

Smoking prevalence in people living with HIV in Cheshire and Merseyside is high and supporting quitting could eradicate lifelong harms for over one quarter of the cohort

Sonia Gibson¹, Gareth Jones², Angela Obasi^{2,3}, Emily Clarke²

1. Leeds Teaching Hospitals Trust, Leeds, UK. 2. Liverpool University Hospitals NHS Foundation Trust, Liverpool, UK. 3. Liverpool School of Tropical Medicine, Liverpool, UK.

Background

In the age of highly effective antiretroviral therapy, people living with HIV who smoke:

- Will lose more life-years to smoking than to HIV.¹
- Have high smoking rates.²
- Are more likely to smoke heavily.³
- Have more pronounced deleterious effects from tobacco.^{4,5}
- Find it more difficult to quit.⁶
- Have been shown to be more likely to have reduced antiretroviral therapy adherence, but this is not consistently shown across all studies.⁷

Smokers who quit before the age of 36 years have a similar number of healthy life years to those who have never smoked.⁸

Estimates of the prevalence of smoking in people living with HIV in the UK vary. A study of 1548 patients attending for outpatient review in London found that 25% were current smokers.⁹ The Positive Voices survey of 4,422 people living with HIV in England in 2017 found that 20% were current smokers, 28% were ex-smokers, and 52% had never smoked.² A global systematic review and meta-analysis of smoking prevalence in people living with HIV found that people living with HIV were approximately two thirds more likely to smoke compared to people without HIV (global OR 1.64, European OR 2.32).¹⁰

Aim

The aim of this evaluation was to assess the smoking status of people receiving HIV care in our Trust, which provides care to the majority of those living with HIV in Cheshire and Merseyside, across a variety of locations.

