# Digital health and equity

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"The field of knowledge and practice associated with the development and use of digital technologies to improve health.

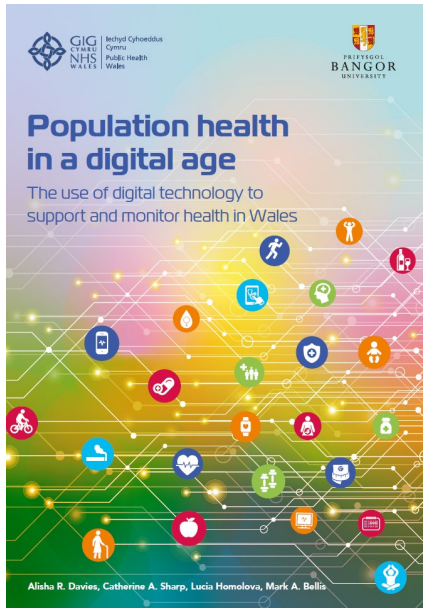
Digital health expands the concept of eHealth to include digital consumers, with a wider range of smart-devices and connected equipment. It also encompasses other uses of digital technologies for health such as the Internet of things, artificial intelligence, big data and robotics."

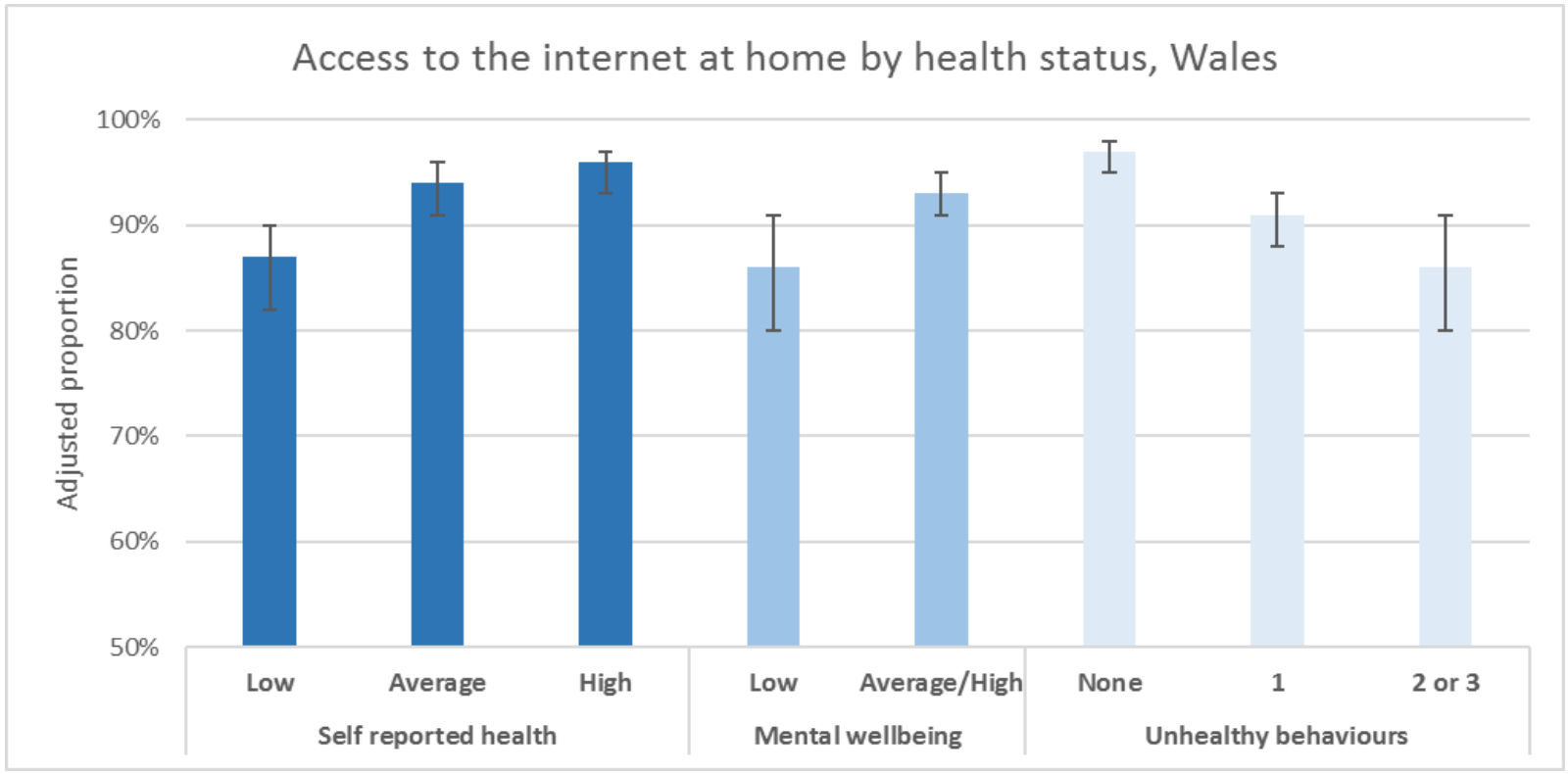
(World Health Organization, 2021)

# Digital exclusion and health in Wales

## 13% (2018) in Wales have no internet connection at home

- 2018
- Nationally representative household sample
- 1 240 aged 16+ years




A higher proportion of those in poorer health are digitally excluded.

Davies, Sharp et al (2019). *Population health in a digital age: The use of digital technology to support and monitor health in Wales*. Public Health Wales & Bangor University.

