

Hospitalisation rate in PLWH according to demographic, socioeconomic, mental health & lifestyle factors and causes for admission

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BACKGROUND AND AIMS

Morbidity in people living with HIV (PLWH) has considerably improved since the introduction of HAART in 1996. However, HIV-positive people still have high rates of hospitalisation¹⁻³, which leads to an increased burden for the patients as well as the healthcare system. Little is known about the rate, causes and factors associated with hospitalisation in the recent ART era.

The **aims of our study** were

- 1) To investigate the rate of hospitalisation and death according to demographic, socioeconomic, mental health and lifestyle factors
- 2) To identify ICD-10 classified causes of hospitalisation

METHODS

Participants of the ASTRA questionnaire study recruited at the Royal Free Hospital in London, UK, who consented to data linkage were included in our study. A medical record review was conducted to identify occurrence and causes of hospital admissions from questionnaire completion (2011-2012; baseline) until 1 June 2018. Causes of hospitalisation were classified using ICD-10 codes.

Poisson regression was used to calculate rate ratios (RR) of all-cause hospitalisation/death according to baseline clinical, demographic, socioeconomic, mental health and lifestyle factors.

RESULTS

276 hospitalisations and **17 deaths** occurred in **798 individuals**

162 individuals had at least one event

Crude rate of hospitalisation/death: 6.2/100 person-years

80% of hospitalisations were classified as **emergencies**

KEY FINDINGS:

Rate of hospitalisation: Being a non-black woman or heterosexual man, financial hardship, no stable partner, having children, smoking, high alcohol use, non-disclosure of HIV-status, injection drug use (IDU) and depressive symptoms predicted hospitalisation/death (table). Having lower CD4 counts and being virally non-suppressed were also associated with a higher rate of hospitalisation.

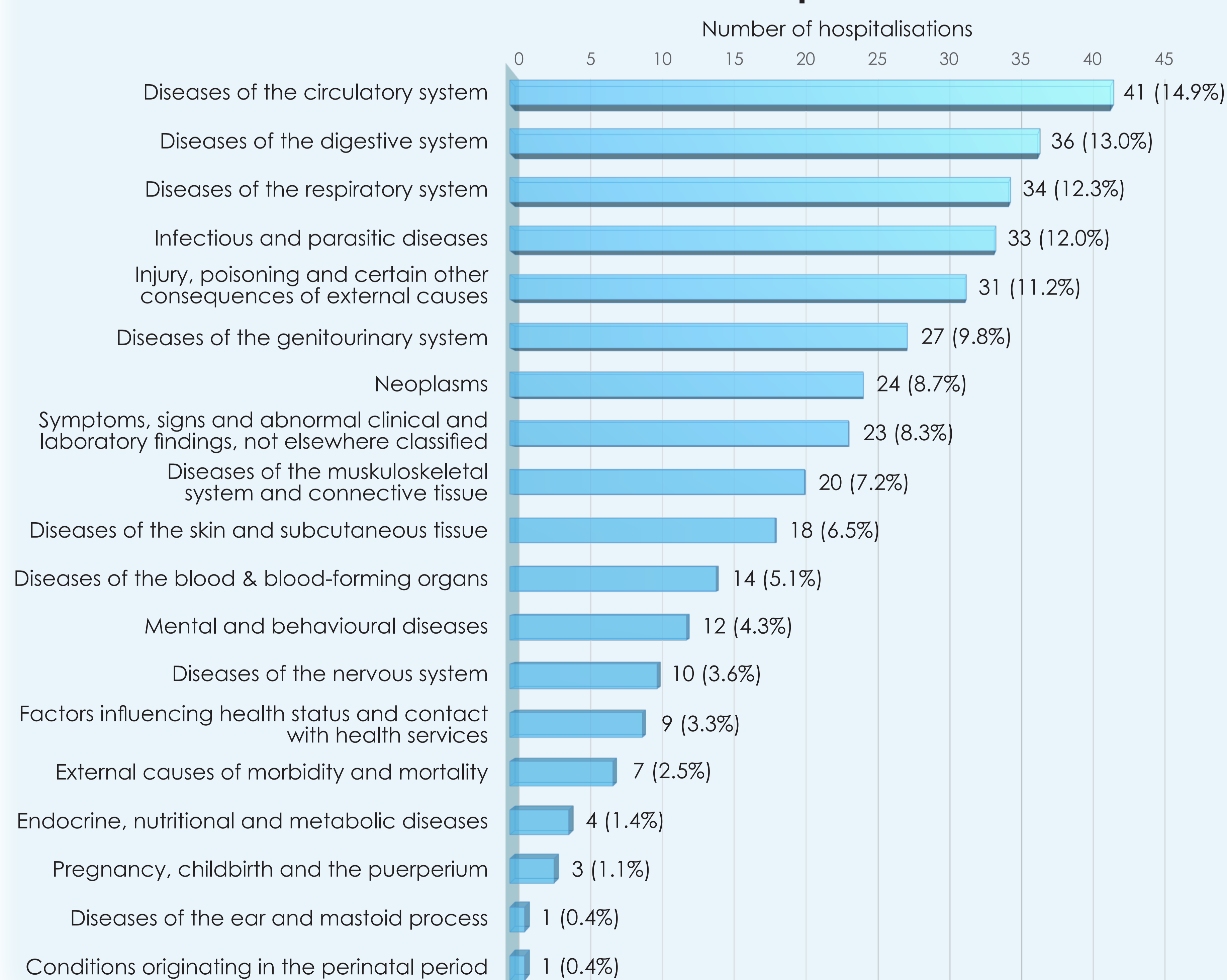
ICD-10 classified causes of hospitalisation: The reasons for hospitalisation were varied. The most common causes included diseases of the circulatory system, followed by diseases of the digestive system, diseases of the respiratory system and infectious and parasitic diseases. Notably, a high number of hospitalisations were related to injury, poisoning and other consequences of external sources, diseases of the genitourinary system and neoplasms.

