POPPY

Pharmacokinetic and clinical
observations in people over 50

Health and wellbeing outcomes in PLWH with and without depression

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UK-CAB
HIV TREATMENT ADVOCATES NETWORK

UK-CAB Meeting

14th July 2017

Background

- Depression is the most common psychiatric condition in people living with HIV (PLWH)
- Depression is consistently reported with high but varying prevalences among PLWH
  (as high as 80% but 40-42% on average)[1]
- Reported prevalence in PLWH can be up to three-times higher than in the general population[2]

[1]Ciesla, JA et al. 2001 [2]Kessler, RC et al. 2008

Why is depression more prevalent in PLWH?

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- Evidence support the hypothesis that HIV infection and depression have a bidirectional association
- Link is likely to be a complex mix of:

Psychosocial factors
Burden of having a life-threatening, chronic, difficult to manage disease
Stigma
Social isolation and discrimination
Occurrence of other comorbidities, complications and ART side effects
Need for a strict adherence to ART

Biological factors
Neurological changes caused by the penetration of the virus into the CNS
• Increase concentrations of inflammatory markers linked to depression

How does depression impact lives of PLWH?

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- Depression has been found to negatively affect:
  - ART treatment prescription and adherence
  - $CD4^+$ T cell count and HIV viral load
  - risk behaviours (substance/alcohol abuse)
- This may ultimately lead to disease progression and poorer health

Aims

- To compare prevalence of diagnosed depression in PLWH and matched HIV-negative controls
- To explore lifestyle factors associated with the occurrence of depression in PLWH
- To investigate the association between depression, quality of life and general health outcomes

The POPPY Study

- Multicentre, prospective, observational study to examine the effects of ageing on the clinical outcomes of people living with HIV in UK and Ireland
- Cohorts of HIV-positive people aged ≥50 years and demographically matched <50 HIV-positive and ≥50 HIV-negative individuals

≥50 years PLWH	<50 years PLWH	≥50 years HIV-
N=698	**N=374**	**N=304**
White/black African ethnicity Acquired HIV via sexual routes	Frequency matched on gender, ethnicity, sexual orientation and location (in/out London)	Frequency matched on age, gender, ethnicity, sexual orientation and location (in/out London)

Methods

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- Participants underwent a structured interview with trained staff to report:
  - medically diagnosed depression (treated by a doctor)
  - occurrence of comorbidities
  - concomitant medication (other than ART)
  - healthcare utilisation in the previous year (hospital admissions)
- Quality of life was assessed by the SF-36 questionnaire to measure physical health

Statistical methods

- Group differences in the prevalence of depression were evaluated using the chi-squared test
- Associations between depression and lifestyle in PLWH were assess using logistic regression
- Logistic, ordinal or linear regression to evaluate associations between health outcomes and both study group and depression

Baseline characteristics

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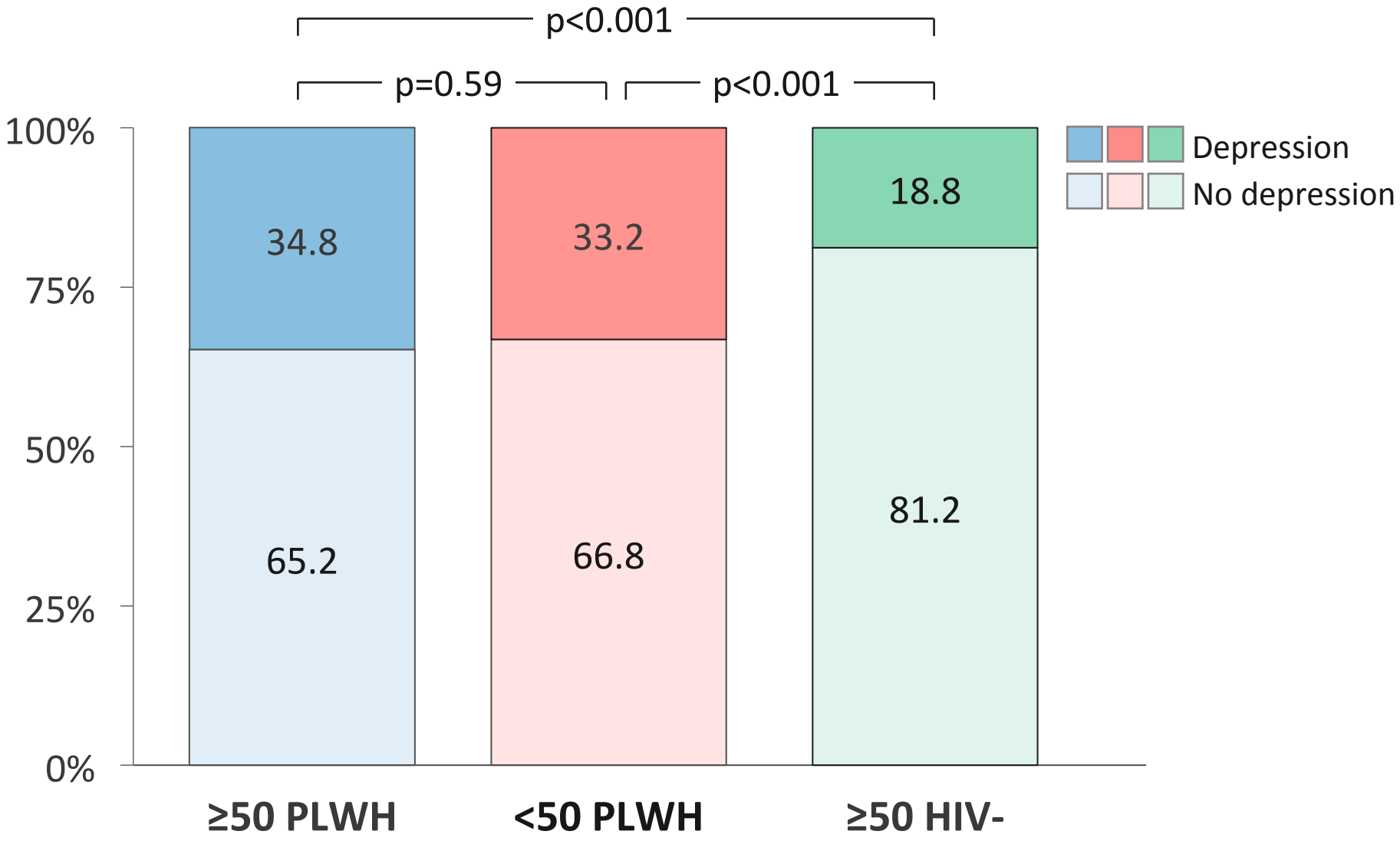
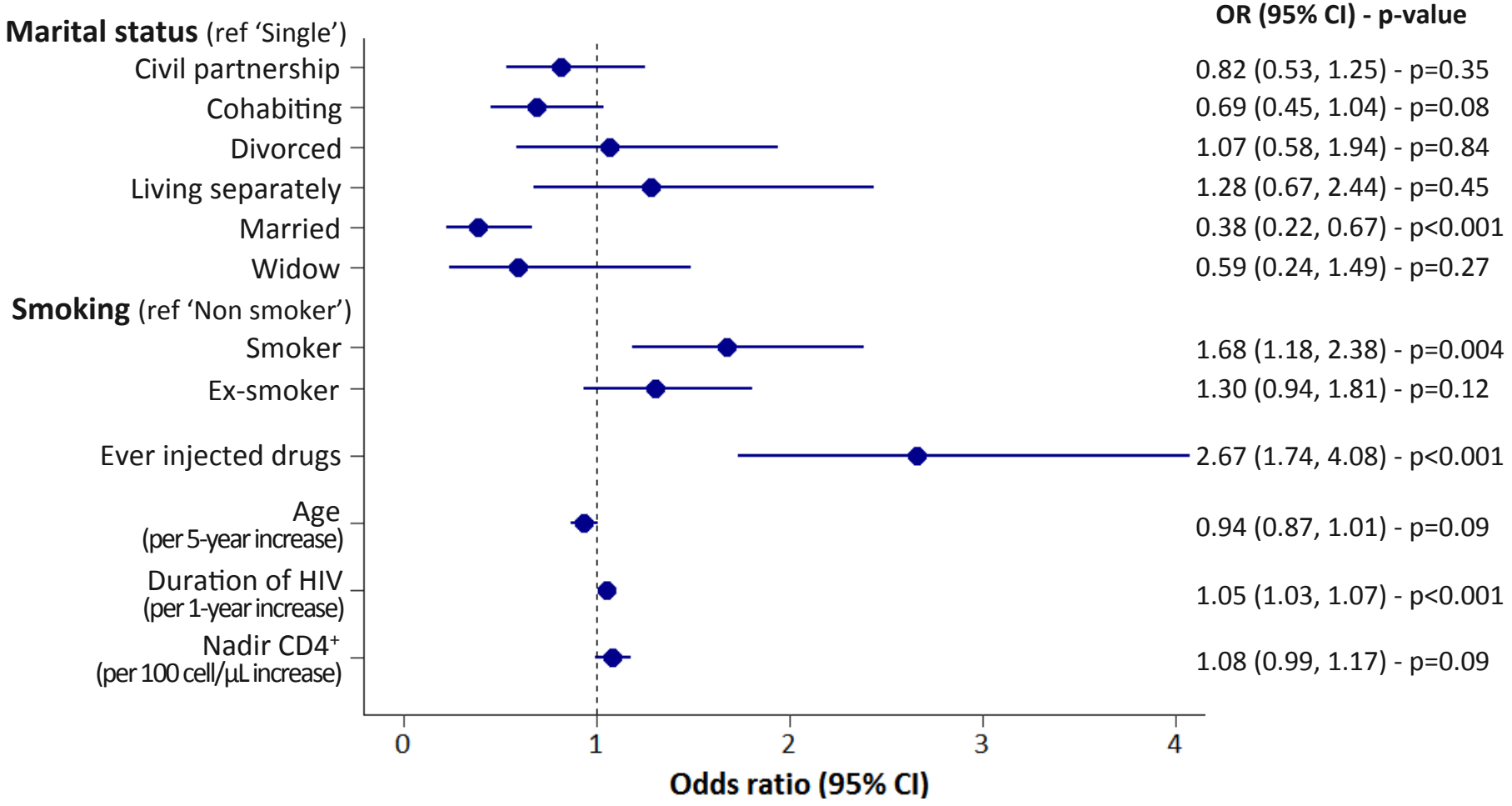
		≥50 PLWH (N=698)	<50 PLWH (N=374)	≥50 HIV- (N=304)
Gender, n (%)	**Female**	86 (12.3%)	72 (19.3%)	109 (35.9%)
	Male	612 (87.7%)	302 (80.8%)	195 (64.1%)
Ethnicity, n (%)	**Black-African**	95 (13.6%)	75 (20.1%)	31 (10.2%)
	White	603 (86.4%)	299 (80.0%)	273 (89.8%)
Age [years], median (IQR)		57 (53, 62)	43 (37, 47)	58 (53, 63)
Sexual orientation	**MSM**	550 (78.8%)	269 (71.9%)	144 (47.4%)
	Heterosexual	148 (21.2%)	105 (28.1%)	160 (52.6%)
Viral load <50 copies/mL, n (%)		641 (92.1%)	323 (86.8%)	N/A
CD4⁺ count [cells/µL], median (IQR)		610 (466, 792)	661 (499, 847)	N/A
Nadir CD4⁺ count [cells/µL], median (IQR)		155 (85, 273)	178 (151, 376)	N/A

