

Co-morbidities in people living with HIV in North-East England who are unvaccinated against COVID-19

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BACKGROUND

- COVID-19 disease has caused over 6 million deaths globally.¹
- Large multicentre observational studies have demonstrated that comorbidities are associated with more severe disease and higher mortality in COVID-19.²
- The Charlson Comorbidity Index (CCI) (Table 1), is a validated and widely used tool that estimates the risk of death associated with multiple comorbidities. It is widely used as a predictor of 10-year survival and has been used to risk-stratify patients hospitalised with COVID-19.³
- A systematic review of CCI in COVID-19 demonstrated that compared to a score of 0, a score >1 was associated with increased mortality and poorer outcomes, with mortality risk increasing by 16% for each additional CCI point³.
- A WHO analysis in 2021 demonstrated that persons living with HIV (PLWH) are at increased risk of severe or critical disease on admission to hospital with COVID-19 (aOR 1.06, 95% CI 1.02-1.11) compared to patients without HIV, after adjusting for age, sex and the presence of underlying conditions. This risk is increased further in individuals with additional comorbidities such as diabetes.⁴
- Between 2 January and 24 September 2021, the age-adjusted risk of death involving COVID-19 was 32 times greater in individuals who are unvaccinated against COVID-19 than in fully vaccinated individuals⁵.

1	Myocardial infarction	Chronic pulmonary disease
	Congestive heart failure	Connective tissue disease
	Peripheral vascular disease (including aortic aneurysm>6cm)	Peptic ulcer disease
	Cerebrovascular disease	Mild liver disease (no portal hypertension)
	Dementia	Diabetes without end-organ damage
2	Hemiplegia	Tumour without metastases
	Moderate or severe renal disease (creatinine>3mg/dL)	Leukaemia (acute or chronic)
	Diabetes with end-organ damage	Lymphoma
3	Moderate or severe liver disease (portal hypertension)	
6	Metastatic solid tumour	Acquired Immunodeficiency Syndrome

Table 1. Charlson Comorbidity Index Scoring System

NOTE. For each decade >40 years of age, a score of 1 is added to the above score

AIM

To describe the frequency of comorbidities in PLWH who were under- or unvaccinated against COVID-19.

METHODS

- This was a descriptive study conducted at two NHS Trusts in North East England: Newcastle University Hospitals NHS Foundation Trust and South Tees Hospitals NHS Foundation Trust
- PLWH under active care were identified using local HIV and AIDS Reporting System (HARS) datasets.
- Vaccination data were obtained from regional integrated care records (RICR) and cross-referenced with HARS data.
- Individuals who were under- or unvaccinated, defined as having received either 1 or no doses of any COVID-19 vaccine by 01/10/2022, were identified.
- Information on comorbidities for patients who were under- or unvaccinated was collated using medical records.
- Risk and clinical vulnerability for these patients was quantified using the CCI.

RESULTS

- 141 under- or unvaccinated patients were identified from a cohort of 1491 PLWH under active care; 96 (68%) and 45 (32%) had received zero and one vaccination respectively.
- The median age was 41 years (IQR 35-51); 91 (65%) were male.
- CCI scores within this cohort of patients are summarised in Figure 1
- 62 (44%) had a CCI score of 1 or more
- Specific comorbidities are shown in Figure 2.
- 13 (9%) had a diagnosis of AIDS during the time period evaluated; 11 (84.6%) of these individuals were completely unvaccinated.
- 6 patients had ≥2 comorbidities (6/141, 4.3%); 1 of these patients had 4 comorbidities.

