription is overdue, or for an office visit. Another form is work flow logic, and monitoring the sequence of activities. Other forms are analytics and

predictive algorithms. For example, analyzing someone's status in their overall population for diabetes care, or predicting which patients will most likely be readmitted. You can start with a model that makes three decisions and move to three hundred. You can have analytics that look at frequency of visit and move to something more nuanced that includes information on diet, blood pressure, and amount of stress in a job. The key is being able to gracefully add this intelligence in chunks over time, and having organizational mechanisms which show us which pieces to add next. Overall, this shift will happen incrementally over time, as people become more proficient with it. And it will become stronger as it gets rewarded with volume.

Pulse: *In the development of new technologies, do you find that it is more beneficial to have a first mover advantage or to wait and build upon existing platforms?*

John Glaser: A part of it is perspective. If you are a startup, you most likely will want to be first. Though, knowingly this is not a guarantee of success. The first browser did not dominate the market; the first personal computer did not dominate the market. Generally, as a provider, as most providers are reasonably conservative in their technology decisions, it is

“The answer is that those companies that did well were much better at managing change, and better at innovating and propagating their innovations across their enterprise. So while IT is a necessary investment, it is not a sufficient investment.”

prudent to not be first, but perhaps to be a fast follower or be somewhere later along the adoption curve. Sometimes when technology first comes out, it is surrounded by a lot of hype, and you want to see what the actual experiences are and whether that hype was warranted. By and large, it is prudent to let it play out a little bit. Now, some organizations do like to be first; they are used to being researchers and innovators, so they are much more comfortable with being first. But the bulk of health care is conservative.



in social media may not be that important to a smaller hospital. They most likely will not alter their game plan or competitive decisions based on these technologies. If you are a smaller hospital, you may not want to be the first mover on some of these technological advancements. You will rely on technologies that truly have power and contributions. It may take a while for people to go through the

That said, there are times when being first can be quite worthwhile. There is a risk to being first, but you have to be sober about how significant that risk is. You may decide to take that risk if you think there is substantial advantage to being first. One advantage to being first, is gaining the know-how. Knowing how to apply the technology before others do may be critical in the years ahead. Another advantage is that being first may allow you to accrue a secondary advantage. For example, being first may allow you to grab significant market share and brand, from which it may be difficult to dislodge. The flip side that is being first may be risky, but it also may result in significant advantages.

Pulse: *With technology being such a fast-paced industry in general, how are hospitals keeping up with these rapid changes in technology? Particularly, hospitals in more rural areas which may have fewer resources*

John Glaser: The first realization is that there may be many past-paced technologies which may only have a modest impact on hospitals in more rural areas. For example, the advances

first generation, but it will eventually mature to the point of accessibility. For example, at first, imaging technology was not available to all hospitals, but now it is. It has reached the point of being sturdy and supportable. Furthermore, small hospitals may not be disadvantaged by waiting. Though, many smaller organizations are seeking to be members of larger health systems, so that they can have access to more advanced technology and more robust capital resources.

Pulse: *What about internationally? What are some of the challenges you find in expanding the use of technology globally? Are there complications in infrastructure or hesitations in adoption?*

John Glaser: I think you have to split it into developing economies and emerging economies. For developed countries, the same pressures that exist there similarly exist in the US; these countries are also worried about cost and quality. Though, there can be some differences, like different patient accounting systems or care practices. For example, the role of the pharmacists in Germany is different than that of the US; the role of the nurse is different in Japan than that of the US. Emerging economies are also interested in cost and quality, but right now most are just interested in access. In India, the

Digitizing Humans: The Promise of Genomics and Wireless Technologies

*An interview with Dr. Topol, Professor of Genomics
at The Scripps Research Institute*

By Bedir Shather

These are exciting times in medicine. The convergence of genomics and wireless technologies is set to revolutionize the way patients are cared for. A new paradigm of care – personalized medicine – is building momentum and Dr. Eric Topol believes that the “digitization of humans” will usher in a far more efficient and cost-effective means of delivering healthcare. With the creative destruction of medicine almost inevitable, Dr. Topol believes that many of the barriers to adoption – such as reimbursement and physician resistance – will be overcome. The Pulse caught up with Dr. Topol to discuss the implications of these technologies on the healthcare landscape.

Pulse: *In your book “The Creative Destruction of Medicine”, you talk about the concept of the “Digitization of Humans”. What do you mean by this and what are some of the technologies enabling this?*

Dr. Topol: We currently have a remarkable capability in medicine that we have never had before – the ability to characterize each individual beyond the conventional demographics or social graph.

