



# COMMUNITY HEALTH PROFILES **2022**

Birmingham Public Health Division  
September 2022

A BOLDER HEALTHIER BIRMINGHAM

# Public Health Evidence Reports

## 1. Statutory Reports – required by law

### Joint Strategic Needs Assessment

- This is a summary of the health and wellbeing of the people in Birmingham and what can affect their health. This report is refreshed every other year.
- Shows the inequalities at a high level across the city.
- Uses data from across the Council and public sector.

### Annual Director of Public Health Report

- Annual independent report of the Director of Public Health on a specific topic/focus area.

# Public Health Evidence Reports (cont.)

## 2. Elective Evidence Reports

### Deep Dive Needs Assessments

- Structured needs assessments into a specific area/topic/community
- Brings together published and grey literature, service data and qualitative data from community insight
- Makes recommendations for action

### Community Health Profiles

- Desk top analysis of published evidence and grey literature and population survey data.
- Snapshot of inequalities.



### Topic Based Commissions

- Evolving methodology using evidence collation with active community collaboration to focus on creating evidence-based solutions.

# The Community Health Profiles

- Birmingham City Council wants the city to become a **bolder, healthier city**. This is city where everyone can have a healthy, happy life.
- The Community Health Profiles help us understand the gaps (health inequalities) in achieving this in different communities.
- The Profiles describe the health inequalities of a specific community of identity or interest or experience.
- Setting out the differences in need shown by the evidence can help the Council, it's partners and communities take action to close the gaps and improve the health of people in Birmingham.
- The Community Health Profiles will be published on the Council's website as resources to support greater understanding and awareness of the issues affecting different communities in our city.
- We aim to refresh them every 5-8 years depending on the data availability.

# Evidence Report Forward Plan

## Community Health Profiles

- Sikh – (Sept 2021)
- Bangladeshi- (Sept 2021)
- Muslim
- Lesbian
- Trans
- **d/Deaf & Hearing Loss** ←
- Sight Loss
- Nigerian
- Indian
- Caribbean Islands  
Commonwealth States
- Somali
- Kenyan
- Pakistani

## Deep Dive Reports

- Veterans (published)
- End of Life (published)
- Learning Disabilities
- Dual Diagnosis
- Mobility Impairment
- Sensory Impairment

## Commissions

- Birmingham Poverty Truth Commission – focus on Housing issues
- Birmingham & Lewisham African & Caribbean Health Inequalities Review

# Community Health Profiles aim to...



To find and review the physical health, mental health, lifestyle behavioural and wider determinants (social and economic factors) that exist in health in a specific community.



To collect and present this information using the 10 key priority areas identified in the Health and Wellbeing Strategy for Birmingham - Creating a Bolder Healthier City



To engage with the local communities on the evidence found and highlight the opportunities to address inequalities



To promote the use of these summaries for Local Authority and wider system use for community and service development.

# Health and Wellbeing Themes

Getting the Best Start in Life

Mental Wellness and Balance

Healthy and Affordable Food

Active at Every Age and Ability

Working and Learning Well

Protect and Detect

Ageing and Dying Well

Closing the Gaps

Green and Sustainable Future

Mitigating the Legacy of COVID-19

# Methodology

- A full review of
  - Academic resources, including PubMed, Census 2011, Web of Sciences
  - Grey literature, including national, voluntary and community reports, PHE and NHS, google/google scholar and Deaf organisations
- Health & Wellbeing data review and research according to specified health and well-being indicators
- Comparison groups include the hearing population of the UK.



# Limitations of the Findings

- Limited data was collected on disability from the 2011 Census.
- Population data used is from the 2011 Census and is likely to have changed since then. Conclusions on populations must therefore be taken with caution.
- Limitations exist in the profiles due to the ways that people in the studies are found and included.
  - For example, people who are born Deaf or with hearing loss may have different lived experiences to those who become Deaf or who have hearing loss at some point in their life. Often studies do not separate the two groups.

# Sharing Community Health Profiles

- Written report & PowerPoint slide set
- Published on the [BCC Communities Pages](#)
- YouTube highlights video
- Webinars for Deaf and hard of hearing community and wider partners



