



National French Medical Information System Database, 2014

Burden of Comorbidities in Hospitalized HIV Patients in France

INTRODUCTION

Chronic HIV (*Human immunodeficiency virus*) infection is associated with opportunistic diseases and numerous non-AIDS (*acquired immune deficiency syndrome*) comorbidities. The burden of these comorbidities and the weight for the hospital system remain largely unknown. The aim of this study was to estimate the burden of comorbidities in patients hospitalized with HIV in France in 2013-2014.

METHODS

Study period : January 1st, 2013 - December 31st, 2014.

DATA EXTRACTION

The PMSI-MSO (*French Medical Information System – Medicine, Surgery, Obstetric units*) database was used to extract all hospital stays in 2013 with at least one of the following ICD-10 (*International Classification of Diseases, 10th revision*) codes as PD/RD/SAD (*Principal Diagnosis / Related Diagnosis / Significantly Associated Diagnosis*):

- B20*: Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases
- B21*: Human immunodeficiency virus [HIV] disease resulting in malignant neoplasms
- B22*: Human immunodeficiency virus [HIV] disease resulting in other specified diseases
- B23*: Human immunodeficiency virus [HIV] disease resulting in other conditions
- B24*: Unspecified human immunodeficiency virus [HIV] disease

The present analysis excluded inpatient stays with a duration < 1 day (*day care*).

HOSPITAL STAYS SELECTION

An algorithm and a medical review considering ICD-10 codes were carried out to identify stays related to HIV:

- All stays with B20*-B24* codes as PD/RD were automatically included and classified as directly associated to VIH;
- A medical review of all stays with HIV codes as SAD was performed by HIV clinician experts; based on this review, they were classified as directly or probably associated with HIV.

Hospitalization stays directly associated to HIV represented the low hypothesis of the estimation (LH) and those directly and probably associated to HIV represented the high hypothesis (HH).

FOLLOW-UP OF PATIENTS DURING 1 YEAR

For each patient hospitalized once in 2013 with a HIV code, a follow-up of 12 months was performed to capture any further hospital stay during this period (*e.g. March 2013 – February 2014*) through its unique anonymous number. The same algorithm and medical review were conducted on these additional stays, in order to exclude stays not related to HIV, and to sort selected stays into both hypotheses.

DESCRIPTION OF COMORBIDITIES

Within the selected HIV stays, ICD-10 codes others than HIV were extracted. They were classified by HIV clinician experts into 10 groups of comorbidities: bone, cancers, cardiovascular, endocrino-metabolic, hepatic, infections unrelated to HIV, neurological, psychiatrics, renal and respiratory diseases.

RESULTS

Overall, 3,469 (85%) HIV patients with a full hospitalization in LH and 9,310 (91%) in HH had at least one comorbidity (fig. 1). Mean age was 47.6 (± 12.4) years in LH and 49.9 (± 12.2) in HH; respectively, 66% and 68% of patients were males.

Each patient had 2.6 comorbidities in average (± 1.6) in LH, and 2.9 (± 1.7) in HH (fig. 2).

The most frequent comorbidities reported in our population (fig. 3) were endocrino-metabolic diseases (33% LH – 36% HH), followed by psychiatric diseases (28% – 31%, respectively) and cancers (24% in both hypotheses).

Overall, the proportion of patients with at least one comorbidity increased with age (table 1).

In LH, and in patients aged over 50 years, the 5 most frequent comorbidities associated with hospitalizations in HIV-infected patients were endocrino-metabolic events, cardiovascular diagnoses, cancers, psychiatric and renal events. In people below 50 years, psychiatric events were the most frequent events recorded, followed by endocrino-metabolic events, cancers, hepatic events and infections unrelated with HIV (fig. 4). HH patients presented the same profile.

