

European Survey of Cardiovascular Disease

Uncovering current public
perceptions and attitudes
towards cardiovascular disease



Contents

Executive summary	3
Introduction	4
Awareness of incidence of CVD	5
Concerns about health conditions in later life	6
Awareness of risk factors	8
CVD risk in men and women	10
Awareness of symptoms	11
Awareness of blood pressure and high cholesterol as risk factors	13
Seeking medical advice	15
Experience of CVD	16
Taking action	18
Taking symptoms seriously	19
Willingness for behaviour change	20
Adopting healthier habits	21
Appetite for preventative digital solutions	22
Calls to action summary	24
References	25

Executive summary

In 2020 alone, more than 60 million people were living with cardiovascular disease (CVD) in the European Union and nearly 13 million new cases were diagnosed.¹ Unfortunately, CVD remains Europe's leading cause of death and is responsible for more than 10,000 deaths every day.²

Despite such a high prevalence, lack of public awareness and gaps in understanding may be preventing those at risk from receiving life-saving interventions.

According to a 2020 report by the Organisation for Economic Cooperation and Development (OECD) and King's Fund, a slowing down of CVD mortality improvement and the prevalence of underlying lifestyle risk factors are major causes for concern.³ A deep understanding of public perceptions and behaviour is needed to drive meaningful change in the CVD field, prompting those at risk and with symptoms to seek medical advice and empowering healthcare professionals (HCPs) to provide the best care across Europe.






The European Survey of Cardiovascular Disease was commissioned by Daiichi Sankyo Europe to assess the extent of public awareness and understanding of heart disease. It was carried out to help identify

areas of public knowledge that need to be enhanced in order to inspire action to help reduce the burden of CVD. Independent research consultancy, Censuswide, asked over 6000 adults from five countries (Germany, Italy, the Netherlands, Spain and the UK) questions via an online survey about their general awareness of heart disease, risk factors and symptoms, the role of blood pressure and high cholesterol, what would prompt them to seek medical attention, and their attitudes towards preventative digital solutions.

A minimum of 200 adults aged 18–34 years and 800 adults aged 35+ years from each country were asked four questions to understand their awareness and understanding of heart disease (questions one to four). The remaining questions were asked to 1000+ adults aged 35+.

This report has been developed as part of the *We Care for Every Heartbeat* campaign and assesses some of the survey's key findings and disparities across these countries, highlighting areas for urgent action in primary prevention, earlier detection and secondary prevention. Neither this report nor the survey findings have been influenced by Daiichi Sankyo.

Demographics

Country	No. of adults aged 18–34	No. of adults aged 35+	Total
 United Kingdom	200	1018	1218
 Germany	200	1006	1206
 Italy	200	1021	1221
 Spain	200	1013	1213
 Netherlands	200	1000	1200
Total	1000	5058	6058

**Total respondents
by gender**



FEMALE

48%



MALE

52%

Introduction

The risk of developing CVD, including heart failure, atrial fibrillation-related stroke, heart valve disease or coronary heart disease, increases with age. As Europe's population continues to age, with **155 million Europeans predicted to be over 65 by 2040**, the incidence of CVD is set to increase dramatically.⁴

Although death rates from CVD have fallen steadily over the past half century, recent trends now show a slowdown in the rate of decline, particularly in younger age groups. This suggests that there could be an increase in deaths from CVD over and above what would be expected just from an ageing population alone.¹

The main risk factors driving CVD mortality are potentially avoidable. The increasing prevalence of several common risk factors for CVD, including elevated cholesterol and blood pressure, are contributing to decelerating improvements in CVD mortality.³

In fact, up to 72% of avoidable deaths are attributable to risk factors such as smoking, blood pressure and cholesterol levels, demonstrating the immense challenge to ensure heightened awareness of the impact of risk factors on CVD mortality.³

Unfortunately, environmental factors, such as air pollution,¹ are also contributing to the increase in CVD cases, compounding the necessity for broader strategies to promote healthy lifestyles and reduce CVD incidence.

Despite significant recent advances in treatments, CVD remains a huge burden and a public health priority.¹ This survey aims to help better understand the extent of public awareness and attitudes towards CVD and the varying levels of willingness to seek medical advice, to shape and inform positive action.



155 million Europeans predicted to be over 65 by 2040⁴

Newly emerging non-traditional risk factors:⁵



Stress



Lack of sleep



Air pollution

Awareness of the incidence of CVD*

Despite CVD being the leading cause of death in Europe,² less than one-quarter (24%) of respondents were aware of this.

Cancer is still regarded as the health condition that contributes to the most deaths in Europe, with almost twice as many respondents considering cancer to be the most common cause of death (44%) compared with heart disease.

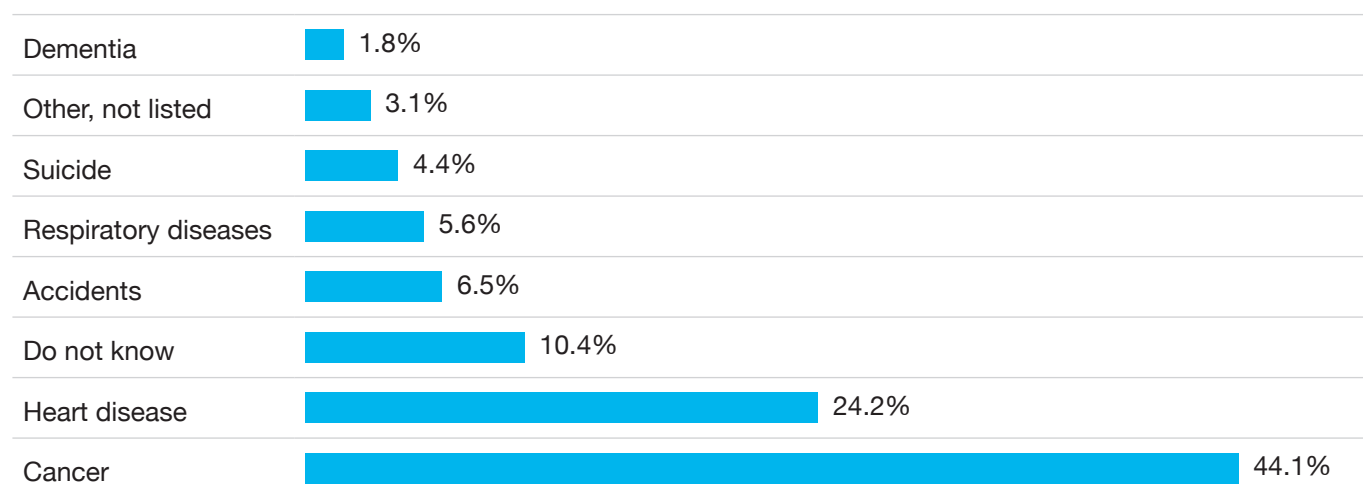
This awareness was consistently low across all countries, with Spain recording the lowest in awareness where only 19% consider heart disease as the most common cause of death in Europe.

The older the respondents were, the more they recognised that CVD contributes to the most deaths in Europe, with 34% of those aged 55+ being aware of its seriousness, compared with just 13% of 18–24-year-olds. The survey results clearly highlight a distinct lack of awareness regarding the seriousness of CVD, which may underpin the apathy towards lifestyle interventions and seeking medical treatment.

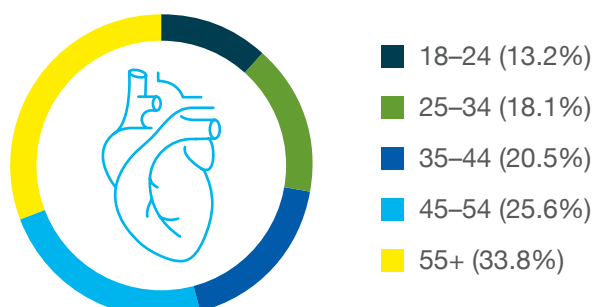
A greater understanding of CVD as a significant health condition, responsible for the most deaths in Europe, is needed to help prompt earlier lifestyle interventions and ensure early diagnosis and appropriate treatment.²

200 adults aged 18–34, and 800 adults aged 35+ from each country were asked four questions to understand their awareness and understanding about heart disease (questions 1–4). The remaining questions were asked to 1000 adults aged 35+.

Which health conditions, if any, do you think contributes to the most deaths in Europe?



Percentage of respondents who answered 'heart disease' by age group (years)



*CVD was referred to as heart disease in questions to the public.

