Pharmaceutical and Life Sciences Deals Insights Quarterly

Q1 2015

May 2015

A publication of PwC's Deals practice

At a glance

Q1 2015 was a record-breaking quarter with 35 deals completed representing deal value of $166.3 billion, a value higher than 2014 total deals alone.

At $94.0 billion, Japan is the second largest pharmaceutical and life sciences (PLS) market in the world, second only to the US, and is roughly the same size as Italy, Canada, the UK, and Spain combined. Having attained universal health insurance coverage in 1961, Japan's PLS market has been historically characterized by the domination of brand drugs and low medical costs.

PLS and healthcare industries are facing many seismic shifts in the market which is being referred to as the "New Health Economy". In response to this new economy, the healthcare industry is shifting away from its traditional business-to-consumer model to a more consumer-to-business focused one with consumer value at the center of the value chain.

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Welcome to PwC's Pharmaceutical and Life Sciences Deals Insights Quarterly

This issue of *Pharmaceutical and Life Sciences Deals Insights Quarterly* brings you PwC's perspective on deal activity in the industry. Each quarterly publication features three sections:

1. ***Market update:*** A summary of M&A deals and trends for the previous quarter. This issue covers Q1 2015.
2. ***Market spotlight:*** An update on doing deals in selected geographies. This issue highlights Japan, a country that is facing dynamic changes in the marketplace as medical costs are becoming an increasing focus of the Japanese Government.
3. ***Strategy corner:*** A feature offering tips and insights on various aspects of deal making. As there are transformational shifts within the PLS and healthcare industries, PwC shares additional insights on the new era of the "New Health Economy".

Refer also to our previous publications for insights into doing deals in other geographic markets, and explorations of various aspects of successful transactions. Our quarterly deals publications are available at ***www.pwc.com/us/pharmadealsQ12015***.

Q4: 2014

Canada: A country that is focused on drug development and cost-effective clinical trials and is vying for investment in these areas.
Insights on managing research and development organization in the integration process.

Q3: 2014

Mexico: A country investing in the quality of and access to healthcare, and poised for significant growth.
Insights into methods for tracking and capturing deal value in the integration process.

Q2: 2014

Turkey: Opportunities for expansion as a result of increased urbanization.
Insights from PwC's 2014 Integration Survey highlighting key focus areas for executives.

Q1: 2014

India: An established industry poised to become a major market player.
Insights from PwC's 17th Global CEO Survey: Increased optimism – but changes ahead.

Q4: 2013

Africa: Opportunities for investment and growth.
Tax planning to mitigate transaction risk.

Q3: 2013

Russia: Poised for continued investment opportunities, but challenges remain.
Using non-traditional consideration to close the M&A value gap.

Market update

The pharmaceutical and life sciences (PLS) industry saw a record-breaking increase in deal value as compared to previous quarters and the entire year of 2014. With 35 completed deals, this quarter was rich in deal value closing at $166.3 billion as compared to total deal value in 2014 of $150.1 billion and 161 transactions. This quarter continued to demonstrate a healthy level of activity; in addition to the deal values for this quarter, announced and pending deals for Q1 2015 were $76.0 billion for 49 transactions.

High deal activity and volume in Q1 2015 continued to be strong from 2014. PLS companies collectively demonstrated superior returns during this quarter. As anticipated in our year-end report, PLS industry trends – which are expected to continue throughout 2015 – include:

- *Divestitures:* Divestitures are expected to be a consistent theme for the rest of 2015, as companies that completed transactions in 2014 and this quarter will continue to evaluate their newly combined businesses and product portfolios and seek to maximize the value of these assets through selective divestitures, thus creating additional acquisition opportunities.
- *Generics:* Traditional generic companies are restructuring their strategic focus and enhancing their product portfolios to include patent-protected products. As a result, even more companies are bidding for the same high-quality assets. Thus, 2015 is poised for increased competition on scarce assets.
- *Consolidation:* Consolidation was a significant trend in Q1 2015 across all sectors within the PLS industry, most prominently in pharmaceuticals and medical devices. This trend is expected to continue in 2015, as payer and provider groups consolidate further and medical device companies and specialty pharmaceuticals strive to maintain their bargaining power by expanding their product offerings and adopting new business models to demonstrate value to their customers.
- *Globalization:* In Q1 2015, the US dollar strengthened its presence in the marketplace, enabling PLS companies to continue to search for partners and acquisition targets outside of the US. Because of this, cross-border transactions remain a significant component of corporate strategy – to create business synergies and open up new markets – as PLS companies seek to adapt to global megatrends affecting the industry, including shifting demographics and economic power.
- *Asset swaps:* Several large scale asset swaps announced in 2014 closed in Q1 2015 . Given ever-shifting strategies and asset portfolios, expect PLS companies to continue to perform asset swaps in an effort to focus on their core competencies while taking advantage of high asset prices, yet conserving cash in the process.

Quarter in review

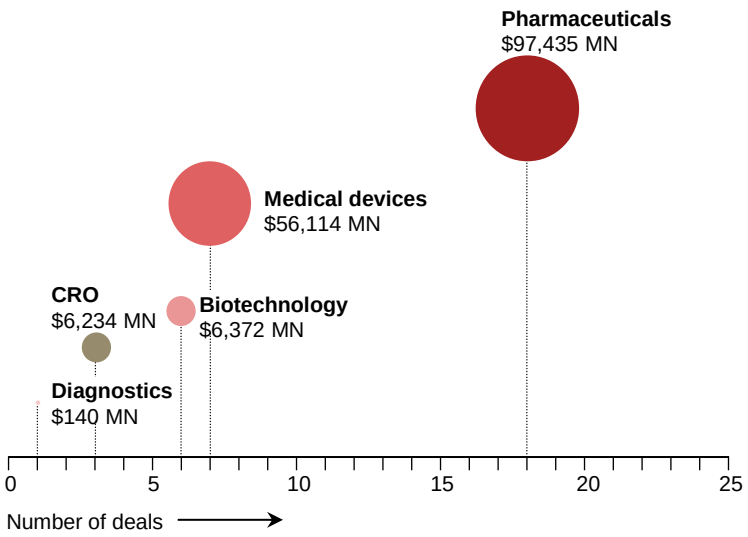
The value of PLS deals closed during the first quarter increased four-fold from the previous quarter, from $27.8 billion to $166.3 billion, and increased 266% relative to the first quarter of 2014. PLS deal volume for the first quarter of 2015 as compared to the first quarter of 2014 declined by 33% – 17 fewer deals were completed in the first quarter of 2015 as compared to the same period in 2014. However, as compared to the prior quarter, the fourth quarter of 2014, deal volume increased by 13% in Q1 to 35 deals — 4 more than the 31 deals completed in the fourth quarter. During the quarter, an additional 49 deals were announced and are still pending, representing another $76.0 billion in pending deal activity.