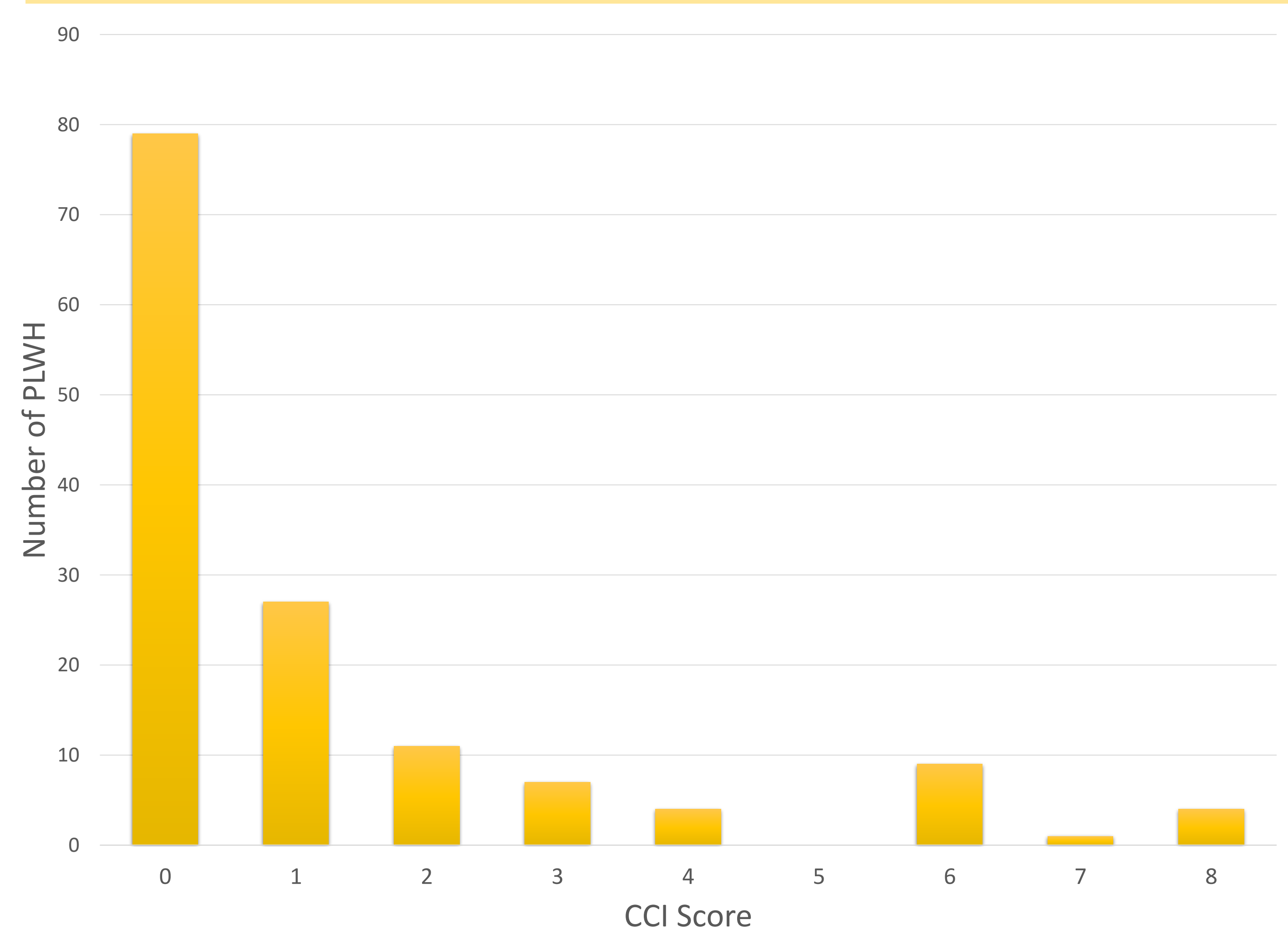


Figure 1. CCI scores in under-/unvaccinated PLWH (N=141)