Concerns about health conditions in later life

Although one-third of respondents in the older age bracket, aged 55+ years, recognised that CVD is a serious health condition that contributes to the highest number of deaths in Europe, **people across all ages were more concerned about cancer and dementia as they age than heart disease.**

In fact, over twice as many respondents were concerned about dementia, and nearly three times as many were concerned about cancer, compared with heart disease. This is despite CVD being responsible for >10,000 deaths each day in Europe.² Concern varied across countries, with respondents from the UK and the Netherlands being most concerned about dementia, whereas for those in Italy, Spain and Germany, being diagnosed with cancer as they age caused the most worry.

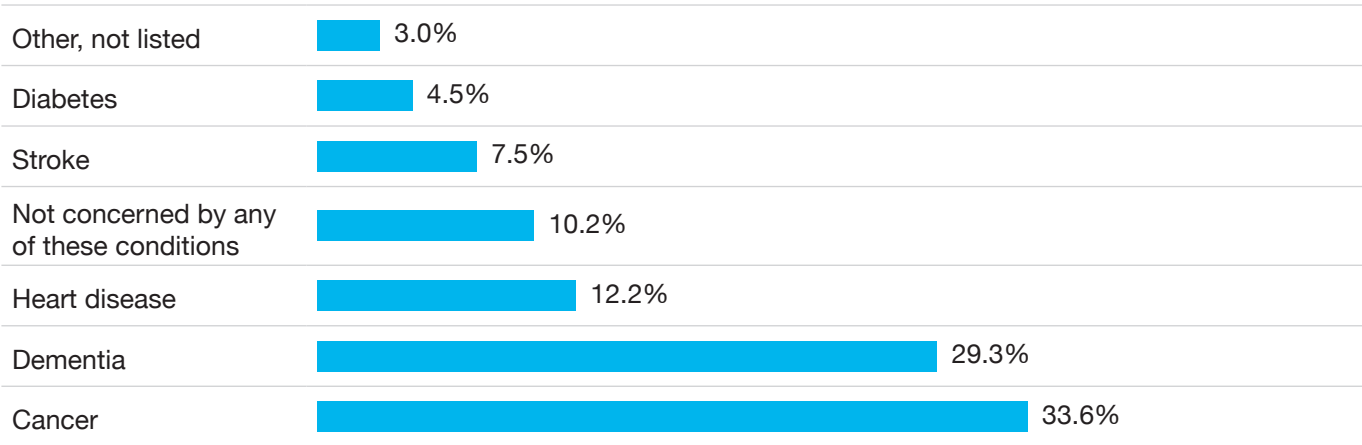
In Spain, 15% of respondents said they were most concerned about heart disease, the highest of the five countries surveyed. In Italy, this was only 11%, the lowest of the five countries.

Marginally more men were most concerned about heart disease as they age (14%), compared with 11% of women. This is reflective of men historically being considered to be at higher risk of coronary heart disease (CHD) than women. Women, in contrast, are at a higher risk of stroke, as they advance in age.⁶






Surprisingly, a higher proportion of 18–24-year-olds were most concerned about heart disease than other health conditions as they age, compared with those aged 55+ (16% vs 10%, respectively). Dementia prompted the greatest concern for those aged 55+, with over 40% citing this as the health condition they are most worried about. This could indicate an encouraging awareness amongst the younger population of the importance of positive lifestyle interventions to help improve heart health.

Approximately 80% of people with heart and circulatory disease have at least one other health condition,⁷ with diabetes and cancer being the most prevalent CVD comorbidities.⁸ Improving awareness of lifestyle interventions to prevent CVD may also help reduce the risk of these comorbidities.

Which health conditions are you most concerned about as you get older?



Health conditions most concerned about by country

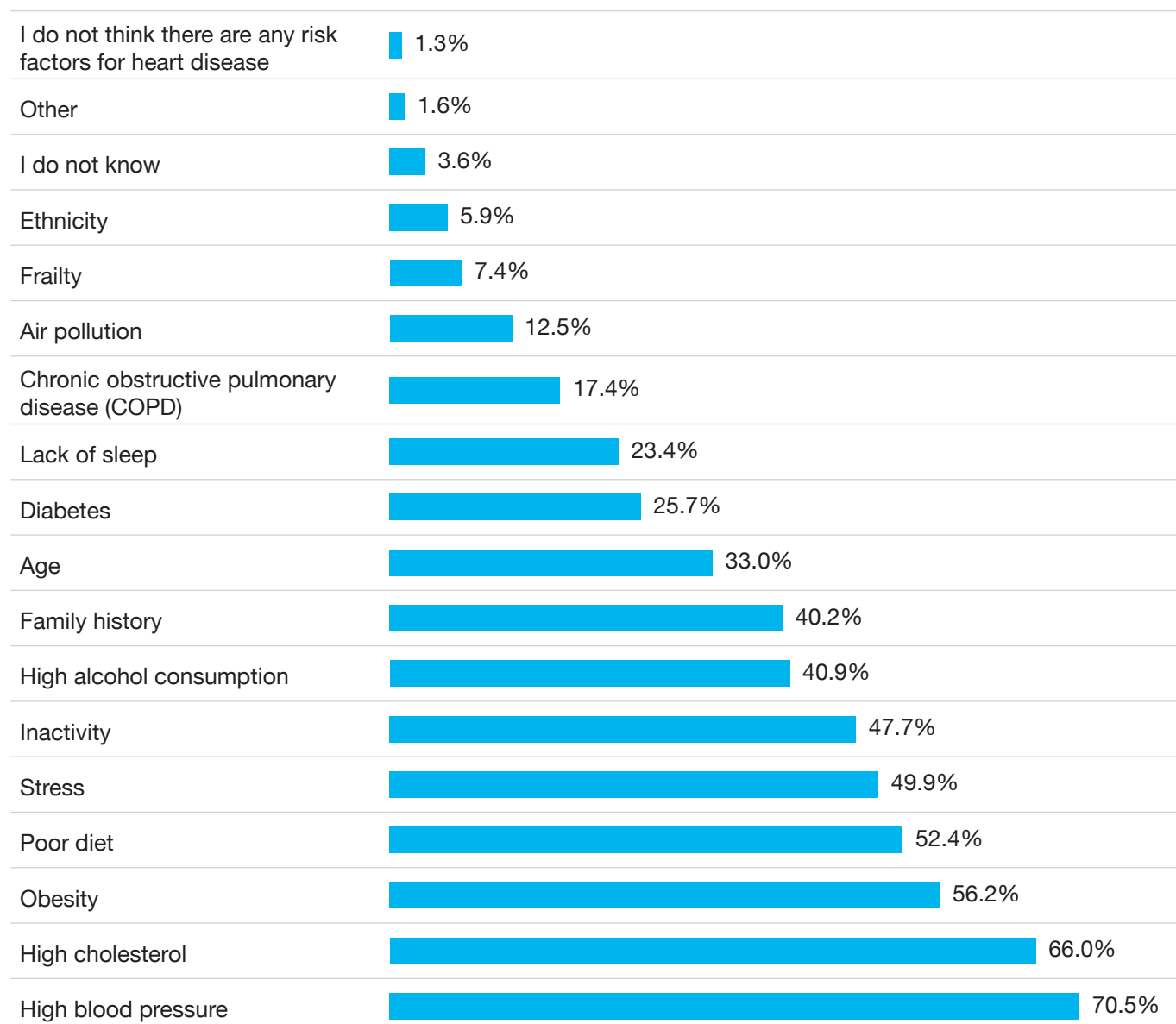
	 UK	 Germany	 Spain	 Italy	 Netherlands
Other, not listed	1.9%	3.1%	3.1%	3.0%	2.4%
Diabetes	4.9%	3.4%	5.1%	5.8%	3.2%
Stroke	7.2%	10.7%	2.5%	10.6%	6.7%
Not concerned by any of these conditions	9.1%	10.5%	7.0%	8.8%	15.8%
Heart disease	11.5%	12.3%	14.8%	11.0%	11.5%
Dementia	35.4%	29.3%	31.2%	18.7%	31.9%
Cancer	30.1%	30.6%	36.3%	42.1%	28.5%

Awareness of risk factors

According to the World Health Organization, **80% of premature heart disease and stroke is preventable.**⁹

The most important behavioural risk factors of heart disease and stroke are an unhealthy diet, physical inactivity, smoking and harmful use of alcohol. The effects of these risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and obesity.¹⁰ The increasing prevalence of obesity and diabetes in recent decades, together with poor activity levels – with inactivity more common among women than men – are also likely contributors to the incidence of CVD.⁹

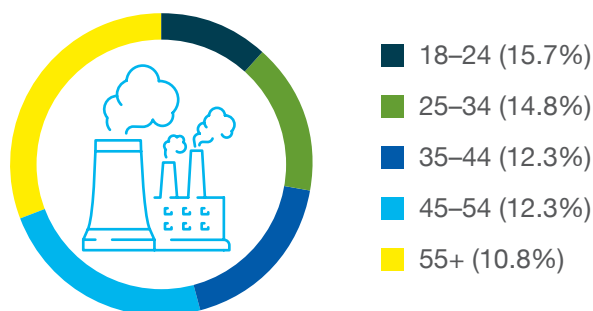
What, if anything, do you consider to be a risk factor for heart disease?



