Primary Sclerosing Cholangitis (PSC) – FDA-Requested Listening Session

April 30, 2026, 1.5 hours

Objectives of Session

This Patient Listening Session was requested by CDER/OND/OII/Division of Hepatology and Nutrition. The Division was interested in hearing from patients living with Primary Sclerosing Cholangitis (PSC), and caregivers of patients living with PSC, to better understand how the disease impacts them and what is most important to them. The Division had a particular interest in learning about symptoms, what patients and caregivers consider a meaningful improvement of symptoms, and how symptoms impact patients and their families.

Discussions in FDA Listening Sessions are informal and not meant to replace, but rather complement, existing patient engagement opportunities in the Agency. All opinions, recommendations, and proposals are unofficial and nonbinding on FDA and all other participants. This report summarizes the input provided by persons from the PSC community at the meeting. To the extent possible, the terms used in this summary to describe the health needs, perspectives, preferences, and impacts reflect those of the individual participants. This report is not meant to be representative of the views and experiences of the entire PSC population or any specific group of individuals or entities. There may be experiences that are not mentioned in this report.

Participants Represented

- **Number of Patient Participants**: Five
- **Number of Caregiver Participants**: Two
- **Sex:** The patients and caregiver participants represented their loved ones who were five males and two females
- **Education level:** Participants' self-reported highest level of education ranged from high school diploma to doctorate.
- **Geographical location*:**
    - Four participants were from the North, United States (U.S.)
    - One participant was from the Midwest, U.S.
    - One participant was from the South, U.S.
    - One participant was from Canada.

***Please click here for a map of the geographic regions referenced**

- **Ages:** The patients and caregiver participants represented their loved ones whose ages ranged from 27 to 55 years old.
- **Disease severity:** Patients and caregiver participants represented their loved ones, whose self/caregiver-reported severity of PSC ranged from mildly symptomatic to severely impacted.

Summary of Discussion by Question

Round 1: Diagnosis and Symptoms

1. Can you describe what symptom(s) led to your diagnosis of PSC? If you also have Inflammatory Bowel Disease (IBD), which condition was diagnosed first?

- Two participants reported being asymptomatic at diagnosis; their PSC was discovered incidentally through routine or unrelated lab work that showed elevated liver enzymes.
- One participant noted their liver tests were approximately eight times the normal limit.
- Three participants reported that symptoms such as jaundice, fever, and/or abdominal symptoms led to diagnosis, in one case identified during an emergency room visit and Endoscopic Retrograde Cholangiopancreatography (ERCP).
- One participant described lifelong gastrointestinal symptoms since infancy, with diagnosis confirmed once liver enzymes became elevated at age 9. This participant also reported extreme joint pain and stiffness as part of their early symptom history and carried a co-diagnosis of autoimmune hepatitis.
- Three participants reported a co-occurring diagnosis of IBD: two were diagnosed with IBD before their PSC diagnosis, and one was diagnosed with IBD approximately 10 years after a liver transplant for PSC.
- Two participants reported they do not have IBD.
- One caregiver noted a diagnosis of Ulcerative Colitis and Crohn's Disease, weight loss and fatigue.
- Time to diagnosis after initial signs, when reported, ranged from immediate (diagnosed during an emergency room visit) to approximately 9–12 months.
- One participant indicated pre-existing IBD, which predated their PSC diagnosis.

2. Of all the symptoms that you experience because of PSC, which 1-2 symptoms have the greatest impact on your life? Which have been most difficult for you to find relief from?

- Five of seven participants identified fatigue as one of the top two symptoms with the greatest impact.
- Four of seven participants identified itching (pruritus) as one of the top two symptoms with the greatest impact.
- Other symptoms mentioned included upper right quadrant/abdominal pain (two participants), back pain (one participant), and brain fog (one participant).

Round 2: Disease Management and Treatment

3. How have PSC and PSC symptoms affected your day-to-day life, including home life, personal relationships, mental/emotional health, and your ability to work or carry health insurance?

- Several participants described disruption to school or work caused by fatigue and hospitalizations, including missed school days and extracurricular activities in childhood, and, for one caregiver, 17 years of disability for a spouse.
- At least one participant is a recurrent PSC patient who described being pulled from school and all social activities during an episode.

- Multiple participants said fatigue required them to prioritize work or school over social activities and relationships, and to closely manage daily and weekly schedules around their energy levels.
- Several participants and caregivers described mental and emotional impacts, including ongoing worry about disease recurrence, uncertainty about long-term health and the ability to be present for family (including children), and the burden on family members who take time off work for hospitalizations and appointments.
- At least one participant named fear of cholangiocarcinoma as affecting their ability to plan the future or maintain relationships.
- One caregiver family described using individual and family therapy to cope.
- Maintaining health insurance while managing the disease was raised as a significant concern by more than one participant, particularly the need to continue working enough hours to remain eligible for employer- or union-sponsored coverage.
- One caregiver, whose family is outside the U.S. (Canada), noted that even with universal healthcare, obtaining full coverage for all needed care remained difficult.
- A caregiver to an adult patient described the ongoing difficulty of balancing a demanding profession with unpredictable PSC symptoms, and the need to restrict or postpone personal goals when symptoms flare.

