World industry outlook

# Healthcare and pharmaceuticals

December 2016

The Economist Intelligence Unit
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**The Economist Intelligence Unit**

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**Symbols for tables**
"0 or 0.0" means nil or negligible; "n/a" means not available; "–" means not applicable

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**World Industry Outlooks from the Economist Intelligence Unit**

The Economist Intelligence Unit's World Industry Outlooks provide forecasts for six key industries: automotive; consumer goods and retail; energy; financial services; healthcare; and telecommunications. Updated every three months by our global industry chiefs, they are divided into sub-sectors, outlining current developments and future trends in each.

At the core of the reports are our industry data, which are drawn from the most reliable sources available and then forecast out five years using the expertise of 100 in-house editors and economists, and a global network of more than 600 contributors. From this we derive industry forecasts for the 60 biggest economies worldwide, which are amalgamated to provide our global and regional forecasts.

The data and forecasts are constantly monitored by both our country analysts and our industry chiefs to ensure that they accurately reflect economic trends, new legislation, technology and market factors that are likely to have an impact on each industry in the future. Our analysts then provide commentary to outline the implications of these trends for companies in each industry, as well as providing additional data and analysis on key industry players, market segmentation, and trends in consumption and production.

 

# World healthcare and pharmaceuticals outlook

**(Forecast closing date: December 30th 2016)**

**World healthcare and pharmaceutical industry**[a]

| | 2012[b] | 2013[b] | 2014[b] | 2015[b] | 2016[b] | 2017[c] | 2018[c] | 2019[c] | 2020[c] | 2021[c] |
|---|---|---|---|---|---|---|---|---|---|---|
| Life expectancy, total (yrs) | 71.9 | 72.2 | 72.5 | 72.8 | 73.0 | 73.2 | 73.4 | 73.7 | 73.9 | 74.1 |
| Male | 69.9 | 70.2 | 70.4 | 70.7 | 70.9 | 71.1 | 71.4 | 71.6 | 71.8 | 72.0 |
| Female | 74.1 | 74.3 | 74.6 | 74.9 | 75.1 | 75.3 | 75.6 | 75.8 | 76.0 | 76.2 |
| Infant mortality rate (per 1,000 live births) | 23.4 | 22.8 | 22.1 | 21.5 | 20.9 | 20.4 | 19.8 | 19.3 | 18.7 | 18.2 |
| Doctors (per 1,000 pop) | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 |
| Healthcare spending (US$ per head) | 1311.5 | 1332.0 | 1363.9 | 1300.0 | 1323.3 | 1356.1 | 1392.2 | 1434.0 | 1495.2 | 1562.3 |
| Healthcare spending (% of GDP) | 10.2 | 10.2 | 10.2 | 10.4 | 10.5 | 10.5 | 10.6 | 10.6 | 10.5 | 10.4 |
| Pharmaceuticals sales (US$ bn)[d] | 913.5 | 929.7 | 971.0 | 956.7 | 985.0 | 1031.4 | 1065.5 | 1115.9 | 1182.6 | 1253.9 |
| Pharmaceuticals sales (% change) | 0.1 | 1.8 | 4.4 | -1.5 | 3.0 | 4.7 | 3.3 | 4.7 | 6.0 | 76.5 |

[a] Sum of 60 countries covered in the Economist Intelligence Unit's industry service. [b] Economist Intelligence Unit estimates. [c] Economist Intelligence Unit forecasts. [d] Sales at manufacturers prices, 51 countries.

Source: The Economist Intelligence Unit.

The Economist Intelligence Unit estimates that there was a substantial dip in global health spending in 2015 in US dollar terms, reflecting the weakness of the euro and other currencies. The dollar remained strong in 2016, as political uncertainties prompted investors to seek out safe havens, yet the effect on global health spending is dissipating. As result, health spending in the 60 countries included in our global forecast returned to growth in 2016 and is expected to accelerate over the forecast period. We expect the combined health spending in these 60 countries to rise by an average of 4.4% a year in nominal US dollar terms in 2017-21.

The increase will be driven by ageing and growing populations, emerging-market expansion, advances in treatments and rising labour costs (exacerbated by international competition for healthcare workers). Yet the pressure to reduce costs and prove value remains intense, and spending will continue to rise more slowly than it did before 2009. Combined with faster economic growth, this means that we expect health spending as a share of global GDP to fall from 10.5% in 2016 to 10.4% by 2021.

However, the seismic political events of 2016 have brought considerable uncertainty to our forecasts. Much depends on how US healthcare policies change in the wake of Donald Trump's victory in the presidential election of November 2016. If he proceeds, as expected, with plans to dismantle and replace the 2010 Patient Protection and Affordable Care Act, the ground-breaking health reforms known informally as Obamacare, then fragmentation and disruption could undermine efforts to slow US healthcare spending growth. In the UK, meanwhile, the economy and healthcare spending could be dampened by the decision, taken in a referendum in June 2016, to leave the EU (so-called "Brexit"). If such political upsets have knock-on effects for the whole EU economy, there will be downside risks for the region's healthcare spending.

 

At the same time, there are several markets, most of them in Asia and the Middle East, where spending growth is likely to be rapid in 2017-21. The trend towards universal healthcare continues, with more countries expanding the coverage of their public or private healthcare systems, or deepening it in order to reduce out-of-pocket spending. Although this goes hand-in-hand with efforts to encourage efficient use of resources, it usually necessitates a rise in public spending, as well as measures to encourage private investment. Payment and reimbursement systems, which are already shifting, will need to develop further in order to take the focus away from procedures and towards outcomes. Value-based healthcare will slowly gain momentum in practice as well as theory.

Pharmaceutical companies will remain under pressure from payers to justify the cost of their products. In 2015 total global pharmaceutical sales fell in nominal US-dollar terms owing largely to exchange-rate effects, but they clawed back some ground in 2016. Over 2017-21 sales growth, at an annual average of 4.9%, will outpace total healthcare spending. The high price of innovative treatments, as well as consolidation in both the research-based and generic segments of the industry, will drive this expansion as patient groups lobby to avoid rationing of expensive treatments.

However, drug prices will remain under pressure. Producers of new medicines will need to produce even more evidence of cost-effectiveness to justify pricing and reimbursement, both before and after launch. Many will achieve this by targeting their drugs at those patients who will benefit most, as the shift to personalised medicine gathers pace and analysis of Big Data improves. Even the generics industry, whose expansion has reduced spending growth, will come under increased scrutiny following reports of "price-gouging" (whereby companies take advantage of limited competition for some products to push through huge price rises). As a result, policies and regulations for pharma will remain volatile in many markets. International trade negotiations will become increasingly fraught, with Big Pharma struggling to enforce intellectual property rights (IPR) while payers remain keen to hold down prices and widen access to medicines. The trade policies likely to be promoted by Mr Trump could add to these tensions.