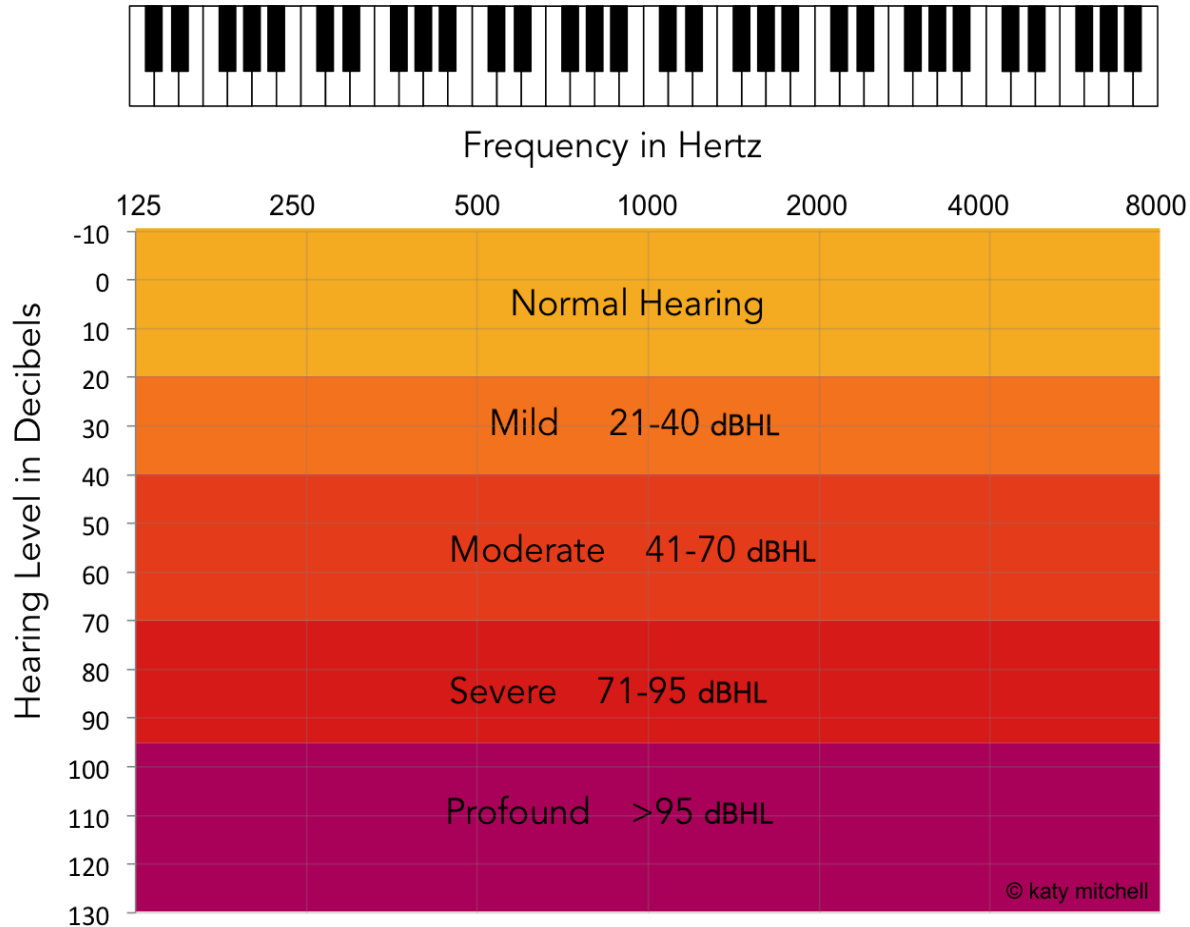
# COMMUNITY HEALTH PROFILES **2022**

Deaf and Hearing Loss Profile

Weblink: [Deaf and Hearing Loss community health profile | Community health profiles | Birmingham City Council](#)

A BOLDER HEALTHIER BIRMINGHAM

# The Severity of Hearing Loss



- People without hearing loss can hear noises between 0 and 140 decibels (dB).
- Hearing loss can range from mild (20-40dB), where the person might find it difficult to follow speech in noisy situations to profound (>95dB).<sup>[1]</sup>
- A loss of  $\geq 35$ dB is considered 'disabling' hearing loss, this figure is different around the world.<sup>[2]</sup>

