

Anabolic Androgenic Steroid Use Population Size Estimation: A First Stage Study utilising a Delphi Exercise (ASSESS)

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- Currently we do not know the size of the population using Anabolic Androgenic Steroids (AAS) in UK.
- A range of population sizes have been profered/used, but the evidence underpinning these is at best weak.
- ASSESS was designed to be a pragmatic, but still robust, study to establish a *likely range* for the size of the population using AAS.
- This piece of work was originally unfunded, but was part supported by National Institute for Health Research (NIHR) Public Health Research Programme grant Ref. 132730.
- ASSESS utilised a range of data and intelligence together with a Delphi exercise.



Population:

People (adult men & women) who have used AAS and allied drugs either orally or through injecting recently (in the past 12 months approx.) or are currently doing so. Their use of AAS should be self-directed.

Approach:

- To generate 'estimates' of size of the population using AAS from existing data and information.
- The available data on AAS use is limited in a variety of ways, so it is not possible to generate precise estimates.
- A Delphi exercise was used to refine key parameters used in estimation process and to develop an evidence informed 'likely range' within which the actual size of AAS using population lies.



Estimates are generated from needle and syringe (**NSP**) data on the number unique attendance **by men**, using the following steps:

1. Allocating an area into a 'prevalence group' based on whether the **region it is in is classed as having either a higher-than-average prevalence, average prevalence, or lower-than-average prevalence of AAS use.**
2. The number of men is then adjusted using a range to allow for those who inject AAS but **who do not access NSPs** (this can vary by prevalence group allocated in step 1).
3. This number range is then adjusted using a range to allow for those who **only use AAS orally.**
4. The estimated number range for men using AAS is then divided by the number of men aged 15 to 64 years living in the area to give a rate.

The estimated number and rate range for men using AAS can then be used to estimate number and rates ranges for women, using an **estimated range for proportion of those using AAS who are women.**



Key data:

NSP attendance data: all Wales, most of Scotland, & parts of England: only Cheshire & Merseyside plus two other areas.

Other data used included:

- *Crime Survey for England & Wales:* Population survey generated estimate for AAS use in England & Wales.
- *National IPEDinfo survey:* data on proportion of the those inject AAS using NSP and proportion who only use AAS orally.
- *Injecting equipment sales:* regional distribution of sales (one major provider).

Focus of Delphi exercise



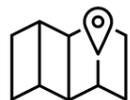
- Estimation process based on working up from the number of **men** using NSPs for AAS use.
- Three key issues - or parameters - on which broad agreement was needed for estimation of number of men using AAS based on NSP attendance data.



1. proportion of men injecting AAS **who use NSPs,**



2. proportion of men using AAS **only do so orally,** and



3. **regional variations in AAS use across UK.**

- Initial proposals for these parameters were informed by data from *IPEDinfo* survey for 1 and 2, and using a range of other data (e.g., direct sales of injecting equipment) for 3.



a) 53 people with expertise and knowledge were invited to complete 1st survey (65 were invited to join panel, rest opted out).

- Healthcare professional who has provided care to men using AAS
- Provider of a specialist service to people who use AAS
- Work in the fitness industry
- Work in public health or policy
- Academic or researcher

b) Plus, 10 people with lived experience of AAS use.



Three surveys:

1. Open from mid-December 2020 to early March 2021 - 40 people completed the survey.
2. Open from mid-April 2021 to mid-May 2021 - 39 people completed the survey
3. Open from mid-June 2021 to mid-July 2021 - 37 people completed the survey

Participants invited into each survey either by direct emails sent from survey system (Qualtrics) or were sent anonymised links by email.

Those invited into 2nd and 3rd survey (i.e., those engaging with the 1st survey) received feedback on the findings of the preceding survey.

The Panel



Figure 1: Which one of these best describes you?