Depression


p<0.001
p=0.59
p<0.001
100%
75%
50%
25%
0%
34.8
65.2
33.2
66.8
18.8
81.2
Depression
No depression
≥50 PLWH
<50 PLWH
≥50 HIV-

Who is more likely to report depression?



Gender, sexuality, race, alcohol consumption, rec. drugs use and VL<50 copies/mL were not significantly associated

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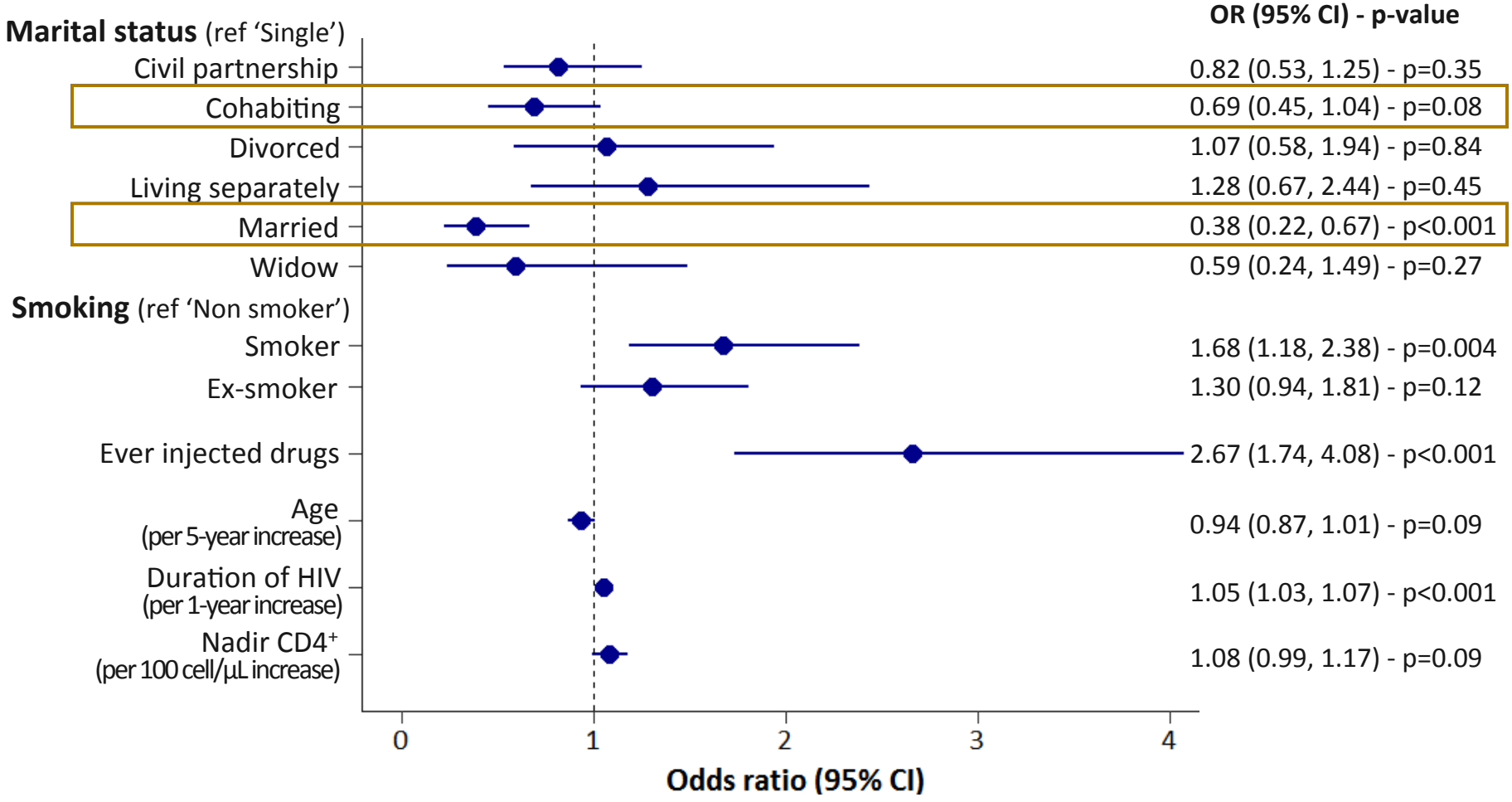

