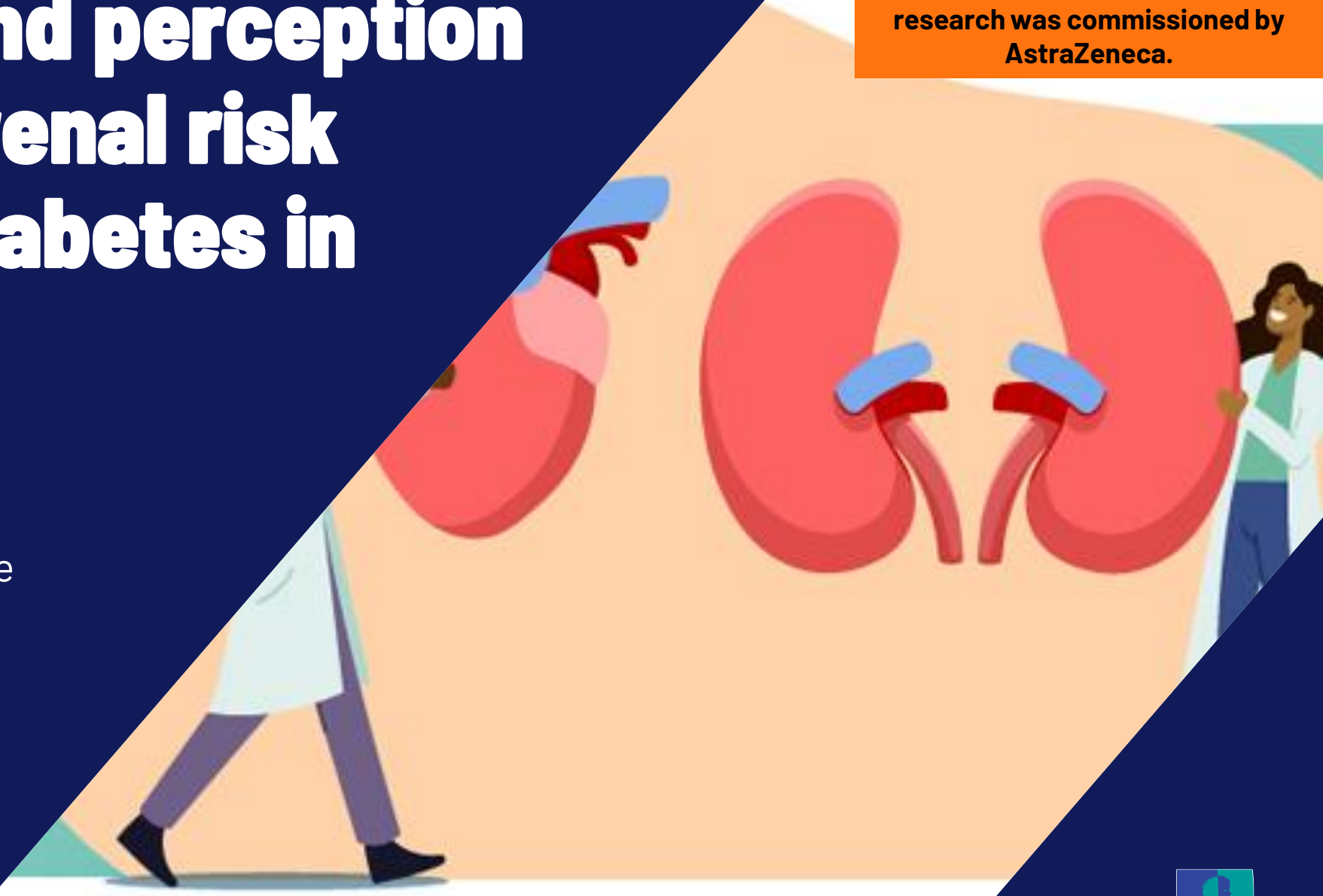
This slide deck has been developed by Ipsos, with input from AstraZeneca. This market research was commissioned by AstraZeneca.

Awareness and perception of the cardiorenal risk with type 2 diabetes in England

A nationally representative study amongst people with type 2 diabetes and the general public in England



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Technical Note:

Ipsos, on behalf of AstraZeneca UK, conducted quantitative market research using online surveys with a) adults aged 18 years or more diagnosed with type 2 diabetes by a healthcare professional, and b) members of the general public aged 18 years or more. All participants surveyed resided in England. 400 people with type 2 diabetes and 1,301 general public adults were recruited from online panels, with a total sample of 1,701 participants across the two groups. Fieldwork took place from 25th June – 13th August 2025.

In order to qualify for the survey, respondents had to:
People with type 2 diabetes:

- Be aged 18 years or more
- Be aware of type 2 diabetes as a condition
- Have been diagnosed with type 2 diabetes by a healthcare professional at least 6 months ago
- Not been diagnosed with type 1 diabetes

General public:

- Be aged 18 years or more
- Be aware of type 2 diabetes as a condition
- Not be diagnosed with type 1 diabetes

For the general public sample, quotas were imposed to ensure national representation based on age, gender, ethnicity and region. For the type 2 diabetes sample, quotas were imposed to match existing age, gender, ethnicity and region statistics for type 2 diabetes prevalence in England. Descriptive and directional differences between different subgroups (people with type 2 diabetes vs general public; age, gender, region, ethnicity) are highlighted. Weighting was applied to the general public group to bring the sample in line with the known population profile of these audiences.

Please note, throughout the deck the term 'cardiorenal risk' refers to the risk of heart and kidney conditions, especially in relation to Type 2 Diabetes which is a risk factor for heart and kidney disease.

This market research was commissioned by AstraZeneca.

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STUDY OBJECTIVES AND KEY FINDINGS

1

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The objective of the study was to test if these three hypotheses were true amongst both the general public and people with type 2 diabetes in England

Hypothesis 1	Hypothesis 2	Hypothesis 3
Awareness of cardiorenal risk and how to reduce it is low amongst both the public and people with type 2 diabetes	Shared decision-making between healthcare professionals and patients is not very common in type 2 diabetes	A patients-facing digital tool to identify and communicate cardiorenal risk could help to improve patient outcomes

This market research was commissioned by AstraZeneca.

Key findings for each hypothesis

Awareness of cardiorenal risk and how to reduce it is low amongst both the public and people with type 2 diabetes	Shared decision-making between healthcare professionals and patients is not very common in type 2 diabetes	A patient-facing digital tool to identify and communicate cardiorenal risk could help to improve patient outcomes
Awareness of the cardiorenal risk for type 2 diabetes patients is higher, however people with type 2 diabetes **may underestimate their cardiorenal risk**, compared to the general public. Possibly as they are aware of risk reduction strategies and undergo regular blood pressure, blood, and urine tests. Over half of type 2 diabetes patients know these tests are for monitoring heart and kidney health.	While shared decision-making is occurring in England, the general public express **a desire for more involvement**, and there are **parts of type 2 diabetes care patients are not involved in**. This indicates a need for HCPs to **enhance patient engagement** in health-related decisions.	There is a clear need for HCPs to **provide credible and clear information to patients**. Online sources are widely used, making the **accuracy and accreditation** of these digital resources critical to prevent misinformation. However, web-based tools to help people with health self-management are of less interest, with SmartPhone apps and healthcare professionals preferred.

This market research was commissioned by AstraZeneca.

Key demographic differences – Awareness of Cardiorenal risk and how to reduce it

	Age	Gender	Region	Ethnicity	Socio-economic
People with type 2 diabetes	• Those aged 45 and over show greater awareness of heart and kidney disease as risks/complications associated with type 2 diabetes.	*No differences*	*No differences*	• Individuals of Asian descent perceive a higher risk for heart and kidney disease, while those of Black, Caribbean, or African descent have better knowledge of how to reduce heart disease risk.	• Graduates and employed individuals demonstrate a more detailed understanding of cardiorenal risk and its reduction.
General Public	• Awareness of diabetes-related heart and kidney disease is higher in individuals aged 45 and over.	*No differences*	*No differences*	• People of Black, Caribbean, or African descent have a stronger perception of these risks in people with type 2 diabetes.	• Graduates and employed individuals are more knowledgeable about type 2 diabetes and the associated cardiorenal risks.

This market research was commissioned by AstraZeneca.

Key demographic differences – Shared decision-making between healthcare professionals and patients

	Age	Gender	Region	Ethnicity	Socio-economic
People with type 2 diabetes	• Younger adults (18-44) report more frequent HCP visits and feel more involved in decisions about their cardiorenal risk.	*No differences*	• Individuals in London tend to have more frequent HCP visits compared to other regions.	*No differences*	*No differences*
General Public	• Younger individuals are more likely to desire greater involvement in their healthcare decisions	• Females are more likely to desire greater involvement in their healthcare decisions	• The desire for more involvement is strongest in London and the Midlands.	• Those of Black, Caribbean, or African descent show a stronger desire for more engagement with their HCPs.	• Graduates and employed individuals are more likely to want greater involvement in their healthcare decisions.

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Key demographic differences – A patient-facing digital tool to identify and communicate cardiorenal risk could help improve patient outcomes

	Age	Gender	Region	Ethnicity	Socio-economic
 **People with type 2 diabetes**	• Individuals over 45 are less likely to use health apps and are less open to new health management tools.	• Males are more inclined to prefer learning about their cardiorenal risk directly from an HCP.	*No differences*	*No differences*	• Graduates and employed individuals are more aware of existing risk assessment tools and are more receptive to new health technologies.
 **General Public**	• Those over 45 are less likely to use health apps or be open to new self-management tools.	*No differences*	*No differences*	*No differences*	• Graduates are more open to new health tools, while non-graduates and unemployed individuals are more likely to have never used a health app

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THE GAP IN AWARENESS OF CARDIORENAL RISK AND WAYS TO REDUCE IT

2a

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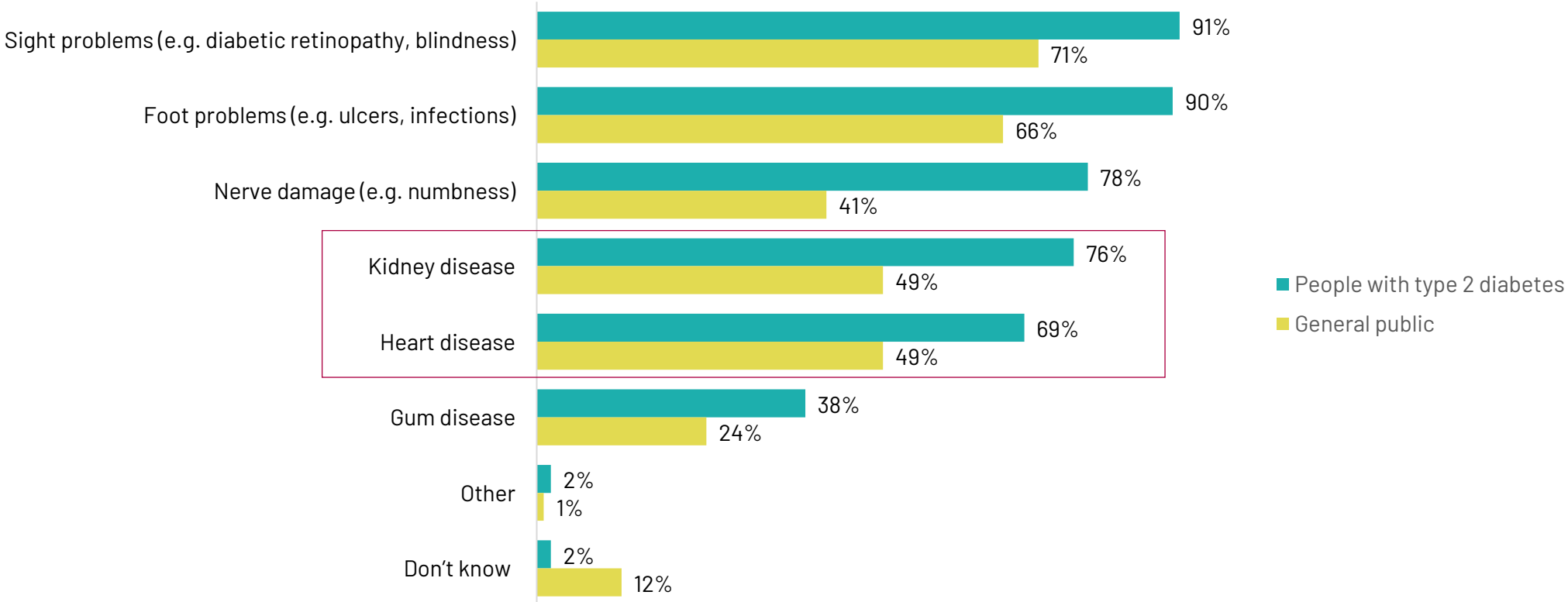
A greater proportion of people with type 2 diabetes state they are aware of related risks and complications, including cardiorenal risks, than the general public