The pharmaceutical sector led deal activity in the first quarter, accounting for 51% of total deal value in the industry. Eighteen deals in the sector closed during the quarter, compared with fourteen deals in the fourth quarter and seventeen in the first quarter of 2014. Total deal value increased more than four-fold from both the first quarter of 2014 and the fourth quarter of 2014, from $18.7 billion and $19.5 billion respectively, to $97.4 billion in Q1 2015.

In addition to deals closed, 21 deals in the pharmaceutical sector were announced in the first quarter, totaling $62.1 billion, or 82% of total announced deal value. The most significant deals announced were AbbVie's bid for Pharmacyclics for $20.8 billion and Pfizer's bid for Hospira for $15.8 billion, with four additional announced deals in the pharmaceuticals sector in excess of $1.0 billion each.

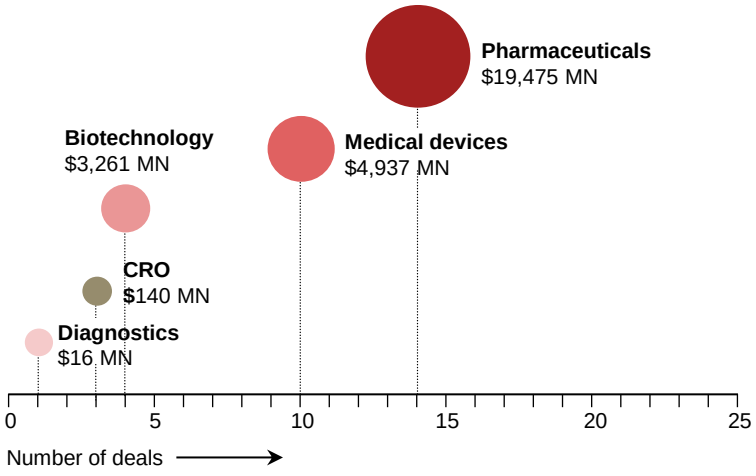
In the biotechnology sector, deal volume increased from four deals in the fourth quarter of 2014 to six deals in the first quarter of 2015. Deal value also increased, from $3.3 billion to $6.4 billion, primarily due to the acquisition of NPS Pharmaceuticals by Shire for $5.1 billion. In addition to the biotech deals closed in Q1, eleven deals were announced, representing $7.6 billion in potential value or 10% of the total announced deals for the quarter.

Figure 1: Total deal value and deal volume by industry sector (Q1 2015)



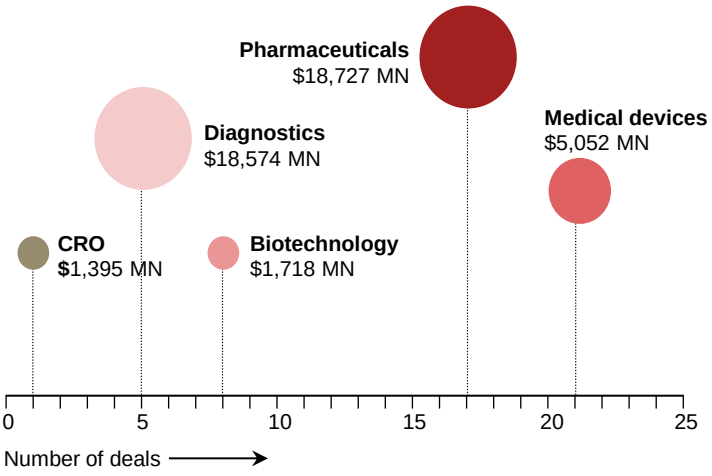
Source: Thomson Reuters

Figure 2: Total deal value and deal volume by industry sector (Q4 2014)



Source: Thomson Reuters

Figure 3: Total deal value and deal volume by industry sector (Q1 2014)



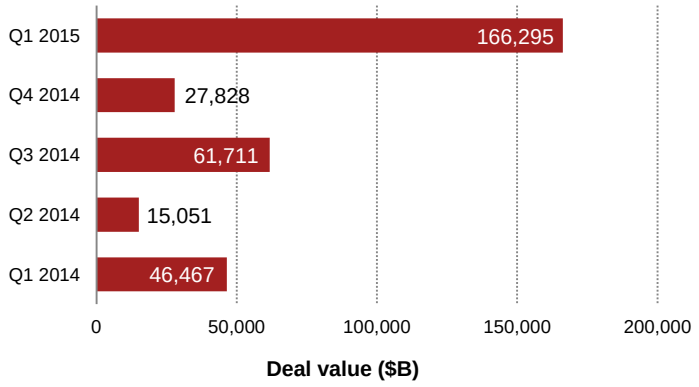
Source: Thomson Reuters

Deal value in the medical device sector increased over ten-fold from the prior quarter from $5.0 billion to $56.1 billion and 33% for 2014 overall. However, deal volume decreased by 30% and 67% from the prior quarter and Q1 2014 respectively. In addition, there were eight announced deals valued at $5.6 billion, representing 7% of total announced deals, including Cardinal Health's offer to purchase Cordis, a business owned by Johnson & Johnson, for approximately $2.0 billion. There are also two announced deals in excess of $1.0 billion.

Although deal volume in the diagnostics sector remained steady at only one transaction in the first quarter – the acquisition of Envoy Therapeutics by Takeda Pharmaceuticals – at $140.0 million, it represented a significant increase in deal value compared to the $16.0 million transaction in the fourth quarter of 2014. There are 6 additional deals that were announced in the diagnostics sector for the first quarter, with a pending value of $256.0 million, representing the smallest deal value out of all PLS subsectors.

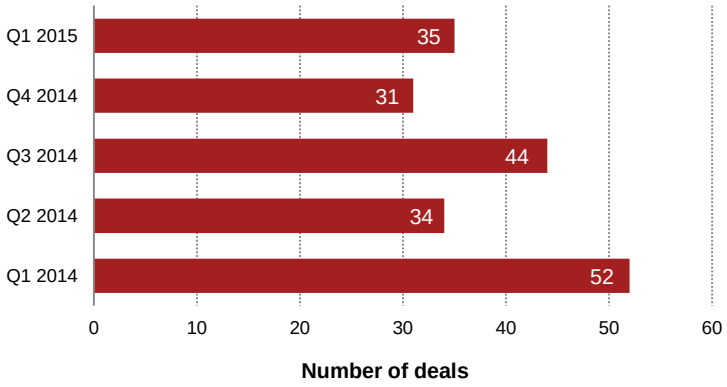
The services sector saw the greatest increase in deal value, jumping from $140.0 million in the fourth quarter of 2014 to $6.2 billion for the first quarter of 2015, largely from Laboratory Corporation of America's acquisition of Covance at $6.2 billion. Three additional deals – totaling a deal value of $534.0 million – were announced within the services sector in the first quarter of 2015.

