Endocrinology ADVISOR

# Pediatric MASLD Is a Public Health Crisis, Experts Warn

Bryant Furlow | September 8, 2025

*Credit: Getty Images*

Metabolic dysfunction-associated steatotic liver disease (MASLD) begins with the accumulation of fat in a healthy liver and can progress to chronic inflammation and metabolic dysfunction-associated steatohepatitis (MASH), fibrotic scarring, cirrhosis — and in severe cases, eventual liver failure or cancer.[1,2]

Affecting 10% of US school children overall and about a quarter of those with obesity, MASLD is the most common pediatric liver disease, according to Pediatric Gastroenterologist and

Transplant Hepatologist Sara Hassan, MD, at Children's Health in Dallas, Texas, and assistant professor of pediatrics at UT Southwestern Medical Center.

It is also strongly associated with comorbidities like type 2 diabetes, hypertension, obstructive sleep apnea, and dyslipidemia.[1-6]

Between 17% and 20% of children diagnosed with MASLD already have advanced liver fibrosis, noted Dr Hassan, who is clinical director at Children's Health's MASLD Clinic in Dallas. Patients aged as young as 7 to 12 years are showing complications, she added.

> "[MASLD] has now become one of the leading indication[s] for liver transplantation in young adults in the United States."

But many pediatricians still believe it to be indolent or a problem that will resolve in adulthood, Dr Hassan explained. "I think it's so prevalent that we tend to normalize it, when it should not be normalized," she said.

In reality, it demands clinical intervention before adulthood.

"It's not as benign as we think it is," Dr Hassan added. "By the time you're 25 or 28, you probably have some form of chronic liver disease, portal hypertension, ascites. By the time you're in your 30s or 40s, you are on the transplant waitlist."

## An Urgent Call to Action

In June, Dr Hassan joined 26 other leading pediatric MASLD experts from the US and Canada to publish a special article, "Call to Action — Pediatric MASLD Requires Immediate Attention to Curb Health Crisis" in the journal *Hepatology*. In it, the authors describe the disease as an urgent and underappreciated public health crisis and an "underappreciated dismal outcome of pediatric MASLD."[3]

MASLD is associated with significant comorbidities in childhood and a 40-fold higher risk for mortality in early adulthood, and "has now become one of the leading indication[s] for liver transplantation in young adults in the United States," the authors of the "Call to Action" article warned.[3] On average, 36% of children and adolescents with MASLD will develop MASH or fibrosis over the ensuing 1.6 years, with 23% experiencing progression of liver fibrosis.[3]

Yet, screening by primary care providers remains inadequate, thanks to limited awareness and standardized, validated noninvasive screening and diagnostic tests.[3]

In addition to Dr Hassan, *Gastroenterology Advisor* spoke with 2 other coauthors of the "Call to Action" paper: pediatric gastroenterologists Phillipp Hartmann, MD, at the University of

California, San Diego, in La Jolla, and Jennifer Panganiban, MD, at the Children's Hospital of Philadelphia.These experts and their coauthors want to see a comprehensive public health push for prevention and effective, timely treatment of pediatric MASLD, including more clinical research, standardization of screening practices, better provider education, and policies to improve childhood nutrition, reduce food insecurity, restrict unhealthy food marketing, and improve equitable access to pediatric liver care.[3]

## An Underappreciated Public Health Crisis

MASLD was previously known as nonalcoholic fatty liver disease (NAFLD), but that term contributed to counterproductive and stigmatizing discussions about "will power" and dietary choices. Children and parents often arrived at the clinic feeling shame and voicing self-blame, Dr Hassan noted.

"The nomenclature was changed to 'metabolic dysfunction' because that's the driver of disease, instead of saying 'fatty liver,' which is quite stigmatizing language," she said. "I think it is very important how we approach this topic from the get-go. I say, no blame."

Despite exercise and dietary changes, about a third of children [are] experiencing worsening fibrosis with MASLD, Dr Hassan noted. "There are factors that we can control and there are factors that we cannot control," she said. "We can't control genetics. There are certain genes that make us more prone to hoarding more fat cells inside of the liver."

Food insecurity and grocery prices can be barriers to healthy eating for vulnerable populations. MASLD is particularly prevalent among Indigenous children, who often live in "food deserts" where access to healthier foods is a problem. It is also more often seen among Hispanic children, possibly due to higher rates of obesity, diabetes, and limited access to nutritious food — and genetic vulnerabilities.[5]

Sedentary screen time is increasingly displacing the amount of time children engage in physical play, Dr Hartmann noted. Childhood MASLD is driven primarily by obesity and inactivity, but genetic factors can compound disease severity, he added.