## Key forecasts

- Total health spending in the 60 countries covered by our data is estimated to have risen by 2.7% in nominal US dollar terms in 2016, after falling in 2015 largely owing to exchange-rate shifts. Over the 2017-21 forecast period, we expect health spending to rise by an annual average of 4.4%. Pharmaceutical spending, which saw a similar recovery in 2016, will climb by an average of 4.9% a year.
- The slowest growth in health spending, at 3.8% a year on average, will be in Latin America, where the market is recovering from a downturn in 2015-16. This is only marginally below the 3.9% growth expected in North America and Western Europe.

 

- The fastest spending growth is likely to be in the Transition economies of Central and Eastern Europe, at 5.8% a year on average. However, this mainly reflects the depth of the decline since 2013. In Russia, the slump in the rouble and the decline in oil revenues mean that in 2014-16 total health spending more than halved in US-dollar terms. Ukraine saw a similar decline. Even after the rebound, Russian spending in 2021 will be just two-thirds of its 2013 levels.
- Growth in Asia will also be strong, at 5% a year on average, continuing the trends of the past few years. We do expect, however, a sharp slowdown in health spending growth in China, with acceleration in countries such as India being only partial compensation. Japanese spending, which has been falling in dollar terms since 2012, recovered in 2016 as the yen strengthened, and will continue to recover throughout the rest of the forecast period.
- Fiscal pressures will continue to weigh on healthcare spending in Western Europe, notably in Greece. The economic risks facing the region remain high, particularly after the UK's decision to quit the EU. Nevertheless, with the euro expected to strengthen, we expect this region to see health spending growth of 3.9% a year in dollar terms.
- In the US, the healthcare reforms pushed through by the president, Barack Obama, in 2010 remain controversial, and a Republican win in the October presidential elections could precipitate a partial rollback. However, we still expect health spending to see robust growth averaging 3.9% a year in 2017-21.

## Spending and provision

**Healthcare spending (% of GDP)**

| | 2012[a] | 2013[a] | 2014[a] | 2015[a] | 2016[a] | 2017[b] | 2018[b] | 2019[b] | 2020[b] | 2021[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | 16.4 | 16.3 | 16.5 | 16.6 | 16.7 | 16.7 | 16.7 | 16.8 | 16.8 | 16.8 |
| Western Europe | 10.4 | 10.4 | 10.4 | 10.4 | 10.4 | 10.5 | 10.5 | 10.6 | 10.6 | 10.6 |
| Transition economies | 6.9 | 7.0 | 7.0 | 7.0 | 7.0 | 6.9 | 6.8 | 6.9 | 6.9 | 6.9 |
| Asia & Australasia | 6.8 | 6.7 | 6.6 | 6.6 | 6.7 | 6.8 | 6.8 | 6.8 | 6.7 | 6.7 |
| Latin America | 7.0 | 7.2 | 7.1 | 7.0 | 7.1 | 7.1 | 7.1 | 7.2 | 7.2 | 7.2 |
| Middle East & Africa | 5.3 | 5.5 | 5.6 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 |
| World[c] | 10.2 | 10.2 | 10.2 | 10.4 | 10.5 | 10.5 | 10.6 | 10.6 | 10.5 | 10.4 |

[a] Economist Intelligence Unit estimates. [b] Economist Intelligence Unit forecasts. [c] Sum of 60 countries covered by the Economist Intelligence Unit's industry service.

Source: The Economist Intelligence Unit.

In nominal US-dollar terms, we estimate that health spending in the 60 countries covered by The Economist Intelligence Unit went into reverse in 2015 as currencies in Europe, Japan and elsewhere depreciated. We calculate that this turned into a recovery in 2016, with global spending growth of 2.7%. In 2017-21 growth will accelerate to an annual average of 4.2%, driven by population ageing, population expansion, rising labour costs and the roll-out of improved health insurance and services, particularly in developing markets. This should see healthcare spending increase as a percentage of the 60 countries' combined GDP, from 10.2% in 2014, based on the latest data from the World Health Organisation (WHO), to 10.6% in 2018. Nevertheless, by 2021, this share will have fallen back to 10.4%, reflecting both an economic recovery and

 

a slowdown in health spending growth as efficiency gains and price-cuts take effect. Our forecasts for market demand for healthcare services (derived from output and trade figures) suggest that real growth will average 2.2% a year in 2017-21, down from 4.2% a year in the five years preceding the 2009 recession.

In per-head terms, health spending will rise from US$1,364 in 2014 (based on WHO data) to US$1,562 in 2021. Spending will be extremely unevenly spread, however, ranging from US$11,468 in the US to just US$55 in Pakistan in 2021. In the wealthier countries, population ageing will remain a long-term growth driver, most noticeably in Western Europe and Japan, but also in countries such as Argentina, Thailand and China, where it will combine with a sharp decline in the number of young people. Life expectancy across the 60 countries that we cover is expected to increase from an estimated 73 years in 2016 to 74.1 years by 2021—over an extra year of life. This will bring the number of people aged over 65 to more than 655m, or 11.2% of the total population. In Western Europe the proportion will be almost 21%, while in Japan it will near 30%.

In developing markets, meanwhile, population growth and rising wealth will drive spending growth. The combined population of our 60 countries will increase by 231m between 2016 and 2021, to 5.7bn, with over 150m of those extra people spread across the 18 Asian countries covered by this report. Globally, the number of high-income households (those earning over US$25,000 a year) will rise to over 544m, with more than half of that growth coming from Asia. This will continue to drive up private spending on health, but governments in many developing markets are also rolling out public healthcare services to meet citizens' rising expectations. In all markets, moreover, advances in health technologies will continue to push up costs. This pressure will prompt more widespread, but only partly successful, efforts to contain expenditure by restructuring health provision and promoting more efficient use of resources.

## Regional outlook

*The repeal of the mandate would effectively end Obamacare*

Healthcare spending in **North America** is set to rise by an annual average of 3.9% over the 2017-21 forecast period, slightly below the global average. However, considerable uncertainty hangs over this forecast, which depends on healthcare policy under Mr Trump, who will take office as the 45th US president in January. In his election campaign Mr Trump promised to repeal and replace Obamacare, the universal healthcare system set up by his predecessor, Barack Obama. His main target was the individual mandate that obliges every US citizen to buy health insurance in order to create a sustainable risk pool. The remaining Democrats in the Senate are already preparing to block such a repeal, which could cause chaos in the healthcare system.

