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The Future of Healthcare: Investing in a Post-Reform World

Private Healthcare Exchanges on the Rise

Healthcare Insurance Providers Embrace Innovation

Consumers Will Assume Responsibility for Their Healthcare Purchases

New Technology Platforms Take Healthcare into the 21st Century

Huge Opportunities to Reduce Waste and Error

Love it or hate it, healthcare reform is here to stay. But the healthcare crisis in this country is far from over. While reform focuses primarily on providing healthcare coverage to 32 million uninsured Americans, the core problem remains: controlling costs and improving quality.

The numbers speak for themselves. The Commonwealth Fund projects that in 2013, healthcare costs alone will eat up 24% of median family income, and by 2021, those costs will rise to 31%. Additionally, The Kaiser Family Foundation reports that family healthcare insurance premiums increased 272%: from \$5,791 in 1999 to \$15,745 in 2012. Meanwhile, inflation in the U.S. is rising at just 2% annually, while overall healthcare costs are rising at 8%.

Perhaps most staggering of all, the U.S. healthcare system squanders approximately \$800 billion a year or roughly 30 cents of every medical dollar through unneeded care, errors, fraud, and other wasteful practices, according to The Institute of Medicine.

Though healthcare reform does not address the cost issues head-on, it does shine an indirect light on the problem. As a leading investor in the healthcare market, Psilos Group believes that removing costs from the system while improving quality is the best way to make a positive difference in today's healthcare system.

Shaping a New Healthcare Economy

It's true that a decade or two ago, healthcare investors readily suggested ideas that improved care but also increased costs. But today in the wake of healthcare reform, this is no longer tenable. The entire industry has awakened to the imperative to identify ways that can simultaneously reduce costs and improve quality, thus making a real difference in outcome, both clinical and financial. As such, the healthcare system simply is no longer receptive to new ideas and technologies that bring additional costs. Even major clinical breakthroughs are



subject to economic scrutiny at a time when healthcare costs are driving the U.S. toward a very different fiscal cliff.

Cost reduction was not the intent of the Affordable Care Act (ACA), but the passing of the ACA has exacerbated the need for it. ACA definitely leads to cost reduction, which is a major unanswered opportunity going forward. With so many more people entering the system in a post-reform world, healthcare investors must intelligently explore this evolving landscape to address the opportunities afforded by ACA and to interpret what technologies will bring better, more affordable healthcare to everyone.

Given this situation, Psilos recognizes this as an incredibly fertile time for healthcare investing. With the healthcare system undergoing mass disruption, change demands new ways of doing business. There are many broad, burgeoning investment opportunities in technologies and services that power new healthcare exchanges, facilitate next-generation healthcare insurance models, eliminate error and waste from the system, enable consumers to take greater control of their healthcare, and allow existing healthcare companies to modernize and adapt to the brave new world of healthcare. Now is the time to make order out of chaos and to set the stage for a next-generation healthcare system that effectively services our nation.

Healthcare Reform Drives the Development of Exchanges

Healthcare exchanges are the most logical place to start. Reform has finally arrived, and the healthcare insurance marketplace is facing massive change. At the top of the list: the way healthcare insurance will be bought and sold. Healthcare insurance exchanges promise to create a more organized and competitive market for buying healthcare insurance, which could moderate price increases that are currently spiraling out of control and lead to more personalized plans that are more responsive to consumer needs.

Today, the conversation is about the creation of public healthcare insurance exchanges that will support the 32 million additional Americans who are entering the healthcare insurance market as a result of the Affordable Care Act. But much of the real action will actually be in private exchanges.

In fact, another consequence of healthcare reform is that more employers, both large and small, will choose to get out of the healthcare insurance business altogether and instead will foster choice, personalization, and cost efficiency by placing their employees in private exchanges armed with employer-funded subsidies that put the plan decision in the employees' hands.



Healthcare reform, for the very first time, makes exchanges feasible for a wide array of employers and could potentially result in significant cost savings for them. That's because the Affordable Care Act leads to the creation of guaranteed-issue healthcare markets wherein no one can be denied insurance, no matter his or her preexisting conditions.

This stipulation effectively eliminates the need for employers to offer group plans that ensure all their employees are covered. It frees them up to let employees buy insurance for themselves on an exchange, knowing none of them can be denied coverage. But instead of simply transferring them to public exchanges, employers are likely to engage with private healthcare insurance exchanges that offer a higher level of service, a large degree of consumer choice, and will answer more directly to the employer. This is an often unspoken middle ground between employers dropping insurance sponsorship entirely while getting themselves out of the administrative middleman role.