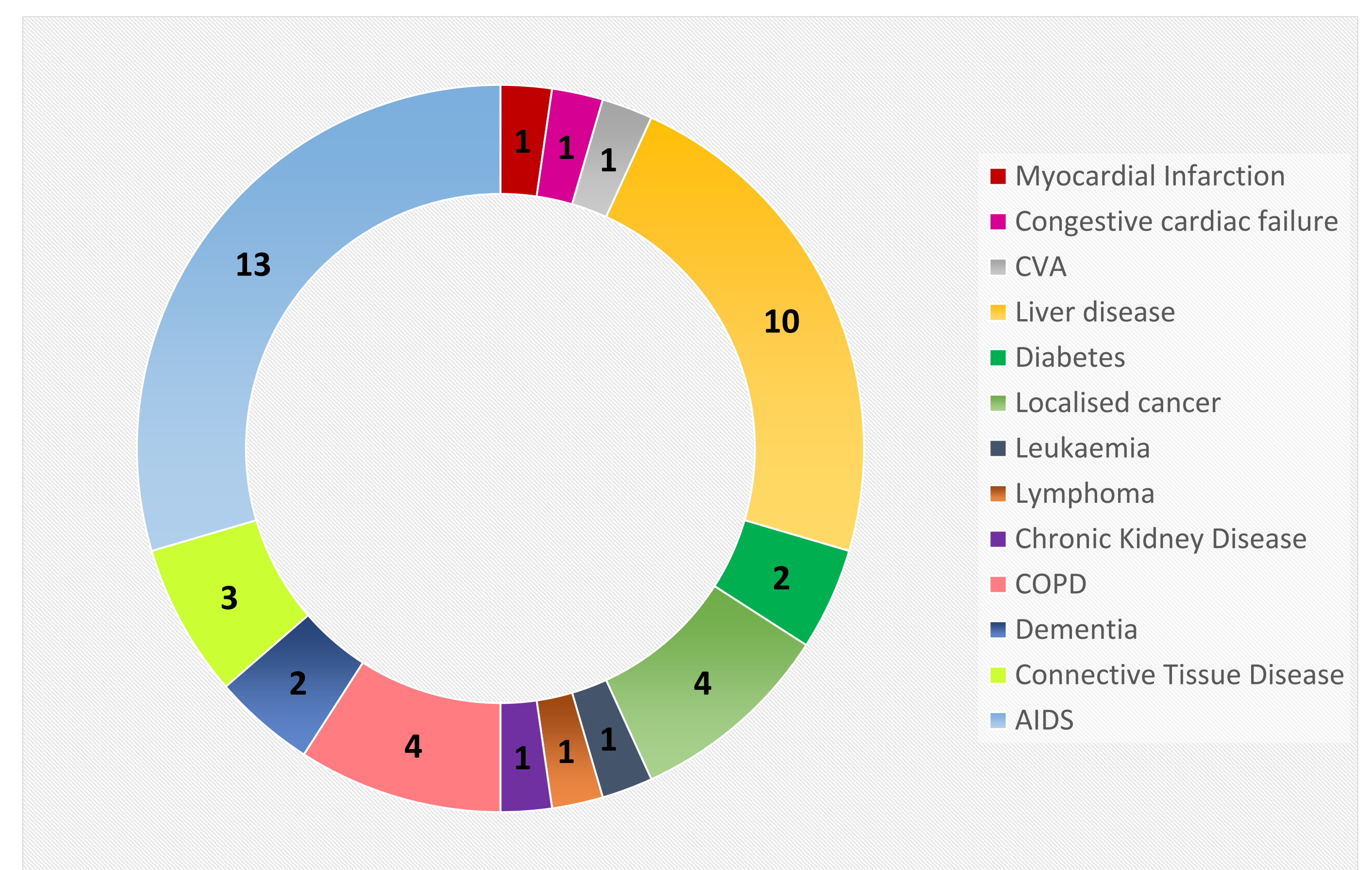


Figure 2. Comorbidities in under-/unvaccinated PLWH (N=141)
Numbers displayed represent the number of patients with comorbidities

CONCLUSION

- Nearly half of the under-/unvaccinated PLWH attending our services in the North East were identified as being at an increased risk of having a poor outcome in the event of contracting COVID-19, based on the assumption that a CCI score >1 is associated with increased mortality and poorer outcomes.
- Proactively identifying these individuals would allow services to offer tailored support in making informed decisions about vaccinations.
- This could be through the use of patient information leaflets or targeted discussion regarding their individual risk from COVID-19.

References

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