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2018 Health Technology Market Projections

Navigating the Talent Crisis

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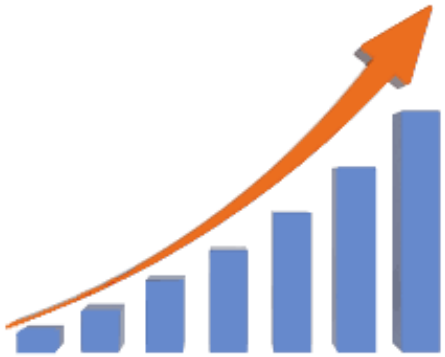
Health Technology market dynamics are highly fluid creating both risks and opportunities. This report looks at the significant dynamics with a focus on the talent acquisition challenge and strategies to overcome it. It is possible to achieve your growth objectives and corporate goals in the face of a talent crisis.

Risks & Opportunities

The health technology industry is projected to continue growing at 4-5% per year in medical device and 6.5% in pharmaceutical. This is also supported by projections for national health care spending growth at an average rate of 5.6% per year between 2016 and 2025. Some other significant trends in the medical device, pharmaceutical, and health IT industries include the following:



Global pharmaceutical sales will increase by 6.5% (CAGR) between 2017 and 2022 reaching $1.06T by 2022. This anticipated growth is in spite of forecasted patent expirations that could wipe out $194B worth of pharmaceutical sales between now and 2022 and continued pricing pressure on pharma's old and new drugs.

Global pharmaceutical research and development spending is expected to grow by 2.4% (CAGR) to $181B by 2022.

The orphan drug market is expected to almost double during the 2016-2022 period peaking at $209B in 2022. The research and development spend on orphan drugs demonstrates there are narrow but mostly ignored patient populations that make the case for a streamlined time to market. In many of these markets with unmet needs compelling value propositions have been made to support market access.

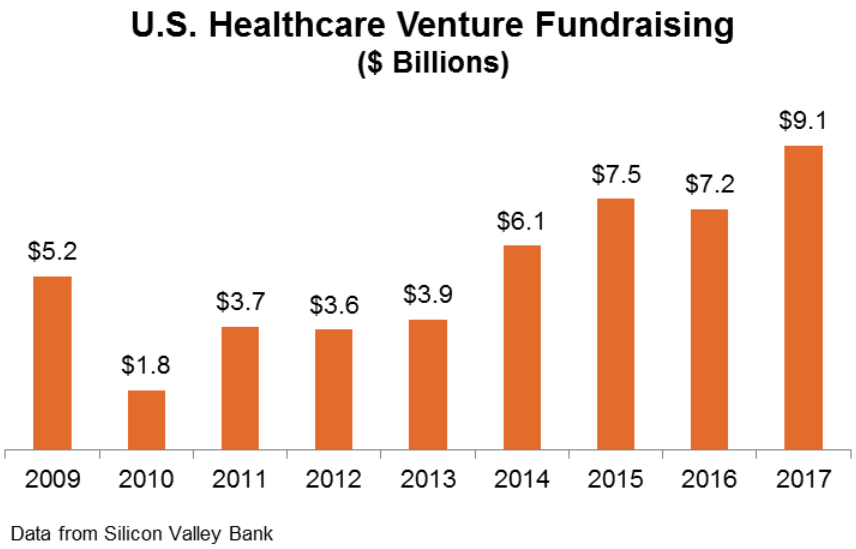
The Medical Device Excise Tax suspension is back in effect through December 2019. On January 22, 2018 Congress voted to reinstate the 2 year suspension retroactive to January 1, 2018. The 2.3% levy on medtech sales, part of the Affordable Care Act, has been deeply unpopular in the industry. Repeal efforts have received broad bipartisan support. Advamed, the medical device industry's lobbying group, has long argued the tax prevents companies from investing in research and development and takes away money that could be used to develop new technologies and add jobs.

Because the excise was a tax on sales, even companies that were losing money had to pay it. It has been argued the tax disproportionately harmed young, innovative start up companies that were building the medical technologies of the future.