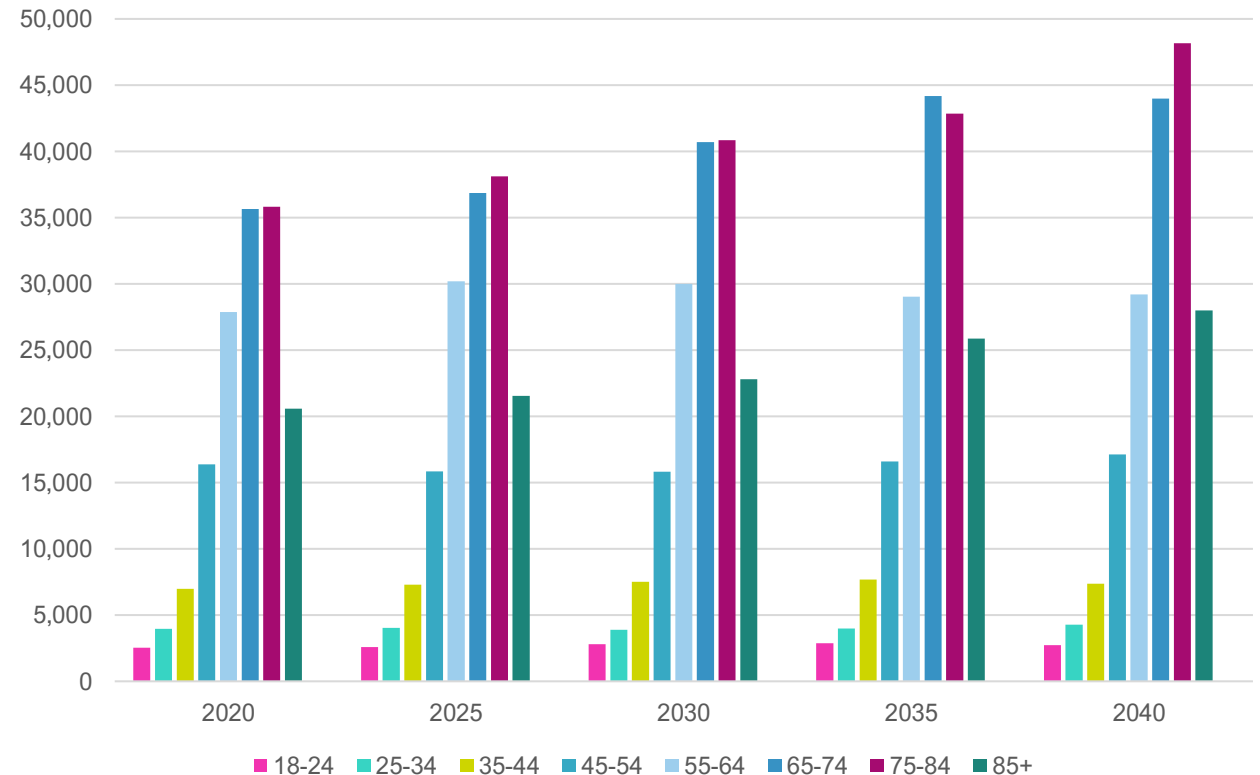
# Hearing Loss in England

- The UK has about **12 million** people living with mild hearing loss. Around **1.2 million** adults have hearing loss of 65dB or greater.<sup>[3]</sup>
- By 2035 there could be **14.2 million** adults in the UK who will have some hearing loss.<sup>[4,5]</sup>
- **900,000** people in the UK are classified as profoundly Deaf.<sup>[3]</sup>
- 2011 Census data showed **15,482** people in England and Wales had BSL as their main language.
- **188,000** people aged 18 or over in England are Deaf and use sign language.<sup>[6]</sup>

# Hearing Loss in Birmingham

- In Birmingham in 2020 there were **152,158** people with mild hearing loss or greater.<sup>[7]</sup>
- Around **11,525** people aged over 70 have severe or profound hearing loss.
- **8,260** people are registered as Deaf or hard of hearing in Birmingham.
- Birmingham remains the largest Deaf community compared to other metropolitan districts in the country.

Estimate of people with some hearing loss in Birmingham from 2020 to 2040<sup>[8]</sup>



# Overview of Inequalities

Higher rates of birth complications.

Deaf children are less school ready and have lower educational attainment.

High amounts of mental illness within community; difficulties accessing services.

Increased risk of domestic violence in Deaf women.



Limited employment opportunities.

High rates of high blood sugar, twice as likely to have undiagnosed diabetes.

Increased risk of falls in older people.

# Getting the Best Start in Life

## Infant Mortality and Live Births

- Cause of permanent hearing loss in babies: **25%** unknown, **25%** due to infections during pregnancy, **50%** likely to have a genetic cause.<sup>[9]</sup>
- For Deaf mothers there is a **9.2%** risk of a baby being born prematurely (7.1% general population). There is also a **7.2%** chance of low birth weight (5.6% general population).<sup>[10]</sup>

## Maternal Health

- Deaf and hard of hearing women have a higher risk for pregnancy and birth complications such as gestational diabetes and pregnancy-related blood pressure disorders.<sup>[10,11,12]</sup>

### Contributing factors to disparities

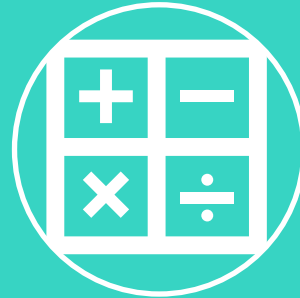




# Getting the Best Start in Life



Deaf children are less likely to achieve the communication and language early learning goals of listening and attention (50%), understanding (46%) and speaking (42%).<sup>[13]</sup>



Children who are Deaf or hard of hearing are less likely to achieve grade 4 in Maths and English (58%) compared to the general population (71.2%).<sup>[14]</sup>



Deaf pupils are also less likely to achieve 5 GCES's or similar compared to the general population (73% vs 88%).<sup>[15]</sup>

# Mental Health and Wellbeing

- Rates of depression are double that in the Deaf community (**24%**) compared to the general population (**12%**).<sup>[16,17]</sup>
- **39-42%** of Deaf people experience Physical abuse, higher than the hearing population (**13-20%**).
- Amounts of smoking and drinking alcohol in the Deaf community is lower than the general population.<sup>[18]</sup>



## Risk Factors of Poor Mental Health

- Being left out of social situations
- Less education and employment opportunities
- Lack of awareness of Deaf culture
- Poor care and decline in health and wellbeing

# Healthy and Affordable Food



## Obesity

- **72%** Deaf men and **71%** women were overweight or obese, compared to the general population (**65%** men and **58%** women).<sup>[19]</sup>

## BMI and Waist Circumference

- Based on BMI and waist measurements, **48%** of Deaf people are at high or very high risk of developing heart disease, diabetes, arthritis, and some cancers.<sup>[17]</sup>

## Healthy Eating

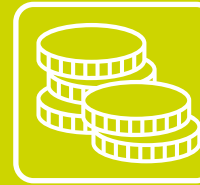
- Limited data to understand the knowledge of healthy eating and portions among Deaf and hearing loss communities.