Even if a repeal fails, however, the chosen head of the health department, Tom Price, could dismantle Obamacare through legislation and budget setting. Mr Price may, for example, rescind the ban on insurers using policy-holders' health status and pre-existing condition to price their policies, replacing it with a new way of guaranteeing coverage for higher-risk individuals. He may also block the scheduled expansion of Medicaid, the federal fund for low-income families that has been crucial to keeping Obamacare affordable. Instead the

 

new administration may introduce tax-deductible Health Savings Accounts to enable the purchase of health insurance across state lines, thereby increasing choice and competition. The management of Medicaid funds may also be devolved to state level.

Despite the inevitable disruption, some of these policy shifts could be popular with the general public, as well as parts of the healthcare sector. Although Obamacare has helped to reduce the proportion of the US population lacking health insurance from 16.2% in 2009 to 11.9% in 2015, many families have been dismayed by the rising cost of Obamacare. Premiums for the next fiscal year are already set to rise rapidly, as market competition diminishes. Some insurers, such as UnitedHealth, had already scaled back their involvement in Obamacare because of low profitability. Other insurers are consolidating, with Anthem buying Cigna and Aetna acquiring Humana (subject to approval from anti-trust regulators). In this context, the Republicans' promise to increase choice in order to lower premiums may resonate with the public and the industry.

However, the change of administration is likely to undermine plans by Medicaid and Medicare, the government health funds, to control health expenditure. The roll-out of Bundled Care Initiatives, which reimburse hospitals based on disease groups to encourage them to manage treatment costs, is under threat. The first compulsory programme, for hip and knee replacements, began for 67 regions in April 2016. However, Mr Price has been an outspoken critic of these initiatives, as well as the overall move to value-based healthcare in the US.

Although we currently expect US healthcare spending to rise only slightly as a percentage of GDP, from 17.1% in 2014 to 17.3% in 2021, the upside risks to this forecast are therefore considerable. In Canada, our core forecast is for a bigger increase, from 10.4% in 2014 to 10.8% of GDP in 2021, reflecting its older population and lower starting point. The country's regional fragmentation continues to make cost controls challenging, although efforts are increasing.

*Much depends on the success of the UK's Brexit negotiations in 2017-19*

There is also considerable uncertainty over our forecast for **Western Europe**, where Brexit has raised risks for economies and healthcare systems across the region. If elections in 2017, including those scheduled for France and the Netherlands, result in the victory of populist anti-EU leaders then these risks will rise still further. For the UK itself, much depends on the success of its Brexit negotiations, which are likely to start in March 2017 and end two years later with its exit from the EU in 2019. Our current core forecast is that the talks will result in a deal that preserves free movement of goods, including regulatory harmonisation, but bars free movement of services in exchange for the UK being allowed to impose some restrictions on immigration. However, there is a very real risk (around 30-40%) that talks will fail, and the UK will leave the EU with only its World Trade Organisation (WTO) agreements to underpin trade relations with the bloc. That could push the economy into recession in 2019, despite possible savings on UK contributions to the EU budget. Even if a free-trade deal is reached, we continue to expect Brexit to dampen the economy and therefore healthcare spending. Coming on top of the £22bn (US$27bn) in efficiency savings that the UK's National Health Service was already supposed to deliver by 2021, this will lead to growing strains in a system struggling to cope with population ageing and increased demand.

 

Elsewhere in the EU, an economic recovery is loosening the squeeze on the region's healthcare systems somewhat, but the need to reduce debt and trim fiscal deficits continues to hold down public spending in many markets. Moreover, the depreciation of the euro has had an impact on the US-dollar figures in 2015-16. Nevertheless, we anticipate that growth will pick up in dollar terms, bringing the region's annual average to 3.9% in 2017-21. Northern European markets, notably Germany, Sweden and the Netherlands, are expected to see the most robust recovery in healthcare spending by 2021 but will seek to restrain costs as populations age and health providers come under strain. In Germany, for example, the government has recently moved to strengthen long-term care, as well as introducing a new assessment and benefits system, partly to cope with the influx of refugees.

In the countries still affected by the euro zone crisis – such as Greece, Italy, Portugal and Spain – health spending is now starting to recover, but will remain below 2008 levels in nominal dollar terms throughout the forecast period. Per head, Greek health spending fell by 36.3% in local-currency terms during 2009-15, according to the OECD. Average health spending across the OECD grew by 21.9% during this period. It is little wonder that Greece still struggles to pay healthcare workers and suppliers, and we expect the situation to ease only slightly by 2021. Ireland, which used to be part of this group, will fare better owing to a strong economic rebound. We expect health spending growth here to be robust, easing long-standing financial problems in the sector. Nevertheless, the government is pushing ahead with far-reaching reforms that will replace the current two-tier public/private system with one universal healthcare fund by 2019.

In the **Transition economies**, healthcare spending plummeted in dollar terms in 2015 and 2016 as the decline in global oil prices, economic sanctions over the war in Ukraine and a currency collapse all took a toll on Russia in particular. As the Russian economy revives in 2017-21, health spending will fail to keep pace, falling back as a share of GDP. In 2015 the Russian government announced plans to cut health expenditure by 22.9% over the following three years, and it has since pushed through further reductions. Nevertheless, helped by the stabilisation of the rouble, spending should rise by a respectable 6.2% a year on average. With markets such as Ukraine and Romania also set for strong spending growth, this will make the Transition economies our strongest region over the forecast period, with total spending growth averaging 5.8% a year. However, this mainly reflects the depth of the recent slump. Indeed, by 2021 the region's total health spending will still not have regained its 2013 peak in nominal dollar terms. This will force governments to undertake further reforms to healthcare systems, in particular reducing the very high proportion of health spending that goes on pharmaceuticals.

**Latin America** also saw a slump in healthcare spending in dollar terms in 2015 and 2016 as lower oil prices and reduced export demand weighed on the region’s economies and currencies. As in the Transition economies, a recovery should come in 2017, although it will not be a dramatic one. In Mexico, for example, the government's health budget is still set to shrink by 7.8% during the year. Over the 2017-21 period as a whole, we expect the region's health spending growth to average just 3.8% a year despite public pressure to improve

 

the region's health systems. In Argentina, for example, last November's presidential elections saw the candidates make numerous promises on health, but the priority of the winner, Mauricio Macri, is to tighten fiscal policy to rein in inflation. Nevertheless, his health minister, Jorge Lemus, has indicated that he plans to reorganise Argentina's healthcare system, improve universal coverage via a mixed public-private system and strengthen oversight.

