Purpose of this report

The purpose of this report is to provide feedback to the pediatric pulmonology 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 2020.

MOCA-Peds content areas

In 2020, MOCA-Peds—Pediatric Pulmonology consisted of questions from a total of 48 content areas, broken down as follows:

- 45 learning objectives¹ Each diplomate initially received one question from each of the 45 specific content areas drawn from the pediatric pulmonology content outline.
- Three featured readings¹ 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 2020 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 2020. 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).



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 (eg, 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 pulmonology. It was not designed to provide the pediatric community with diagnostic feedback pertaining to specific content areas within pediatric pulmonology. 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.

2020 Content Area Feedback Report Pediatric Pulmonology

	Learning Objective	0	Percent 25 5		100
1.	- -	-		+	_
2.	Describe the effects of exercise on cardiac output and minute ventilation. Choose the appropriate statistical test for non–parametric data.		_	: _	
3.	Recognize the radiographic and laboratory markers for parasitic lung infection.			—	
4.	Contrast plethysmography versus gas washout measurements that are used to assess lung volumes.			-	_
5.	Diagnosis of cystic fibrosis: consensus guidelines from the Cystic Fibrosis Foundation (Featured Reading)			•	
6.	Identify risk factors for the development of obstructive sleep apnea in children.			-	_
7.	Diagnosis of primary ciliary dyskinesia (Featured Reading)				
8.	Apply the alveolar gas equation to distinguish conditions associated with an increased a–A PO2 from those with a normal a–A PO2.			-	-
9.	Describe the differential pulmonary arterial blood flow within the lungs.				-
	Know the appropriate genetic testing for a child suspected of having CCHS.			_	_
11.	Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention clinical practice guidelines: diagnosis of tuberculosis in adults and children (Featured Reading)			-•-	_
	Understand the principles of ethics of research in human subjects.			•	
	Describe the diagnostic work–up for non–CF bronchiectasis.			-	_
	Calculate changes in PO2 as a result of changes in altitude (barometric pressure).			-	
15.	Recognize the presentation and evaluation of patients with pulmonary–renal syndromes (Goodpasture's, Wegener's).			-	_
16.	Know that the carotid body is primarily responsible for the respiratory response to hypoxemia.			-	_
17.	Differentiate the common complications present in the first 3 months after a lung transplant.			-	_
	Discuss how to interpret exercise testing.			•	
	Calculate compliance and resistance from measurements obtained on a mechanical ventilator.			-) —
	Recommend a plan of treatment for an adolescent with recurrent pneumothoraces.				
	Determine the genetic conditions associated with congenital chylothorax. Identify central versus obstructive apnea on polysomnography (show epochs?).)
	Identify the radiologic appearance of a congenital lobar emphysema.				•
	Identify drugs used to treat autoimmune, oncologic, or other disorders that may have pulmonary toxicity				•
	(methotrexate, bleomycin, amiodarone).				_
	Evaluate and manage hydrocarbon aspiration.			-	•
	Evaluate and manage severe asthma. Develop a plan for evaluation of respiratory infection in the immunosuppressed patient.			:	
	Describe the diagnostic evaluation for stridor.		:	; -	•
	Contrast the etiologies of recurrent wheeze during infancy compared to recurrent wheeze during the				
	school age years.				•
30.	Develop a strategy to improve gas exchange in an infant with severe bronchopulmonary dysplasia on			_	
	chronic invasive ventilation.				_
	Recognize the etiologies of vocal cord paralysis.				•
	Describe the clinical presentation of a child with unilateral choanal atresia.				•
33.	Interpret computed tomography of the chest and lung biopsy (positive Bombesin stain) results for an infant with neuroendocrine cell hyperplasia of infancy.				•
34.	Deduce the diagnosis of asphyxiating thoracic dystrophy based upon typical chest radiograph findings.				•
	Recognize metabolic compensation for chronic respiratory failure.				
	Differentiate causes of respiratory distress in the term infant.				•
37.	Evaluate an infant with severe bronchopulmonary dysplasia for important comorbidities (pulmonary hypertension, gastroesophageal reflux, obstructive sleep apnea, dysphagia).				•
38.	Differentiate the most common mutations present in children presenting with primary pulmonary hypertension.				•
39.	Enumerate the features of the premature respiratory system that make it particularly susceptible to respiratory failure.				•
40.	Discuss risk factors for and outcomes of cystic fibrosis-related diabetes.				•
41.	Manage new Pseudomonas aeruginosa respiratory infection according to current guidelines.				•
42.					•
43.				:	
	Identify and manage complications of mechanical ventilation.				_
	List several possible pulmonary manifestations of systemic lupus erythematosus. Develop a diagnostic approach in a child with hemoptysis.				
46. 47	Identify the differential diagnosis of asthma.				
48.	Specify the lobes of the lungs and compartments of the mediastinum on anteroposterior and lateral chest				
	radiographs.				•

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 2019 (N = 113).