For example, individuals can now take beat-to-beat blood

pressure readings through biosensors and then have that information graphed, digitized and archived on mobile phones and sent directly to physicians. The same is true for glucose monitoring, allowing continual on-the-go monitoring wherever patients are. Currently, we only get a snapshot of a patient's vitals and other important metrics when they come to visit the doctor's office.

In addition, we have had amazing advancements in unravelling the molecular and genomic blueprint of each individual with the ability to decode DNA through sequencing

sensing technologies such as smart phone echocardiograms, as well as the digitized pill by Proteus. I actually think they are very supportive and share the enthusiasm for this movement. Obviously there needs to be a degree of oversight by them; however, we are seeing that the FDA is only regulating where accuracy is clearly paramount.

Pulse: *You mentioned genomics earlier as a specific innovation that contributes to our ability to digitize patients. What are some of its early practical uses in medicine?*

Dr. Topol: Cancer is one of the most logical areas for the application of genomics as it is a disease of the genome. We also know that every tumor is unique and that cancer is very expensive to treat, costing hundreds of thousands of dollars per patient. By sequencing tumor DNA, we can unravel the

molecular basis for each cancer and understand what drives each cancer's growth. In this way, we can appreciate which therapies may work and which ones will not. In the current set up, patients receive therapeutics that have been validated using population studies that do not account for individual differences – it is little wonder why many treatments end up not working. Genomics presents an opportunity to avoid this wasteful treatment.

During pregnancy, we can now draw a sample of blood at the 8-10 week mark to digitize the fetus – in essence sequencing the fetal DNA – to check for chromosomal abnormalities. This is an example of obviating the need for amniocentesis.

Other areas of promise include pharmacogenomics, undiagnosed diseases, and infectious disease.

Pulse: *In your book you talk about the highly inefficient nature of the drug development and approval process. How does genomics change this paradigm?*

Dr. Topol: It is an enormous opportunity that has largely been untapped to date – we all know how expensive it is to develop a drug and how many of them fail late or even after approval. Almost invariably, many of the major side effects and efficacy issues can be recognized early through a genomic and molecular basis by sequencing. For example, the most

“The digitization of patients will allow us to tailor our treatment or prevention approaches at the individual level”

commonly used class of drug is statins. For patients taking potent statins, at least 1 in 200 of them develop statin-induced type 2 diabetes. Although this has yet to be done, genomics may provide the key to unravelling this mystery by identifying those patients with DNA variants that increase their risk of developing the condition. This type of research was not done during the clinical trials for statins. Drug developers should be leveraging the power of genomics to sub-categorize



patients and identify those who truly respond and for whom there is no risk of side effects. There are numerous examples within cancer where this is happening currently.

Pulse: *Given the recent issues with direct to consumer genomics services such as 23andMe and the FDA, what is your view on these types of businesses?*

Dr. Topol: I have tried them all – 23andMe, Navigenics, DecodeMe and Pathway Genomics. I do think they provide a lot of useful information. It is a limited window into the genome – picking up only common variance. It is only a tiny part of the whole genome. But I think it’s useful and a good deal for around \$99.

I think where 23andMe got it wrong is with their very aggressive marketing campaign and the fact that they didn’t clarify and discuss some of the issues the FDA had raised to them repeatedly. That was a double whammy and they got put in their place. So now they can’t—at least temporarily—provide information on disease susceptibility or

carrier status or even pharmacogenomic information. I trust they will get back on track and satisfy the FDA’s concerns which are partly warranted but also too paternalistic.

There are many of the products out there today that are less rigorous in terms of how information is being conveyed and analyzed. I am optimistic that consumer genomics is here to stay and that this is just a temporary hiatus.

Pulse: *What do you see as the most exciting and promising innovation that will prove to be the most transformative 10 years from now?*

Dr. Topol: I actually don’t think it’s a single one, I think it’s the whole gamut of ways to digitize human beings. I think this comprehensive view to understanding each individual is essential. If there is one thing that going to be important the next decade, it will be being able to not just aggregate that data per individual but come up with the right predictive analytics to prevent conditions before they happen, including strokes, asthma attacks, and heart attacks,

“Much like we have seen the digitization of books, magazines and movies, we can now digitize human beings by decoding their DNA sequence, imaging their anatomy and recording their physiological metrics”

Profile



Dr. Eric Topol

Professor of Genomics, The Scripps Research Institute

Dr. Eric Topol is a world-renowned practicing cardiologist and director of the Scripps Translational Science Institute in La Jolla, California. Dr. Topol’s work focuses on the application of genomic and wireless digital innovations in reshaping clinical practice. In 2012, Dr. Topol was voted the #1 Most Influential Physician Executive in the United States in a national poll conducted by Modern Healthcare. Earlier in his career, Dr. Topol led the cardiovascular program at the Cleveland Clinic to become the # 1 center for heart care in the United States. In addition, during his time at Cleveland Clinic, Dr. Topol founded a new medical school, led numerous clinical trials in cardiology as well as spearheaded the discovery of number of discoveries in the field of cardiovascular genomics.

