Purpose of this report
The purpose of this report is to provide feedback to the pediatric gastroenterology community regarding content areas of strength and weakness, information which may be useful for identifying potential gaps in knowledge and guiding the development of educational materials. Using data from the American Board of Pediatrics’ (ABP) Maintenance of Certification Assessment for Pediatrics (MOCA-Peds), this report summarizes diplomate performance on the questions within each of the 48 content areas assessed in 2021.

MOCA-Peds content areas
In 2021, MOCA-Peds—Pediatric Gastroenterology consisted of questions from a total of 48 content areas, broken down as follows:

- **45 learning objectives**¹ — Each diplomate initially received one question from each of the 45 specific content areas drawn from the pediatric gastroenterology content outline.

- **Three featured readings**¹ — Each diplomate also received two questions per featured reading (eg, clinical guidelines, journal articles) for a total of six featured reading questions.

A pool of questions was developed for each learning objective and for each featured reading. Questions were then drawn from the pool and administered to diplomates throughout 2021 according to the specifications described in the bulleted list above.

Understanding this report
This report provides a graphical summary of diplomate performance on each of the 48 content areas assessed in 2021. Within the graphic and in the example below, the point (•) reflects the average percent correct for all questions within that learning objective or featured reading. The bar (—) reflects the range of percent correct values for the questions within that learning objective or featured reading. More specifically, the bar’s lower endpoint indicates the most difficult question (ie, answered correctly by the lowest percentage of diplomates) and the bar’s upper endpoint indicates the easiest question (ie, answered correctly by the highest percentage of diplomates).

<table>
<thead>
<tr>
<th>Learning Objective</th>
<th>Percent Correct</th>
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<tbody>
<tr>
<td>1. Know the patterns of the migrating motor complex in the small bowel and recognize abnormal patterns of activity in both fasted and fed states on motility studies.</td>
<td><img src="image" alt="Graphical summary" /></td>
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¹Each diplomate also received 15 “repeat” questions selected from their original subset of learning objective and featured reading questions. Performance on the repeat administrations is not included in this report.
A note of caution
Many factors (e.g., specific content of the question, wording of the question, plausibility of the incorrect answers) can impact diplomate performance on any question. It is thus difficult to determine if poor performance on a single question, or small set of questions, within a given content area reflects a true gap in diplomate knowledge or if the question(s) associated with that content area were difficult for other reasons (or some combination of both). Collectively, the entire set of MOCA-Peds questions (across all content areas) constitutes a psychometrically valid assessment of the diplomate’s overall level of knowledge. Performance within a given content area is based on fewer questions, however, and is therefore less useful for making inferences about diplomate knowledge in that specific content area.

It is important to note again that for security reasons, a pool of questions was developed for each content area so that each diplomate received a unique set of questions. In addition, the number of questions can vary from one content area to the next. In cases where a content area had a relatively large pool of questions, the number of diplomates who answered each question was reduced, which diminished the statistical precision of each question’s percent correct value. In cases where a content area had a relatively small number of questions, each question was answered by a larger number of diplomates, but the overall breadth of the content being assessed within that content area was constrained, which limits the generalizability of the results.

In other words, MOCA-Peds was designed to assess individual diplomates with respect to their overall level of knowledge in pediatric gastroenterology. It was not designed to provide the pediatric community with diagnostic feedback pertaining to specific content areas within pediatric gastroenterology. The results within this report may be informative and useful for that secondary purpose, but they should be interpreted with a degree of caution.

Additional notes

- To protect the security of the content of the assessment, the questions themselves, along with information about the number of questions in the pool for any particular learning objective or featured reading, are not provided in this report.

- This report contains data aggregated across many diplomates participating in the MOCA-Peds program and cannot be used to make inferences or draw conclusions regarding any particular diplomate.
1. Know the patterns of the migrating motor complex in the small bowel and recognize abnormal patterns of activity in both fasted and fed states on motility studies.

2. Recognize the clinical presentation and plan the management of duodenal hematoma.

3. Plan the follow-up of a patient treated for Helicobacter pylori.

4. Be familiar with metabolic/genetic disorders causing neonatal cholestasis and the current recommended diagnostic testing, including genetic and biochemical assays.

5. Understand the principles of behavior modification for treatment of disorders of defecation.

6. Recognize the complications of acute and chronic pancreatitis.

7. Order appropriate parenteral nutrition for children requiring both short- and long-term support and plan appropriate monitoring.