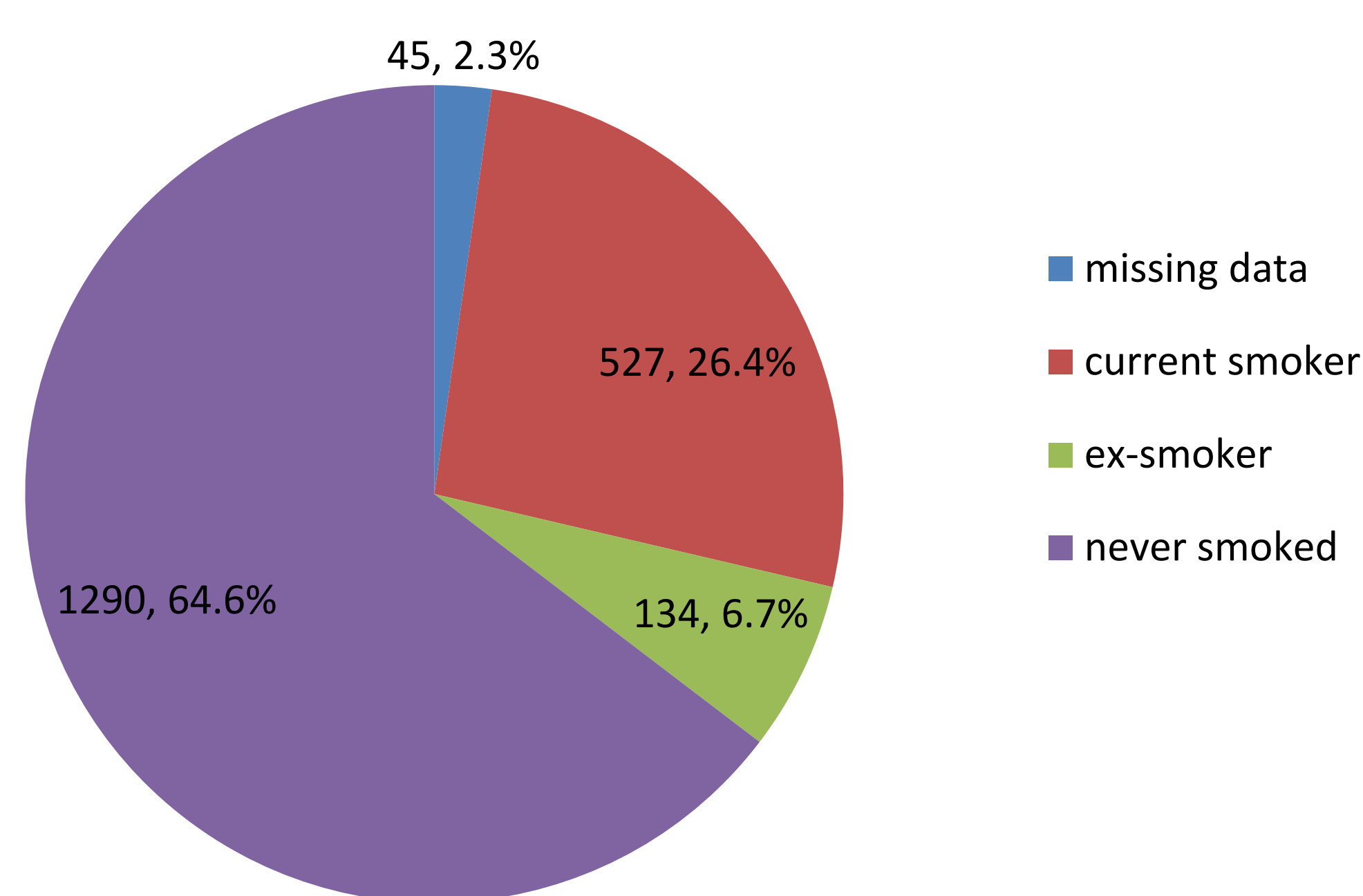
Methods

A review of the electronic patient records was conducted for all people receiving HIV outpatient care in the previous 12 months in our Trust in spring 2021. Data were collected on smoking status, gender, age and clinic location. Smoking prevalence in our population was compared with the general population in that geographical area as reported by the Office for Health Improvement and Disparities.¹¹

Results

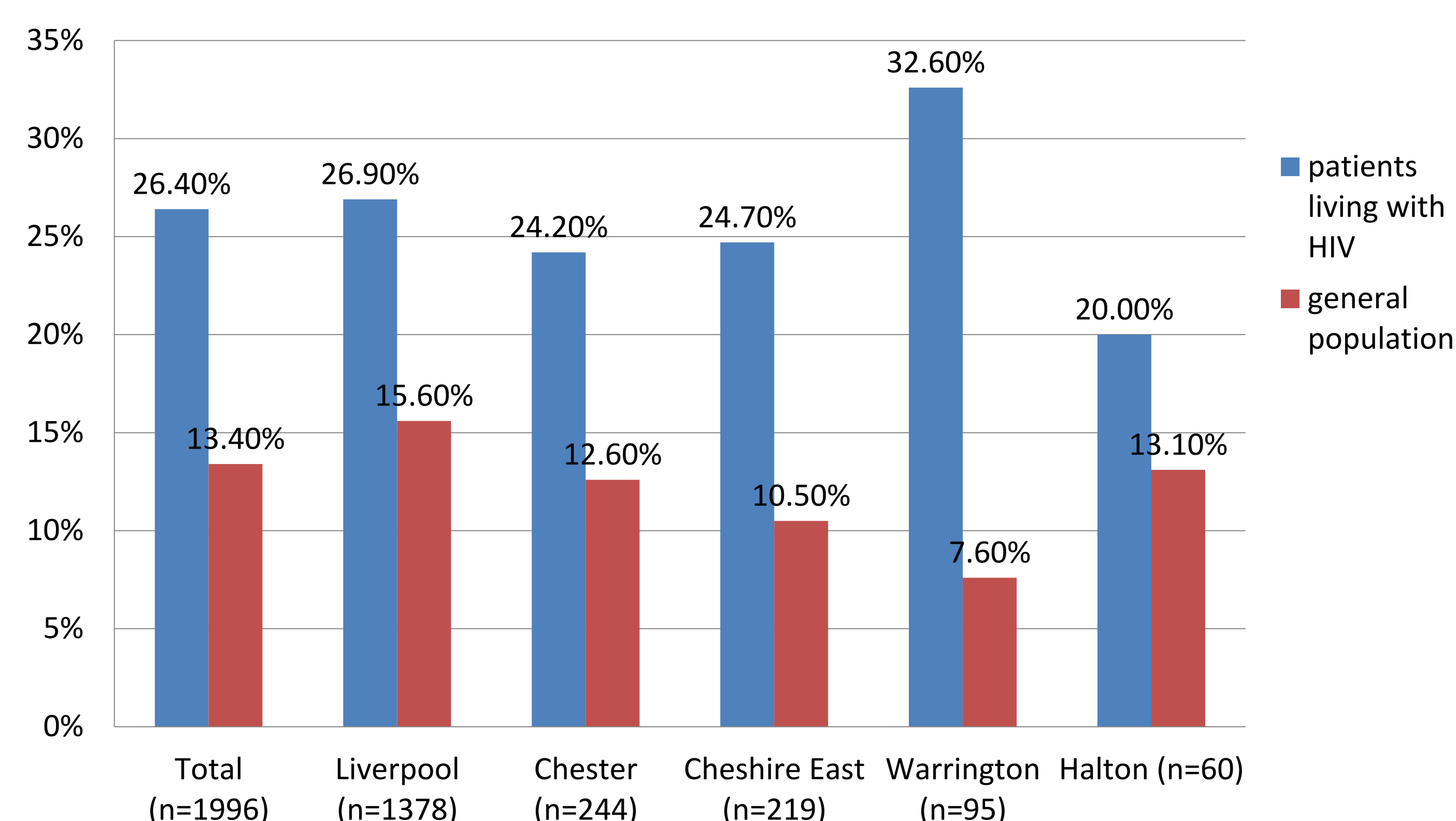
Smoking status of total cohort living with HIV

