Patterns in Provider Specialties and Adoption of Noninvasive Tests for Diagnosing Metabolic Dysfunction-Associated Steatohepatitis (MASH)

RWD77

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Plain Language Summary

Why does it matter? Metabolic dysfunction-associated steatohepatitis (MASH) is a serious liver disease, but there is inconsistency in who diagnoses the disease and through what means.

What did we do? Medical claims were used to identify patients with MASH and examine the specialties of providers and specific noninvasive tests (NITs) used during the diagnosis of MASH.

What did we find? Patients receive a diagnosis of MASH largely from primary care physicians, with a steadily increasing proportion of diagnoses from mid-level practitioners. NIT use is more common than liver biopsies, and there are differences in testing by diagnosing specialty.

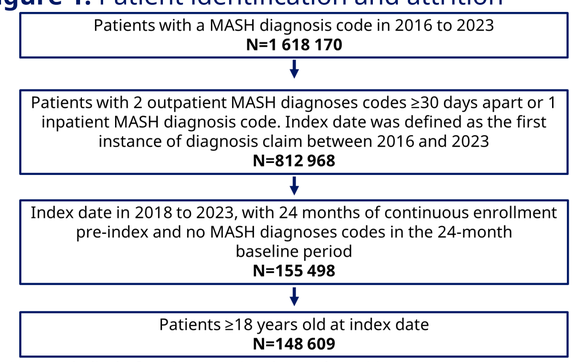
Introduction

- Metabolic dysfunction-associated steatohepatitis (MASH) poses a growing global health challenge[1]
- Timely diagnosis of MASH faces many barriers, stemming in part from the multidisciplinary nature of diagnosis, disease awareness, and limited data validating diagnostic noninvasive tests (NITs)
- This study aimed to describe provider specialties involved in diagnosing MASH and specific NITs used for MASH diagnosis

Methods

- A retrospective analysis of Komodo's Healthcare Map™ identified newly diagnosed cases of MASH from 2018 to 2023
  - Patients with MASH were identified by the presence of 2 outpatient diagnosis code claims ≥30 days apart or 1 inpatient diagnosis claim of ICD-10 code K7581: nonalcoholic steatohepatitis
- Eligible patients were ≥18 years old at diagnosis (index date) and had ≥24 months of continuous enrollment preceding that date (**Figure 1**)
- Provider specialty at diagnosis and subsequent claims, as well as NITs ordered during the 24 months prior to index visit, were assessed

Figure 1: Patient identification and attrition



MASH, metabolic dysfunction-associated steatohepatitis.

Results

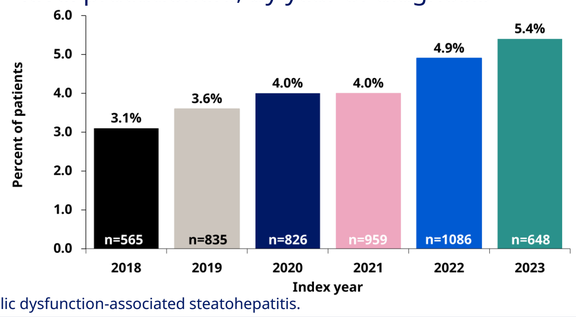
- Among 148 609 patients with MASH, 81.4% had a provider specialty linked to their index claim
- The predominant specialties at diagnosis were primary care physicians (PCPs; internal medicine [23.0%] and family medicine [18.5%]) and gastroenterology (22.0%; **Table 1**)
- Although the percentage of patients diagnosed by mid-level practitioners was small, it steadily rose from 3.1% in 2018 to 5.4% in 2023 (**Figure 2**)
- Among 61 918 patients with ≥2 MASH code claims who saw a PCP or specialist at diagnosis, patients for the most part remained under the care of the same specialty—only 3.8% received initial care from a PCP in the index claim followed by a liver specialist in the next visit (**Figure 3**)
- In the 24 months prior to diagnosis, 85.5% of patients had a panel test that included alanine aminotransferase (ALT), aspartate aminotransferase (AST), and platelets that can be used to determine Fibrosis-4 (FIB-4) index scores; 36.7% had FibroSure®; 12.3% had vibration-controlled transient elastography (VCTE); and 6.0% had a liver biopsy (**Table 2**)
- NITs were more common than liver biopsies, with this testing being most commonly adopted in patients whose diagnosing physician was a specialist (**Table 2**)

