CONVEGNO NAZIONALE

Chairs:
C. Mussini, L. Sighinolfi

Let's stop HIV

Nuove prospettive e popolazioni speciali

Con il patrocinio di

Anlaids · Arcigay · Arcobaleno Aids · ASA · C.I.C.A. Coordinamento Italiano Case/Alloggio HIV/AIDS · Lega Italiana per la Lotta contro l'AIDS · mariomieli Circolo di Cultura Omosessuale · mit Movimento Identità Trans Associazione Onlus · associazione NADIR · NPS Italia onlus Network Persone Sieropositive · PLUS Persone LGBT Sieropositive Onlus · Fondazione Villa Maraini O.N.L.U.S.

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How close are we to 90-90-90-90 in the most complicated populations?

Dr Fiona Burns
Insitute for Global Health, University College London
& Royal Free London NHS Foundation Trust

Disclosures

I have received consultancy fees and conference support from Gilead Sciences Ltd.

90%

of all

living with HIV will know their HIV status

90%

of all

living with HIV will receive antiretroviral therapy

90%

of all

receiving antiretroviral therapy will have viral suppression

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Outline

- The 4th 90
  - How can we best measure it?
  - How close are we?
- Strategies to address

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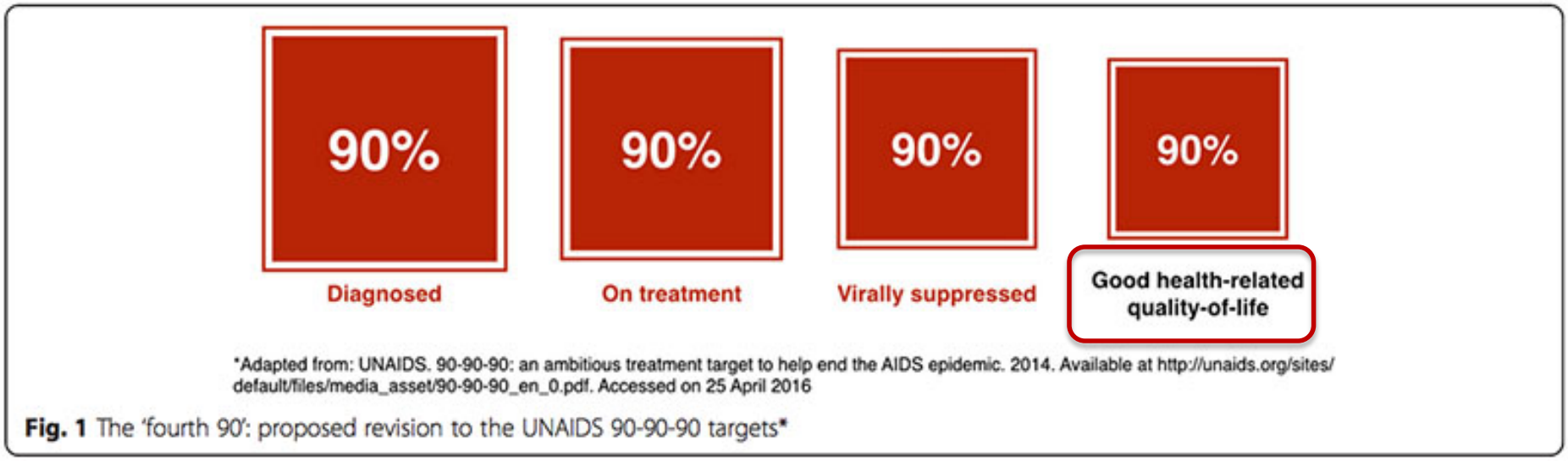
The 4th 90: Quality-not just quantity-of life



*Adapted from: UNAIDS. 90-90-90: an ambitious treatment target to help end the AIDS epidemic. 2014. Available at http://unaids.org/sites/default/files/media_asset/90-90-90_en_0.pdf. Accessed on 25 April 2016

Fig. 1 The 'fourth 90': proposed revision to the UNAIDS 90-90-90 targets*

Adapted from Lazarus JV, et al. BMC Med 2016;14:94

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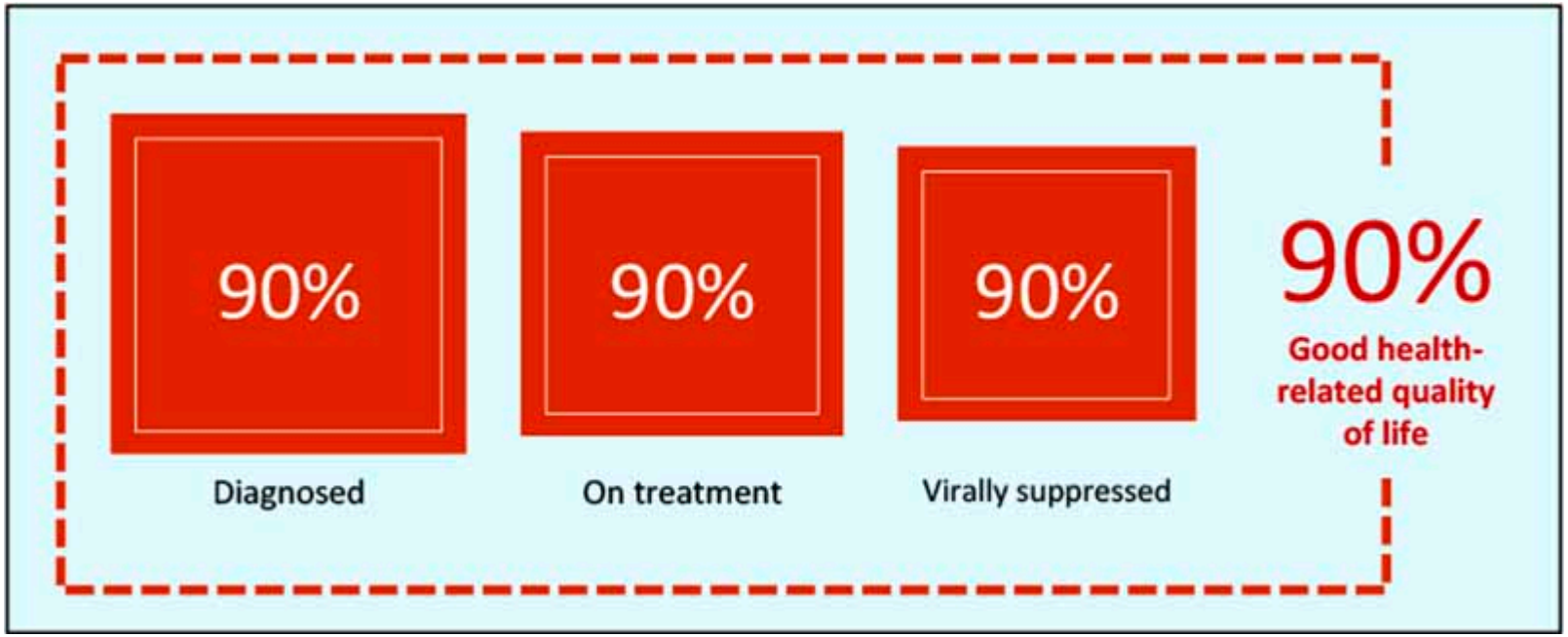
The 4th 90 -revised



People living with HIV deserve good quality of life wherever they are on the care continuum

J Lazarus & K Safreed-Harmon
#4th90 and #BeyondViralSuppression.

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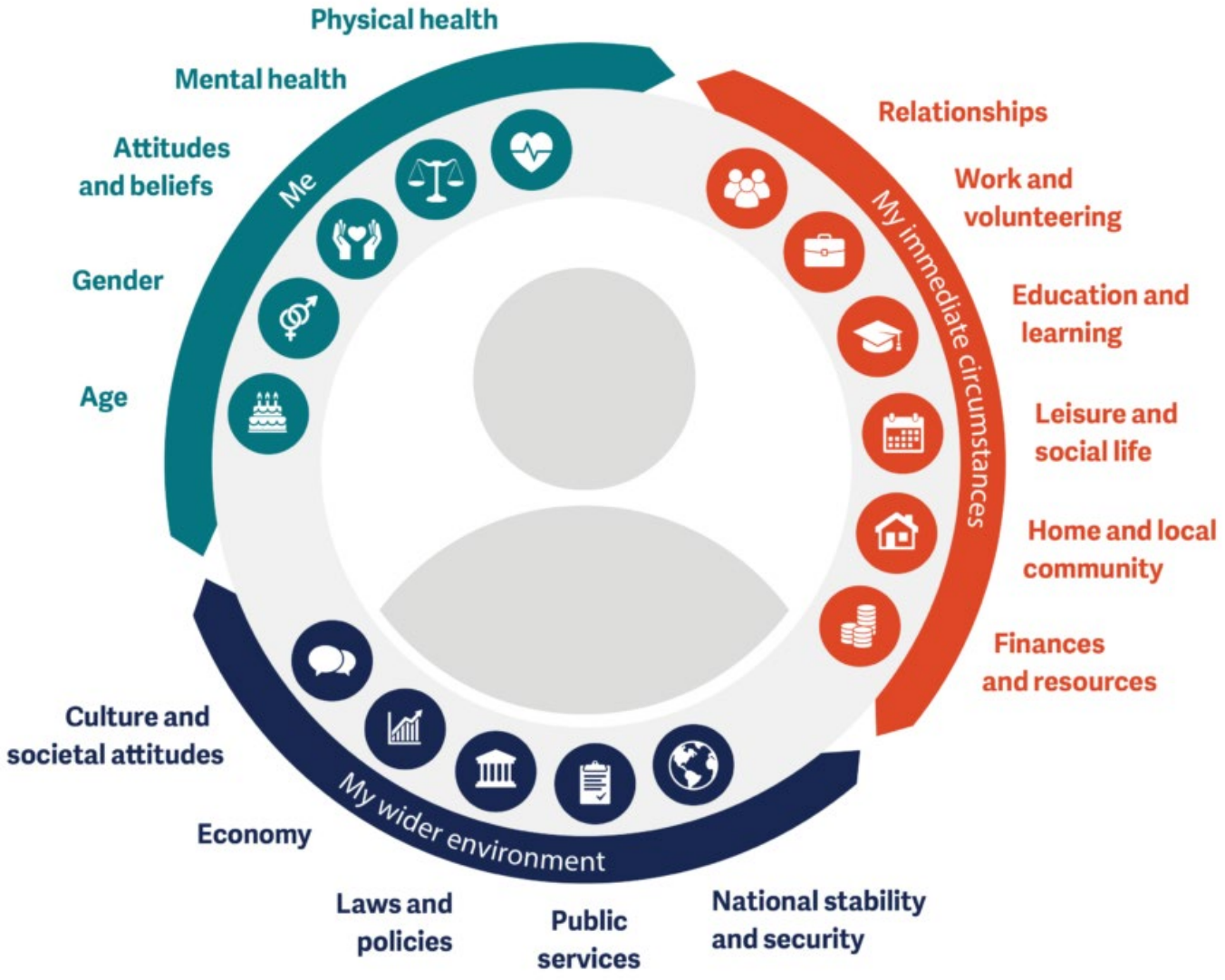
Health related Quality of Life (HRQoL)



Challenges in measuring QoL

- Broad concept
- Highly subjective
- Condition dependant

There is no established consensus or guidance for the measurement of quality of life

- **BUT –**
- Monitoring brings patients lives and experience to the fore....
- Identifies inequality in the population

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Measurement options

- Health adjusted life expectancy (HALE)
- Patient reported outcomes measures (PROMs)
  - HIV Specific
    - HIV-Symptom Index
    - MOS-HIV/PROQOL HIV/etc
  - Generic
    - EuroQoL-5D (EQ-5D)
    - Health Utility Index 1&2 (HUI1 & HUI2)

