



Objective

Pulmonary arterial hypertension (PAH) is a severe, rare and chronic disease, which management is continuous and multidisciplinary. Data on the epidemiology and economic burden of PAH are scarce. The objective of this study (HO-15-16391, funded by GSK) was to assess the current economic burden of hospitalizations related to PAH in France.

Method

STUDY PERIOD

January 1st, 2013 to December 31st, 2014.

DESIGN

Retrospective study of the PMSI-MCO (Medicine, Surgery, Obstetrics) database, a comprehensive collection of all inpatient stays in France.

DATA EXTRACTION

All 2013 hospital stays with International Classification of Diseases, 10th Revision (ICD-10) codes for PAH (I27.0, I27.2) stated as principal or associated diagnosis were extracted.

INCIDENT ADULT PATIENTS

A 2-year retrospective analysis from the first stay of each patient in 2013 (e.g. May 2011 to May 2013) was performed to select only incident adult patients: newly diagnosed in 2013 (not hospitalized with PAH in 2011-2012). A medically pre-defined selection algorithm was completed with the input of medical experts in order to exclude any patient identified as presenting with another pulmonary hypertension group.¹

FOLLOW-UP OF PATIENTS

Incident adult patients were followed during one year from their first stay in 2013. A separate algorithm and a medical review excluded hospitalizations not specific to PAH¹, and classified selected admissions as inclusion (diagnosis, treatment initiation), monitoring and worsening, based on the delay between admission occurrences (as compared to a theoretical usual follow-up), length of stay, reason for hospitalization, presence of certain comorbidities and death.

ECONOMIC EVALUATION

Hospital costs associated with PAH management were estimated from a healthcare payer's perspective. Associated costs during this period were added up: a total annual cost ("burden") as well as a median annual cost per patient were calculated. Valuation was performed considering published official tariffs in France for 2013 and 2014, expressed in 2015 Euro.

Conclusion

The PMSI is a database originally designed to analyze hospital activity. However, in the current context, it allows epidemiological research with some limitations to be considered: some clinical characteristics are not gathered, such as the functional class of PAH. However, the main advantage of this database is the comprehensiveness of the inpatient stays in France.