# Active at Every Age and Ability

- **57%** of Deaf or hard of hearing people do less than 30 minutes of exercise each week. Compared to **21%** of non-disabled people.<sup>[20]</sup>
- **8 in 10** Deaf people said they would prefer playing sport in a mixed environment with Deaf and hearing people.<sup>[21]</sup>
- Only **9.7%** of people with hearing loss take part in sport once per week.<sup>[22]</sup>



Concerns about lack of fitness



Cost of partaking in sports



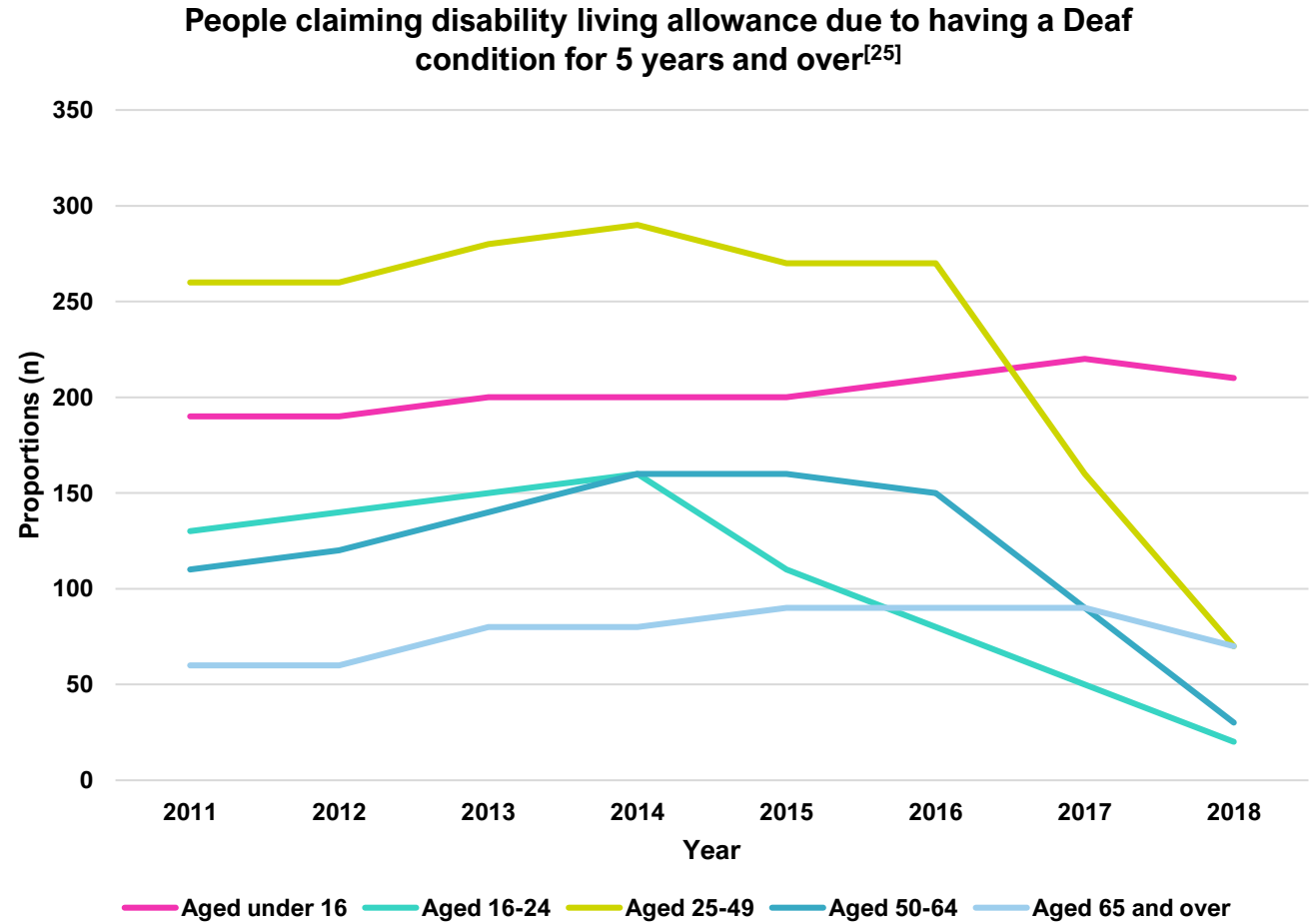
Lack of confidence



Barriers to communicating

# Working and Learning Well

- Only **46%** of working age disabled people are in work.<sup>[23]</sup>
- **8 out of 10** people with hearing loss reported that the attitude of employers is a large barrier to employment.
- **34% of Deaf students** achieved 2 A-levels, or similar, compared to **55% of hearing students.**<sup>[24]</sup>