Guaraldi et al. European Geriatric Medicine 2019

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EuroQol (EQ-5D-5L)

- 5 domains
  of health-related quality of life
- 5-item Likert scale: None/ Slight/ Moderate/ Severe/ Extreme
- Utility score of 0 to 1
  1 = best possible health

Under each heading, please tick the ONE box that best describes your health TODAY

MOBILITY
- I have no problems in walking about ☐
- I have slight problems in walking about ☐
- I have moderate problems in walking about ☐
- I have severe problems in walking about ☐
- I am unable to walk about ☐

SELF-CARE
- I have no problems washing or dressing myself ☐
- I have slight problems washing or dressing myself ☐
- I have moderate problems washing or dressing myself ☐
- I have severe problems washing or dressing myself ☐
- I am unable to wash or dress myself ☐

USUAL ACTIVITIES *(e.g. work, study, housework, family or leisure activities)*
- I have no problems doing my usual activities ☐
- I have slight problems doing my usual activities ☐
- I have moderate problems doing my usual activities ☐
- I have severe problems doing my usual activities ☐
- I am unable to do my usual activities ☐

PAIN / DISCOMFORT
- I have no pain or discomfort ☐
- I have slight pain or discomfort ☐
- I have moderate pain or discomfort ☐
- I have severe pain or discomfort ☐
- I have extreme pain or discomfort ☐

ANXIETY / DEPRESSION
- I am not anxious or depressed ☐
- I am slightly anxious or depressed ☐
- I am moderately anxious or depressed ☐
- I am severely anxious or depressed ☐
- I am extremely anxious or depressed ☐

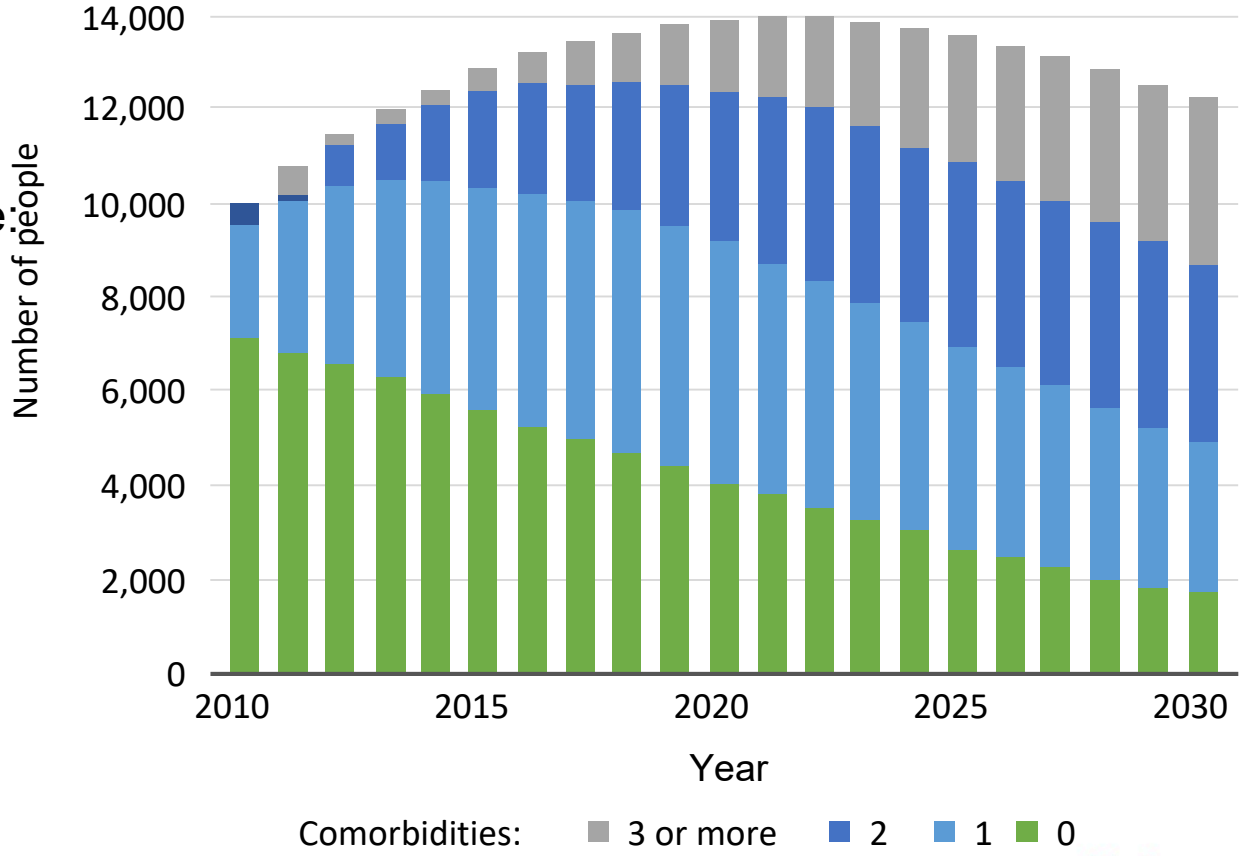
1 Devlin, N. J., et al. (2018) Health Economics.

NCDs in PLWH is predicted to rise

Predicted burden of non-communicable diseases in PLWH 2010–2030*, The Netherlands

Proportion of PLWH with ≥1 NCD predicted to increase:
- 29% in 2010
- 84% by 2030

Driven by:
- CVD in 78%
- Diabetes in 17%
- Malignancies in 17%



NCDs, non-communicable diseases; PLWH, people living with HIV
*Predictive model based on data from the ATHENA cohort (n=10,278)
Smit M et al. Lancet Infect Dis 2015;15:810–818

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HIV-specific risk factors for developing comorbidities

PLWH are more susceptible to developing CVD, bone fractures and renal failure than individuals without HIV[1].

HIV infection can have long-term effects on numerous aspects of health[2–18]

CNS disorders[2]

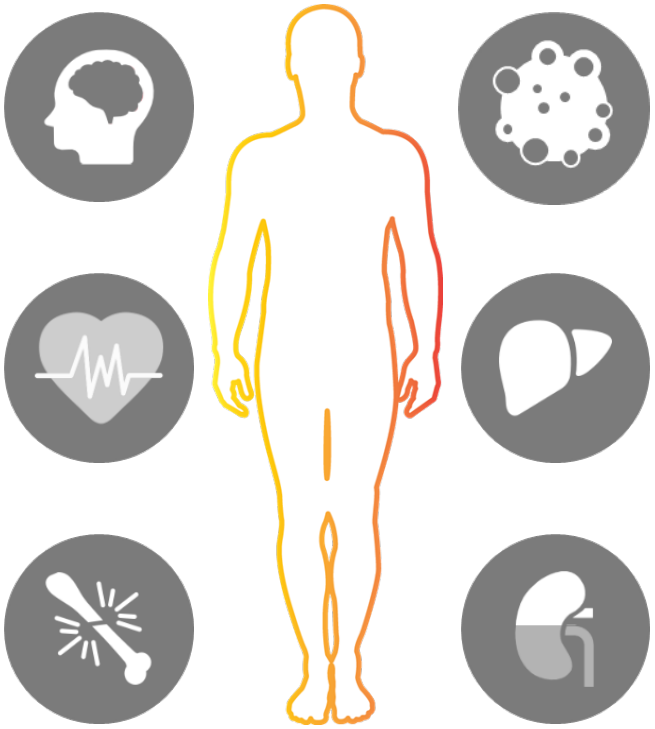
- Neurocognitive disorders linked to HIV infection[3]
- Association of ART and neurocognitive disorders in PLWH[4]

CVD[7]

- HIV infection and ART implicated in increased risk of CVD in PLWH[8,9]

Bone disease[10]

- Association of ART initiation with risk of decreased BMD, and increased risk of osteoporosis[11,12]



Cancer[5]

- Higher incidence of cancers among PLWH vs HIV-negative individuals, particularly KS, NHL, anal cancer and HL[6]

Liver disease[13]

- History of HCV or HBV co-infection strongest risk factor for hepatic dysfunction[13]

Renal disease[1]

- Link between HIV infection and renal complications[15]
- ART impairment of renal function in PLWH individuals[16]

ART, antiretroviral therapy; BMD, bone mineral density; CNS, central nervous system; CVD, cardiovascular disease; HBV, hepatitis B virus; HCV, hepatitis C virus; HL, Hodgkin's lymphoma; KS, Kaposi sarcoma; NHL, non-Hodgkin's lymphoma; PLWH, people living with HIV.

1. *Guaraldi G et al. Clin Infect Dis 2011;53:1120–6;* 2. *McArthur JC et al. Ann Neurol 2010;67:699–714;* 3. *Mateen FJ et al. Neurology 2012;79:1873–80;* 4. *Smith C et al. J Acquir Immune Defic Syndr 2014;17(Suppl2):19312;* 5. *Nguyen ML et al. IAC 2010. #WEAB0105;* 6. *Silverberg MJ et al. Ann Intern Med 2015;163:507–18;* 7. *Freiberg MS et al. JAMA Intern Med 2013;173:614–22;* 8. *Grinspoon S. CROI 2015. WA. #ORAL;* 9. *Lundgren JD et al. CROI 2009. #44LB;* 10. *Brown TT et al. AIDS 2006;20:2165–74;* 11. *Bonjoch A et al. AIDS 2010;24:2827–33;* 12. *Womack J et al. Clin Infect Dis 2013;56:1498–1504;* 13. *Towner W et al. J Acquir Immune Defic Syndr 2012;60:321–7;* 14. *Lucas GM et al. Clin Infect Dis 2014;59:e96–e138;* 15. *Yanik et al. Clin J Am Soc Nephrol 2010;5:1836–43;* 16. *Nishijima T et al. AIDS 2014;28:1903–10.*

Do people living with HIV experience greater age advancement than their HIV-negative counterparts?