According to the survey, most respondents considered high blood pressure and high cholesterol to be risk factors for heart disease. However, almost one-third did not recognise these to be the most common risk factors.

The older age group of those surveyed were more aware of all the risk factors for heart disease. However, over half as many of the younger age group recognised air pollution as a risk factor compared with those aged 55+.

Percentage of those who recognised 'air pollution' as a risk factor by age group



Interestingly, respondents from different countries demonstrated significantly differing levels of awareness of risk factors. A quarter fewer German respondents recognised high cholesterol to be a risk factor compared with respondents from Spain and the UK.

Percentage of those who recognised high blood pressure and high cholesterol as a risk factor by country

	UK	Germany	Spain	Italy	Netherlands
High blood pressure	74.7%	71.4%	63.0%	69.3%	74.1%
High cholesterol	74.5%	49.1%	74.0%	66.7%	65.7%

In the Netherlands, age had a considerable impact on awareness, particularly for high cholesterol. Only 36% of 18–34-year-olds recognised high cholesterol as a risk factor, compared with over twice as many of those aged 55+ (75%). Less than a third (30%) of Italian respondents considered high alcohol consumption to be a risk factor, compared with 50% of those from the UK.

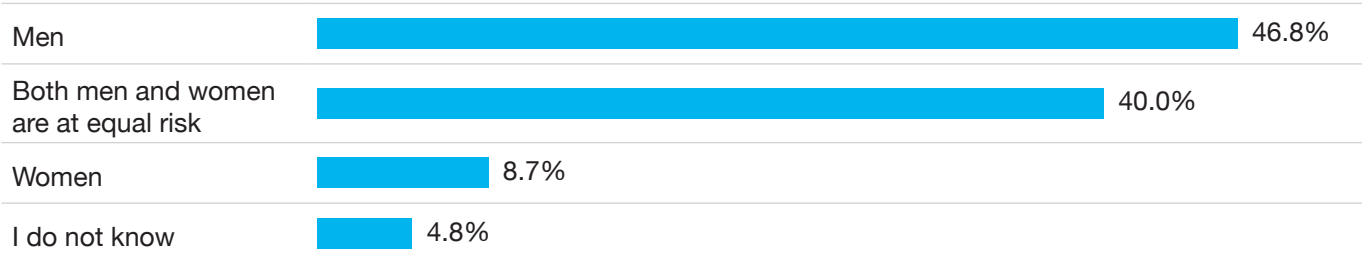
Population-wide education of all the main risk factors that contribute to the risk of CVD may help promote prevention and reduce the incidence.

CVD risk in men and women

Almost twice as many years are lost in men compared with women due to CVD ill-health, disability, or early death, with **5925 years vs 3219 years per 100,000 people, respectively.**¹¹

However, although the incidence of CVD in women is usually lower than in men, women have a higher mortality and poorer prognosis following acute cardiovascular events. These gender differences occur mainly in coronary heart disease, stroke, heart failure and aortic diseases. Consideration of gender differences can help with risk assessment and management strategies.¹²

Who do you think is most at risk of developing heart disease?

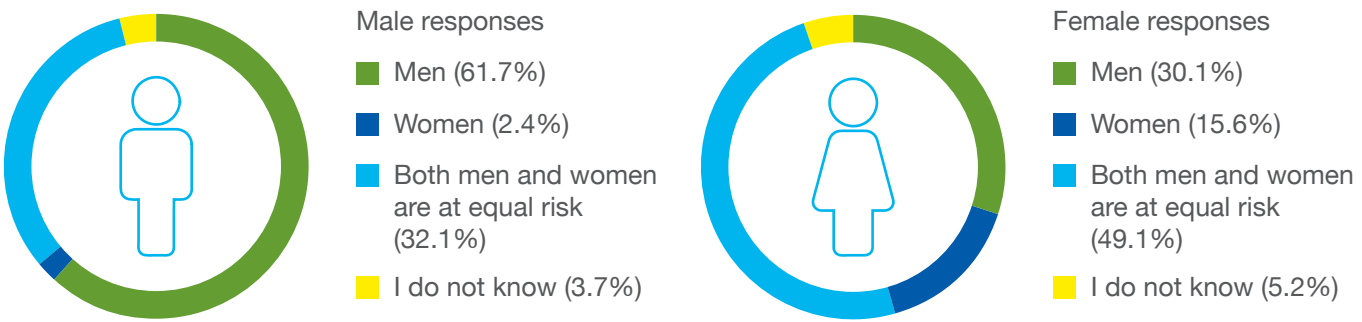


Overall, nearly half (46%) of all respondents surveyed believed that men are more at risk of developing heart disease than women, while 40% believed that both men and women are at equal risk of developing heart disease. Less than 10% (8.7%) of total respondents believed that women are more at risk. In addition, 62% of men believed men are more at risk whereas only 16% of women believed women are more at risk.

A recent study found that work stress, sleep disorders and fatigue, which are regarded as non-traditional factors for heart attack and stroke, are rising more steeply in women than in men.⁵

Interestingly, a higher proportion of 18–34-year-olds (14%) believed that women are more at risk. This may coincide with an increase in non-traditional risk factors affecting women.

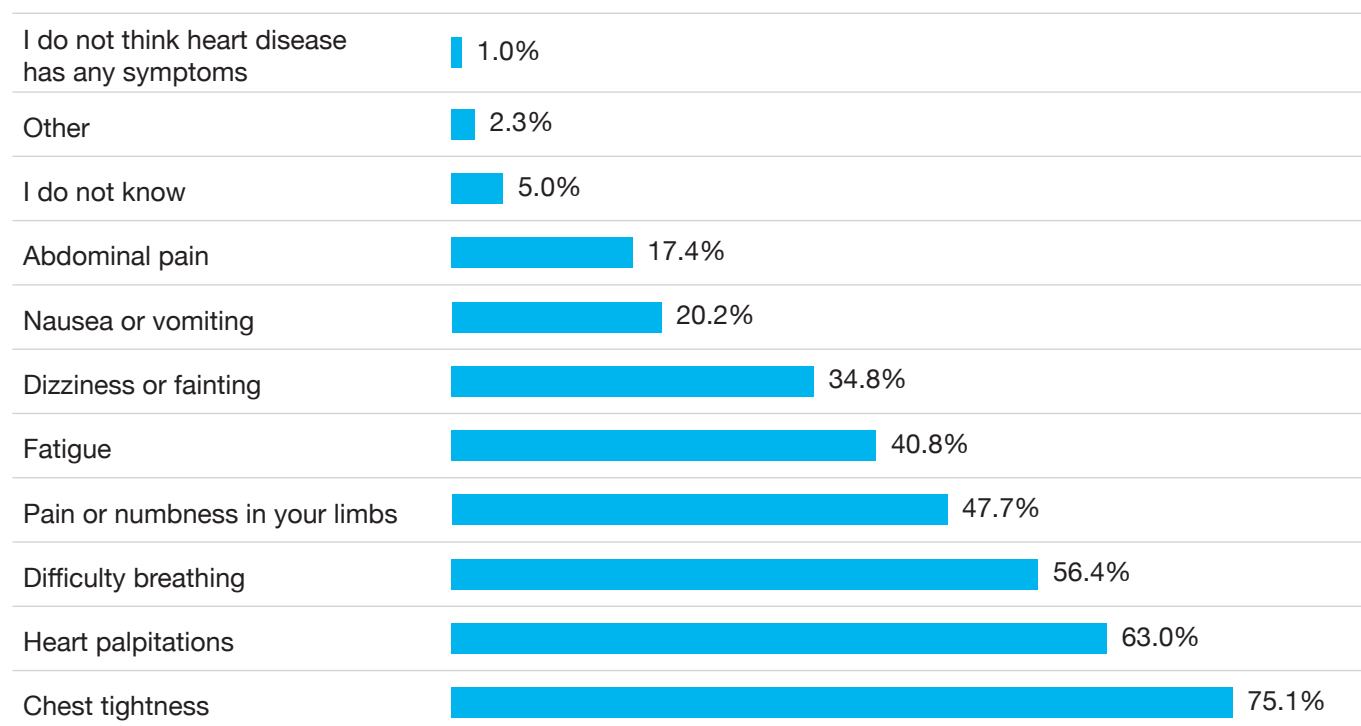
Responses by gender



Awareness of symptoms

Greater awareness of the most common symptoms of CVD can enable people to act more proactively and seek earlier medical intervention. In terms of heart failure, **80%** of patients are currently diagnosed in hospital, despite **40%** of patients having experienced symptoms that should have triggered an earlier assessment.¹³

What, if anything, would you consider to be symptoms of heart disease?








