



## 3 Growth Areas in Healthcare

May 4, 2021

While a few key growth areas dominate our thinking about the healthcare opportunity, there are several other areas of growth that span these themes: contract research organizations (CROs) and contract development and manufacturing organizations (CDMOs), animal health, and dental care.

### **CROs/CDMOs**

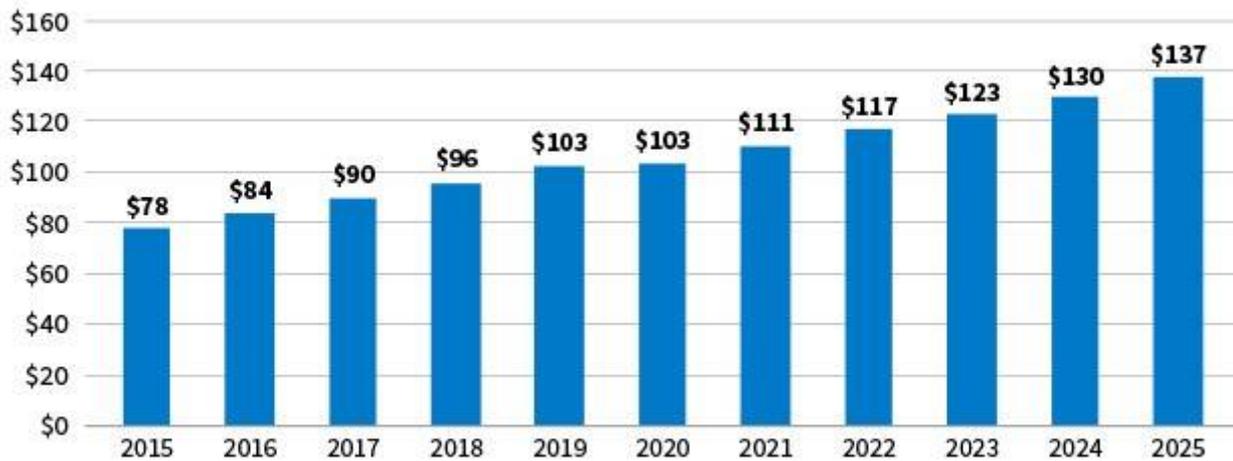
Pharmaceutical innovation is one of the most important stories in the healthcare industry, and CROs and CDMOs are playing an increasing role in that story.

CROs and CDMOs support the pharmaceutical, biotechnology, and medical device industries by allowing them to outsource on a contract basis.

We estimate the market size of the CRO/CDMO industry to be a \$100 billion market growing by 6% per year.



## Growth of the CRO/CDMO Market (in Billions)



Source: William Blair estimates as of February 2021. Data beginning in 2020 are forecasts.

Overall research and development (R&D) spending in the biopharmaceutical industry has continued to rise by about 2% to 3% per year, and CROs and CDMOs have consistently increased their share of this growing pie. We expect this to continue, and potentially accelerate, as various market trends further increase biopharma companies' propensity to outsource.

The most significant driver is the emergence of small- and mid-sized biotech companies that are driving an increasing portion of the overall innovation in the industry. Funding levels for biotech companies is at an all-time high, and these smaller-sized companies have an even higher propensity to outsource given their smaller resources and lack of internal infrastructure.

Moreover, while the emergence of COVID-19 held back industry growth in 2020, pausing many clinical trials and related activities, the development and manufacturing of vaccines and treatments provides an additional revenue opportunity for the industry.

Looking forward, another important industry growth driver—and potential accelerant—is the increasing complexity of new medicine modalities, such as cell and gene therapies. As I wrote previously, while research in the gene therapy market is progressing at a rapid pace, manufacturing capacity lags. That's because the manufacturing of viral vectors—which are used to deliver the gene therapy medication within the human body—is incredibly difficult.

One way to frame this complexity is by comparing it to a home remodeling project.

Let's take a basic small molecule medicine such as aspirin, which consists of about 21 atoms. This is relatively simple to make, akin to replacing a handle on a kitchen cabinet.

