

The intention is to (1) add some quantitative data to our core competency findings and (2) to narrow down our focus groups to get into more detail (e.g., if “don’t feel confident in diagnostic” is rated highly as a barrier we can dive into the whys) or give the group an opportunity to highlight a barrier that was not included in the survey by the team.

Of note:

- “Rate” includes providing a number on a scale of 1-5 for each of the response options. “Rank” involves ordering each of the responses in a “best/most” to “worst/least”.
- Clinicians (PCPs and Long COVID Experts) and Non-Clinicians (Individuals with Long COVID and Family/Community members) received slightly different surveys. Clinicians received some additional questions specific to medical care (laboratory testing, referral networks, clinic scenarios). Additionally, some of the Non-clinicians response options differ slightly from clinician response option to remove any confusing jargon.

Clinicians

Section 1	<p>Clinical experience</p> <ol style="list-style-type: none"> 1. Rate how challenging each of these potential barriers are for diagnosing patients with long COVID (5 = Not a Barrier; 1 = Major barrier) <ol style="list-style-type: none"> a. Lack of clear diagnostic criteria b. Lack of biomarkers for diagnosis c. Don’t feel confident in labeling the diagnosis d. Broad and variable symptoms across patients e. Difficulty distinguishing long COVID from other conditions f. Patient did not have COVID-19 g. Too short of a visit time to review the case 2. Are there any other major barriers you have encountered when diagnosing patients with long COVID? 3. Rate how challenging each of these potential barriers are for managing patients with long COVID (5 = Not a Barrier; 1 = Major barrier) <ol style="list-style-type: none"> a. Challenges posed by the wide range and complexity of symptoms b. Uncertainty about treatment options available c. Difficulty in knowing when to refer to a specialist d. Difficulty in coordinating care with specialists
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	<ul style="list-style-type: none"> e. High administrative burden managing long COVID cases (workers comp, disability, job accommodations) f. Treatments available/tried were not effective g. Uncertainty about the next steps in managing patients' care <p>4. Are there any other major barriers you have encountered when managing patients with long COVID?</p> <p>5. What barriers might primary care clinicians face when attempting to educate patients about long COVID treatment and prognosis?</p>
<p>Section 2</p>	<p>Current Knowledge and Training Gaps</p> <p>1. Rate the following knowledge areas on their importance for primary care clinicians in managing long COVID (5 = Most Important, 1 = Least Important):</p> <ul style="list-style-type: none"> a. Long COVID prevalence and risk factors b. Pathophysiology of long COVID c. Differential diagnosis for long COVID symptoms d. Evidence-based treatments for long COVID e. Psychosocial impacts of long COVID on patients f. Strategies for long-term symptom management g. Referral pathways for specialist care h. Communicating prognosis and expectations with patients i. Paperwork for workers compensation and accommodations <p>2. Rank the following clinical skills required for diagnosing and treating long COVID (6 = Most Critical, 1 = Least Critical):</p> <ul style="list-style-type: none"> a. Using screening tools specific to long COVID b. Managing comorbidities c. Coordinating interdisciplinary referrals d. Addressing functional limitations through rehabilitation e. Identifying secondary complications (e.g., mental health, organ damage) f. Validating the patient experience <p>3. Rank the importance of communication skills in building trust with patients with long COVID (4 = Most Important, 1 = Least Important):</p> <ul style="list-style-type: none"> a. Empathetic listening b. Explaining diagnostic uncertainty c. Educating patients on self-management techniques d. Counseling on off-label medication use e. Setting realistic expectations for recovery <p>4. Rank the following barriers to laboratory testing for long COVID patients from the perspective of a primary care clinician. (5 = Not a Barrier, 1 = Major Barrier)</p> <ul style="list-style-type: none"> a. Difficulty determining the appropriate laboratory tests to order for long COVID patients