Investment Opportunities in Exchanges

There are crucial differences between public and private exchanges. For instance, private exchanges are likely to offer more decision-support tools and personalized help for customers than the government-mandated exchanges. And while many individuals and families will be eligible for federal subsidies to help pay for their mandated insurance, those same individuals are also likely to get a predetermined amount of money directly from their employers as part of a private exchange.

From an investment perspective, exchanges are looking better than ever. There are exciting opportunities to invest in software and services that will power the exchanges, such as shopping transparency programs and call center technologies. In particular, Psilos envisions massive opportunities for technologies that enable operators of both public and private exchanges to build high-functioning platforms, including the shopping software and back-end administrative technology and service products needed to serve tens of millions of people efficiently.

A companion investment area is consumer-facing engagement technologies and services that help people make better purchasing and self-triage decisions about care and when to use their benefits. For instance, if you don't need to see the doctor in person, can you instead use a nursing hotline for self-triage? In a post-reform environment, there will be an even greater need for educational tools and "plain-English" translation of medical and insurance information



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to help consumers make good choices and manage their newfound clinical and financial accountability.

There are also opportunities to invest in the exchanges themselves. One of the first healthcare exchanges to receive venture funding was Extend Health. This was in 2007, well before anyone had ever heard of the Affordable Care Act. Psilos was the lead investor in Extend Health, which is currently serving corporate retirees at companies like GE, IBM, and FedEx.

Instead of administering insurance for their retirees, these corporations pay them a set amount of money and let them buy their own insurance via the Extend Health platform, which offers customized packages from a wide variety of healthcare insurance companies. When retirees purchase plans in a free market where local carriers compete, they often reduce their out-of-pocket expenditures while the sponsor company saves money through lower individual insurance premiums.

When Psilos invested in Extend Health, the company was one of the only private exchanges in the country. Last year, the firm realized more than a 10x return when Towers Watson acquired Extend Health for \$435 million. The company is currently in the process of expanding its model to include active employees, not just retirees.

Extend Health is a prime example of how private healthcare insurance exchanges will radically reshape the way Americans shop for healthcare insurance—and how Psilos envisioned the future of healthcare well before the competition. We have seen a large wave of private exchange companies and related technology enablers of those exchanges following their footsteps through venture capital doors.

Consumer-Focused Insurance Innovation

Once the first wave of corporations start shifting their active employees to healthcare exchanges, there will be millions of Americans armed with money who, for the first time, will shop for healthcare insurance the same way they shop for homes or car insurance—or any important financial investment. They will look for the best deals possible and shop for features and service. By the very nature of this phenomenon, innovation will start to occur in healthcare insurance that was not previously possible.

Insurers competing for those dollars will be forced to provide the lowest-cost, highest-value products to individuals for the very first time in the history of the healthcare market. Already,



some healthcare insurance companies are starting to reward individuals for good behavior, just like car insurance companies reward good drivers who avoid speeding tickets and traffic accidents. When healthcare insurers start behaving like consumer-focused brands, they will be required to differentiate their products with value-added features and quality of service.

Insurers who can create a strong consumer brand will win. Right now, healthcare insurers have among the lowest customer satisfaction scores in the entire country across all industries, ranking in the same group as cable companies. Carriers will have to improve their image because they'll be selling direct to consumer via the exchanges. They will also have to add more benefits to attract consumers and help them navigate their insurance plans.

Accordingly, a promising investment area is products and services that carriers can adopt to build brand loyalty. We are seeing insurers build and buy products that add to their brand appeal. For instance, large insurers like Aetna and United are already trying to burnish their brand equity by introducing more consumer-friendly interfaces and tools.

Investing In the Consumer

As consumers begin to actively engage in the market of buying insurance through healthcare exchanges, they will become far more aware of the impact of healthcare costs on their own pocketbooks. When this happens, alignment of financial incentives in the healthcare industry will begin.

Psilos recognizes that consumer awareness can reduce unnecessary physician visits and increase the usage of lower-cost generic medications. We made our first healthcare plan investment in 2000 in a company called Definity Health. Definity is a unique Consumer-Driven Health Plan (CDHP) where employees are given a fixed budget for healthcare expenses, including insurance. Any money from the fixed budget that goes unspent is then saved for the future, similar to today's modern insurance designs that link a healthcare savings account to a high-deductible healthcare insurance plan.

Today, CDHPs are the fastest growing segment of the healthcare insurance market. Through our experience with Definity (which was sold to United Healthcare in 2004), we learned that small amounts of consumer engagement could lead to large reductions in group medical costs and year-over-year inflation trends.