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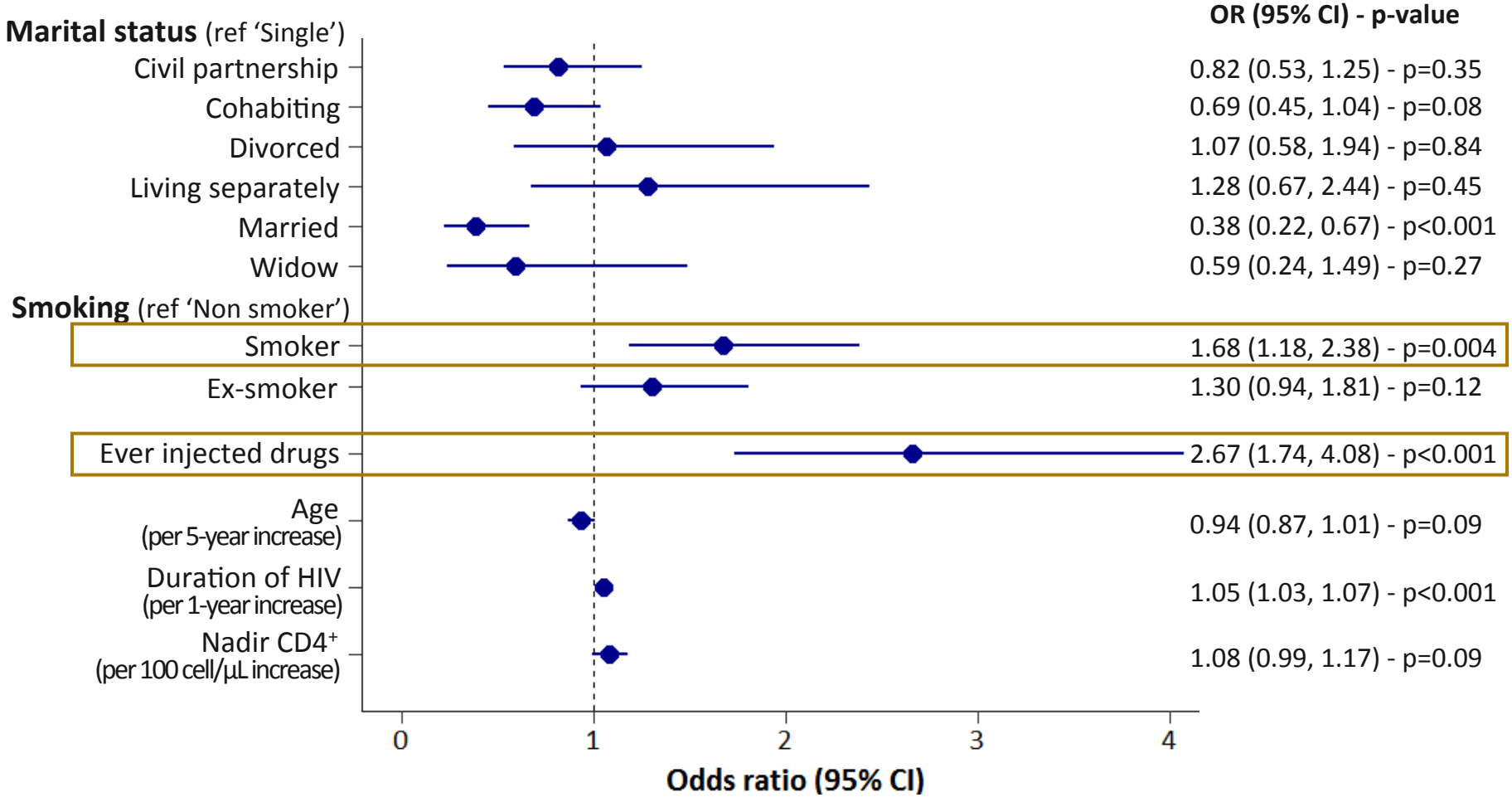

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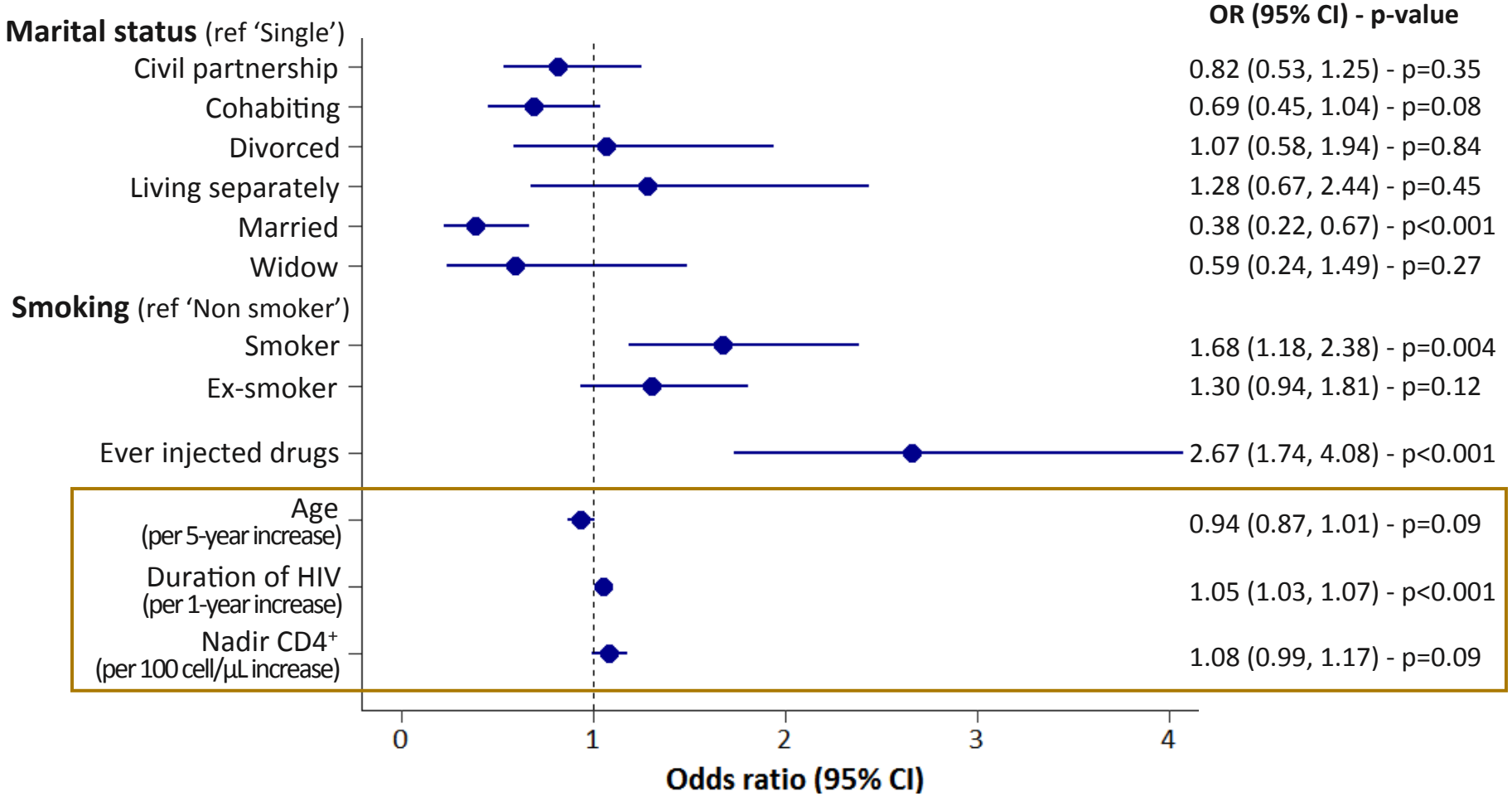
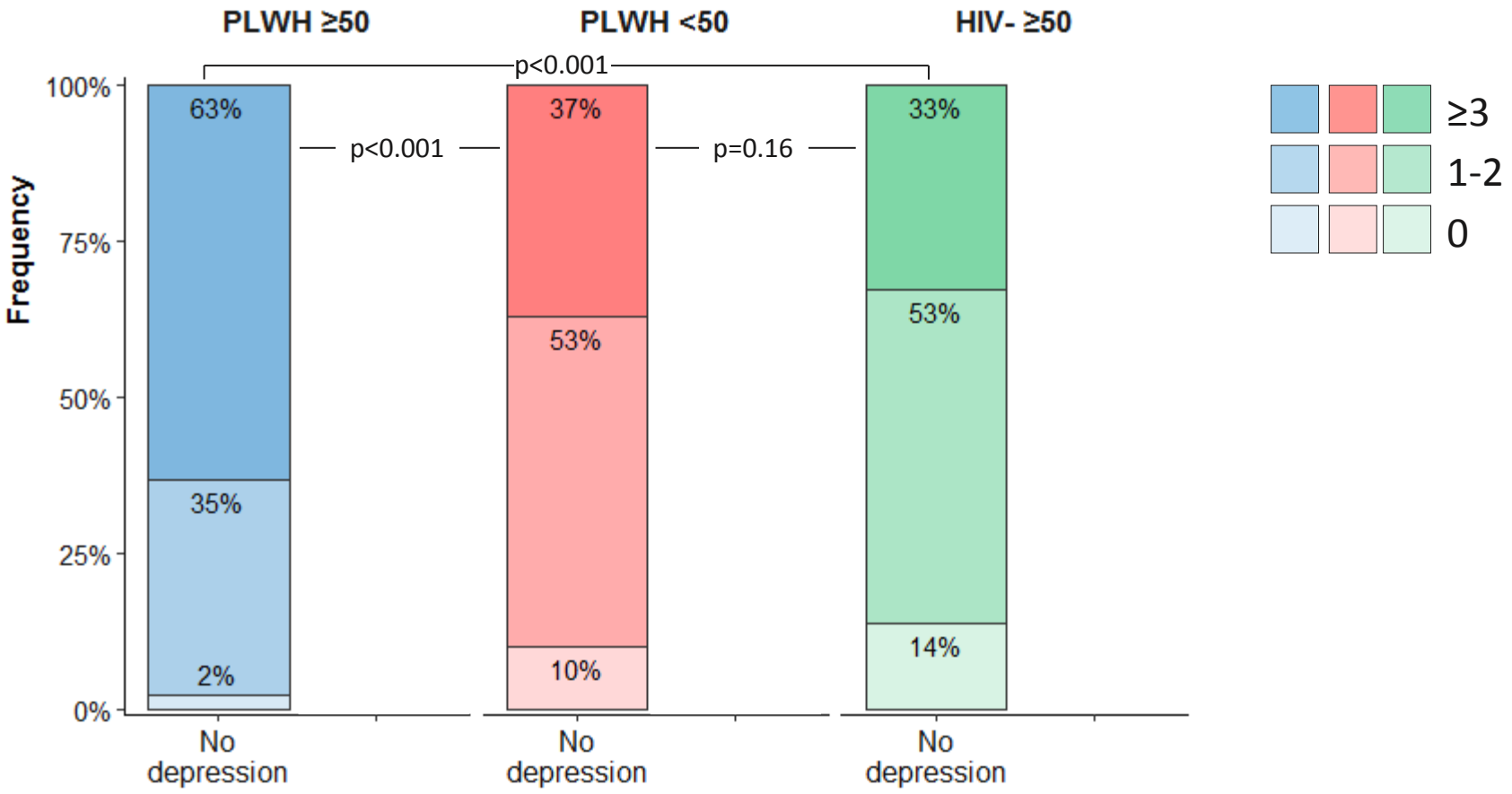