	<ul style="list-style-type: none"> b. Managing patients who bring in results from outside laboratory tests c. Challenges in interpreting laboratory test results related to long COVID d. Lack of laboratory tests specific to long COVID diagnosis or management e. Limited/unknown insurance coverage for laboratory testing <p>5. What mental health management strategies should primary care clinicians prioritize for long COVID patients? (Select up to 2):</p> <ul style="list-style-type: none"> a. Screening for anxiety and depression b. Providing psychoeducation and coping strategies c. Referral to psychotherapy or counseling d. Use of psychotropic medications <p>6. Rate the importance of the following strategies for primary care clinicians when educating patients with long COVID about self-management techniques. (1 = not at all important; 5 = very important)</p> <ul style="list-style-type: none"> a. Pacing and energy conservation b. Sleep hygiene c. Stress management d. Physical exercise regimens e. Use of wearable health devices f. Nutrition
<p>Section 3</p>	<p>Proposed Curriculum Topics</p> <p>1. Please rank the following topics on what should be prioritized in training programs for primary care clinicians managing long COVID? (1 = Most important; X = Least important)</p> <ul style="list-style-type: none"> a. Diagnostic criteria b. Understanding pathophysiology and risk factors for long COVID c. Symptom recognition and variable symptom presentations of long COVID d. Overview of conditions associated with long COVID that require management (e.g., ME/CFS, post-exertional malaise, autonomic dysfunction) e. Strategies for self-management of long COVID f. Pharmaceutical treatment options available and appropriate for long COVID g. Non-pharmaceutical treatment options available and appropriate for long COVID h. Mental health support for long COVID patients i. Psychosocial and emotional impacts of long COVID j. Referring and coordinating with specialists k. Patient-centered communication and symptom validation strategies

	<ul style="list-style-type: none">l. Documentation for worker’s compensation claims, disability and/or accommodationsm. Addressing long COVID in pediatric populations <p>2. Which of the following competencies should be priorities in primary care long COVID training programs? (Select up to 3):</p> <ul style="list-style-type: none">a. Understanding how to recognize long COVID and use diagnostic tools effectivelyb. Addressing lingering symptoms such as respiratory, cardiovascular, or autonomic dysfunctionc. Managing complex conditions associated with long COVID, such as ME/CFS, post-exertional malaise (PEM), or mental health challengesd. Using patient-centered communication to validate symptoms, build trust, and manage treatment expectationse. Implementing self-management strategies for symptom relief and chronic condition managementf. Coordinating care and referrals with specialists for integrated, multidisciplinary careg. Combining traditional western medicine treatments (e.g., pharmaceuticals and diagnostics) with integrative approaches (e.g., lifestyle medicine, acupuncture, mindfulness, supplements) to comprehensively address the multifaceted challenges of long COVID. <p>3. Please rank which types of treatment modalities you think should be prioritized in training programs for managing long COVID (1 = Highest Priority, 6 = Lowest Priority.)</p> <ul style="list-style-type: none">a. Prescription medicationsb. Supplementsc. Ancillary services (e.g., PT, speech therapy)d. Psychotherapye. Other adjunct therapies (e.g., acupuncture, massage, hydrotherapy)f. Lifestyle medicine (e.g., nutrition, sleep hygiene, stress management) <p>4. How would you balance the importance of patient experience (e.g., good communication, feeling heard) and clinical expertise (e.g., medical knowledge, accurate diagnosis) in caring for patients with long COVID? (0 being fully patient experience, 100 people fully clinical expertise)</p> <p>5. What skills should be prioritized to help primary care clinicians address diagnostic uncertainty with long COVID patients?</p> <p>6. What final considerations or emerging topics do you believe should be addressed in primary care education regarding long COVID?</p>
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<p>Section 4</p>	<p>Interdisciplinary Collaboration</p> <ol style="list-style-type: none"> 1. How frequently do you collaborate with specialists (e.g., rehabilitation medicine, mental health, cardiology) in managing care for patients with Long COVID (excluding long COVID specialists)? <ol style="list-style-type: none"> a. Frequent collaboration and consultations b. Occasional collaboration based on patient needs c. Limited collaboration due to access issues d. I do not typically collaborate with specialists 2. {if working with specialists} Which specialists have you worked with to manage care for long COVID patients? 3. What team-based approaches should primary care clinicians use to manage long COVID symptoms? (Select all that apply): <ol style="list-style-type: none"> a. Build referral connections with specialists to streamline care Utilize communication platforms to coordinate care across teams b. Refer patients to support groups c. Recommend/refer to community resources d. Deliver clinic-based comprehensive management services e. Refer the patient to a Long COVID specialist regardless of symptom severity and chronicity 4. Rank the interdisciplinary care approaches that you believe are the most critical for managing long COVID (1 = Essential, 5 = Less Critical): <ol style="list-style-type: none"> a. Specialist referral networks: Building connections with specialists for timely referrals. b. Coordinated care with specialists: Communicating with specialists to align and manage care. c. In-house management with limited referrals: Managing care primarily within the clinic. d. Collaboration with ancillary teams: Partnering with physical therapists, speech therapists, or other support teams. e. Virtual care models: Using telemedicine to collaborate and deliver care remotely. 5. Rate the potential barriers you face that prevent effective collaboration with specialists for long COVID care? (5 = Not at all a Barrier; 1 = Major Barrier) <ol style="list-style-type: none"> a. Limited access to specialists (e.g., long wait times, unavailable service) b. Lack of standardized care pathways c. Poor communication across disciplines d. Insurance or financial issues affecting referrals
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	<p>e. Unsure which specialists, if any, are appropriate for long COVID care</p> <p>6. What additional interdisciplinary collaboration strategies would you recommend to better manage long COVID in primary care settings?</p>
<p>Section 5</p>	<p>1. What outcome would you value most from a long COVID training program?</p> <ol style="list-style-type: none"> a. Improved diagnostic accuracy b. Enhanced knowledge and confidence in managing common symptoms c. Enhanced collaboration with specialists and ancillary service teams d. Better communication skills for discussing long COVID with patients <p>2. Please list up to 5 core competencies you believe are essential for primary care clinicians treating long COVID patients.</p>
<p>Section 6</p>	<p>Scenario Based Questions</p> <p>1. Scenario: A 35-year-old patient presents with persistent fatigue, shortness of breath, and cognitive difficulties six months after recovering from COVID-19. They express frustration over being misunderstood by prior clinicians who suggested their symptoms are not related to Long COVID. Question: Rank the following actions from most to least important in this consultation (4 = Most Important, 1 = Least Important):</p> <ul style="list-style-type: none"> • Active listening, summarizing, and validating the patient’s experience and symptoms. • Ordering diagnostic tests to rule out other conditions. • Referring the patient to additional specialists for care (e.g., pulmonology, neurology, rehabilitation services) • Exploring potential next steps for treatment in collaboration with the patient. <p>2. Scenario: A patient with suspected long COVID asks about treatment options but expresses fear that "nothing can help" them. Question: Rank the following communication approaches to address the patient’s concerns (4 = Most Effective, 1 = Least Effective):</p> <ul style="list-style-type: none"> • "I understand why you would feel that way. We will work together to develop a plan to address your symptoms." • "I will refer you to a specialized clinic where experts can help." • "Recovery is uncertain, but treatment can improve symptoms over time."