According to the survey, those aged 55+ were more aware of potential symptoms of heart disease compared with younger age groups.

The symptom recognised most was chest tightness, with 75% of respondents selecting this as a symptom of heart disease.

However, respondents from Italy were far less aware of chest tightness being a symptom than respondents from Germany, Spain and the Netherlands.

Only three out of the eight main symptoms were recognised by over half of respondents. Unsurprisingly, less common symptoms, such as pain or numbness in limbs, which could be mistaken as muscular injury, were not recognised as a symptom of heart disease by over half of respondents (52.3%). Greater awareness of all symptoms is essential for earlier diagnosis and a more positive prognosis.

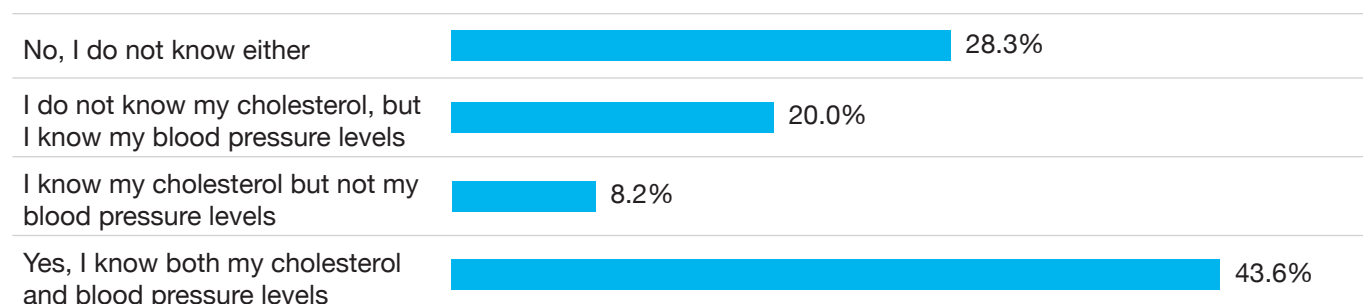
Responses by country

	 UK	 Germany	 Spain	 Italy	 Netherlands
Chest tightness	78.0%	82.3%	81.8%	51.0%	82.8%
Heart palpitations	66.3%	68.1%	58.5%	55.5%	66.7%
Difficulty breathing	65.7%	59.6%	60.2%	47.7%	48.8%
Pain or numbness in your limbs	55.3%	42.7%	49.9%	42.0%	48.6%
Fatigue	40.0%	24.8%	48.4%	49.9%	41.0%
Dizziness or fainting	45.0%	39.6%	34.6%	16.7%	38.6%
Nausea or vomiting	20.4%	23.5%	18.2%	17.2%	21.8%
Abdominal pain	16.8%	13.5%	17.9%	29.7%	9.0%
I do not know	7.2%	3.4%	2.0%	7.5%	4.8%
Other	1.6%	2.7%	1.7%	1.9%	3.5%
I do not think heart disease has any symptoms	1.5%	1.1%	0.8%	0.8%	0.9%

Awareness of high cholesterol and high blood pressure as risk factors

Dyslipidaemias, particularly elevated plasma levels of low-density lipoprotein (LDL)-cholesterol, are one of the major risk factors for ischaemic heart disease and ischaemic stroke.¹⁴ Hypertension, or high blood pressure, is quantitatively the most important modifiable risk factor for premature CVD and is more common than the other major risk factors of smoking, dyslipidaemia and diabetes.¹⁵

Are you aware of what your cholesterol and blood pressure levels are?








Despite the link with CVD, awareness of high cholesterol and high blood pressure as risk factors, and the impact they have on heart health, is alarmingly low.

Over half of all respondents did not know both their blood pressure or cholesterol levels, and 28% did not know either their cholesterol or blood pressure levels.

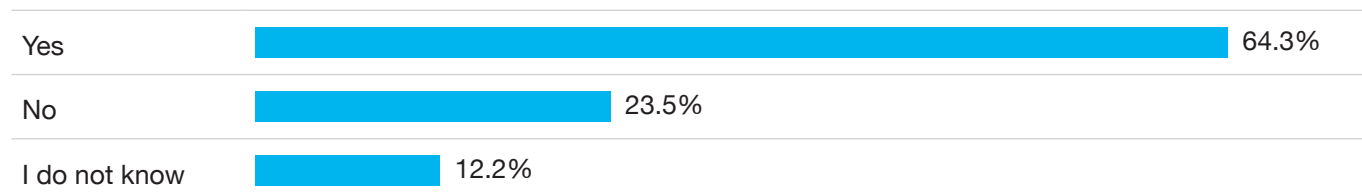
Knowledge varies between countries, 41% of respondents from the Netherlands and 38% from the UK did not know either their blood pressure or cholesterol levels, compared with 16% in Spain.

In the UK, it is estimated that 6–8 million people (8.93–11.9% of the population) are living with undiagnosed or uncontrolled high blood pressure.⁷ However, according to the survey data, 44% of UK respondents do not know their blood pressure levels.

Responses by country

	 UK	 Germany	 Spain	 Italy	 Netherlands
Yes, I know both my cholesterol and blood pressure levels	28.9%	38.6%	60.3%	56.4%	33.4%
I know my cholesterol but not my blood pressure levels	5.8%	6.8%	12.4%	10.3%	5.4%
I do not know my cholesterol, but I know my blood pressure levels	27.0%	26.1%	11.1%	15.6%	20.2%
No, I do not know either	38.3%	28.6%	16.2%	17.7%	41.0%

Do you know how high cholesterol affects your heart health?








In terms of understanding the impact of cholesterol, just 35% of total respondents did not know that high cholesterol affects their heart health.

In Spain (80%) and Italy (73%), a considerably higher proportion of people know that high cholesterol affects heart health compared with those in the UK (53%) and Germany (48%). Germany was the only country of the five surveyed where more people do not understand the impact of high cholesterol on heart health than those who do understand it (52% vs 48%).

Increasing awareness of these risk factors is vital to reduce the incidence of CVD. Regular blood pressure and cholesterol check-ups and monitoring will help ensure earlier diagnosis and better patient outcomes.

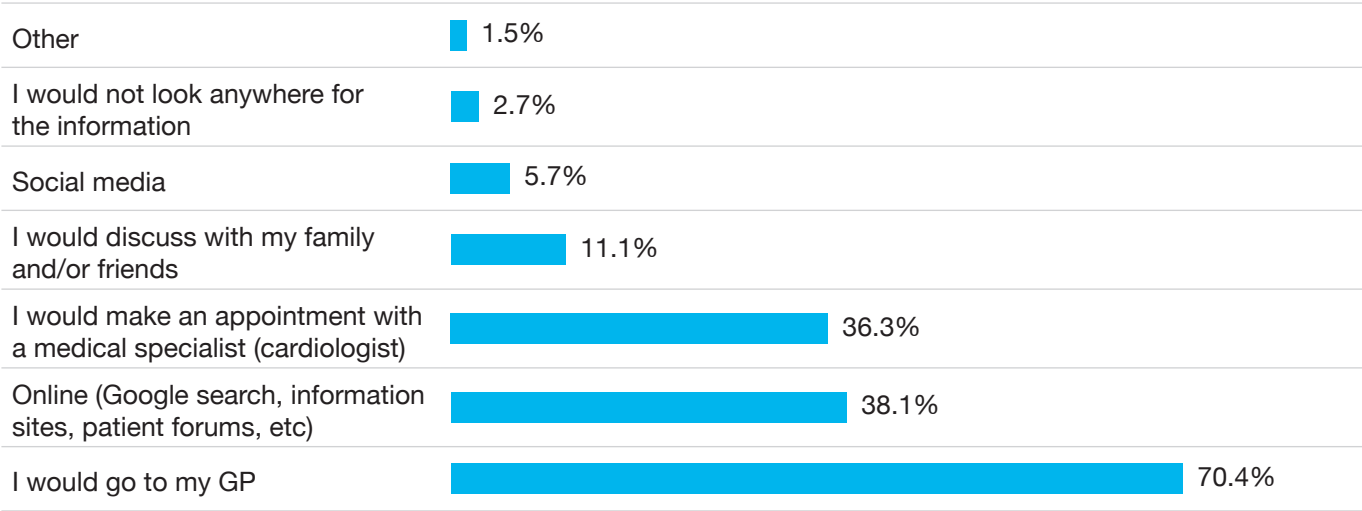
Responses by country

	 UK	 Germany	 Spain	 Italy	 Netherlands
Yes	52.8%	48.0%	79.7%	72.8%	68.1%
No	35.2%	36.2%	12.2%	13.6%	20.3%
I do not know	12.0%	15.9%	8.1%	13.5%	11.6%