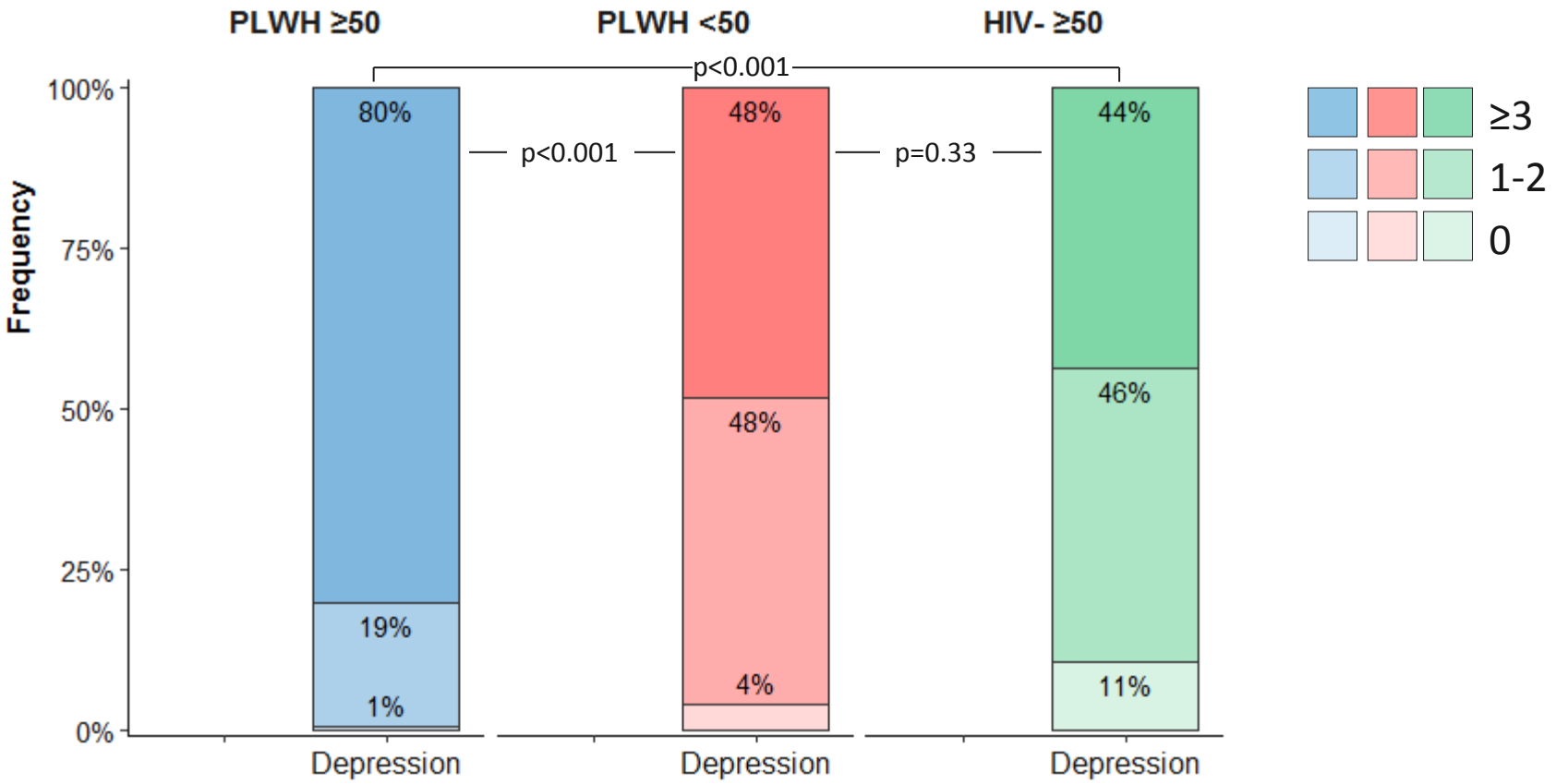
Gender, sexuality, race, alcohol consumption, rec. drugs use and VL<50 copies/mL were not significantly associated

Number of comorbidities*



*between diabetes mellitus, CVDs, chest problems, Hepatitis B and C, AIDS events neurological problems, genitourinary problems, cancer, STDs, joint problems

