Castlight Health: Disrupting the Health Care Industry

Kristiana Raube
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If you ask me what the biggest challenge we face is, it’s the status quo. It’s impacting the change in consumer behavior.

—GIOVANNI COLELLA, CEO CASTLIGHT HEALTH

Early 2014 was a key time for San Francisco-based Castlight Health, which offered web-based consumer comparison tools that showed price and quality metrics for tests and medical procedures performed by health care providers. Castlight offered its tools through a business-to-business based subscription model where the employees of Castlight’s clients could research health care costs before receiving care. Named #1 on The Wall Street Journal’s list of “The Top 50 Venture-Backed Companies” for 2011 and one of Dow Jones’ 50 Most Investment-Worthy Technology Start-Ups, Castlight has been branded a game-changer for its innovations in health care price transparency.

Things had been moving extremely fast for the health care information company—it was busy preparing for its initial public offering that it filed for in February 2014, finalizing a key data-sharing arrangement with Leapfrog Group Partners, and launching their new reference-based pricing (RBP) product—and there was no indication that things would be slowing down (Exhibit 1).

Over the last two years, the company had signed nearly 100 new customers and in the last year alone had almost doubled its workforce. However, while the company had shown the world that customer growth had been rapid, the organization had yet to turn a profit and was operating at a loss of over $62 million on only $13 million of revenue.

1 Martha Bebinger, “Castlight Aims to Turn Patients into Informed Consumers,” Healthcare Savvy, March 5, 2012.
2 Leapfrog Group gathered data through its Leapfrog Hospital Survey that evaluated hospital performance.
According to Castlight’s S-1: “We believe there is a significant opportunity to offer a comprehensive, technology-based solution to reduce the massive waste and inefficiencies associated with the approximately $620 billion that employers are projected to spend on health care in the United States in 2014. By combining innovations in big data analytics, cloud-based software delivery models, and consumer-oriented online and mobile applications...we are well positioned to play a central role in dramatically improving the efficiency of the U.S. health care system.” The company estimated the market opportunity to be more than $5 billion.3

Specifically, in 2014, nearly six years after the company was founded, the Castlight team was attempting to disrupt the healthcare sector with a reference-based pricing product. Reference-based pricing helped employers/payers control costs while preserving choice and access to care for employees by placing a cap (or reference price) on medical services. For example, if the negotiated insurance payment for a cholesterol test was from $10 to $150 depending on the medical provider, a payer might set a reference price at $20 and if a patient chose a service below the price, insurance benefits applied, but if they went over the price, the patient would pay the amount above the reference price. Castlight said that organizations could cut employee health costs by $10,000 per worker by using a reference-based pricing product.4

The question was whether healthcare reference-based pricing was a short-term trend or fad, or whether it had more staying power, and whether Castlight could pull off the new strategy, given all of its challenges and risks.

**Challenges in the U.S. Healthcare System**

In 2013, healthcare expenditures in the United States reached $3.1 trillion, or nearly 20 percent of gross domestic product (“GDP”).5 The Congressional Budget Office expects these expenditures to grow to over 25 percent of GDP and 40 percent of total federal spending by 2037.6 The aging population, increased demand for and use of advanced technologies, declining enrollment in restrictive cost-containing health care plans, and rapid spending growth on prescription drugs are just a few of the reasons for this upward cost trajectory. Additionally, experts estimated that 30 percent of health care spending was wasted each year due to the provision of unnecessary services, the inefficient delivery of health care services, and inflated prices.7

High cost of care, surprisingly, did not necessarily correlate to high quality of care. In fact, the relationship between cost and quality was poorly understood. Despite having one of the highest health care spending rates per capita in the world, the United States lagged behind other developed countries in quality of care. For example, the United States ranked 47th in terms of health care efficiency (a weighted average of life expectancy, relative cost per capita, and absolute cost per capita of health care), sitting behind nations such as Algeria and Cuba.8

In addition to these general cost and quality issues, the health care industry was affected by the misalignment of incentives among key stakeholders: providers, payers, and consumers. Providers were the physicians, pharmacies, and hospitals that delivered medical services to consumers. Payers

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4 Jim Edwards, “Everyone is Saying This is the Worst Tech IPO of the Boom So Far,” Business Insider, March 25, 2014.


7 Institute of Medicine of the National Academies, “Best Care at Lower Cost: The Path to Continuously. Learning Healthcare in America,” September 2013.

were the private insurance companies, government agencies, such as Medicare and Medicaid, and self-insured employers\(^9\) that reimbursed providers for delivering care.