Seeking medical advice

Understanding where people seek advice relating to their cardiovascular health, and what prompts them to make an appointment with an HCP, can help inform public health awareness strategies.

Where, if anywhere, would you go for information if you needed advice on heart disease?



The majority of respondents (70%) would go directly to a general practitioner (GP) if they needed information on heart disease. Nearly half as many would look for information on heart disease online or also make an appointment directly with a medical specialist (38% vs 36%, respectively).

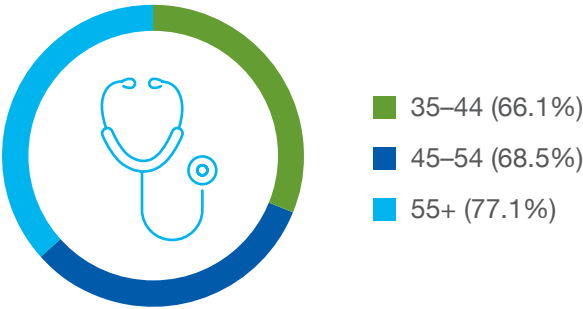
Although healthcare systems vary across the countries included in the survey, there is notable variances between countries with regard to where people seek information. For example, 47% of German respondents would look online for information on heart disease, compared with only 16% of Italians. Booking an appointment directly with a medical specialist is far more popular in Italy, with over half of the respondents seeking advice this way (54%), compared with the UK,

where only 16% seek an appointment directly with a specialist. This reflects the disparity in ease of access to specialists across the countries surveyed.

A larger proportion of the older age group chose to go directly to a doctor than the 35–44-year-olds (77% vs 66%). This could be due to more 35–44-year-olds looking online, with 41% saying they would look on Google, information sites or patient forums, and 9% saying they would look on social media for information on heart disease.

Clearer direction to relevant information, based on age and country-specific preferences, is needed to improve awareness of symptoms and help prompt earlier diagnosis.

Percentage of those who answered 'I would go directly to my GP' by age

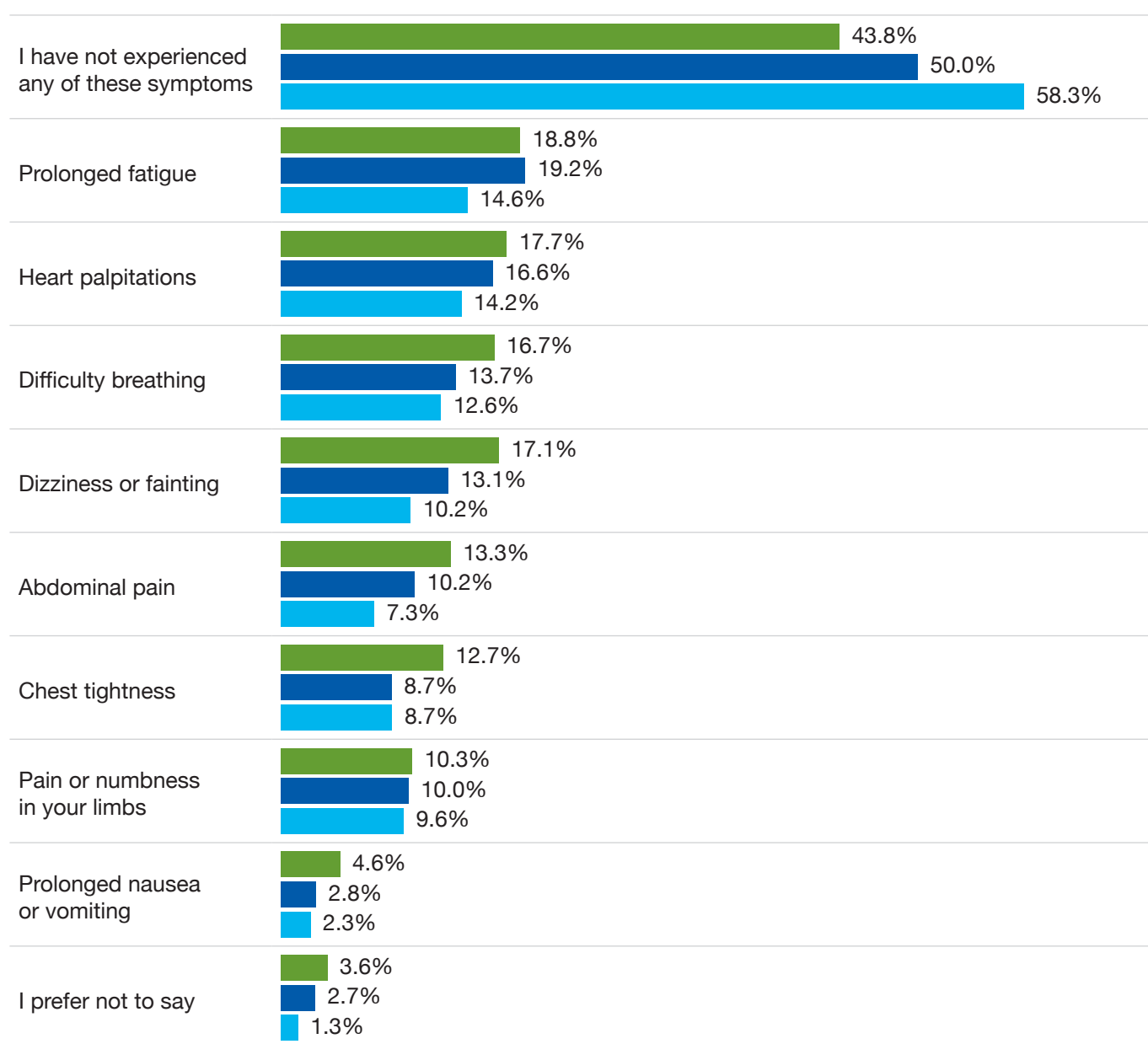


Experience of CVD

Nearly 13 million new cases of CVD were diagnosed in the European Union in 2020.¹

It is vital that cases are diagnosed early to provide the best opportunity for earlier intervention to improve patient outcomes. To this end, questions were asked to assess what prompts people to seek medical advice and change their lifestyle habits to reduce the risk of developing CVD.

In the past year, have you experienced one or more of the following symptoms?



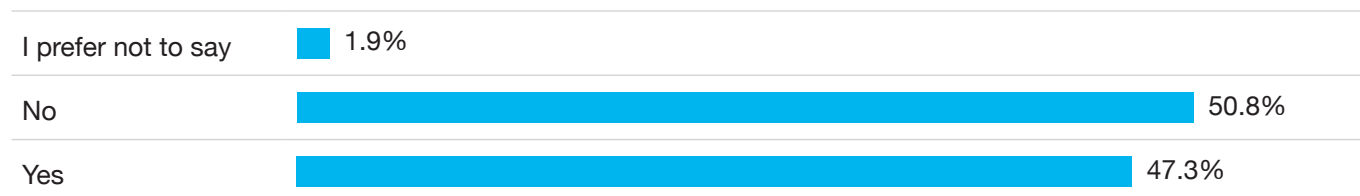
Age ■ 35-44 ■ 45-54 ■ 55+

As many as half of all respondents claimed to have experienced at least one symptom of heart disease in the past year. Interestingly, more 35–44-year-olds experienced symptoms than those aged 55+ (56% vs 42%, respectively).