In Brazil, efforts to improve the standard of public healthcare provision have also been hindered by fiscal constraints amid the current recession, but some local regions have developed successful initiatives, despite limited resources. In Mexico, the government has promised to unify existing public healthcare services into a universal social service. Nevertheless, there are questions over whether a fiscal reform implemented on January 1st 2014, which aims to raise 3% of GDP in extra revenue by 2018, will be sufficient to finance this goal. Venezuela, meanwhile, is the only country out of the 60 we cover where health spending is expected to fall further over the forecast period.

**Healthcare spending (US$bn)**

| | 2011[a] | 2012[a] | 2013[a] | 2014[a] | 2015[a] | 2016[b] | 2017[b] | 2018[b] | 2019[b] | 2020[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | 2,846.8 | 2,953.5 | 3,063.0 | 3,168.9 | 3,306.2 | 3,474.1 | 3,630.3 | 3,811.3 | 3,975.1 | 4,083.6 |
| Western Europe | 1,860.4 | 1,771.7 | 1,846.8 | 1,883.3 | 1,645.7 | 1,618.7 | 1,689.8 | 1,775.8 | 1,900.6 | 2,006.6 |
| Transition economies | 224.2 | 233.1 | 246.3 | 229.8 | 170.9 | 170.2 | 189.5 | 212.1 | 228.2 | 246.1 |
| Asia & Australasia | 1,414.6 | 1,519.6 | 1,500.1 | 1,556.9 | 1,537.5 | 1,561.4 | 1,656.3 | 1,725.7 | 1,825.7 | 1,964.9 |
| Latin America | 370.7 | 370.0 | 382.9 | 424.7 | 355.7 | 327.5 | 347.5 | 351.6 | 374.3 | 400.5 |
| Middle East & Africa | 106.4 | 112.9 | 120.4 | 116.1 | 112.7 | 107.7 | 111.9 | 121.1 | 130.0 | 138.9 |
| World[c] | 6,828.6 | 6,965.1 | 7,150.1 | 7,380.2 | 7,077.1 | 7,247.4 | 7,562.8 | 7,903.6 | 8,291.5 | 8,734.6 |

[a] Economist Intelligence Unit estimates. [b] Economist Intelligence Unit forecasts. [c] Sum of 60 countries covered by the Economist Intelligence Unit's industry service.

Source: The Economist Intelligence Unit.

*India, Indonesia, the Philippines and Pakistan all have plans to roll out universal healthcare.*

**Asia and Australasia** face an economic slowdown, yet the roll-out of public healthcare, as well as growing private wealth and lifestyle shifts, mean that we expect healthcare spending to rise by an average of 5% a year in nominal US dollar terms in 2017-21. India and Indonesia will both see double-digit growth as they try to extend public health systems—albeit in fits and starts. In India, for example, the president, Pranab Mukherjee, has set a goal of establishing a universal healthcare system based on insurance. Although plans are currently stalled, a scheme for cheap oncology drugs and cardiac stents was announced at the end of 2015, and the government has also raised the limit on foreign investment in the health sector. Indonesia, meanwhile, is already implementing reforms that aim to establish universal coverage by 2019. Other countries are also trying to ease access to care. Pakistan launched plans for a universal health system in December 2015, while the new president of the Philippines has reinforced similar plans there. We expect health spending growth to average 9.5% and 6.7% a year respectively in these two countries.

China's spending growth will be well behind that of these four countries, at 5% a year, but this will be in the context of less rapid inflation. The government remains keen to boost healthcare funding; the 12th five-year plan, unveiled in 2010, aimed to create a system that provides "safe, effective, convenient and affordable" healthcare to rural and urban residents by 2021. The 13th five-year

 

plan, released in March 2016, focuses on improving the quality of both public and private care. Growth in spending will be slower in the region's developed markets such as Australia, South Korea, Taiwan and Japan, where annual growth in health expenditure is likely to be under 4%. Japan is pushing through far-reaching reforms to its healthcare system as it tries to cope with population ageing. Some patient charges were raised in April 2016, and 2017-18 will bring changes to the way that insurance premiums are levied. Management of the loss-making national health insurance programme will be transferred from municipal to prefectural governments in 2018/19. The reform package also allows the mixed use of insured and uninsured medical treatments, as well as greater deployment of health technology assessment to gauge the cost-effectiveness of treatment.

In the **Middle East and Africa**, which was previously expected to be our fastest growing region, is now the second-fastest after the Transition economies. We still expect health spending to rise by an annual average of 5.3% over 2017-21. However, the impact of lower global oil prices on government tax revenues in countries such as the UAE and Saudi Arabia has forced them to scale back ambitious plans to expand their healthcare sectors. In South Africa, meanwhile, the government continues to deliberate over plans for a universal health insurance system, which will entail a rapid increase in health spending in local-currency terms. However, in US-dollar terms, spending on health has been affected by the fall in the value of the rand and will rise by just 2.7% year on average. Our forecast for Egypt remains strong, however, despite political tensions, reflecting population growth and high rates of inflation.

## Pharma and biotech

**Pharmaceutical sales (US$bn)**[a]

| | 2012[a] | 2013[a] | 2014[a] | 2015[a] | 2016[a] | 2017[b] | 2018[b] | 2019[b] | 2020[b] | 2021[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | 339.5 | 348.3 | 382.1 | 411.9 | 429.9 | 451.9 | 475.7 | 498.9 | 523.8 | 551.6 |
| Western Europe | 194.0 | 201.1 | 209.4 | 187.0 | 187.6 | 189.9 | 194.3 | 204.7 | 212.8 | 224.1 |
| Transition economies | 52.2 | 55.3 | 51.5 | 39.7 | 39.3 | 42.3 | 44.0 | 46.1 | 49.0 | 53.4 |
| Asia & Australasia | 234.9 | 231.2 | 234.5 | 232.7 | 244.9 | 258.6 | 265.1 | 275.7 | 301.1 | 321.2 |
| Latin America | 75.4 | 75.7 | 74.2 | 66.1 | 64.5 | 70.7 | 67.2 | 69.8 | 73.4 | 78.6 |
| Middle East and Africa | – | – | – | – | – | – | – | – | – | – |
| World | 913.5 | 929.7 | 971.0 | 956.7 | 985.0 | 1031.4 | 1065.5 | 1115.9 | 1182.6 | 1253.9 |

[a] Sales at manufacturers' prices, 51 countries. [b] Economist Intelligence Unit estimates. [c] Economist Intelligence Unit forecasts.

