

# The Prevalence of Cardiometabolic Comorbidities in MASLD/MASH in France

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## OBJECTIVES

- Metabolic dysfunction-associated steatotic liver disease (MASLD), along with its progressive subtype metabolic dysfunction-associated steatohepatitis (MASH), is inherently associated with metabolic comorbidities, notably type II diabetes mellitus (T2DM) and obesity, which stand as drivers of fibrosis, leading to liver-related events and mortality.
- Documenting the cardiometabolic disease burden at the national level has elevated importance stemming from continuous increases in MASH prevalence alongside EMA approval of the first F2/F3 treatments: resmetirom and semaglutide.
- The objective of this analysis was to quantify the prevalence of diabetes, obesity, hypertension, and dyslipidemia among individuals with MASLD, MASH, and significant-to-advanced fibrosis in France to provide a comprehensive survey of the current disease burden.

## METHODS

### Disease Burden Model

- A previously validated dynamic Markov disease progression model that measures the disease burden of MASLD/MASH for the entirety of the French population was utilized to estimate the prevalence of MASLD and MASH by disease stage in adults aged 20 years and over.

### Literature Review and Analysis

- Empirical data for the prevalence of MASLD and MASH along with the rates of comorbidity with diabetes, obesity, hypertension, and dyslipidemia (hypertriglyceridemia) in France were gathered through a targeted literature review.
- Datasets encompassing the national population were prioritized, with CONSTANCES studies providing representative data with consistent methodology.
- Due to reported consensus in comorbidity rates between the MASLD and F2 populations (particularly obesity, hypertension, and dyslipidemia), MASLD comorbidity rates were applied to the MASH population.
- Comorbidity rates among the ≥F2 population and ≥F3 population were applied to the F2 and F3 populations, respectively.
- The prevalence of multiple cardiometabolic comorbidities was also extracted from CONSTANCES studies to quantify the size of these populations.

## RESULTS

### Model Projections

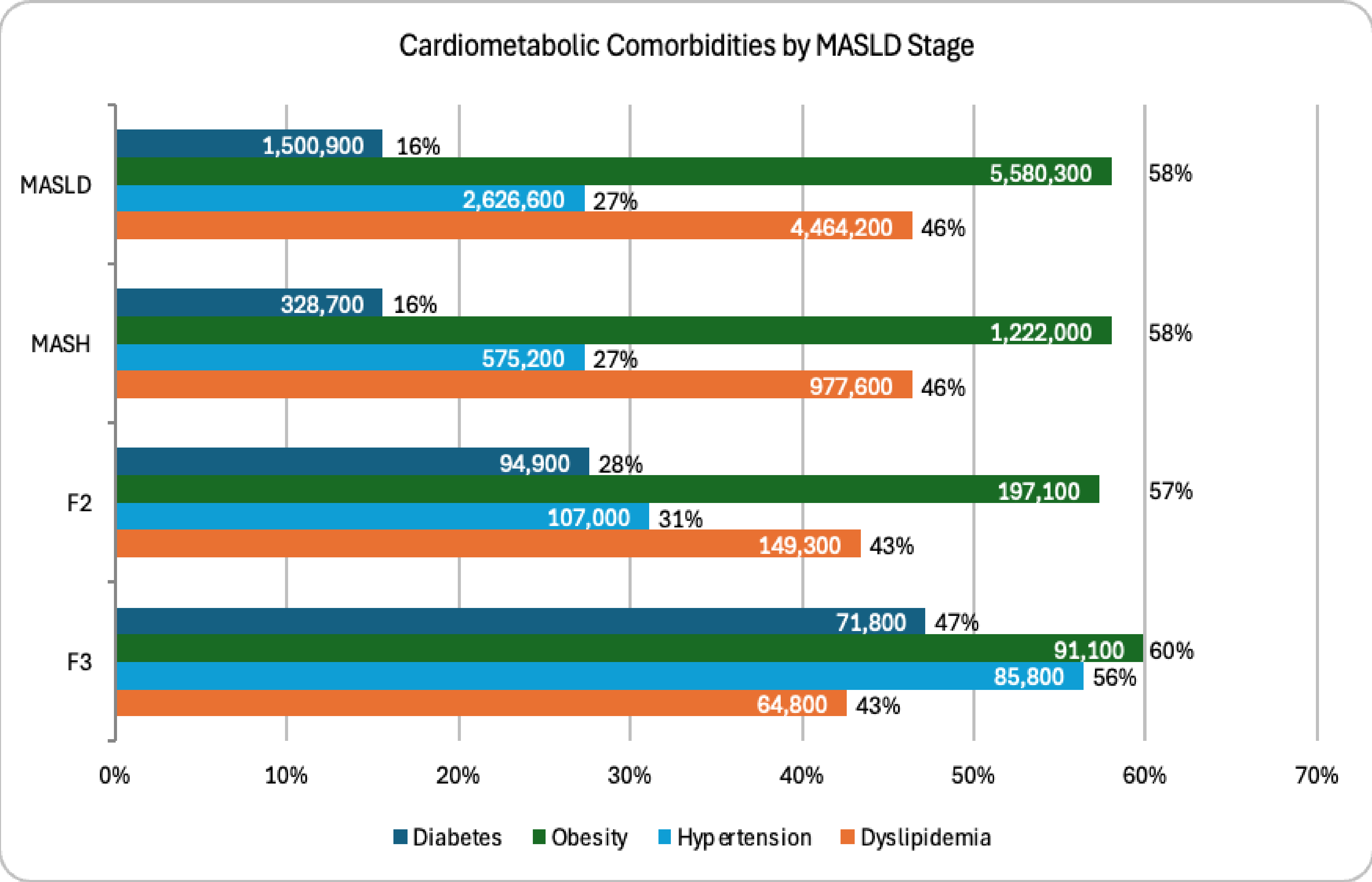
- The prevalence of MASLD in the adult population in France in 2025 was estimated to be 9,621,100 (18.7%), and the prevalence of MASH was estimated at 2,106,900 (4.1%).
- The F2 and F3 population combined represented 23.5% of the total MASH population, accounting for 344,000 and 152,100 adults, respectively.