Prolonged fatigue was the most commonly experienced symptom across all age groups, with heart palpitations, dizziness or fainting and difficulty breathing experienced by more than 10% of all respondents. It is important to note that some of these symptoms, particularly fatigue, are unspecific and frequent in stressful modern life.

However, less than half of those who had experienced at least one symptom that could be related to CVD in the past year sought medical advice.

Did you make an appointment with a healthcare professional to seek advice after experiencing your symptom(s)?



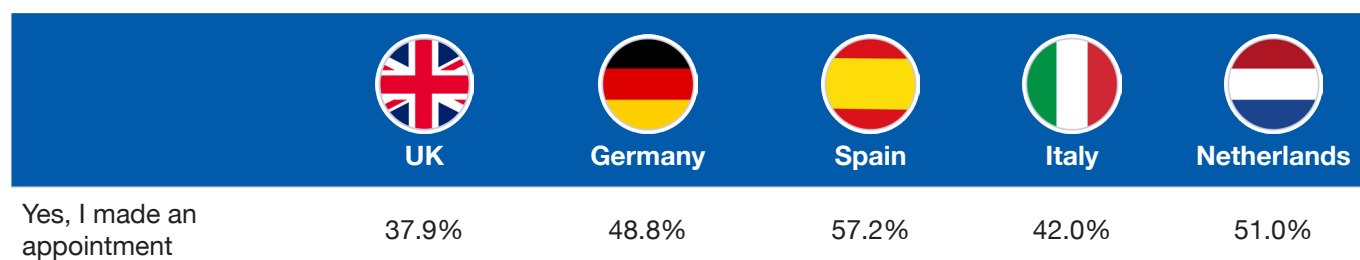
*35+ year olds who have experienced one or more symptom in the past year.

In the UK, patients were least likely to have seen an HCP after experiencing a symptom of CVD with just 38% making an appointment. Respondents in Spain were most likely to make an appointment, with 57% saying that they had.

Public health education on the implications of delayed or lack of action will help ensure patients are diagnosed sooner.

These results overall display a reluctance and hesitancy to seek advice from an HCP. In addition to this apathy towards seeking advice, the COVID-19 pandemic has delayed CVD diagnosis due to lack of healthcare resources.¹⁶

Percentage of those who answered 'Yes, I made an appointment' by country

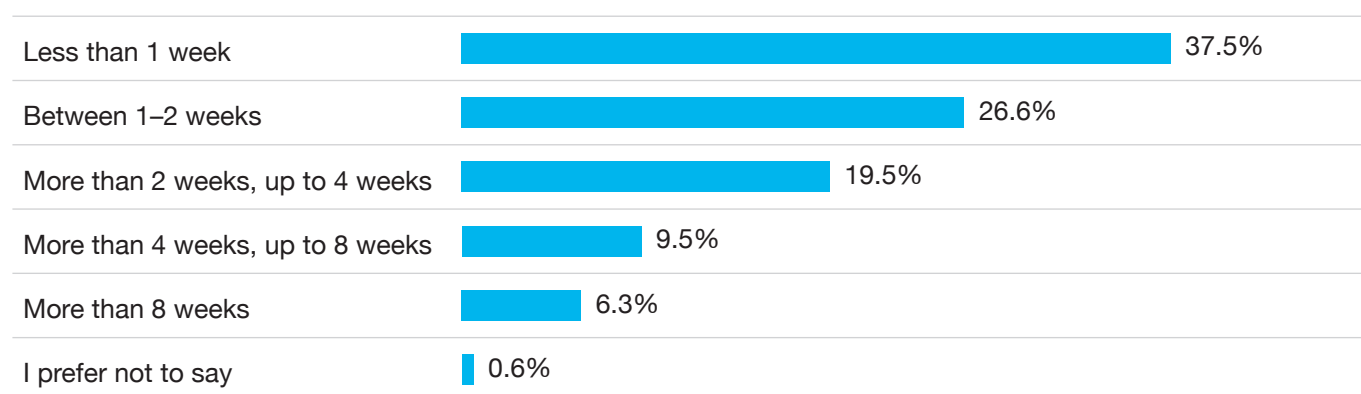


Taking action

Most of the respondents did not react quickly to seek medical advice after experiencing a common symptom of CVD, with **more than 60%** waiting more than a week.

Respondents aged 55+ were more likely to take immediate action; 44% of those aged 55+ said they made an appointment in under a week.

How long did you wait until you decided to book an appointment with a healthcare professional?*








*Respondents who made an appointment with a healthcare professional to seek advice after experiencing their symptom(s).

Of all respondents who made an appointment with a GP, 16% decided to wait more than 4 weeks after experiencing their symptom(s) before acting. The Dutch respondents were most likely to take longer to make an appointment, with almost one-quarter (24%) waiting over 4 weeks before making an appointment with an HCP.

Of the five countries surveyed, Spain had the lowest number of patients waiting over 4 weeks (12%).

Responses by country

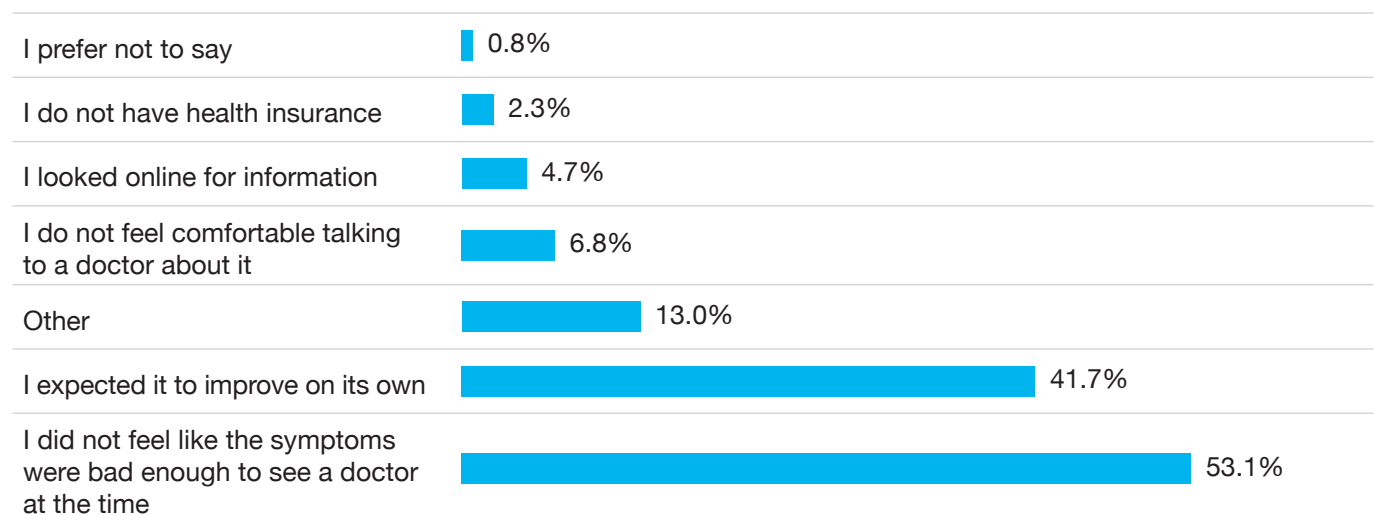
	 UK	 Germany	 Spain	 Italy	 Netherlands
Average time waited before making an appointment	2.3 weeks	2.2 weeks	2.0 weeks	2.2 weeks	2.8 weeks
Percentage of patients who waited more than 4 weeks before making an appointment with a healthcare professional	14.7%	15.3%	11.7%	13.2%	24.5%

Taking symptoms seriously

The most common reason for not seeking advice or making an appointment with an HCP was due to the respondents thinking their symptoms were **not serious enough to justify seeking medical advice.**

Over half of them (53%) stated this as a reason. Even more concerning is that the most at-risk group surveyed, those aged 55+, recorded the highest percentage (57%) for those who didn't regard their symptoms as justifying medical advice.

What was the reason for not seeking advice from or making an appointment with a healthcare professional?*



*Respondents who did not make an appointment with a healthcare professional to seek advice after experiencing their symptom(s).