Number of comorbidities*



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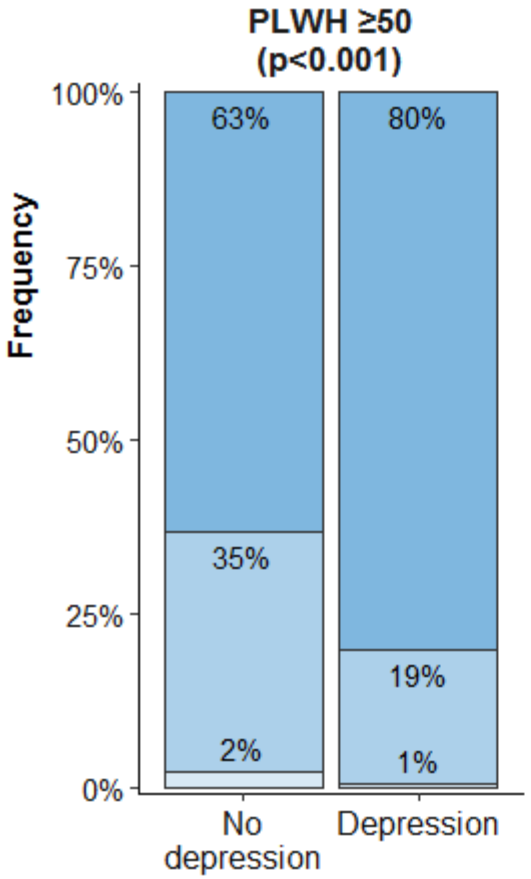

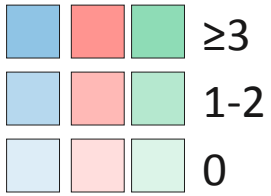

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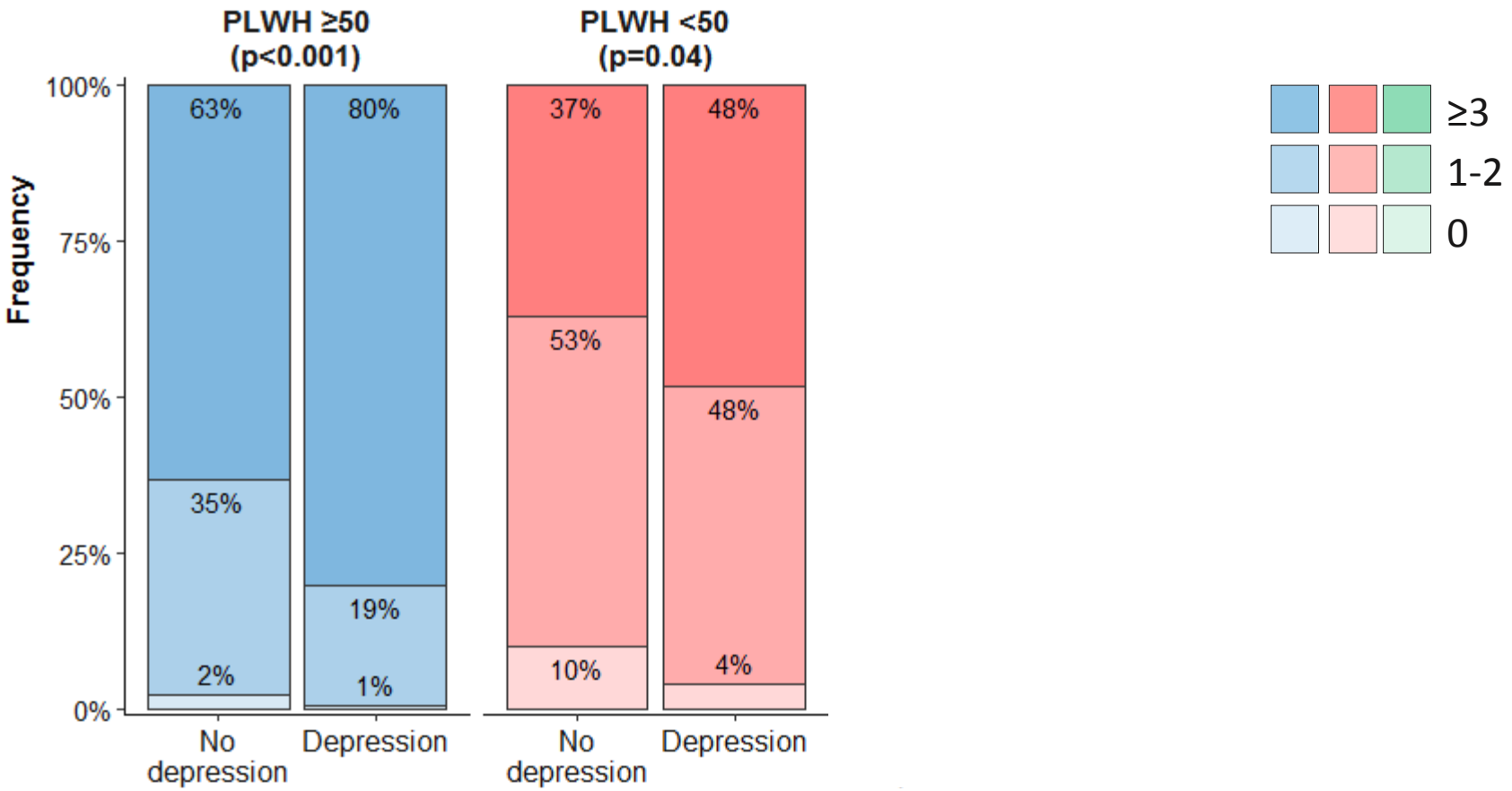

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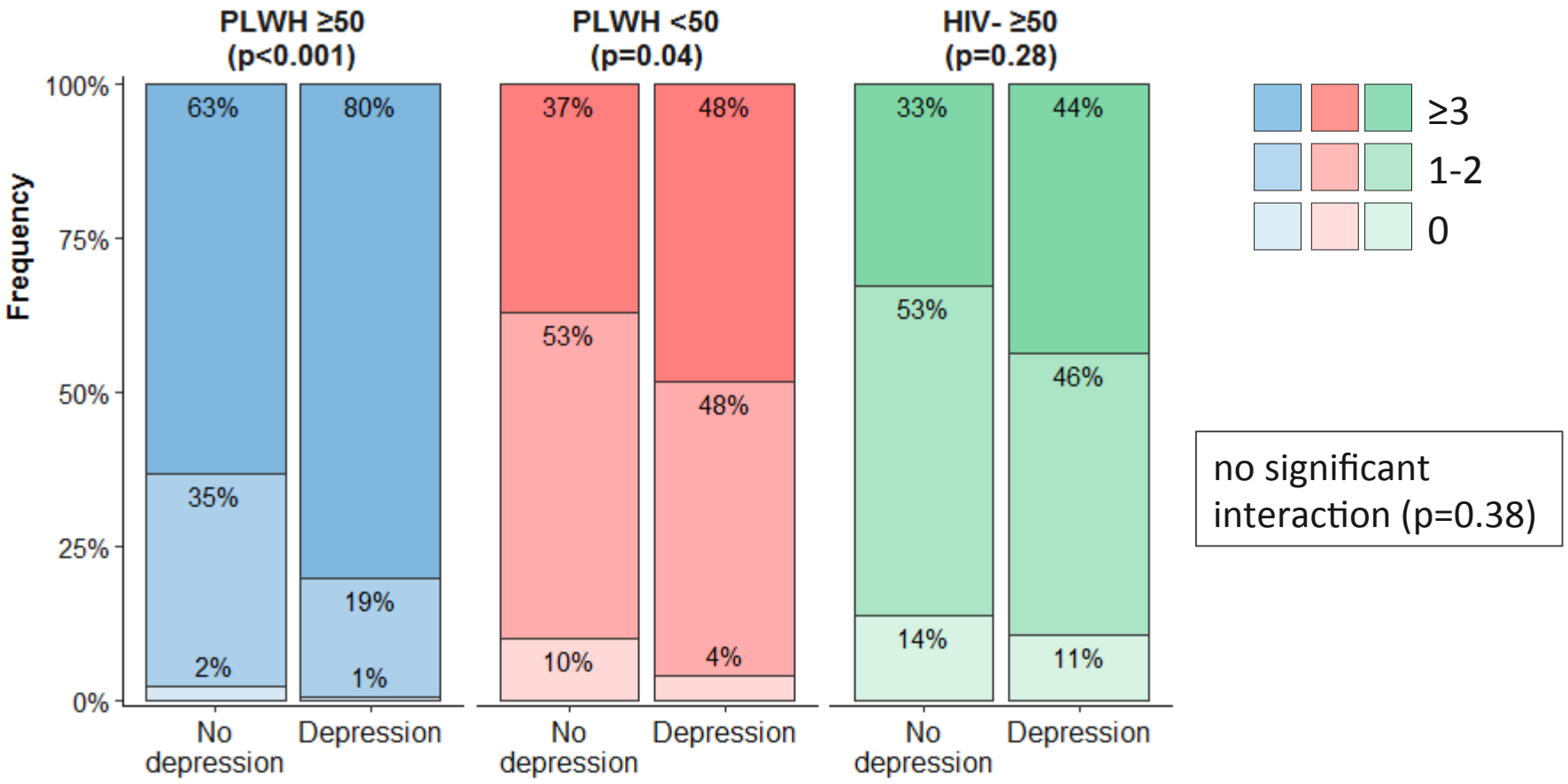