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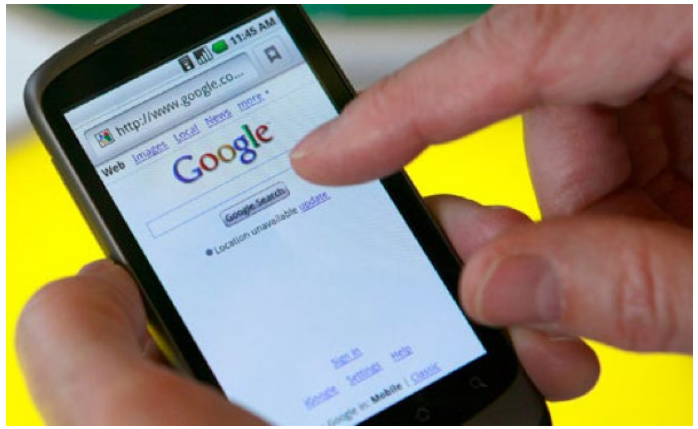
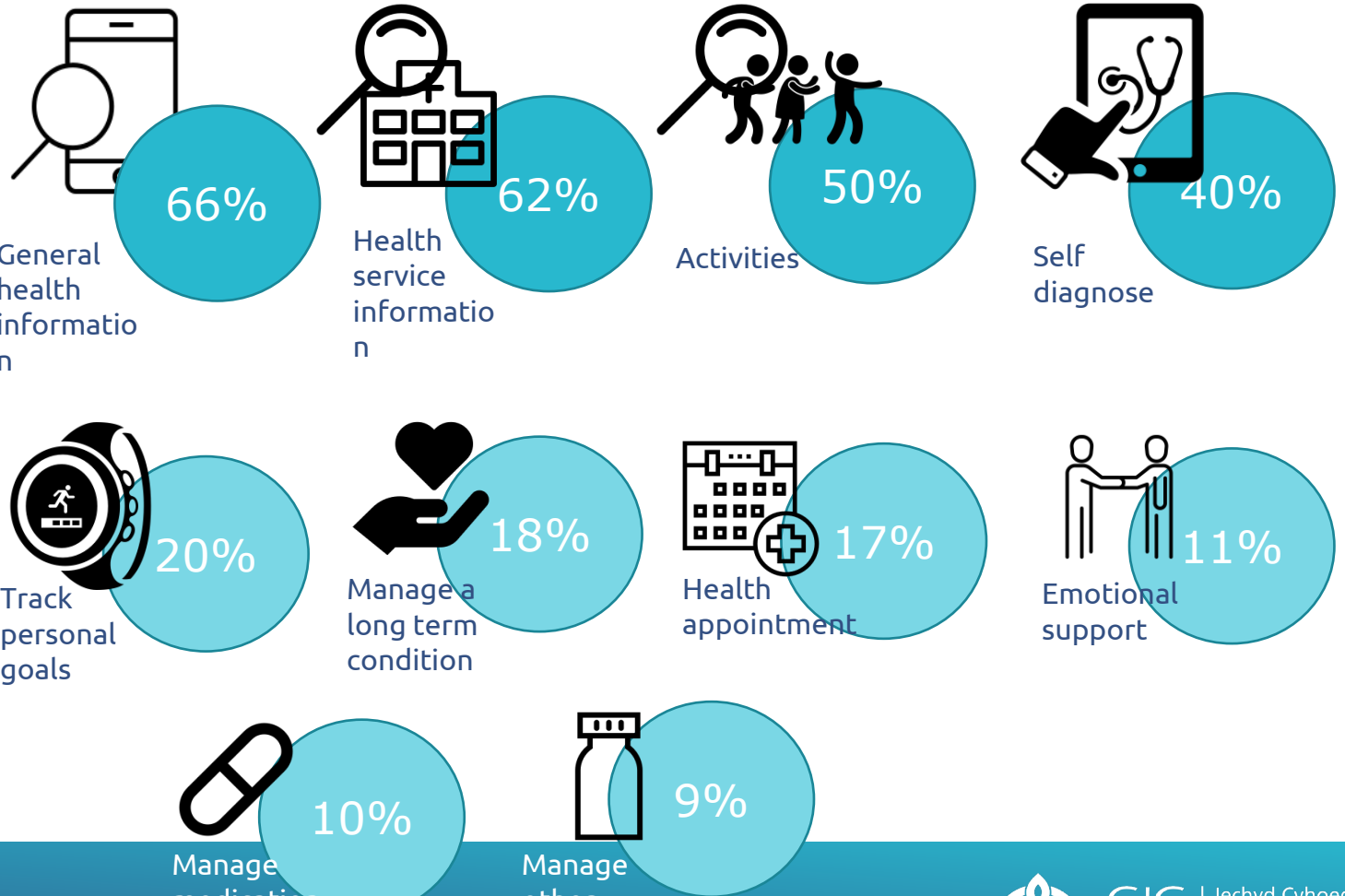
# Do people in Wales use technology to support health?