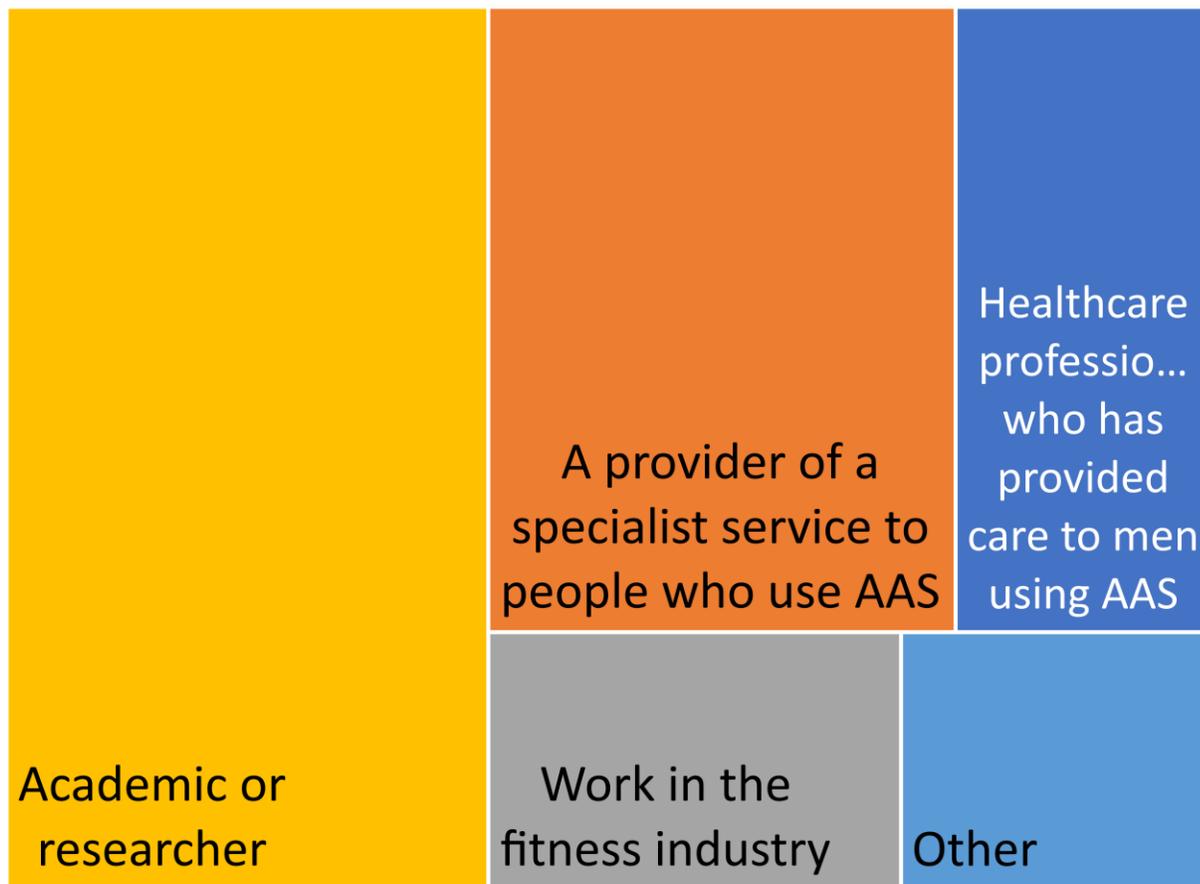
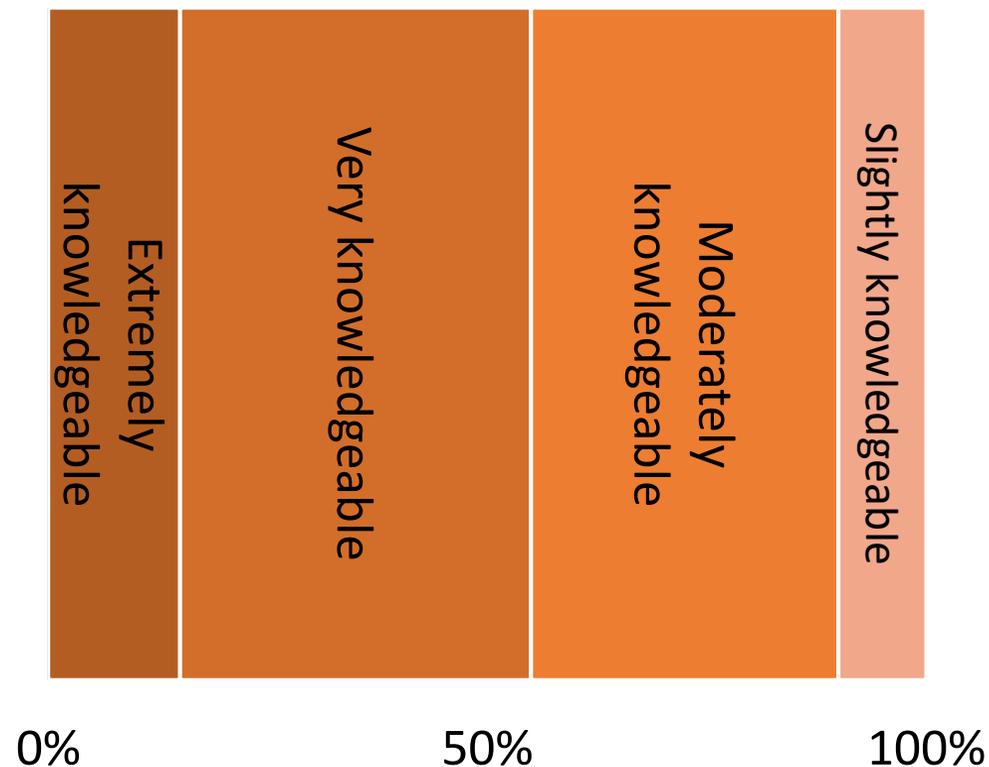