Entrepreneurship Opportunities in Healthcare IT

*An interview with Elliot Menschik, founder
of DreamIt Health and Venturef0rth*

By Jenny Chen

Entrepreneurship in healthcare IT has never been stronger. Hundreds of new companies are driving innovative ways of capturing and using information to drive patient safety, improve provider efficiency, and lay the infrastructure for value-based business models. The Pulse sat down with Elliot Menschik to discuss market trends and success factors in this rapidly evolving market.

Pulse: *Can you please tell us what inspired you to lead DreamIt Health?*

Elliot Menschik: In the last half decade we saw the emergence of accelerators as a way to take early stage companies from ideas to viable businesses very quickly, especially with first-time entrepreneurs. With close to \$3 trillion spent per year in the United States on healthcare, there is a huge opportunity for novel companies to bring solutions to this market.

For us, it seemed a shame that Philadelphia (where DreamIt got its start), which has more resources for healthcare and technology than almost anywhere else in the country, didn't have a dedicated accelerator for healthcare IT specifically. We decided to build upon what DreamIt had done with general IT companies, and create DreamIt Health. DreamIt Health is everything you would get in an accelerator in terms of seed capital, mentorship, space, and an enhanced curriculum for first-time entrepreneurs. We also added content on specific

sales techniques for payors and providers, content on the regulatory landscape, as well as opportunities to work with major players in the healthcare industry.

Pulse: *What are some of the major inefficiencies in the healthcare industry that you think technology can help alleviate?*

Elliot Menschik: I think most people would agree that the healthcare industry is 15-20 years behind every other industry in terms of the adoption of information technology and best practices around efficient operation. There hasn't been a traditional marketplace in healthcare as there has been in some other industries that have experienced rapid adoption of IT to stop critical business problems. Healthcare is behind in almost every dimension, and it is rare for IT innovations to start in healthcare and go towards other domains. What you do see in healthcare are technologies that have already been proven as approaches or techniques in other industries. You

see these technologies being imported to healthcare years after they have already become mainstream in other industries.

Another issue in healthcare is that the incentive systems between payors, providers, and patients lack alignment. As a result, the health system experiences chronic inefficiency, particularly among systems that are generally outdated, and with larger organizations that do not change operations too quickly, given the high-stakes, mission critical environment of a hospital.

Pulse: *What are some of the leading trends that you have seen, which aim to kind of solve these inefficiencies? Are there any trends that you see in companies that approach DreamIt Health?*

Elliot Menschik: We do see consumers putting pressure and expectations on healthcare companies to adopt new mobile technologies and other tools, given the amount they can now accomplish with technology across all other facets of their lives. Another trend is the conversion of multiple functions onto mobile devices. Everyone who works with healthcare brings their own device and their expectation that they can use this device to be more efficient at their jobs. Oftentimes because of restrictions on systems, lack of integration, and privacy concerns, you're not able to do that. And so as a result, there is this kind of inefficiency that is waiting to be alleviated.

More Disruption Please: A Call to Action from the Leadership Team at athenahealth

An interview with Mandira Singh, of athenahealth's

More Disruption Please (MDP) Initiative

By Charlie Robinson

PULSE: *Disruption. It's not every day that the CEO of a leading American company asks for more of it. What is the More Disruption Please (MDP) initiative at athena?*

Mandira Singh: At its core, MDP is a way to incorporate promising startups into the athenahealth platform. It is athena's way of harnessing the power of the best new ideas across the country by connecting our physician and hospital partners with innovative answers to daily needs. The initiative is comprised of two things: a platform to engage some of the brightest thinkers out there and an online marketplace providing innovative solutions to health care providers across the country. Our engagement platform brings together CEOs, venture capitalists, and entrepreneurs through our events to discuss ideas and solutions. From there, our team selects the most promising ideas for development. Once a product meets our quality standards, we make it available to our partners through an online marketplace.

PULSE: *How is MDP changing the way that your team supports physicians, clinics, and hospitals across the country? What is your vision for the future of the program?*

Mandira Singh: A fast pace of innovation is required for us to best serve our physician and hospital clients. Instead of trying to anticipate all our clients' needs ourselves, our leadership team decided to collaborate with the whole community of innovators who are working to solve these very challenges. In 2013, we worked with 20 new partners through the MDP platform, and we look forward to working with many more this year. Ultimately, I would love the MDP platform to look and feel like the Apple app store with more hands-on vetting and pilot testing, where our clients can browse through a multitude of different "health IT solutions" and choose whichever one meets their needs.

