***EDITOR'S NOTE**: This paper is the third Annual Outlook published by healthcare investment firm Psilos Group. The Psilos Annual Outlook is intended to provide investors, analysts, businesses, and policymakers with a guide to the issues and trends that will shape healthcare investing in 2011 and beyond.*

Since 1998, Psilos has fueled the development of companies, driving healthcare innovations that reduce cost, improve quality, and align incentives across payers, providers, and patients. The firm's team has a total of 140-plus years of combined experience in healthcare management and investing, specializing in healthcare innovation and healthcare economics.

2011 OUTLOOK ON HEALTHCARE ECONOMICS & INNOVATION

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Health Reform: Transforming the Roles of Insurers and Consumers

Leading Healthcare Investment Firm Foresees Major Changes in Health Insurance Business Models as Individual Healthcare Market Expands

Insurers Must Become Savvy Consumer Marketers; New Entrants Versed in Consumer Marketing Will Enter the Marketplace

Americans Will Become Active Healthcare Purchasers

It is becoming increasingly clear that key aspects of The Patient Protection and Affordable Care Act (PPACA), with its provisions for guaranteed issue healthcare coverage, will have more impact on businesses, consumers, and healthcare insurers than originally predicted. Psilos believes that the PPACA will accelerate sweeping changes to consumer-oriented business models and distribution channels, as well as increase the competition among insurance companies.

These changes have already beginning to occur, but they will accelerate rapidly post-2014, when the number of Americans shopping for their own health insurance will increase exponentially at the expense of the current model, in which most people either have their health insurance provided to them by their employers or simply remain uninsured. PPACA will force health insurance carriers to be much more consumer focused and efficient at finding new distribution channels in order to remain competitive. The most likely distribution channel for the exploding individual insurance market will be a new landscape of Internet and call center-based public and private health insurance exchanges (HIXs), supported by a broad landscape of insurance brokers who would serve as agents to the consumer. In fact, the Congressional Budget Office estimates that 24 million people will be buying insurance through HIXs by 2019.

A Dramatic Shift From Group Insurance to Individual Insurance Is On the Horizon

Implementation of PPACA will set off a dramatic expansion of the market for individual insurance, which will be derived both from increased coverage of the currently uninsured and the migration of a portion of the corporate employee-sponsored insurance market to individual coverage. This market expansion will result in significant changes for insurers, with individual coverage growing from approximately 10 percent of the commercial market today to between 20 percent and 40 percent of the commercial market post-reform, according to industry experts such as McKinsey & Company.

As the individual insurance market grows to $300 billion-plus, insurers will be compelled — perhaps for the first time—to truly compete for business based on cost, quality, customization and service. They will need to learn how to deal directly with consumers in a market economy, and in order to do this effectively, they will need to become leaner, more efficient organizations. Inevitably along the way, new companies will enter the healthcare business by forming new partnerships and collaborations. It would not be at all surprising to see major consumer-facing organizations, such as Wal-Mart, Amazon, and Google, launch branded HIXs.

This new defined contribution model is already beginning to take hold in the retiree healthcare market, where companies such as Extend Health, Inc. are successfully migrating retirees over the age of 65 from group model Medicare supplemental plans to individual Medicare supplemental and Medicare Advantage policies subsidized by a defined contribution from their former employer. To date, more than 200,000 retirees buy policies on the Extend Health private health exchange, which is the largest private health exchange of its kind. In fact, because of the dynamics of competition and consumer choice that take place within the insurance exchange, approximately 95 percent of participants are experiencing reduced out-of-pocket healthcare expenses while accessing equal or better benefit plans than they had under their old group health benefit. Other firms, such as Aon Hewitt's Senior Educators and Advantage Freedom Benefits, have also introduced defined contribution insurance products to the Medicare side of the market.

The emergence of this new healthcare landscape is not a surprise. Employers have been eager to get out of the healthcare business for a long time. Extensive healthcare insurance costs adversely impact their bottom line and have been growing at two to three times the rate of inflation. At the same time, their employees are generally dissatisfied with the available offerings and stunned by out-of-pocket costs that continually skyrocket.

As some employees lose group plan coverage and are dropped into HIXs, they will be forced to become more engaged healthcare insurance purchasers and carefully consider the price and coverage of their healthcare insurance—just as they do when they purchase auto insurance, homeowners' insurance, or any personal insurance policy directly.

Consumers certainly have no affection for many current group model health plans. Many of these plans might cover their needs but provide minimal choice and maximum hassle. A recent J.D. Powers and Associates study that surveyed 33,000 health plan members in 133 health plans in 17 regions nationally showed that their members' satisfaction level declined

significantly in 2010 to an overall index score of 701 (on a 1,000-point scale), down from 712 in 2009. One major complaint was that the members could not fire their insurer for dissatisfaction on any one of a number of fronts. In short, healthcare insurers are likened to cable companies: tolerated only because they are necessary. Needless to say, in the new health insurance marketplace brought about by PPACA, health insurers will need to build trust with their consumer customers if they wish to stay competitive.