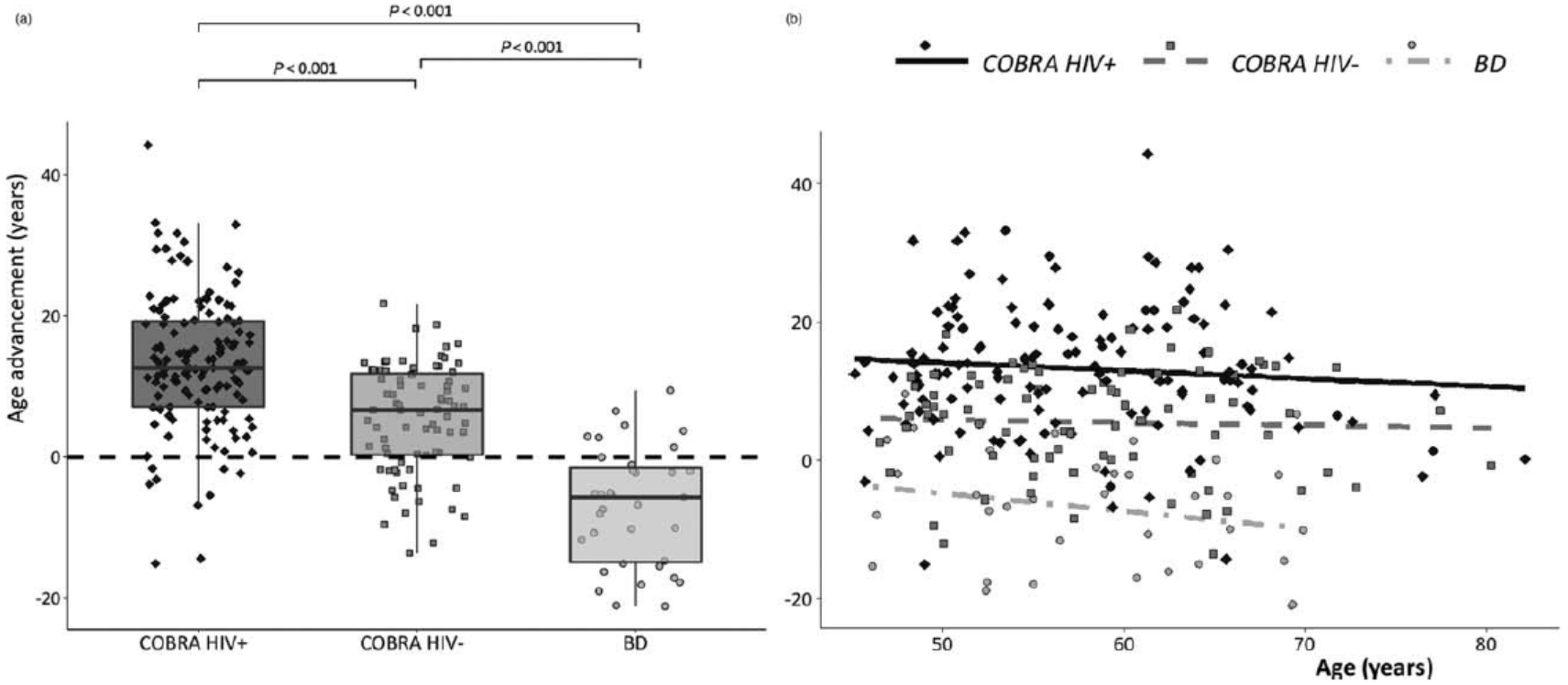


Fig. 1. (a) Age advancement (biological minus chronological age) in HIV-positive and HIV-negative COBRA participants and blood donors (*P*s from linear regression); (b) Correlation between age advancement and chronological age in HIV-positive and HIV-negative COBRA participants and blood donors (no interaction between chronological age and HIV-status/group, $P = 0.66$). BD, blood donors; COBRA, Co-morBidity in Relation to AIDS.

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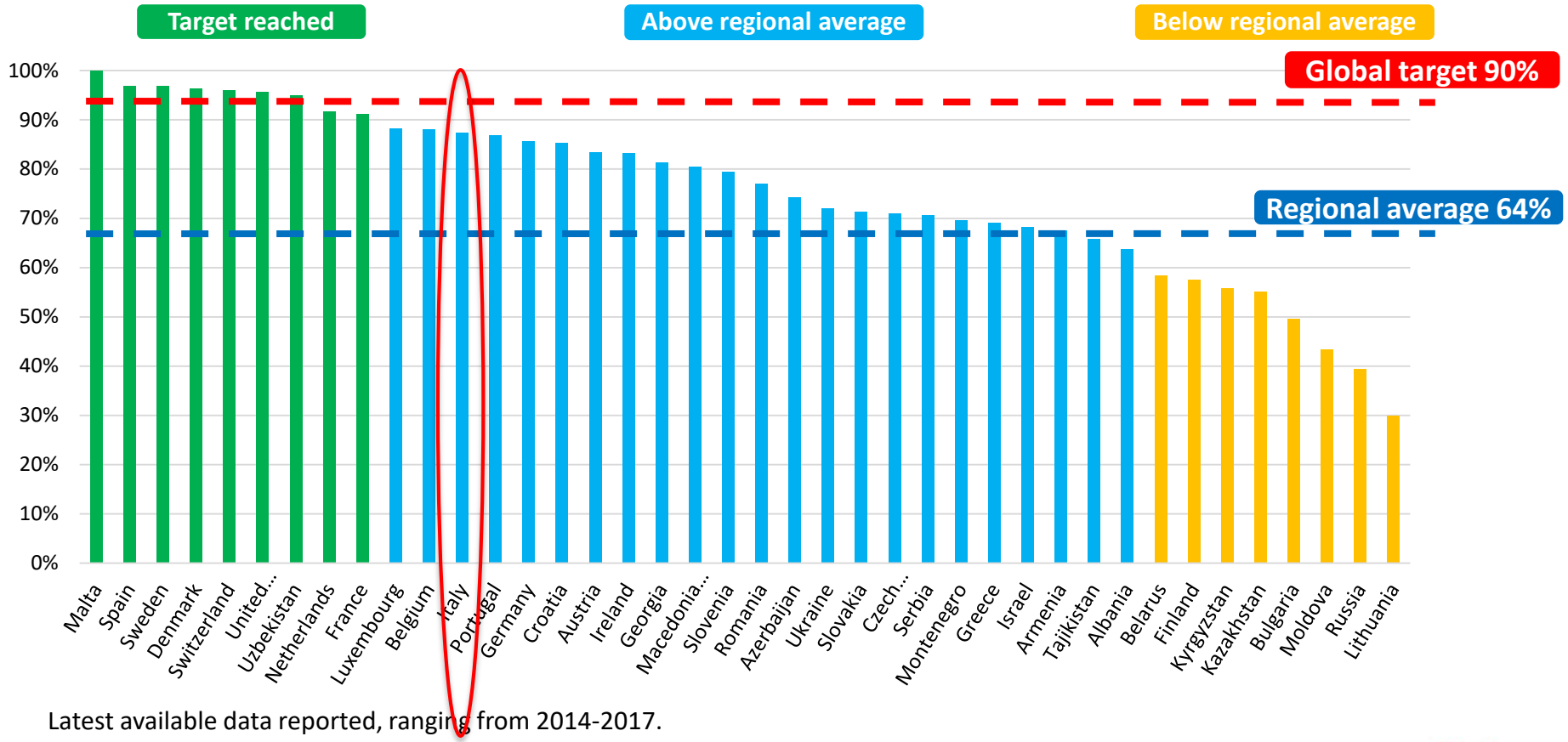
Progress toward achieving the 2nd 90:
90% of those diagnosed on ART (n=40)



Latest available data reported, ranging from 2014-2017.

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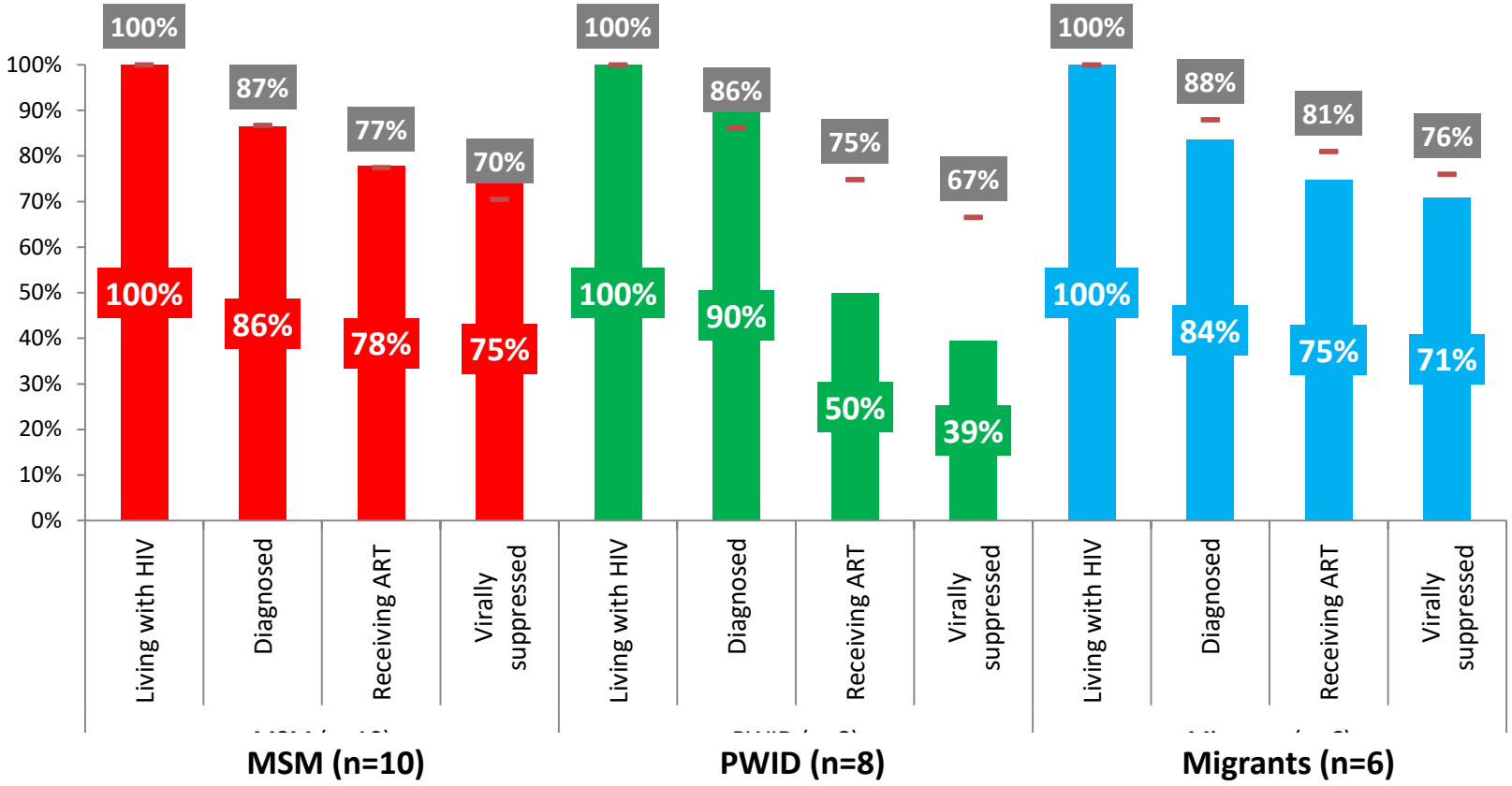
Comparison of the continuum of care for key populations against national continua, 2018



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‘Complicated populations’

- No one group
- Those with ‘many interconnecting parts or elements; difficult to understand’*
  - Intersectionalities
    - Stigma & discrimination – HIV/gender/race/age/etc
    - Mental Health
    - Substance use
    - GBV/IPV
    - Co-morbidities
    - Socio-economic (poverty/housing/immigration)

*Oxford Dictionary

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ASTRA study

UK survey of 3,200 HIV patients attending 8 clinical centres

- EuroQol (EQ-5D-3L)

Poor hr-QoL associated with:

- Longer time since diagnosis
- Non-white ethnicity
- Female
- No children
- Lower education
- Smoking

	HIV (n=3151)	General population (n=7424)	p value*
Mobility problems			<0·0001
None	2296 (73%)	5911 (80%)	
Some	850 (27%)	1502 (20%)	
Severe	5 (<1%)	11 (<1%)	
Problems with self-care			<0·0001
None	2754 (87%)	7032 (95%)	
Some	385 (12%)	367 (5%)	
Severe	12 (<1%)	25 (<1%)	
Problems performing usual activities			<0·0001
None	2128 (68%)	5945 (80%)	
Some	936 (30%)	1328 (18%)	
Severe	87 (3%)	151 (2%)	
Pain/discomfort			<0·0001
None	1834 (58%)	4480 (60%)	
Some	1091 (35%)	2576 (35%)	
Severe	226 (7%)	368 (5%)	
Anxiety/depression			<0·0001
None	1563 (50%)	5441 (73%)	
Some	1268 (40%)	1796 (24%)	
Severe	320 (10%)	187 (3%)	

Data are n (%). *p values by χ^2 tests.