In my mind, the MDP program should exemplify athena's commitment to innovation and solving the problems that caregivers and their organizations are facing every day. In that respect, I think we're off to a great start.

Profile



Mandira Singh

Senior Business Development Manager, athenahealth

Mandira Singh is a Senior Business Development Manager at athenahealth, where she oversees program development for Athena's "More Disruption Please" platform and marketplace. Prior to joining Athena, Mandira was an investment professional at Essex Woodlands, a growth equity and venture capital firm focused on healthcare. At Essex Woodlands, Mandira invested across sub-sectors of healthcare, spending the majority of her time on services and IT investments. Mandira started her career at J.P. Morgan, where she worked in the North America Healthcare Coverage Group and then the Private Equity Co-Investing group in New York. Mandira holds a BA in Economics from Vassar College and an MBA from the Stanford Graduate School of Business.



Pulse: *Are there any technology trends in the healthcare space that you wish to see more of?*

Elliot Menschik: I am very interested in combinations of hardware and software, whether it is novel devices that involve current generation sensors or medical apps that are rapidly turning mobile phones into medical devices.

Conversely, I would prefer to see fewer consumer wellness apps. Oftentimes, when people outside of healthcare attempt to effect change, there is an assumption that consumers and patients have power in the industry. And they don't yet.

If we're doing things around an application that is totally consumer-oriented, we have a very hard time seeing a business develop. The services that are interesting are the ones that are actually solving real problems for big enterprise players in healthcare – providers, payors, drugs, public health and government, among others. The key is to really understand the significant business problems for these large players, and then bring to market a solution that actually solves that problem in a novel way. This sounds very easy, but we see all too little of it. We still see a lot of applications that are a 'nice to have' instead of a 'must have'.

Pulse: *In your experience, how receptive are patients and health organizations to new technologies? And what advice do you have for entrepreneurs to overcome these adoption hurdles?*

Elliot Menschik: In a general sense, I think that patients and provider are receptive to new technologies and tools. Again, I think from a

patient standpoint, as we become familiar with these tools facilitating our lives in every other domain, we have an expectation that it will be true in healthcare as well. From a provider standpoint, particularly for the generation of doctors who are in training now, there is also an expectation that the tools that they have come to know and love are going to make their professional lives easier.

I would say even in older generations of physicians, there is a desire for better use of information technology to enable more streamlined care and more effective care. At the end of day, physicians are focused on better care for their patients, cutting time spent on administrative duties, and bottom line economics. And if you're giving them a tool that enables them to generate more revenue or save time, that fits well within the parameters of what they're looking for.

Where IT has run into problems in the past is when it creates more administrative headaches than it solves. So I think everyone is interested in greater use of IT, but particularly in the healthcare delivery system, where it needs to be done in a way that actually improves care, saves time, or saves money – or some combination thereof.

Pulse: *With the development of different technology systems in healthcare, do you think that there will be any kind of industry standardization in the future?*

Elliot Menschik: I think the system will remain fragmented the way it has been for a long time to come. Short of a government mandate to standardize, there is no pressure on vendors to share data with one another in an interoperable, plug and play fashion. Other governments have taken a very active role in creating a national infrastructure by essentially mandating that everyone has to run their data along the same layout using standards in a prescribed way, where interoperability becomes possible.

Outside of that, it comes down to who really cares about data interoperability. Customers don't really care about standards. Since those buying the products don't care about standards, those selling the products don't care about standards either. As a result, it will take time before this changes.

Pulse: *What advice would you give to someone who is looking to develop their own healthcare startup?*

Elliot Menschik: Make sure you understand your customers. Make sure you understand the problem you're trying to solve. Make sure that it is a real problem. And spend as much time as you can talking to prospective customers and refining the idea before you build anything. You can do this before taking financial risk – just talking with people, understanding what is needed in the marketplace, testing ideas for effectiveness, mocking up your solution. Test the idea with people before you invest the time and resources to building the product.

In healthcare IT, you have all the same benefits of a regular IT company, such as being able to be very capital-efficient in defining your product before you ever build anything.

The difference is in the sale cycles. Even if you get the right product developed, the sale cycles are very long. So first make sure you've got the right product that somebody wants, that somebody is willing to pay money for, before you invest too much. And then think about what relationships you can develop that will streamline the path to actually selling that product.

At DreamIt, we really try to make sure the teams we admit are solving real problems. We give them access to customers and strongly encourage them to go out and talk to as many people as possible and build as many potential client relationships as possible.