The health care industry has historically operated on a fee-for-service reimbursement model, paying providers for the services performed, thereby incentivizing them to produce volume and not value. Furthermore, contractual agreements between payers and providers were often confidential, curtailing the ability to achieve lower reimbursement rates through competition and to establish any connection between the quality of care and reimbursement. This lack of transparency often led to high variations in the price and quality of health care services, with little correlation between the two. For example, in 2013 the cost of a colonoscopy in San Francisco ranged from $900 to $7,200, while a knee arthroplasty cost between $3,000 and $29,000.\(^10\) In addition, commercial insurer reimbursements could range from below Medicare rates to more than 400 percent above Medicare rates within the same market.\(^11\)

The economic incentives for consumers were also misaligned, as patients have typically been shielded from full financial responsibility for their care. Although consumers paid an annual deductible, a monthly premium, and often a co-payment to the health plan for each service, they remained insulated from the actual cost of care. According to the United States Census Bureau, roughly 55 percent of Americans obtained private health insurance through an employer, and they typically paid for less than 25 percent of the total cost of health care, with employers paying for the remaining 75 percent.\(^12\)

These misaligned incentives created significant moral hazard—providers could over-prescribe services to increase reimbursement without justifying the appropriateness of care, while consumers could demand additional services because they were not directly responsible for payments. This led to a significant focus on volume without associated value.

The magnitude of health care spending has become an ever-present threat to the fiscal stability of both the United States government and American households. There have been intensive efforts to reduce health care expenses and improve the overall quality of services delivered, from managing benefit design through the use of health maintenance organizations (HMOs) to the implementation of consumer-directed health care plans (Health Savings Accounts) where employers gave employees a set amount for health care expenses, which theoretically motivated employees to shop for care by price and quality. Nearly 70 percent of companies offered these types of HSA plans to employees in 2013, up from 47 percent in 2008, and nearly 17 percent of employees were enrolled in high-deductible plans in 2013, up 30 percent from 2010.\(^13\) In the midst of these changes, governments, health plans, employers, and employees—the ultimate payers and users of health care services—have not had access to information about the cost and quality of health care, information that would be extremely useful when making benefit design decisions or weighing different health care treatment options. “Nobody knows what they’re paying for anything,” said Giovanni Colella, Castlight’s CEO. “Who would go into a supermarket and buy a box of cereal when they don’t know how much it costs and get a bill six months later? This is not acceptable. Why is this happening? We are operating in a completely inefficient system in health care. The incentives are totally wrong.”\(^14\)

The lack of cost and quality information was due, in part to the fact that the needed data has typically resided in a myriad of formats and in disparate databases with no common infrastructure, making it

\(^9\) A self-insured or self-funded employer assumes the financial risk for providing health care benefits to its employees. Instead of paying a fixed premium to an insurer, the self-insured employer pays for each out of pocket claim as they are incurred.


\(^11\) Ibid.


\(^14\) https://www.youtube.com/watch?v=Zm7QGdEAA5o.
essentially impossible to analyze and therefore worthless to employers and employees. However, due to recent technological advancements, organizations can now combine big data analytics with a cloud-based software delivery model to do what hasn’t been done before—provide governments, health plans, employers, and employees with accurate health care cost and quality information at the click of a button. Collectively, these organizations made up a new and innovative industry in the health care arena—price transparency.

The Price Transparency Industry

The National Center for Policy Analysis outlined in 2007 a case for improved health care quality and lower costs resulting from increased patient consumerism. The study found that the key to realizing the value of consumerism was two-fold: first, patients needed to act as consumers since they would be paying a larger out-of-pocket proportion of their health care; second, consumers needed access to pricing information before any service is rendered.

The Institute of Medicine defined health care transparency as making available to the public, in a reliable and understandable manner, information on the health system’s quality, efficiency, and consumer experience with care, including price and quality data, so as to influence the behavior of patients, providers, payers, and others to achieve better outcomes. Price transparency included physicians, hospitals, and other providers publicizing their usual charges for particular health care services; insurers making available to their subscribers the rates that they have negotiated with physicians and hospitals; and government agencies reporting the average prices for common health care services.

The potential for savings resulting from improved price transparency was significant. For example, the Institute of Medicine estimated that $105 billion of annual waste in health care spending could be attributed to lack of competition and excessive price variation. In addition, Thomson Reuters observed that individuals under employer-sponsored insurance programs could save $36 billion and an individual employer with 20,000 employees facing the median health care cost trend of 6.1 percent could save up to $6.8 million within three years if price transparency was in place.

The Players

The price transparency landscape, although relatively new, was growing exponentially and expected to grow at a CAGR of 55 percent to $3.1 billion in 2016. Organizations such as Castlight Health, HealthSparq, Change Health care, ClearCost Health, Health care Blue Book, and Truven Health Analytics (Exhibit 2) represented a segment of this growing industry providing web-based price transparency applications. These organizations provided comprehensive, technology-based solutions that combined big data analytics with cloud-based software and consumer-oriented web and mobile applications. Unusual partnerships were also being established—public radio stations KQED and KPCC have partnered with New York-based start-up ClearHealthCosts.com to create a “community-created guide to health costs.”