# Protect and Detect

## Screening

- People with hearing loss are **11%** more likely to attend cancer screening compared to people with no physical disability.<sup>[19]</sup>
- **35%** lower cancer screening attendance in single people than in married people.<sup>[23]</sup>

## Vaccines

- Deaf people are less likely to know that the HPV vaccine protects against cervical cancer compared to hearing participants (**32%** vs **49%**)
- Deaf people aged 65 and over are more likely to have the flu jab.<sup>[19]</sup>

## Other Health Issues

- Deaf patients are more likely to have undiagnosed diabetes. 77.3% of those with raised blood sugar at pre-diabetic levels were unaware of it.<sup>[19]</sup>
- The Deaf community experiences **higher** rates of unplanned pregnancy and STIs than the rest of the population.<sup>[26]</sup>



# Ageing and Dying Well

- Hearing loss is the leading cause of years lived with disability for those over the age of 70.
- There is a **2x** risk of developing dementia for those with mild hearing loss and **5x** risk for those with severe hearing loss.<sup>[27]</sup>
- Many Deaf people experience challenges when accessing healthcare and communicating with healthcare professionals.<sup>[28]</sup>



# Closing the Gaps

- Hearing loss was ranked in the **top five** leading causes of **YLDs (Years Lived with disability)** in 84% of European countries.
- Factors contributing to poor health and wellbeing include:
  - Poor access to education
  - High unemployment
  - Access to healthcare

## Gaps in healthcare services<sup>[29]</sup>

- **80%** of Deaf people want to speak with a doctor in BSL. Only **30%** manage to.
- **24.6%** of Deaf patients 'definitely' have trust/confidence in their doctor (67% general population). **18.3%** said they had 'no confidence at all'.





# Green and Sustainable Future



There is limited evidence to understand the contribution to a green and sustainable environment among Deaf people.

- Some research suggests that as electric vehicles are quieter, there are some safety issues for those with hearing loss.<sup>[30]</sup>
- Also, findings about environmental justice says people who are Deaf may not have equal access to information on climate related issues.<sup>[31]</sup>

# Mitigating the Effects of COVID-19

Impact on wellbeing	Practical problems
Increased isolation and loneliness	Face masks (made it difficult to speak with others)
Increased mental health problems especially depression	Accessing health and social services and interpreters
Further worsening of co-morbidities because of issues accessing services	Accessing COVID-19 vaccine centers to get their protection

**1 in 3 reported that the pandemic had a major impact on their mental health. Most experienced anxiety (61%), stress and worry (60%) and depression (35%).<sup>[32]</sup>**





# COMMUNITY HEALTH PROFILES **2022**

Deaf and Hearing Loss Profile  
Infographics

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# DEAF AND HEARING LOSS COMMUNITY PROFILE

## INTERNATIONAL CONTEXT

Globally, hearing loss prevalence increases with age.



**1.7%** FOR CHILDREN UNDER 15

**1 IN EVERY 4** PEOPLE AGED 60 AND OVER

BY 2050



1 in 10 will be registered with hearing loss around the globe by 2050. The rates of hearing loss are expected to rise to 2.5 billion people worldwide.

**£780 BILLION** Global annual direct and indirect costs of untreated hearing loss

**57%** of these costs are attributed to low and middle income countries



## PREVALENCE IN EUROPE

The average prevalence of all severity of hearing loss in the UK, similar to the European average (13%)

**12%**

## NATIONAL AND LOCAL CONTEXT

**12 MILLION** DIAGNOSED WITH HEARING LOSS

The number of people in the UK diagnosed with a hearing loss of >25dB. This is expected to rise to 14.2 million by 2035.

**152,158**

People in Birmingham have a hearing loss of >25dB or greater. Largest amount of deaf people out of any metropolitan district.

**15,482**



Estimated number of BSL users in England and Wales (Census 2011)

## PREVALENCE OF HEARING LOSS

(Adult population with hearing loss of 25dB or more)

**18%** BIRMINGHAM **22%** NATIONAL AVERAGE

Birmingham rates are predicted to rise to 20% by 2035, lower than the regional and national rates.

**6.7 MILLION**

According to Hearing Link (2021), 6.7 million people would benefit from hearing aids, but 2 million people only wear them within the UK.

## OVERVIEW

**Dd**



Capital 'D' and lower case 'd' are used to categorise those with hearing loss conditions. A capital 'D' is used to represent those who were born deaf and perceive themselves as part of a linguistic and cultural minority; lower case 'd' is used for deafness or hearing loss later in life after communicating in spoken language and do not always have a strong connection with the deaf community.

## TYPES OF HEARING LOSS

**>95dB** **PROFOUND**

**71-95dB** **SEVERE**

**41-70dB** **MODERATE**

**20-40dB** **MILD**



## TYPES OF HEARING LOSS



The risk of developing hearing loss can be reduced by improving regulations and protective equipment at workplaces and implementing global or national safe levels in personal and recreational spaces.