The relationships bring the opportunity to find pilots and initial customers that otherwise could take them years to find. Those are really the key hurdles for healthcare startups and health IT startups. That's how we designed DreamIt, and while it is still early days for us, the initial ten companies that went through our four month program all emerged with an initial pilot that engaged in their technology. We've got another ten that will be coming to our next program in Baltimore, and we expect similar results. We're excited to see how it evolves.

“There are a lot of pressures and expectations from consumers that since we can do so much with technology and mobile in pretty much every other facet of our life, why can we not do the same in the healthcare domain?”

Profile



Elliot Menschik

Founder of DreamIt Health and Venture0rth

Elliot is a physician/engineer/hacker turned repeat entrepreneur and investor. He is a managing partner at DreamIt Ventures where he founded and leads its healthtech accelerators and investments. He is co-founder of Venture0rth, an urban campus and community of tech startups in Philadelphia. He also serves on the Penn faculty where he teaches engineering students how to create and run startups to take their technology to market. He was previously the founder and CEO of HxTechnologies, a pioneer in health information exchange which he sold in 2009 to Health Care Service Corporation, the parent of Blue Cross Blue Shield of TX, IL, OK and NM. An NIH Fellow in the Medical Scientist Training Program, Elliot received an MD and PhD in Neuroscience from Penn Med and holds MSE and BSEE degrees in Electrical and Computer Engineering from Johns Hopkins.

Wharton Health Care Alumni Association Delivers Heavy Hitters for 2013 Conference



From economic crises to frothy IT markets, from small startups to Fortune 500 powerhouses, the challenge of finding and providing value was the focus at the 2013 Wharton Health Care Alumni Association Conference. The WHCAA's signature event brings together aspiring entrepreneurs, corporate heavyweights, and everyone in between to network, share ideas, and above all, promote Wharton's goal of Lifelong Learning.

The day kicked off with Wharton's Richard Marston's keynote presentation on the current environment in the financial markets. Drawing a straight line from the beginning of the Great Recession through today, he highlighted the impacts that major trends might have on investing in and operating healthcare companies in the next five years. Marston also stressed that America's overall competitiveness depends on its ability to effectively reform the trajectory of the country's high-cost, ineffective healthcare and education systems. In response to audience questions he also addressed the increasing income gap within American society, noting that the gap is wider in America today than it has been in recent history, and that today's uncertain political climate can be seen as a reflection of this change.

Following a breakfast and book-signing, the first panel of the day focused on strategy in the post-reform era. All panelists agreed that the Affordable Care Act has had less of a direct effect on their businesses than general market headwinds and political uncertainty. While Universal Health Services' Marc Miller indicated that providers will benefit from a changing population and payment environment, Katherine Crothall of Aspire Bariatrics indicated that the device sector is responding to these challenges by pursuing more conservative investments in the US and bolder opportunities in international markets. Meanwhile, James Kuo of MSK Pharma discussed strategic advantage that the Pharma sector will continue to have in price negotiations with CMS.

Lunch came with awards, plaudits, and a public sector perspective. Ross Stern (Wharton HCM class of 2014) was the winner of the 2013 Kissick Award, and discussed his summer experiences inside CMS's Innovation Center. WHCAA Chairman Jay Mohr took home the Alumni Achievement award. Finally, Jonathan Blum, Assistant Administrator of CMS, weighed in on some of CMS's intentions and goals in the first two years after the ACA's passage. Blum shared what he sees as success of the bill (lower insurance premiums across

the board), in addition to highlighting his ongoing focus on addressing the geographic dispersion in cost and quality of care.

Following lunch, the conference offered a panel on investing opportunities in healthcare. Michael Long of Lumeris pointed out that other industries offer consumers the information they need to make a choice on the products they want, and that private health insurance exchanges are beginning to bring that reality into the insurance marketplace. To survive, health insurers need to make significant investments in exchange marketplaces. Joseph Swedish discussed some of Wellpoint's investments in that space, highlighting novel efforts in managing population health through clinical as well as claims data; he also stressed that ongoing partnerships and collaboration with providers will be key.

The final panel of the day centered on the health IT marketplace. Participants noted the hype in the market for health tech startups while offering balanced perspectives on the risks involved in the sector. Both Bill Taranto from Merck's Innovation Fund and Michael Balmuth of Edison



Ventures agreed that pre-revenue companies were too risky, and that too many entrepreneurs chase seemingly sound ideas without considering how complex healthcare reimbursement mechanics affect their customers' decision making processes. Additionally, Paul Meyer of Voxiva demonstrated how he built an innovative product around various CMS and NCQA "scorecards" to facilitate rapid adoption and meet a market need.

At the closing reception, conference attendees reflected on lessons learned and future collaborations. Former classmates reminisced on their time at school and caught up on the years since. Participants exchanged business cards — this IS Wharton, after all—and discussed plans to attend future conferences. Keep an eye on the Association's webpage, www.whartonhealthcare.org, or join the mailing list to stay involved. There have been four regional or online events in as many weeks since the conference, and there are always more opportunities to plug in.