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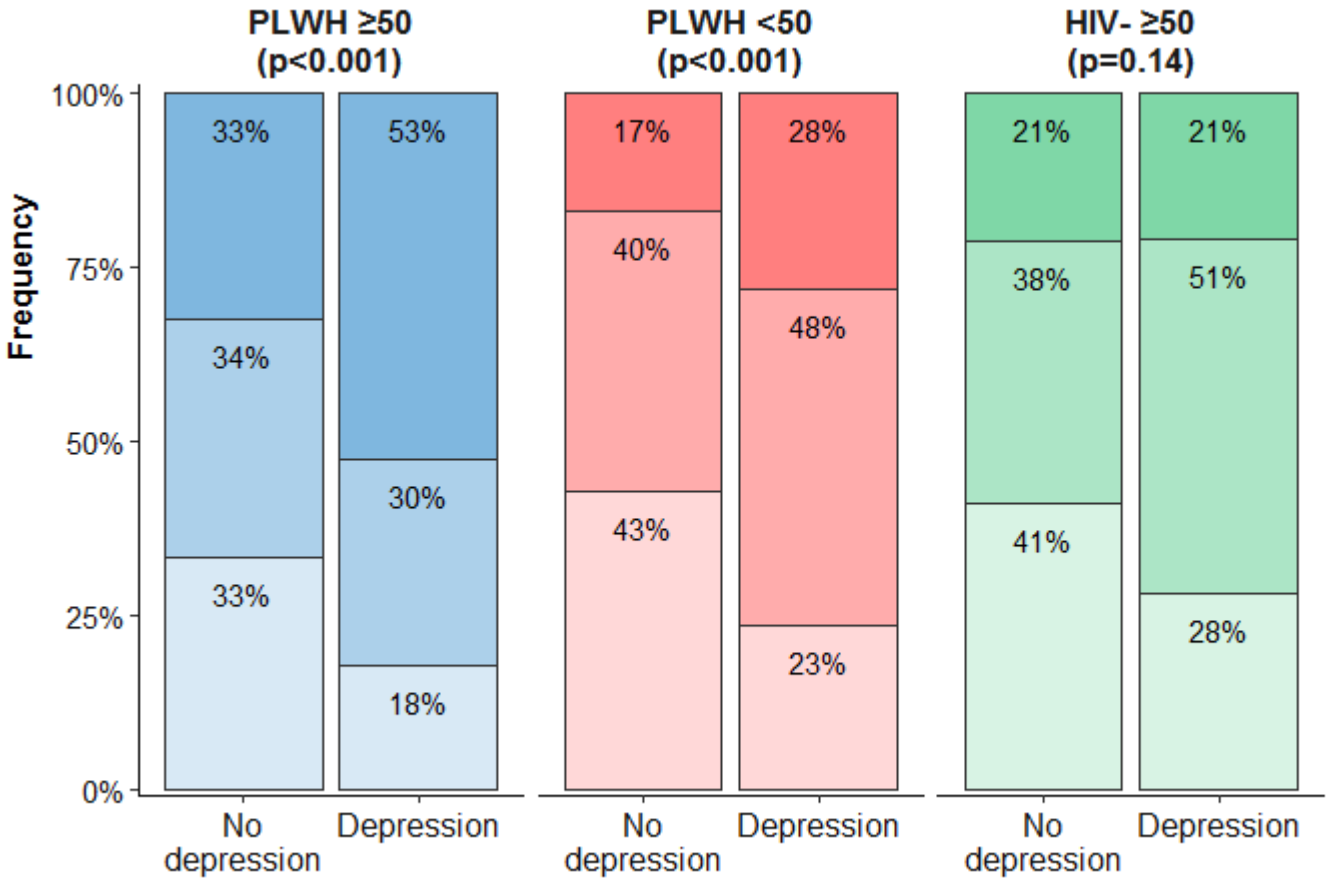
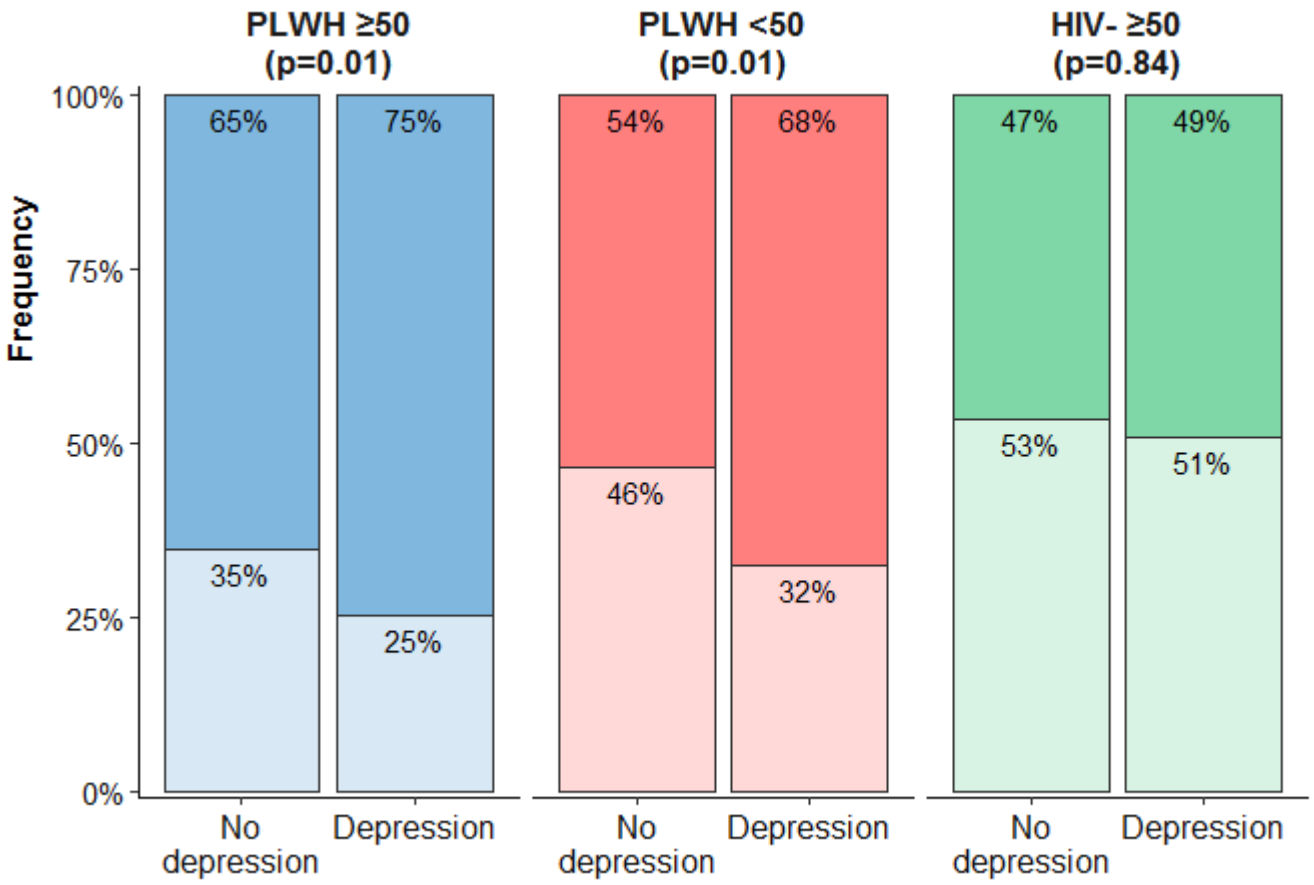
Concomitant medications*



no significant interaction (p=0.17)