In our cohort of 1996 people living with HIV, 527 (26.4%) were current smokers, 134 (6.7%) were ex-smokers, 1290 (64.6%) had never smoked, and 45 (2.3%) did not have data on smoking status completed in the electronic record.



Smoking prevalence in patients living with HIV and the general population

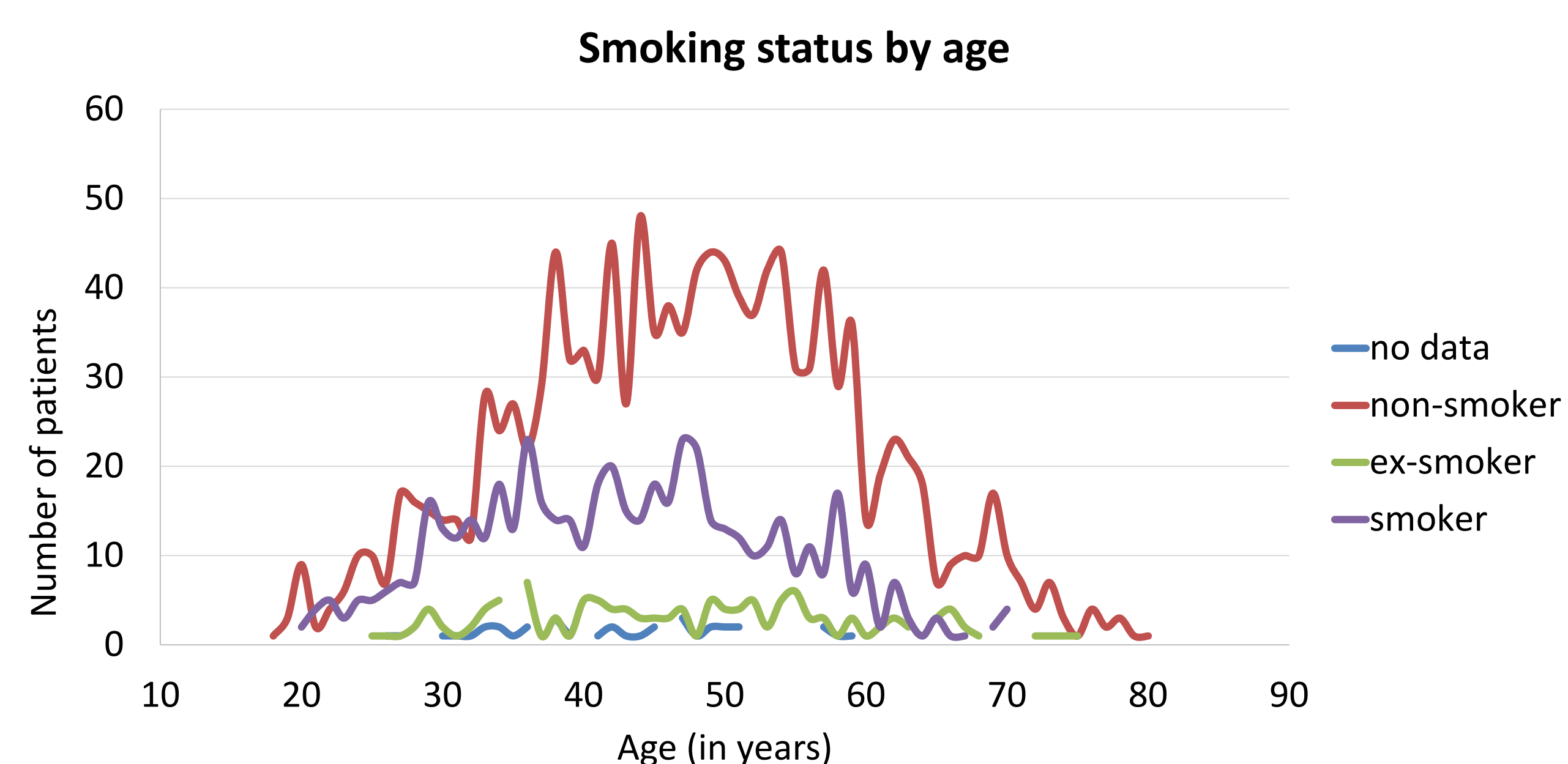
People living with HIV were approximately twice as likely to smoke as those in the general population.¹¹