The Alumni Association will be holding their 2014 conference, focused around Healthcare Transformation, on October 31, 2014. Mark your calendars!"



Wharton Health Care Management Program Overview



The Health Care Management Department is one of the oldest, most distinguished, and most comprehensive in the health care field. Graduating its first class of MBA students with a specialization in Health Care Management in 1971, the department was in the vanguard of educating health care executives and leaders within the general management curriculum of a business school, breaking from the traditional public health and health administration models. The doctoral program was established in the mid 'eighties, broadening the department's mission to encompass the training of future health care management and economics scholars. The creation of the undergraduate concentration, also in the mid-'eighties, provides Wharton students and students throughout the university with education and training in health economics, management, and policy. Offering more course electives in health care than any other business school-based program, every important sector of health care is covered in depth.

Today, the department is a vital community of internationally renowned scholars who have spent their careers following the evolution of health care services and technology, domestically and globally, and researching important management and economic questions arising from all aspects of this complex enterprise. The HCM faculty collaborate with medical, engineering, nursing, and other faculty from around the university to create interdisciplinary research and knowledge. HCM students have countless opportunities to work with faculty and health-related research centers throughout the university. Health care executives, entrepreneurs, consultants, investors, and other practitioners are involved as part time lecturers who bring the world of practice to the classroom. The Annual Wharton Health Care Business Conference organized by HCM students attracts more than 600 alumni, health care professionals, and national health care leaders from every subsector of health care. It has become a nationally recognized forum for the exchange of ideas about issues in health care business and management innovation. A vast network of alumni who hold leadership positions in every part of health care work in close partnership with the department in activities such as guest lecturing, recruiting and mentoring students, and providing access to business data and practices to faculty engaged in research projects. This close-knit community of scholars, students, alumni, and practitioners is widely considered a leading source of talent and leadership for the health care field.

Wharton Health Care Management

Student Organizations

Central to the Wharton Health Care Management student experience is each individual's ability to shape and participate in a number of dynamic student-run initiatives. We have highlighted some of these activities below.



Wharton Health Care Club

The Health Care Club organizes professional and social activities for all Wharton graduate students who are interested in exploring opportunities in the healthcare industry. Members share their knowledge and perspectives in addition to interacting with current industry leaders to develop an understanding of the issues facing hospital, physician, managed care, pharmaceutical, biotechnology, and medical device organizations. Please contact Jackie Zider or Brett Chung for further details.



Wharton Health Care Board Fellows Program

The Health Care Board Fellows Program strives to cultivate and enhance mutually beneficial learning relationships between Wharton's Health Care Management Program and the nonprofit community. Program participants gain first-hand experience as nonvoting board members on the boards of socially responsible nonprofit organizations, while those organizations benefit from the professional experience and training of current Wharton MBA students. Please contact Bre Hockenbury or Jane Herzeca for more details.



Wharton Global Health Volunteer Program (WGHVP)

WGHV is designed to give Wharton Health Care Management students the opportunity to collaborate with global healthcare NGO's in developing countries. Student-led projects give participants the opportunity to work closely with organizations to develop viable strategies and improve their operations while making an impact in underserved communities. Please contact Alcira Rodriguez for further details.



The Penn Biotech Group

PBG Consulting offers student consulting services to players in every sub-sector of the healthcare industry. Our consulting teams draw membership from a number of graduate schools across Penn, including Wharton, the Perelman School of Medicine, and the School of Engineering and Applied Sciences. PBG Consulting's goal is to provide graduate students the opportunity to gain hands-on consulting experience analyzing a broad range of real-world business issues confronting healthcare companies today. Please contact Alan Han or Andrew Franklin for more information.



Wharton Health IT Club

The Health IT Club serves the needs of the growing community at Wharton interested in changing the healthcare system through enabling technology businesses. The Health IT Club brings in its own speaker series, arranges site visits to health care tech firms in San Francisco, Philadelphia, and New York, administers a Startup Weekend event, and organizes consulting projects for healthcare firms interested in expanding their use of predictive analytics. Please contact Jenny Rizk or Mamta Patel for further details.

Editors-in-Chief



Rob Varady

Rob graduated from Harvard College in 2006 with a bachelors in applied mathematics and economics. After university, he worked for Goldman Sachs for four years in their Quantitative Investment Strategies unit, researching and designing strategies to algorithmically trade global equities. He subsequently moved to SAC Capital, where he served as a risk manager for two years. He is currently pursuing an MBA in Health Care Management at the Wharton School where, in addition to editing the Pulse, he is a Nonprofit Board Fellow, serving on the board of CareLink Community Services. In the fall, Rob will join Deloitte's Strategy and Operations practice, where he plans to work on problems in payor and provider strategy.