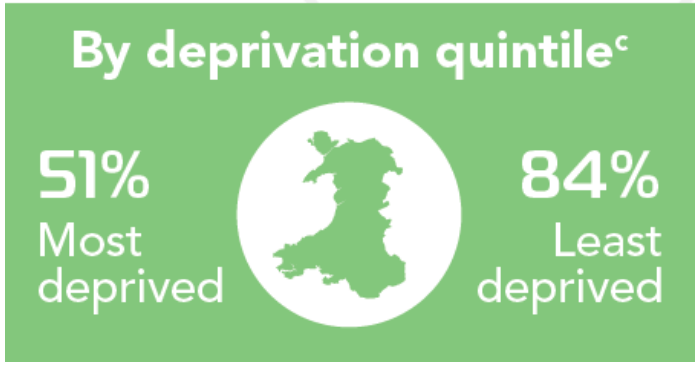
## 66% used digital tech to support health

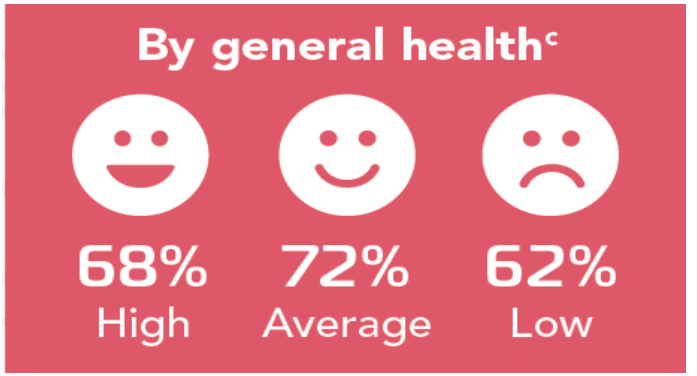


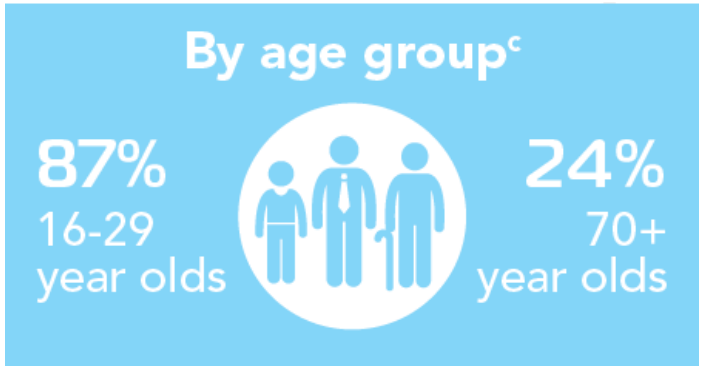



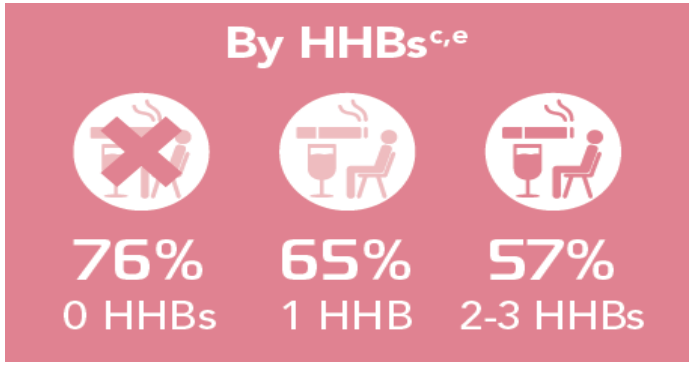

*(Figures weighted to the population distribution of Wales)*

# Differences in the level of engagement with digital tech for health in Wales, 2018

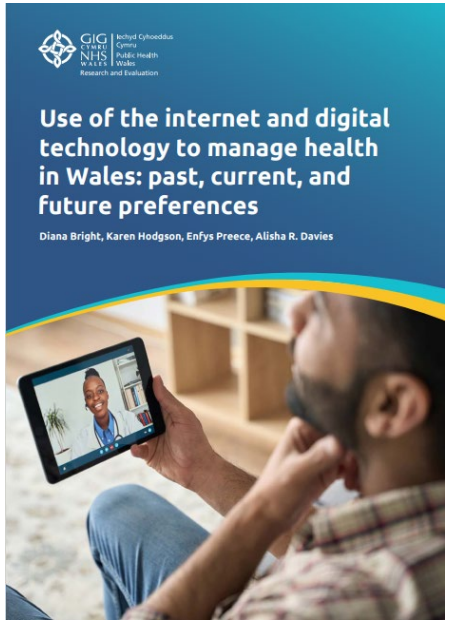




Davies, Sharp et al (2019). *Population health in a digital age: The use of digital technology to support and monitor health in Wales*. Public Health Wales & Bangor University.

*Adjusted proportion based on the final population sample weighted to reflect the socio-demographic distribution of the Welsh population (age, sex, deprivation).
HHB Health Harming Behaviours

