

#### IMPACT OF HIGH CHOLESTEROL

## Heart health is a significant and growing concern for patients in Europe.

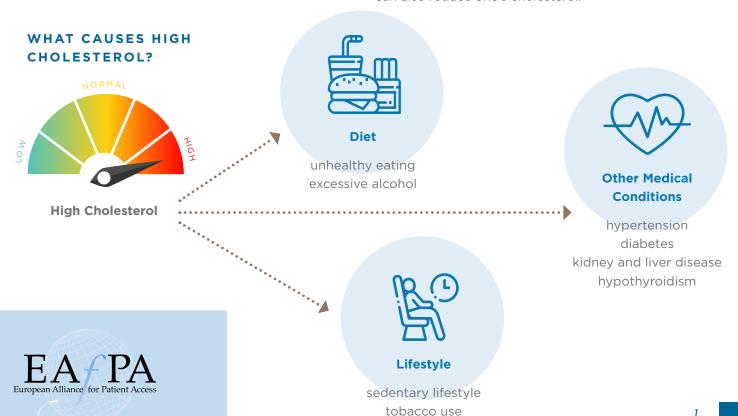
More than 50 percent of European men and women have raised cholesterol, a leading risk factor of heart disease. In fact, some western European countries, including Germany, have among the highest cholesterol levels in the world.

Left untreated, the condition negatively affects not only patients, but also their families, the greater community and society. Understanding the causes of high cholesterol and patients' options for treatment, however, can save lives and make a significant impact on the European economy.

#### Q: What causes high cholesterol?

While raised cholesterol means a patient's cholesterol is higher than it should be, high cholesterol is even more elevated and requires clinical management. Three factors—diet, lifestyle or other medical condition—are typically responsible for increased levels of cholesterol. Dietary factors include unhealthy eating and excessive alcohol, whereas lifestyle factors include sedentary lifestyle and tobacco use.<sup>3</sup> The good news is that patients can control these risk factors; changing diet and lifestyle can reduce patients' risk of high cholesterol.

Other medical conditions such as hypertension, diabetes, kidney and liver disease, and hypothyroidism can also lead to high levels of cholesterol. Treating these underlying conditions can also reduce one's cholesterol.<sup>3</sup>





#### Q: Are certain people more likely to develop high cholesterol?

Some people are at a greater risk of high cholesterol because of genetic risk factors. These are also called "fixed factors."

The most common fixed factors for high cholesterol are family history of coronary heart disease, older age and being male. Another is family history of a cholesterol-related condition,<sup>3</sup> called familial hypercholesterolemia. Patients with certain types of familial hypercholesterolemia have a three-fold higher risk of developing premature cardiovascular disease.<sup>4</sup>

It is important for all patients to know their cholesterol levels, and it's especially important for those with fixed factors. But an overwhelming majority of patients do not know their cholesterol levels, according to a recent survey.<sup>5</sup>

#### Q: How does high cholesterol affect patients' health?

High LDL, or "bad," cholesterol puts people at risk of cardiovascular disease,<sup>5</sup> which is the collective term for coronary (or ischemic) heart disease, stroke and peripheral artery disease.<sup>6</sup> Cardiovascular disease is the leading cause of death in Europe.<sup>5</sup>

Raised cholesterol is also responsible for one-third of ischemic heart disease globally.<sup>8</sup> But treating raised cholesterol can improve one's health. For example, 50 percent of the recent decline in heart disease mortality in Finland has been attributed to a reduction in the population cholesterol level.<sup>8</sup>

High LDL, or "bad," cholesterol puts people at risk of CARDIOVASCULAR DISEASE.

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### Q: What is the societal burden of high cholesterol?

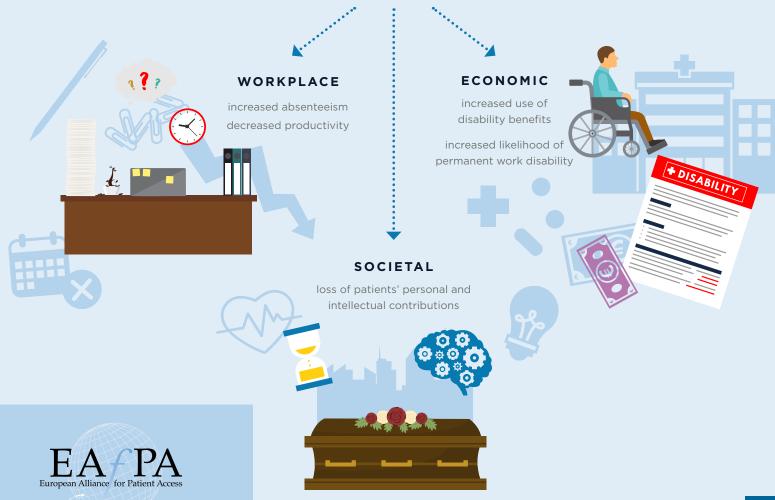
High cholesterol impacts workplaces, economies and society overall. Specific to workplaces, patients who suffer from high cholesterol and related conditions cost employers through increased absenteeism and decreased productivity.<sup>9, 10</sup> Case in point, cardiovascular disease costs the EU economy €54 billion annually in lost productivity.<sup>7</sup>

When considering the burden of high cholesterol, policymakers must also consider the economic impact of conditions it can cause. Europe's stroke

burden and the resulting use of disability benefits, for example, is expected to increase due to an aging population.<sup>11</sup> Data show stroke patients had an increased likelihood of permanent work disability in Sweden.<sup>12</sup>

Finally, when patients die prematurely, societies lose out on their personal and intellectual contributions. Collectively ischemic heart disease and stroke are responsible for almost 23 percent of all years of life lost due to premature mortality.<sup>13</sup>

#### **BURDEN OF HIGH CHOLESTEROL**





#### Q: What is the financial impact of high cholesterol on health care systems?

High cholesterol and related conditions have a significant financial impact on health care systems. Cardiovascular disease annually costs the EU €111 billion in health care expenses and €45 billion in informal care.<sup>7</sup> And according to a 2017 report, stroke costs Germany € 5,651.1 million, the United Kingdom € 2,652.4 million and Finland € 721.1 million.<sup>14</sup>

# Cardiovascular disease annually costs the EU €111 BILLION IN HEALTH CARE EXPENSES AND €45 BILLION IN INFORMAL CARE.<sup>7</sup>

#### Q: How can patients control their high cholesterol?

It's important for patients to talk to their physician about cholesterol concerns. Adopting a healthy lifestyle that includes eating nutritious foods, limiting alcohol consumption and quitting smoking tobacco are patients' first line of defence against developing high cholesterol. For most patients, losing weight and increasing exercise can help reduce high cholesterol. However, if lifestyle changes don't make a difference, physicians may prescribe medication.<sup>15</sup>

Statin therapy is the primary treatment for high cholesterol.<sup>6</sup> But for certain patients, more intensive therapy may be necessary.<sup>16</sup> PCSK9 inhibitors, an innovative therapy, have been found to reduce bad cholesterol, especially for patients with familial hypercholesterolemia<sup>3</sup> who have not responded to statins.<sup>17</sup>





#### CONCLUSION

One in four European adults incorrectly believe that high cholesterol is not concerning unless someone shows signs or symptoms.<sup>5</sup> In reality, addressing high cholesterol promptly is important to patients' health. Physicians can guide patients through lifestyle modifications and prescribe appropriate medications to guard against potentially fatal cardiovascular disease.

Addressing high cholesterol in a timely way not only benefits patients in the form of better health, but also can diminish adverse workplace, economic and societal impacts caused by the condition and its related health outcomes.

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