# DEAF AND HEARING LOSS COMMUNITY PROFILE

## MENTAL HEALTH AND WELLNESS

### DEPRESSION

27%

DEAF AND HEARING LOSS POPULATION



rates are **more than double** in the deaf and hearing loss population compared to the hearing population

12%

HEARING POPULATION

### MENTAL HEALTH RISK FACTORS

- Family and relationship problems
- Social exclusion
- Ineffective care due to communication issues



### ALCOHOL: NON-DRINKERS

Deaf men & women are more likely to 'never drink' compared to the general population (28% British men, 44% British women)



15%



28%

### DRUG USE

54% OF DEAF PEOPLE

35% AGED 16-59

have taken drugs at some stage in their life. A larger proportion compared to 35% of all adults in England aged 16-59 and 36% of all young adults aged 16-24

36% AGED 16-24

2x

More likely to experience



DOMESTIC VIOLENCE

as a Deaf woman than a hearing woman. Also more likely to experience other types of abuse

## HEALTHY AND AFFORDABLE FOOD

16%

increased likelihood of developing hearing difficulties with high-fat diet

### OBESE OR OVERWEIGHT

Hearing Loss



72%



71%



General population



62%



58%

DEAF RESPONDENTS ATE SLIGHTLY MORE

vegetables than the general population. However, Deaf respondents were more likely to eat fried food and consumed it more regularly



## RISK OF ILLNESS

More deaf women had larger waist circumference than deaf men. This is higher than for both sexes in the general population (34% men and 47% women)



75.7% DEAF WOMEN



57.1% DEAF MEN



AT LEAST 48%

of Deaf people would be placed in the "high to very high risk" of serious illness categories due to high BMI and waist circumferences.



## GETTING THE BEST START IN LIFE

IT IS ESTIMATED THAT

0.1%



of children are born with Permanent Childhood Hearing Loss (PCHL) in both ears, and an additional 600 children in England develop or acquire PCHL by age 10



53,954

DEAF CHILDREN AGED 0-19 ACROSS THE UK



5.2%

increase from 2018

60%

of local authorities in England do not regard deaf children as



CHILDREN IN NEED

even though the law defines them as such

Deaf children are less likely to achieve the communication and language early learning goals of

50% LISTENING AND ATTENTION

46% UNDERSTANDING

42% SPEAKING

## ELIGIBILITY FOR FREE SCHOOL MEALS

#1



SEN

28%

#2



Deaf SEN children

22%

#3



All children

15%

# DEAF AND HEARING LOSS COMMUNITY PROFILE

## WORKING AND LEARNING WELL

In the academic year 2019/20, on average, deaf pupils achieved a grade 4 for each subject, this was

**1 GRADE LESS**   
ON AVERAGE THAN HEARING STUDENTS

**34%** of deaf students achieved 2 A-levels (2019/20), or equivalent compared to **55%** OF HEARING STUDENTS

**42%** of deaf participants in a UK study were working either full or part time compared to **80%** OF THE WIDER POPULATION

**WORKING LIFE**  **73%** OF DEAF PEOPLE'S EMPLOYMENT OPPORTUNITIES were limited because of their hearing loss

**BARRIERS AT WORK** Reasons for early retirement due to hearing loss included

DIFFICULTIES USING THE PHONE



COMMUNICATION CHALLENGES WITH COLLEAGUES



## PROTECT AND DETECT

**CANCER SCREENING**  
PEOPLE WITH HEARING LOSS ARE

**11%** more likely to attend cancer screening compared to people with no physical disability



**DIABETES**   
**7.6%** OF DEAF PEOPLE HAD HIGHER THAN NORMAL BLOOD SUGAR LEVELS

and were not aware of this (2% general pop). This suggests that undiagnosed diabetes may be more common in deaf people



**SEXUAL HEALTH**  THE DEAF COMMUNITY EXPERIENCES HIGHER RATES OF UNPLANNED PREGNANCY AND STIs THAN THE REST OF THE POPULATION

**ONLY 35%** of deaf students knew that condoms could prevent the transmission of infections, and almost all were not aware of the term STI

## ACTIVE AT EVERY AGE AND ABILITY

**PHYSICAL INACTIVITY**  **#1 Deaf or hard of hearing 57%** **#2 All disabled 40%** **#3 Non-disabled 21%**  
<30 MINS/WEEK

## BARRIERS TO ACTIVITY



LACK OF FITNESS



COMMUNICATION CONCERNS



LACK OF CONFIDENCE

## WALKING AND GARDENING

are the main activities that people with hearing loss partake in



**1 IN 5**  SAID THAT COMMUNICATION WAS THE MAIN BARRIER TO SPORT

AROUND 8 IN 10 DEAF PEOPLE SAID THAT THEY WOULD PREFER PLAYING IN A MIXED ENVIRONMENT WITH DEAF AND HEARING PEOPLE

**80%**

**FACILITATORS TO ACTIVITY**

The top three reasons for being active within the hearing loss community are



ENJOYMENT



KEEPING FIT




SOCIALISING



# DEAF AND HEARING LOSS COMMUNITY PROFILE

## CLOSING THE GAPS

**30%** of Deaf people communicate with a doctor in BSL   
**80%** WOULD LIKE TO

**24.6%** of Deaf patients definitely have trust in their doctor   
LOWER THAN THE GENERAL POPULATION

## YEARS LIVED WITH DISABILITY

In 2016 sense order diseases were ranked in the top five contributory factors to overall Disability-Adjusted Life Years (DALYs).