Table 1: Provider specialty of MASH diagnosis code claim

Provider specialty	Category	Patients, n (%)
Internal medicine[a]	PCP	27 788 (23.0)
Gastroenterology	Specialist	26 625 (22.0)
Family medicine[b]	PCP	22 310 (18.5)
Hepatology[c]	Specialist	5353 (4.4)
Mid-level practitioner[d]	PCP	4919 (4.1)
Other	Other	33 911 (28.0)

MASH, metabolic dysfunction-associated steatohepatitis; PCP, primary care physician.
[a]Includes internal medicine, adult health, adult medicine, hospitalist, and obesity medicine; [b]Includes family medicine, general practice, primary care, and sleep medicine; [c]Includes hepatology and transplant hepatology; [d]Includes nurse practitioners and physician assistants.

Figure 2: Proportion of patients diagnosed with MASH by mid-level practitioners, by year of diagnosis



MASH, metabolic dysfunction-associated steatohepatitis.

Figure 3: Proportion of patients with MASH receiving care from same specialist at next visit following diagnosis

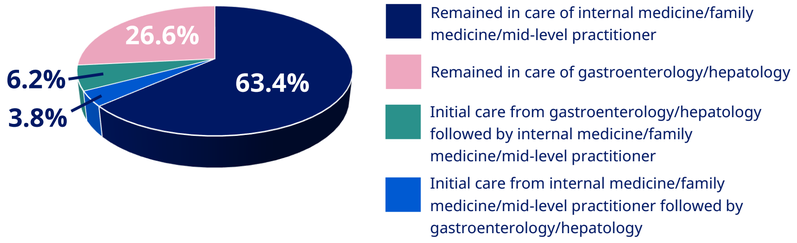


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Table 2: Proportion of patients who received specific NITs in the 24 months prior to diagnosis, by provider specialty

Diagnosing physician specialty	Physician category	NIT, %			
		Panel test[a]	FibroSure®[b]	VCTE[c]	Liver biopsy
Overall[d] (n=148 609)	-	85.5	36.7	12.3	6.0
Internal medicine (n=27 788)	PCP	81.6	31.7	7.5	3.4
Gastroenterology (n=26 625)	Specialist	89.8	41.9	18.1	8.7
Family medicine (n=22 310)	PCP	79.3	29.3	5.9	2.9
Hepatology (n=53 53)	Specialist	90.5	46.7	19.2	9.7
Mid-level practitioner (n=4919)	PCP	87.7	38.5	17.6	8.0

ALT, alanine aminotransferase; AST, aspartate aminotransferase; FIB-4, Fibrosis-4; MASH, metabolic dysfunction-associated steatohepatitis; NITs, noninvasive tests; PCP, primary care physician; VCTE, vibration-controlled transient elastography.
[a]Panel test included ALT, AST, and platelet count to determine FIB-4 index scores; [b]FibroSure® uses results of several blood serum biomarkers to generate a score that correlates with liver damage; [c]VCTE uses shear wave velocity to measure liver stiffness; [d]Includes all patients, including those with other or missing provider specialty.

Limitations

- As MASH is commonly underdiagnosed in clinical settings, misclassification may occur when administrative claims data are utilized to identify patients with MASH
- Codes for tests ordered in the 24 months prior to diagnosis do not necessarily equate to tests being performed. Additionally, results of these tests are not available

Conclusions

- This analysis offers valuable insights regarding the dominant role of PCPs in diagnosing and treating MASH
  - The proportion of patients diagnosed with MASH by mid-level practitioners steadily increased
  - Patients mostly remained in the care of PCPs, rather than moving to care from a specialist for monitoring
- This study also highlights the most frequently used NITs in diagnosis, likely skewed by PCP preference

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Reference:
(**1**) Younossi ZM, et al. *Aliment Pharmacol Ther*. Published online February 18, 2025.