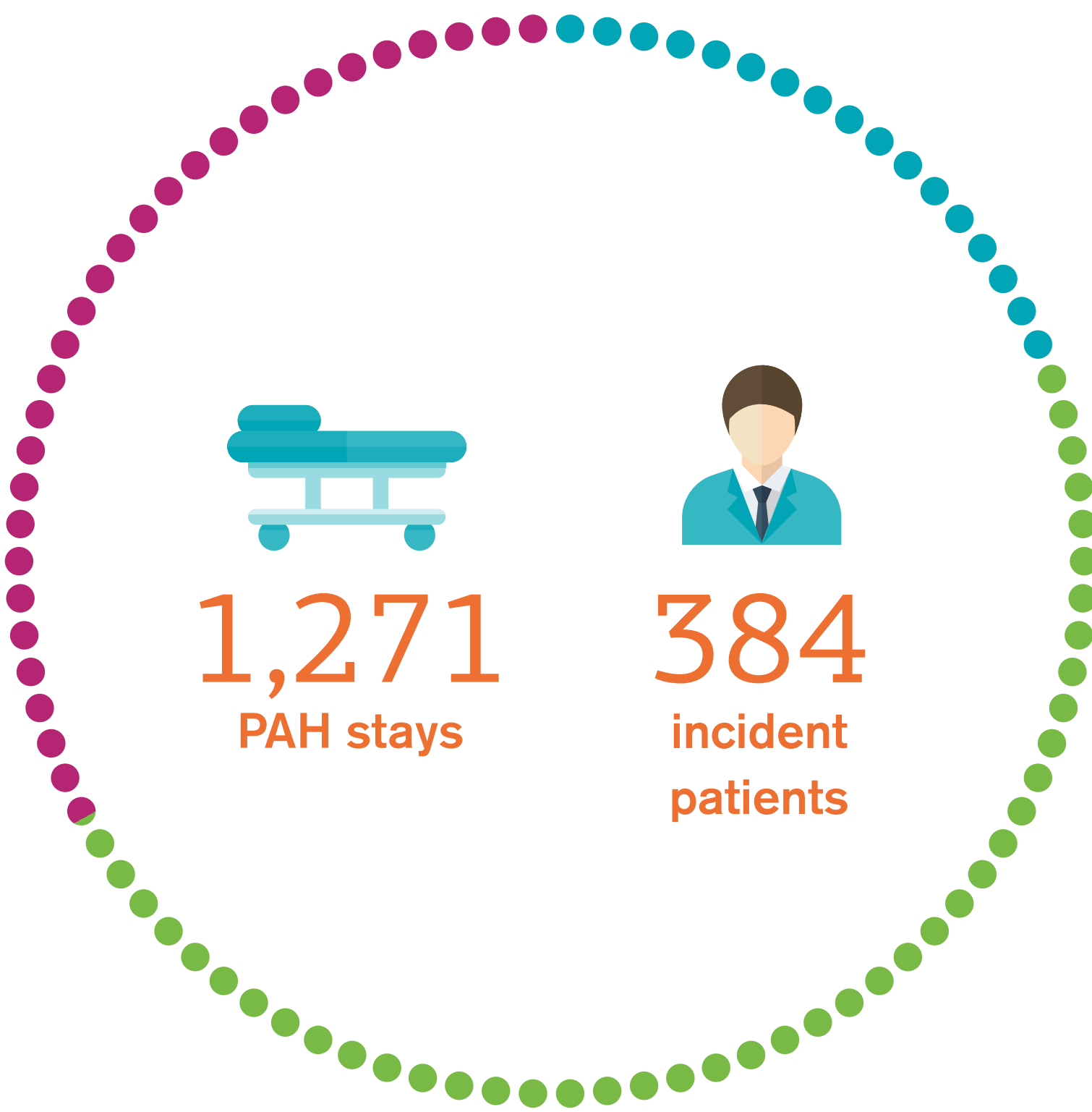
Analyses based on the PMSI provide relevant information on the natural history of PAH and patients management at hospital. The current study highlights that PAH worsening is a major driver of hospital-related costs supporting the relevance of clinically validated therapeutic strategies preventing disease progression.

FRANCE

ECONOMIC BURDEN
OF HOSPITALIZATIONS RELATED
TO PULMONARY ARTERIAL
HYPERTENSION (PAH)

Results

PAH COHORT



PAH INCLUSION
415 stays (33%)