Jonathan Brallier

Jonathan graduated from Franklin & Marshall College in 2007 with a B.A. in business administration. After graduation, Jonathan joined Morgan Joseph, where he worked on a variety of M&A and strategic advisory assignments in a variety of industries. After two years at Morgan Joseph, Jonathan joined Falcon Capital Partners, where he advised private equity firms and corporations on investment strategies in the healthcare IT and related services industry. Jonathan is seeking an MBA in both Health Care Management and Strategic Management; he is also co-president of the Wharton Rugby Football Club and serves on the Welcome Committee. Jonathan plans to work in management consulting after graduation.



Kelly Cheng

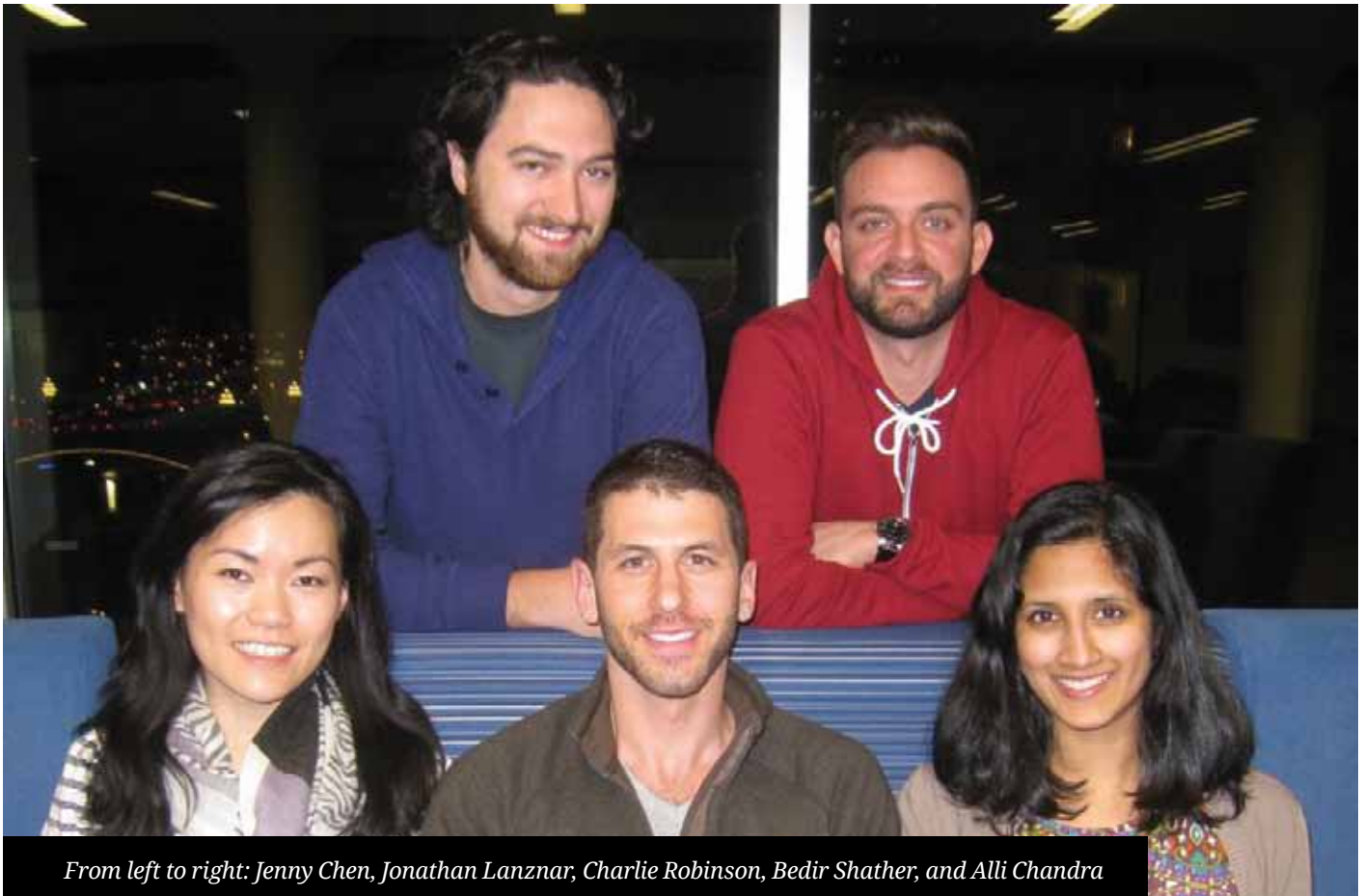
Kelly received a B.S. in Management Science and Engineering from Stanford University in 2009. Upon graduation, Kelly joined Deloitte Consulting, Strategy and Operations, to work on growth strategy projects for health care and technology clients. After four years at Deloitte, Kelly interned in Business Development for Practice Fusion, a pre-IPO electronic health records company, to develop data product opportunities. Kelly is currently pursuing an MBA in Health Care Management at the Wharton School, where she is also the VP of Consulting for Wharton Health IT Club and a Project Sourcing Manager for Wharton Global Health Volunteers. After Wharton, she plans to pursue entrepreneurial health IT opportunities.