# Post COVID – potential areas of growth

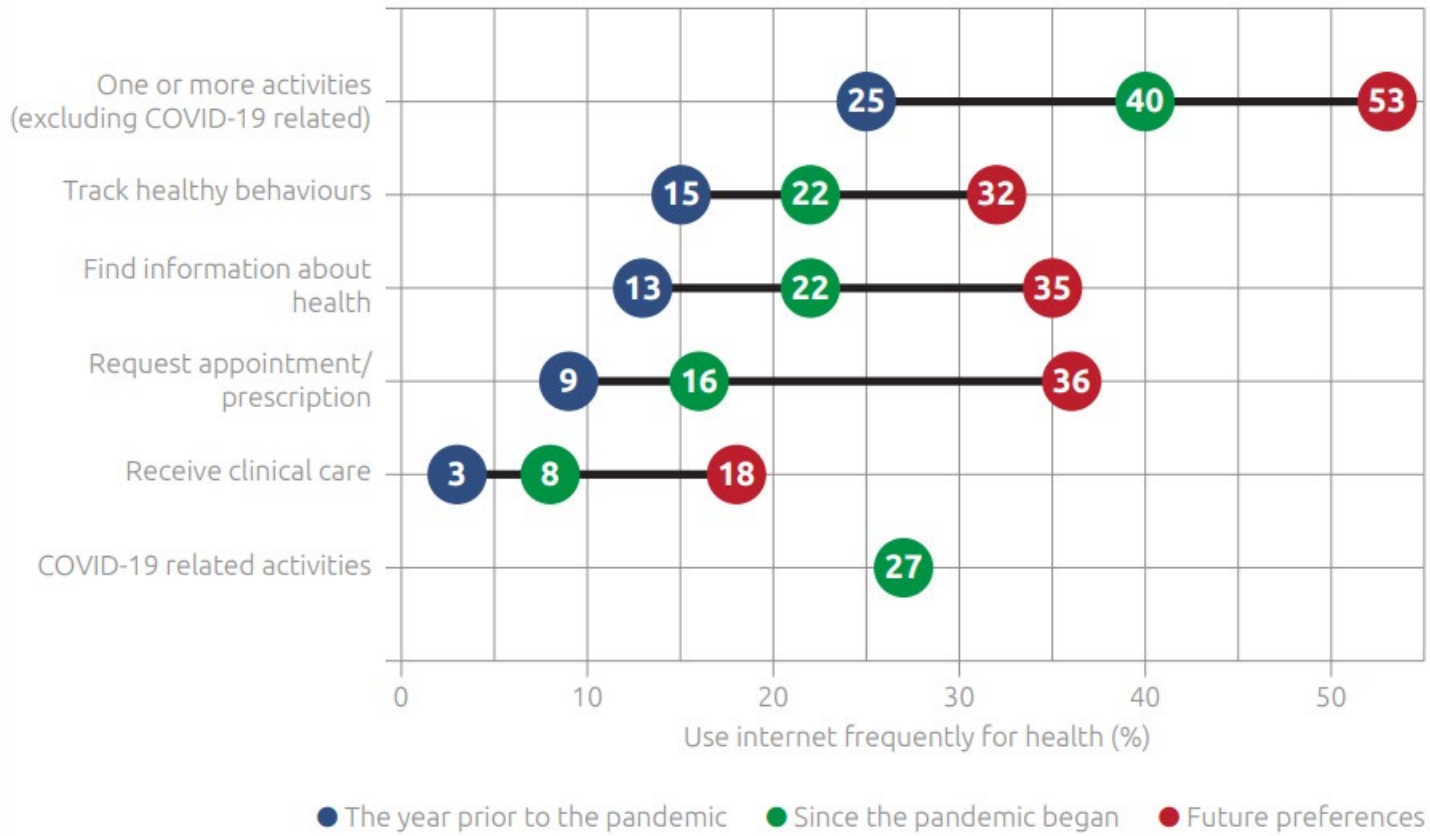



**Nov 2021-Feb 2022**

**Nationally representative household sample**

**2 448 aged 16+ years**

**Figure 2. Percentage of those with internet access using the internet frequently to manage their health by period**




Bright, Hodgson, Preece, Davies (2023). Use of the internet and digital technology to manage health in Wales: past, current and future preferences. Public Health Wales.

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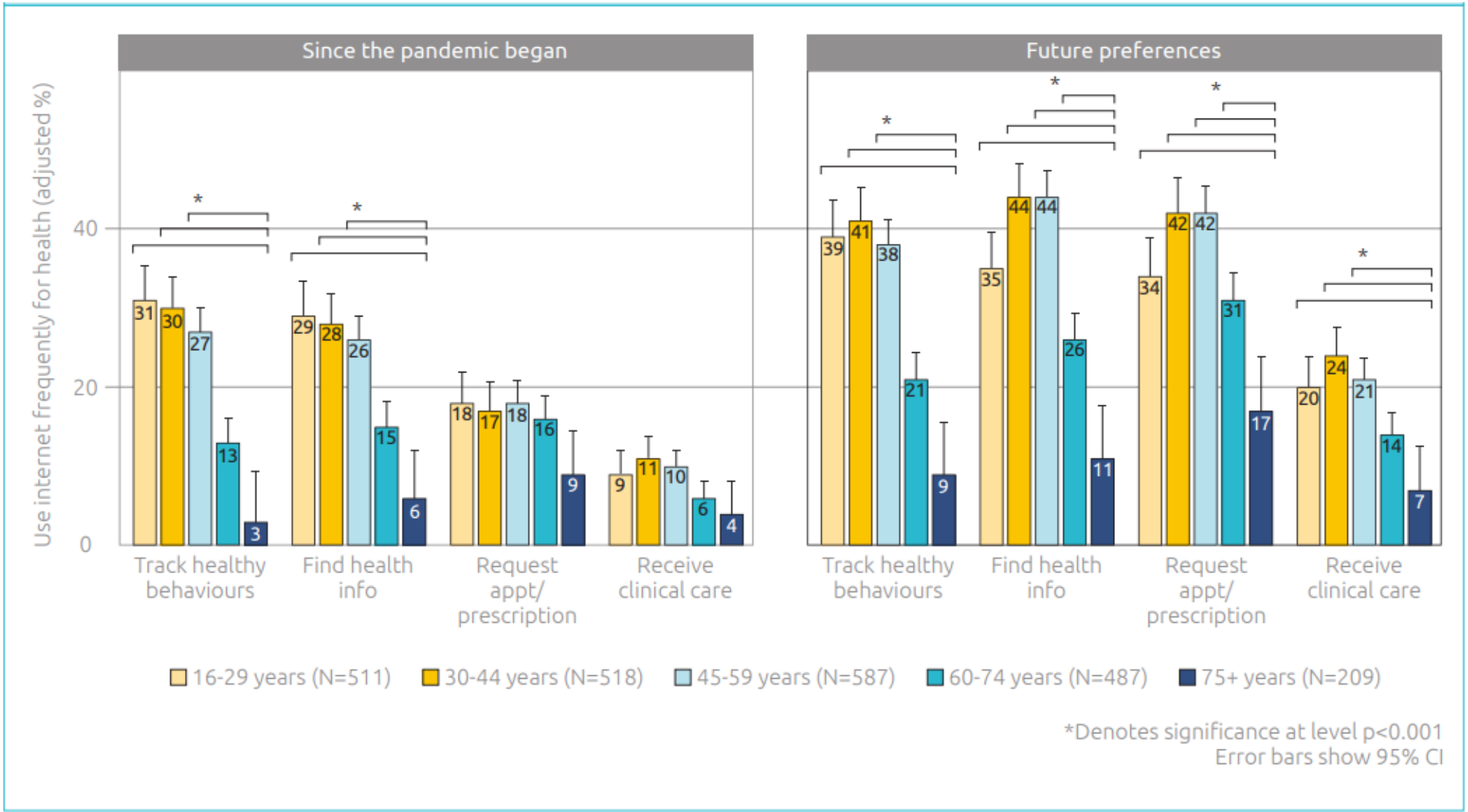
# Increase in future intention in across all activities and age groups. Greatest difference found in younger populations.

