



EQUITY

New Innovation Spurring a Biotech Rejuvenation

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Franklin Equity Group's Evan McCulloch explains why higher rates of drug utilization and health care spending are lending support to the biotechnology and health care industries. He also gives his take on recent medical breakthroughs he thinks are likely to drive future growth.

Since hitting an all-time high in July 2015, biotech stocks, as measured by the NASDAQ Biotechnology Index, have lagged the S&P 500 Index.¹ The biotech index has rebounded off November 2016 lows, but concerns about the possibility of stricter US drug-price legislation have weighed on stocks.

As we mentioned in a previous [article](#), Donald Trump's US presidential election victory at the end of 2016 helped spur a rebound in biotech stocks in 2017. However, in July 2018, Trump repeated his dissatisfaction with the high prices of prescription drugs and his intentions to do something about it. In our view, political pressure on prescription drug-price regulations isn't waning, especially with US midterm elections around the corner in November.

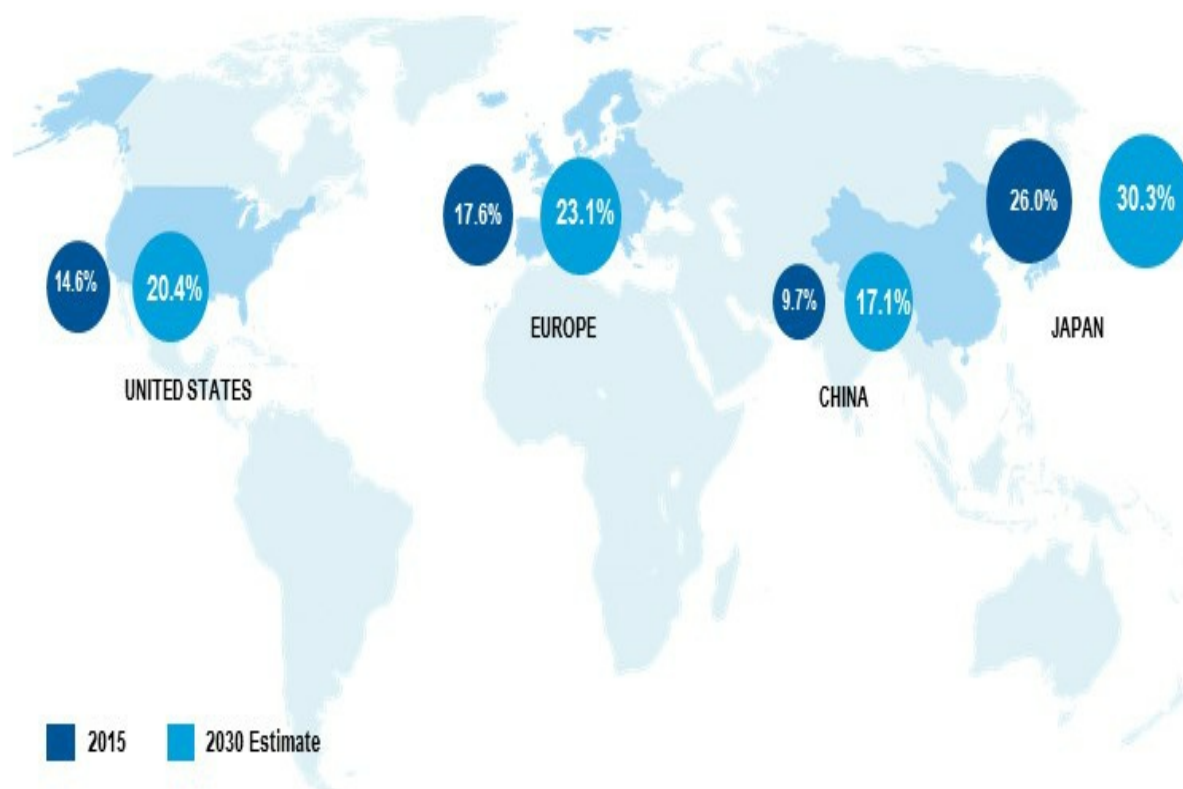
Despite US policy uncertainty, the long-term outlook for both the biotech industry and the larger global health care sector looks healthy to us. In our view, demographic trends, as well as widespread innovation and medical breakthroughs, are driving demand for health care.