Round 3: Cholangitis and Liver Transplants

4. Can you describe how you currently manage your symptoms when they occur, including any medications you have tried and how they have helped you? Did you experience side effects? Did medications improve your blood test results?

- Six of seven participants reported current or past use of ursodiol, most commonly to help improve liver enzyme levels; reports of effectiveness varied, with some participants describing meaningful improvement in ALT/AST and others describing limited or no benefit.
- Other medications mentioned included fenofibrate (for liver enzymes), tacrolimus (post-transplant immunosuppression), vancomycin (post-transplant, to help prevent disease recurrence), gabapentin (pain), cholestyramine (itching), ondansetron (nausea), amikacin (antibiotic), and prednisone (used in combination with other therapies).
- Two participants specifically reported that itching did not respond well to available medications and instead relied on measures such as ice packs or oatmeal baths.
- One participant used acupuncture for nausea management during their first episode of PSC.
- Several participants and caregivers described antibiotics, including extended courses, as part of managing recurrent infections, along with PICC lines or ports for IV administration.
- Reported side effects were generally described as minimal to none for most medications, though a few participants noted nausea, particularly with antibiotics or cholestyramine.

- Multiple participants and caregivers emphasized that non-pharmacologic strategies, such as scheduled naps, energy conservation, and strict sleep routines, were central to managing fatigue, since no medication had been effective for that symptom specifically.

5. Have you experienced complications from PSC, such as infections from blocked bile ducts (cholangitis) or the need for endoscopic procedures? Did you have temporary drains/stents? Did you require hospitalization? Did you need antibiotics, including chronic antibiotics (more than 3 months)?

- Five of the six participants who responded reported multiple hospitalizations related to PSC complications; several described these as frequent or numerous.
- One participant noted that recurrent infections caused bile ducts to narrow, resulting in the need for a liver transplant. They also experienced esophageal varices bleeds and developed osteoporosis.
- Multiple participants and caregivers reported experiencing cholangitis, including recurrent episodes, and several described undergoing multiple ERCPs.
- Several participants/caregivers reported use of biliary drains, PICC lines, ports, and/or stents to manage blocked bile ducts or to deliver IV antibiotics.
- Two participants reported episodes of sepsis related to cholangitis.
- One participant reported 17 years with PSC without needing antibiotics or experiencing infections and indicated having no ERCPs or drains during that period.
- Most participants who required antibiotics reported courses of three months or less; one caregiver reported that his son had never required more than three months of antibiotics despite recurrent infections.

6. If you have undergone a liver transplant for PSC, can you share your experience (recurrence, more than one transplant, transplant for cholangiocarcinoma)? If not transplanted, are you on the waitlist or being evaluated?

- Five of the seven represented individuals had undergone at least one liver transplant; two of those had undergone two transplants.
- None of the transplants described were performed due to cholangiocarcinoma.
- Two participants reported recurrence of PSC following transplant (in one case approximately 15 years post-transplant); others reported no signs of recurrence to date.
- One participant reported episodes of transplant rejection but no recurrent PSC.
- Two participants had not undergone a liver transplant and were not currently on the waitlist.
- Two participants noted Model for End-Stage Liver Disease (MELD) scores at the time of transplant ranged from 9 to approximately 30, emphasizing concerns about the MELD scoring system’s ability to reflect true disease burden of PSC.

- One caregiver emphasized that life after transplant, while often better, brought its own ongoing challenges, including the time and effort required for blood work, follow-up appointments, and self-advocacy.

Round 4: Treatment Goals and Risk Tolerance

7. When thinking about a potential treatment for PSC, would you be willing to accept severe or life-threatening risks if the treatment could prevent the need for a liver transplant or lower the risk of bile duct cancer? Why or why not?

- Three participants indicated they would be willing to accept a severe or life-threatening risk for a treatment with this potential benefit.
- One caregiver indicated that their family member would not accept such a risk.
- Three participants/caregivers indicated their willingness would depend on context, such as current symptom severity, how close they were to needing a transplant, and the specific nature of the risk and expected benefit; several of these participants noted they would have a higher risk tolerance specifically for a treatment that reduced cancer risk.

Round 5: Clinical Trials and New Treatments

8. If you have participated in a clinical trial for PSC, can you briefly describe your experience? If you haven't, what factors would make you more or less likely to participate?

