

## Chapter 2

# Biological medicines — the major social and economic challenges

The global spend on pharmaceuticals continues to increase. The use of biological medicines offers new treatment choices to patients, but at a high financial cost. What are the challenges faced by payers and physicians in preserving access to biological medicines within a financially constrained healthcare system?

# Population aging is increasing the pressure on health systems

- Between 2015 and 2030, the number of people in the world aged 60 years or over is projected to grow by 56%, from 0.9 billion to 1.4 billion<sup>1</sup>
- By 2050, this population is projected to increase to nearly 2.1 billion; more than double the size it was in 2015<sup>1</sup>

Global population aged 60 years or over

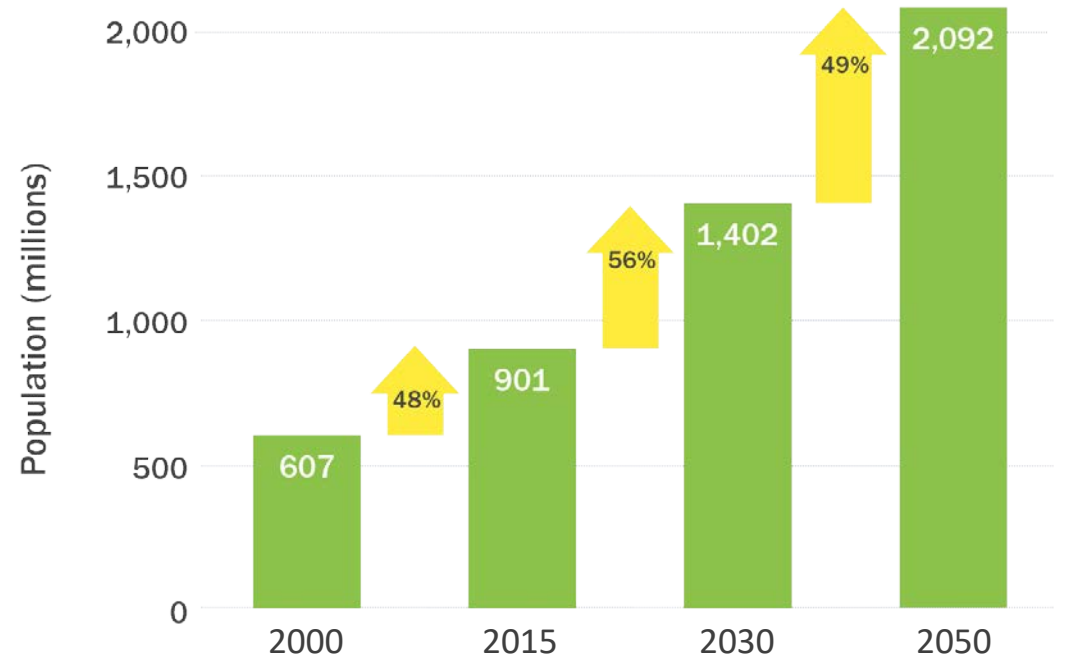


Figure adapted from UN World Aging report<sup>1</sup>

Approximately 80% of adults aged 60 years or over have at least one chronic condition<sup>2</sup>

# Health systems must adapt to meet the growing demand for the treatment of chronic conditions<sup>1</sup>

In the US, chronic conditions account for:



**two thirds** of all healthcare costs<sup>2</sup>



and **93% of Medicare\*** spending<sup>3</sup>



With the global prevalence of age-related chronic diseases rising, **access to cost-effective medical treatment will become increasingly important** over the next decades

