Healthcare Industry Analysis

September 2016

EFM Capital
Healthcare, undeniably, has a profound effect on all consumers, regardless of age, socio-demographic, health condition, or any other factor. As this industry has expanded to become one of the most important worldwide, it has brought about different challenges for users and all entities involved.

Healthcare expenditure accounts for 9.94% of global GDP. In the United States, 17.1% of its GDP is committed to this industry, whereas in Latin America, HC expenditures account for only 7.24%, with Brazil at 8.3%, and Mexico at 6.3% (WorldBank, 2016). With regards to annual HC expenditure per capita, another key measurement of an individual country’s well-being, the United States has a per capita expenditure of $9,146. Brazil and Mexico fall far behind with $1,083 and $664 respectively. (Deloitte 2016 Global Health Care Outlook). (all USD)
On one end of the spectrum, we detect an extreme cost of healthcare. Among developed nations, the cost of health in the USA is the most expensive, with a per capita expenditure 60% higher than the average and almost three times the one in the UK. On the other end, HC expenditure per capita in Mexico is over ten times the rate in India, which evidences insufficiencies in healthcare in underdeveloped countries.
Top Players

The healthcare ecosystem is comprised of four main components: vendors, providers, payers, and patients, with each one playing a unique role within the network.

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<th>4 Main components of Healthcare Industry</th>
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<td>Vendors</td>
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<td>Patients</td>
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Numerous vendors and payers have grown into some of the most powerful firms in the world, placing themselves near the top of the Fortune 500. Leading the list of top HC players is McKesson, the largest pharmaceutical distributor with approximately USD $193 billion in revenue. Like many other top vendors in the industry, McKesson has invested heavily in information technology to leverage its wide distribution operation. Nevertheless, the industry giant just recently announced a divestiture of its IT arm (Modernhealthcare, 2016), as its technology was falling behind other major IT players in the industry.
The top insurance groups in the United States have benefited from the exponential increase of HC costs over the last 25 years. In terms of revenue, the largest group in the world is United Health Group, whose stock price has skyrocketed an astonishing 9,915% over that time period, one of the top performing stocks in the market (InvestorPlace, 2016). Two of the other top insurers, Aetna and Humana, are involved in a proposed M&A, although the transaction is not confirmed, as the US government has intervened to try to block such a mega deal, which it considers would negatively influence the market (NYT, 2016). These firms have continued to expand, but in recent years the consumer has become the driving force in transforming the industry, as portrayed by PwC in conjunction with Strategy&, in their report “The birth of the healthcare consumer” (PwC/Strategy&, 2014), explaining how the digital evolution is shifting control to patients.
Innovation and technology trends

A recent McKinsey document reiterates the shift toward the “tech-enabled consumers who are reordering the healthcare landscape” (McKinsey, 2016). The industry has gradually experienced the development of new technologies that have empowered patients in many ways that were simply unthinkable even a few years ago. One of the biggest trends in healthcare innovation is the remarkable evolution of administering remote care for patients.

Research conducted by PwC demonstrates that consumers have become more willing to connect with their providers via mobile devices. In one particular finding, it shows how the majority of young mental health patients are willing to use this technology, which is a major step toward curing mental disorders; as adverse mental conditions affect 20% of US adults, causing losses of nearly USD $440 billion (PwC, 2016).

### Percentage of Consumers Willing to Use Telehealth Services, Such as Videoconference, to Consult with a Mental Health Provider Instead of an In-person Visit

**Age group 18-44**
- Yes: 28%
- No: 72%

**Age group 45+**
- Yes: 43%
- No: 57%

Source: HRI Consumer Survey, PwC, 2015
In the same report, PwC displayed results of a survey showing a 100% increase in the usage of medical, health or fitness apps over a span of two years, from 16% in 2013 to 32% in 2015.

The effect of these types of engagements to improve treatments remotely is just one example of dozens that are being implemented to transform the healthcare industry. These range from sending digital photos of minor injuries, having an electrocardiogram at home using a device attached to a mobile phone, wireless monitoring of a pacemaker, and even remote administration of chemotherapy. With new online tools, doctors can administer care, review data and continue to examine status of sick patients without a physical presence.

In conjunction with e-health, there has been considerable growth in big data analytics, as unstructured data is consolidated and fed into enormous databases that include patient records, tendencies and lifestyles (IBM, 2016). With advanced analysis, machine learning and modeling that predict future trends, healthcare analytics will transform big data from patients into usable insight, which will aid medical professionals and providers in identifying individual causes and treating patients more effectively. From the growing need to further develop data analytics in healthcare, different entities such as universities, hospitals, and startups are focusing on untapping the power of data and developing sophisticated technologies.