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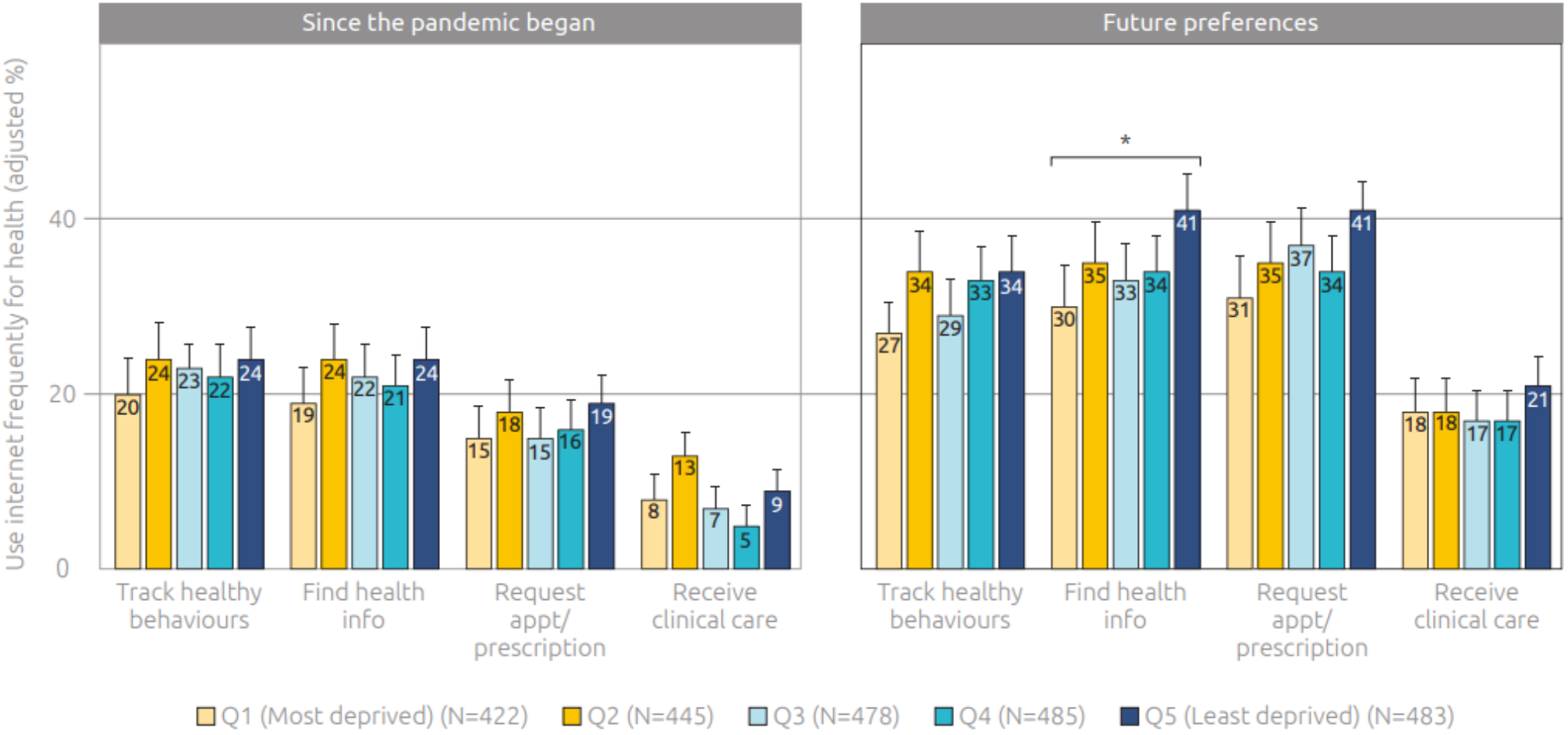
# Increase in future intention in across all activities and deprivation