Figure 4: Total deal value (Q1 2014–Q1 2015)



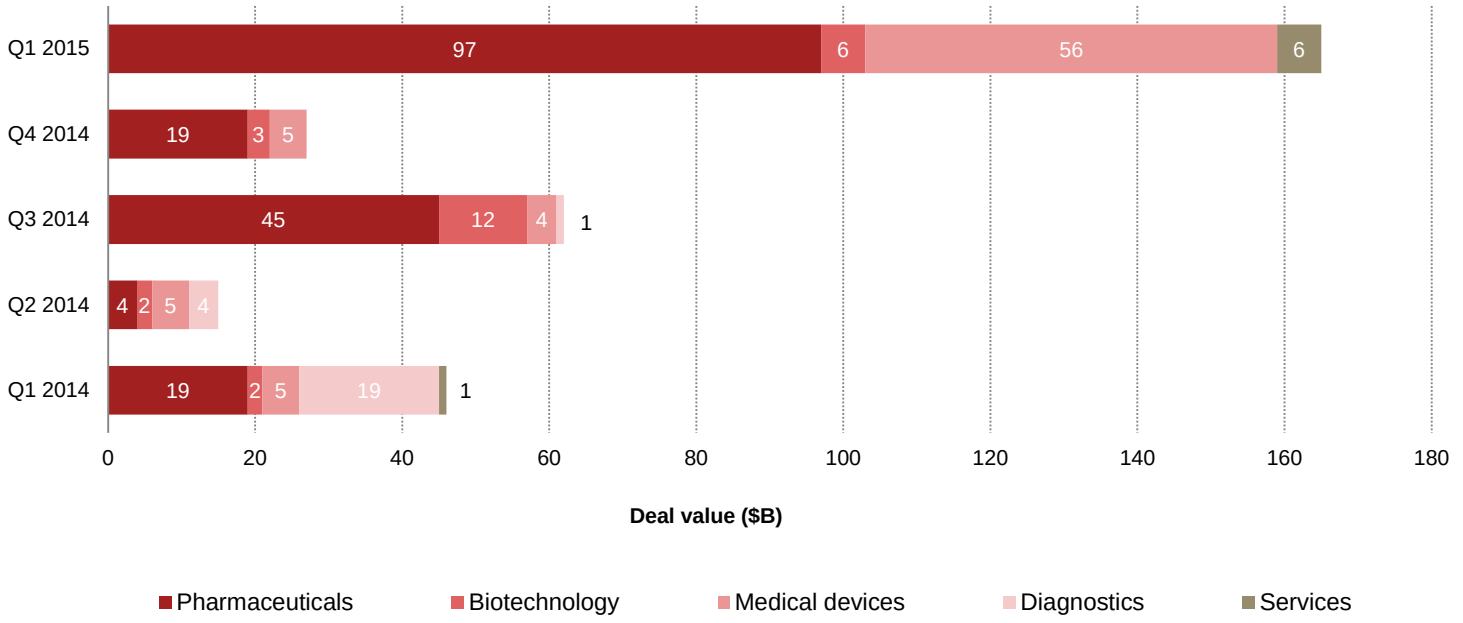
Source: Thomson Reuters

Figure 5: Total deal volume (Q1 2014–Q1 2015)



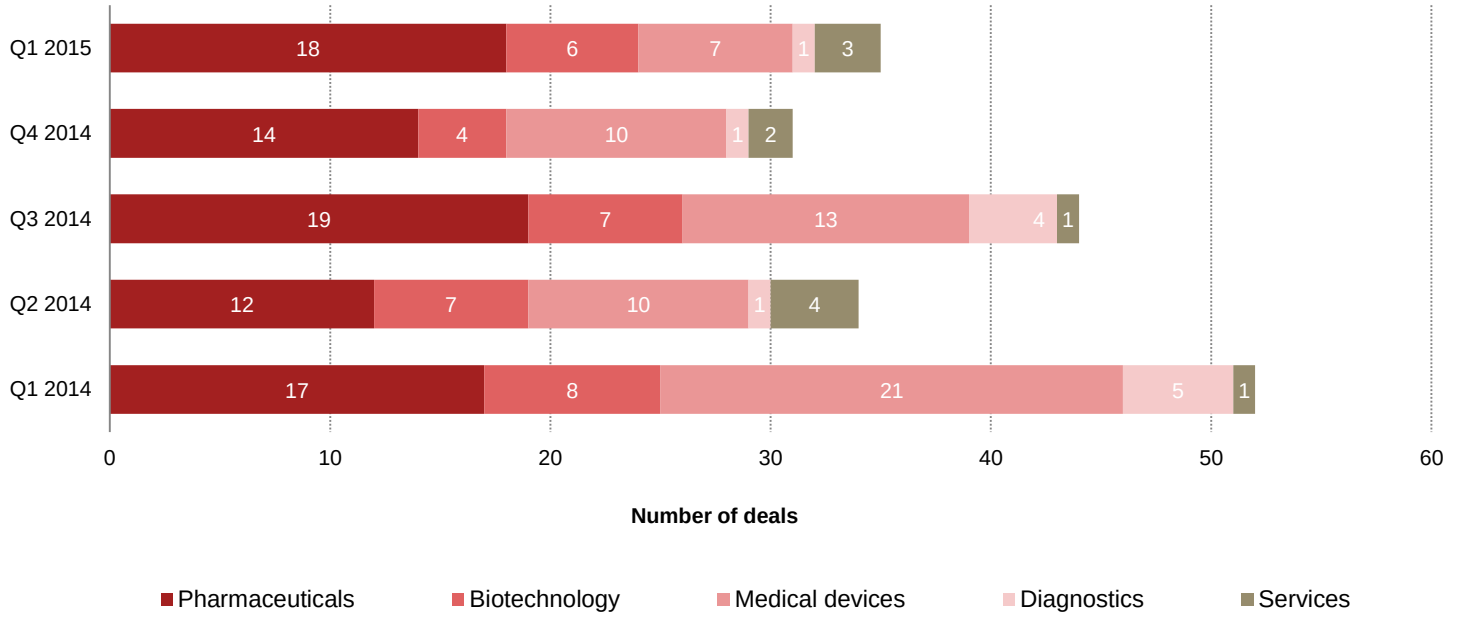
Source: Thomson Reuters

Figure 6: Total deal value by industry sector (Q1 2014–Q1 2015)