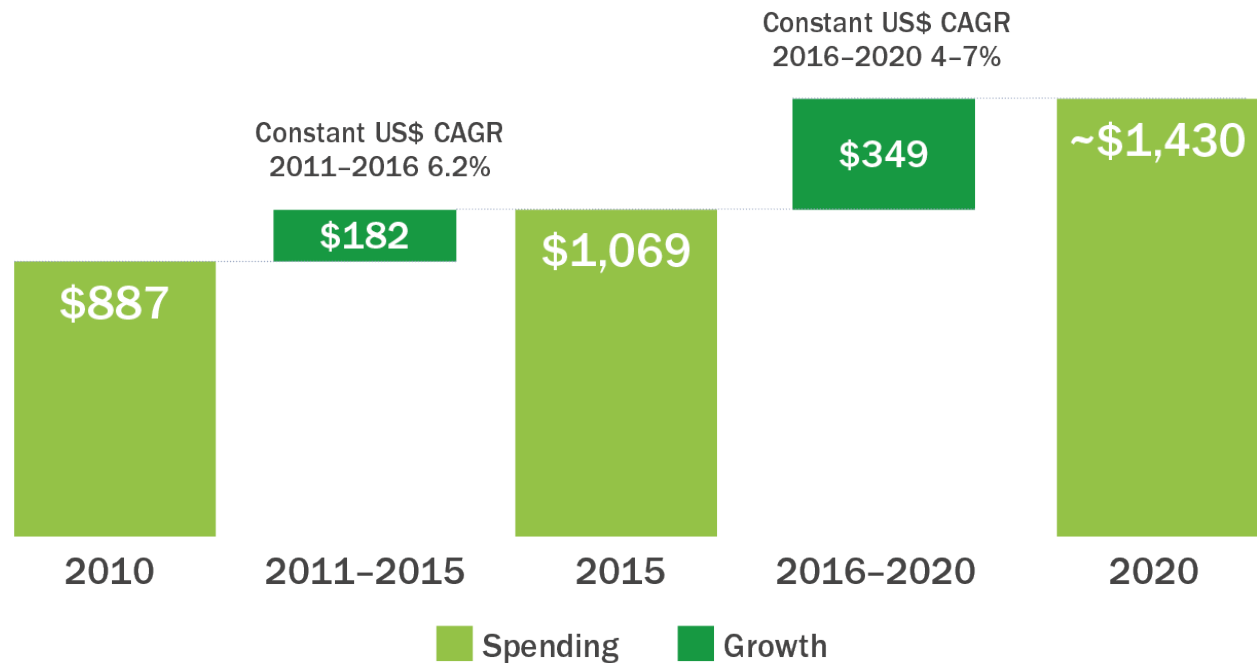
Access to cost-effective treatment is paramount for the short, medium, and long-term sustainability of healthcare systems<sup>1</sup>

**Footnotes:** \*Medicare is a US federal health insurance program for elderly patients.  
**References:** **1.** United Nations. World Aging Report. Available at: <http://bit.ly/1Y2LeF4>. Accessed April 2017; **2.** Centers for Disease Control and Prevention. The State of Aging and Health in America 2013. Available at: <http://bit.ly/2q3y8w0>. Accessed July 2017; **3.** Chronic Conditions Among Medicare Beneficiaries, Chart Book 2012. Available at: <http://go.cms.gov/2kmLP9a> . Accessed December 2017.

# Progress in therapeutic options is accompanied by serious budgetary implications

- 225 new products are expected to come to market between 2016 and 2020<sup>1</sup>
- Global spending on medicines is expected to reach 1.4 trillion USD by 2020\*<sup>2</sup>

Global spending and growth (billions), 2010-2020



A large proportion of the new therapeutic options under development are biological medicines<sup>1</sup>

**Abbreviations:** CAGR, compound annual growth rate.

**Footnotes:** \*Due to exchange rate effects, growth was reduced by 100 billion USD and increased by 268 billion USD in 2011-2015 and 2016-2020, respectively.

**References:** 1. QuintilesIMS Institute for Healthcare Informatics. Global Medicines Use in 2020: Outlook and Implications. 2015. Available at: <http://bit.ly/1H9Nze3>. Accessed July 2017; 2. QuintilesIMS Institute for Healthcare Informatics. Delivering on the Potential of Biosimilar Medicines. 2016. Available at: <http://bit.ly/2q0bV2L>. Accessed July 2017.