Table 2: EQ-5D-3L health status classifications for ASTRA and Health Survey for England

Health-related quality-of-life of people with HIV in the era of combination antiretroviral treatment: a cross-sectional comparison with the general population

Alec Miners, Andrew Phillips, Noemi Kreif, Alison Rodger, Andrew Speakman, Martin Fisher, Jane Anderson, Simon Collins, Graham Hart, Lorraine Sherr, Fiona C Lampe, for the ASTRA (Antiretrovirals, Sexual Transmission Risk and Attitudes) Study

Summary

Background Combination antiretroviral therapy has substantially increased life-expectancy in people living with HIV, but the effects of chronic infection on health-related quality of life (HRQoL) are unclear. We aimed to compare

Lancet HIV 2014; 1: e32–40
Published Online

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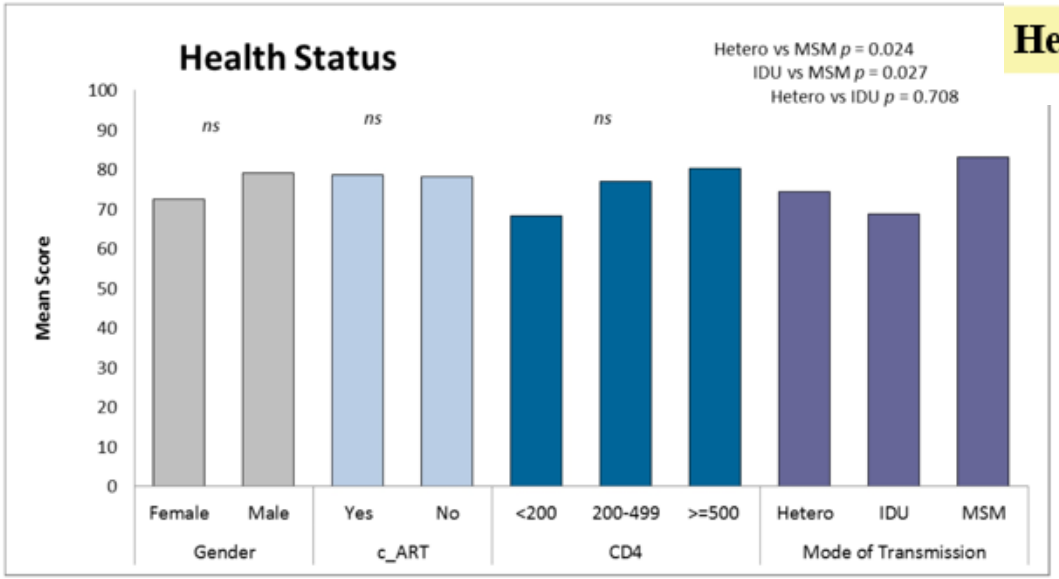
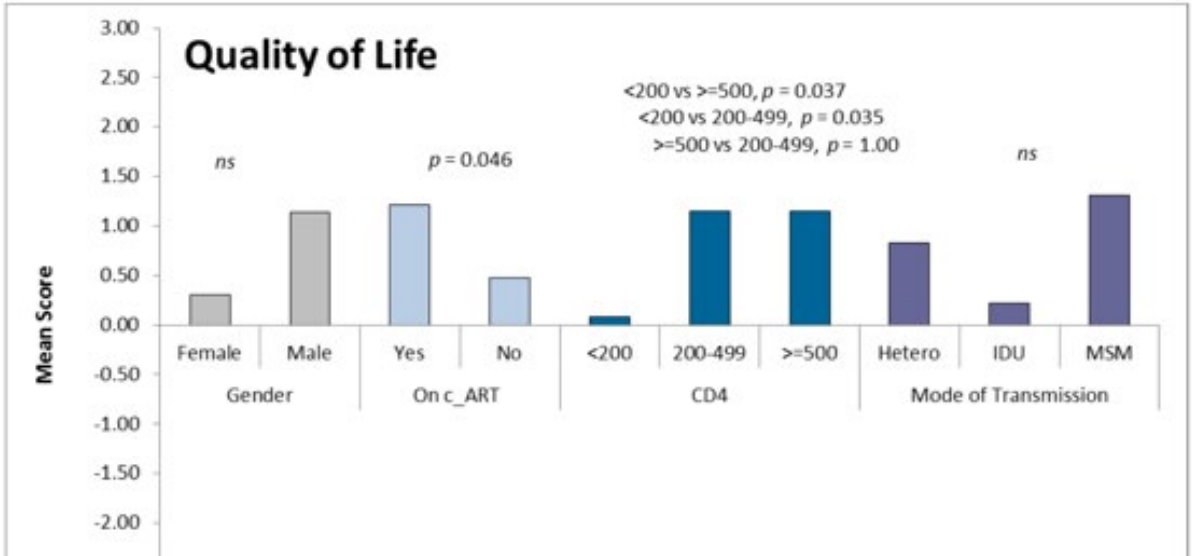
Health status and Quality of life in people living with HIV (PLWH): results from the ICONA cohort.



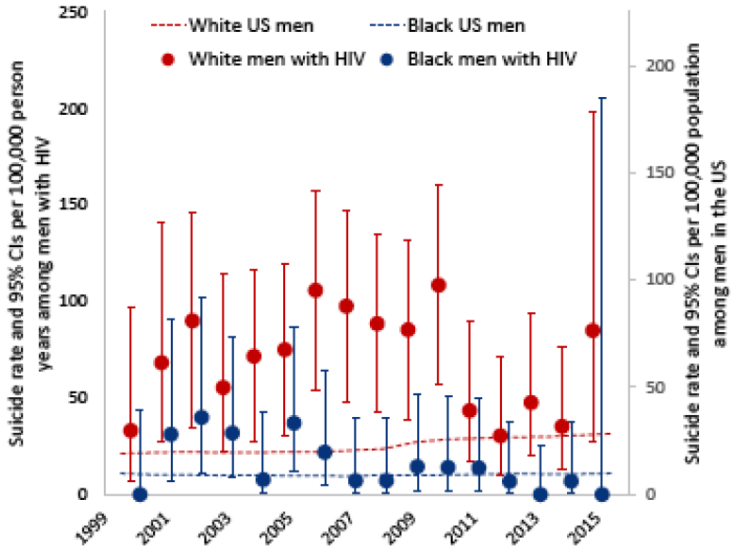
Health status (EQ-5D VAS)

Generic quality of life (HIVDQoL)



P213 HIV Glasgow 2018

Figure 1: Suicide rates (and 95% CIs) per 100,000 person-years for men with HIV in the NA-ACCORD (circles) and men in the general US population (dashed lines), by race, 2000-2015 (n=59,919)



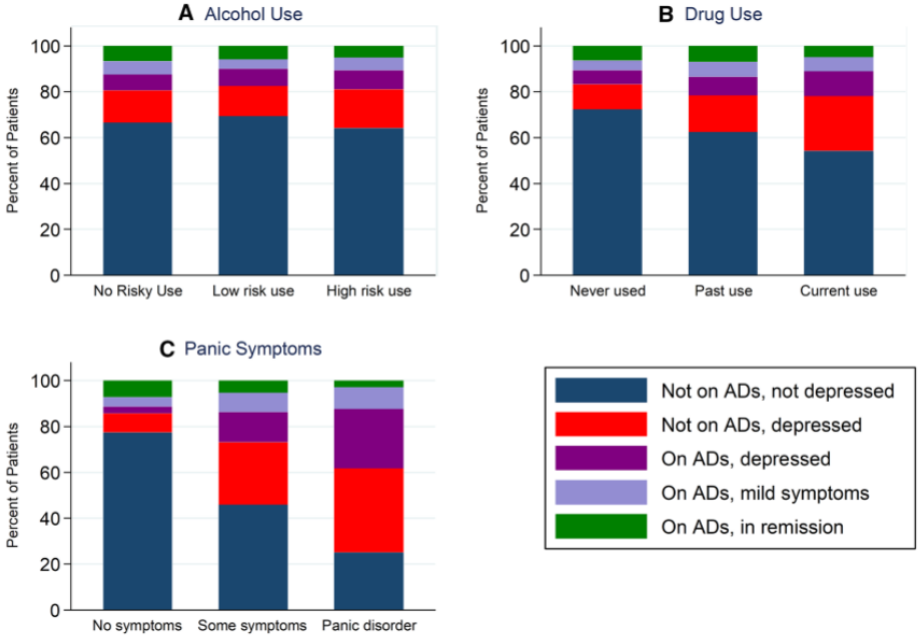
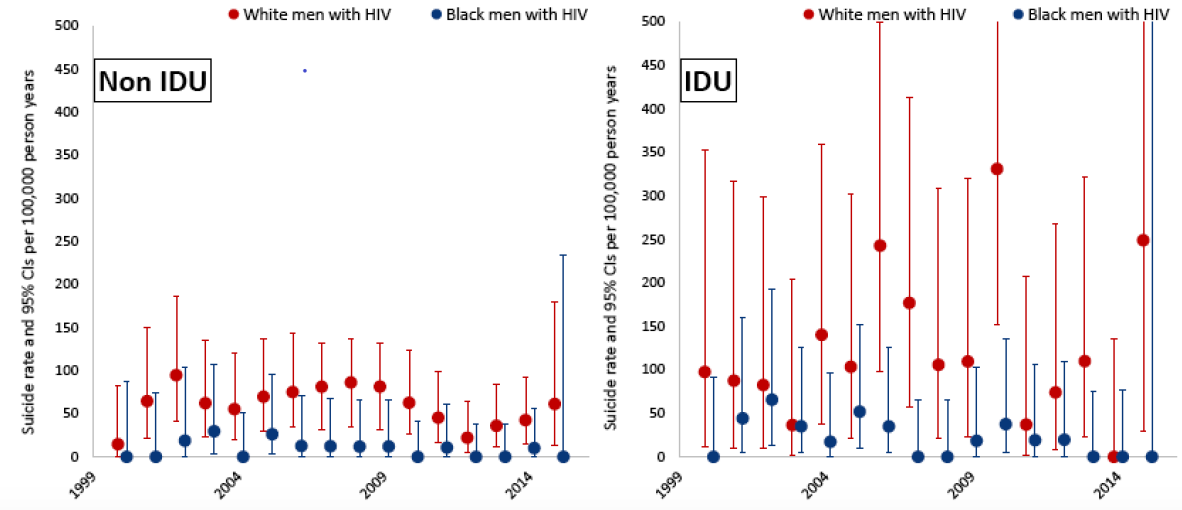


Fig. 1 Depression severity and depression treatment stratified by psychiatric comorbidity across all sites. *AD* Antidepressant

Figure 2: Suicide rates (and 95% CIs) per 100,000 person-years for men with HIV in the NA-ACCORD by IDU status and race, 2000-2015 (n=58,961)



Althoff et al., Poster CROI 2019
DiPrete et al. AIDS & Behavior 2018

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Positive Voices
the national survey of people living with HIV

Public Health England

Methods

- February – September 2017
- Nationally representative
  - Random sample from HARS
  - ~20% patients/clinic
- Clinic-based recruitment

Face to face, post or email

- Self-completion

Paper (87%) or online (13%)