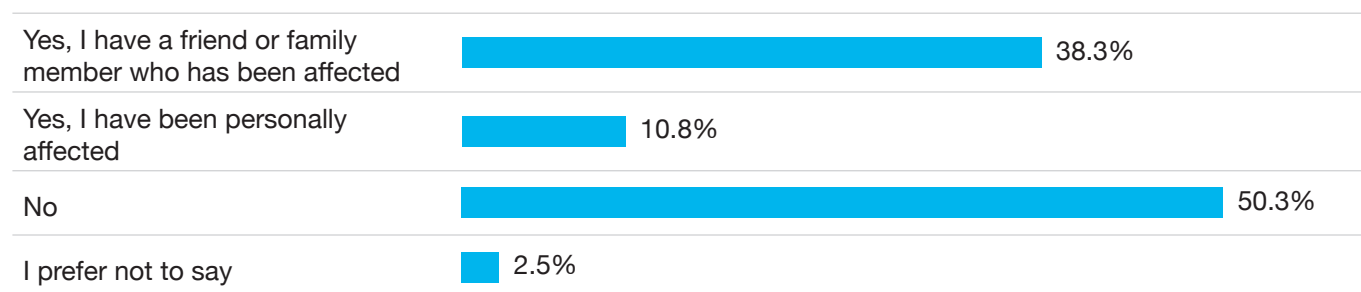
The survey revealed 42% of respondents did not seek medical care as they expected symptoms to improve on their own. This was more common in men than in women (45% vs 39%, respectively).

This hesitancy and apathetic response to seeking medical advice and treatment for CVD symptoms is likely to be a cause of late diagnoses.

Willingness for behaviour change

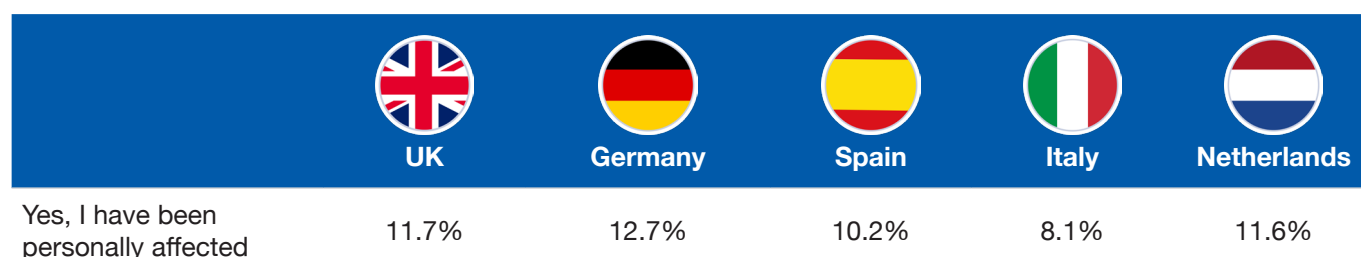
With such a high incidence, many people are personally affected by CVD. As many as **10% of the 6000 respondents had been personally affected by heart disease**, and 38% had either a family or friend who had been diagnosed with a heart disease.

Have you been affected by, or do you know of a friend or family member who has been diagnosed with a heart disease?



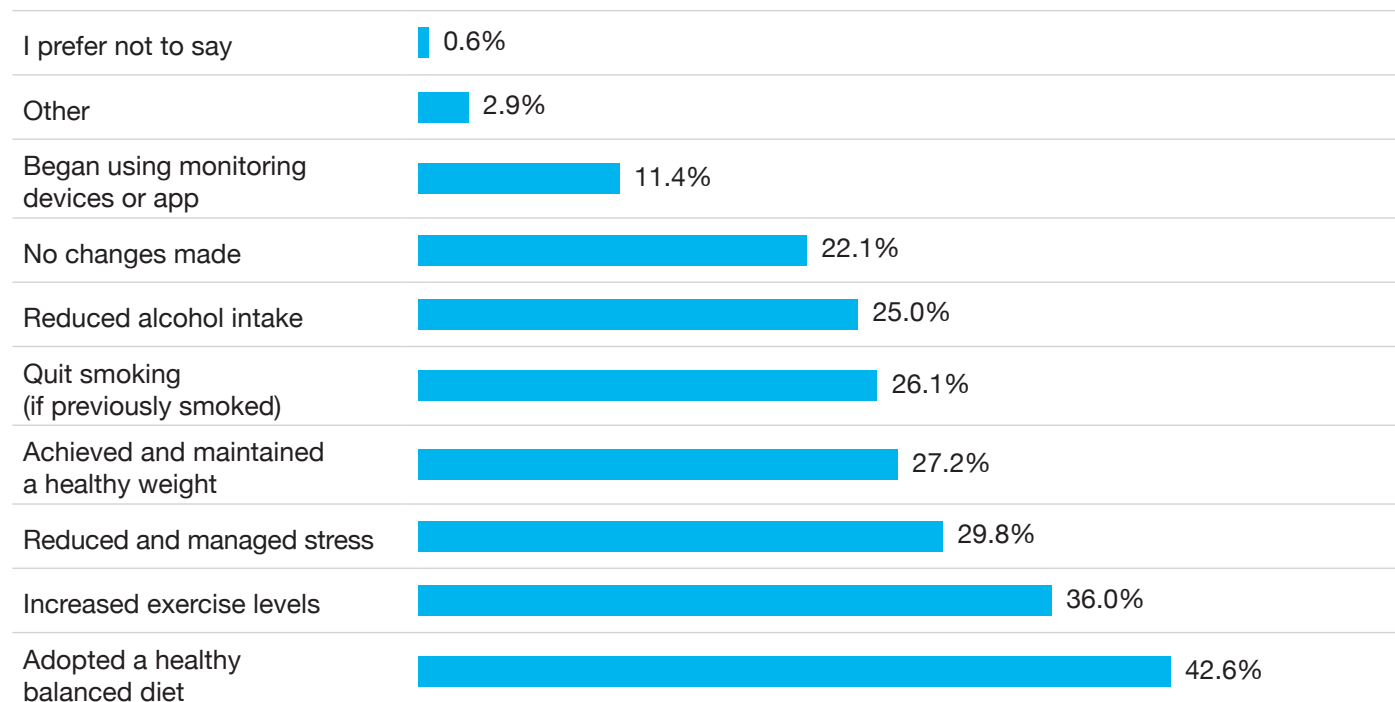
Of all the respondents surveyed, more men (13%) had been diagnosed with a heart disease than women (9%). Of those aged 55+, 14% had been personally affected, compared with 9% of 35–44-year-olds. In Italy, only 8% of respondents had been personally affected with a heart disease, the lowest of the five countries surveyed. This percentage was highest in Germany (13%).

Percentage of those who answered 'Yes, I have been personally affected' by country



Adopting healthier habits

After discovering that you or a friend or family member had been diagnosed with heart disease, which lifestyle habit changes, if any, did you make as a result?*



*Respondents who have been affected by or know of a friend or family member who has been diagnosed with a heart disease.

The survey revealed that having heart disease or knowing a friend or family member with heart disease proved to be a decisive driver for making positive lifestyle changes. As many as 43% adopted a healthier diet as a result of such an exposure and emotional connection.

This was most prevalent amongst the Italian respondents, with 60% revealing that they adopted a healthy balanced diet, the highest of any of the five countries surveyed.

In addition, 36% said they increased their exercise levels, and approximately one-quarter said they had reduced stress levels, achieved a healthy weight, quit smoking and reduced their alcohol intake as a result of being affected by CVD. Additionally, 11% of the respondents, claimed to have begun using a monitoring device or app, with Spanish respondents (14%) being the most likely to use preventative digital solutions.





Over two-thirds of those aged 55+ made lifestyle changes that may help reduce their risk of heart disease. The younger age group seemed to be even more motivated and willing to make positive changes and adopt a healthier lifestyle to help protect themselves from heart disease, with 82% revealing that they would make such changes.

Disease awareness initiatives should consider the breadth of emotional connection with CVD among the public to help prompt positive health behaviours.

Appetite for preventative digital solutions

Digital health solutions have become increasingly prevalent over the past few years. Within the field of CVD, we are witnessing a shift towards a more digital approach by HCPs, with one study concluding that **87% of primary care physicians would recommend the use of a digital health strategy** in the management of CVD risk factors.¹⁷

Would you consider or have you previously used any of the following to help achieve a healthier lifestyle and/or heart health?