Source: The Economist Intelligence Unit.

**Demand.** In the past few years price cuts, pro-generic policies and challenges to patents, particularly in developing markets, mean that the pharmaceutical industry bore the brunt of cost-cutting in healthcare during the global downturn. The OECD, for example, reports that pharmaceutical spending in its member countries fell by 1.1% a year in real terms in 2009-14, when all other segments of the healthcare sector (apart from preventative care) saw slight growth. For research-based pharmaceutical companies, these pressures have been exacerbated by patent expiries.

 

However, over the past year these pressures have started to ease as pharmaceutical spending began a slow recovery in most markets. Over the forecast period, we expect global pharmaceutical spending to outpace overall healthcare spending, rising by 4.9% a year on average in 2017-21. This is around twice the rate of the previous five years, although slower than before the global recession of 2009. This acceleration will be driven by a slowdown in patent expiries and consolidation in generics markets, as well as the low base for comparison. However, the roll-out of new treatments with high price-tags has also pushed budgets higher. The number of orphan drugs securing approval has been particularly high in recent years, aided by preferential regulations, and will contribute to the higher spending.

Indeed, pharmaceutical spending will rise in dollar terms in every market apart from Venezuela in 2017-21. The highest growth is likely to be in Ukraine – although this mainly reflects the depth of its recent slump – while annual growth in India and Indonesia will also be in double digits. In regional terms, the fastest-growing market will be the Transition economies (averaging 6.3% a year) and the slowest will be Western Europe (3.6%). Indeed, the latter will see its share of total pharmaceutical spending fall to under 18% by 2021, from 19% in 2016 and nearly 26% in 2009. Asia's share, which overtook Europe's in 2011, will rise from 24.9% in 2016 to 25.6% by 2021. North America's share will stay around the 44% mark, buoyed by the strong US dollar.

*The Transition economies will need to rein back their spending on pharmaceuticals*

One reason for these differing dynamics is that, owing to price cuts and increasing use of generics, we estimate that Western Europe now spends a lower proportion (less than 12%) of its health budget on pharmaceuticals than any other region. This gap is likely to widen over the forecast period as less mature markets see rising use of expensive, often imported, advanced medicines. The highest proportion (23%) is in the Transition economies, where reducing this is becoming a policy priority.

## Regional outlook

Growth in **North America's** pharmaceutical sales accelerated in 2014, but then slowed in 2015-16, partly as a result of Canada's weakening exchange rate. This brought combined sales to an estimated US$430bn. We expect sales to rise at an annual average of 5.1% in 2017-21, on the back of new technologies, continued economic recovery and price rises. The US market will continue to drive this growth, with Canada lagging slightly behind. This partly reflects strong demand for specialist drugs, especially in the areas of hepatitis, autoimmune diseases and oncology, as well as orphan drugs. Indeed, Mr Trump has promised to speed up the approval process to ease their use. Meanwhile, the gains from rising use of generics will continue to be offset by consolidation in this market, which has led to excessive price rises for some drugs (so-called price-gouging). Moreover, the possible rollback of Obamacare by the Republican administration is likely to undermine efforts to control costs through the Centres for Medicare and Medicaid Services (CMS). Nevertheless, we do expect continued efforts to foster market competition in both Canada and the US, including a backlash against price-gouging. The painfully slow roll-out of biosimilars (generic versions of biotech drugs) may also accelerate in the US after the Food and Drug Administration (FDA) finalised its guidance for their development in late December 2016.

 

**Western Europe's** pharmaceutical market remains less buoyant. Despite population ageing and the launch of innovative new drugs, regional pharmaceutical spending rose only slightly in 2013-14. In 2015 this turned into a slump in US-dollar terms, reflecting the devaluation of the euro, while there was only minimal growth in 2016. In 2017-21, pharmaceutical spending will rise by an average of 3.6% a year, slightly slower than the 3.9% growth in total health spending. We expect all the region's markets, even Greece, to register growth from 2017 onwards. The fastest expansions will be in Norway, Sweden and Ireland, while the major markets of Germany, France and particularly the UK will lag behind the regional average. Even this subdued forecast, however, is subject to considerable political risks, with the upheaval of Brexit having the potential to undermine the region's currencies and economies further over the forecast period.

The **Transition economies** face their own political risks, but are likely to rebound strongly from a downturn in pharmaceutical sales in 2014-16. With international sanctions, rouble devaluation and a slump in oil revenues affecting Russia's ability to invest in healthcare, pharmaceutical spending there will have halved in US-dollar terms by the end of 2016 compared with 2013. Ukraine will have seen a slightly bigger decline, but both markets should return to nominal dollar growth in 2017. The situation in the rest of the region is less extreme but the pattern will be similar, although the recovery for most came in 2016. Given this low base for comparison, we forecast that the region's total pharmaceutical sales will rise by an average of 6.3% a year in nominal US dollar terms in 2017-21, with the Ukrainian and Romanian markets particularly strong.

Even so, the region spends a worryingly high proportion of its healthcare budget on pharmaceuticals, an issue that will need to be tackled over the forecast period in order to avoid a squeeze elsewhere. This could prove difficult to achieve without disrupting access to medicines. Russia, for example, is stepping up its efforts at import substitution, not least because devaluation has made imported products so expensive. However, in 2016 it was reported that some Russian pharmaceutical firms had dramatically reduced the production of vital medicines owing to government pricing restrictions and the effect of rouble devaluation on the cost of foreign components used in manufacturing. This could undermine a government goal to raise the share of domestically produced drugs in the local market from about 20% by value to 50% by 2021. The availability of counterfeit pharmaceuticals also remains a major concern, despite government efforts to tighten regulation.

**Latin America** is also likely to see a recovery in pharmaceutical spending after a drop in 2014-16. Nevertheless, the region's economic and currency decline will affect average growth rates over the entire forecast period. Governments will continue to try to contain costs by focusing spending on generics and restricting imports of more expensive medicines. Argentina, for example, has a tightly controlled list of approved import partners, adding to its high non-tariff barriers. Attempts to foster homegrown production, meanwhile, have led to 14 countries in the region being on the US watchlist for IPR violations, with Argentina, Chile and Venezuela on the priority watchlist. Overall, we expect the region to see annual average growth in pharmaceutical spending of 4.2%

 

in 2017-21. The strongest growth will be in rebounding Argentina and Brazil, at around 6.3% a year, but an expected decline of 17% a year on average in Venezuela will counterbalance this.