*including analgesic, antihistamines, antimicrobial, antiplatelet, antiviral, chest, dermatology, endocrine, gastrointestinal, hypertension, lipids lowering, mental health, sleeping pills, neurological, anti-rheumatic/steroids, supplements, urogenital/STD

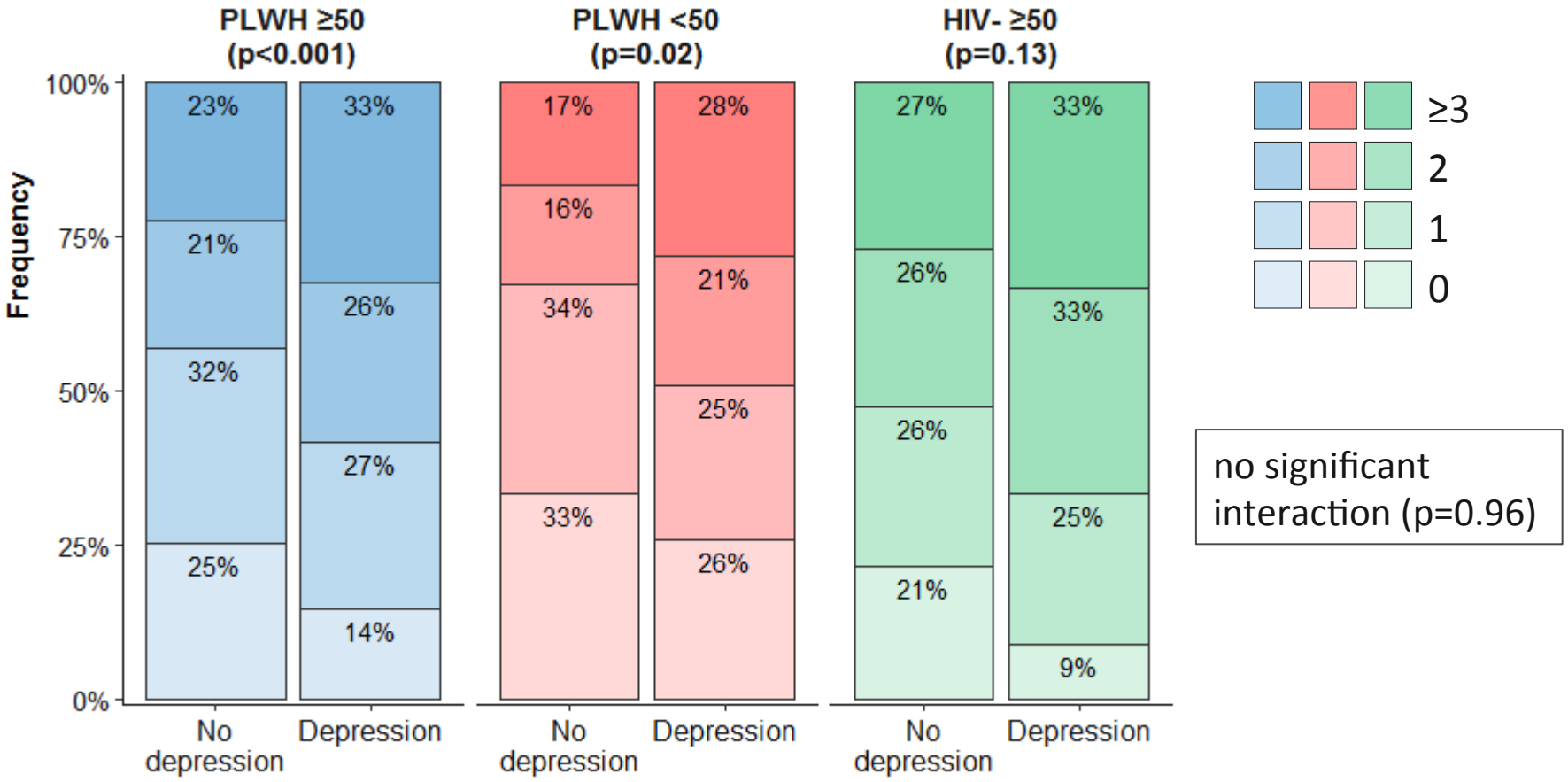
Hospital admission*



no significant interaction (p=0.41)

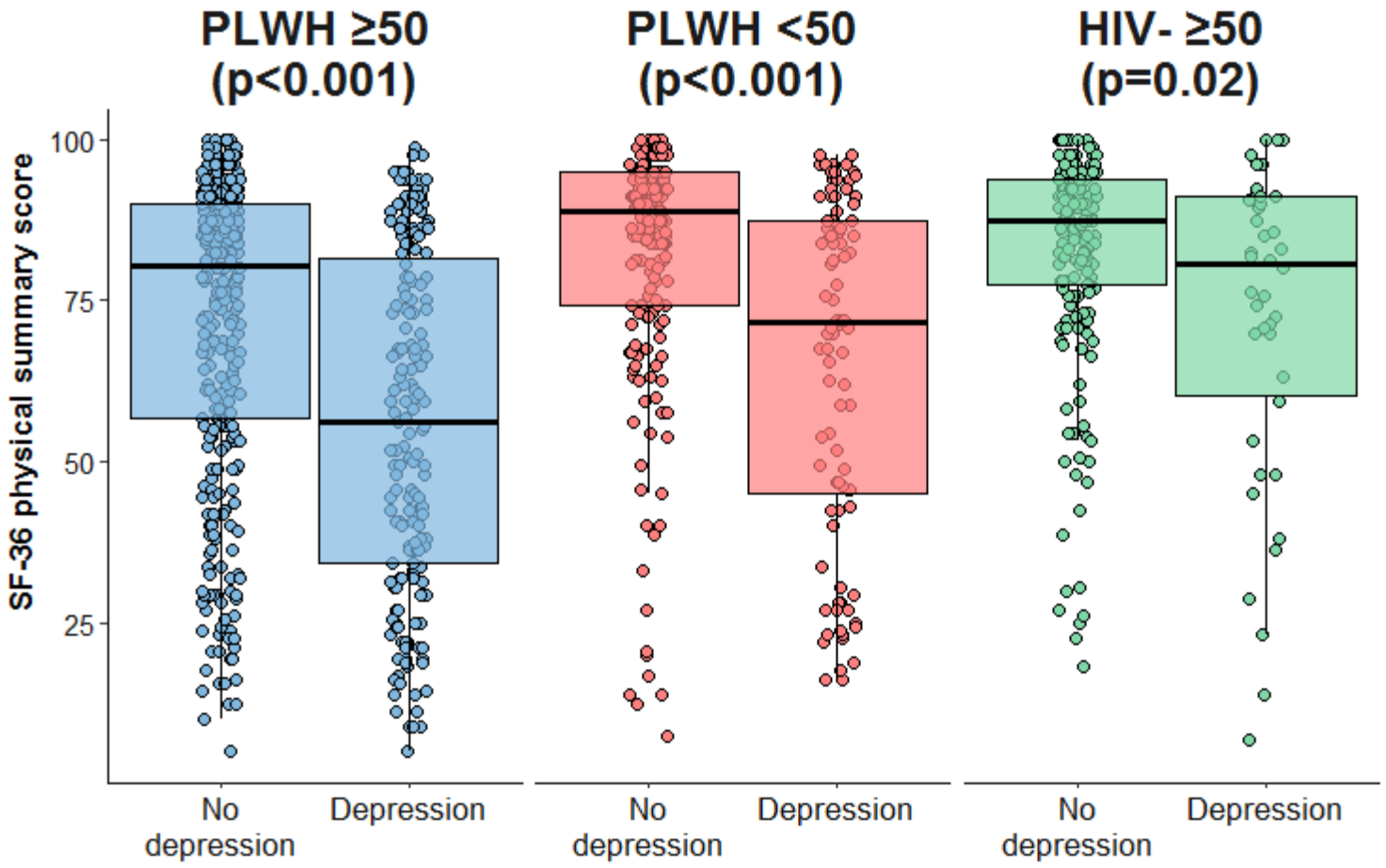
*including A&E visit, hospital investigation and hospital procedure