Source: Thomson Reuters

Figure 7: Total deal volume by industry sector (Q1 2014–Q1 2015)



Source: Thomson Reuters

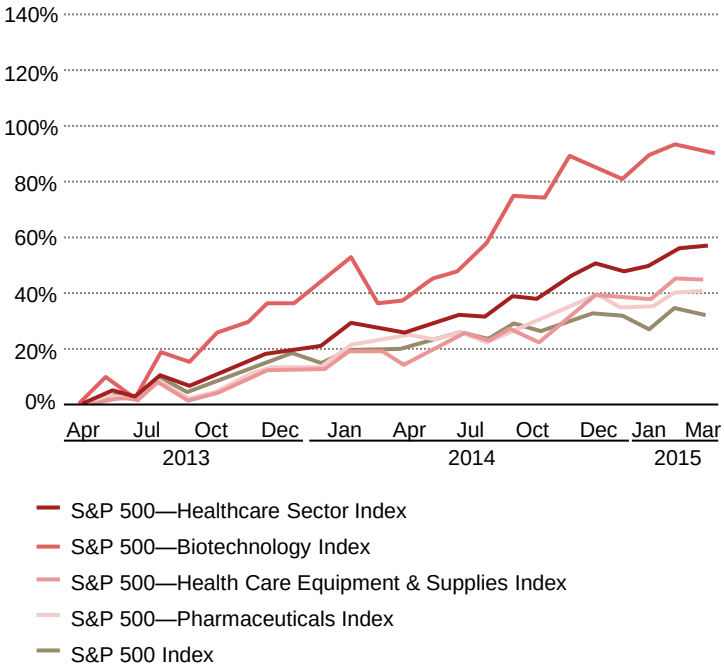
Trends and insights

It is looking to be an outstanding year for the PLS industry as closed deals in the first quarter, valued at $166.0 billion, are already greater than the total deal values from 2013 and 2014 – which were $144.0 billion and $150.0 billion respectively. An additional $76.0 billion worth of deals were announced as of the first quarter of 2015.

Starting in the fourth quarter of 2014, all four of the PLS indices outperformed the S&P 500 Index. The S&P 500 Biotechnology Index, which saw a decline of 7% in the fourth quarter of 2014, experienced a 10% increase in the first quarter of 2015.

The S&P 500 Healthcare Sector Index had a similar increase at 9% while the S&P 500 Health Care Equipment & Supplies Index and S&P 500 Pharmaceutical Index both rose at a moderate 6% and 5% respectively. S&P 500 Health Care Equipment & Supplies Index was the only index that did not outperform its previous quarter performance, experiencing a 100 basis point drop from its previous quarter.

Figure 8: Equity index returns



Source: S&P Capital IQ

Figure 9: IPO deal value and volume (Q1 2015)

Three months ended March 31—
Value and volume of US IPOs by industry (in US $M)

	2015		2014	
	Value ($M)	Volume	Value ($M)	Volume
Financial services	1,774	14	2,736	9
Energy	1,203	2	2,313	6
Healthcare	1,189	17	2,222	35
Industrial	599	2	251	2
Consumer	105	1	1,544	6
Technology	1,321	5	1,907	16
Total	**6,191**	**41**	**10,973**	**74**

Source: PwC IPO Watch

Figure 10: Value and volume of US IPOs in the healthcare industry

	Value ($M)	Volume
Q1 2015	1,189	17
Q4 2014	2,567	22
Q3 2014	2,771	31
Q2 2014	2,053	24
Q1 2014	2,222	35
Q4 2013	1,103	13
Q3 2013	2,973	18
Q2 2013	2,054	17

Source: PwC IPO Watch

According to *IPO Watch*, a quarterly survey by PwC US, the US IPO market is returning to pre-2014 levels, with 41 IPOs raising $6.2 billion in the first quarter of 2015. While this represents a 42% decline from the 71 IPOs in the first quarter of 2014, 41 IPOs in the first quarter is generally in line with historical first quarter IPO volume since 2010.

Healthcare continued to dominate the IPO market, accounting for 41% of the total volume for the quarter with 17 IPOs. It also led in follow-on offerings in terms of both volume and value for the first quarter of 2015. However, on a total proceeds basis, the financial sector outperformed all other sectors, accounting for 29% of the total IPO proceeds at $1.8 billion.

The current low-yield environment is generating demand for high growth companies. Financial sponsors – venture capital companies in particular – remained active this quarter, backing 46% of both total IPO volume and value.

According to the *PwC MoneyTree*™ Report, the biotechnology industry captured the second largest total in funding during the quarter with $1.7 billion going into 124 deals, a 14% decline in dollars invested but a 14% increase in deals from the prior quarter. Overall, investments in Q1 in the Life Sciences sector (Biotechnology and Medical Devices combined) received $2.2 billion going into 193 deals, an 18% decline in dollars and 3% drop in deals when compared to Q4 2014. Further, first-time financings in the Life Sciences sector was up 7% in dollars from the prior quarter with $440.0 million going into 42 companies, compared with 33 such companies receiving $410.0 million in Q4.

Key closed transactions

- On January 1, Novartis AG sold its animal health business to Eli Lilly and Company for $5.4 billion.
- On January 13, Otsuka completed its $3.4 billion acquisition of US-based Avanir Pharmaceuticals, Inc.
- On January 21, Merck & Co. completed the tender offer for all of the outstanding shares of common stock of Cubist Pharmaceuticals, Inc. for a total transaction value of approximately $9.3 billion.
- On January 26, Medtronic plc (previously Medtronic, Inc.) completed its $42.7 billion acquisition of Covidien plc. Under the terms of the acquisition agreement, Medtronic, Inc. and Covidien plc are now combined under Medtronic plc.
- On January 29, Endo International plc completed the $1.8 billion acquisition of Auxilium Pharmaceuticals, Inc.
- On February 19, Koninklijke Philips completed the acquisition of US-based Volcano Corp. for $1.2 billion, including Volcano's debt.
- On February 19, Laboratory Corporation of America completed its acquisition of Covance, Inc. for $6.2 billion.
- On February 20, Shire plc completed its acquisition of NPS Pharmaceuticals, Inc. for approximately $5.1 billion. NPS Pharma is a rare disease-focused biopharmaceutical company. This acquisition was initially announced on January 11.
- On February 27, Mylan completed the acquisition of the non-US specialty and branded generics business of Abbott Labs for $5.5 billion.
- On March 2, Novartis AG (Novartis) and GlaxoSmithKline (GSK) completed their three-part transaction whereby Novartis purchased the oncology products of GSK for $16.0 billion, GSK purchased the vaccines business (excluding flu) of Novartis for $7.1 billion, and the Consumer Healthcare business of GSK merged with the over-the-counter business of Novartis to form a joint venture. Upon completion, GSK is to own 63.5% and Novartis the remaining 36.5% of the joint venture.
- On March 17, Actavis plc completed its acquisition of Allergan, Inc., valued at $68.0 billion – the largest deal from 2014.
- On March 17, Becton Dickinson and Company completed its acquisition of CareFusion Corp. for $12.0 billion.