Demographics Support Biotech Industry

We see several big-picture trends lending support to the global biotech industry. One relates to demographics. Thanks to medical advancements, the world now has more people over the age of 65 than ever before, especially in developed nations, as the map below shows.

Aging Global Population Driving Health Care Demand

A significant portion of the population will be over 65 by 2030



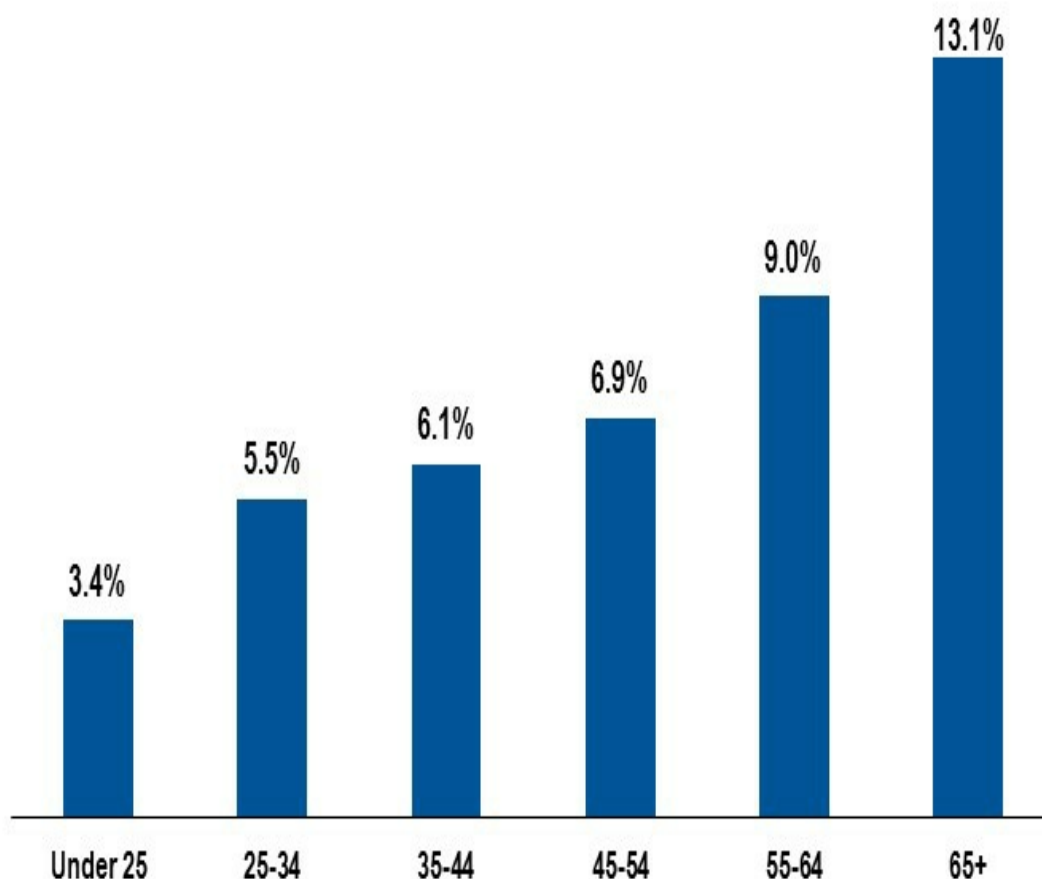
Sources: United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2017 Edition. Most recent data available. There is no assurance that any estimate, forecast or projection will be realized.

Demographics have a major influence on health care spending. As the world's population ages, it is no secret that the elderly as a group will naturally consume more medicines and spend more on medical services than the younger generations.

As the chart below shows, seniors over the age of 65 tend to spend more than twice as much on prescriptions and health care as people in their 20s and 30s. This increased spending is mainly because medicines that treat chronic conditions—including gastroesophageal reflux disease, hypertension, high cholesterol and other ailments typically associated with older age—are dominant in senior citizens' prescriptions.

People Spend More on Health Care as They Age

Health Care Spending as a Percentage of Total Annual Expenditures



Source: Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, 2016. Updated Annually.