- Two participants reported prior participation in a clinical study: one described participation (pre-transplant) in a study for a monoclonal antibody treatment, and one described participation in a study through PSC Partners involving blood and tissue sample collection.
- One participant is currently enrolled in an observational symptom-tracking study (not a treatment trial).
- Several participants who had not participated in a treatment trial cited exclusion criteria (including pediatric status, comorbid conditions, lab values, or lack of overlapping IBD) as a barrier.
- Distance to trial sites and the time burden of travel were identified as barriers by more than one participant, including one who described having to decline a trial for which they were otherwise eligible due to distance.
- Design factors that would influence willingness to participate included the ratio of drug to placebo (with lower likelihood of participation if there was an equal chance of receiving placebo, especially if it meant stopping a medication that was currently working) and the number and burden of required visits.
- Most participants indicated they would be willing to undergo trial-related procedures such as imaging, bloodwork, and biopsies; one participant specifically indicated an unwillingness to undergo additional ERCPs.
- Caregivers emphasized that support for travel and other participation-related expenses, and clarity about the risks involved (including invasive procedures and the risk of placebo), would factor into their family's willingness to participate.

9. What are barriers to finding effective treatments for PSC?

- Multiple participants identified the MELD score system as a barrier, explaining that PSC patients often have relatively low MELD scores despite significant symptom burden, making it difficult to qualify for a transplant — which several participants described as the only effective treatment currently available.
- Limited access to specialized hepatology care, particularly for participants living outside major metropolitan areas, was identified as a barrier by more than one participant.
- Participants also noted the difficulty of measuring and defining an “effective treatment” for PSC (for example, whether the goal is symptom improvement versus reduced cancer risk), and the challenge of quantifying cancer risk.
- A lack of validated, objective measures for fatigue, and limited awareness or understanding among some healthcare providers of the severity of fatigue in PSC, were also cited as barriers.
- Financial cost and the time and energy required to manage the disease were also identified as barriers.

Additional Questions

10. Is there anything else you'd like to share with the FDA about your experience with PSC?

- Several participants reiterated the importance of revisiting how the MELD score is applied to PSC patients; one participant described in detail how a low MELD score can delay transplant listing until a patient is more critically ill, which may affect transplant outcomes.
- Participants expressed appreciation for the opportunity to share their experiences and described PSC as a disease that affects the whole family, not just the diagnosed individual.
- One participant highlighted the need for better post-transplant medications to reduce cancer and kidney damage risks from long-term immunosuppression; another noted that any form of relief, symptom reduction, slower progression, or a cure, would be meaningful.
- One participant noted that standards of care can vary between providers for the same disease and encouraged patients to do their own research.
- One participant expressed strong personal motivation for continued research toward a cure.

11. Follow-up: Do you think fatigue is specific to PSC, or related to other issues?

- Several participants who had undergone a transplant reported that their fatigue improved substantially, though not always completely, after transplant, which they felt supported a link between the fatigue and active PSC.
- Participants described PSC-related fatigue as different from typical tiredness, using comparisons such as a persistent flu-like exhaustion or a feeling of the body “giving out,” sometimes to the point of falling asleep unexpectedly.
- Most participants reported the primary way they managed severe fatigue was through sleep and energy management, such as scheduled naps, rather than

medication; one participant reported some benefit from a low dose of naltrexone.

- One participant described her fatigue as intermittent rather than constant, reflecting the variability of PSC-related fatigue across patients.

12. Follow-up: Can you describe brain fog and its challenges?

- Participants who addressed this question described brain fog as slower processing and difficulty concentrating, difficulty with word-finding or recall (requiring things to be written down), a “fuzzy” or disoriented feeling, and, in one case, an associated emotional or unsettled feeling with a blank stare.
- Participants differed on whether brain fog was linked to fatigue or occurred independently; some said it could occur separately from fatigue.
- One caregiver noted that brain fog required an explicit family conversation about the patient's slowed processing and response time, highlighting its impact beyond the individual patient.

13. Follow-up: Is pruritus (itching) a waxing-and-waning symptom, or constant and nagging?

- Participants who addressed this question described the itching as a deep, internal sensation rather than a surface-skin symptom, that could be constant until medication took effect.
- One participant described the itching as especially severe during warmer months and reported it was difficult to treat, with an oatmeal bath and a compounded medication from a dermatologist providing some relief.
- Participants also noted social difficulty related to visible effects of itching, such as bruising from scratching.
- One participant confirmed that pruritus is persistent until medication takes effect or enzyme levels decrease, and that intense scratching can result in bruising.

14. Follow-up: Is the abdominal pain localized to one place or generalized? Does it happen before a cholangitis episode or irrespective of it? Does it come and go?