Figure 11: Total deal value and deal volume by deal size and quarter

	Q1 2015		Q4 2014		Q1 2014	
	Number of deals	Deal value ($M)	Number of deals	Deal value ($M)	Number of deals	Deal value ($M)
$15M to $50M	9	251	8	225	11	323
$50M to $100M	4	263	5	390	8	590
$100M to $250M	2	362	2	359	12	2,157
$250M to $500M	6	2,288	7	2,336	8	2,595
$500M to $1B	4	3,124	3	1,960	2	1,475
> $1B	10	160,008	6	22,559	11	38,326
Total	**35**	**166,296**	**31**	**27,829**	**52**	**45,466**

Source: Thomson Reuters

Key announced transactions

- On January 15, Janssen Pharmaceuticals (Johnson & Johnson) announced the divestiture of its US license rights to the NUCYNTA franchise to Depomed for approximately $1.1 billion. This acquisition is expected to enhance Depomed's position as a leading pain and neurology focused specialty pharmaceutical company. The deal closed on April 2.
- On February 5, Pfizer, Inc. and Hospira, Inc. entered into a merger agreement under which Pfizer will acquire Hospira for approximately $15.8 billion. Hospira, Inc. is a provider of injectable drugs, infusion technologies, and biosimilars.
- On February 22, Valeant Pharmaceuticals International announced the acquisition of Salix Pharmaceuticals Ltd, which develops and markets prescription pharmaceutical products and medical devices for the prevention and treatment of gastrointestinal diseases, and improved the offer on March 16 to approximately $14.5 billion in deal value or $15.8 billion in enterprise value. The deal closed on April 1.
- On February 23, Bristol-Myers Squibb Co. announced an agreement to acquire Flexus Biosciences, Inc., a biotechnology company focusing on immune-oncology drugs, for an estimated $1.3 billion. The consideration consists of $800.0 million in upfront payment and $450.0 million in profit-related payments.
- On February 26, Cyberonics announced that it has entered into an agreement to merge with Sorin SpA, a Milan-based manufacturer of medical devices, to form a new company in a stock swap transaction, valued at $1.3 billion (EUR 1.2 billion). Cyberonics shareholders are to receive 1 ordinary share of the new company and Sorin shareholders are to receive 0.0472 ordinary shares per share held. The new company will be domiciled in the UK and dually listed on the NASDAQ and the London Stock Exchange.
- On March 2, Boston Scientific Corp. entered into an agreement with Endo International plc to acquire the American Medical Systems urology portfolio, which includes the Men's Health and Prostate Health businesses, for $1.7 billion in up-front cash and a potential additional $50.0 million milestone based on 2016 sales. The company expects to close the transaction in the third quarter of 2015, subject to customary closing conditions. Upon completion of the transaction, the AMS Men's Health and Prostate Health businesses will become part of Boston Scientific Urology and Women's Health.
- On March 2, Johnson & Johnson announced a binding offer from Cardinal Health, Inc. to acquire its Cordis business for approximately $2.0 billion. Cordis develops and manufactures interventional vascular technology.
- On March 4, AbbVie and Pharmacyclics announced a definitive agreement under which AbbVie will acquire Pharmacyclics and its flagship asset Imbruvica® (ibrutinib) for approximately $20.8 billion.

- On March 5, Mallinckrodt plc and Ikaria, Inc. entered into a definitive agreement under which a subsidiary of Mallinckrodt will acquire Ikaria, Inc. a privately-held critical care company, from a Madison Dearborn-led investor group in a transaction valued at approximately $2.3 billion.

- On March 30, Teva Pharmaceutical Industries Ltd announced that it would buy US neurology drug company Auspex Pharmaceuticals, Inc. for an equity value of $3.4 billion. Auspex's main product, SD-809, is being developed for the treatment of chorea – an abnormal involuntary movement associated with Huntington's disease, tardive dyskinesia and Tourette syndrome. SD-809 for Huntington's is expected to win regulatory approval and be launched commercially in 2016.

- On March 30, Horizon Pharma announced an agreement to acquire Hyperion Therapeutics, Inc., a San Francisco-based biopharmaceutical company, for $46 in cash per share for a total value of $1.0 billion. The deal expands Horizon's drug portfolio by adding two orphan disease products, Ravicti and Buphenyl. The deal was expected to generate synergies of more than $50.0 million.

Previously announced transactions that had not yet closed as of the end of the first quarter include the following:

- On April 24, 2014, Zimmer Holdings, Inc. and Biomet, Inc. announced a definitive agreement under which Zimmer will acquire Biomet in a cash and stock transaction valued at approximately $13.4 billion, including the assumption of net debt.

- On September 22, 2014, Merck KGaA and Sigma-Aldrich Corp. announced that they have entered into a definitive agreement under which Merck KGaA will acquire Sigma-Aldrich for $17.0 billion.

- On October 27, 2014, Wright Medical Group and Tornier NV announced a definitive merger agreement under which the manufacturers of orthopedic products will combine in an all-stock transaction with a combined equity value of approximately $3.3 billion.

- On December 19, 2014, Roche Holdings AG announced that it will acquire Vienna, Austria-based Dutalys GmbH for a deal that could hit $489.0 million. Dutalys is a privately owned biotech company that specializes in research and development of fully human, bi-specific antibodies utilizing proprietary DutaMab technology.

Market wrap-up

M&A activity in the PLS industry is expected to continue in 2015 given favorable credit markets and cash-rich balance sheets along with the stronger US Dollar. PLS companies will continue to strengthen their pipelines and build out their capabilities through acquisitions and partnerships.

About the data

We define M&A activity as mergers and acquisitions in which targets are US-based companies acquired by US or foreign buyers, or foreign targets acquired by US pharmaceutical and life sciences companies. We define divestitures as the sale of a portion of a company (not a whole entity) by a US-based seller.

We have based our findings on data provided by industry-recognized sources. Specifically, values and volumes used throughout this report are based on completion-date data for transactions with a disclosed deal value greater than $15.0 million, as provided by Thomson Reuters as of March 31, 2015, and supplemented by additional independent research. Information related to previous periods is updated periodically based on new data collected by Thomson Reuters for deals closed during previous periods but not reflected in previous data sets.