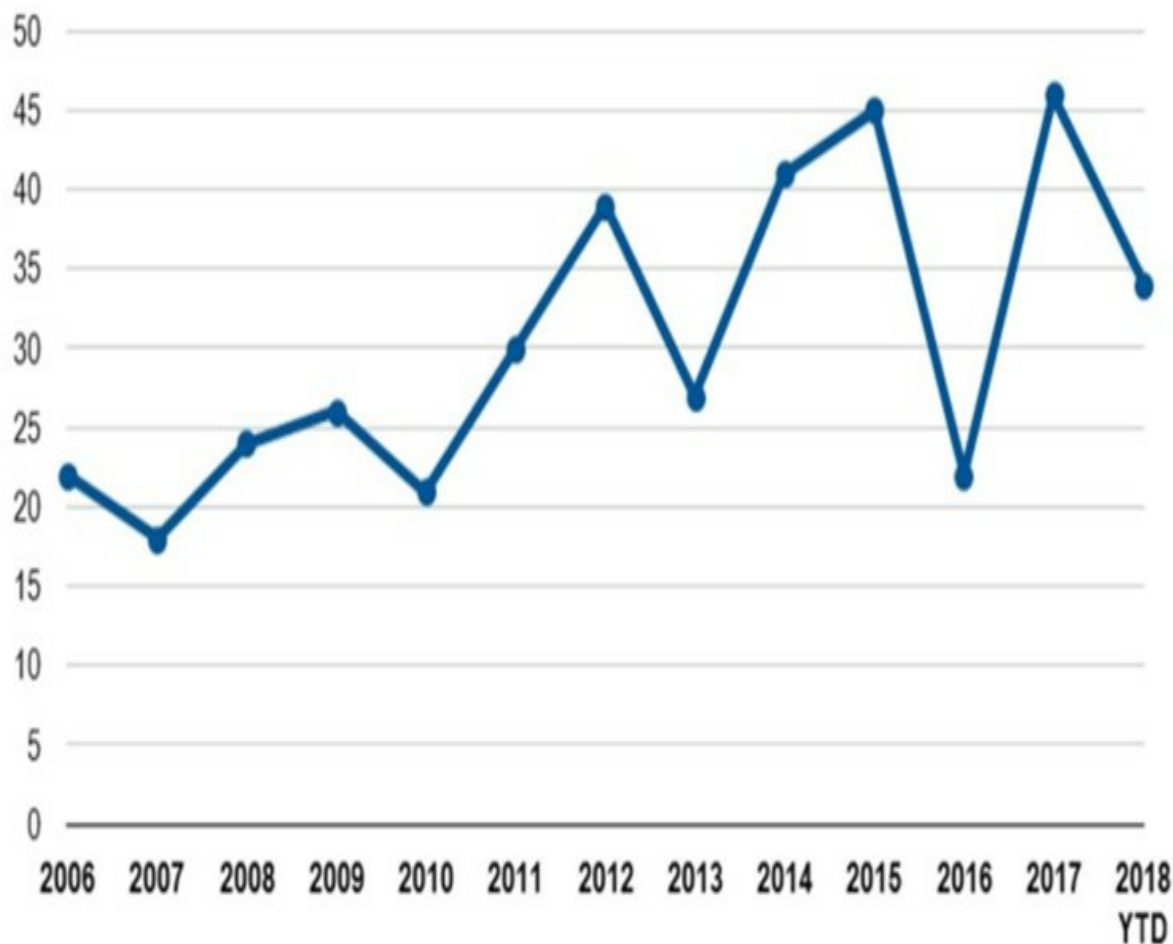
We think the higher rates of drug utilization and health care spending due to the graying of the global population present a strong long-term demand backdrop for the pharmaceutical and biotech industries.

Also, we are seeing an increased number of drug approvals from the US Food and Drug Administration (FDA) revitalize the biotech space, which relies on new drug innovation to propel growth.

In our view, the FDA seems more committed than ever to fast-tracking critical new drugs through clinical trials and toward final approval. In 2017, annual FDA drug approvals more than doubled from 2016's relatively low levels, as the chart below shows. In 2018, we are on track for another strong year of FDA drug approvals, which numbered 34 on a year-to-date basis as of August 30.