According to AdvaMed, the U.S. medical device industry lost nearly 29,000 jobs while the tax was in effect from 2012 to 2015.

Minnesota's Representative Paulsen and Senator Klobuchar have led the effort to repeal the Tax. According to Sen. Joe Donnelly from Indiana, the 2 year suspension provided "evidence that manufacturers used that additional money to hire new workers, invest in research and technologies and continue producing innovative, life-saving products here in the United States."

Traditional venture investor activity in medical devices rebounded in 2017. There had been a downward investment trend in medical devices in the past few years. 2017 painted a different picture. Nine firms had at least four deals in 2016-2017, compared to only three firms in 2015-2016. Healthcare venture funding hit a new high of $9.1B in 2017, a significant increase over the previous year. Venture fundraising is expected to be strong in 2018 but settling back to between $6-7B. This is leading to a large pool of available capital, creating opportunity for tremendous growth in innovative medical device, pharmaceutical and health IT companies.



Data from Silicon Valley Bank

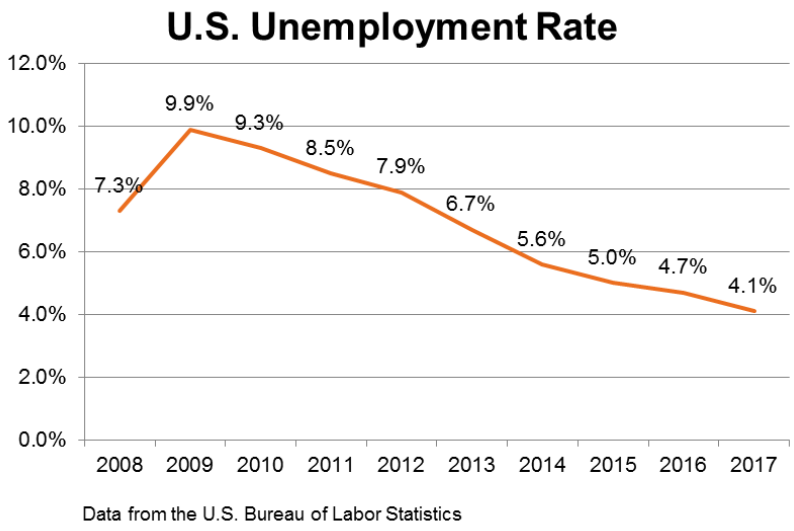
Increasing cyber security regulations for connected devices. Recent cyber security breaches of connected medical devices, notably St. Jude defibrillators and Johnson & Johnson insulin pumps, have prompted the FDA to issue recommendations for mitigating these risks. In order to comply with new FDA security regulations and to stay ahead of competing businesses, companies will have to attract new talent in areas of electronic technologies, computer science, and cyber security thereby placing more pressure on an already tight talent market.

Connected devices for seniors are here to stay. The digital health market continues to grow driven by the need to support an aging population living independently. In 2016 $6.5B was invested in digital health start ups and 2017 estimates are at $7B. According to a 2016 report funded by the NIH, and produced by the U.S. Census Bureau, 8.5% of the people worldwide (617 million) are aged 65 and older. By 2050 this percentage is expected to jump to nearly 17% to 1.6B. The caregiver support ratio is drastically declining, driving the demand for connected mobile devices such as weight scales and blood pressure and glucose monitors that can monitor and track patient homecare. This is good news for device makers with the caveat that data security and data privacy are critical product requirements.

Regulatory hurdles will require an increased amount of testing and oversight within the health technology industry. New talent is continually required to navigate the impacts of federal and international regulations. The clock has started ticking to prepare for the EU's Medical Devices Regulation (MDR) which is set to go into effect in 2020. For companies manufacturing and marketing devices into the EU this will require dedication of already tight talent resources to address this compliance deadline.