Awareness of risks/complications associated with type 2 diabetes: People with type 2 diabetes vs. General public in England - % of respondents



C2. Which of the following risks or complications associated with Type 2 diabetes are you aware of, if any?
Base: All respondents Total (n=1727), People with type 2 diabetes (n= 400), General public in England (n=1327)

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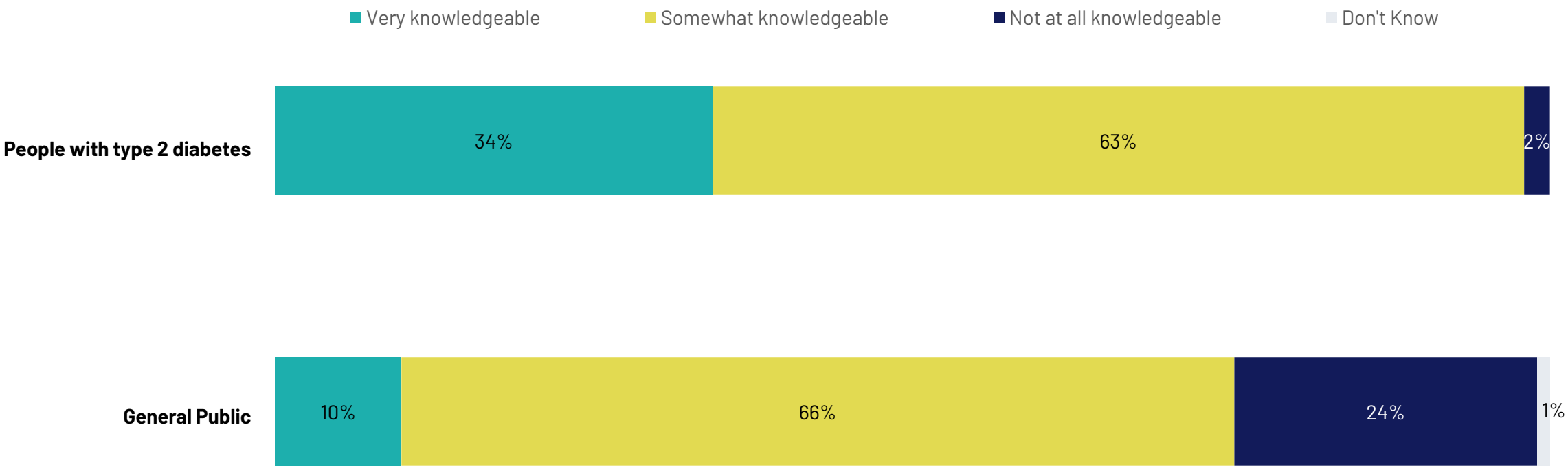
2% of people with type 2 diabetes feel they are not knowledgeable at all about the condition, whereas 25% of the general public feel the same or don't know

Level of knowledge on type 2 diabetes: People with type 2 diabetes vs. General public in England – % of respondents



C1. How knowledgeable do you feel you are about Type 2 diabetes, if at all?
Base: All respondents Total (n=1727), People with type 2 diabetes (n=400), General public in England (n=1327)

Please note, where charts do not sum to 100% this is due to rounding

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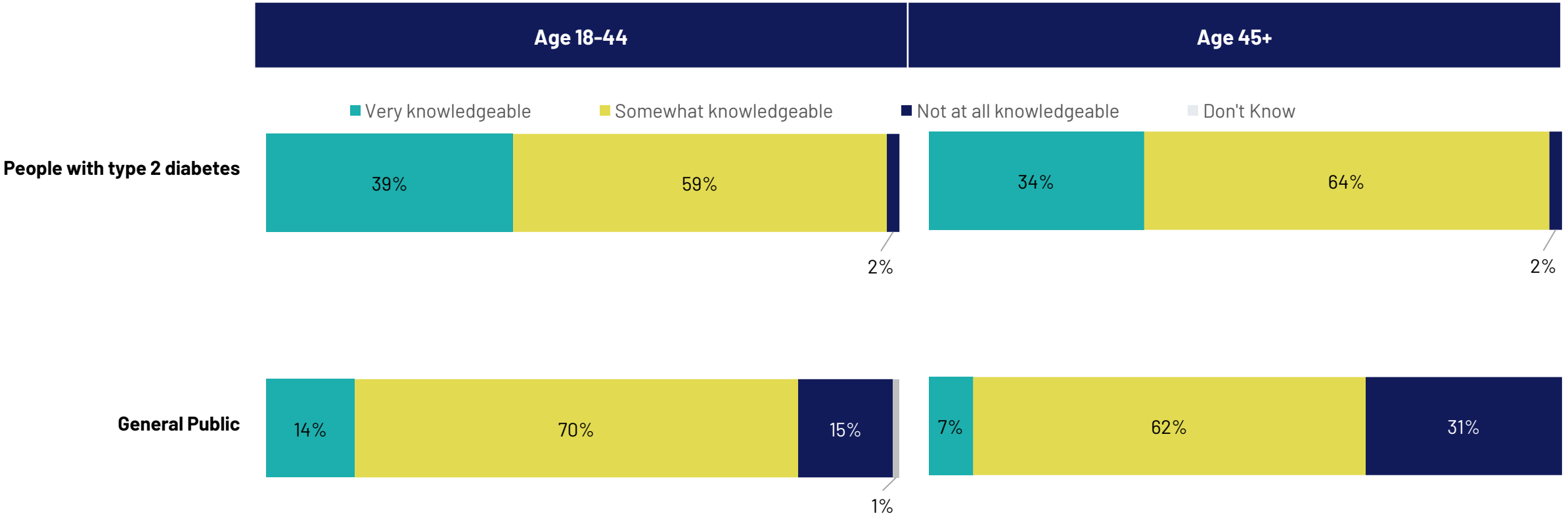
Regardless of age, most people with type 2 diabetes feel knowledgeable, whereas 31% of the general public aged 45+ do not feel knowledgeable about type 2 diabetes

Level of knowledge on type 2 diabetes: People with type 2 diabetes vs. General public in England – by age – % of respondents

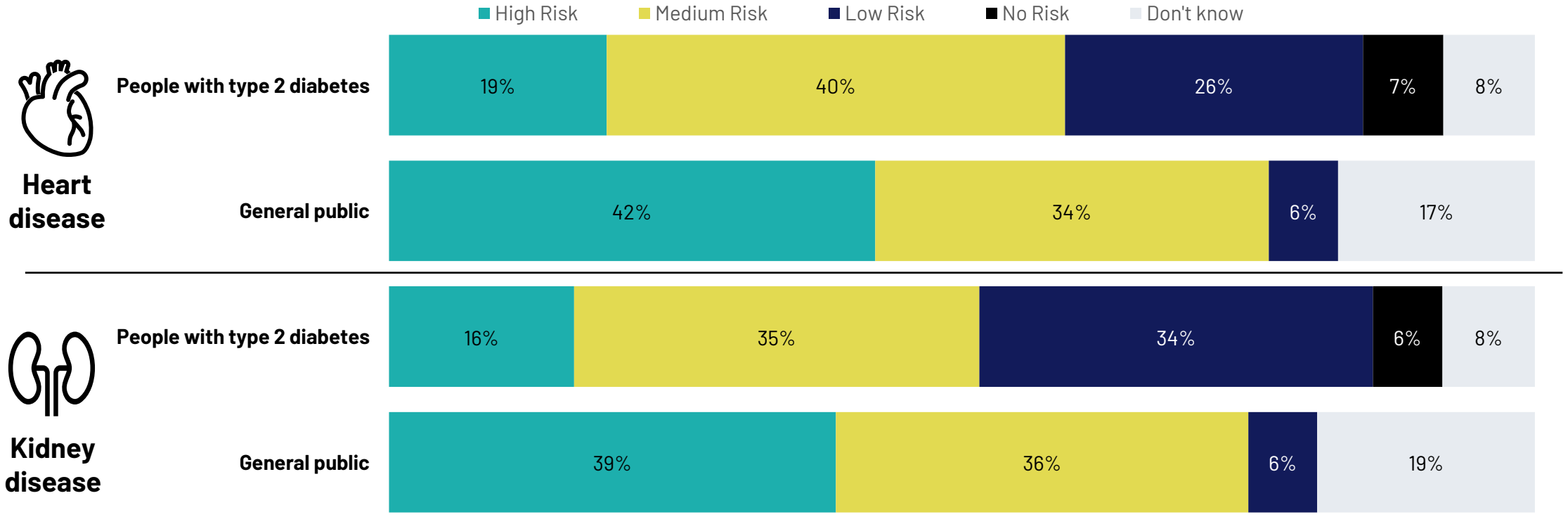


C1. How knowledgeable do you feel you are about Type 2 diabetes, if at all?
Base: All respondents People with type 2 diabetes (n=400), Age: 18-44 (n=64), 45+ (n=336); General public in England (n=1327), Age: 18-44 (n=581), 45+ (n=746)

This market research was commissioned by AstraZeneca.