# The use of biological medicines continues to grow consistently each year



- **Biological medicines** are expected to account for **30%** of **new drug products** launched between 2016 and 2020<sup>1</sup>



- Biological medicines can cost up to **100,000 USD per year per patient**, negatively impacting on both patient choice and the healthcare system<sup>2</sup>



- By 2020, a number of diseases will have **new biological treatment options** available across developed markets<sup>1</sup>



- The **constrained payer environment** is triggering a range of initiatives designed to limit growth in healthcare budgets<sup>3</sup>

Payers seek to provide and preserve access to cutting-edge medicines, but also need to ensure the long-term financial sustainability of their healthcare systems<sup>3</sup>

# The long-term potential of biological medicines is hampered by their high cost

## Psoriasis

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- Psoriasis affects approximately **7.4 million** Americans<sup>1</sup>
- Access to biological medicines remains a challenge for many American patients due to factors such as **limited insurance coverage** and **prohibitive costs**<sup>2</sup>
- Up to 24% of dermatologists in key EU countries and Canada felt that **cost is a key barrier** to using biological medicines in psoriasis<sup>3</sup>



A number of markets, including Western markets, restrict patient access to biological medicines due to their cost<sup>4</sup>

# Access to biological medicines is not uniform across Europe

- Compared with Western Europe, Central and Eastern Europe have experienced reduced access to biological medicines<sup>1,2</sup>

Percentage of patients with rheumatoid arthritis (RA) treated with a biological medicine:

Western Europe\*

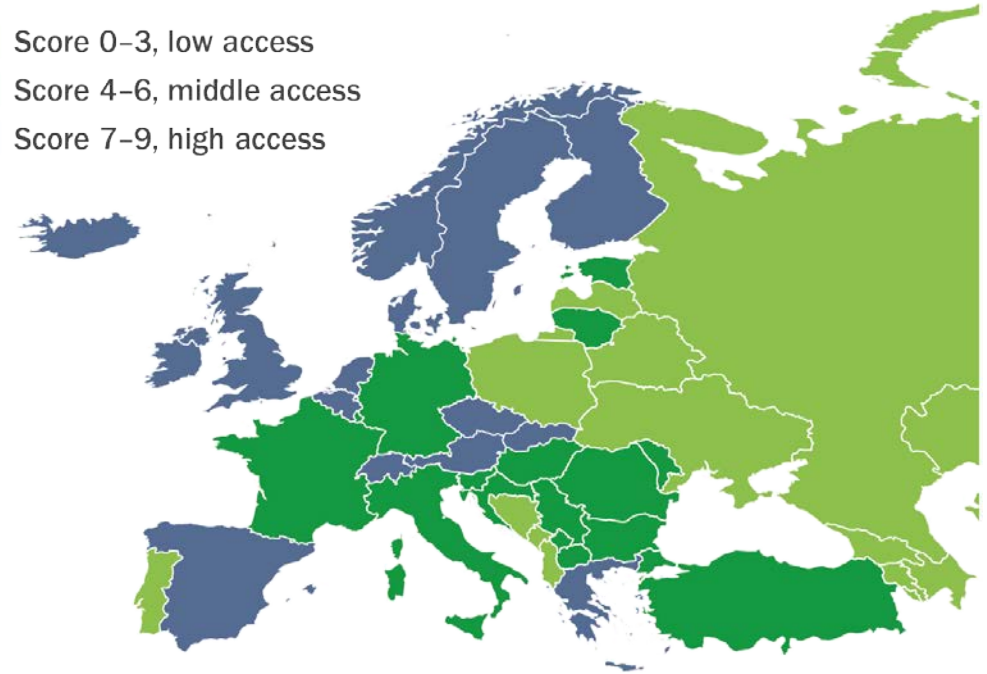
11–12%

Central & Eastern Europe\*\*

1–5%

Level of access to biological treatments for RA across Europe<sup>3</sup>

- Score 0–3, low access
- Score 4–6, middle access
- Score 7–9, high access



This difference in access to biological medicines is largely due to general economic conditions<sup>2</sup>

**Footnotes:** \*Based on values from 2009; \*\*Based on values from 2011.

**References:** 1. Kobelt G, Kasteng F. Access to innovative treatments in rheumatoid arthritis in Europe. Available at: <http://bit.ly/Shamf8>. Accessed July 2017; 2. Orlewska L, et al. *Med Sci Monit.* 2011;17:SR1-13; 3. Putrik P, et al. *Ann Rheum Dis.* 2014;73:198–206.