- Incentive

£5 high street voucher

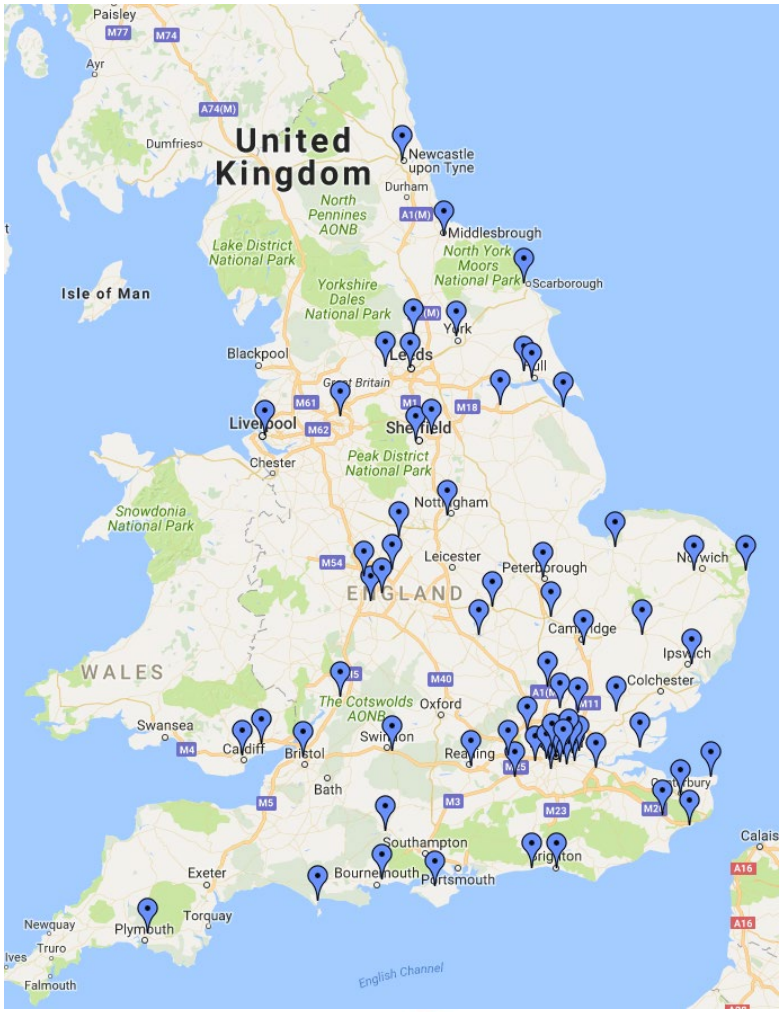
- Results:

73 clinics

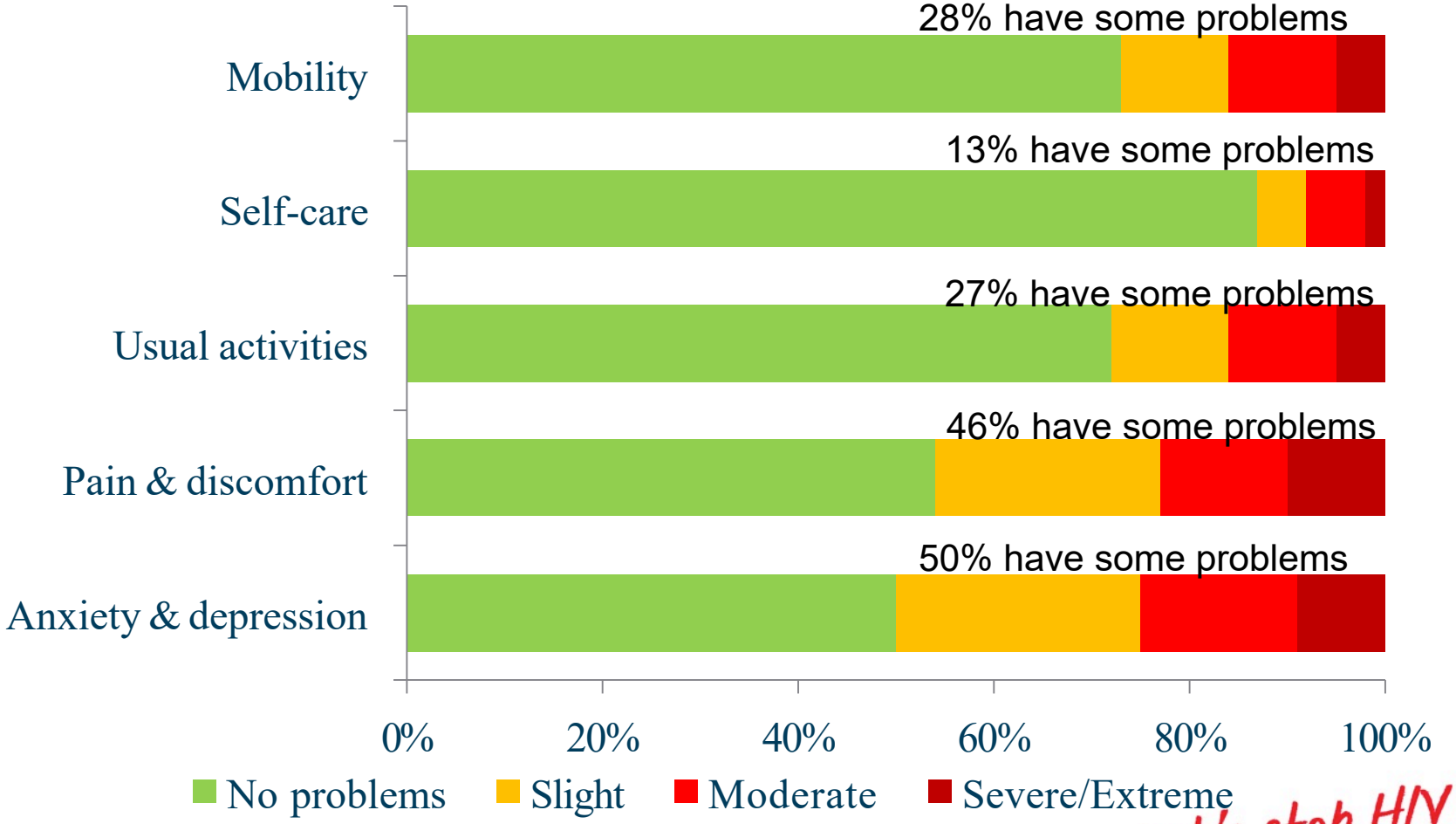
4,424 responses

(1,180 women)

51% response rate



Results: Distributions of EQ-5D-5L in PLHIV



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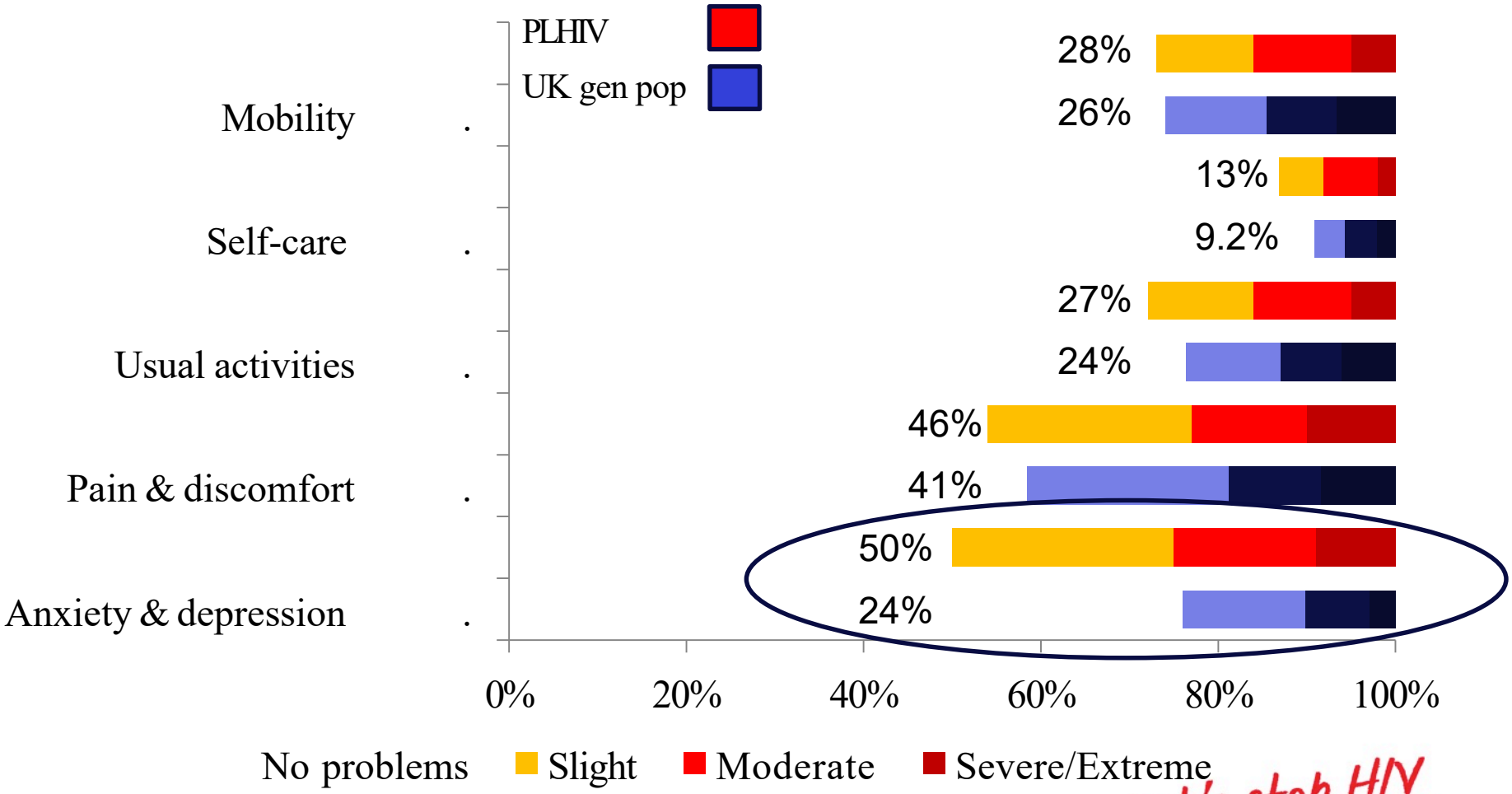
Results: Distributions of EQ-5D-5L in PLHIV vs UK gen pop



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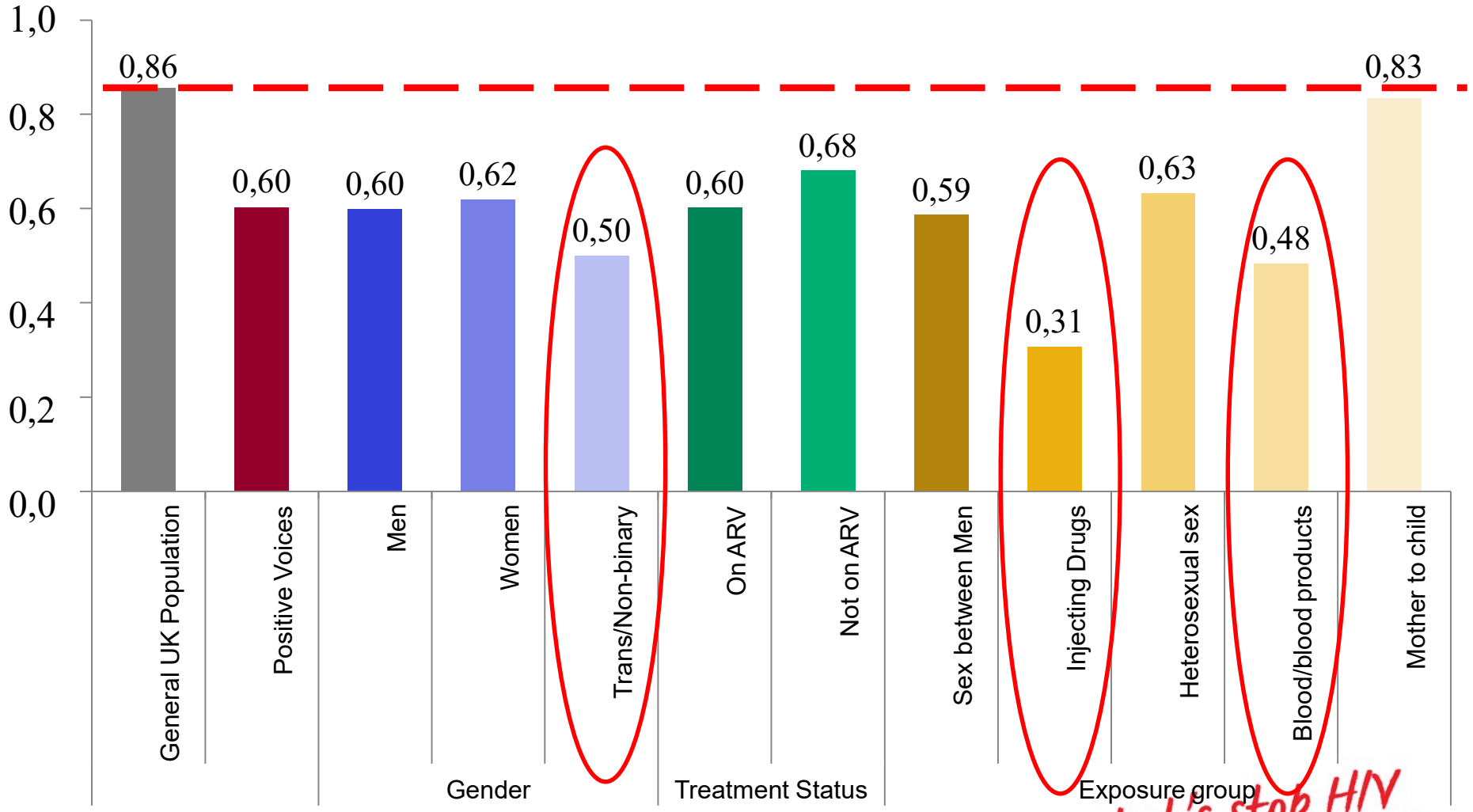
Public Health England