A greater proportion of the general public believe those with type 2 diabetes as being at higher risk of heart and kidney disease versus people with type 2 diabetes themselves

Level of risk perception of developing complications as a result of type 2 diabetes: People with type 2 diabetes vs. General public in England – % of respondents



C3. People with type 2 diabetes: To what extent, if at all, do you feel you are at risk of developing the following complications as a result of your Type 2 diabetes? General public in England: To what extent, if at all, do you think people with Type 2 diabetes are at risk of developing the following complications? Base: All respondents Total (n=1727); People with type 2 diabetes (n=400); General public in England (n=1327)

Please note, where charts do not sum to 100% this is due to rounding

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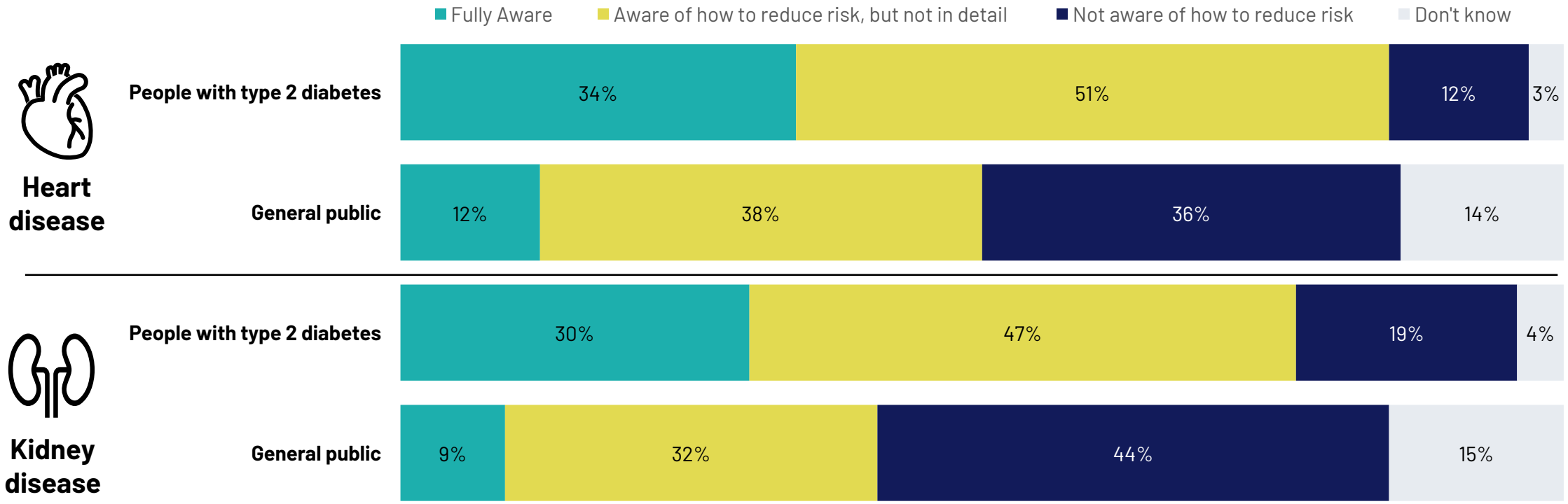
Around 1 in 3 of people with type 2 diabetes state they are fully aware of how to reduce their risk of developing heart and kidney complications, compared to only around 1 in 10 of the general public

Level of awareness of how to reduce risk of developing complications: People with type 2 diabetes vs. General public in England – % of respondents



C5. People with type 2 diabetes : How aware or unaware are you of how to reduce your risk of developing the following complications? General public in England: How aware or unaware are you of how people with Type 2 diabetes can reduce their risk of developing the following complications? Base: All respondents Total (n=1727); People with type 2 diabetes (n=400); General public in England (n=1327)

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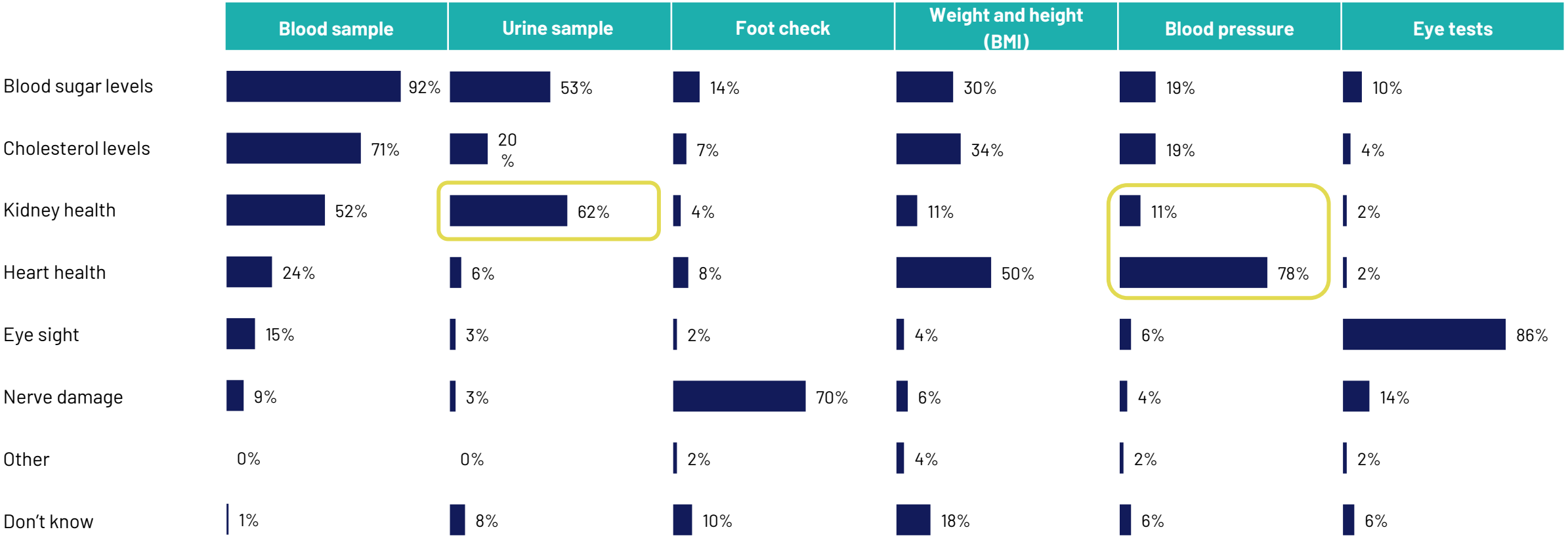
62% of people with type 2 diabetes understand a urine sample is for kidney health, and 78% understand blood pressure assesses heart health

Understanding of the reasons that tests are carried out in relation to type 2 diabetes: People with type 2 diabetes in England



A13. These are some tests that may be carried out in relation to Type 2 diabetes. To the best of your knowledge, what do you believe is the reason that each of these tests might be carried out? Base: All People with type 2 diabetes (n=400)

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THE SHARED DECISION GAP BETWEEN THE GENERAL PUBLIC / PEOPLE WITH TYPE 2 DIABETES AND HEALTHCARE PROFESSIONALS

2b

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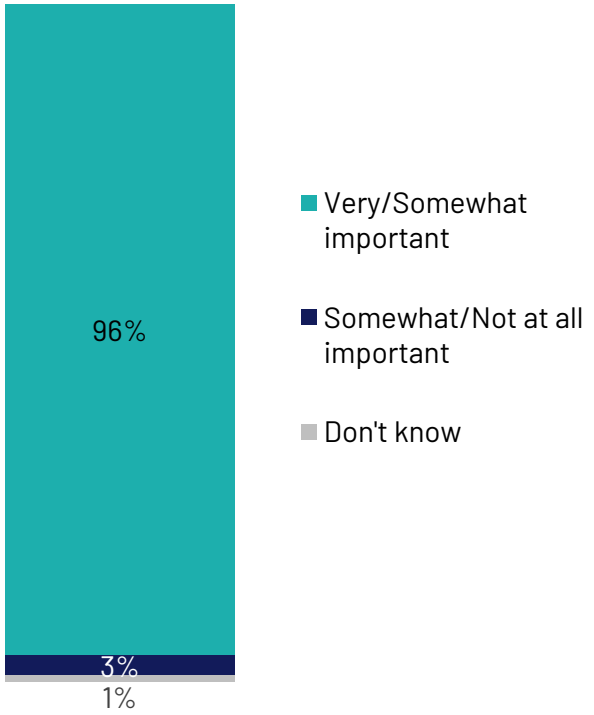
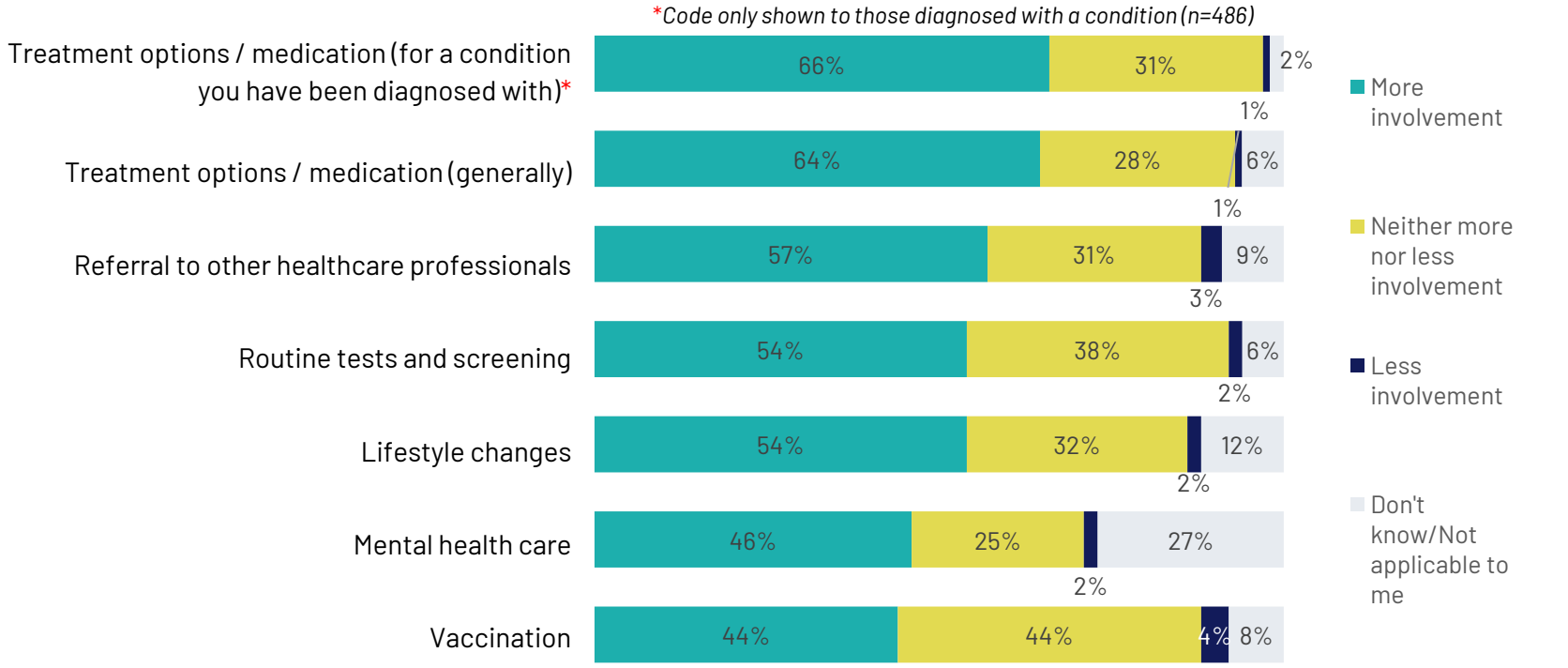
96% of the general public find it important to make healthcare decisions with healthcare professionals

Perceived level of importance of making healthcare decisions together with healthcare professionals, and preferred level of involvement in specific healthcare decisions: General public in England – % of respondents

Perceived level of importance



Preferred involvement level in healthcare decisions with healthcare professionals



A5. How important or unimportant is it for you to make decisions about your health together with healthcare professionals?
A6. What decisions about your health, if any, would you like to be: a) more involved in b) less involved in? Base: All General public in England (n=1327)