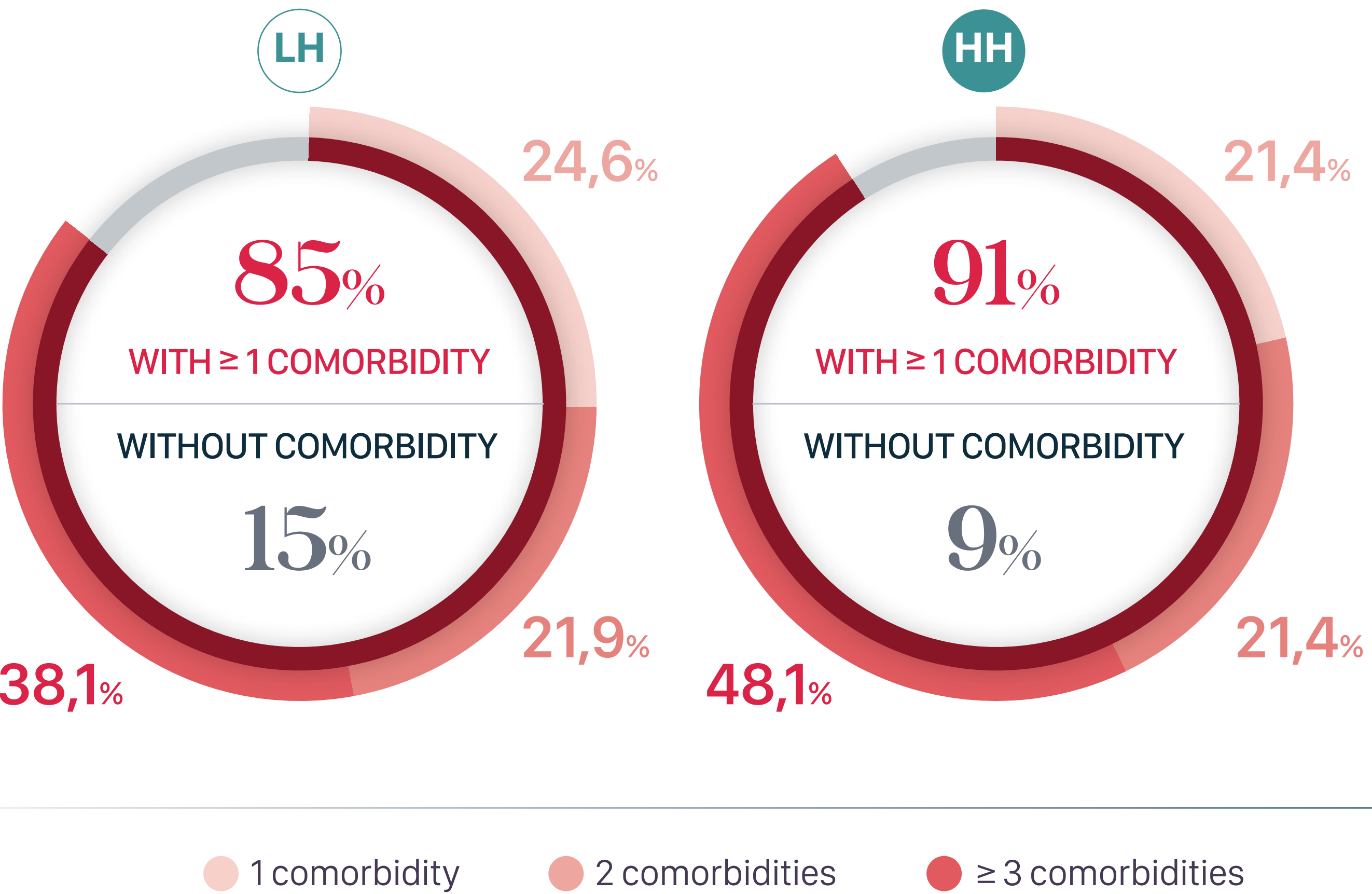
PRESENCE OF AT LEAST ONE COMORBIDITY PER AGE IN HIV PATIENTS

Table 1

	0-16 YRS	17-40 YRS	41-50 YRS	51-60 YRS	> 60 YRS
LH	29 (59%)	898 (78%)	1,203 (85%)	859 (89%)	480 (91%)
HH	48 (65%)	1,806 (83%)	3,196 (92%)	2,634 (94%)	1,626 (95%)