# A lack of treatment choice has a detrimental impact on patient care<sup>1</sup>

## Rheumatoid Arthritis (RA)

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- There are around 1.3 million Americans living with RA, many of whom require biological medicines<sup>2</sup>
- It is estimated that the US market for RA treatment will increase from 6.4 billion USD in 2013 to 9.3 billion USD by 2020<sup>3</sup>
- On average, patients with RA can expect to pay in excess of 2,700 USD annually in co-payments for biological medicines<sup>4</sup>



*"I use Enbrel. I couldn't walk without it, and when I lost my healthcare insurance it was \$1,800 per box. I sold my car to pay for the Enbrel"<sup>5</sup>*

**Mika Collins, Michigan  
Patient with RA**

The availability of biosimilar medicines enhances competition, improves access to biological medicines, and contributes to the financial sustainability of healthcare systems<sup>5</sup>

**References:** 1. QuintilesIMS Institute for Healthcare Informatics. Delivering on the Potential of Biosimilar Medicines. 2016. Available at: <http://bit.ly/2ryPMcd>. Accessed July 2017; 2. Best buy drugs. Consumer reports health. Using Biologics to Treat: Rheumatoid Arthritis. 2013. Available at: <http://bit.ly/2pZVXFT>. Accessed July 2017; 3. GBI Research. US Rheumatoid Arthritis Treatment Market Value to Reach \$9.3 Billion by 2020: Outlook and Implications. 2015. Available at: <http://bit.ly/2ryJBWI>. Accessed July 2017; 4. Yazdany J *et al.* *Arthritis Rheumatol* 2015;67:1474–80. 5. EC. What you need to know about biosimilar medicinal products. Available at: <http://bit.ly/29AZtNM>. Accessed July 2017; 5. Healthline. Rheumatoid arthritis patients bear heavy cost burden for biologic drugs. Available at: <http://bit.ly/2pQ63J9>. Accessed July 2017.



# Biological medicines — the major social and economic challenges



**Population aging** and the rising prevalence of **chronic conditions** is increasing the pressure on health systems<sup>1,2</sup>



**Global spend** on pharmaceutical products continues to **increase**, and is expected to reach 1.4 trillion USD in the near future<sup>3</sup>



Biological medicines represent an **important but expensive** proportion of new drugs<sup>4</sup>



**Payers** seek to provide and preserve access to cutting-edge medicines, but also need to **ensure the long-term financial sustainability** of their healthcare system<sup>3</sup>



**Access** to biological medicines is not uniform, and is **often restricted** by their high cost<sup>4,5</sup>



The **availability** of biosimilar medicines enhances competition, improves access to biological medicines, and contributes to the financial sustainability of healthcare systems<sup>6</sup>

**References:** **1.** United Nations. World Aging Report. Available at: <http://bit.ly/1Y2LeF4>. Accessed July 2017; **2.** CDC. Healthy Aging at a Glance 2011. Available at: <http://bit.ly/2ptzYJS>. Accessed July 2017; **3.** QuintilesIMS Institute for Healthcare Informatics. Delivering on the Potential of Biosimilar Medicines. Report. 2016. Available at: <http://bit.ly/2ryPMcd>. Accessed July 2017; **4.** QuintilesIMS Institute for Healthcare Informatics. Global Medicines Use in 2020: Outlook and Implications. 2015. Available at: <http://bit.ly/1H9Nze3>. Accessed July 2017; **5.** Orlewska L, *et al.* *Med Sci Monit.* 2011;17:SR1-13; **6.** EC. What you need to know about biosimilar medicinal products. Available at: <http://bit.ly/29AZtNM>. Accessed July 2017.