HEARING LOSS WAS RANKED IN THE

**TOP 5** leading causes of YLDs (Years Lived with disability) in 84% of European countries 

**411** PEOPLE AGED 18+ WITH A HEARING IMPAIRMENT 

received adult social care packages from Birmingham City Council

## GREEN AND SUSTAINABLE FUTURE

MAJOR ELEMENTS INVOLVED IN d/DEAF INTERACTIONS WITH THE BUILT ENVIRONMENT 

SPACE AND PROXEMICS  
(the study of how space is used in interpersonal communication)

ACOUSTICS AND ELECTROMAGNETIC INTERFERENCES

SENSORY REACH

MOBILITY AND PROXIMITY

LIGHT AND COLOUR

## MITIGATING THE IMPACT OF COVID

MENTAL HEALTH

**1 IN 3** 

d/Deaf people reported that the pandemic had a major impact on their mental health

## CHALLENGES



SICKNESS



SOCIAL ISOLATION



INTERPRETER

## AGEING AND DYING WELL

NEARLY ONE THIRD OF DEAF PARTICIPANTS HAD ELEVATED LEVELS OF CHOLESTEROL 

 AS HEARING LOSS INCREASES, THE PACE OF WALKING SLOWS, AND THIS INCREASES THE RISK OF CHRONIC DISEASE


CARDIOVASCULAR DISEASE

**32%** DEAF POPULATION  **50%** GENERAL POPULATION

Older people with dual sensory loss are

**3x** more likely to have falls compared to people with sight loss 

## CANCER

Some types of head and neck cancer (nasopharyngeal) can cause hearing loss. Radiotherapy or chemotherapy (the drug cisplatin) may cause tinnitus. This is often temporary but can sometimes be permanent 

## DEMENTIA

The risk of developing dementia increases with hearing loss. The risk in those with hearing loss is said to be

**2x** MILD HEARING LOSS

**3x** MODERATE HEARING LOSS

**5x** SEVERE HEARING LOSS

**41%** of deaf woman had high cholesterol, versus **23%** OF MEN

The reported rates of chronic respiratory conditions among deaf participants is

**LOWER THAN THE GENERAL POPULATION**

POSSIBLY LINKED TO THE

LOWER RATES OF SMOKING

**COPD** 

# References

- [1] British Society of Audiology. A useful set of audiology and hearing loss frequently asked questions 2021 [Available from: <https://www.thebsa.org.uk/public-engagement/faqs/>].
- [2] NCBI. Hearing loss and deafness: Normal hearing and impaired hearing. Institute for Quality and Efficiency in Health Care, 2017.
- [3] Office for National Statistics (2011). 2011 Census. Available from: <https://www.ons.gov.uk/census/2011census>]
- [4] Hearing Link. Facts about deafness and hearing loss 2021. Available from: <https://www.hearinglink.org/your-hearing/about-hearing/facts-about-deafness-hearing-loss/>.
- [5] RNID. Facts and figures 2021 Available from: <https://rnid.org.uk/about-us/research-and-policy/facts-and-figures/>.
- [6] BSL Zone. Research into the Deaf audience in the UK, 2015 [Available from: [https://www.bslzone.co.uk/application/files/9114/5320/1729/Exec\\_Summary\\_-\\_Research\\_into\\_the\\_Deaf\\_Audience\\_Jan\\_2016.pdf](https://www.bslzone.co.uk/application/files/9114/5320/1729/Exec_Summary_-_Research_into_the_Deaf_Audience_Jan_2016.pdf)].
- [7] NHS Digital (2010)
- [8] Oxford Brookes University, IPC: Projecting Older People Population Information (POPPI) and Projecting Older People Population Information (PANSI) 2020
- [9] CDC (2022) Genetics of Hearing Loss. [Available at: <https://www.cdc.gov/ncbddd/hearingloss/genetics.html#:~:text=There%20are%20also%20a%20number%20of%20things%20in,and%20environment%20work%20together%20to%20cause%20hearing%20loss.>]
- [10] Mitra M, McKee MM, Akobirshoev I, Valentine A, Ritter G, Zhang J, et al. Pregnancy, Birth, and Infant Outcomes Among Women Who Are Deaf or Hard of Hearing. Am J Prev Med. 2020;58(3):418-26.
- [11] Jackson M. Deafness and antenatal care: Understanding issues with access. British Journal of Midwifery. 2011;19(5):280-4.
- [12] Merida Associates BS, Birmingham City Council, . Seldom Heard conversations about pregnancy. Deaf and hard of hearing community. 2021