Deal information was sourced from Thomson Reuters and includes deals for which buyers or targets fall into one of the PLS industry sectors: biotechnology, medical devices, medical diagnostics, pharmaceuticals, or services (i.e., contract research organizations). Certain adjustments have been made to the information to exclude transactions that are not specific to the PLS industry. Capital market and equity return information is sourced from Capital IQ.

Market overview
Japan

After two decades of deflation, Japan is finally showing signs of recovery under Prime Minister Shinzo Abe's economic policy ("Abenomics"). While it is too early to conclude whether the long-term effect of Abenomics will likely benefit the Japanese economy, it did halt the deflation in 2013 and ultimately raised the long-run inflation expectations amongst economists[1]. In fact, the Nikkei 225 has been experiencing a positive trend since 2013 and hit a 15-year high on February 2015[2]. Although Japan's economic performance remains to be seen, Japan will likely maintain its position as an important pharmaceutical life sciences (PLS) market. At $94.0 billion, it is the second largest PLS market in the world, second only to the US, and is roughly the same size as Italy, Canada, UK, and Spain combined[3]. Having attained universal health insurance coverage in 1961, Japan's PLS market has been historically characterized by the domination of brand drugs and low medical costs. However, these dynamics are slowly changing.

According to data provided by IMS Japan, a generic drug introduced in 2006 took 32 months to take 10% share of the market away from unprotected brand drugs. However, as of 2010, a generic drug was able to take 10% of the market share within 9 months[4]. This dynamic shift is being further encouraged by the Ministry of Health, Labour, and Welfare (MHLW) which announced a "Roadmap for further promotion of the use of generic medicines" in April of 2013 with the goal of having generics attain 60% of the market share by 2018. This target will be aided by Japan's current and future patent expiry cliff of drugs like Abilify, which is set to expire in 2016 and represents roughly 40% of Otsuka Pharmaceutical Co.'s revenue[5]. Since Japan had the weakest generics share among major established economies in 2012 (25% generic utilization compared to 89% in the US[6]), generic market share of the Japanese drug market is expected to continue to grow at an accelerated pace.

Sustaining healthcare

One of the key risks to consider when entering the Japanese PLS market is the sustainability of its universal health insurance. According to the *National Institute of Population and Social Security Research*, the share of those 65 or older had reached 25% of the population by 2013 and is expected to reach 33% by 2035[7]. Since the average per capita medical cost of those aged 65+ is roughly four times the amount of those under the age of 65[8], the expected increase in population of those age 65+ will drive medical costs up in Japan. In an effort to counter the increasing medical costs, the Japanese central government has announced plans to expand the market scale of pharmaceuticals, medical devices, and regenerative medicine-related industries from ¥12 trillion to ¥16 trillion and to increase the market scale of health promotion, preventive care, and living assistance industries from ¥4 trillion to ¥10 trillion by 2020[9]. This increase in the market scale is expected to be followed by tighter government control over medical spending. In fact, the National Health Insurance has cut the prices of top 10 selling drugs by 5%, 6%, 5%, and 4% during the 2008, 2010, 2012, and 2014 revision periods respectively[10].

Deals

Japanese deal activity has remained low in the last two years, where medical device and diagnostics have lead most of the deals. For example, in Q1 2014, the primary deal closed was for Kohlberg Kravis Roberts' ("KKR") acquisition of Panasonic Healthcare for $1.7 billion (refer to the charts on the next page for details on the latest deal activity.)

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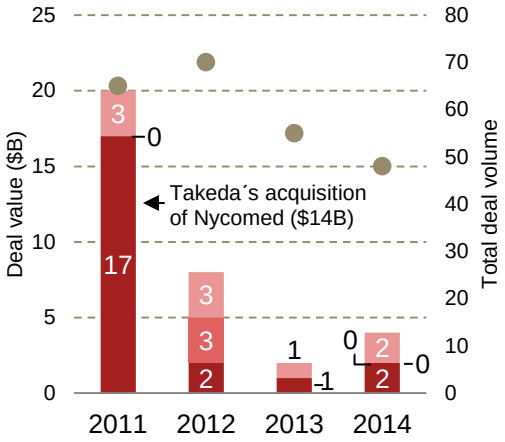
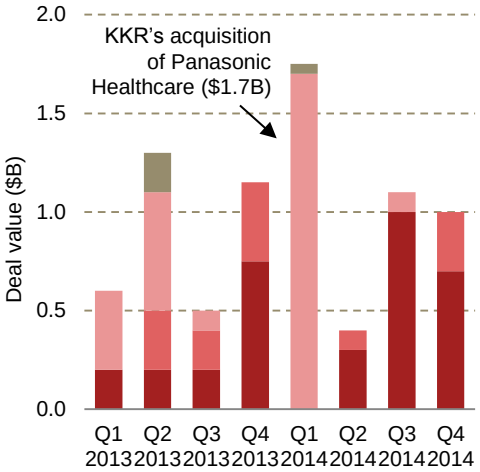
[1] "Abenomics: Preliminary Analysis and Outlook". *Brookings Paper on Economic Activity*. Spring 2014.
[2] http://indexes.nikkei.co.jp/
[3] Source: IMS World Review Analyst 2014
[4] "Contemporary generic market in Japan – key conditions to successful evolution". *Center for Intergenerational Studies, Institute of Economic Research, Hitotsubashi University*. May 2013.
[5] Source: Otsuka Holdings Co. Ltd Annual Report 2014
[6] "Innovative Drug Delivery Systems Opportunities for Generic & Specialty Pharmaceutical Companies". *MP Advisors*. February 2012.
[7] "Population Projections for Japan: 2011 to 2060". *National Institute of Population and Social Security Research*. January 2012.
[8] "Financing Health Care in Japan: A Rapidly Aging Population and the Dilemma of Reforms" *National Graduate Institute for Policy Studies*. May 2013.
[9] Source: japan.kantei.go.jp – Official website of the Prime Minster of Japan and His Cabinet
[10] "EvaluatePharma Japan Sales, Volume, Pricing 2015". *EvaluatePharma*. 2015.