Please note, where charts do not sum to 100% this is due to rounding

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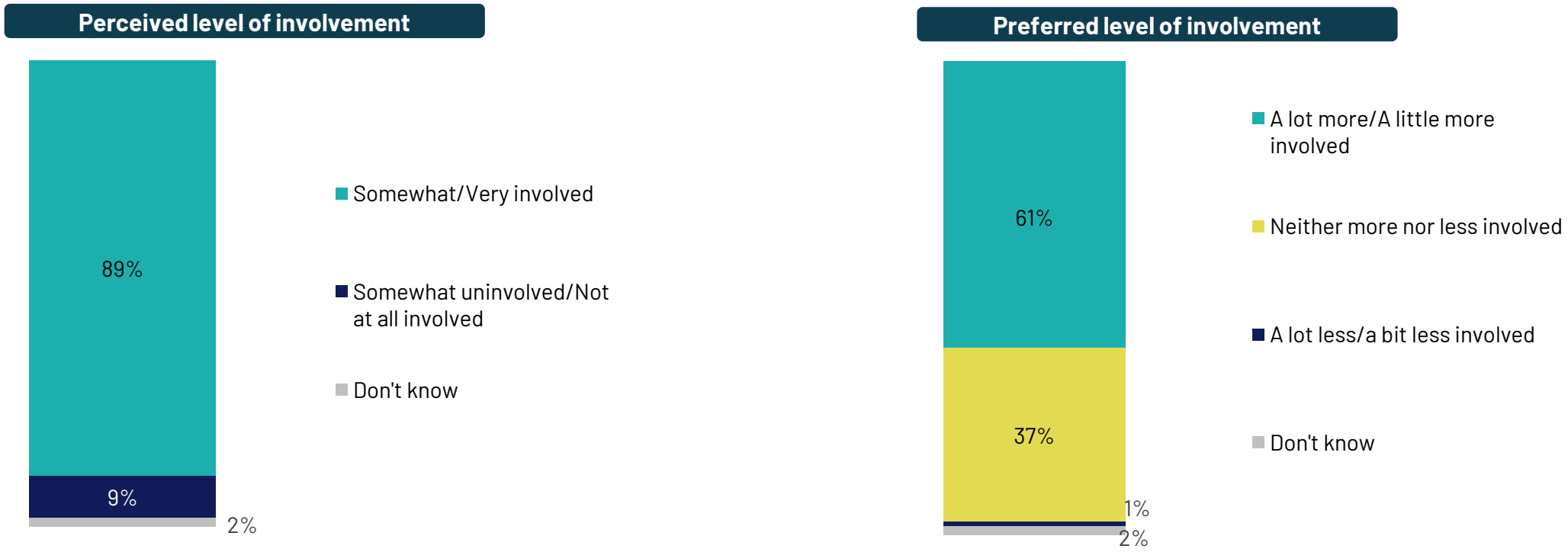
Although 89% of the general public currently feel involved in their healthcare decisions with healthcare professionals, 61% wish to have greater involvement

Preferred level of involvement in healthcare decisions together with healthcare professionals: General public in England - % of respondents



A3. Thinking about your experiences with healthcare professionals (e.g. doctors, nurses) in general, to what extent do you feel involved in decisions about your health, if at all?
A4. How much more or less involved would you like to be in decisions about your health with healthcare professionals? Base: All General public in England (n=1327)

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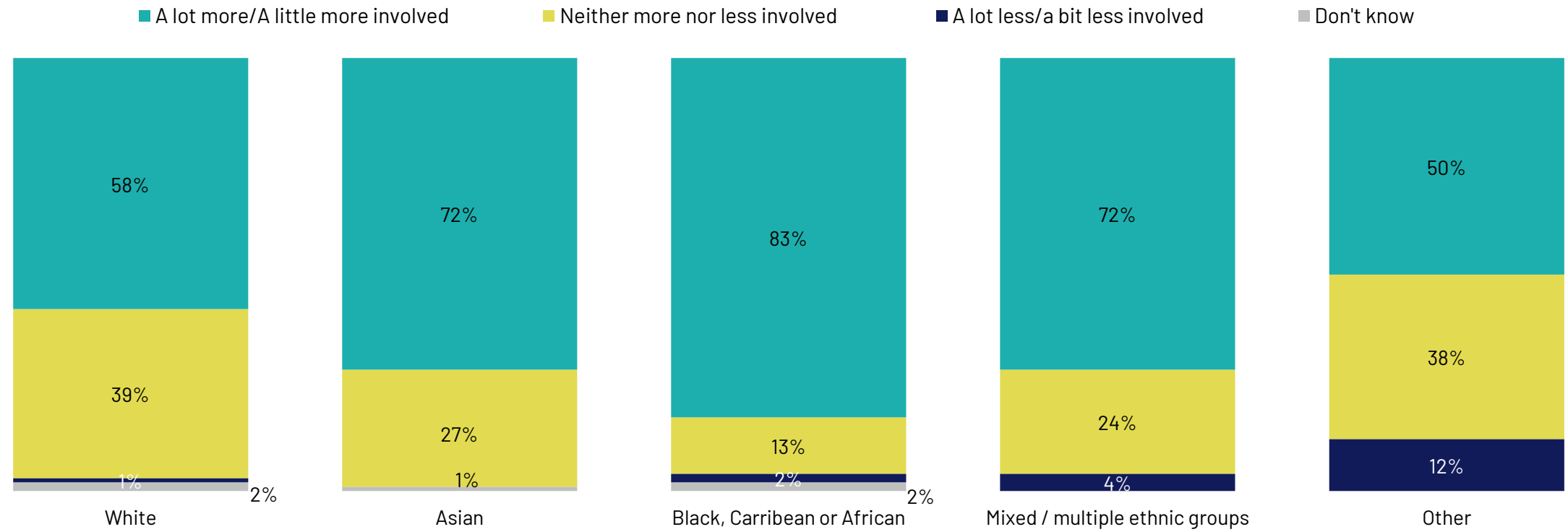
83% of those who identify as Black, Caribbean or African want to be more involved in their healthcare decisions together with their healthcare professionals, the highest of all ethnic groups

Preferred level of involvement in healthcare decisions together with healthcare professionals: General public in England – by ethnicity – % of respondents



A4. How much more or less involved would you like to be in decisions about your health with healthcare professionals? *small base

Base: All General public in England Total (n=1323); White (n=1124), Asian (n=105), Black, Caribbean or African (n=50), Mixed or multiple ethnic groups (n=28*), Other ethnic group (n=16*). Please note, 4 respondents selected 'prefer not to say' to ethnicity, therefore, these 4 respondents are not present in this data split

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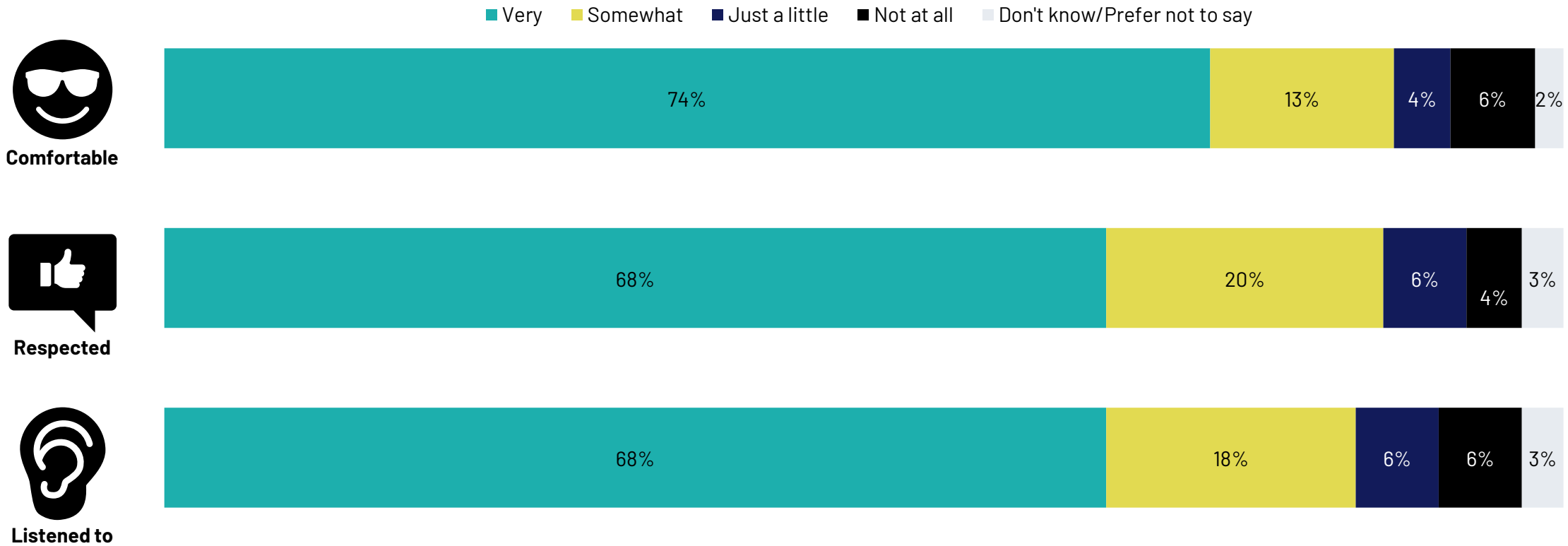
In the last appointment with their healthcare professional for type 2 diabetes, 74% felt very comfortable, 68% felt very respected/listened to

Extent of feeling comfortable, respected and listened to during last type 2 diabetes appointment with a healthcare professional: People with type 2 diabetes in England - % of respondents



A10. In your last appointment with your healthcare professional for your Type 2 diabetes, to what extent (if at all) did you feel: a) comfortable, b) respected, and c) listened to?
Base: All People with type 2 diabetes (n=400)

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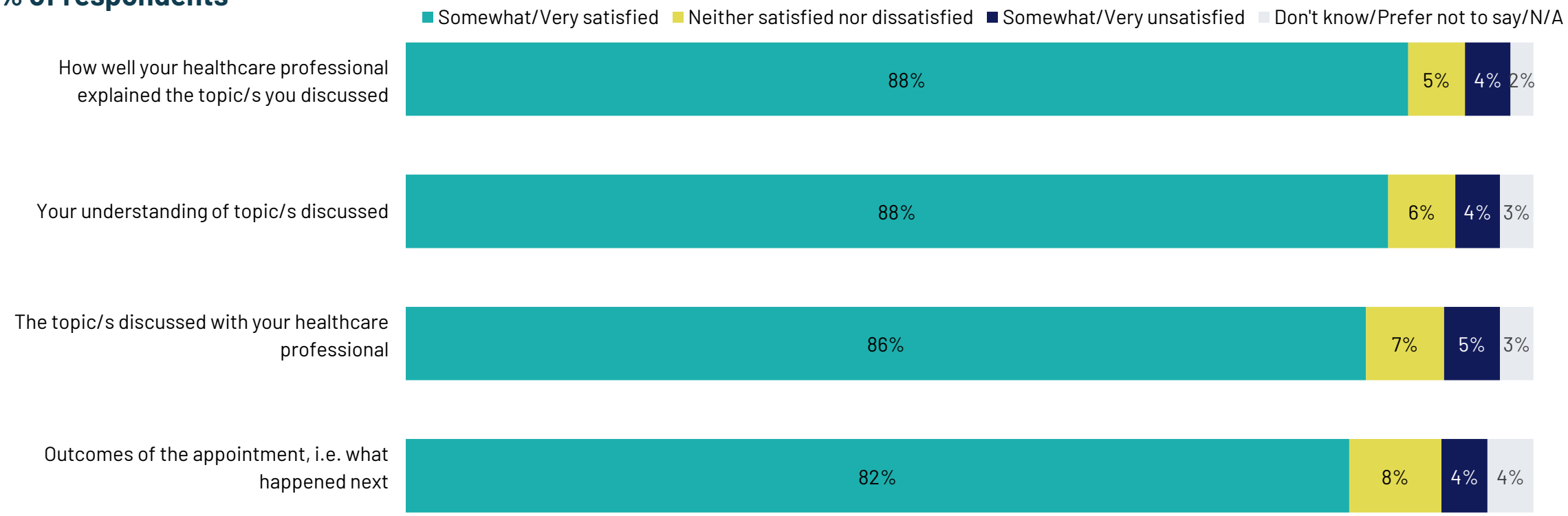
More than 80% of people with type 2 diabetes report feeling satisfied with each aspect of the last appointment with a healthcare professional

