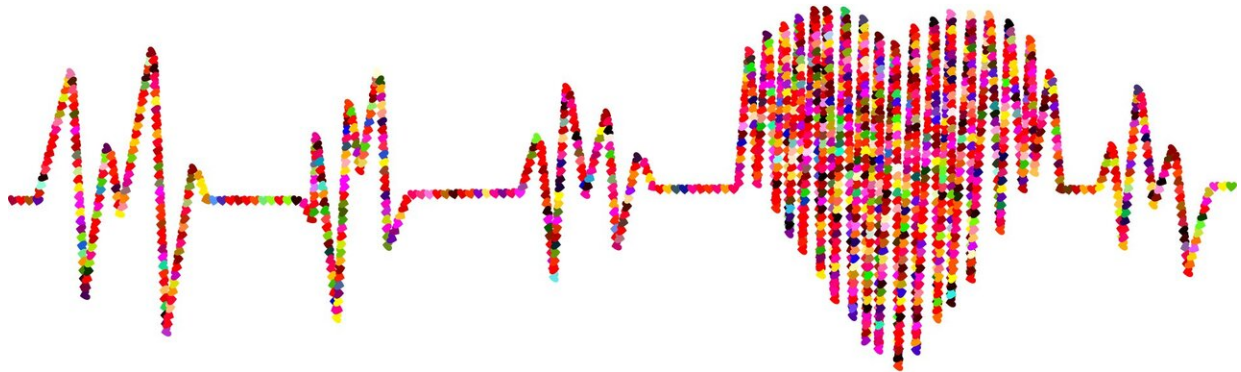


# High blood pressure controlled in only 2 out of 5 UK cases despite treatment

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Credit: CC0 Public Domain

High blood pressure is controlled in only 2 out of 5 UK patients with the condition, despite treatment, suggests a large population based study, published in the online journal *Open Heart*.

People who are older (60+), of black ethnicity, and who are on relatively low incomes (£18,000/year) are less likely to have well controlled blood pressure, the findings indicate.

High blood pressure is the leading preventable risk factor for [cardiovascular disease](#) death, affecting over 1.3 billion people around the globe and responsible for around half of all strokes and heart attacks.

Lowering blood pressure can cut the number of strokes by 35%-40%, heart attacks by 20%-25%, and heart failure by 50%. Yet despite the ready availability of inexpensive drug treatments, many people remain undiagnosed or inadequately treated, point out the researchers.

They therefore wanted to find out how well blood pressure is controlled among 40-69 year olds diagnosed with the condition and taking medication to treat it in the UK as well as pinpointing any relevant factors linked to better or worse control.

The researchers drew on baseline survey data from the UK Biobank (UKB), a large population-based study of half a million 40-69 year olds living within 40 km of 22 assessment centres across England, Scotland and Wales between 2006 and 2010.

They took account of potentially influential factors: social and demographic characteristics; [cardiovascular disease risk factors](#)—alcohol intake, smoking, physical activity levels, weight (BMI)—and blood pressure control—number and type of coexisting cardiometabolic, respiratory, psychiatric and neurological conditions, number of drugs taken to treat the condition, and a proxy for healthcare use—previous bowel cancer screening.

Among all 459,484 Biobank participants, over half (56%;256,203) had [high blood pressure](#). A blood pressure reading above 140/90 mm Hg is considered to be high.

Nearly half of those with high blood pressure (47%,120,211) were unaware of their condition; 27% (36,524) of those who were aware

weren't taking any drugs to treat it.

Some 99,468 people were included in the final analysis: their average age was 62; 46% (45,607) were women. Most (93%;92,385) were white and around a quarter (25,606) had only been educated to primary school level.

Around 1 in 5 (19%;19,344) had been diagnosed with cardiovascular disease; 4 in 10 (40%;39,887) were obese; and around 1 in 10 (9%;9,254) were current smokers.

On average, they had been diagnosed with high blood pressure 7 years earlier. Just under 14% were on 3 or more drugs to treat the condition.

Among the 19,344 with cardiovascular disease, around 1 in 5 (19%;3,740) were on 3 or more high blood pressure drugs; as were 9,886 (12.5%) of the 79,022 without cardiovascular disease who were neither smokers nor obese.

In only 2 out of 5 treated middle-aged people was their high blood pressure controlled. Blood pressure was controlled in only around 38% of those on treatment, meaning that nearly two thirds (61,543; 62%) weren't being treated properly.

When a higher cut-off blood pressure threshold of less than 160/100 mm Hg was applied, it emerged that 20,573 (21%) weren't being treated properly for the condition. In fact, nearly 4% (3,754) of those who were on treatment had a systolic blood pressure of at least 180 mm Hg or a diastolic blood pressure of at least 110 mm Hg.

Having coexisting conditions was most strongly associated with blood pressure control, including those not linked to a heightened risk of cardiovascular disease.

Factors associated with poor blood pressure control included older age (60+), male gender, drinking 30 or more units of alcohol a week, black ethnicity and obesity.

Low household income (£18,000 a year), low educational attainment, and manual labour jobs were also associated with poor blood pressure control.

But smoking was associated with higher odds (24%) of blood pressure control, likely due to more intensive treatment to cut the higher cardiovascular disease risk of smokers, say the researchers.

And a diagnosis of 3 or more coexisting conditions was associated with double the odds of blood pressure control.

Those coexisting conditions most strongly associated with blood pressure control were known cardiovascular disease (double the odds), irregular heart rhythm (72% higher odds), migraines (68% higher odds), anxiety (47% higher odds), diabetes (32% higher odds) and depression (27% higher odds).

Despite being one of the largest population based studies to look at high [blood pressure control](#) in middle aged adults, there are nevertheless some caveats, caution the researchers.

These include reliance on self reported coexisting conditions and drug treatments, and the fact that UK Biobank baseline data don't include information on influential factors such as sticking to drug treatment and use of healthcare services.

"Having a comorbidity was associated with higher probability of control, possibly due to more frequent interaction with the healthcare system and/or appropriate management of those at greater cardiovascular risk,"

note the researchers.

"More research is needed to understand barriers to [high [blood pressure](#)] control, and the mechanisms underlying the association between [it] and comorbidities not linked with increased [cardiovascular disease] risk," they conclude.

**More information:** Prevalence and determinants of hypertension control among almost 100 000 treated adults in the UK, *Open Heart* DOI: [10.1136/openhrt-2020-001461](https://doi.org/10.1136/openhrt-2020-001461)

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