	 Smartphone or online app	 Wearable devices, such as a smart watch or fitness device	 Online support programme	 Text messaging programme
I have used or currently using	26.2%	26.3%	6.6%	6.9%
I have not used it, but I would consider using	28.1%	29.2%	30.7%	23.2%
I have not used it, and I would not consider using	18.3%	19.9%	28.2%	36.8%
I would only use this if a healthcare professional recommended it to me	24.0%	21.1%	30.3%	28.5%
I prefer not to say	3.4%	3.4%	4.2%	4.7%

The majority of survey respondents said that they would be willing to use a digital device, including a smartphone, online app or wearable device. Furthermore, 30% revealed that although they haven't used such a device, they would consider using them in the future. **A quarter of all respondents have used or are currently using a digital device**, but those aged 55+ were more reticent, with one-quarter saying they would not consider using a smartphone, online app or wearable device.





Text messaging programmes were the least popular method to help support a healthier lifestyle and/or better heart health, with only 7% of all respondents having reported using or having used this method and

37% responding that they would not consider trying a text messaging programme. This was more marked in the Netherlands, where almost half of all respondents (47%) said they would not consider using a text messaging service to achieve a healthier lifestyle and/or heart health.

Spain reported the highest average percentage (22%) of respondents to have used or be currently using a digital method to help achieve a healthier lifestyle and/or heart health. By contrast, Italy reported the lowest average percentage of respondents (12%) to have used or be currently using a digital method to help achieve a healthier lifestyle and/or heart health.

Appetite for preventative digital solutions

Despite this disparity, a high percentage of respondents in Italy have expressed that they would consider using a digital solution (31%) to help reduce their risk of CVD. Recommendation from an HCP is a key motivator in approximately one-third of respondents, with results revealing that these respondents would consider using a text messaging or online support programme if their doctor suggested it.

		 Smartphone or online app	 Wearable devices, such as a smart watch or fitness device	 Online support programme	 Text messaging programme
Age: 35-44	I have used or currently using	31.8%	32.1%	8.5%	9.5%
	I have not used it, but I would consider using	29.7%	31.1%	33.3%	24.1%
	I have not used it, and I would not consider using	15.1%	16.2%	27.1%	35.6%
	I would only use this if a healthcare professional recommended it to me	19.5%	16.8%	26.7%	25.9%
	I prefer not to say	4.0%	3.8%	4.4%	4.9%
Age: 45-54	I have used or currently using	27.4%	27.8%	6.2%	6.6%
	I have not used it, but I would consider using	30.3%	31.1%	32.6%	25.3%
	I have not used it, and I would not consider using	17.1%	18.0%	27.2%	36.1%
	I would only use this if a healthcare professional recommended it to me	21.8%	19.7%	29.8%	27.3%
	I prefer not to say	3.5%	3.4%	4.3%	4.7%
Age: 55+	I have used or currently using	18.7%	18.1%	4.6%	4.0%
	I have not used it, but I would consider using	24.3%	25.2%	25.9%	20.1%
	I have not used it, and I would not consider using	23.1%	26.1%	30.4%	38.9%
	I would only use this if a healthcare professional recommended it to me	31.2%	27.6%	35.1%	32.6%
	I prefer not to say	2.7%	3.0%	4.0%	4.3%

Calls to action summary

This survey highlights a critical need to increase public awareness and understanding of risk factors and the importance of early diagnosis. Much remains to be done to help reduce the incidence of CVD so more people can live their life to the fullest.

This report puts the spotlight on the following priorities:



- Increase understanding of CVD as the leading cause of death in Europe
- Population-wide education of all the main risk factors that contribute to the risk of developing CVD as well as common symptoms
- Sign-posting to relevant information, based on age and country-specific preferences, is needed to improve awareness of symptoms



- Public health education regarding the implications of delayed, or lack of, action to help ensure patients are diagnosed sooner, optimising their treatment success
- Disease awareness initiatives should consider the breadth of emotional connection with CVD among the public to help prompt positive health behaviours.
- Recommendation from an HCP is a key motivator for patients to use digital solutions to help prevent CVD and prompt early diagnosis



- Improving awareness of possible lifestyle interventions to prevent CVD
- Greater consideration of gender differences in CVD could help with risk assessment and management strategies

References:

1. ESC & EHN Fighting cardiovascular disease – a blueprint for EU action. June 2020. Available at: www.escardio.org/static-file/Escardio/Advocacy/Documents/2020%20ESC-EHN-blueprint_digital%20edition.pdf. (Accessed: January 2022).
2. Mach F, *et al.* 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduced cardiovascular disease. *Eur Heart J.* 2020;(411):111–188. Available at: <https://pubmed.ncbi.nlm.nih.gov/31504418/>. (Accessed: January 2022).
3. OECD/The King's Fund (2020). Is Cardiovascular Disease Slowing Improvements in Life Expectancy?: OECD and The King's Fund Workshop Proceedings, OECD Publishing, Paris. Available at: www.oecd.org/health/is-cardiovascular-disease-slowng-improvements-in-life-expectancy-47a04a11-en.htm. (Accessed: January 2022).
4. Cardiovascular Disease in Europe. A Call to Action 2019-2024. MedTech Europe. Available at: www.medtecheurope.org/wp-content/uploads/2019/10/MedTech-Europe-Cardiovascular-Disease-in-Europe-Call-to-Action-August2020.pdf. (Accessed: November 2021).
5. Wegener S, *et al.* 10-year trends in cardiovascular risk factors in Switzerland: non-traditional risk factors are on the rise. Study presented at the European Stroke Organisation Conference, 1 September 2021. Available at: <https://2021.eso-conference.org/wp-content/uploads/sites/118/2021/09/ESOC-2021-Press-Release-Risk-Factors.pdf>. (Accessed: February 2022).
6. Bots SH, *et al.* Sex differences in coronary heart disease and stroke mortality: a global assessment of the effect of ageing between 1980 and 2010. *BMJ Global Health.* 2017;2(2):e000298. Available at: <https://gh.bmj.com/content/2/2/e000298.citation-tools>. (Accessed: December 2021).
7. British Heart Foundation. UK factsheet 2021. Available at: <https://www.bhf.org.uk/what-we-do/our-research/heart-statistics>. (Accessed: December 2021).
8. Buddeke J, *et al.* Comorbidity in patients with cardiovascular disease in primary care: a cohort study with routine healthcare data. *Br J Gen Pract.* 2019;69(683):e398–e406. doi: 10.3399/bjgp19X702725. Epub 2019 May 7. Available at: <https://pubmed.ncbi.nlm.nih.gov/31064742/>. (Accessed: December 2021).
9. WHO Europe Cardiovascular Diseases statistics. Available at: <https://www.euro.who.int/en/health-topics/noncommunicable-diseases/cardiovascular-diseases/data-and-statistics>. (Accessed: December 2021).
10. WHO Fact sheets. Cardiovascular diseases (CVDs). Available at: [www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](http://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)). (Accessed: January 2022).
11. ESC Cardiovascular Disease Statistics 2019. *Eur Heart J.* doi:10.1093/eurheartj/ehz859. Available at: <https://www.escardio.org/The-ESC/Press-Office/Press-releases/Middle-income-countries-are-hardest-hit-by-cardiovascular-disease-in-Europe>. (Accessed: January 2022).
12. Gao Z, *et al.* Gender differences in cardiovascular disease. *Medicine in Novel Technology and Devices.* 4 Dec 2019. Available at: <https://doi.org/10.1016/j.medntd.2019.100025>. (Accessed: December 2021).
13. Bottle A, *et al.* Routes to diagnosis of heart failure: observational study using linked data in England. *Heart.* 2018; 104(7):600–605. Available at: <https://doi.org/10.1136/heartjnl-2017-312183>. (Accessed: January 2022).
14. Pirillo A, *et al.* Global epidemiology of dyslipidaemias. *Nat Rev Cardiol.* 2021;18(10):689–700. Available at: <https://pubmed.ncbi.nlm.nih.gov/33833450/>. (Accessed: January 2022).
15. GBD 2017 Risk Factor Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet.* 2018;392(10159):1923. doi: 10.1016/S0140-6736(18)32225-6. Epub 2018 Nov 8. Available at: <https://pubmed.ncbi.nlm.nih.gov/30496105/>. (Accessed: January 2022).
16. British Heart Foundation. Heart Matters. How the pandemic is taking its toll on people with heart and circulatory conditions. Available at: www.bhf.org.uk/information-support/heartmatters-magazine/news/coronavirus-and-your-health/pandemic-effect-on-heart-patients. (Accessed: January 2022).
17. Santo K and Redfern J. Digital Health Innovations to Improve Cardiovascular Disease Care. *Atheroscler Rep.* 2020;22(12);71. Available at: <https://doi.org/10.1007/s11883-020-00889-x>. (Accessed: January 2022).