Healthcare Market Will Swell; Risk Management Will Be Paramount

With the implementation of PPACA, increased options for health insurance plans will become available to consumers for the first time. As such, insurers will be incentivized to offer consumers more choices as well as a better customer experience in order to stay competitive. However, in order to stay profitable in this new environment, insurers will also have to improve their risk management as it will be much tougher to prosper in this new, highly competitive environment with many new regulatory twists. There is PPACA's requirement, for example, that 80 percent to 85 percent of insurance premiums be spent on medical care in each and every insurance product line, as well as the requirements for minimum benefit plan offerings.

Nonetheless, a larger individual insurance market should help set the stage for fixing one of the biggest problems with the U.S. healthcare system. It runs poorly because it is outside the constraints of a real market economy. The realities of defined contribution will engage consumers as they shop for the best value, and the realities of healthcare inflation will amplify this phenomenon. Corporations will no doubt tie these increases in their healthcare contributions to overall wage increases, which recently have ranged from 2 percent to 3 percent, while healthcare premiums have been rising 8 percent to 10 percent, mostly due to the rising costs of treating the chronically ill. For insurers to compete effectively for consumer dollars, they will have to innovate to reduce medical inflation, and for consumers to stay financially solvent, they will be compelled to both choose less costly insurance products as well as make a greater effort to reduce their personal healthcare consumption.

A handful of healthcare insurers have already taken steps to adopt broad enterprise systems that allow them to improve administrative efficiency. A few have also adopted comprehensive care management programs that provide for more targeted and less costly care. These organizations have already registered tangible results, thus demonstrating that it can be done. The greatest progress has been made in offering more effective treatment and management to chronically ill individuals or individuals with multiple chronic illnesses, such as hypertension and diabetes. This is significant in that these individuals with chronic illnesses take up the largest portion of the healthcare dollar. The success of these programs is due to a combination of active care management and patient engagement, which has proven to significantly reduce the cost of treating these illnesses. Additionally, insurers are beginning to invest heavily in wellness and prevention techniques. Many now believe that as many as 75 percent of chronic illnesses can be avoided through better lifestyle choices.

Consider Humana, whose Green Ribbon Health program has reduced hospital admissions by 36 percent and emergency room admissions by 22 percent among a large Medicare population. In another example, United Healthcare has made similar improvements in a program

that it co-sponsored with SeeChange Health. Together, United Healthcare and SeeChange Health are providing a rewards-based health plan that encourages prevention while also reducing hospitalization for patients suffering from six specific chronic illnesses, including diabetes and hypertension. United Health's plan, which is expected to enroll over 1 million members by 2012, has already shown demonstrable results. For instance, more than 80 percent of the participants are following their recommended preventive guidelines, and those who have diagnosed conditions, such as Type II diabetes, have improved their adherence to prescribed guidelines by more than 30 percent, thus resulting in medical claim savings to both participants and employers.

Market Will Help People Adopt Prevention Tools, Enhance Their Health

The trend toward higher deductible healthcare plans will undoubtedly continue, meaning healthier people will be spending less out of pocket while less healthy people end up spending more. For insurers to compete for limited consumer dollars within a true cost/quality paradigm, they will have to develop programs designed to help their customers manage the pre-existing illnesses they already face in order to reduce the need for high- cost treatment. Some of this work has already begun in earnest.

In fact, SeeChange Health is pushing the envelope on value-based medicine by incentivizing patients to proactively undertake health screenings to identify and treat early signs of diabetes and cardiovascular disease, among other chronic illnesses. The SeeChange program then helps educate its beneficiaries about the consequences of not actively addressing their condition(s) while actively encouraging follow-up with regular treatment before illnesses progress and become far more costly to treat. Those who are compliant with their physician's recommended plan of care are further incentivized with lower deductibles, copayments and other out-of-pocket costs, as well as rewards such as vacations and consumer products.

Technology: A Key Part of the Cure

More technological inroads are necessary, however. Competing intensely for the fickle consumer dollar will require efficiency that can come only from the deployment of state-of-the-art software and technology that outperform current legacy systems and provide functions beyond that which current insurers can now perform. Among the most important jobs at any health insurance company will be that of the chief information officer and the chief medical information officer. This is simply because the companies that will thrive in this new environment will be those that can make important technology decisions—a new territory for most healthcare insurers as they are not traditionally known for their leadership in IT innovation. Nonetheless, a few healthcare insurers have made great strides in applying technology that effectively addresses the challenges of healthcare quality and cost.