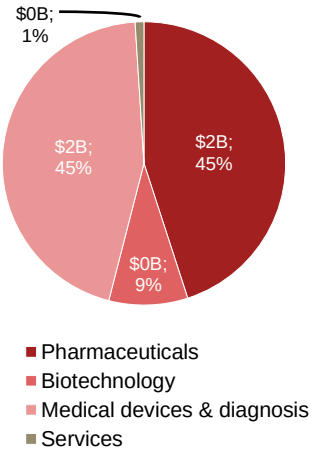
M&A by segment: Japan, 2011–2014



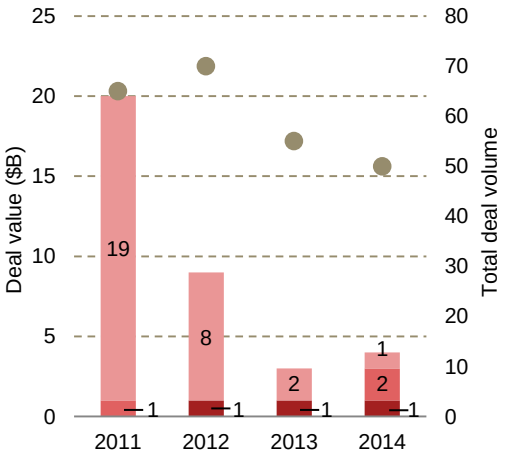
M&A by segment: Japan, Q1 2013–Q4 2014



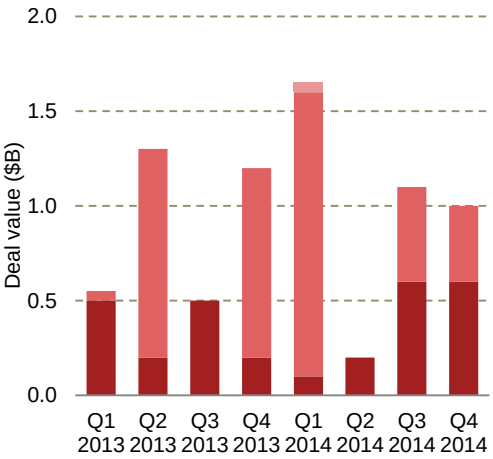
M&A by segment: Japan, 2014



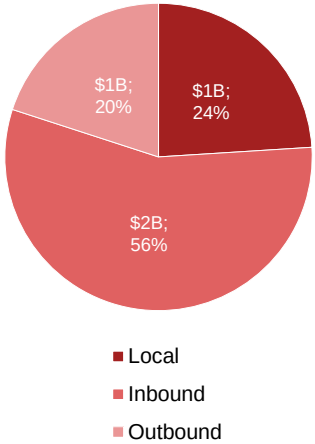
M&A by geography: Japan, 2011–2014



M&A by geography: Japan, Q1 2013–Q4 2014



M&A by segment: Japan, 2014



Deal opportunities

Joint ventures are a key area for Japan as its M&A market has been slowly transforming into a buyer territory with very few high-profile divestments. In 2007, only 11% of M&A were outbound while within the past 12 months, 47% of M&A were outbound. Although the number of inbound M&A has been decreasing, M&A and joint venture opportunities in the Japanese PLS market still exist in the areas of medical devices and pharmaceuticals.

As mentioned previously, generic drugs are quickly gaining market share in Japan. This dynamic change has created potential joint venture opportunities within the market for foreign investors. Currently, over half of Japanese Active Pharmaceutical Ingredients ("API") are sourced domestically at high costs, hence pricing between generics and branded pharmaceuticals historically being similar. International PLS players may wish to take advantage of this and provide Japan's generic pharmaceutical companies with cheaper, but more reliable API sources.

Japanese medical device makers are key players in diagnosis-related devices, imaging, high precision surgical tools, and cardiovascular systems (class I and II). As Japan's demographic gets older, medical device makers may have an incentive for developing new technologies that target age-related diseases. This likely will lead to an expansion of Japanese medical device makers' fortes.

Strategy corner
The New Health Economy

Ushered in by a period of technological advances and newly-empowered customers, seismic shifts are occurring in the healthcare industry in an era being referred to as the "New Health Economy". In response to this new economy, the healthcare industry is shifting away from its traditional business-to-customer model to a more customer-to-business focused one, with customer value at the center of the value chain.

In the coming years, consumers will move billions of dollars to businesses who are offering more affordable, simpler, and convenient care, leaving the traditional players in healthcare with a critical decision to make: either partner with the disruptive new entrants in the industry or dramatically change their business model to accommodate new demands and new competition.

Consumers stealing the limelight

For decades, American consumers, policymakers and business leaders have had to settle with a healthcare system suffering from multiple ailments:

1. *Misaligned financial incentives*, with inefficiency rewarded over customer value and patient well-being; and
2. *Lack of transparency*, leaving customers unable to compare prices or shop for the best dollar-for-dollar value when it comes to their well-being.

Frustrated by these conditions, consumers have indicated to the market that they are willing to abandon traditional care venues for more affordable and convenient alternatives, and they are using technological advances and new service offerings provided by new entrants to force their way into the center of the business value chain. This shift suggests that billions in healthcare revenue are up for grabs, as reported in a December 2013 consumer survey commissioned by PwC's Health Research Institute ("HRI").

In order to compete for these dollars, healthcare companies must adapt their business models to the rapidly changing demands of consumers by recognizing the following trends.

The "democratization" of healthcare

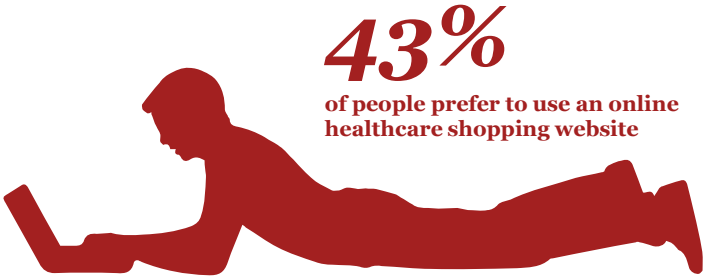
Patients are no longer entirely dependent on family doctors or local hospitals for medical expertise, or increasingly, treatments. In a 2014 survey, HRI found that nearly one in two respondents indicated that they would choose new options for more than a dozen common medical procedures, such as using an at-home kit to diagnose strep throat or having a rash evaluated by sending a digital photo to a dermatologist for an opinion. While patients will always be limited in what they can do in their own homes, research indicates that many will jump at the chance to "co-produce" their care with Do-It-Yourself technologies. This is especially true as once-complex conditions and diagnoses become simpler and cheaper to manage at home, and individuals begin footing more of the bill for their health costs through high-deductible plans and insurance exchanges.

Price and quality transparency

In the New Health Economy, "patients" will be "consumers" first, with both the freedom and responsibility that come with making more decisions and spending their own money. As a result, customers will begin to develop a concentrated demand for transparency in cost and quality, with technology serving as their means for satisfying this appetite.

More than half of consumers want to shop for healthcare... but their preferred method of doing so doesn't exist yet

Which way would you prefer to shop for health and medical services, such as doctors, procedures and hospitals?