The next wave in healthcare plan innovation is just beginning today in the form of value-based healthcare plans that financially reward consumers for actively managing their healthcare. For the great majority of these people, it will include the following activities that focus on:

- A. Diabetes prevention
- B. Control of blood pressure
- C. Medication compliance

The real savings come from early detection of a disease before it progresses to a chronic state. Clearly, avoiding transition of diabetes and cardiac conditions to higher degrees to chronicity will result in major cost savings. This is where the real power of value-based plans occurs. Value-based plans seek to detect and treat the early stages of diseases before they become chronic. Not surprisingly, chronically ill patients often cost more than their paid premiums, something insurers refer to as group subsidization (i.e., if all insurance members pay the same premium, the healthy subsidize the sick). Consider also that a chronically ill person may need a different insurance benefit program than someone who is in good health but might contract an illness in the future. With chronic illness, the goal is to maintain stable health and avoid the need for acute care (e.g., hospitalizations).

For chronic patients, a value-based plan engages them in wellness and care-plan compliance, such as ensuring that they continue to take prescribed medications and see their specialists regularly to monitor their conditions. The reward for the member is not only better health, but also reduced out-of-pocket expenditures; in short, chronically ill members who are compliant get a better financial deal. The insurer's costs are also reduced.

From an investor's standpoint, these next-generation healthcare plans represent an important new investment opportunity. They are exactly the kinds of programs that are necessary for healthcare reform—as designed in the Affordable Care Act—to have any chance of long-term financial success. Value-based plans are designed to support incentives to encourage wellness, thereby aligning the financial incentives of consumers and healthcare insurers in a system wherein they are so often misaligned.

Psilos also sees significant investment opportunities for insurance and benefit programs and ancillary support programs that encourage consumer awareness, prevention, and accountability, especially in a post-reform world wherein many people will be responsible for buying their own healthcare insurance policies for the very first time in their lives.

Ahead of the Curve: Focusing on Wellness, Not Sickness



Psilos anticipated this consumer-focused healthcare paradigm. The firm backed an innovative, forward-thinking healthcare insurance provider long before the Affordable Care Act was ever passed because we had already witnessed the positive results that occur when patients are financially incentivized to be proactive with their health. In fact, our investment, SeeChange Health, was the first independent value-based healthcare insurance company in the nation. SeeChange offers personalized healthcare plans that provide financial and other incentives to encourage individuals to play an active role in managing their own health and healthcare and improving their quality of life.

SeeChange Health understands that one of the best ways to lower costs and fix our healthcare system is to focus on wellness rather than sickness—especially when people have chronic illnesses. SeeChange Health members who complete a health questionnaire along with annual biometric testing, including cancer screenings and basic lab tests, are rewarded with enhanced benefits, such as reduced coinsurance and deductibles along with cash rewards.

For those who have been identified as having, or who are at risk of developing, a chronic illness such as diabetes, ongoing financial incentives are provided in the form of further increases in benefits to encourage compliance with evidence-based preventive care. SeeChange realizes that by paying modest financial incentives up front and over the long term, it can avoid the much higher costs of noncompliance and hospitalization down the road.

The Need for 21st-Century Healthcare Technology

Given what's about to happen in 2014, massive healthcare changes are looming large. But the industry as a whole is still ill-equipped to operate in this new environment for which reform has been mandated. Payor and provider organizations, for example, are struggling with computer systems that are decades old and lack the ability to manage population risk and benefit complexity. These organizations don't have the technology infrastructure, the applications, or the data analytics that are needed to customize benefit plans to an individual level or to administer new payment models like pay-for-performance. Yet these are all features that will become increasingly important in a post-reform world.

HealthEdge, a 21st-century healthcare software provider and Psilos portfolio company, revealed the industry's inability to manage technology complexity in a recent survey. The study found that the vast majority of payors do not have the platforms and technologies required to support initiatives like pay-for-performance and value-based benefits. Payors are still relying on outdated technology platforms that are forcing them to incur massive administrative costs



associated with the manual processing of claims. The survey showed that a quarter of the respondents manually process 40% or more of their claims, which at an average cost of \$8 per manually submitted claim, is driving costs through the roof. Yet, these administrative systems are required to allow true customization and coordination of care for all of those who care for patients—from hospital to community and homecare providers.

The data suggest there are significant opportunities to bring payor and provider organizations up to speed while removing unnecessary costs from the system. With the future of healthcare reform now coming into focus, this is the year that many payors must start thinking seriously about transforming their businesses through the use of cutting-edge systems. As a result, many will begin to replace their outdated legacy systems and embrace modern technology platforms that will enable them to thrive in the emerging healthcare economy.