*China's pharmaceutical sales have slowed sharply, despite the removal of price caps on most drugs*

We expect pharmaceutical sales in **Asia and Australasia** to rise by an annual average of 5.6% in 2017-21, ahead of the expected 5% growth in health spending. The fastest-growing markets for pharmaceuticals will again—as for healthcare—be in India and Indonesia. We forecast that annual growth here will be in double digits in 2017-21, with much of this growth reflecting price inflation as well as increasing demand and improving access. However, India plans to overhaul its drug regulations in 2017, partly to improve safety but also to help it hold down prices so that it can afford its universal healthcare plans. This poses a downside risk to our forecast. We have already lowered our projections for Pakistan to reflect the introduction of a new reference pricing system in 2016. However, we still expect pharma sales here to rise by 8.1% a year on average, while the markets in Malaysia and the Philippines will also be buoyant.

In China, the removal of price caps on most pharmaceuticals in 2014-15 has, counterintuitively, dampened market growth considerably. This likely reflects the economic slowdown and stronger market oversight, including a clampdown on hospital sales of drugs and tighter control of reimbursement. Over the forecast period growth will be relatively modest, at 5.9% a year in 2017-21, which is less than half the rate of the 2011-16 period. Nevertheless, China will lengthen its lead as the world's second-largest pharmaceutical market after the US. In third place is Japan, which will report sales growth of around 3.6% a year on average in 2017-21. The country plans to introduce a system of health technology assessment in 2018, to ensure it uses only the most cost-effective treatments, and has already moved to annual—rather than biennial—reviews of drug prices.

We have no aggregated forecast for pharmaceutical sales in the **Middle East and Africa**, owing to a lack of data in some countries. Nevertheless, we expect fairly strong sales growth in US-dollar terms, at 5-7% a year, in the major markets of Egypt, Israel and Saudi Arabia, with weaker growth of around 2.8% a year in South Africa. Although the impact of low global commodity prices, notably for oil, has dissipated somewhat, the subsequent scaling-back of plans for the region's health sectors will continue to dampen demand over the forecast period.

## Pharmaceutical sector

The patent cliff has now passed its steepest point, and most research-based pharmaceutical companies are reporting an uptick in revenue and profits, albeit not necessarily to previous levels. Nevertheless, some still face important imminent expiries, such as those of Eli Lilly's erectile dysfunction drug Cialis (tadalafil) and Merck & Co's cardiovascular drug Zetia (ezetimibe). AbbVie, meanwhile, saw its patent for its rheumatoid arthritis blockbuster, Humira (adalimumab), expire in December 2016, while AstraZeneca is still coping with the July expiry of protection for Crestor (rosuvastatin calcium). To cope with this issue, pharma companies continue to cut costs, seek out emerging-market growth, boost productivity in research and development and acquire smaller players to plug gaps in their portfolios, expertise or market coverage.

 

Nevertheless, pharma mergers and acquisitions slowed in 2016, following a bumper year in 2015. That year, 236 deals were closed worldwide, worth over US$403bn combined, compared with U$169bn in 2014, according to PwC, a consultancy. These included AbbVie's US$21bn acquisition of Pharmacyclics, Pfizer's US$15bn purchase of Hospira and Valeant's US$13bn acquisition of Salix. In the medtech world, there were 51 deals worth over US$1bn in 2015, according to PwC, including Medtronic's US$43bn acquisition of Cordis. GSK and Novartis, meanwhile, completed a complex swap that saw the latter take over GSK's oncology portfolio in exchange for its own vaccines business, and both parties set up a joint consumer health business.

In 2016 this activity continued, notably with the completion of Shire's US$31bn acquisition of Baxalta, another rare disease specialist to add to its purchase of Dyax in 2015, and Teva's US$41bn purchase of Allergan's generics portfolio. In June 2016 Boehringer Ingelheim and Sanofi followed in the footsteps of Novartis and GSK by agreeing a US$25bn asset swap that saw the former's consumer health business exchanged for the latter's animal health unit. However, PwC reports that total deal value halved in the third quarter compared with the second quarter, to just US$42bn, amid political and economic uncertainty. The fourth quarter is likely to have been similarly subdued, despite deals such as Horizon's US$800m purchase of Raptor Pharma. Still pending for early 2017 is Abbott Labs' proposal to acquire its smaller rival in the medtech segment, St Jude Medical, for US$25bn, after anti-trust approval came through in late 2016. Pharmaceutical deals could also pick up in 2017, particularly in markets like the UK where currency declines have made potential targets cheaper.

Looking further ahead, much depends on what happens to corporate tax rates in key markets. After all, 2016 was notable for the deals that did not happen, headed by Pfizer's US$160bn attempt to buy Allergan of Ireland. Pfizer's giant deal, which was intended to help the US company to reduce its tax bill by moving to Ireland, was called off after the US Treasury rolled out new rules on such "tax inversion" deals. In 2014 an earlier tightening of the US rules had derailed Pfizer's efforts to buy AstraZeneca of the UK, as well as AbbVie's proposed US$55bn purchase of Irish-domiciled Shire. Nevertheless, Ireland continues to build up its pharma industry on the basis of its low taxes, a strategy that the UK may emulate once it leaves the EU—particularly if it fails to reach a free-trade deal. The US, too, is likely to move to reduce taxes and ease business regulation, in defiance of EU pressure, opening the door for more industry consolidation.

For many acquirers, however, the incentive is not tax gains but the chance to build up or hone their product portfolios and pipelines. New drug discovery saw in surge in productivity in 2015, when the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA) both reported an impressive increase in new drug approvals. However, this went into reverse in 2016. As of December 2016, the FDA had approved just 22 New Molecular Entities and Biologic License Applications for the year, down from 45 in 2015 and 41 in 2014. This is even lower than the average of 26 a year reported in 2006-13. EMA, meanwhile, gave approval for around 80 new drugs (including generics) in 2016, down from 93 in 2015 and 82 in 2014. A recent report from

 

Deloitte's Centre for Health Solutions also suggests that the return on R&D investment for the world's 12 biggest drugmakers continues to decline. Returns fell to an estimated 3.7% of investment in 2016, down from 10.1% back in 2010 when the annual reports were first compiled.

