

COVID-19 vaccination uptake rates and sociodemographic variability

What?

On 8th December 2020, the UK became the first country in the world to offer a mass vaccination programme to manage the threat of COVID-19 to the population's health.

Just under 10 months later, nearly 90% of the UK adult population had received their first dose.

We share the headlines from a piece of research which provides new evidence showing how sociodemographic inequalities influenced COVID-19 vaccination uptake in England.

Using data linked to the 2011 Census and healthcare records, we explored differences in the uptake of vaccinations by age group and sociodemographic characteristics in adults aged 18 years or over.

Socio-demographic characteristics are descriptions that are used to characterise the general population, and include age, sex, religion, disability status, educational level, income, where you live and ethnicity.

So what?

It's important to understand the uptake of COVID-19 vaccinations because we know that immunisation rates for a variety of diseases are lower amongst certain ethnic minority groups, and amongst people who live in areas of higher deprivation.

Having this knowledge will help policymakers and healthcare professions to understand why certain groups of people are less likely to come forward for vaccinations, and for action to be taken to address this inequality.

The research

The research looked at data covering over 35 million people. This included everyone living in England over 18 years of age, who was alive on 8th December 2020 and registered with a GP. It also involved those who had been included in the 2011 Census, and those who had been offered their first COVID-19 vaccination dose between December 2020 and August 2021.

Data came from a variety of government sources:

- the NHS England and NHS Improvement's National Immunisation Management System,
- the Office for National Statistics,
- the Public Health Data Asset (which includes the 2011 Census and mortality records),
- and the General Practice Extraction Service data for pandemic planning and research.

All of these datasets were linked by a person's unique NHS number.

Of the people included in the sample,

- 52.4% were women,
- 82.4% were White British,
- 60.5% were Christian,
- and 14.5% were living with a disability.

The results

The results showed that certain socio-demographic characteristics influence vaccination uptake in the following ways.

Sex

More women than men have been vaccinated.

- The gap between men and women was largest in earliest months of the roll-out; whilst narrower now, the gap still exists.
- The gap reduced with age; almost the same amount of women and men are vaccinated for people aged over 60 years.

Ethnicity

Differences in vaccination uptake by ethnic group were apparent as soon as the COVID-19 vaccination programme started and have grown over time.

- People from White British and Indian ethnic backgrounds had the highest vaccination rates.
- People identifying as Black Africans aged 80 years and above, and people from Black Caribbean backgrounds aged between 18-79 years old had the lowest vaccination rates.

By the end of August 2021, only 57% of adults in England identifying as Black Caribbean had received at least one dose of a COVID-19 vaccination. In comparison, 90% of adults identifying as White British and 88% of adults identifying as Indian had received at least one dose of the vaccination.

Ethnicity and Age

When looking at the relationship between age and ethnicity, a slightly different vaccination uptake pattern emerged.

- People identifying as having an Indian background and aged between 18-29 years old initially had the highest rate of vaccine uptake.
- Individuals aged over 80 years of age who had a Black African ethnic background were least likely to have been vaccinated.

Religion

Vaccination uptake rates also varied by religious background.

- People identifying as Hindu and Christian had the highest vaccination coverage.
- In contrast, individuals identifying as Muslim had lower vaccination rates than people from other religions.

Religion and age

- When combining the data on religion and age, adults over 70 years old and identifying as Christian had the highest rates of vaccination.
- However, in younger age groups, vaccination uptake was greatest among those identifying as Hindu.
- By the end of August 2021, 71% of adults identifying as Muslim had received at least one dose of a COVID-19 vaccination, compared with 90% of adults identifying as Hindu or Christian.

Other factors that influenced the uptake of COVID-19 vaccination included:

- living in a more deprived area,
- having a disability,
- not speaking English as a first language,
- living in rented housing,
- belonging to a lower socio-economic group,
- and having fewer educational qualifications.

In some instances, these influences had an even greater negative impact on vaccination uptake amongst younger age groups.

So now what?

Achieving a high rate of vaccination in the whole population, and not just in those at the highest risk, is an important way to slow down the spread of COVID-19 infection, reduce hospital admissions, and help healthcare systems and countries recover from the pandemic.

This research found that despite the high profile, national health awareness campaigns to support the roll-out of COVID-19 vaccinations, inequalities in uptake rates were clear.

The most important factors determining the decision to have the vaccination or not were ethnicity and religious identity. However, the decision was also influenced by a person's sex, level of poverty experienced, disability status, level of English language understanding, socio-economic position, and qualification level. Some of these differences varied even more when exploring vaccination uptake by age groups.

These findings are particularly important as many of these groups have been disproportionately affected by the COVID-19 pandemic, and sadly have experienced higher rates of severe illness and death.

We need to understand more about why these inequalities exist. By having a better understanding of why they occur, healthcare practitioners and policymakers can improve health messages and awareness campaigns.

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