New Drug Innovation Is Key to Biotech Sector Growth

Annual US FDA Drug Approvals



Source: US Food and Drug Administration's (FDA) Center for Drug Evaluation and Research (CDER), as of August 30, 2018.

Widespread Innovation and Breakthroughs

We've seen medical advancements and breakthroughs in medicines and health care technology reach unprecedented levels in recent years. We foresee this potentially long cycle of innovation persisting.

Cutting edge innovation is a reflection of the exponential leaps we're now seeing in health care research and development (R&D) and our rapidly-evolving understanding of human biology.

The initial sequencing of the human genome in 2000 was a significant event. Since then, the cost of human genome sequencing has come down significantly. As prices fall and gene sequencing becomes more accurate, genetic screening is likely to become more prevalent and undergo mass adoption.

We believe a point is approaching where people can diagnose and confirm cancer through a straightforward blood test as medical scientists are now able to trace the cancerous DNA that is shed by tumors in the bloodstream. We think that is probably the next frontier in cancer screening, where blood tests are used to detect cancer early, before the symptoms appear.

Advances in DNA sequencing have also increased the number of molecular “targets” for specialized therapies to engage, as well as improve the diagnosis and treatment of diseases. Likewise, human genome sequencing has opened up a lot of new approaches, like gene therapy, which involves the viral delivery of new genetic material into a patient’s cells to correct a missing or defective disease-causing gene in the body.

Another exciting and innovative area within biotech is gene editing, which corrects genetic mutations. Unlike traditional gene therapy, gene editing technologies aim to fix defective disease-causing genes directly, where strands of DNA are cut at a specific area so that scientists can replace an unwanted gene with a corrected one.

Although gene editing tools have the potential to correct genetic diseases as well as non-genetic ones, such as HIV, their therapeutic use on humans is still in its infancy, and much work needs to be done to ensure efficacy and safety.

Elsewhere, breakthroughs in medical science are making highly personalized medicine a reality. Personalized medicine is about delivering the right drugs and treatments to the right patients.

On the whole, we see significant innovation in gene therapy, gene editing, oncology and other areas that harness the power of the body’s immune system to fight cancer. We are excited about the prospects for genomics in general, and we think gene sequencing will be an essential way to deliver medicine, treatment and cures in the future.

Investment Implications

Notwithstanding the ample investment opportunities we see in biotech stocks, we remain disciplined and highly selective in our investment approach. We utilize fundamental, bottom-up research to select biotech companies with competitive profiles, large market opportunities and strong intellectual property. This approach involves augmenting our own company-by-company analysis and rigorous stock selection techniques with insight from Franklin Templeton’s varied and highly experienced research teams.

Ultimately, we endeavor to identify and invest in biotech companies where we see potential. We strive to invest in companies that have a demonstrative clinical value, addressing an area of unmet medical need. If a drug has no substitute, is life changing and improves people’s lives and enables them to live longer, people are going to pay for it.

In our view, we are just beginning to reap the benefits of the biotechnological advancements of the past 10 to 15 years. Buoyed by continuous R&D spending, new drug discoveries and other recent scientific breakthroughs, we are confident there is tremendous opportunity in the years ahead for the biotech industry.

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What Are the Risks?

Franklin Biotechnology Discovery Fund

All investments involve risks, including possible loss of principal. The fund is a non-diversified fund that concentrates in a single sector, which involves risks such as patent considerations, product liability, government regulatory requirements, and regulatory approval for new drugs and medical products. Biotechnology companies often are small and/or relatively new. Smaller companies can be particularly sensitive to changes in economic conditions and have less certain growth prospects than larger, more established companies and can be volatile, especially over the short term. The fund may also invest in foreign companies, which involve special risks, including currency fluctuations and political uncertainty. These and other risks are described more fully in the fund's [prospectus](#).

Investors should carefully consider a fund's investment goals, risks, charges and expenses before investing. To obtain a summary prospectus and/or prospectus, which contains this and other information, talk to your financial advisor, call us at (800) DIAL BEN/342-5236 or visit franklintempleton.com. Please carefully read a prospectus before you invest or send money.

1. Sources: Nasdaq; S&P Dow Jones Indices, as of September 18, 2018. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses and sales charges. Past performance is not an indicator or guarantee of future performance. See <http://www.franklintempletondatasources.com/> for additional data provider information.