Gender and age of smokers living with HIV

Of those living with HIV, 31.1% (n=451/1451, 40 missing data) of males and 13.9% (n=76/545, 5 missing data) of females were current smokers (p<0.001).

Mean age of smokers was 43.0 years and of ex- and never-smokers was 47.5 years (p<0.001). 27.1% (n=143/527) of current smokers were ≤35 years of age.



Conclusion

Smoking prevalence was very high in our cohort of people receiving HIV care, with 26.4% currently smoking, and prevalence of ex-smokers was low at 6.7%, in comparison with previous data for England.² Areas in Merseyside are recognised nationally as being particularly socially deprived, which has a strong association with smoking status.^{12,13} Our cohort living with HIV were approximately twice as likely to smoke as the general population in that geographical area, across a variety of cities and towns in Cheshire and Merseyside.

Smoking status was well documented at 97.7%. Male patients were significantly more likely to smoke than female patients (31.1% versus 13.9% respectively) and 27.1% of current smokers were under the age of 36 years.

Smokers living with HIV represent a key population who can benefit from smoking cessation - 27.1% of our cohort of current smokers were ≤35 years of age, a group for whom cessation could eradicate existing smoking harm.⁸ People living with HIV may have increased barriers to accessing health services, and may be harder to support with smoking cessation due to heavier smoking.³ HIV services should therefore consider offering in-clinic smoking cessation services to target our key population group.

References

1. Reddy KP, Parker RA, Losina E, et al. Impact of cigarette smoking and smoking cessation on life expectancy among people with HIV: a US-based modelling study. *J Infect Dis.* 2016;214(11):1672-1681.
2. Public Health England. Positive Voices: The national survey of people living with HIV – Findings from the 2017 survey. January 2020. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/857922/PHE_positive_voices_report_2019.pdf (viewed 07/04/2022)
3. De Socio GV, Pasqualini M, Ricci E, et al. Smoking habits in HIV-infected people compared with the general population in Italy: a cross-sectional study. *BMC Public Health.* 2020;20(1):734.
4. Giles ML, Garner C, Boyd MA. Smoking and HIV: what are the risks and what harm reduction strategies do we have at our disposal? *AIDS Res Ther.* 2018;15(1):26.
5. Helleberg M, Afzal S, Kronborg G, et al. Mortality attributable to smoking among HIV-1 infected individuals: a nationwide, population-based cohort study. *Clin Infect Dis.* 2013;56:727-734.
6. Taniguchi C, Hashiba C, Saka H, Tanaka H. Characteristics, outcome and factors associated with success of quitting smoking in 77 people living with HIV/AIDS who received smoking cessation therapy in Japan. *Jpn J Nurs Sci.* 2020 Jan;17(1):e12264.
7. Moreno JL, Catley D, Lee HS, Goggin K. The relationship between ART adherence and smoking status among HIV+ individuals. *AIDS Behav.* 2015;19(4):619-625.
8. Doll R, Peto R, Boreham J, Sutherland I. Mortality in relation to smoking: 50 years observations on male British doctors. *BMJ.* 2004;328(7455):1519-28.
9. Brown J, Kyriacou C, Pickett E, et al. Systematic identification and referral of smokers attending HIV ambulatory care highlights the failure of current service provision in an at-risk population. *BMJ Open Respir Res.* 2019 Oct 3;6(1):e000395.
10. Johnston PL, Wright SW, Orr M, et al. Worldwide relative smoking prevalence among people living with and without HIV. *AIDS.* 2021 May 1;35(6):957-970.
11. Office for Health Improvement and Disparities. Fingertips public health data: Local tobacco control profiles. Available at: <https://fingertips.phe.org.uk/profile/tobacco-control> (viewed 07/04/22)
12. Ministry of Housing, Communities and Local Government. The English indices of deprivation 2019. 2019. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835115/iod2019_Statistical_Release.pdf (viewed 07/04/22)
13. Office for National Statistics. Smoking inequalities in England, 2016. 2018. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/druguseandharm/smoking/adhocs/008181smokinginequalitiesinengland2016> (viewed 07/04/22)