GP visits (non HIV-related)



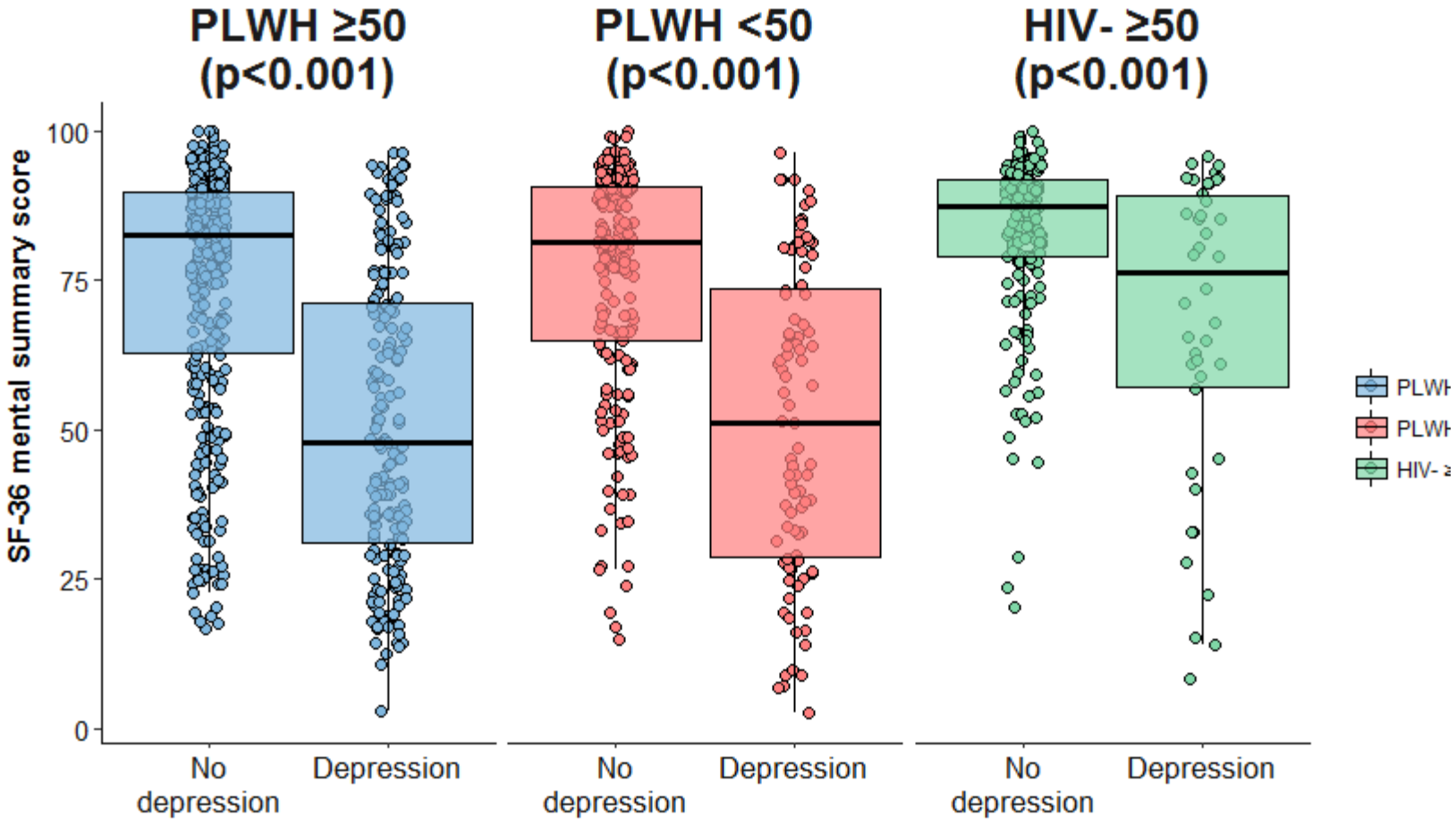
Physical health

no significant interaction (p=0.36)



Mental health

no significant interaction (p=0.12)



Conclusions

- PLWH are more likely to have medically-diagnosed depression even when compared to HIV-negative people with similar lifestyles
- Depression and HIV are each independently associated with several health outcomes
- Given the cross-sectional nature of the analysis, we are unable to demonstrate causality or the direction of the associations

Acknowledgments

POPPY Management Team: Marta Boffito, Paddy Mallon, Frank Post, Caroline Sabin, Memory Sachikonye, Alan Winston

POPPY Scientific Steering Committee: Jane Anderson, David Asboe, Marta Boffito, Lucy Garvey, Paddy Mallon, Frank Post, Anton Pozniak, Caroline Sabin, Memory Sachikonye, Jaime Vera, Ian Williams, Alan Winston

POPPY Sites and Trials Unit:

- Elton John Centre, Brighton and Sussex University Hospital (Martin Fisher, Amanda Clarke, Jaime Vera, Andrew Bexley, Celia Richardson)
- St Stephen's Centre, Chelsea and Westminster Hospital (Marta Boffito, David Asboe, Anton Pozniak, Chris Higgs, Elisha Seah, Stephen Fletcher, Michelle Anthonipillai, Ashley Moyes, Katie Deats, Irtiza Syed, Clive Matthews, Peter Fernando)
- Homerton Sexual Health Services, Homerton University Hospital (Jane Anderson, Sifiso Mguni, Rebecca Clark, Rhiannon Nevin-Dolan, Sambasivarao Pelluri)
- Caldecot Centre, King's College Hospital (Frank Post, Lucy Campbell, Selin Yurdakul, Sara Okumu, Louise Pollard)
- HIV Molecular Research Group, School of Medicine, University College Dublin (Paddy Mallon, Alan Macken, Bijan Ghavani-Kia, Joanne Maher, Maria Byrne, Ailbhe Flaherty, Sumesh Babu)
- Department of Infection and Population Health, University College London (Ian Williams, Damilola Otiko, Laura Phillips, Rosanna Laverick, Michelle Beynon, Anna-Lena Salz)
- St. Mary's Hospital London, Imperial College Healthcare NHS Trust (Alan Winston, Lucy Garvey, Jonathan Underwood, Matthew Stott, Linda McDonald)
- Imperial Clinical Trials Unit, Imperial College London (Andrew Whitehouse, Laura Burgess, Daphne Babalis)
- Ian Charleson Day Centre, Royal Free Hospital (Margaret Johnson, Nnenna Ngwu, Nargis Hemat, Martin Jones, Anne Carroll)

POPPY methodology/statistics/analysis: Caroline Sabin, Davide De Francesco, Emmanouil Bagkeris

Funders: The POPPY study is funded from investigator initiated grants from BMS, Gilead Sciences, Janssen, MSD and ViiV Healthcare.