EQ-5D-5L utility values in general population vs HIV populations



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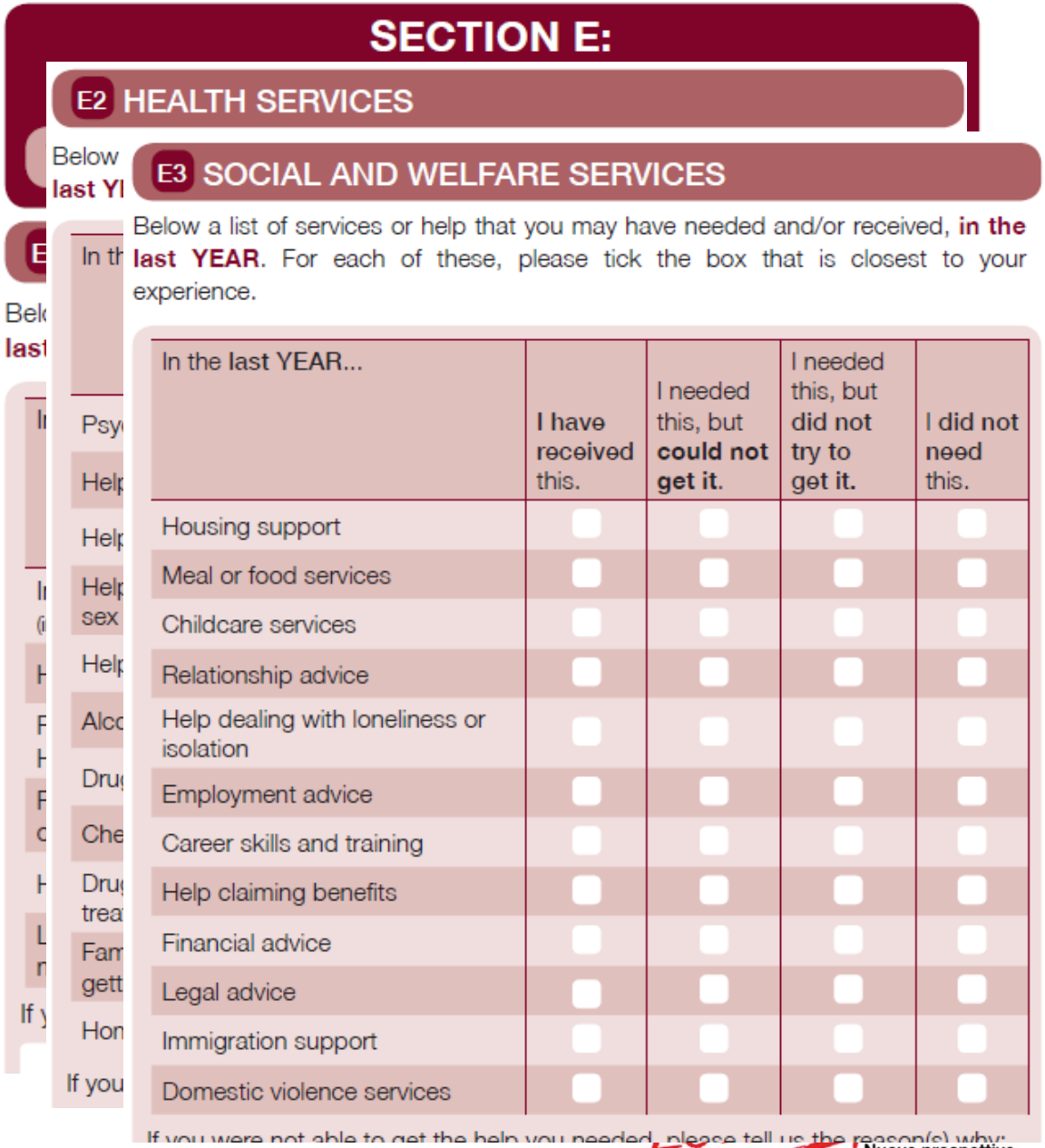
Met and unmet needs

- **Three sections**

HIV-related services (6)

Health-related services (11)

Social & Welfare services (12)



SECTION E:

E2 HEALTH SERVICES

E3 SOCIAL AND WELFARE SERVICES

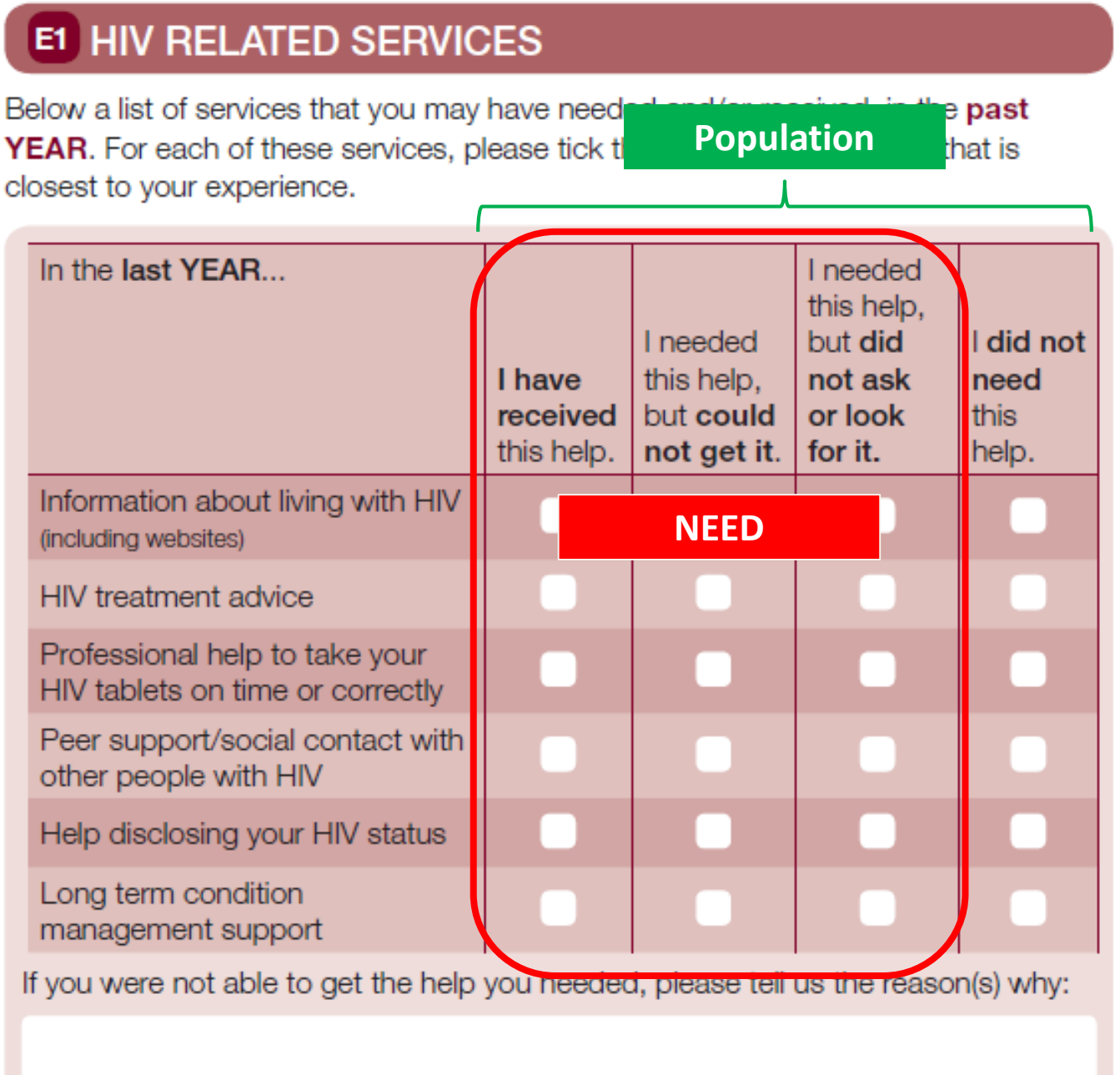
Below a list of services or help that you may have needed and/or received, **in the last YEAR**. For each of these, please tick the box that is closest to your experience.

In the last YEAR...	I have received this.	I needed this, but **could not get it.**	I needed this, but **did not try to get it.**	I did not need this.
Housing support	☐	☐	☐	☐
Meal or food services	☐	☐	☐	☐
Childcare services	☐	☐	☐	☐
Relationship advice	☐	☐	☐	☐
Help dealing with loneliness or isolation	☐	☐	☐	☐
Employment advice	☐	☐	☐	☐
Career skills and training	☐	☐	☐	☐
Help claiming benefits	☐	☐	☐	☐
Financial advice	☐	☐	☐	☐
Legal advice	☐	☐	☐	☐
Immigration support	☐	☐	☐	☐
Domestic violence services	☐	☐	☐	☐

If you were not able to get the help you needed, please tell us the reason(s) why:

Defining "Need":

those who needed this help in the past year



E1 HIV RELATED SERVICES

Below a list of services that you may have need[illegible] **past YEAR**. For each of these services, please tick t[illegible] that is closest to your experience.

Population

In the **last YEAR**...	**I have received** this help.	I needed this help, but **could not get it.**	I needed this help, but **did not ask or look for it.**	I **did not need** this help.
Information about living with HIV (including websites)				
HIV treatment advice				
Professional help to take your HIV tablets on time or correctly				
Peer support/social contact with other people with HIV				
Help disclosing your HIV status				
Long term condition management support				

NEED

If you were not able to get the help you needed, please tell us the reason(s) why:

Let's Sup[illegible]

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Defining "Unmet need":

those who received this help in the past year, of those who needed it

E1 HIV RELATED SERVICES

Below a list of services that you may have [illegible] in the **past YEAR**. For each of these services, please [illegible] that is closest to your experience.