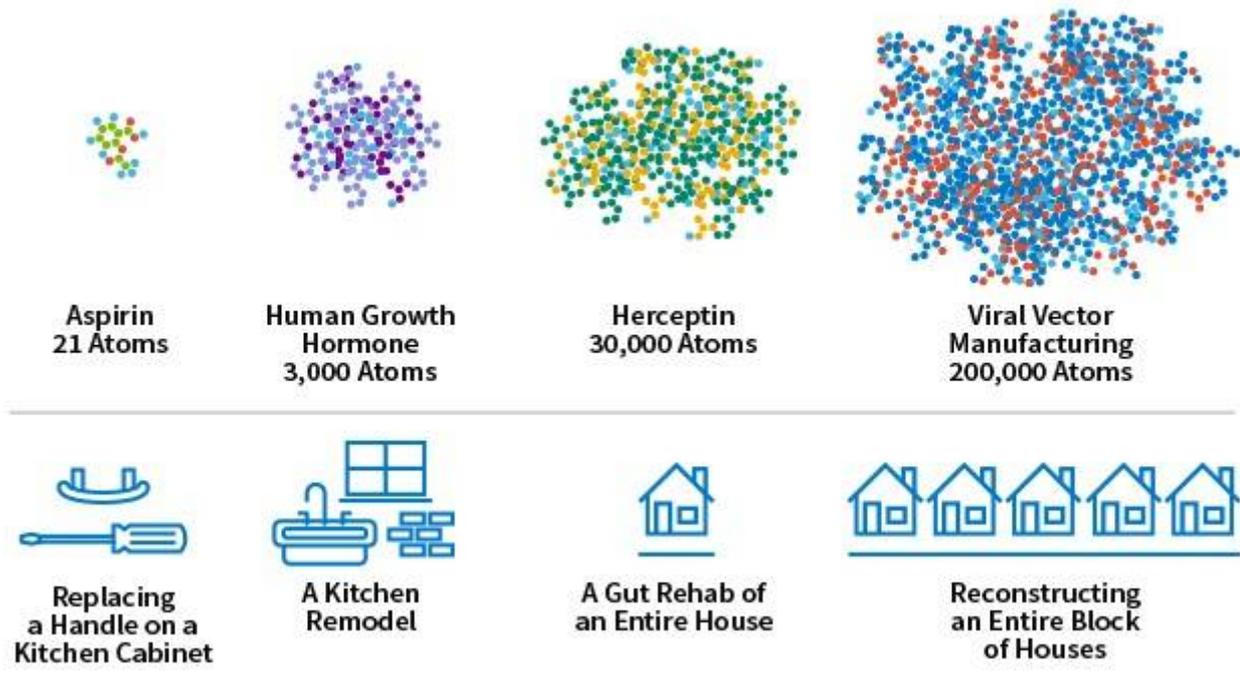
With a medicine such as human growth hormone, the molecular structure increases in size by approximately 150 times, to more than 3,000 atoms, so we are now talking about an entire kitchen remodel.

Moving toward a standard biologic product such as Herceptin, the size (and complexity) increase eightfold to around 30,000 atoms. So now we are moving on from just redoing the kitchen to gut rehabbing the entire house.

Lastly, moving to viral vector manufacturing, the structure could approach 200,000 atoms, or another eightfold increase. So now we are no longer just gut rehabbing one house—we are reconstructing our entire block.

The complexity of manufacturing viral vectors, combined with a significant shortage in manufacturing capacity, suggests that pharmaceutical companies are likely to increasingly outsource research and manufacturing.

## The Complexity of Manufacturing Viral Vectors



Source: William Blair, as of February 2021.

China is an important growth market in this arena. It is only worth about \$10 billion right now, about 14% of the total market, but it is accelerating due to all the healthcare reforms that have been taking place there, promoting innovation over generic drugs.

Moreover, within the CRO/CDMO market, there are a handful of good companies with strong growth profiles, healthy returns, and solid management teams. This provides us with a good opportunity to find high-quality exposure to life sciences innovation without taking on the risk of investing in any one particular biotech or pharma name.

### Animal Health

Animal health has much of the resiliency of human healthcare while being unchained to associated risks, such as third-party payers, healthcare reforms, and generic threats.

The American Pet Products Association (APPA) estimates that pet care expenditures were a staggering \$75 billion in 2019 and grew at a compound annual growth rate (CAGR) of 5.7% from 1994 to 2019.

Key drivers of companion animal spending are increasing pet ownership, the humanization of pets, and the rise of e-commerce.

Particularly in the United States, we are seeing increased pet ownership, particularly among the younger generation, which is predicted to own about 60% of all pets in the country by 2025.

The humanization trend of our pets also makes the companion animal market space relatively resilient to

macroeconomic fluctuations. The vast majority of pet owners consider their pet a family member, a trend that is supporting greater spending per pet on various goods and services, including pet consumables and pet healthcare. Importantly, younger generations are demonstrating a higher willingness to spend money on their beloved pets.

E-commerce, meanwhile, provides significant opportunities for veterinary practices to improve patient compliance. Autoshipping, for example, could increase repeat purchasing based on veterinary recommendations.

Within this segment, the companion animal diagnostic market is particularly appealing. In 2018, there were an estimated 117 million clinical vet visits in the United States alone. And over the past decade, we have seen an evolution in veterinary practices, which are using more sophisticated tools for diagnosis and treatment.

We estimate that the total addressable market (TAM) for companion animal diagnostics could be \$33 billion, and penetration is low—around 17% in the United States and 6% abroad. So, in addition to very attractive structural trends, the market offers a longer runway of growth.

### **Dental Care**

The broad dental care market, valued at \$28 billion, is only growing 3% to 4% annually, but segments within it have more significant growth potential.

For example, we estimate that dental implants, which replace bridges and crowns, could have a TAM of \$120 billion and a CAGR of 5% from 2015 to 2019.

But clear aligners, which replace traditional brackets, could have a TAM of \$560 billion and a CAGR of 33% from 2015 to 2019.

Comparing those two markets, we can see that there are many more people with crooked teeth than people missing a tooth. That is why we look at TAM. It helps us maintain confidence in the durability of growth potential.

But we also look at individual companies within markets. While dental implants do not seem appealing at first glance, one company has grown at a rate that is three times the dental implant market over the past decade.

### **Other Opportunities**

Of course, these are not the only opportunities we see in healthcare. Liquid biopsy and gene therapy are changing the way we diagnose and treat illnesses. The internet is bringing healthcare to more and more people. Hospital infrastructure could boom post-COVID as healthcare systems are forced to revisit their pandemic preparedness. And it is not a stretch to think that we could soon see tech giants get into healthcare. Please read my other posts, including “[Diagnosing the Future of Healthcare](#)” and “[EditGenetics: Improving Lives](#)” to keep abreast of these developments.

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