# References (2)

- [13] National Deaf Children's Society. Right from the start. A campaign to improve early years support for deaf children 2016 [Available from: [https://www.ndcs.org.uk/media/1283/right\\_from\\_the\\_start\\_campaign\\_report\\_final.pdf](https://www.ndcs.org.uk/media/1283/right_from_the_start_campaign_report_final.pdf)].
- [14] National Deaf Children's Society. NDCS note on Department for Education figures on attainment for deaf children in 2020 (England) 2021 [Available from: NDCS note on Department for Education figures on attainment for deaf children in 2020 (England)].
- [15] Weale S. Deaf pupils in England struggle at every stage of school, report finds: The Guardian,; 2019 [Available from: <https://www.theguardian.com/society/2019/aug/13/deaf-pupils-in-england-struggle-at-every-stage-of-school-report-finds>].
- [16] NHS England. Joint strategic needs assessment guidance 2018 2018 [Available from: <https://www.england.nhs.uk/wp-content/uploads/2017/09/joint-strategic-needs-assessment-guidance-jul19.pdf>].
- [17] Emond A, Ridd M, Sutherland H, Allsop L, Alexander A, Kyle J. The current health of the signing Deaf community in the UK compared with the general population: A cross-sectional study. BMJ open. 2015;5:e006668.
- [18] SignHealth. Research into the health of deaf people 2013 [Available from: <https://signhealth.org.uk/wp/wp-content/uploads/2019/07/SignHealth-Deaf-Health-Survey-Report-1.pdf>].
- [19] Kyle J SH, Allsop L, Ridd M, Emond A. Deaf Health. Analysis of the current health and access to health care of Deaf people in the UK 2013 [Available from: <http://deafstudiestrust.org/wp-content/uploads/2020/04/Deaf-Health-Final-Part1.pdf>].
- [20] Activity Alliance. UK Deaf Sport supports Deaf Awareness Week 2018 [Available from: <https://www.activityalliance.org.uk/news/3988-uk-deaf-sport-supports-deaf-awareness-week>].
- [21] Slfirst. Deaf and hard of hearing people call for more accessible activities in new research 2015 [Available from: <http://slfirst.co.uk/deaf-sport/sport/deaf-and-hard-of-hearing-people-call-for-more-accessible-activities-in-new-research/>].

# References (3)

[22] UK Deaf Sport. UK Deaf Sport NDSO pack 2016 [Available from:

[https://www.activityalliance.org.uk/assets/000/000/238/1919\\_NDSO\\_Inserts\\_UKDS\\_Web\\_updated\\_28.9.17\\_original.pdf?1506608788#:~:text=UK%20Deaf%20Sport%20\(UKDS\)%20is,perform%20on%20the%20world%20stage](https://www.activityalliance.org.uk/assets/000/000/238/1919_NDSO_Inserts_UKDS_Web_updated_28.9.17_original.pdf?1506608788#:~:text=UK%20Deaf%20Sport%20(UKDS)%20is,perform%20on%20the%20world%20stage)]

[23] RNID. Hidden disadvantage. Why people with hearing loss are still losing out at work 2014 [Available from: <https://rnid.org.uk/wp-content/uploads/2020/05/Hidden-Disadvantage-full-report.pdf>].

[24] National Deaf Children's Society. Just a third of deaf students achieve two A-levels 2021 [Available from: <https://www.ndcs.org.uk/about-us/news-and-media/latest-news/just-a-third-of-deaf-students-achieve-two-a-levels/>].

[25] Nomis official labour market statistics

[26] Gov.uk. Deafness and HIV/AIDS: a systematic review of the literature 2010 [Available from: <https://www.gov.uk/research-for-development-outputs/deafness-and-hiv-aids-a-systematic-review-of-the-literature#links>]

[27] RNID. Hearing loss and dementia: how are they linked? 2021 [Available from: <https://rnid.org.uk/hearing-research/our-research-projects/hearing-loss-and-dementia-how-are-they-linked/>]

[28] British Society of Audiology. Hearing and balance 2021 [Available from: <https://www.thebsa.org.uk/public-engagement/hearing-balance/>].

[29] Tsimpida D, Kontopantelis E, Ashcroft DM, Panagioti M. Regional patterns and trends of hearing loss in England: evidence from the English longitudinal study of ageing (ELSA) and implications for health policy. *BMC Geriatrics*. 2020;20(1):536.

[30] TFN. Deaf ambition for 2021 2021 [Available from: <https://tfn.scot/opinion/deaf-ambition-for-2021>]

[31] Global Green Grants Fund. Why the environmental justice movement must include people with disabilities 2019 [Available from: <https://www.greengrants.org/2019/03/18/disability-and-environment/>]

[32] SignHealth. Results from our 2nd pulse survey of the impacts of the pandemic on the Deaf community 2021 [Available from: <https://signhealth.org.uk/health-wellbeing/results-from-our-2nd-pulse-survey-of-the-impacts-of-the-pandemic-on-the-deaf-community/>]



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