*The failure of its long-awaited Alzheimer's candidate was a blow for Eli Lilly*

News from clinical trials has also been mixed in recent months. On the one hand, the line-up of diabetes and cancer drugs in late-stage development suggests that treatment breakthroughs may be imminent. In particular, immuno-oncology, which harnesses the body's immune system to fight cancers, continues to show huge potential. Yet Eli Lilly is one company facing R&D setbacks, after it was forced to end development of its promising Alzheimer's candidate, solanezumab, following disappointing trial results. Moreover, during the forecast period the traditional model of pharma R&D will come under increasing threat from industry disruptors, including tech companies. Berg Health in the US, for example, is using artificial intelligence not only to find and trial new drug candidates, but also to target patients better. Google's Calico, meanwhile, continues to invest in research on ageing. Pharma companies need to find a way to co-exist with these high-tech entrants, perhaps by making them allies rather than simply competitors.

Other pressures on pharmaceutical companies have not gone away, either. The US continues to clamp down on off-label marketing and the failure to disclose safety risks. Implementation of 2012's "Sunshine Act", which aimed to regulate the tactics used to woo doctors, has increased transparency. Europe, meanwhile, has pushed through new rules on falsified medicines, pharmacovigilance (post-launch monitoring) and the transparency of clinical trial data in the past few years. In May 2016 the EU finally reached agreement on reform of the "notified bodies" responsible for certifying medical devices in Europe, with implementation expected during the forecast period. China continues to clamp down on corruption in the pharmaceutical industry as part of its effort to reduce and regulate the use of high-cost drugs in hospitals. However, many countries are also trying to ease the burden of regulation by making it more uniform. Mr Trump has buoyed pharma industry share prices by promising more streamlined rules. In the EU, the new European Patent Court should provide a more unified approach to patent disputes. In India, meanwhile, the government has revised its clinical trial regulations several times in an effort to balance the safety of trial participants against the needs of researchers.

The greatest pressure, however, will continue to come from pricing controls, reimbursement decisions and the gradual roll-out of health technology assessments, even in developing markets. Pharmaceutical companies have fought back by providing more evidence on the efficacy and cost-effectiveness of their products, but tight budgets have still forced payers into some difficult choices. The outgoing head of GlaxoSmithKline (GSK), Andrew Witty, is among those who doubt the cost-effectiveness of immuno-oncology drugs to tackle cancer on a wide scale. Orphan drugs—though very welcome to those patients who need them—face a backlash as they swallow increasingly large shares of pharma budgets. Moreover even where real breakthroughs happen—as with Gilead's cures for Hepatitis C, Solvadi and Harvoni—the benefits for companies may be short-lived. After several years of rapid growth, Gilead faces a difficult year in 2017 as competition increases and a court ruling over its key patents forces it to pay US$2.4bn in royalties to rival Merck & Co.

 

Complaints about the rising prices of some generics are also rising, owing partly to market consolidation. This has led authorities in many countries to scrutinise competition in the industry, to maximise the savings from the pro-generic policies that they have introduced over the past few years. Over the forecast period payers will be particularly keen to encourage the use biosimilars in order to use reduce spending on biotech drugs, but here again progress has been slower than expected. Although Europe and Japan have seen several launches over the past few years, the US has so far approved just four biosimilars and only recently finalised the approval pathway set up in 2010. If US approvals now accelerate, as many as ten blockbuster biosimilars may be approved over the next five years, generating billions of dollars in savings compared with the cost of the original biologics. Nevertheless, the calculation made by Express Scripts in 2014 that biosimilars could cut US drug spending by US$250bn by 2024 is looking increasingly optimistic.

The appointment of Mr Trump as the next US president could also undermine one key factor that has held down drug prices and offered new opportunities over the past few years: the increase in global pharmaceutical trade. Mr Trump's victory has already put paid to the Trans-Pacific Partnership (TPP) agreement between 12 Pacific Rim countries, which was signed in February 2016. Mr Trump has also threatened to pull out of the WTO upending agreements over intellectual property rights. He may label China as a currency manipulator, undermining its ambitions as a pharmaceutical exporter. Increasing scrutiny of India's drug exports is also likely: those totalled US$12.5bn worldwide in 2015, of which US$4.7bn went to the US.

Talks over a proposed India-EU free-trade agreement remain in limbo, partly because of disputes over pharmaceutical patents. Brexit could offer India opportunities in the UK, but negotiations cannot begin in earnest until 2019 at the earliest, when Brexit should take effect. For US and European drugmakers, the prospect of rising trade barriers in the meantime may not be entirely unwelcome, as they will help to protect them from generic competitors. But tit-for-tat barriers could also undermine a potential source of growth in fast-expanding emerging markets. All of this will add to the uncertainty facing the global pharmaceutical industry over the next few years.

# Diseases

**Life expectancy at birth (years)**

| | 2012[a] | 2013[A] | 2014[a] | 2015[a] | 2016[a] | 2017[b] | 2018[b] | 2019[b] | 2020[b] | 2021[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | 78.7 | 78.8 | 79.0 | 79.2 | 79.3 | 79.4 | 79.6 | 79.7 | 79.9 | 80.0 |
| Western Europe | 80.8 | 81.0 | 81.2 | 81.4 | 81.6 | 81.8 | 81.9 | 82.1 | 82.3 | 82.5 |
| Transition economies | 70.6 | 71.1 | 71.5 | 72.0 | 72.1 | 72.2 | 72.4 | 72.5 | 72.6 | 72.7 |
| Asia & Australasia | 71.1 | 71.4 | 71.7 | 72.0 | 72.2 | 72.4 | 72.7 | 72.9 | 73.2 | 73.4 |
| Latin America | 74.4 | 74.7 | 74.9 | 75.1 | 75.3 | 75.6 | 75.8 | 76.0 | 76.3 | 76.5 |
| Middle East & Africa | 59.0 | 59.4 | 59.8 | 60.3 | 60.5 | 60.7 | 60.9 | 61.1 | 61.4 | 61.6 |
| World[c] | 71.9 | 72.2 | 72.5 | 72.8 | 73.0 | 73.2 | 73.4 | 73.7 | 73.9 | 74.1 |

[a] Economist Intelligence Unit estimates. [b] Economist Intelligence Unit forecasts. [c] Sum of 60 countries covered by the Economist Intelligence Unit's industry service.

Source: The Economist Intelligence Unit.

 

Life expectancy at birth continues to rise rapidly in the 60 countries that make up our global forecast. We estimate that it reached 73 years in 2016, marking a gain of over five years of life in the past two decades. We expect another year to be added to that tally by 2021. The greatest progress in the past two decades have been in South Korea, India and Brazil, and they, together with Chile, will again make the greatest advances over the forecast period. The gains in developing countries will be fastest for women as they narrow the life expectancy gap with men, but in developed countries it will be men who will start to catch up over the forecast period. One exception to this positive trend has been South Africa, where life expectancy fell by ten years between 1995 and 2010 as a result of AIDS. Even here, however, there has been a remarkable turnaround: average life expectancy has risen by over four years, after the government put more effective treatment programmes in place. South Africa will make further advances during the forecast period, albeit at a slower pace, as the focus turns to the more difficult task of AIDS prevention.