This is why technology infrastructure companies like HealthEdge are so important. HealthEdge, for instance, provides the only modern, enterprise-class software platform for healthcare payors and payor-like providers such as ACOs, thus enabling them to respond to new business opportunities and market changes in hours, not months or years. The company is perfectly positioned to drive costs out of the system while meeting the need for better data management and customized offerings that are part and parcel of healthcare reform.

Overall, the healthcare industry needs to take a lesson from the finance industry by adopting price transparency and payment-reform technologies that enable price flexibility in a landscape of payment reform, case rates, and capitation management. Technology startups that can help providers transform from pay-per-volume models to pay-for-efficiency models—which ultimately make more money by giving less care—will be well positioned to capitalize on healthcare reform, as will companies that help consumers manage and track their healthcare finances in this brave new world.

Investing in Error Elimination and Waste

The Affordable Care Act naturally leads to another huge opportunity: investing in innovations that help healthcare organizations eliminate waste and error. Hospital executives all say the same thing: if they don't cut overhead costs by 30% to 35%, they will go out of business. Why? Because payments to hospitals are being reduced and hospitals are now being held financially accountable for outcomes.



If a cardiac surgery patient, for instance, is re-hospitalized less than 30 days after being discharged, the hospital will bear the cost of that readmission. If hospitalization results in an infection that could have been avoided, then the hospital is now on the hook for the treatment costs of the infection. These are new scenarios under healthcare reform. The old truth was that if the surgeon made a mistake, such as opening the incorrect artery in a coronary artery bypass graft surgery and then went back in and opened the artery that actually posed the patient risk, the hospital got paid for both procedures. Not anymore.

With the Affordable Care Act and the advent of ACOs, hospitals won't get paid for volume; they will get paid for optimizing care delivery. Accordingly, this is an area ripe for investment. No one needs new tools as much as hospitals and large provider systems, as it is in the delivery of actual treatment that the vast majority of healthcare dollars are utilized. Psilos's investment in PatientSafe Solutions, which improves data and workflow and enables nurses to avoid errors at the patient bedside, is one such company that offers enormous opportunity in the new healthcare environment.

In the past few years, 70 hospitals across the country have implemented PatientSafe Solutions's technology. The PatientSafe app is loaded onto a mobile device that connects directly to the hospital's key clinical and administrative systems: electronic medical records, pharmacy, and lab. Unfortunately, drugs are administered in hospitals incorrectly about 19% of the time. These errors involve incorrect dosages, medications, and medication intervals between dosing. Sometimes these errors cause harm to patients and lead to additional care. However, by using the PatientSafe system, a nurse can verify all of the key drug administration variables at the patient's bedside prior to each dose, effectively eliminating these very costly mistakes.

Psilos's Investment Thesis in Healthcare

Psilos has long been committed to companies that deliver true value for every dollar spent and prioritize reducing costs in the healthcare system while maintaining and increasing quality of care. This approach wasn't always fashionable in healthcare investing as many in the field had a long-held belief that high quality and lower costs were incompatible ideas. Today it is becoming clearer to all that, as a nation, we have the world's most expensive healthcare system, and yet we are nowhere near the top of the quality scale. There has been a dramatic increase in awareness that quality is affordable when incentives are aligned.

Psilos has long understood that the healthcare cost status quo is unsustainable and that major changes are inevitable. With the economics of healthcare crushing the national economy, every



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investment we make is geared toward reversing this trend and ushering in transformational changes that can eliminate waste, bring down costs, enhance quality, and increase accountability throughout the system.

It is this set of criteria that characterizes the investment opportunities we believe will succeed in the new world of healthcare. Psilos remains focused on companies that are pioneering new ways to reduce administrative costs through efficiency, creating better markets for healthcare insurance, ushering in platforms that reward wellness over sickness, and making healthcare information more readily available at the point of care. People are finally starting to recognize that the consumer is at the heart of the healthcare universe. The consumers themselves are just starting to become familiar with the implications of this change.

There is still a tremendous amount of work to be done to heal our healthcare system. While healthcare reform is not likely the salvation that some had hoped, it does create significant impetus to focus more intently on key issues around access, consumer engagement, and prevention while opening up opportunities to address the spiraling cost of healthcare in America. With massive change comes massive opportunity to achieve financial gain while also greatly improving the lives of our citizens and contributing positively to the national economy. As a leading investor in healthcare, Psilos remains very optimistic about the opportunities ahead of us.