"Excess fat tissue triggers insulin resistance and hepatic fat storage, the earliest blows in the disease pathway," Dr Hartmann said. "Genetic and ethnic modifiers deepen the risk. Variants such as *PNPLA3*I148M (patatin-like phospholipase domain–containing 3) and *TM6SF2*E167K, prevalent among Hispanic and Native American populations, respectively, make it more likely for MASLD to occur."

Those gene variants also make it more likely MASLD will evolve into MASH, frequently with fibrotic scarring, Dr Hartmann said.

## Barriers to Care

There are also racial, socioeconomic and geographic disparities in the detection and diagnosis of childhood MASLD. Insurance coverage differs by region, contributing to geographic disparities.

Advanced screening modalities like FibroScan and dedicated liver MRI are not available in all regions of the US, Dr Hartmann explained. “Further, even if the MRI is available, the insurer might not always cover it.”

There also persists in much of the country “a true lack of understanding of MASLD and when to appropriately screen” among pediatricians and family medicine physicians, Dr Hartmann pointed out. That problem is compounded by varying, nonstandardized recommendations from different national societies, he added.

Even when the ALT is checked by pediatricians, mildly elevated values are often dismissed as transient — even though they are typically only slightly increased in MASLD, Dr Hartmann said.

Distance to care is another barrier for some underserved rural and tribal families, due to scarce local access to specialists and confirmatory imaging tools like FibroScan and MRI protein density fat fraction (MRI-PDFF) imaging.

Telehealth can help to close that gap, Dr Panganiban said.

“We actually use telehealth quite a bit,” she said. “I have families seeing me from hours away and even out of state. We need to see them in person for their first visit, but, based on assessment and needs, a lot can be done via telehealth.”

Low screening rates can exacerbate racial and ethnic disparities. “Hispanic, American-Indian/Alaska-Native, and low-income children have the highest prevalence of MASLD,” Dr Hartmann said. “However, they are screened the least.”

Pediatricians who don’t understand the potential severity of MASLD also frequently hesitate to perform invasive liver biopsies. “Biopsies are oftentimes delayed, although earlier use might be indicated,” such as when ALT levels have been higher than 100 U/L for several months, Dr Hartmann said.

Nutrition policy is central to preventing and managing childhood MASLD. Schools should adopt Healthy Hunger Free policies and remove sugar-sweetened beverages from the menu, according to experts. Voices for Healthy Kids, a joint initiative by the American Heart Association and the Robert Woods Johnson Foundation, is facilitating state and local policies that improve food security, nutrition, and health equity through evidence-based approaches to make healthy food more accessible and affordable in underserved communities.

“The ideal goal is patterned after the ‘5-2-1-0’ approach,” Dr Panganiban said, meaning 5 servings of fruits and vegetables each day, 2 hours or less of screen time, 1 hour or more of moderate aerobic activity per day, and 0 sugar beverages. “But the reality is even this simplified approach is hard to implement. So, I individualize treatment and target goals that my patients and I choose together. …I usually start with 2-3 very concrete goals to work on and use motivational interviewing to come up with those goals. We use SMART goals: specific, measurable, achievable, relevant and time bound. …I have them choose 1-2 nutritional goals and 1 activity goal.”

“Once they have achieved these goals, we add on more goals, but I try to build their confidence first by ensuring success with their first chosen goal,” Dr Panganiban said.

Unfortunately, Congress’s recent cuts to Medicaid and the Children’s Health Insurance Program (CHIP, which covers children whose families who earn too much for Medicaid but too little for private insurance), and to federal support for food aid programs like SNAP (once called “food stamps”), school lunch programs and community food bank programs, might very likely increase food insecurity — and MASLD — among vulnerable kids. Indigenous, Hispanic and low-income children will be particularly hard-hit, Dr Hartmann warned. “Any reduction in Medicaid/CHIP eligibility would disproportionately strip these children of specialty referrals and GLP-1 coverage, worsening their outcomes,” he said.

The Indian Health Service, whose clinics provide health care in most US tribal communities, relies heavily on Medicaid reimbursements, and SNAP cuts will affect food security.

MASLD care is inherently multidisciplinary. But pediatric gastroenterologist availability, dietitians, exercise specialists and physical therapists, obesity-medicine specialists, psychologists, and imaging modalities all vary from center to center, Dr Panganiban noted.