The FDA goes into 2018 with a new commissioner, Dr. Scott Gottlieb, who is in a position to focus on revamping the FDA, slashing regulations and speeding drug approvals. However, Gottlieb has indicated that he will not sacrifice safety for speed.

Unemployment is now at 4.1% - the lowest rate in over 10 years. Couple this with bullish industry growth projections, and it points to increasing talent scarcity for medical device, pharmaceutical and, health IT companies in 2018 and beyond.



In addition, many of the states with the highest

levels of investment in medical device, pharmaceutical and health IT technologies have low or relatively low unemployment rates and will be challenged to secure the type of talent required for future growth.

According to the Bureau of Labor Statistics, as of December 2017, Minnesota's unemployment rate is 3.1% and Massachusetts' rate is 3.5%, both well below the national average and both states have significant populations representing health technology.

Talent Scarcity

Health technology industry risks and opportunities are driving talent scarcity. To recap:

- The health technology industry is projected to continue growing at 4-5% per year in medical device and 6.5% in pharmaceutical.
- Global pharmaceutical sales will increase.
- Global pharmaceutical research and development spending is expected to grow by 2.4% (CAGR) to $181B by 2022.
- The orphan drug market is expected to almost double during the 2016-2022 period.
- The Medical Device Excise Tax suspension is back in effect through December 2019.
- Traditional venture investor activity in medical devices rebounded in 2017.
- Increasing cyber security regulations for connected devices.
- Connected devices for seniors are here to stay.
- Regulatory hurdles will require an increased amount of testing and oversight within the health technology industry.
- Unemployment is now at 4.1% - the lowest rate in over 10 years.

Talent scarcity will continue to be an issue facing medical device, pharmaceutical and health IT companies in 2018. Historically jobs in this sector have grown in number and share of the US labor force year over year. Healthcare spending is projected to grow

1.2 percentage points faster than Gross Domestic Product (GDP) per year 2016 to 2025. As a result, the health share of GDP is expected to rise from 17.9% in 2016 to 19.9% by 2025. By 2022, the healthcare sector is projected to account for 1 of every 8 U.S. jobs nationwide. Additionally, demographic, technological and regulatory changes in health technology are creating demand for new kinds of, and more talent.

Participation rates in the labor force have declined from 2007 to 2017 by 5%. Baby Boomers are retiring with fewer new workers to take their place. This generational gap increasingly presents a problem for the expanding health technology industry. Many leaders throughout the industry come from a generation of Baby Boomers now at retirement age, spurring demand in companies to replace knowledge and experience. Millennials are overtaking Baby Boomers in pure numbers in the workforce. During this sea change there is an opportunity to utilize the wealth of knowledge held by Boomers who still want to participate in the workforce. For more information regarding this trend, read our blog, "The Knowledge Train is Leaving! Mind the Gap."

Lack of new graduates to the field. American universities are not producing enough scientists or engineers to meet demand. The U.S. Bureau of Labor Statistics estimates that 2.3 million additional scientists and engineers will be needed to meet American growth and replacement needs across all industries by 2026.