Level of satisfaction with parts of last appointment with a healthcare professional: People with type 2 diabetes in England - % of respondents



A12. How satisfied, if at all, did you feel about the following parts of your last appointment with your healthcare professional, about your Type 2 diabetes?
Base: All People with type 2 diabetes (n=400)

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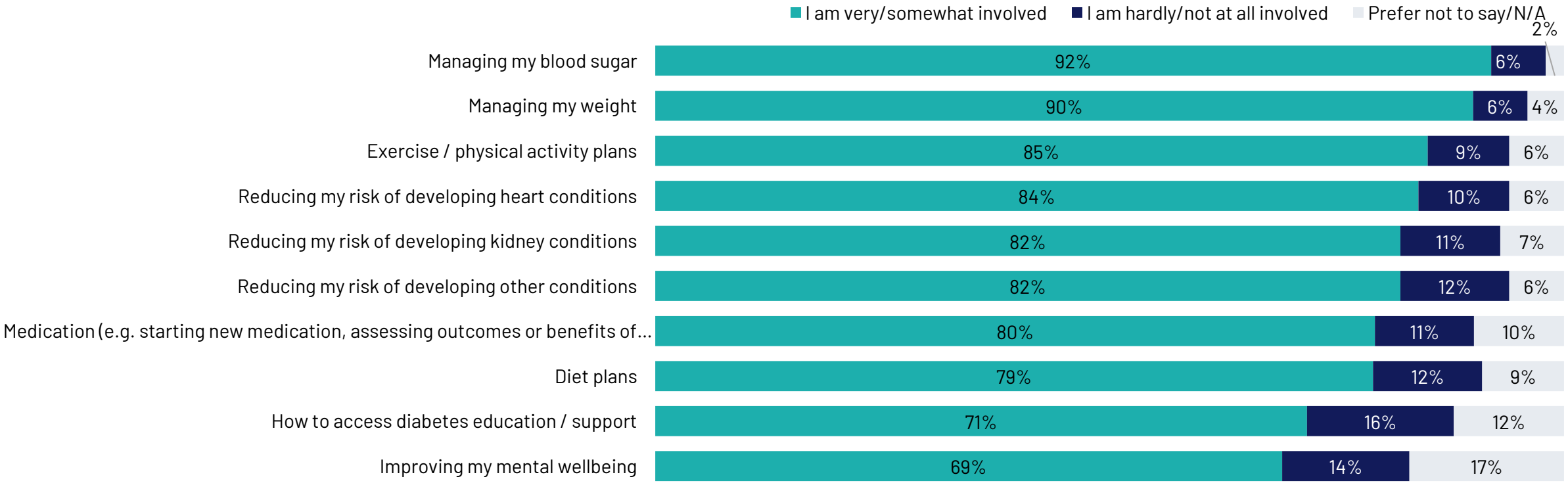
Most people with type 2 diabetes feel involved in decisions about reducing their risk of developing heart (84%) and kidney (82%) conditions

Perceived level of involvement in healthcare decision about type 2 diabetes together with healthcare professionals: People with type 2 diabetes in England – % of respondents



A19. To what extent (if at all) do you feel you are currently involved in decisions about your Type 2 diabetes with your healthcare professional on the following topics?
Base: All People with type 2 diabetes (n=400)

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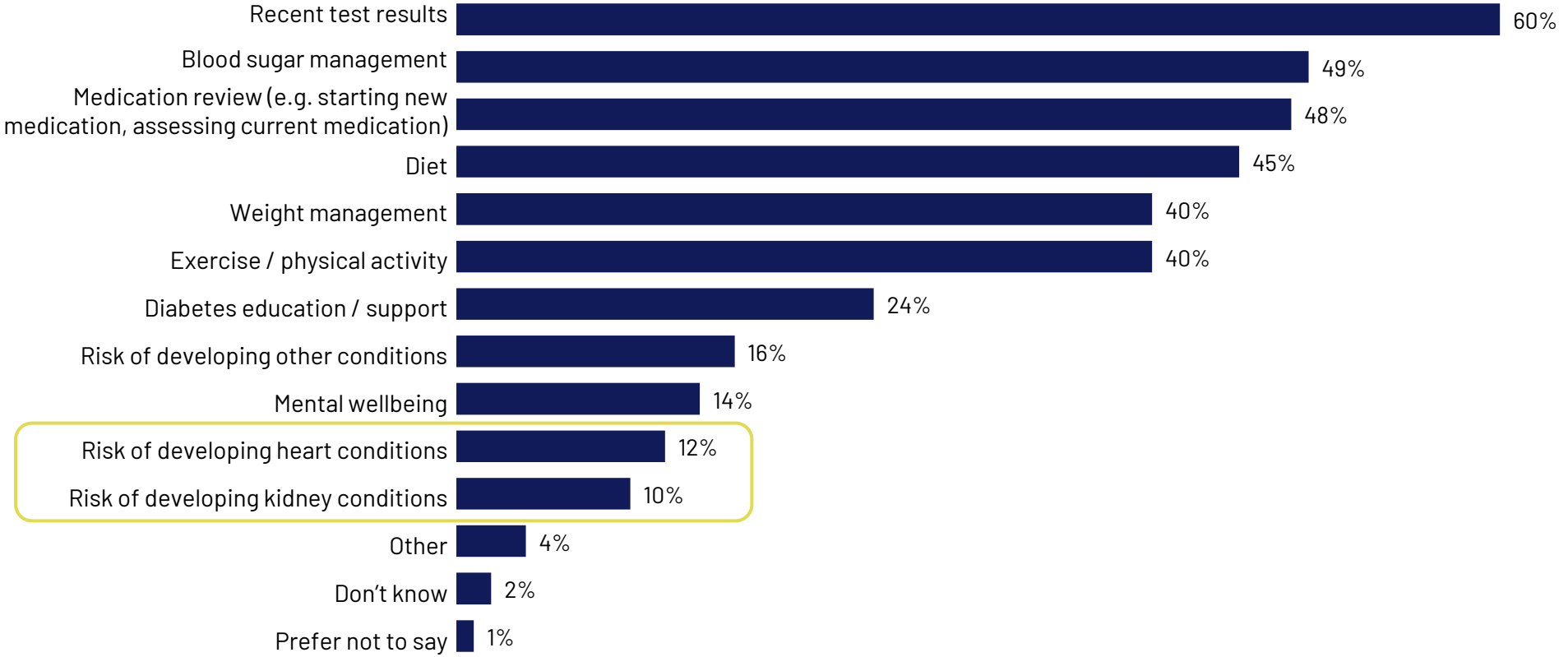
60% of people with type 2 diabetes discussed recent test results at their last healthcare professional visit; only 12% and 10% discussed the risk of heart disease and kidney disease respectively

Topics discussed in last appointment for type 2 diabetes: People with type 2 diabetes in England – % of respondents



A11. What topic/s, if any, were discussed with your healthcare professional during your last appointment for your Type 2 diabetes?
Base: All People with type 2 diabetes (n=400)

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SOURCES OF INFORMATION USED AND THE POTENTIAL BENEFIT OF A PATIENT-FACING DIGITAL TOOL FOR CARDIORENAL RISK MANAGEMENT

2c

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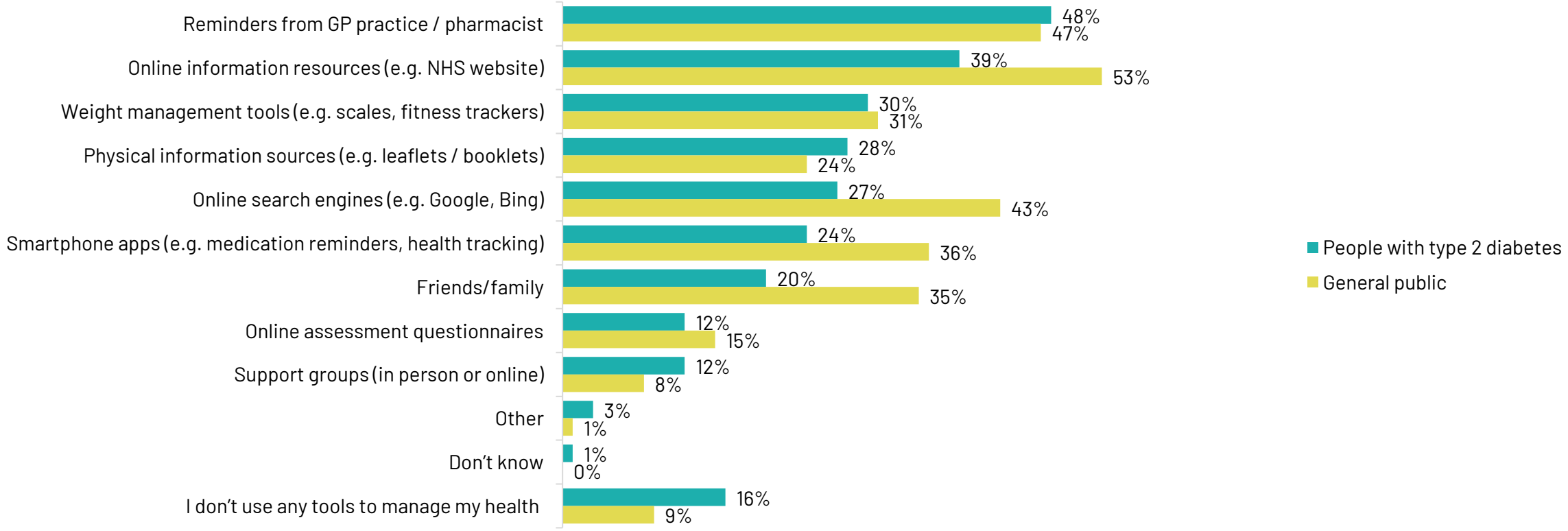
Reminders from GP/pharmacist are the main resource used by people with type 2 diabetes to manage their health, while the general public primarily use online information resources

Resources used to manage health: People with type 2 diabetes vs. General public in England – % of respondents