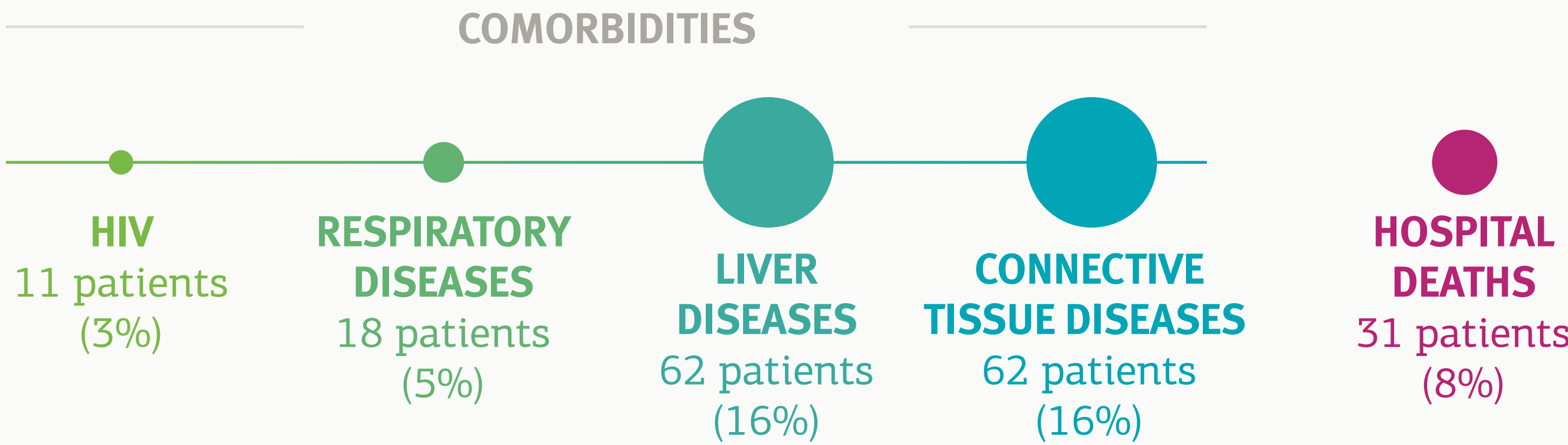
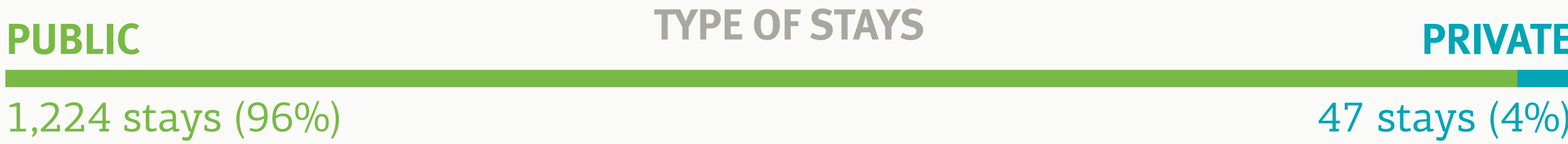
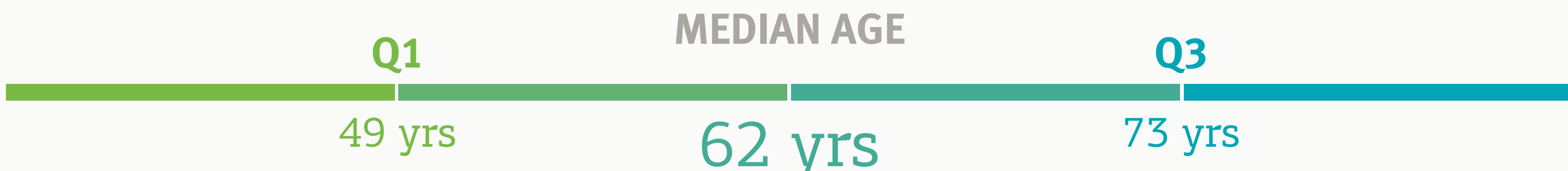
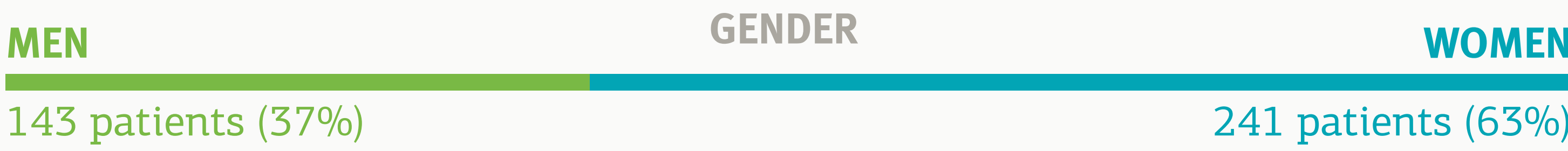
384 patients (100%)

PAH MONITORING
604 stays (48%)