Navigating the Talent Shortage

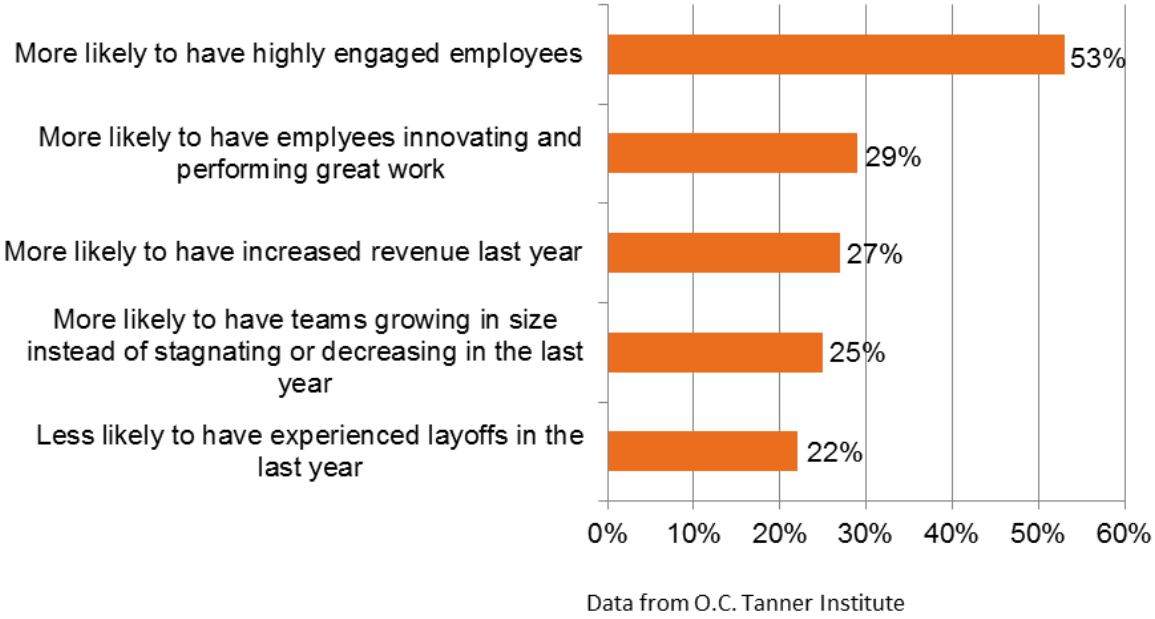
The question as we move into 2018 continues to be how you and your company can be in a position to reap the benefits of a growing health technology market and to also mitigate the market threats. What measures will most effectively ensure the supply of talent needed to meet industry growth projections and achieve your individual and corporate goals?

Tackling talent scarcity is a daunting task for any business, especially in a U.S. economy now at 4.1% unemployment. As the health technology industry continues to grow and new opportunities for innovation continue to emerge, you will need to be deliberate in taking measures to successfully find the talent that your company needs. Get ready to take advantage of the changing landscape.

1. Keep the talent you already have. Now that you have attracted good people how do you keep them highly engaged? A recent study by O.C. Tanner Institute of 10,000 employees around the world on workplace culture; "Talent Magnets: 6 Essential

Aspects of Workplace Culture" came to some stunning conclusions. For more information regarding this trend, read our blog, "The Power of Purpose."

Companies that focused and achieved even marginal improvements in the 6 most important aspects of culture; purpose, opportunity, success, appreciation, wellbeing and leadership saw some staggering improvements. These companies were:



Data from O.C. Tanner Institute

2. Consider Contract Staffing. Contract and fractional staffing allow you to maintain a nimble and flexible workforce. Contract staffing continues to be a more popular alternative for growing and innovative industries across the country. Be open to tapping into workforces of experienced contract staff with the specific experience you need. As the market continues to evolve, this strategy will help you to fill talent voids and remain competitive. For more information regarding this trend, read our blog, "Have Your Cake and Eat It Too."