Charlie Robinson
(Editor of Wharton Health Care Online)

Charlie graduated from the University of Pennsylvania in 2008 with a B.A. in English. Before he returned to Penn for his MBA, Charlie spent five years at the Advisory Board Company in Washington, DC. When he joined the firm, he worked in the Research & Insights group, helping hospitals and health systems develop strategies for clinical technology adoption and specialty program development, focusing on general surgery, robotics, and obesity. He then worked in the Advisory Board's Performance Technologies division, helping to launch a new business intelligence tool designed to empower hospital leaders to develop physician networks in a smart, data-driven way. Charlie was excited about his work at the Advisory Board because he felt his teams were improving the way that hospitals were delivering care across the country, and he hopes to continue this work at school and after Wharton.

Staff Writers



From left to right: Jenny Chen, Jonathan Lanznar, Charlie Robinson, Bedir Shather, and Alli Chandra

Alli Chandra

Before joining the Wharton Healthcare Management program, Alli Chandra worked for the Center for Medicare and Medicaid Innovation, serving as Special Assistant to the Director. Prior to becoming Special Assistant, Ms. Chandra was a Program Officer on the Pioneer ACO Model. As one of the model's operational leads, she helped to design the IT systems that currently deliver Medicare claims data to Pioneers. As one of the first Innovation Center employees, Ms. Chandra was also involved with start-up activities and the development of the Innovation Center in its early stages. Ms. Chandra has an AB in Government from Harvard University.

Jenny Chen

Prior to Wharton, Jenny worked at Citigroup in the municipal securities division, covering health care and higher education organizations. In addition to conducting interviews for The Pulse, she is currently a project manager for the Penn Biotech Group, leading a team of six graduate students through a business project to analyze the operational cost structure associated with the production of radiopharmaceuticals. She also serves as Treasurer for her 210-student cluster. Jenny has a Bachelor of Arts from Vassar College, and is interested in working in finance for a biopharma firm after Wharton.

Staff Writers

Jonathan Lanznar

Jon graduated from Emory University in 2008 with a degree in psychology and music. Prior to Wharton, he worked for five years at InterbrandHealth, an Omincom company, providing brand consulting services for companies across the health and life sciences industries. During this time, he worked on a variety of projects ranging from communications strategy, to product positioning and corporate M&A strategy. Jon is studying Healthcare Management at Wharton and after his MBA hopes to work in healthcare technology and services.

Bedir Shather

Bedir Shather graduated from medical school at the University of Leeds while obtaining his Bachelors in Medical Sciences with Business Management from Imperial College London. He worked as a physician in a variety of specialties in the UK National Health Service. After 2.5 years of practice, Bedir decided to explore opportunities outside of medicine, working initially at the World Health Organization developing Non-Communicable Disease strategy for low income countries. In 2012, he joined the medical sciences division of Life Technologies as an associate to the Chief Medical Officer. His projects included prioritizing biomarker content for new cancer diagnostics and market entry strategy for new diagnostics in Europe.

Nick Crowne (Not Shown)

Nick graduated from Harvard University in 2008 with an A.B. in History. Following graduation, he joined Moelis & Company in New York, where he advised on M&A and restructuring transactions in the healthcare, industrials, and media sectors. In 2010, he joined GTCR, a private equity firm, where he focused on investment opportunities in the healthcare space. He was closely involved with GTCR's investments in Actient Pharmaceuticals, Cord Blood Registry, and Sterigenics. Post graduation, he plans to continue in the healthcare investment field.

Wharton Health Care Online



Please check for additional content and updates available exclusively at whartonhccblog.org, including interviews with:

- Marc Miller, President of Universal Health Services, on the evolution of healthcare delivery in the private sector
- Jonathan Blum, Principal Deputy Administrator at CMS, on Healthcare.gov and the future of the American health system
- Greg Reh, Head of Deloitte's Life Sciences Consulting Practice, on the health IT-driven convergence of providers, payors, and life sciences companies
- Other updates and blog posts from Wharton Health Care Management students and faculty

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