### Cardiometabolic Comorbidities

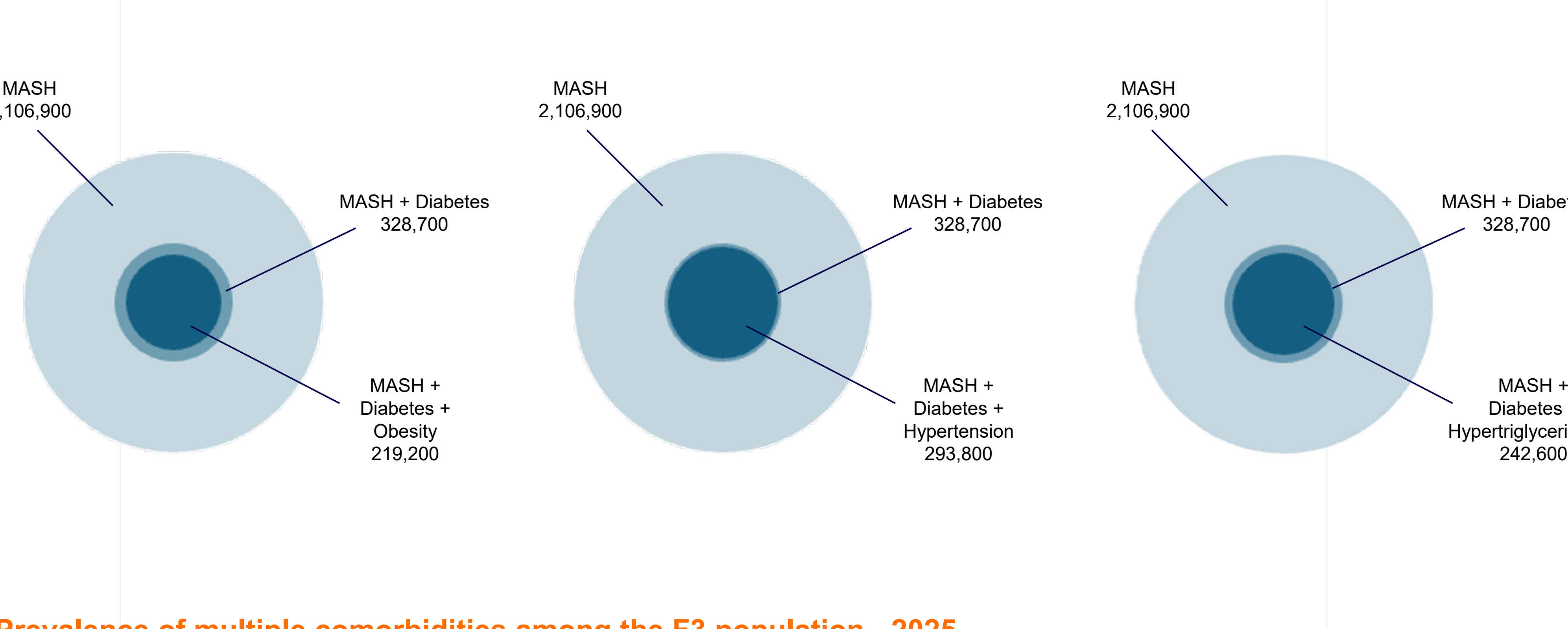
- Cardiometabolic comorbidities were seen at a higher rate as the disease progressed to F2 and F3 stages, particularly diabetes: 16% (total MASH) ➡ 28% (F2) ➡ 47% (F3) and hypertension: 27% (total MASH) ➡ 31% (F2) ➡ 56% (F3).
- Obesity comorbidity remained consistently high among all stages of MASH, with a comorbid rate of approximately 60%.
- CONSTANCES studies reported a high level of multiple comorbidities in the comorbid MASLD / Diabetes population.
- At a minimum, two-thirds of the MASH / Diabetes comorbid population and half of the F3 / Diabetes comorbid population have at least one additional comorbid condition.