## Screening Is Crucial

Better screening is urgently needed. Most children with MASLD do not initially show symptoms, making it unlikely to be suspected without routine screening or incidental findings, Dr Hartmann emphasized.

Screening for MASLD includes liver enzyme assessments, particularly ALT, Dr Hassan said. “Persistent or significant elevation prompts further evaluation for liver disease, but a diagnosis of MASLD can only be established after ruling out other causes of elevated liver enzymes, such as viral hepatitis, Wilson’s disease, or metabolic/genetic conditions,” she cautioned. Hepatitis C infection, for example, can induce hepatic steatosis, either directly or indirectly by contributing to metabolic syndrome.[6]

“We had a child that was 12 years old … who met the criteria for MASLD, with elevated liver enzymes in the 80s, and imaging consistent with hepatic steatosis,” Dr Hassan said. “We went ahead and checked her for Wilson’s and Hepatitis C—and lo and behold, the Hep C came back several million copies positive. We treated the Hep C and now we’re just working on obesity.”

Pediatricians should keep an eye out for persistently elevated liver ALT levels (especially ALT ≥30 U/L), physical exam findings of acanthosis nigricans, abdominal striae, hepatosplenomegaly, and rapid BMI acceleration, Drs Panganiban and Hartmann agreed.

“Among pediatric gastroenterologists, there is agreement that ALT ≥ 22 U/L for boys and ALT ≥ 22 U/L for girls should be the cutoffs when to determine the ALT levels are increased,” Dr Hartmann said. “Finally, the gold standard to diagnose MASLD in children is the liver biopsy. However, the use of liver biopsies is very heterogeneous among the institutions and even within one institution. The currently available noninvasive biomarkers for fibrosis in children with MASLD have an insufficient predictive value at this moment. This means, in order to diagnose and treat more severe MASLD, in particular with more fibrosis, a biopsy would need to be done.”

Biopsy-confirmed severe liver fibrosis should prompt a discussion about a weight loss medication such as semaglutide, particularly when lifestyle measures have not achieved weight loss, Dr Hartmann noted.

Universal BMI percentile plotting and annual ALT levels should be undertaken for children at risk, Dr Hartmann added. “Electronic prompts in electronic health records would be helpful when the BMI is at or over the 95th percentile, indicating presence of obesity.”

“At CHOP, we have created automated order sets for patients at well visits above 85$^{th}$ percentile based on historical testing and BMI category, to help supporting appropriate ordering and improving efficiency,” Dr Panganiban said.

The North American Society for Pediatric Gastroenterology, Hepatology & Nutrition (NASPGHAN) and American Association for the Study of Liver Diseases (AASLD) use social media to help get the word out, posting frequently about MASLD, Dr Panganiban noted. So do the Global Liver Institute and American Liver Foundation.

## Individualized Encouragement-Driven and Care Plans

Treatment details should be tailored to each patient, Dr Hassan advised. Supportive, encouraging, individualized treatment is “empowering,” she emphasized.

“One thing I try to tell patients is, go try something new,” she said. “Go play soccer. If you don’t like it, that’s fine — go try basketball. If you don’t like that, try Pilates. A lot of our kids right now are very into weight training.”

Knowing the patient’s values and preferences informs other components of care, like nutritional education. “We start reading labels together,” Dr Hassan explained. “OK, proteins feed your muscles. But we need to hydrate to make sure we’re not giving too many proteins to your kidneys to work with. Once they understand these little things, it becomes like a fun game — and you start seeing results. It’s empowering.”

One of Dr Hassan’s patients was feeling very self-critical about his weight at their first appointment, she recalled. “Once we got through that and discussed ‘do you think you can do this or can try that,’ we had a prescription he was [really] able to adhere to it. And his liver [ALT] numbers went from 120 to 80, to 40, down to 26. His weight was steadily improving; within a year he had lost 7-8% of his total body weight and ultrasounds and FibroScan were not showing more steatosis. He was feeling great; he was super-motivated.”

Lifestyle changes are not limited to diet and exercise, Dr Panganiban said. “I also discuss activity, sleep, screens, addressing high-risk behavior, and psychology.”

It is also important to frame discussions with families around liver fat and even fibrotic scarring as being reversable with the right interventions, Dr Hartmann explained.

“I always tell my own patients they can heal their own livers, and we are here to help them do that,” he said.

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