Baseline factors and rate of hospitalisation/death

		RR (95% CI)		
		Unadjusted	Age-adjusted	Adjusted***
Gender / sexual orientation / ethnicity (vs. MSM*)	Black MSW**	1.6 (0.9, 2.6)	1.4 (0.8, 2.3)	-
	Non-Black MSW	2.8 (2.0, 3.9)	2.7 (1.9, 3.7)	-
	Black women	0.7 (0.4, 1.1)	0.7 (0.4, 1.2)	-
	Non-Black women	1.8 (1.3, 2.7)	1.9 (1.3, 2.8)	-
Money for basic needs (vs always)	Mostly	1.2 (0.9, 1.6)	1.2 (0.9, 1.7)	1.3 (0.9, 1.7)
	Sometimes	1.7 (1.2, 2.3)	1.8 (1.3, 2.4)	1.7 (1.2, 2.4)
	No	2.3 (1.6, 3.1)	2.3 (1.7, 3.2)	2.3 (1.6, 3.2)
No stable partner		1.9 (1.5, 2.4)	1.8 (1.4, 2.3)	1.9 (1.5, 2.5)
Has children		1.9 (1.5, 2.4)	1.7 (1.4, 2.2)	1.7 (1.2, 2.4)
Current smoking		1.6 (1.2, 2.2)	1.7 (1.3, 2.3)	1.7 (1.3, 2.2)
High alcohol use (AUDIT C)		1.6 (1.2, 2.2)	1.5 (1.1, 2.0)	1.5 (1.1, 2.1)
Non-disclosure of HIV status		1.8 (1.2, 2.6)	1.8 (1.2, 2.7)	1.5 (1.0, 2.4)
Drug use past 3 mo. (vs. none)	Non-IDU	0.8 (0.7, 1.1)	0.9 (0.7, 1.1)	1.0 (0.7, 1.3)
	IDU	3.1 (2.1, 4.7)	3.6 (2.4, 5.5)	4.2 (2.7, 6.4)
PHQ-9 depression (vs. none)	Mild	2.0 (1.5, 2.7)	2.0 (1.5, 2.7)	1.9 (1.4, 2.6)
	Moderate	2.3 (1.7, 3.2)	2.4 (1.7, 3.3)	2.3 (1.6, 3.1)
	Severe	2.6 (1.9, 3.6)	2.6 (1.9, 3.6)	2.6 (1.9, 3.6)
CD4 /mm3	Per 150 higher	0.9 (0.8, 0.9)	0.9 (0.8, 0.9)	0.9 (0.8, 0.9)
Viral load	>50 copies/ml	1.8 (1.4, 2.3)	1.9 (1.5, 2.5)	1.8 (1.4, 2.3)

*MSM=men who have sex with men; **MSW=men who have sex with women; *** Adjusted for gender / sexual orientation/ ethnicity and age

ICD-10 classified causes of hospitalisation*



* percentages do not add up to 100% as multiple causes could be documented for a single hospitalisation

CONCLUSIONS

Socioeconomic hardship, poor mental health and adverse lifestyle factors are important predictors of hospitalisation/death in people with HIV. Better understanding of causal mechanisms is needed to inform possible interventions. Given the high costs of hospitalisation such interventions could be cost effective.

A high proportion of morbidity was related to non-AIDS conditions in PLWH in the recent ART era. However, there was a very wide range of reasons for admission, with no single cause dominating. Further research into the risk factors for specific causes of admission is necessary to identify groups at higher risk for certain diseases.

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