Source: HRI consumer survey, December 2013

The market for services offering transparency in healthcare pricing and quality is embryonic, yet growing, as new entrants and traditional business (most notably insurers) grapple for a piece of the pie. Between 2012 and 2014, venture capital ("VC") firms have invested $400.0 million in start-ups targeting price transparency, while companies such as large insurers have launched their own tools for members. By allowing consumers to compare prices and various quality measures for healthcare procedures, physicians, and drugs, healthcare is becoming an industry impacted by user reviews and real-time feedback from customers, much like restaurants and retailers have experienced in the twenty-first century.

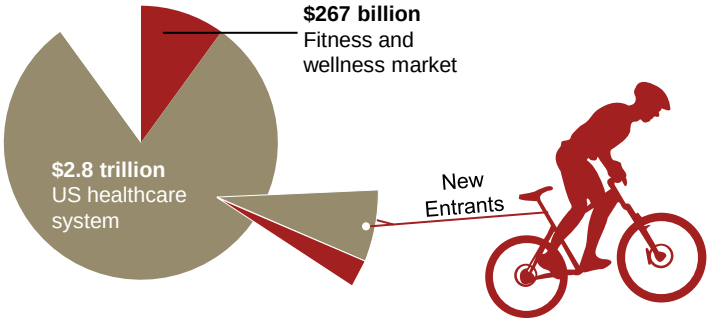
Disruptive new entrants

To take advantage of the seismic shifts taking place in the New Health Economy, disruptive new entrants, from retailers to technology companies to telecommunications businesses, are muscling into – and expanding – the health market. In its 2013 annual survey, *Fortune Magazine* reported that of the 38 Fortune 50 companies with a major stake in healthcare, 24 are new entrants. These players possess deep relationships with millions of customers – and have rich databases of information – providing them with unique capabilities when competing with traditional players.

Whether it is using brand recognition and an existing retail footprint to meet customer demand for basic health services at a pharmacy, or leveraging existing technologies to allow customers to manage their health from home and on-the-go, these new entrants are not only changing the way that we view traditional healthcare, they are creating new markets as well. Examples of some of these disruptive new entrants include retailers and pharmacies such as Walgreens and CVS who offer medical services such as lab testing, immunizations, school physicals, and chronic conditions management; cell phones and other devices with built-in health and biometric monitors; and telecommunication service providers that offer remote patient monitoring and digital communication with physicians.

New entrants: Aiming to disrupt the $3 trillion US health economy

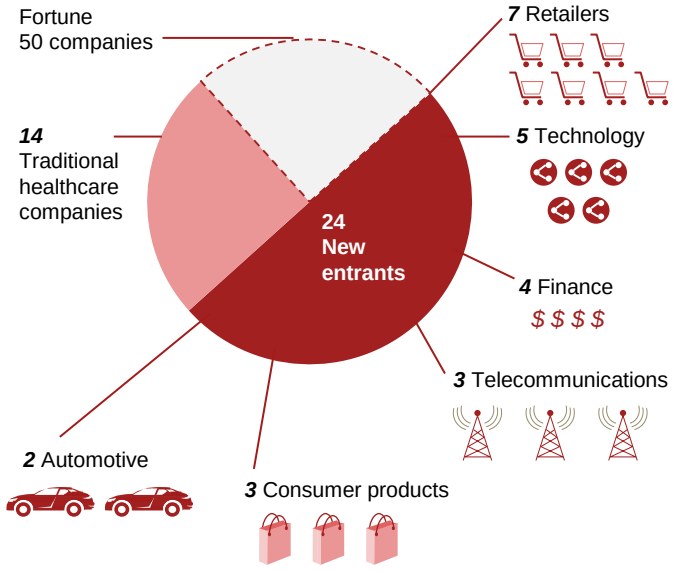
Over time these newer players will draw billions from traditional healthcare systems while expanding the fitness and wellness space.



Source: HR analysis and Centers for Medicare and Medicaid Services National Health Expenditures (2012)

Of Fortune 50 companies, 24 are new entrants

The top companies also include 14 traditional healthcare organizations



Source: *Fortune 50*, 2013

Competing in the New Health Economy

Market forces such as robust competition, revenue based on results, and the notion that the customer is king are forcing out the inefficiencies and misaligned incentives of traditional healthcare. These forces represent the pillars of the New Health Economy, and as they dictate the way in which consumers will make health decisions in the future, incumbents in the industry face the critical decision of choosing whether to compete with emerging healthcare players or aligning with them. As a result, consolidation is almost certain to follow.

Success in the New Health Economy will require an understanding of market needs, consumer desires, regulatory requirements and reimbursement complexities. Specifically, PwC recommends that both traditional healthcare organizations and new entrants adopt the following strategies in this transformative period:

- *Focus on the business model.* Base your business model on generating value for the consumer by considering a consumer-to-business strategy, leveraging customer data to personalize experiences and care;
- *Collaborate.* Do not be afraid to collaborate. Incumbents should be open to partnering with new entrants for low-cost treatments and commodity-like revenue streams handled externally, freeing up resources for more high-value offerings (e.g. hospitals with value-based care contracts could find it cost-effective to send patients to local retail clinic partners to have post-operative stitches removed); and
- *Aim for disruptive leaps.* Companies must be creative in designing business models that hook others into paying for value, as customers have come to expect “freebies” in the digital age.

Like many other industries, healthcare is experiencing a period of transformative change as the value-based, customer-centric, and data-driven world of the twenty-first century disrupts traditional business models. The ability of industry players – both new entrants and industry incumbents alike – to transform their businesses and facilitate effective partnerships in order to deliver the value that customers demand will be the catalyst for success in the New Health Economy and the wide open marketplace that it has created.

About PwC's Deals Practice

PwC's deals professionals help clients understand the risks in transactions so they can be confident they are making informed strategic decisions. From deal negotiations to capturing synergies during integration, we help clients gain value and, ultimately, deliver this value to stakeholders. For companies in distressed situations, we advise on crisis avoidance, financial and operational restructuring, and bankruptcy.

PwC's Deals practice can advise pharmaceutical and life sciences companies and PLS-focused private equity firms on a range of M&A decisions, from identifying acquisition or divestiture candidates and performing detailed buy-side diligence, through developing strategies for capturing post-deal profits, to exiting a deal through a sale, carve-out, or IPO. Our seasoned deals teams combine deep pharmaceutical and life sciences industry skills with local market knowledge. With more than 9,800 deals professionals in 75 countries, we can deploy a deals team virtually anywhere your company operates or executes transactions.

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For more information about M&A and related services in the pharmaceutical and life sciences industry, please visit ***www.pwc.com/us/pharmadealsQ12015***, ***www.pwc.com/us/pharma*** or ***www.pwc.com/us/medtech***.

For our views on the health industries sector, refer to the US Health Services Deals Insights reports on the Deals section of our website.

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