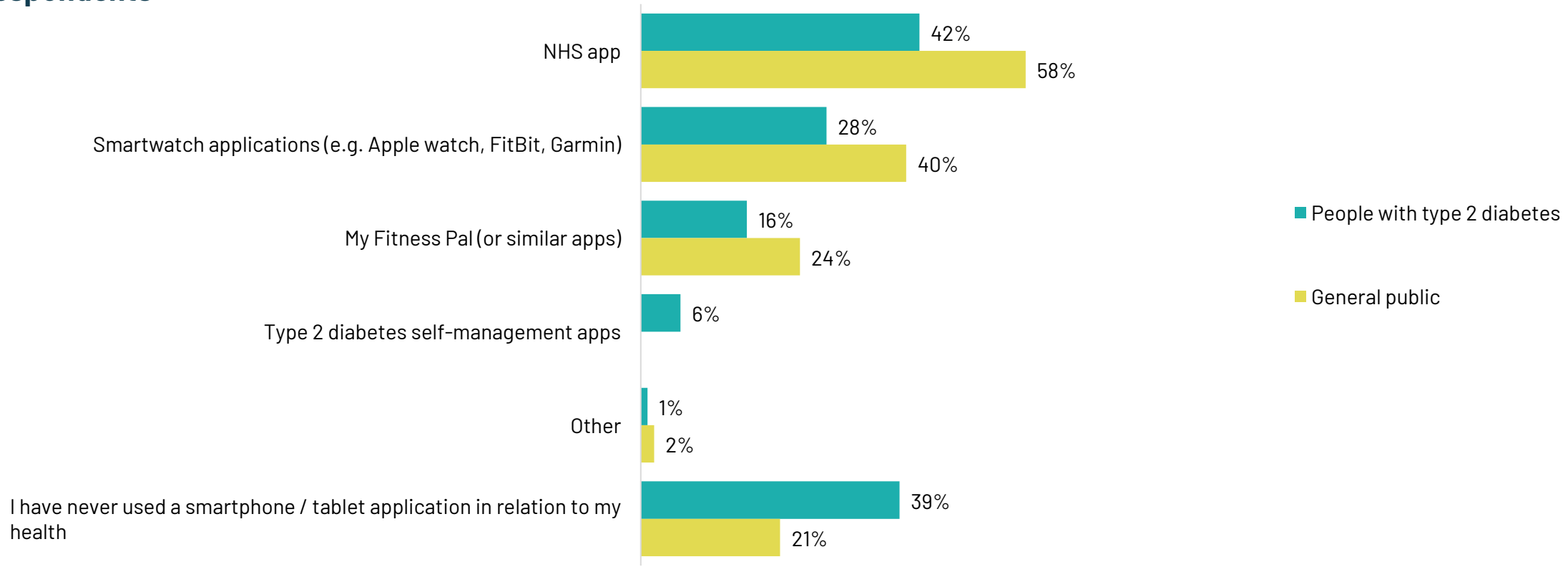


D4a. What resources, if any, have you ever used to manage your health?
Base: All respondents Total (n=1727), People with type 2 diabetes (n=400), General public in England (n=1327)

This market research was commissioned by AstraZeneca.

The NHS app has the highest usage of the apps asked about, used by 42% of people with type 2 diabetes and 58% of general public

Use of health-related smartphone or tablet applications: People with type 2 diabetes vs. General public in England - % of respondents



D1. Which of the following smartphone or tablet applications, if any, have you ever used in relation to your health?
Base: All respondents Total (n=1727), People with type 2 diabetes (n=400), General public in England (n=1327)

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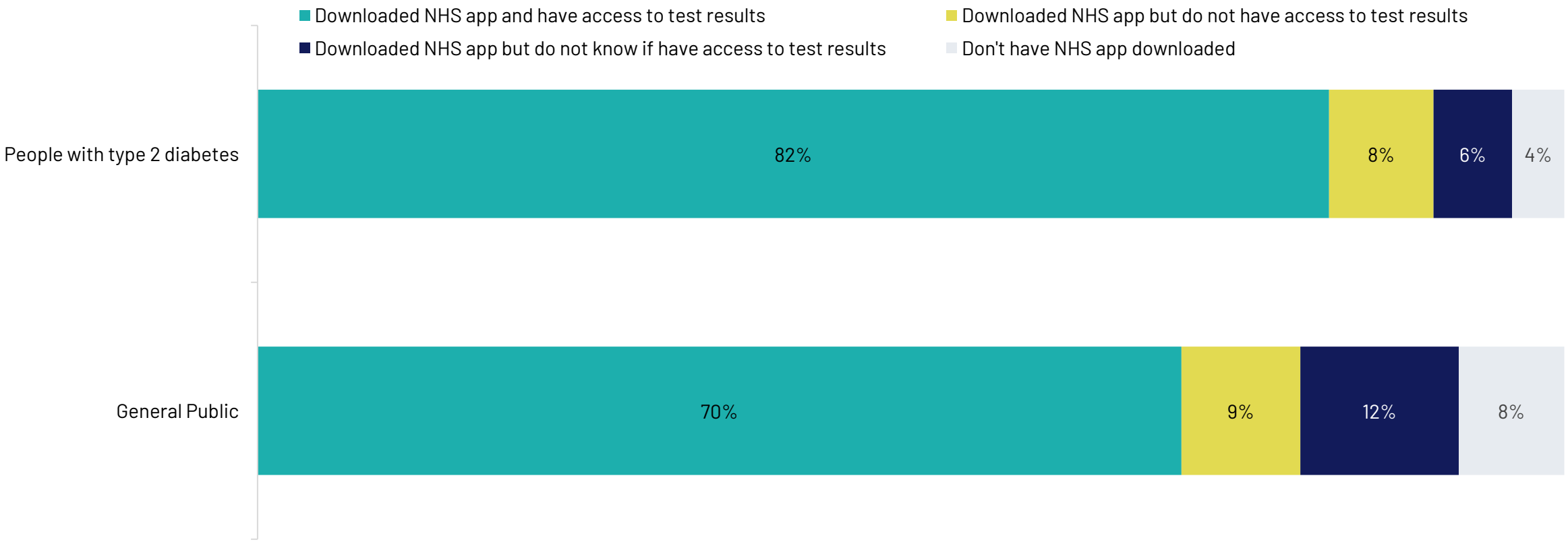
TYPE 2

General Public

Of those who have used the NHS app, 82% of those with type 2 diabetes and 70% of the general public in England access test results

Usage of NHS app: People with type 2 diabetes vs. General public in England – % of respondents



D2. Which of the following statements best describes your use of the NHS app?
Base: All respondents who used NHS app for their health Sep '25 Total (n=930), People with type 2 diabetes (n=169), General public in England (n=761)

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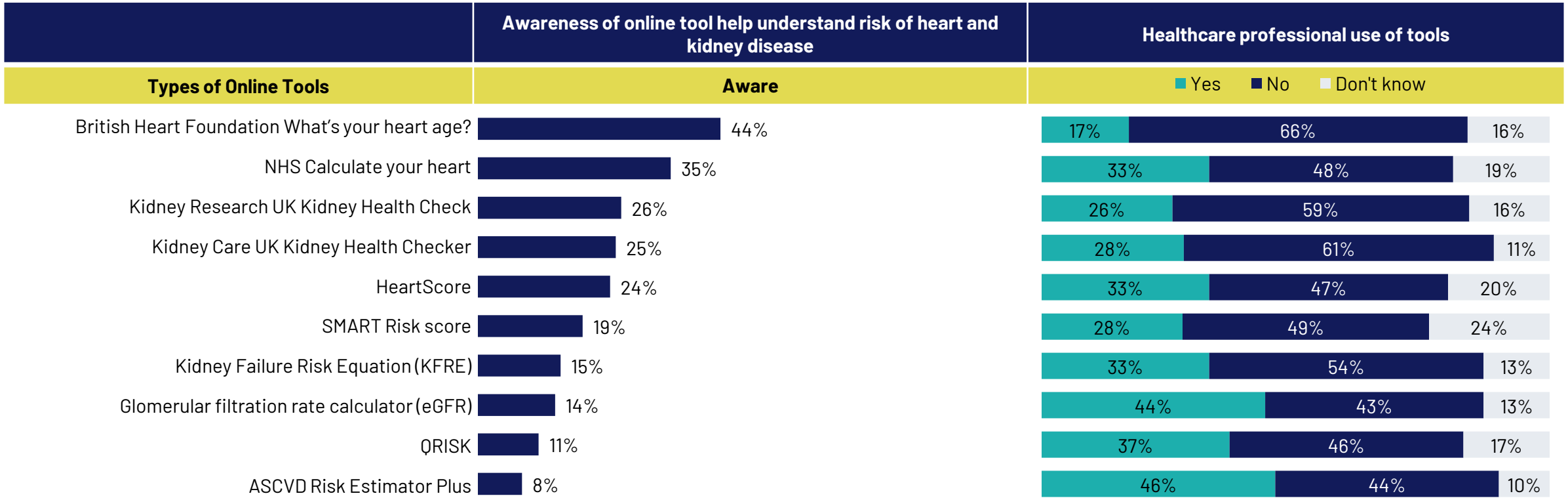
Awareness of online tools to assess the risk of heart/kidney disease is under 50% amongst people with type 2 diabetes

Awareness of online tools and healthcare professional use of tools for heart and kidney disease: People with type 2 diabetes in England – % of respondents



D6. The following online tools are used to help people to understand their risk of heart and kidney disease. (Please drag and drop each online tool into the "Aware" or "Not aware" boxes) Base: All respondents People with type 2 diabetes (n=400)

D7. To the best of your knowledge, has a healthcare professional ever used any of the following tools to assess your risk of heart disease or kidney disease with you? Base: All respondents who are aware of the online tools People with type 2 diabetes (see note section for base of each tools)

Please note, where charts do not sum to 100% this is due to rounding

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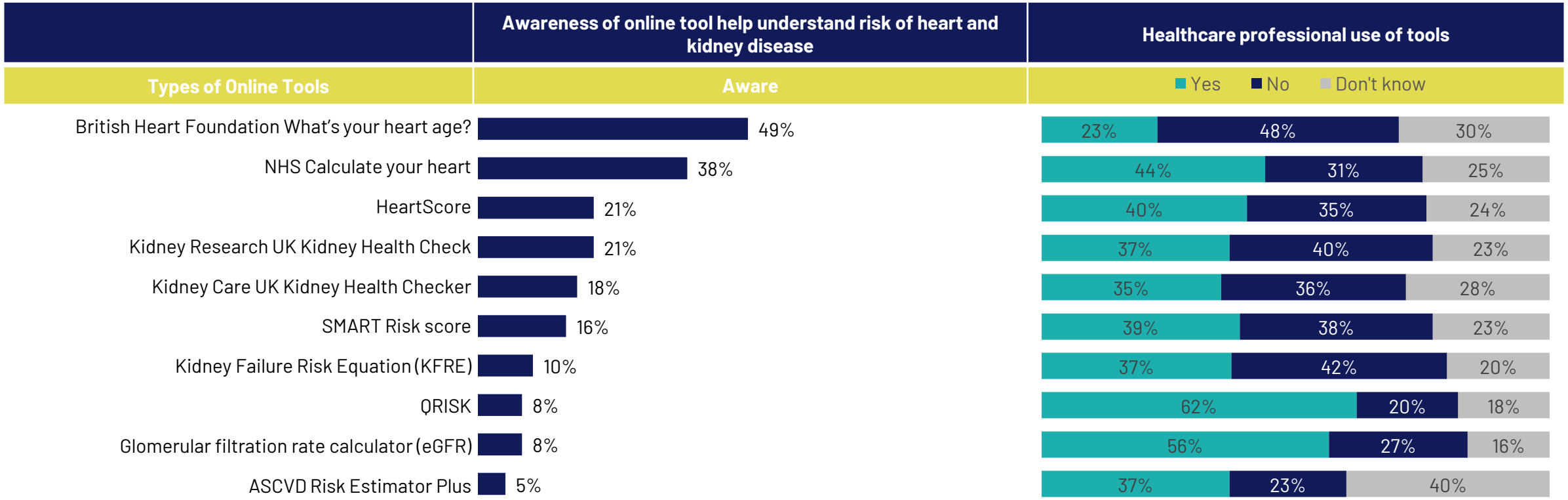
Among the general public, awareness of online tools to assess the risk of heart or kidney disease is also under 50%

Awareness of online tools and healthcare professional use of tools for heart and kidney disease: General public in England - % of respondents



D6. The following online tools are used to help people to understand their risk of heart and kidney disease. (Please drag and drop each online tool into the "Aware" or "Not aware" boxes) Base: All respondents General public in England (n=1327)