Carnegie Mellon University, in collaboration with the University of Pittsburgh and the UP Medical Center, recently launched the Center for Machine Learning and Health. This alliance is focused on developing modern applications that work toward data-driven medicine. In short, they leverage big data to revolutionize healthcare and wellness. Among their areas of focus are HC big data analytics, personalized medicine and disease modeling (CMU, 2015). Data2Discovery is an example of a high-powered startup specializing on HC data analytics. This company is comprised of a unique group of data scientists and industry experts from Indiana University and Silicon Valley. It converges advanced data-linking skills, machine learning, and semantic web technology to provide high value insights and extensive knowledge in vertical domains to the pharmaceutical, life sciences, and healthcare industries (data2discovery.com).

These are just a few examples that will drive IT expansion within the industry in the coming years. The global healthcare IT market is predicted to reach USD $228.7 billion by 2020, with a CAGR of 13.4% (Businesswire, 2016).
Over the last five years, venture capitalists have invested over USD $14 billion in over 1,200 companies developing digital healthcare technologies in the United States (McKinsey, 2016), with Q1 2016 reaching a record USD $1.8 billion (Forbes, 2016). Recommendations from Bain & Company’s Global Healthcare Private Equity and M&A Report 2016, show worldwide healthcare will continue to be one of the most sought after industries in the investment portfolios of Private Equity firms going forward. (Bain, 2016). Specific interests of PE firms have been directed to the following sectors:

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<td>Lab and Toxicology Companies</td>
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<td>Health IT Companies</td>
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<td>Behavioral Health</td>
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<td>Dental Practice Management</td>
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<td>Pain Management</td>
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<td>Surgery Center Companies</td>
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<td>Revenue Cycle and Back Office Services</td>
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(Beckers Hospital Review, 2016)
The barriers to entry as a supplier in this industry are enormous, but there has been a boom in BioTech, making it one of the most attractive sectors as of late. Do you believe this will continue?

Yes, for sure. The increase in the cost of healthcare is pushing payers and providers to search for alternative ways to provide care to patients with lower costs and higher quality. The technology will be one of the key drivers of this transformation. Biotech companies that understand that they can build the bridge between providers and patients in a cost-efficient, comprehensive, and continuous way will definitely succeed in the market.

You mention new technologies as a way to curb rising costs, which has been one of the biggest burdens for patients and consumers in this industry. Could you elaborate a bit further?

The idea is that the new technologies are way more democratic than the ones of the “era of the fancy and complex imaging equipment”. The rules now are cost effective, cheap technologies that can achieve a large penetration among patients, even being customer-focused (not only those that are sold to HC...
professionals). The biotech expansion will only happen if these technologies can significantly contribute to a value-based and cost effective healthcare.

**Which technological advances in particular do you see as the most influential in the future?**

Mobile health devices, sensors, wearables and telehealth enabling technologies will be key tools that will push this market in the near future. Of course, these will also embrace the different functions that we know now. For example, equipment like electrocardiograms devices that can be attached to smartphones and used at home by patients will be used more and more. These technologies will not replace the role of the doctors, but will increase the points of contact between patients and doctors through remote interactions.

**Regulations in some countries are stricter than others, which can create unfair practices. Is this something that can be regulated worldwide?**

Companies, in order to be more sustainable, will look to address larger markets, including foreign markets. Companies with higher quality standards will probably make their way through markets that are more profitable. Nevertheless, countries with restricted regulations that aim merely to protect their local industry either will have to have excellent biotech development or they might be missing good opportunities to address healthcare issues through intelligent and sustainable solutions from foreign companies. Both sides will have to come to a consensus and the ultimate objective that will drive this consensus is the purpose of improving quality of life and quality healthcare provided to the population.

As we observe the global industry landscape, healthcare costs have become a monumental burden for most people, yet billions still do not receive quality care. Top vendors, providers and payers worldwide continue to dominate the landscape, but as these global players assert more control over the ecosystem, the main objective will be to transfer these gained benefits to end users. Creating disruptions in the industry is clearly a challenge for giant corporations, so new firms are taking advantage of advanced technologies to create solutions, as acknowledged by industry expert, Rita Ragazzi. Digital health and healthcare analytics will become the trend of the future as they enable HC providers to offer improved care by making better and faster decisions. We will witness dramatic impacts as these new technologies help transform the landscape by drastically reducing costs and increasing reach. The vast opportunities for investment will come in underdeveloped regions of the world, where offering quality healthcare to billions of users at a fraction of the cost may have been deemed inconceivable a short time ago.
Bibliography

- Deloitte 2016 Global Healthcare Outlook, Deloitte 2016 Global Health Care Outlook
- InvestorPlace, “The 5 Best Stocks of the Past 25 Years”, 19/AUG/2016. InvestorPlace, 2016
- IBM, “A Data Revolution for Healthcare is Here”, 02/MAR/2016. IBM, 2016
- Data2Discovery: Transforming pharmaceutical and healthcare industries through revolutionary data intelligence. Data2Discovery
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