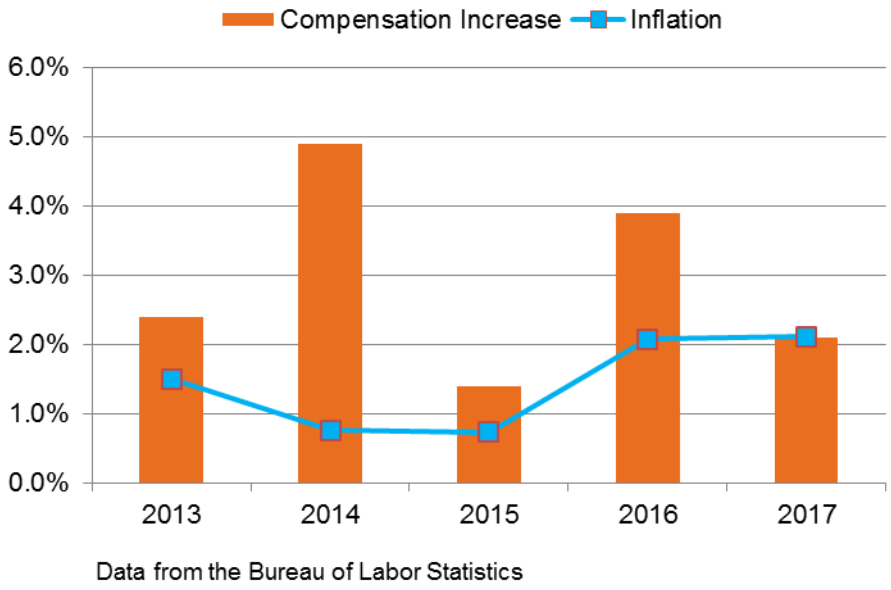
3. Employ Foreign Talent. Utilizing the H-1B visa system to fill the need for additional STEM workers for positions requiring specialized knowledge, is an option to be considered. The majority of H-1B visas (69%) go to individuals ages 25-34, followed by workers ages 35-44 (22%). Most H-1B employees have at least a bachelor's degree, and the majority hold master's degrees. The H-1B program has a cap of 85,000 visas per year, including 20,000 specifically for recipients of advanced degrees.

   Immigration laws allow some attractive options to the health technology sector. For example, hiring foreign students graduating with STEM degrees can allow 29

months of protected employment to companies rather than the standard 12. The immigration system also allows additional temporary and permanent visas to workers who exhibit "extraordinary ability" in their field. National interest waivers are also available, especially for foreigners with research experience in innovative and progressing fields like health technology.

With increased scrutiny on H-1B laws, it is difficult to predict how many visas will be granted in 2018. Pressure from the private sector will likely limit restructuring of worker visa programs to protecting more visas for high degree specialists in place of foreign undergraduate workers, a shift that could further benefit the health technology industry.

4. Increasing Compensation. Predicted increases in shortages of talent will lead to increased compensation. From 2013 to 2016, compensation for all public sector jobs in the U.S. outpaced inflation. In health technology, there will be even more upward pressure on compensation due to scarcity of talent. According to the U.S. Bureau of Labor Statistics, 93% of STEM occupations had wages above the national average.



Data from the Bureau of Labor Statistics

Utilize salary surveys and internal data to support your salary ranges. By offering competitive wages, you will keep critical talent and broaden your pool of new professional resources.

5. Incentivize Education. While not an immediate solution, the surest way to ensure that future talent exists is to create that talent. Government and educational institutions have made providing students with both research and workplace

experience in health technology a priority for their development. Most public and private universities offer master's programs in biomedical engineering, with many schools providing stipends for internships that provide job experience to students. In some cases, local governments step in as partners with companies to pay portions of intern salaries to help relieve some of the financial burden that such endeavors require. The Technology Councils of North America (TECNA) sponsors over 52 company and university partnerships throughout the continent with the intention of fostering collaborative technological innovation. By entering a partnership and offering paid internships, you could provide a student with experience in your company along with incentive to stay in the industry.

6. Collaborate with a reputable staffing and recruiting firm. Talencio, as one of the top specialized recruiting agencies and staffing firms, provides vetted, accomplished professionals to the health technology community. Talencio has a deep understanding, along with a community of experts, to deliver on our promise: to partner with senior management and human resource executives to get the right people in the right place.

2018 is upon us with significant opportunities for growth in the health technology market. Being proactive in mitigating the risks of the talent shortage is crucial to realizing your individual and corporate objectives. Consider taking some or all of the steps we have outlined to ensure your competitive advantage and growth.

About Talencio

Talencio helps the health technology community make progress by putting the right people in the right place to solve problems and identify opportunities to move healthcare forward. To learn more about career opportunities in health technology, or to hear how other companies have partnered with Talencio to tap into our skilled professional talent pool, contact us at 612.703.4236 or pnorbom@talencio.com. Talencio has been the preferred provider of vetted, accomplished professionals to the health technology community for over 10 years.

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