Clinical software solutions, such as those from Aetna's Active Health, are just one example of technology in action. Active Health's Care Engine automated search technologies are able to locate missed, incorrect or delayed diagnoses, and this has enabled Aetna and its clients to realize significant reductions in hospitalization and serious medical errors while increasing patient engagement and compliance with treatment recommendations. Other examples include products from Click4Care and Zeomega, which take patient data from electronic medical

records, claims systems and other sources and apply evidence-based medicine rules to derive personalized care plans, delivering better outcomes for patients and sophisticated tools for insurers to better manage their risk.

All health insurers will need to adopt these emerging software systems in order to remain profitable as they adjust to meet PPACA's requirements, especially the requirement that at least 80 percent to 85 percent of premiums be spent on medical care. Additionally, they must also transition their businesses to administrative technologies that will enable them to actually measure compliance with this and other requirements of PPACA. Most insurers currently operate with enterprise systems that do not allow for personalizing benefit designs or measuring medical loss ratios on a product-by-product basis. They will need these abilities to survive and thrive in a modernized healthcare economy.

Providers Are Next

Consumer pressure will ultimately work its way down to providers, who for the most part have not been under the same amount of pressure to adjust to marketplace dynamics. Eventually, however, providers will also have to demonstrate value-based performance and make the delivery of better patient outcomes at a reasonable price their top priority if they wish their businesses to flourish in the new environment.

Just as with health insurers, technology adoption will be key to the success of hospitals and physicians in this new healthcare economy. Forward-thinking provider organizations have already begun to effectively adopt technology in their clinical workflows, and, as a result, have experienced meaningful positive developments. Among the technologies that are making a marked difference by improving the patient experience and lowering cost at large provider sites is telehealth, or the remote monitoring of chronically ill and ICU patients, and the use of mobile devices, such as phones and tablets, to pull actionable data from electronic medical records. Another highly useful technology is the use of medical error reduction systems. A number of U.S. hospitals have adopted a handheld product from PatientSafe Solutions Inc., for example, which has developed modified iPods that enable hospital nurses to wirelessly check patient medication orders at bedside, resulting in the virtual elimination of those mistakes. The product similarly helps nurses avoid otherwise frequent patient safety mistakes, such as the avoidable onset of infections or bedsores.

The availability of technology that enables meaningful sharing of information and active care coordination are key principles driving the move toward Accountable Care Organizations (ACOs), which are considered by many to be a key feature of an effectively reformed healthcare system. ACOs are tight affiliations of hospitals and physicians who have decided to work closely together and share clinical and financial responsibility for the delivery of care to individuals. These ACOs are considered by many to be one of the primary means of improving care and reducing costs, particularly for those with costly chronic illnesses. However, since they face the same kind of financial and clinical risk challenges as health insurers now face, ACOs will need to behave much like health insurers in order to achieve their promise. Their financial success, as well as their success in attracting patients and keeping them satisfied, will require the adoption of sophisticated administrative and clinical tools that will allow them to track, manage, report and

refine the care delivered within their systems, as well as define their brands in a way that resonates with their consumer clientele.

In Conclusion

The transition to a new, significantly more market-oriented world of healthcare will be difficult, but it will ultimately have great benefits to healthcare consumers. Some argue that the change will be too harsh for many Americans—that consumers just do not have enough knowledge to manage their own health insurance purchases. Others argue that these changes will force some healthcare insurers out of the market and bring in new players that have little experience in the industry. Still others argue that providers do not have the time to deliver more comprehensive care to their patients.

No matter where one stands in this argument, it is abundantly clear that our healthcare system cannot long endure the status quo. We must introduce the concept of a real market economy to improve our healthcare system. This means that both the buyers (consumers/patients) and the sellers (insurance carriers, hospitals, and physicians) need to operate from a world of aligned financial incentives, and they must engage in an open and transparent dialogue about quality, cost, and consequences if we are to stop spiraling health care inflation.

About the Authors:

Psilos Group Managers, LLC ("Psilos"), is a healthcare investment firm focused on providing venture and growth capital to companies operating in the healthcare economy. The firm believes that successful healthcare innovation must reduce cost, improve quality, and align incentives across payers, providers, and patients. Founded in 1998, Psilos has $580 million under management and invests across three core healthcare sectors: healthcare services, healthcare information technology and medical technology. Funds managed by Psilos have invested in companies such as ActiveHealth, AngioScore, Definity Health, HealthEdge, Extend Health, and VeraLight, among many others, which have played, and continue to play, key roles in the transformation of the U.S. healthcare economy. Psilos has offices in New York, the San Francisco Bay Area, and in Santa Fe, New Mexico. For more information, visit www.psilos.com.