Moreover, health plans, such as Aetna, Cigna, and UnitedHealthcare, have developed their own internal price transparency tools. Finally, some applications, such as Stroll Health, aimed to provide consumers with price and quality information at the site of care, while other websites, such as Sprig

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Health, allowed providers to post available appointments for routine services at a flat fee, thereby eliminating the need to shop around for the best price.

Potential Beneficiaries

In theory, price transparency solutions created value for key stakeholders, including consumers, employers, health plans, and governments. Price transparency tools empowered consumers to make informed decisions based on cost and quality of care. This was especially important, given the increasing burden of health care costs for consumers. Over the last 10 years, the average monthly premium contributed by families for employer-sponsored insurance more than doubled, while the median household income decreased by 6 percent.20

In essence, employees had to spend more on health care, but their incomes were not rising at a level that allowed them to do so. However, studies have shown that consumers, when given easy-to-understand information on price and quality, chose the provider with the lowest cost at the best quality.21

Health care spending by employers in the United States had reached nearly $620 billion.22 Many employers spent more on health care benefits than they earned in annual profits. For example, in the mid-2000s, Safeway spent nearly $1 billion on health care benefits for its employees and retirees, well above the company’s after-tax profit of $600 million.23 Hence, saving health care costs while providing high-quality benefit plans to employees could have a significant impact on the financial bottom line as well as positive indirect effects such as increased employee satisfaction and performance.

According to a number of case studies, price transparency tools helped reduce health care costs for employers without sacrificing quality. For example, after implementing the Castlight Enterprise Cloud Healthcare Platform, Honeywell, a Fortune 100 technology and manufacturing company, achieved 15 percent costs savings for basic laboratory services among Castlight platform users.24 Likewise, Esterline, a large manufacturing company, saw medical costs drop by nearly 33 percent when employees used the Castlight product to search for medical services.25

Health insurance plans also benefited from price transparency tools due to the heavily regulated environment in which they operated. For example, HealthSparq examined cost savings generated when consumers shopped for health care services online prior to treatment using the HealthSparq treatment cost estimator (“TCE”) tool from 2010 to 2013. The results showed that TCE users tended to select a lower cost place of service, which ultimately produced cost savings of nearly $50 million in a two-year period.26 The magnitude of these savings would allow health plans to maintain their already thin profit margins (industry average was between three and four percent) while keeping premium increases to a minimum, thereby avoiding the need to request regulatory approval of significant rate increases.27

Lastly, due to Medicare and Medicaid funding, the U.S. government was potentially a major beneficiary of price transparency tools. In 2011, the government spent nearly $1 trillion on Medicare.

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21 Agency for Healthcare Research and Quality, “Consumers choose “high-value” healthcare providers when given combined cost and quality information,” May 2012.
25 Ibid.
26 HealthSparq, “HealthSparq Treatment Cost Estimator Case Study,” September 2013.
and Medicaid, a number that was projected to grow between four and eight percent annually. This growth in spending was not sustainable, so any cost savings opportunities produced by price transparency tools would improve the federal and state budgets as well as the overall political landscape.

**Castlight Background and Strategy**

The Castlight journey began in 2008 when the company was founded by Todd Park, Bryan Roberts, and Giovanni Colella (Exhibit 3). Together, they had a simple but far-reaching dream: to transform health care in the United States by unleashing the power of market forces through greater transparency and better alignment of economic incentives among employers, health care consumers, and providers. “We decided to start Castlight for one good reason—this is our legacy, our mission, something more than a company for us. Castlight is a company that we believe can and will change the way healthcare is structured today.”

By late 2009, Castlight was defining its initial go-to-market strategy while still developing its core product. Initially, Castlight was focused on simply providing a cost equality tool that would allow consumers to more easily shop for health care. “We are a company with a mission to uncover prices in health care, providing them to everyone…helping people understand what they are paying for, explaining to people the quality of what they are paying for, and helping people understand…what they are paying for.”

After developing their initial products, the organization needed to find potential partners for its commercial launch, which begged the question—should Castlight focus on health plans or large employers? Although Castlight had conducted pilot studies with both health plans and employers, they decided to partner with Safeway, a large self-funded employer, for their commercial launch. This decision contributed to Castlight’s initial success, as companies like Microsoft and Wal-Mart also signed on as customers, and helped shape the organization’s focus on developing a whole product suite and becoming a complete “Enterprise Healthcare Cloud” solution for employers.

In essence, Castlight Health created a new category of cloud-based software tailored primarily to the needs of large self-insured companies and their employees (Exhibit 4). The ability of Castlight to combine advanced data analytics with intuitive and user-friendly interfaces enabled the company to achieve high employee engagement among customers and, as a result, potential tangible cost savings.

Colella explained: “Our business model is, for now, directly focused on the self-insured employer. We offer a portal where you get very thorough aggregation of quality metrics. We don’t develop quality measurements, but we aggregate the best of breed and translate it in a way that people can understand it. And we give people price transparency with alternatives. Our content is geared around the consumer—how to shop, what are you looking for, why are you getting this procedure, and really understanding what you are buying.”