Population

In the **last YEAR**...	**I have received** this help.	I needed this help, but **could not get it.**	I needed this help, but **did not ask or look for it.**	I **did not need** this help.
Information about living with HIV (including websites)	☐	**UNMET NEED**		☐
HIV treatment advice	☐			☐
Professional help to take your HIV tablets on time or correctly	☐	☐	☐	☐
Peer support/social contact with other people with HIV	☐	☐	☐	☐
Help disclosing your HIV status	☐	☐	☐	☐
Long term condition management support	☐	☐	☐	☐

If you were not able to get the help you needed, please tell us the reason(s) why:

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Met and Unmet Need: Positive Voices 2017 (UK)

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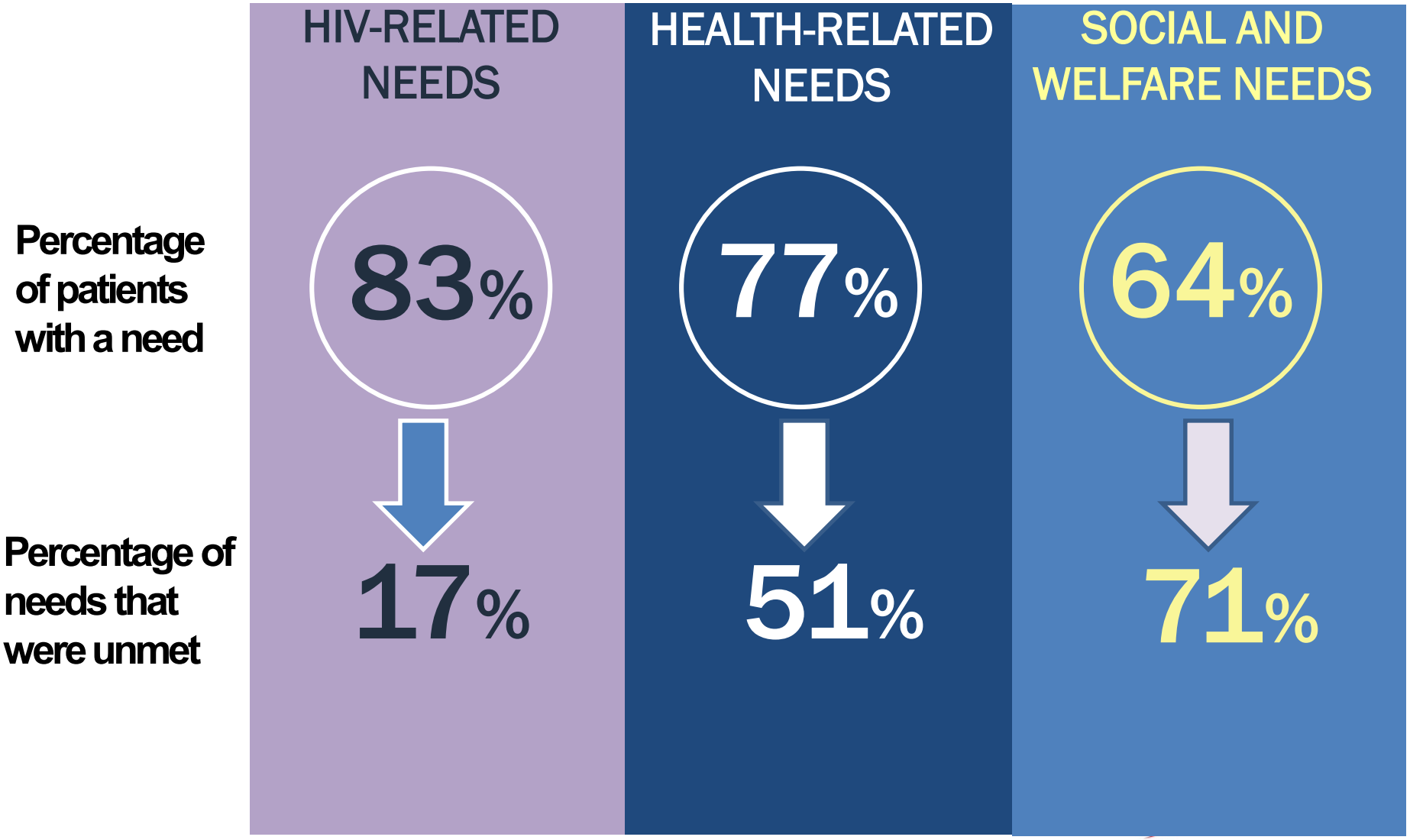
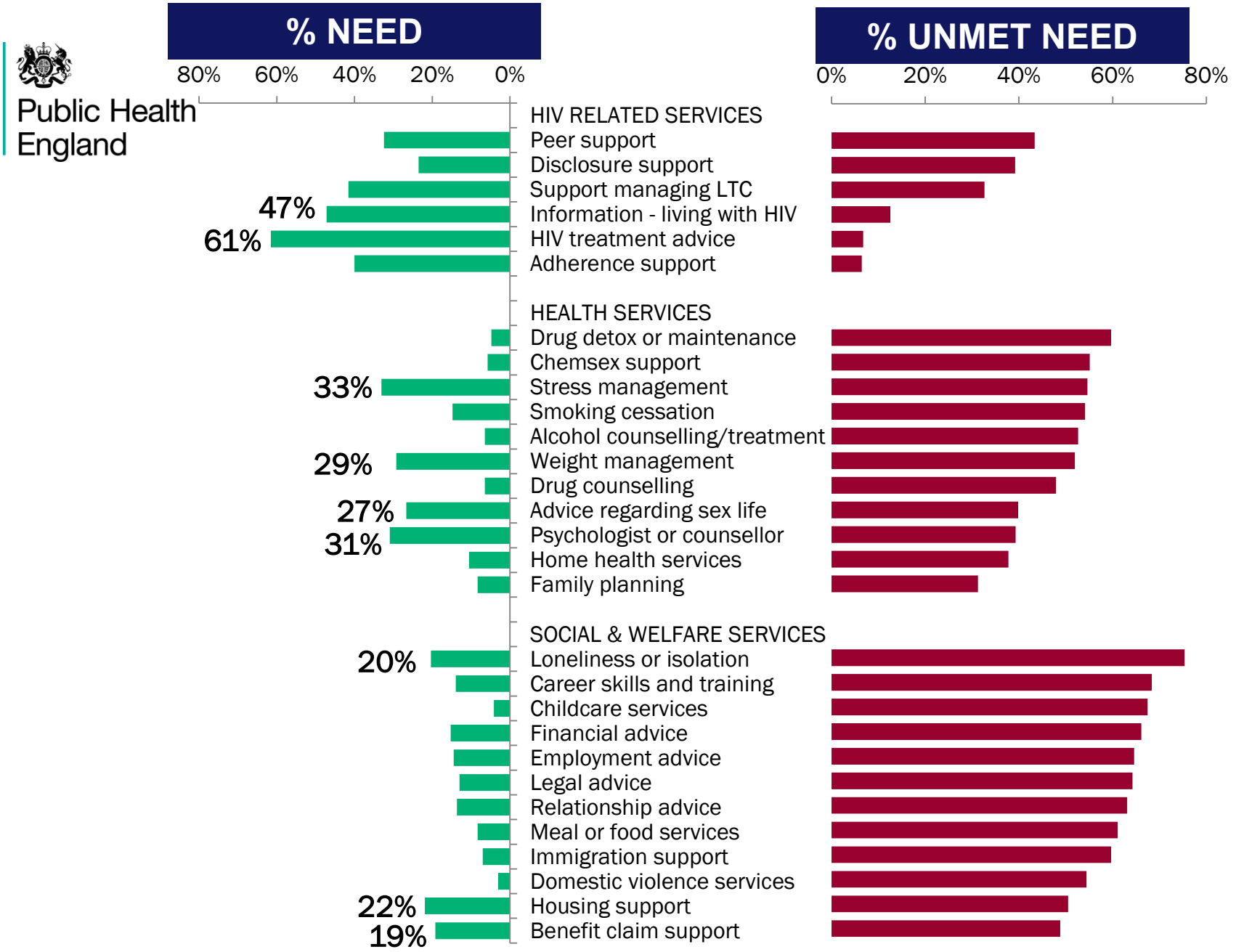
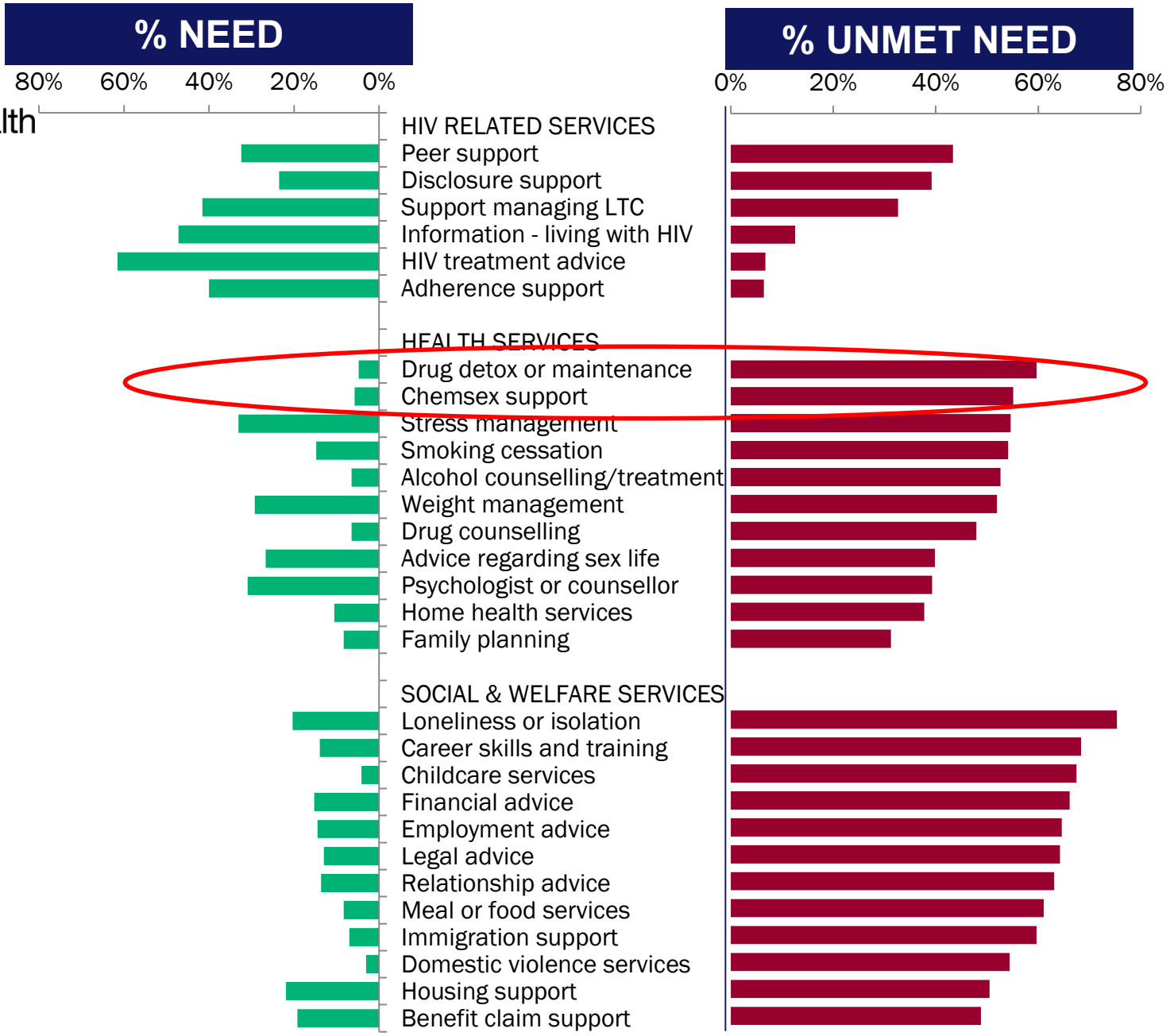