DISTRIBUTION OF NUMBER OF COMORBIDITIES IN HIV PATIENT

Fig. 2



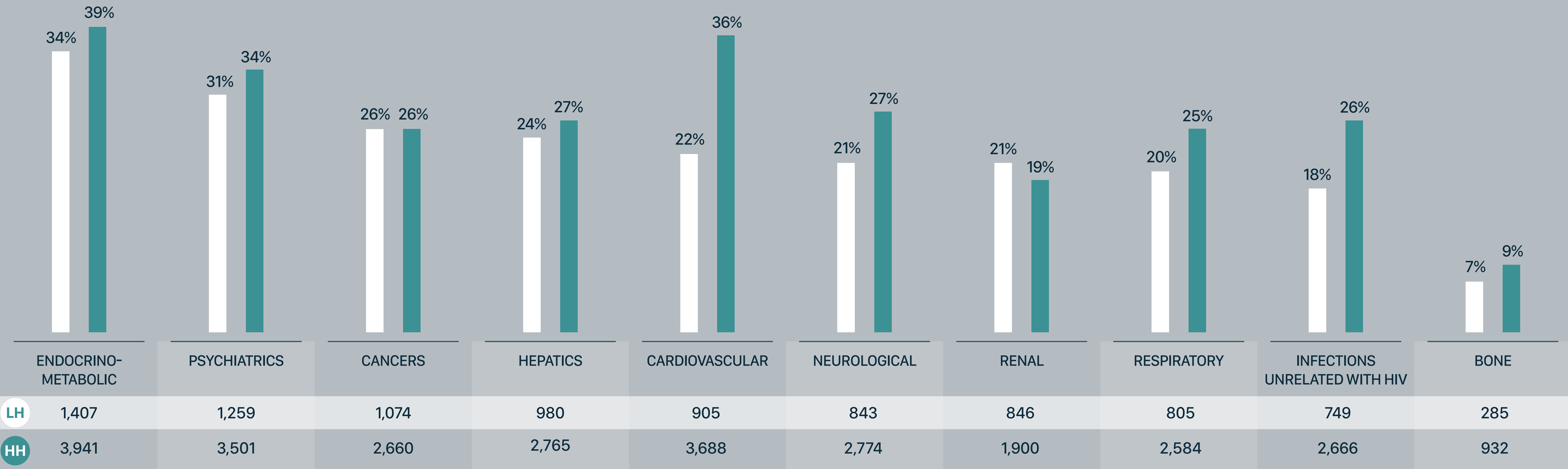
FLOW CHART OF THE STUDY

Fig. 1



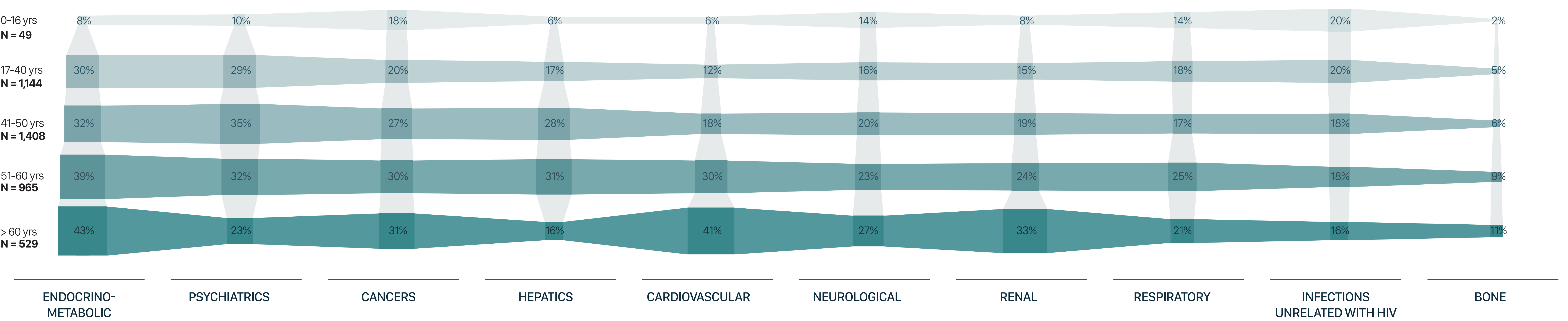
PROPORTION OF HIV PATIENTS WITH EACH TYPE OF COMORBIDITIES (%)

Fig. 3



DISTRIBUTION OF COMORBIDITIES PER AGE - LH

Fig. 4



CONCLUSION

In 2013-2014, in France, 4,095 patients had full hospitalizations directly linked to HIV. Nearly all of them were affected by at least one associated comorbidity. The presence of comorbidities increased with the age. The most frequent comorbidities associated with hospitalizations in HIV-infected patients aged over 50 years were endocrino-metabolic events, whereas they were psychiatric events in patients below 50 years.

The PMSI represents a comprehensive collection of all inpatient stays in France, intended to analyze hospital activity. However, only comorbidities which are managed during the hospital stay are listed: this limitation might therefore underestimate the burden of comorbidities. The management and follow-up of HIV-infected patients is no longer limited to the strict control of HIV replication. Ageing of the HIV population will be naturally associated with increase comorbidities and of hospital stays in the future. The organization between public hospital and private practice will have to be adapted with this evolving epidemiology, in order to achieve the goal of improving general health status of patients living with HIV.