# Only significant difference in terms of finding health information – slightly higher in least deprived groups.




*Denotes significance at level p<0.001
Error bars show 95% CI

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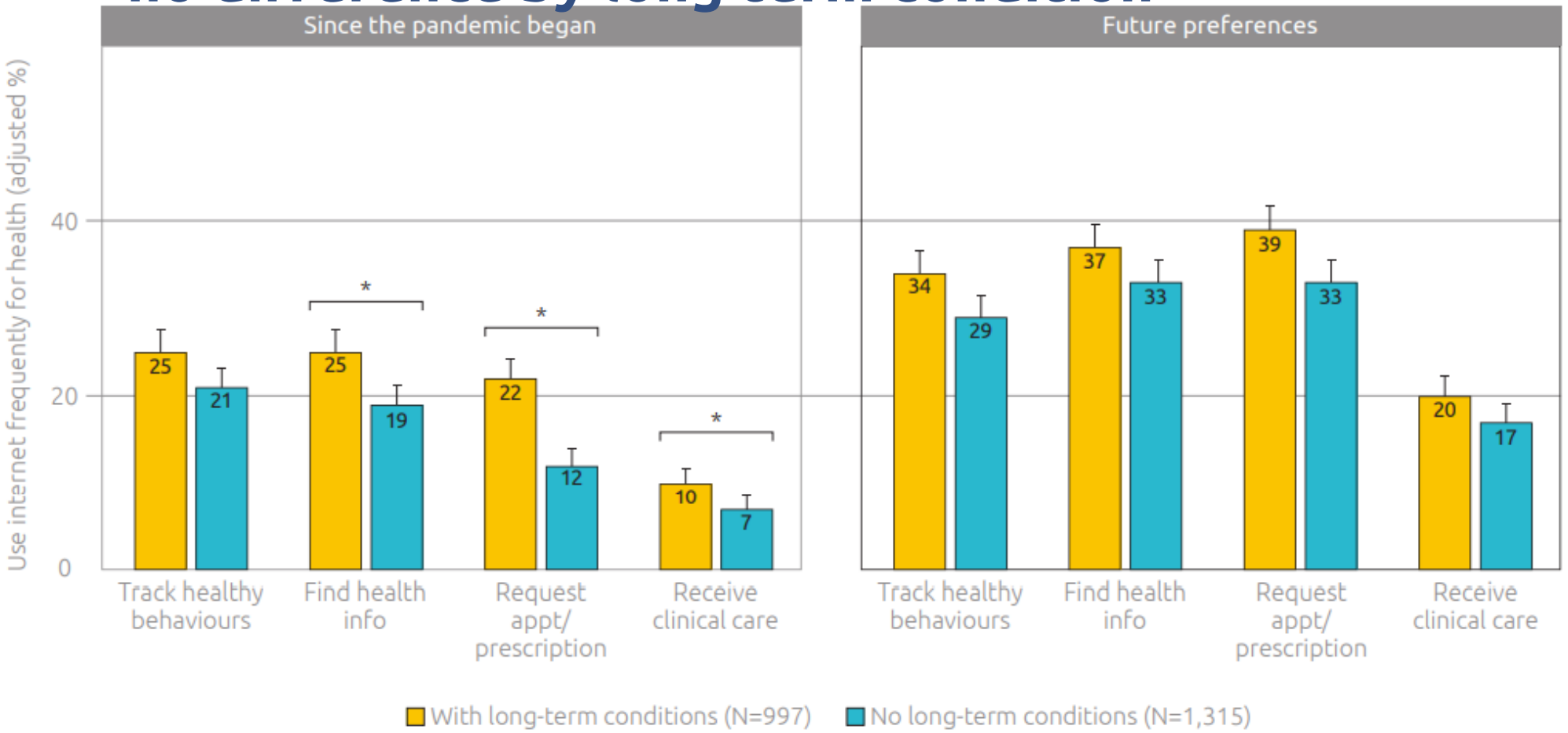
# Increase in future intention in across all activities and long term conditions

# Higher use amongst those with long term conditions, and in future – no difference by long term condition




*Denotes significance at level p<0.001
Error bars show 95% CI

# Equity with digital health technology within the World Health Organization's European region: a scoping review

Produced by Diana Bright, Katherine Woolley, Fiona Morgan, Toby Ayres, Kirsty Little, Alisha Davies

Public Health Data, Knowledge and Research Directorate,
Public Health Wales.


World Health Organization
European Region

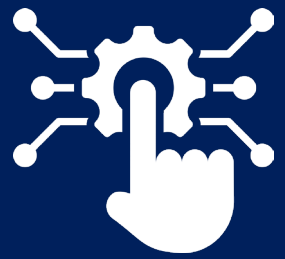
World Health Organisation, 2022 Equity within digital health technology within the WHO European Region: a scoping review. Ref WHO/EURO:2022-6810-46576-67595

# Three domains of Digital Exclusion

## Access

Digital infrastructure (connectivity and technology)

## Skills (use)



Digital skills and ability to use the digital technology

## Engagement

Level of engagement with digital health,
levels of awareness, trust, and perceived benefits.