Public Health England
% NEED
80%
60%
40%
20%
0%
% UNMET NEED
0%
20%
40%
60%
80%
HIV RELATED SERVICES
Peer support
Disclosure support
Support managing LTC
47%
Information - living with HIV
61%
HIV treatment advice
Adherence support
HEALTH SERVICES
Drug detox or maintenance
Chemsex support
33%
Stress management
Smoking cessation
Alcohol counselling/treatment
29%
Weight management
Drug counselling
27%
Advice regarding sex life
31%
Psychologist or counsellor
Home health services
Family planning
SOCIAL & WELFARE SERVICES
20%
Loneliness or isolation
Career skills and training
Childcare services
Financial advice
Employment advice
Legal advice
Relationship advice
Meal or food services
Immigration support
Domestic violence services
22%
Housing support
19%
Benefit claim support

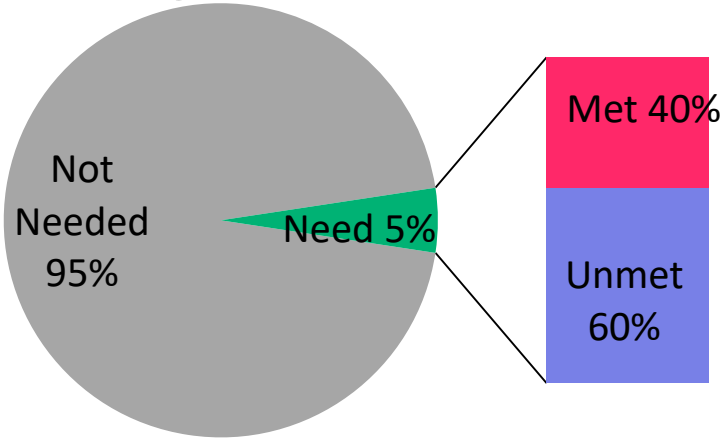
Public Health England



Public Health England

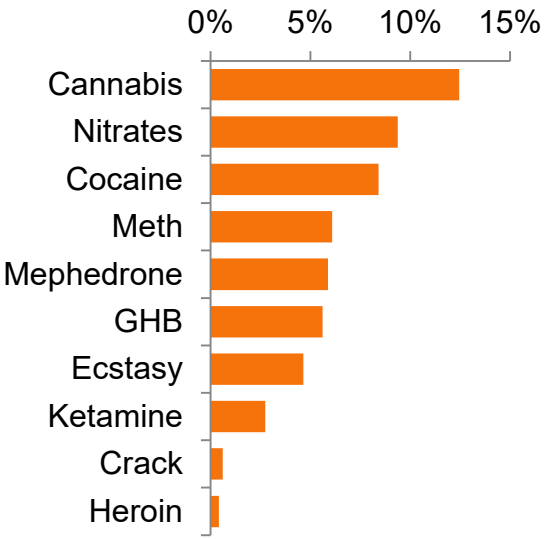
Drug treatment and Chemsex

Drug detox or maintenance treatment

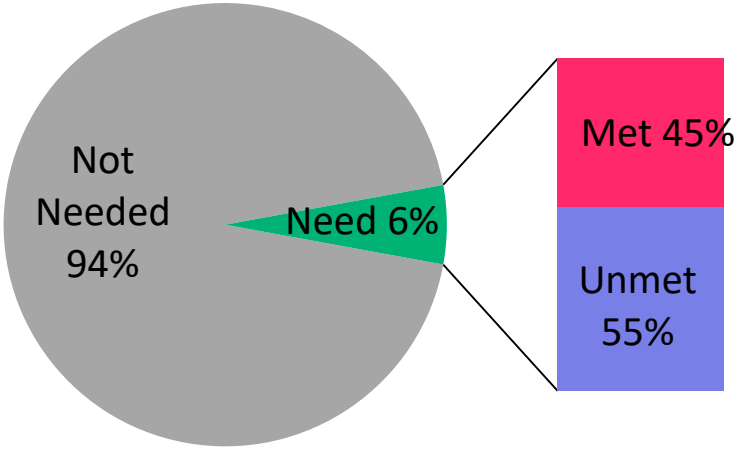


27%

Any drugs in past 3 months



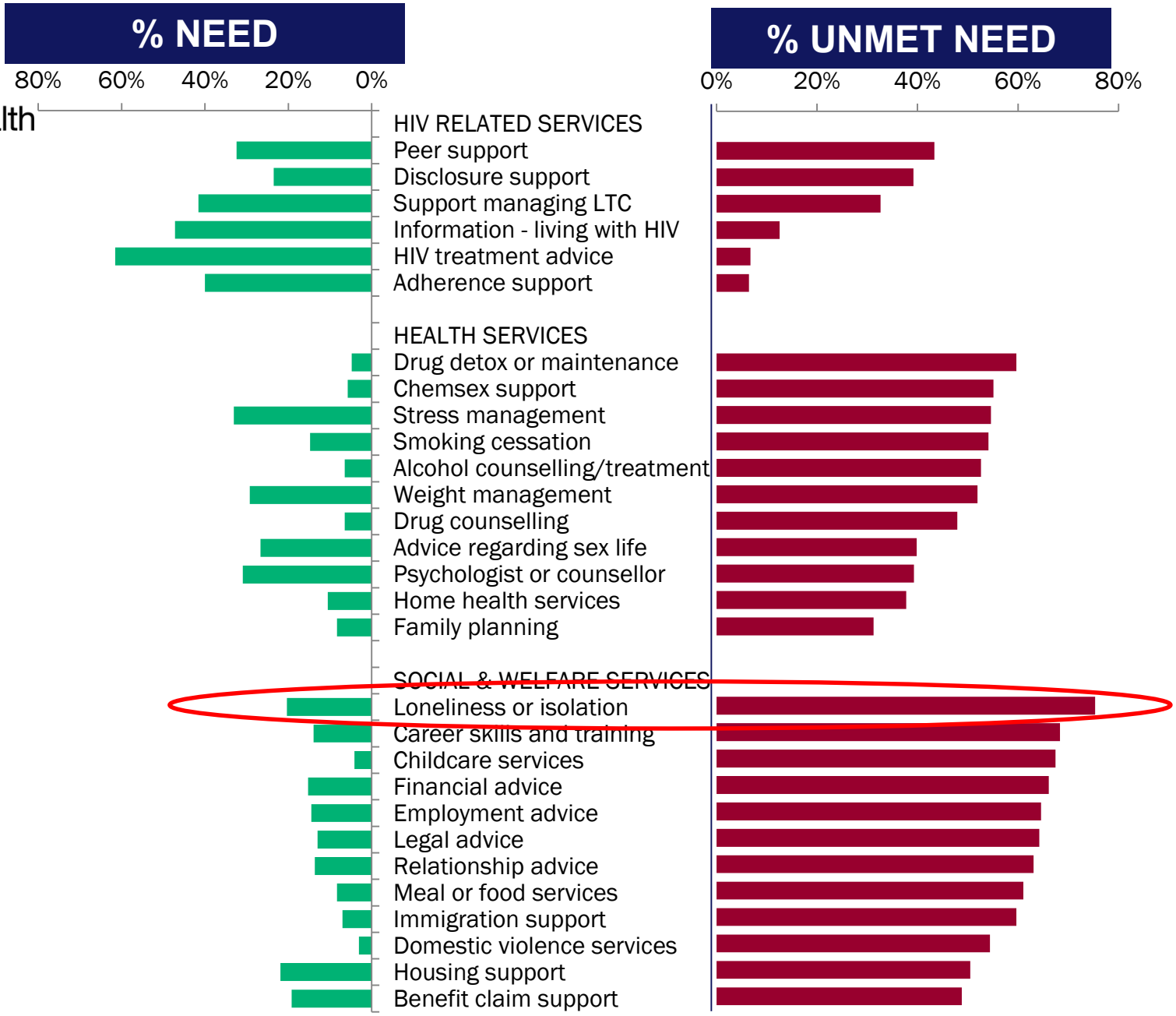
Chemsex support



15%

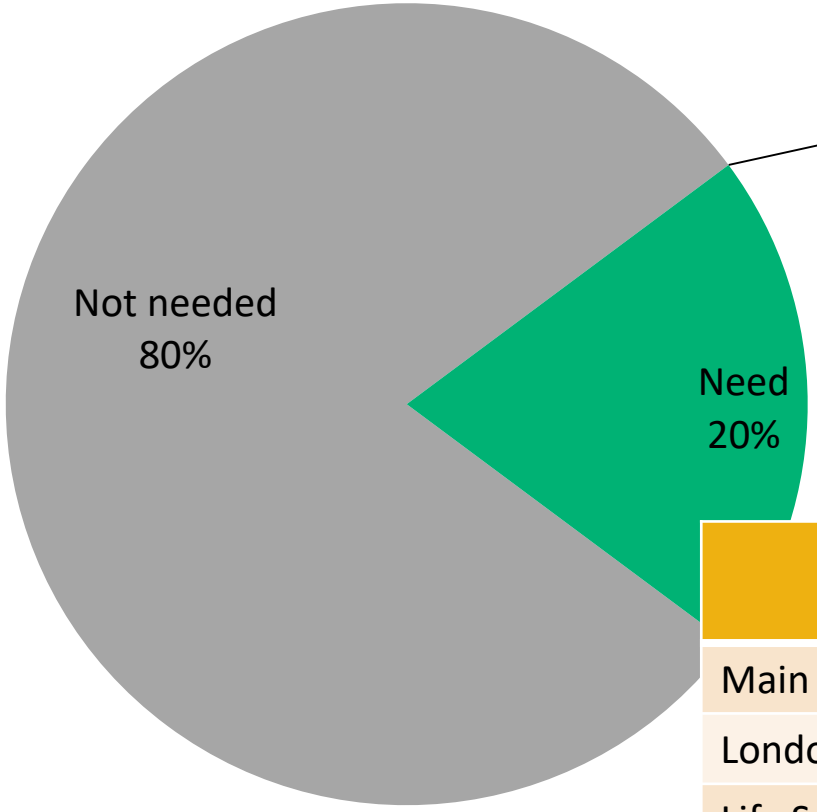
MSM reported chemsex in past 3 months

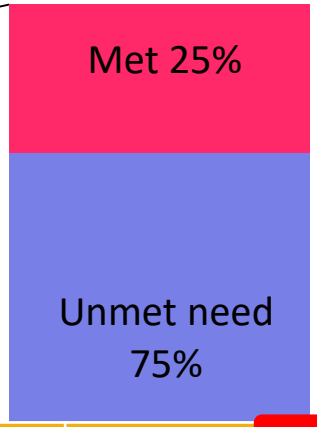
Public Health England



Public Health England

Help dealing with loneliness and isolation





No difference by:

- **Age**
- **Sex**
- **Exposure**
- **Ethnicity**

	No need	Need	Unmet Need
Main partner	65%	39%	37%
London resident	47%	53%	54%
Life Satisfaction (median out of 10)	8	6	5
Depression (ever diagnosed)	27%	61%	60%

Strategies to improve 4th 90

- Optimise Care Environment
  - Person centred & personlaised care
  - Integrated care models/Multiagency approach
    - Drug & Alcohol/Harm reduction services
    - Mental health
    - Social services
- Tackle stigma & discrimination
- Community involvement
  - Service design & delivery
  - Peer support
- Incorporate PROMs into research/audit

Hoang et al 2011; Lankowski et al 2014
Morrison et al 2011 (TASC); Mugavero et al 2010

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Improving HRQoL– beyond the clinic

- Address basic needs
- Foster supportive legal, political and social environment
- Facilitate community mobilization
- Address GBV/IPV
- Tackle stigma and discrimination

Adapted from Linkages HIV Cascade Framework for Key Populations
Oct 2015; fhi360.org

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Summary

- 4th 90
  - Addresses physical, social and psychological health
  - Quality of life a complex concept driven by wider determinates of health
  - No agreed definition or measure
  - PROMs critical
  - Integral to and interrelated with other 90s
  - Importance on intersectionality
    - Stigma & discrimination
    - Aging/mental health issues/substance use
  - Requires a personalised and integrated care approach

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f.burns@ucl.ac.uk

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