Figure 2: How would you describe your understanding of AAS use among men in the UK?





Proportion of men using AAS who only do so orally (1st survey)

- Findings from the first survey indicated that between **15% and 25% of men using AAS only do so orally**



Proportion of men who inject AAS who use NSPs (1st & 2nd surveys)

- Findings indicated broad agreement that overall, between **25% and 45% of men who inject AAS use NSPs.**
- However, there was broad agreement that **NSP use was likely to be higher in some areas.** In these areas, between 40% to 60% of men who inject AAS might be using NSPs.



Regional variations in AAS use (1st & 2nd surveys)

There was broad agreement the prevalence was:-

<i>Prevalence likely to be above average</i>	<i>Prevalence likely to be average</i>	<i>Prevalence likely to be below average</i>
Wales	Scotland	South West of England
North West of England	West Midlands	East of England
Yorkshire & the Humber	East Midlands	South East of England
North East of England		

Positioning was less certain for Greater London & Northern Ireland, but these areas probably have an average prevalence, but it might be lower than average.



- The **process used** to generate likely ranges from NSP data was seen as **broadly appropriate** (i.e., adjusting NSP attendance data for men using AAS, by the extent of NSP use among those who inject AAS and for oral only AAS use considering regional variations).
- **Estimates from Crime Survey for England & Wales** (31,000 and 62,000 people aged 16 to 59 years using AAS in the past year, for 2020 and 2019 respectively) were seen as **not being plausible**.
- **Estimates from NSP data were seen as plausible** (for *men only*, aged 15 to 64 years and the UK; **bottom of lower range 298,000, top of higher range 687,000**).

Overview of findings: 4



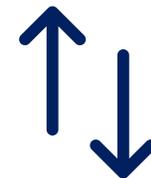
- There was also **broad agreement** that **women make up between 5% and 10%** of the total **population using AAS in UK**.

Greater proportion use NSPs in areas where the IPED use prevalence is **'higher'**.

- 1st estimate gave a likely range of **289,000 and 569,000 men** aged 15 to 64 years having recently used AAS.
- The central value was 384,000 men or 1.83% of men aged 15 to 64 years. **This is 1 in 55 men.**
- This would suggest between **14,500 and 45,900 women**.

No variation in the proportion using NSPs with geography.

- 2nd estimate a gave a likely range of **328,000 and 687,000 men** aged 15 to 64 years having recently used AAS.
- The central value was 447,000 men or 2.1% of men aged 15 to 64 years. **This is 1 in 48 men.**
- This would suggest between **16,400 and 68,700 women**.



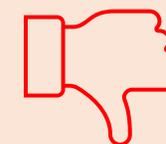
Strengths:

- a diverse panel,
- good participation rate, and
- limited attrition over time.



Limitations:

- we can't be certain that a panel with a different composition would have produced the same outcomes.
- little suitable accessible data on NSP attendances for England





- Estimates of AAS use from the Crime Survey for England & Wales are too low.
- It is possible to produce plausible estimates of AAS use from NSP data, but lack of suitable NSP data for much of England is a limiting factor.
- Further work is needed to:
 - refine this approach,
 - identify ways to overcome the limited useable NSP attendance data in England, and
 - assess the impact of COVID-19 on sources of injecting equipment among those injecting AAS.

Thank you



We would like to thank all the Delphi panel members for their participation and completing the three surveys.

We are grateful to those who assisted with the project and who supported access to the data used.

Finally, we thank those who deliver the NSP monitoring systems that provided the NSP attendance data used.