	<ul style="list-style-type: none">• "Research is ongoing, and there are no certain answers. However, there may be resources we can explore together." <p>3. Scenario: A primary care clinician encounters a patient with long COVID with debilitating post-exertional fatigue after minimal activity.</p> <p>Question: Rank the following next steps in managing the patient's symptoms (1 = Most Appropriate, 4 = Least Appropriate):</p> <ul style="list-style-type: none">• Explore triggers for PEM and recommend rest and pacing strategies.• Collaborate with specialists to address underlying causes• Prescribe medication to address fatigue• Encourage the patient to slowly increase their activity despite triggering symptoms to increase their tolerance for activity <p>4. Scenario: A 45-year-old patient with long COVID shows slow progress after six months of treatment and asks how long recovery typically takes.</p> <p>Question: Rank the following explanations by appropriateness (1 = Best Response, 4 = Least Appropriate):</p> <ul style="list-style-type: none">• "Recovery timelines vary based on individual factors. We'll monitor your progress together."• "Long COVID recovery can take years, depending on symptom severity."• "It's difficult to predict; research is still evolving on long COVID recovery."• "No one knows how long recovery will take, we need to just trust the process." <p>5. Scenario: A patient with a history of COVID-19 presents with persistent fatigue and tachycardia.</p> <p>Question: What are the 2 best next steps in work-up?</p> <ul style="list-style-type: none">• Orthostatic vitals (laying then standing at 2 and 5 min)• Laboratory testing to r/o other medical etiologies (e.g., iron deficiency with or without anemia, thyroid disease, electrolyte abnormalities, diabetes)• Cardiac monitoring (e.g., Holter)• Echocardiogram <p>6. Scenario: A patient with a history of COVID-19 presents with persistent fatigue and shortness of breath and normal SpO2.</p> <p>Question: What are the 2 best next steps in work-up?</p> <ul style="list-style-type: none">• Orthostatic vitals (laying then standing at 2 and 5 min)• Laboratory testing to r/o other medical etiologies (e.g., iron deficiency with or without anemia, thyroid disease, electrolyte abnormalities, diabetes)• CXR
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	<ul style="list-style-type: none">• PFTs
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Non-Clinicians