D7. To the best of your knowledge, has a healthcare professional ever used any of the following tools to assess your risk of heart disease or kidney disease with you? Base: All respondents who are aware of the online tools General public in England (see note section for base of each tools)

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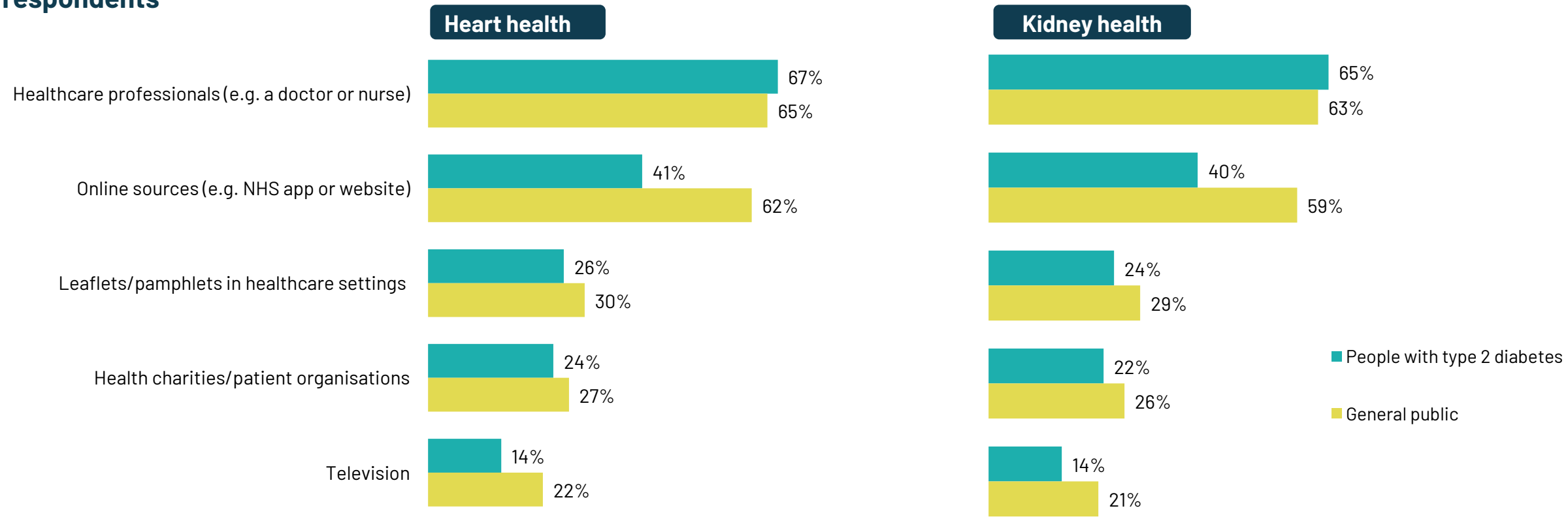
The preferred way to learn about heart and kidney health is through healthcare professionals for both the general public and those with type 2 diabetes, with online sources also favoured

Top 5 preferred ways to learn about heart and kidney health: People with type 2 diabetes vs. General public in England – % respondents



D9. In what ways, if any, would you like to learn more about a) your heart health and b) your kidney health?
Base: All respondents Total (n=1727), People with type 2 diabetes (n=400), General public in England (n=1327)

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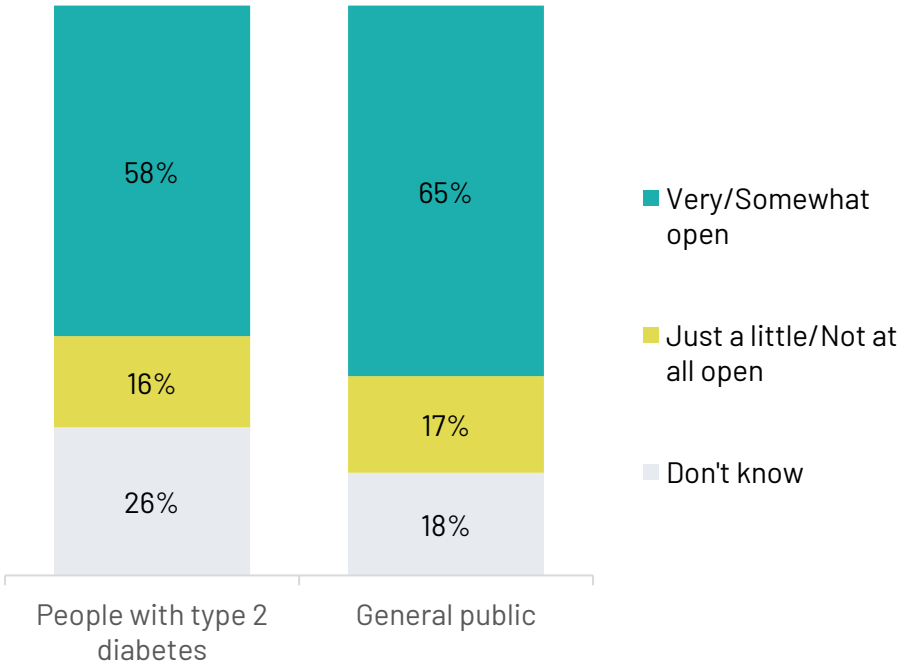
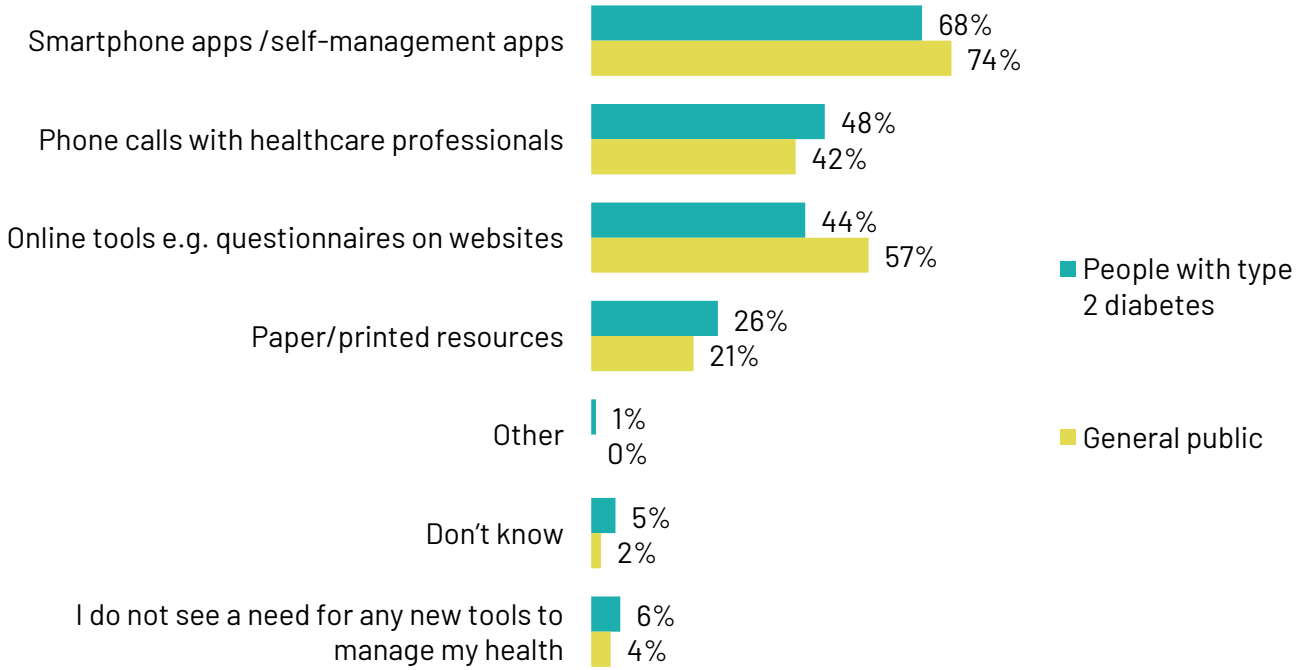
The general public are more open than people with type 2 diabetes in trying new/innovative tools for health self-management, with most interest in smartphone/self-management app

People with type 2 diabetes vs. General public in England - % respondents

Openness to trying new/innovative tools for health self-management



Interest in types of tools to help health self-management



D8a. To what extent (if at all) would you be open to trying new and innovative tools to self-manage your health? Base: All respondents People with type 2 diabetes (n=400, General Public in England (n=1327)

D8. If new tools were to become available to help self- manage your health, what type of tools would you be interested in prefer – if any? Base: All respondents who are open to trying new tools People with type 2 diabetes (n=272), General Public in England (n=1033)

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METHODOLOGY AND SAMPLE

3

Methodology and Sample

20 minute online survey conducted with the general public & people diagnosed with type 2 diabetes in England

Fieldwork took place from Jun'25 – Aug'25

Total Sample of n = 1701

People with type 2 diabetes in England

n= 400
(Unweighted, no weighting applied)
Representative of the type 2 diabetes population, boosted on younger ages

General Public in England

Unweighted base n= 1301
Weighted base n= 1327
Nationally representative sample.
Please note weighting has been applied to the general public group to bring the sample in line with the known population profile of these audiences. The weighted base size of 1327 is reported on slides

Key screening criteria:

TYPE 2 **People with type 2 diabetes in England**	General Public **General Public in England**
✓ Aware of type 2 diabetes as a condition	✓ Aware of type 2 diabetes as a condition
✓ Diagnosed with type 2 diabetes by a healthcare professional	
✓ Not diagnosed with type 1 diabetes	✓ Not diagnosed with type 1 diabetes
✓ Diagnosed with type 2 diabetes >6 months ago	

For more detail on sample breakdown, please see the appendix section

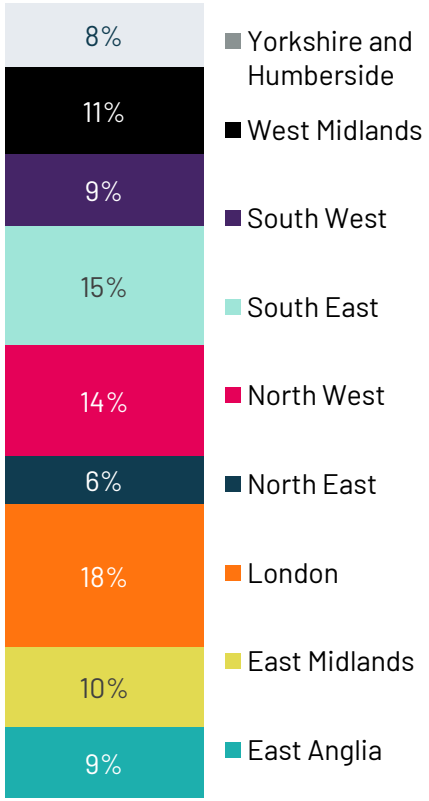
This market research was commissioned by AstraZeneca.