Much of the gain in life expectancy globally is down to falling infant mortality. There are now 18 fewer deaths per 1,000 live births in the 60 countries that we cover than there were two decades ago, and by 2021 that tally will have fallen by almost a further three. The biggest benefits from this are being felt in Pakistan, Nigeria and India. The fight against communicable diseases—through better sanitation, improved living conditions and wider access to healthcare, together with more widespread vaccination—is also helping to extend life expectancy. Non-profit organisations such as the WHO and the Global Fund to Fight AIDS, Tuberculosis and Malaria (an umbrella organisation for donors) have scored some notable successes against malaria, HIV and tuberculosis in particular.

The estimated number of malaria deaths worldwide fell to 438,000 in 2015, from nearly 1m in 2000, according to the WHO. In July 2015 the world's first malaria vaccine, Mosquirix, gained approval from the EU, marking the culmination of 30 years of research for its developer, GSK. In September 2016 another potential vaccine, PfSPZ, was given fast-track status by the FDA, paving the way for rapid approval. Although Mosquirix—like Sanofi's new dengue vaccine Dengvaxia—is not as effective against malaria as had originally been hoped, they both represent significant breakthroughs against these deadly tropical diseases. Candidate vaccines for Ebola are also showing immense promise, after the 2014 outbreak in West Africa led to new investment in R&D. The latest figures from the Joint UN Programme on HIV/AIDS (UNAIDS), meanwhile, show that the number of AIDS-related deaths has fallen from 2.3m in 2005 to an estimated 1.1m in 2015, owing largely to the successful roll-out of treatment.

Yet communicable diseases are far from beaten. HIV-AIDS continues to affect 36.7m people worldwide, with around 70% of them living in Sub-Saharan Africa. Viruses such as Ebola and Middle East Respiratory Symptom, following scares over bird flu and swine flu, continue to prompt concern about the ease with which pandemics can spread. In Latin America, eradicating the Zika virus and treating a (possibly linked) upsurge in microcephaly is placing a substantial burden on overstretched public health systems. Combined with a sharp rise in

 

cases of dengue fever, Zika has revived the debate over how to combat the increasing numbers of mosquitoes in many regions without upsetting the eco-balance. There is concern, too, about the possible spread of drug-resistant mosquitoes in some parts of the world.

Even more worrying, however, is the growing global threat from the misuse of antibiotics and the rise in antimicrobial resistance. Multi-drug-resistant tuberculosis now accounts for around 5% of the 9m tuberculosis cases reported worldwide each year. Some scientists claim that resistance to antibiotics poses a greater threat to human health than climate change, threatening to make even routine operations or injuries deadly. Efforts to prevent this have been stepped up following a recent landmark agreement. In September 2016 all 193 members of the UN agreed on a programme to control the use of antibiotics and combat the spread of drug-resistant infections. To be effective, however, this will need to be followed by concrete action at hospitals, surgeries and farms worldwide over the forecast period.

The worldwide rise in life expectancy, meanwhile, has had less pleasant consequences in terms of population growth, population ageing and a rise in chronic diseases. Even in developing markets, cancer and heart disease are becoming the main causes of death, with their spread assisted by rapid urbanisation, sedentary lifestyles, changing diets and rising obesity levels. China and India now have the largest number of diabetes sufferers in the world, at around 114m and 69m respectively. Globally, the number is expected to rise from the current 415m to 642m by 2040, according to the International Diabetes Federation.

The costs of such diseases are high—US$245bn for diabetes in the US alone, including the costs of associated conditions, according to The Pharmaceutical Research and Manufacturers of America (PhRMA, a US pharma association). Fortunately, research into treatments is delivering some promising results. PhRMA estimates that 171 new diabetes drugs are currently in development or awaiting review, along with 400 for neurological disorders and 836 for cancer. Although most new cancer treatments extend life expectancy by only a few months, many types of cancers are gradually turning into chronic, rather than fatal, diseases. Even diseases of ageing—long seen as almost impossible to crack—are beginning to benefit from new research. Despite Eli Lilly's setback with solanezumab, there are another 76 Alzheimer's candidates in development, along with 92 for arthritis. Technology companies, including Google, are also turning their attention to the challenge of ageing, bringing a new holistic approach to the problem. Further ahead, nano-technology, stem cell treatments, gene therapy and artificial intelligence all offer further hope after recent good news from early-stage research.

Efforts to reverse the rise in obesity are also intensifying, amid encouraging signs that policies can work. OECD data suggest that rates are stabilising in several countries, with some seeing a decline in childhood obesity. Most governments see influencing behaviour as the best way to tackle obesity. In 2013 Mexico took the drastic step of imposing additional taxes on sugary soft drinks and high-calorie foods. In June 2016 Chile adopted strict rules on the marketing of high-fat, sugary foods, forcing fast-food companies to adjust their

 

menus, while the UK announced plans to introduce a tax on sugary drinks in April 2018. Other countries, notably Denmark, have tried similar initiatives in the past, with mixed results. Indeed, the debate continues over the best approach to the problem, particularly given the disappointing sales of treatments such as Arena's Belviq (lorcaserin). Although diet and exercise continue to be important, the focus has turned to ways to reduce hunger, sparking a protracted debate over the roles of fat, protein and sugar, as well as gut bacteria, in weight gain.

New drugs are not always the answer to the world's remaining disease challenges, particularly given the prohibitive cost of many innovative treatments. Although the squeeze in health spending has affected funding for preventative care, according to the OECD, attention is turning back to it, helped by the roll-out of popular health apps via smartphones and wearable technology. Artificial intelligence holds potential here, too, promising to revolutionise diagnosis, treatment planning, patient monitoring and even long-term care. Notably, Japan is experimenting with care robots to assist its elderly. Pollution, too, is coming under increasing scrutiny, particularly in developing markets. According to the WHO, ambient pollution contributes to 6.7% of deaths worldwide, with the Western Pacific region among the worst-affected. The effort to combat pollution has become particularly high-profile in China, where officials say birth defects rose by 70% between 1996 and 2010. As economic growth slows, so should the rise in pollution, but that will not stop the health effects getting worse before they get better.

 