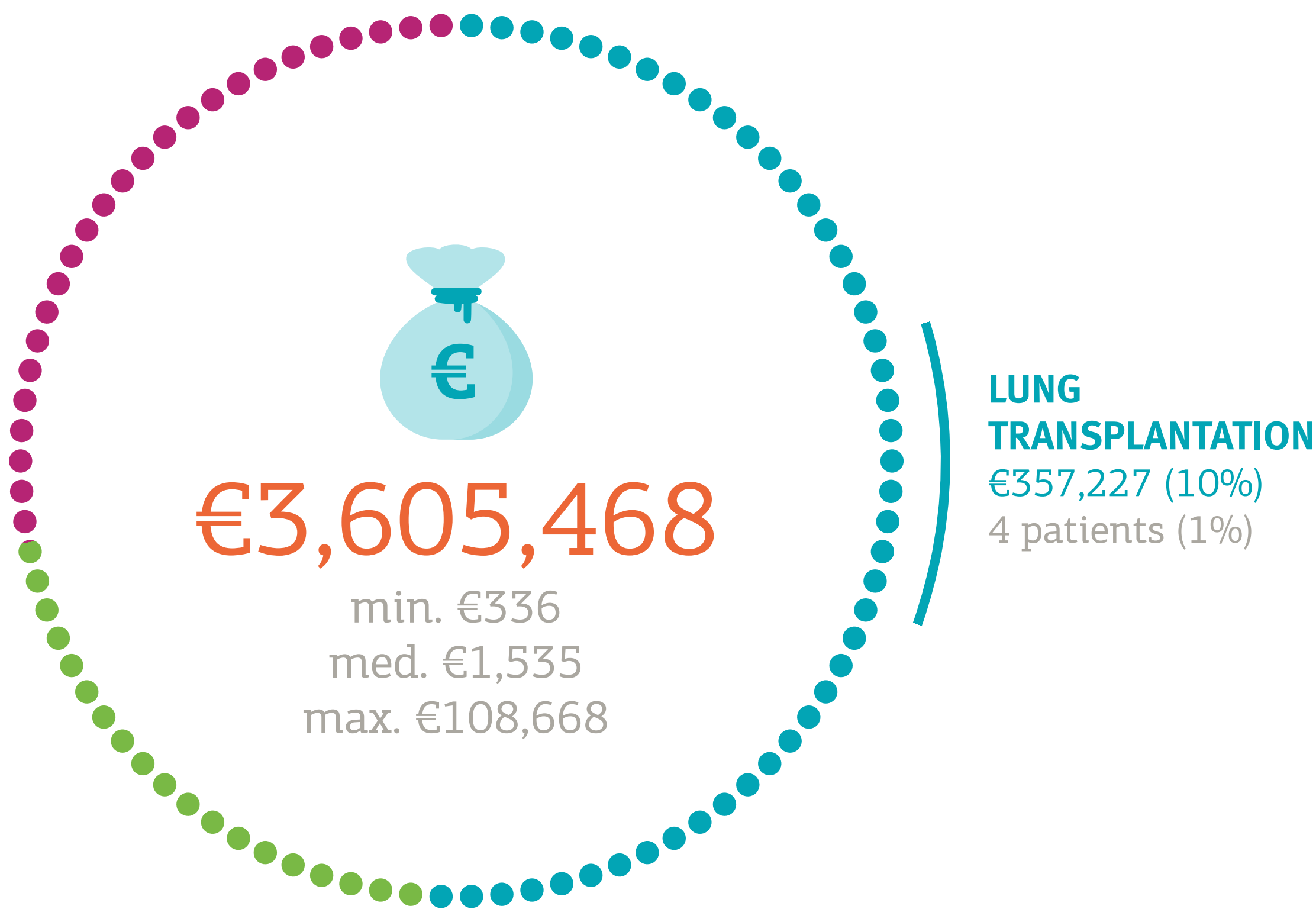
317 patients (83%)

PAH WORSENING
252 stays (20%)

160 patients (42%)



ANNUAL ECONOMIC BURDEN



PAH INCLUSION
€1,020,222 (28%)

min. €336
med. €1,535
max. €28,323

PAH MONITORING
€767,024 (21%)

min. €362
med. €1,269
max. €6,825

PAH WORSENING
€1,818,222 (51%)

min. €518
med. €4,121
max. €108,668

1. Bergot E, de Léotoing L, Bendjenana H, Tournier C, Vainchtock A, Nachbaur G, Humbert M. Is it possible to accurately identify rare diseases using national hospital discharge databases? ISPOR 20th Annual European Congress, 4-8 November 2017, Glasgow, Scotland. RESEARCH POSTER PRESENTATIONS - SESSION V RESEARCH ON METHODS - PRM60.

EB has received personal fees from GSK, Actelion and Roche and disclose collaborations with Pfizer, Bayer and Boehringer; MH has received personal from Actelion Pharmaceuticals Ltd, Novartis and Pfizer, grants and personal fees from Bayer and GSK and disclose collaboration with United Therapeutics. In addition to being investigator in trials involving these companies, relationships include consultancy service and membership of scientific advisory boards; LdL, CT and AV have received grants, via their company, from GSK; GN and HB are employees of GSK and hold GSK shares.