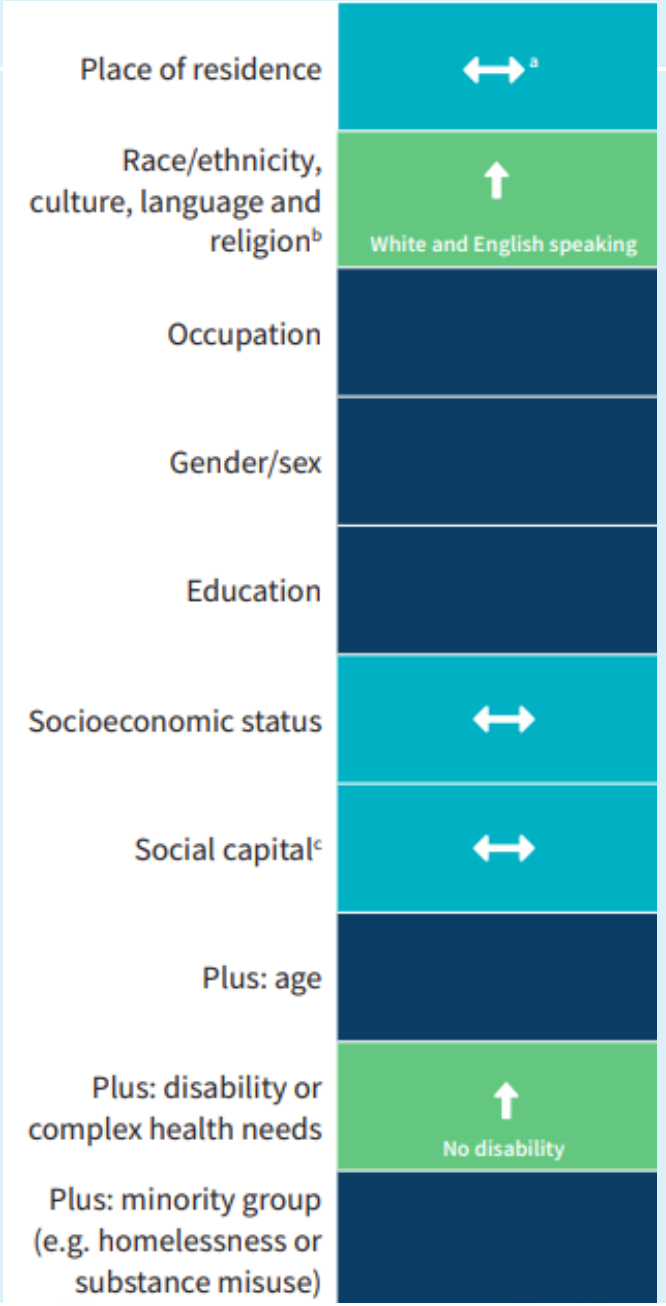
World Health Organization
European Region

Davies, Honeyman, Gann (2020). Addressing the Digital Inverse Care Law in the Time of COVID-19: Potential for Digital Technology to Exacerbate or Mitigate Health Inequalities. J Med Internet Res 2021;23(4):e21726) doi: 10.2196/21726)

# ACCESS
(connectivity & infrastructure)

Higher **access** in:
- White and English speaking individuals
- Those without complex needs or disability

- Place: Known differences in access due to geographical infrastructure. Where there is access in rural areas, some examples it improved routes to care.

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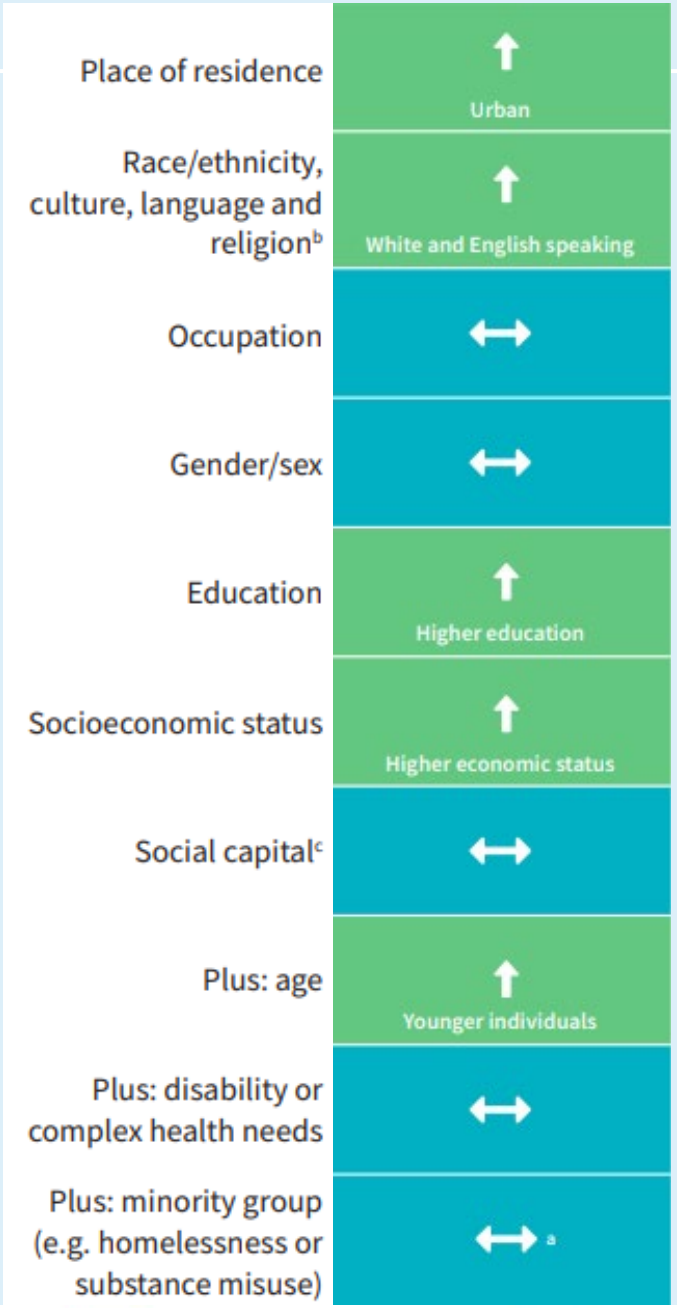
# USE
(skills & capability)