- Participants generally described the pain as located in the upper abdominal quadrant, sometimes described as a sensation of a swollen liver or pressure on the rib cage.
- Several participants described learning to distinguish this pain from cholangitis-related pain, which was more often associated with fever and, in one case, shoulder or referred pain requiring emergency care.
- Two participants noted that abdominal pain, localized to the right upper quadrant, can radiate to the back, particularly at the onset of a cholangitis episode, and may also occur independently of cholangitis.

15. Follow-up: Can you tell when the pain is cholangitis?

- Several participants described personal indicators used to distinguish cholangitis-related pain from routine abdominal discomfort, including fever, vomiting, abdominal swelling, and pain radiating to the back with muscle tightening.

- One participant used a body temperature of 100°F as a personal threshold for seeking hospital care.

- One participant noted that referred shoulder pain prompted an emergency room visit.

16. Follow-up: How do you find out about clinical trials? Would you be willing to take on risks of a clinical trial if there is a benefit? What are the barriers?

- Several participants most commonly learned about clinical trials through PSC Partners and, to a lesser extent, their hepatologist.

- Multiple participants noted that trial participation adds to the existing burden of managing PSC, and that integrating trial procedures into routine care visits would meaningfully reduce barriers.

- One participant noted that a physician had never proactively raised the topic of clinical trials, even while being treated at a center running one; the patient always had to initiate the conversation.

- One caregiver noted that the patient would be unlikely to seek out a trial independently but would consider participating if asked directly, underscoring the value of proactive outreach to patients.

17. Follow-up: Would the duration of the trial be a deterrent, e.g., 2–3 years?

- Multiple participants indicated that trial duration of 2–3 years was not a deterrent. However, one participant noted that the ability to complete some trial activities locally, rather than traveling to the trial site for every visit, was important for sustaining long-term participation.

18. Follow-up: If you only had a 50% chance of getting the treatment, would that be a barrier to participating?

- One participant indicated that a 50% placebo rate was not a deterrent, noting an understanding of the scientific rationale. However, one participant noted she would not want to discontinue a currently effective medication to enroll, suggesting that placebo design should account for participants' existing therapies.

FDA Offices & Divisions in Attendance

- Office of the Commissioner (OC) – 2 offices
    - OC/OEA/PES – Office of External Affairs/Public Engagement Staff (organizer)
    - OC/OCS/ACOMS – Office of the Chief Scientist/Advisory Committee Oversight and Management Staff
- Center for Biologics Evaluation and Research (CBER) – 3 offices
    - CBER/OCD – Office of the Center Director

    - CBER/OTP/OCE/DCEGM/GMB1 – Office of Therapeutic Products/Office of Clinical Evaluation/Division of Clinical Evaluation General Medicine/General Medicine Branch 1
    - CBER/OTP/OCE/DCEGM/GMB4 – Office of Therapeutic Products/Office of Clinical Evaluation/Division of Clinical Evaluation General Medicine/General Medicine Branch 4
- Center for Drug Evaluation and Research (CDER) – 6 offices
    - CDER/OCD – Office of the Center Director
    - CDER/OND – Office of New Drugs
    - CDER/OND/ODES/DCOA – Office of New Drugs/Office of Drug Evaluation Science/Division of Clinical Outcome Assessment
    - CDER/OND/OII/DHN – Office of New Drugs/Office of Immunology and Inflammation/Division of Hepatology and Nutrition (requestor)
    - CDER/OND/ORDPRUM/DRDMG – Office of New Drugs/Office of Rare Diseases, Pediatrics, Urology and Reproductive Medicine/Division of Rare Diseases and Medical Genetics
    - CDER/OTS/OB/DBIII – Office of Translational Sciences/Office of Biostatistics/Division of Biostatistics III
- Center for Devices and Radiological Health (CDRH) – 6 offices
    - CDRH/OPEQ/OHTI/DHTIC – Office of Product Evaluation and Quality/Office of Health Technology I/Division of Health Technology IC
    - CDRH/OPEQ/OHTIII – Office of Product Evaluation and Quality/Office of Health Technology III
    - CDRH/OPEQ/OHTIII/DHTIIIA – Office of Product Evaluation and Quality/Office of Health Technology III/Division of Health Technology IIIA
    - CDRH/OPEQ/OHTIII/DHTIIIB – Office of Product Evaluation and Quality/Office of Health Technology III/Division of Health Technology IIIB
    - CDRH/OPEQ/OHTIV/DHTIVA – Office of Product Evaluation and Quality/Office of Health Technology IV/Division of Health Technology IVA
    - CDRH/OPEQ/OHTV/DHTVB – Office of Product Evaluation and Quality/Office of Health Technology V/Division of Health Technology VB

Non-FDA Attendees

- Reagan-Udall Foundation for the FDA

Financial Interest

One of the participants was a consultant for a company that develops PSC treatments. The other participants in the listening session indicated that they did not have any financial interests relevant to the session and did not receive compensation for participation or attendance in this session.