8. Know the presentation, predisposing conditions, and management of acute cholecystitis.

9. Recognize clinical manifestations of congenital esophageal anomalies.

10. Plan the management of recurrent C difficile infection, including choice of antibiotics and use of fecal microbial transplantation.

11. Clinical and biological predictors of response to standardised paediatric colitis therapy (PROTECT): a multicentre inception cohort study (Featured Reading)

12. Recognize laboratory and clinical features of suboptimal response to treatment for celiac disease.

13. Know the inheritance patterns for chronic polyposis disorders and be able to develop a surveillance strategy.

14. Understand how to develop a quality improvement project.

15. Recognize complications of peptic ulcer disease.

16. Effect of a low free sugar diet vs usual diet on nonalcoholic fatty liver disease in adolescent boys: a randomized clinical trial (Featured Reading)

17. Be familiar with heritability and diagnosis of congenital syndromes affecting the bile ducts and hepatic parenchymal architecture, including biliary atresia, congenital hepatic fibrosis, Caroli disease, Alagille syndrome, choledochal cyst, and polycystic disease.

18. Diagnose and manage acute pancreatitis.

19. Differentiate the causes of ascites based on laboratory evaluation of peritoneal fluid.

20. Plan the diagnostic evaluation of a child with chronic constipation.

21. Be familiar with benign and malignant liver tumors of childhood, including hemangiomas, hamartomas, focal nodular hyperplasia, hepatoblastoma, and hepatocellular carcinoma, as well as standard symptoms and their laboratory and imaging characteristics.

22. Understand the risk factors and diagnostic evaluation of acute, acute recurrent, and chronic pancreatitis.

23. Know the pathways of hepatic drug metabolism.

24. Describe the composition and complications of ketogenic diets.

25. Differentiate malabsorption from other causes of diarrhea and plan the diagnostic evaluation of a patient with malabsorption.

26. Identify common causes of protein–losing enteropathy and plan a diagnostic workup.

27. Recognize the typical presentation of a child with intestinal obstruction, including differential diagnosis by age, and plan appropriate evaluation and initial management.

28. Plan the diagnostic evaluation of a child with impaired deglutition.

29. Pediatric endoscopy and high–risk patients: a clinical report from the NASPGHAN Endoscopy Committee (Featured Reading)

30. Plan the management of a child with a functional gastrointestinal disorder (FGID).

31. Identify common presentations and natural history of non–IgE dietary protein intolerance in children.

32. Be familiar with magnetic resonance imaging studies and their advantages and limitations in gastrointestinal disease.

33. Know the differential diagnosis of hepatomegaly.

34. Be able to recognize and plan the management of Crigler–Najjar syndrome (types I and II) and understand the prognosis, including the possible need for liver transplantation.

35. Understand medical and surgical treatment of esophageal motility disorders.

36. Plan the diagnostic evaluation of a child with suspected gastroduodenitis.

37. Be able to diagnose and manage acute pancreatitis, including nutritional support, pain management, and treatment of complications.

38. Know the long–term complications of nonalcoholic fatty liver disease (NAFLD).

39. Understand how inflammatory bowel disease may present with isolated extraintestinal manifestations.

40. Understand the physiology, diagnosis, presentation, and management of disorders of gallbladder function.

41. Understand endoscopic therapies for the management of gastrointestinal bleeding.

42. Describe the ethical principles associated with patient confidentiality in the care of children and teens.

43. Understand the characteristic behaviors of caregivers who impose factitious disorders on their children (Munchhausen by proxy).

44. Be able to interpret esophageal motility studies, including normal function, achalasia, esophageal spasm, and impairments of peristalsis.

45. Be able to interpret gastrointestinal x−ray imaging, both with and without orally/rectally/intravenously administered contrast agents.

46. Formulate a tube−feeding regimen for a child who is unable to take foods orally, including bolus vs pump feedings.

47. Plan the diagnostic evaluation of a child with dysphagia.

48. Understand how diet contributes to the pathophysiology of nonalcoholic fatty liver disease (NAFLD).

Sample: Included in the sample were all diplomates who currently have a Part 3 (exam) requirement that could be fulfilled through MOCA−Peds and answered at least one question in 2021 (N = 406).