Higher **use** in:
- Urban residents
- White and English speaking
- Higher education
- Higher socio-economic status
- Younger individuals

- Occupation: mixed evidence of being in employment associated with greater use of digital technology.
- Gender/sex: Mixed reviews on patterns of use by gender

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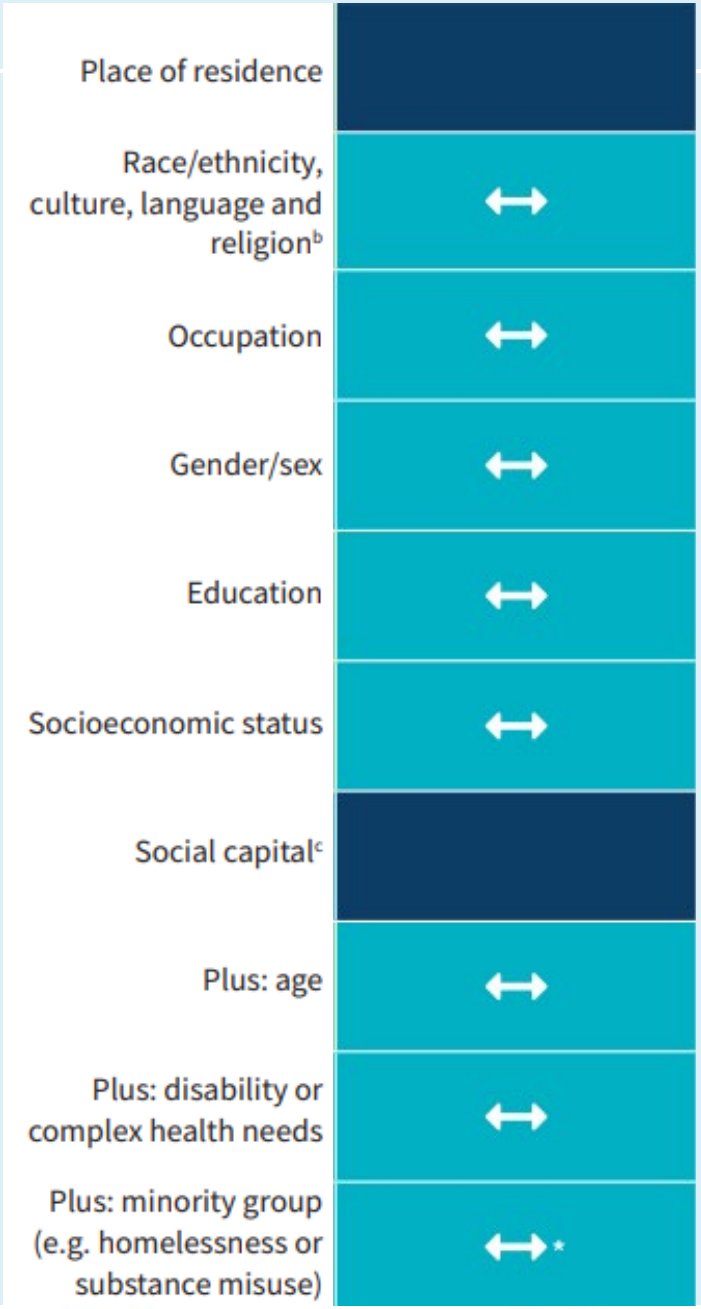
Evidence of possible effect | Evidence is unclear or mixed | No evidence from included reviews

# Engagement
(levels of awareness, trust, and perceived benefits)

- High level of variation in how engagement is considered in the literature.
- No consistent evidence of differences by equity group.
- Gender: Higher acceptance in men in use of electronic self-reporting systems, whereas other studies reported higher satisfaction with digital health applications compared with men.

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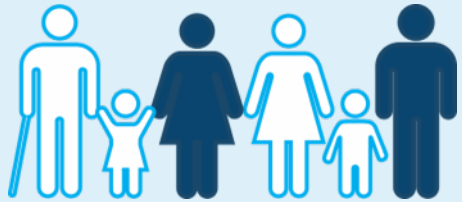
# Limitations

Only quantitative studies.

Quality of studies reported to be low by the included reviews



Only found relevant reviews and grey literature published in English

Most evidence comes from high income Western European countries

**No investigation of intersectionality across different types of equity (e.g., age and rurality)**

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# Summary of areas for future development

## Recommendations for Member States:

01

Adopt and develop a common framework approach to define, monitor and report digital health equity

02

Map inequities and improve our understanding of intersectionality

03

Collate evidence on effective approaches and use inclusive and participatory design approaches

04

Develop a good practice approach to the **evaluation design and reporting**

05

Collate examples of approaches health and care systems are taking to address equity

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# Regional digital health action plan for the WHO European Region 2023–2030

**Purpose:** digital solutions to leave no one behind

To promote digital health systems to **improve health at scale** in the Region, and to support countries in **leveraging and scaling up digital transformation** for better health and in **aligning digital technology investments with health system needs**, while fully respecting the values of equity, solidarity and human rights.

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