## RESULTS

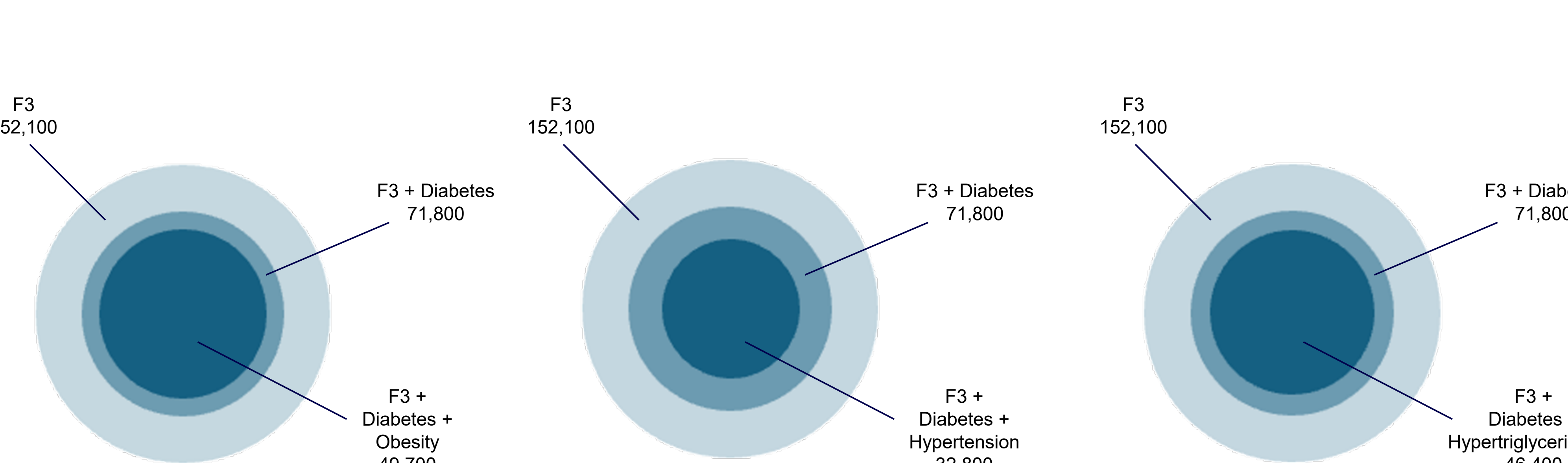
### Prevalence of cardiometabolic comorbidities by MASLD stage - 2025



### Prevalence of multiple comorbidities among the MASH population - 2025



### Prevalence of multiple comorbidities among the F3 population - 2025



### Prevalence of multiple comorbidities among MASH and F3 populations - 2025

| Comorbidities                          | Prevalence % | Comorbidities                        | Prevalence % |
|----------------------------------------|--------------|--------------------------------------|--------------|
| MASH + Diabetes                        |              | F3 + Diabetes                        |              |
| MASH + Diabetes + Obesity              | 66.7%        | F3 + Diabetes + Obesity              | 69.2%        |
| MASH + Diabetes + Hypertension         | 89.4%        | F3 + Diabetes + Hypertension         | 45.7%        |
| MASH + Diabetes + Hypertriglyceridemia | 73.8%        | F3 + Diabetes + Hypertriglyceridemia | 64.6%        |

## CONCLUSION

- Integrating modeling with real-world epidemiologic data provides insight into the burden of MASLD, MASH, and their major comorbid conditions in France at present.
- Specifically, common metabolic conditions can be prominent risk factors for MASLD/MASH morbidity, and vice versa, all of which encompass and catalyze a heightened and deleterious disease burden in France.
- These findings can guide frameworks for public health planning and support evidence-based strategies for prevention, screening, diagnosis, and care for high-risk populations to prevent disease progression to liver-related events.

### ABBREVIATIONS

MASLD: Metabolic dysfunction-associated steatotic liver disease. MASH: Metabolic dysfunction-associated steatohepatitis. T2DM: Type II diabetes mellitus.

### DISCLOSURES AND ACKNOWLEDGEMENTS

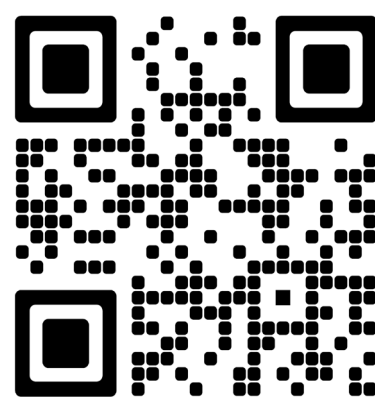
CW is an employee of the CDA Foundation.

PB, FB, and MD are all employees of Madrigal Pharmaceuticals.

ID-Z has received consulting fees from Madrigal Pharmaceuticals.

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