TYPE 2

Sample Overview – people with type 2 diabetes

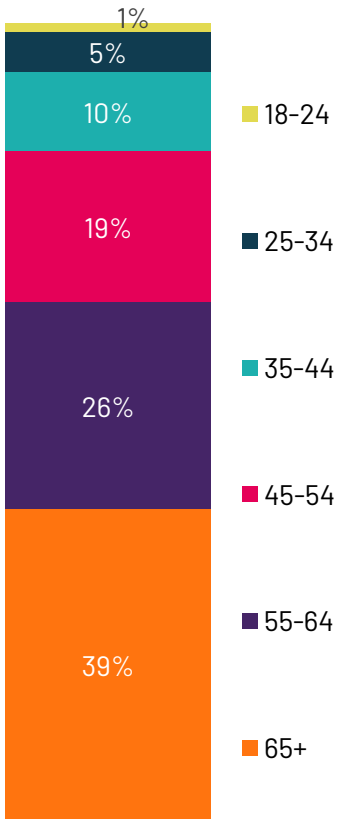
Region

Distribution of public across England

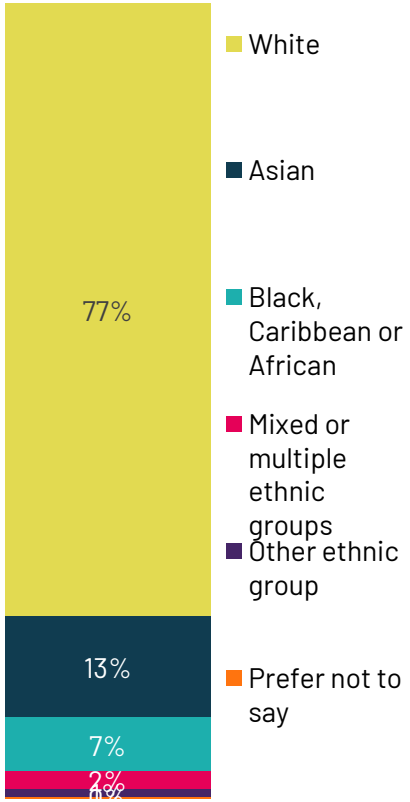


Age

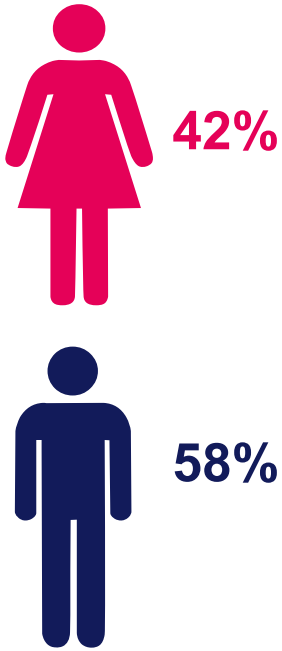
Average age of **59 years**



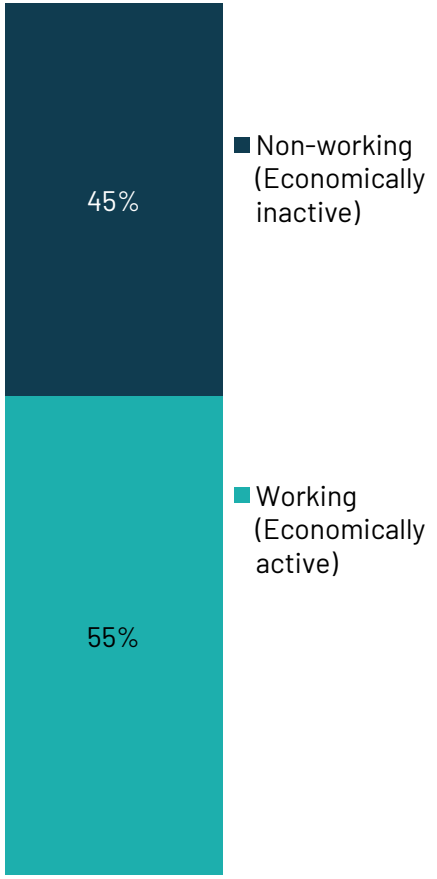
Ethnicity



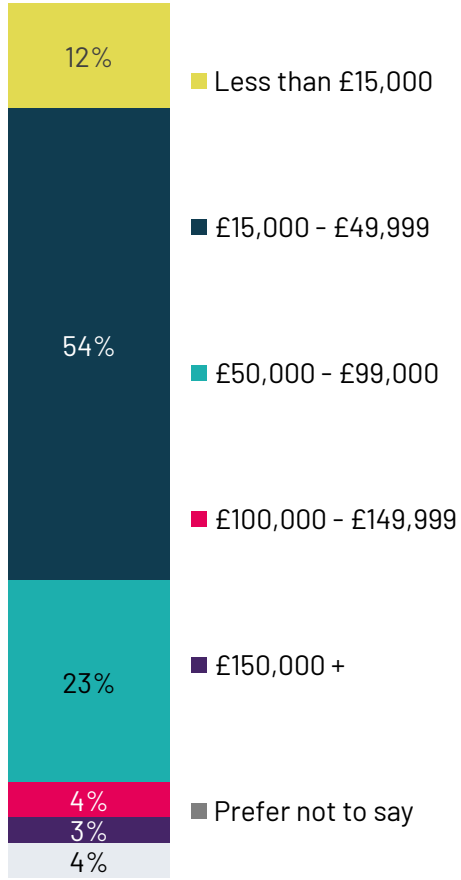
Gender



Work



Annual Household income



SRegion. Which region of England do you live in?; SAge. Please record your age in the space provided, as of your last birthday; SGender. Which of the following describes how you think of yourself?; SEmployment. Which of the following best describes your employment status?; SIncome. What is the total amount of money everyone in your household earns in a year, before tax and other deductions? Base: All People with type 2 diabetes (n=400)

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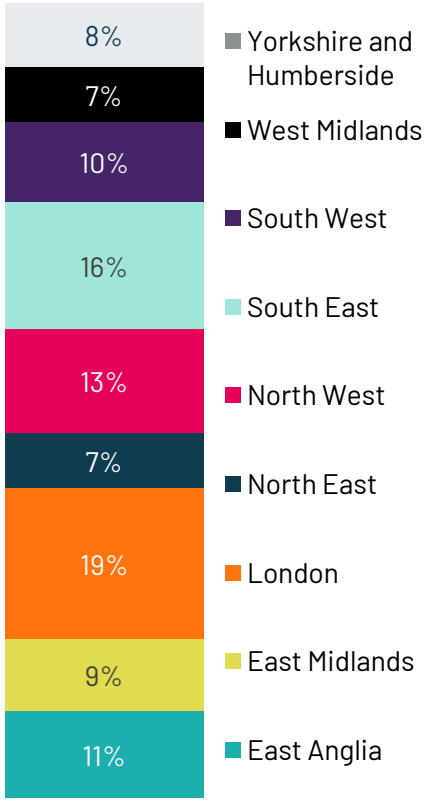
GB-72614 December 2025

Sample Overview – General Public

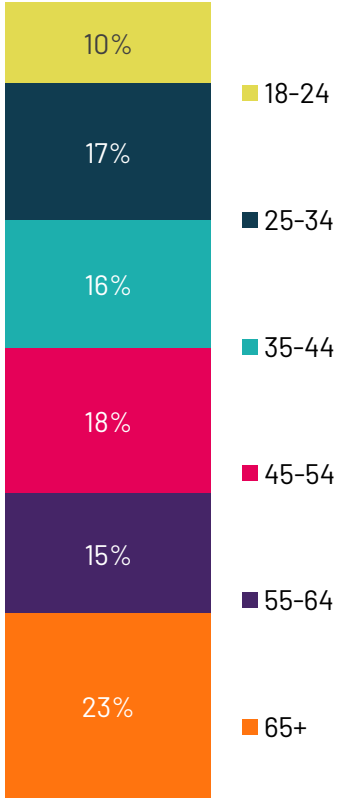
Region

Distribution of public across England

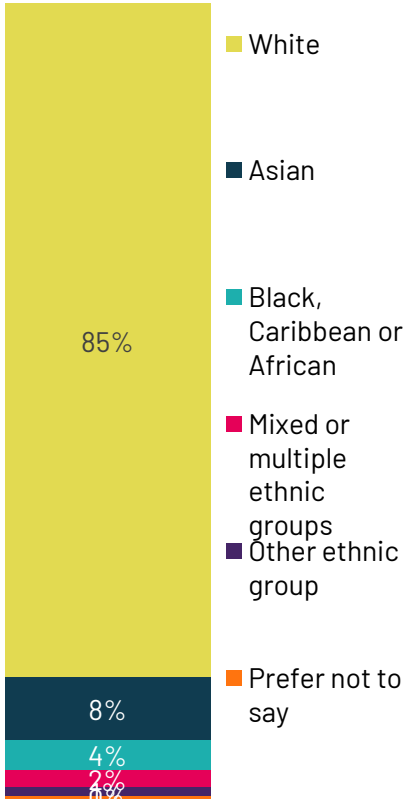


Age

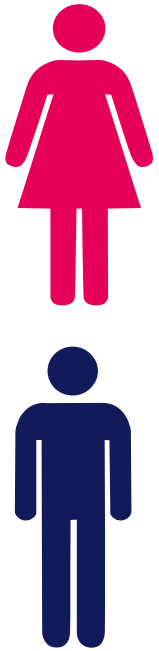
Average age of **48 years**



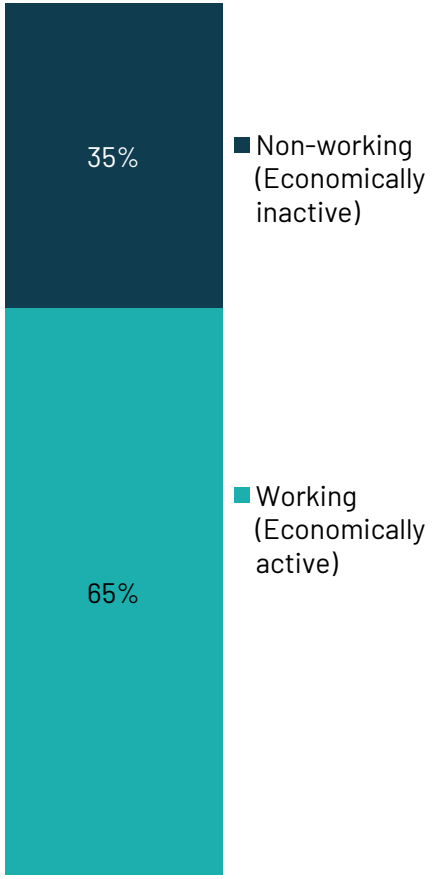
Ethnicity



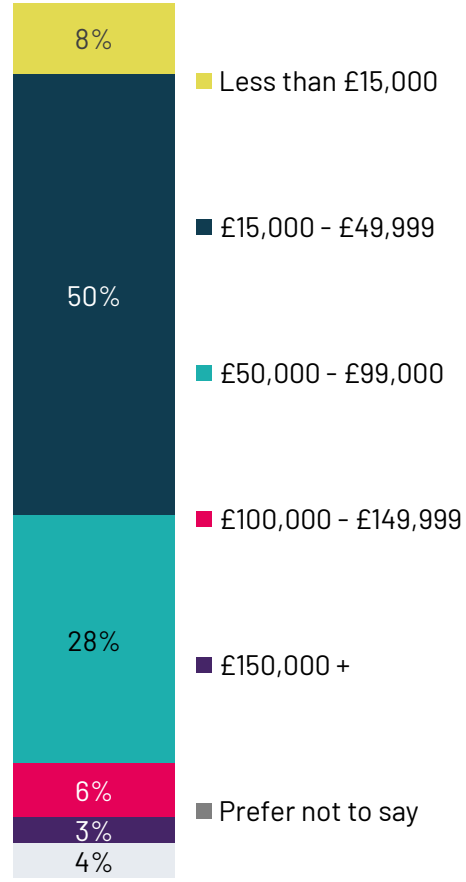
Gender



Work



Annual Household income



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This market research was commissioned by AstraZeneca.

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