Section 1	Clinical experience <ol style="list-style-type: none">1. Rate on a scale of 1-5 (1 being not at all a challenge; 5 being a major barrier) the potential challenges have you faced in receiving a diagnosis for long COVID?<ol style="list-style-type: none">a. Difficulty finding a knowledgeable clinicianb. Symptoms being dismissed or not taken seriouslyc. Clinicians unwilling to make official diagnosisd. Long wait times for appointments or specialist referrals2. Are there any other major barriers people face when being <i>diagnosed</i> with long COVID?3. Rate on a scale of 1-5 (1 being not at all a challenge; 5 being a major barrier) the potential challenges have you faced in receiving a treatment for long COVID?<ol style="list-style-type: none">a. Clinician unsure what treatment options are availableb. Treatment options don't align with your goals/symptomsc. Long wait times for specialist referralsd. Financial or insurance barriers4. Are there any other major barriers people with long COVID encounter when <i>managing</i> (e.g., receiving treatment, management strategies to reduce symptoms, etc.) their long COVID?5. What barriers might primary care clinicians face when attempting to educate patients about long COVID expectations, timeline, and treatment?
Section 2	Current Knowledge and Training Gaps <ol style="list-style-type: none">1. Rate the following knowledge areas on their importance for primary care clinicians in managing long COVID:<ol style="list-style-type: none">a. How common long COVID is and who is more likely to get itb. What happens in the body to cause long COVID symptomsc. Other possible causes of symptoms that look like long COVIDd. Treatments for long COVID that are backed by researche. How long COVID affects mental health, work, and relationshipsf. Ways to manage long COVID symptoms over timeg. How to get patients referred to specialists when neededh. Talking about what to expect and how long recovery might takei. Documentation for worker's compensation claims, disability and/or accommodations

	<ol style="list-style-type: none"> 2. Rank the following clinical skills required for diagnosing and treating long COVID (6 = Most Critical, 1 = Least Critical): <ol style="list-style-type: none"> a. Using screening tools specific to long COVID b. Managing comorbidities c. Coordinating interdisciplinary referrals d. Addressing functional limitations through rehabilitation e. Identifying secondary complications (e.g., mental health, organ damage) f. Validating the patient experience 3. Rank the importance of communication skills in building trust with patients with long COVID (4 = Most Important, 1 = Least Important): <ol style="list-style-type: none"> a. Empathetic listening b. Explaining diagnostic uncertainty c. Educating patients on self-management techniques d. Counseling on off-label medication use e. Setting realistic expectations for recovery 4. What mental health management strategies should primary care clinicians prioritize for long COVID patients? (Select up to 2): <ol style="list-style-type: none"> a. Screening for anxiety and depression b. Providing psychoeducation and coping strategies c. Referral to psychotherapy or counseling d. Use of psychotropic medications 5. Rate the importance of the following strategies for primary care clinicians when educating patients with long COVID about self-management techniques. (1 = not at all important; 5 = very important) <ol style="list-style-type: none"> a. Pacing and energy conservation b. Sleep hygiene c. Stress management d. Physical exercise regimens e. Use of wearable health devices f. Nutrition
<p>Section 3</p>	<p>Proposed Curriculum Topics</p> <ol style="list-style-type: none"> 1. Please rank the following topics on what should be prioritized in training programs for primary care clinicians managing long COVID? <ol style="list-style-type: none"> a. How to determine if someone has long COVID b. Understanding what causes long COVID and who might be more at risk c. Recognizing long COVID symptoms, which can show up in different ways for different people d. Managing conditions linked to long COVID, like chronic fatigue, worsening symptoms after activity, or nervous system issues

	<ul style="list-style-type: none">e. Tips for managing symptoms on your own, at home, or in daily lifef. Pharmaceutical (medicine) options that may help with long COVID symptomsg. Non-pharmaceutical (non-medicine) treatments, like physical therapy or lifestyle changes, that may helph. Resources and support for mental health challenges related to long COVIDi. How long COVID can affect emotions, relationships, and daily lifej. Connecting with and getting help from specialists when neededk. Caring communication from doctors that centers on your needs and validates your experiencesl. Documentation for worker's compensation claims, disability and/or accommodationsm. Supporting kids and teens who have long COVID <p>2. Which of the following competencies should be priorities in primary care long COVID training programs?</p> <ul style="list-style-type: none">a. Understanding how to recognize long COVID and use diagnostic tools effectivelyb. Addressing lingering symptoms such as respiratory, cardiovascular, or autonomic dysfunctionc. Managing complex conditions associated with long COVID, such as ME/CFS, post-exertional malaise (PEM), or mental health challengesd. Using patient-centered communication to validate symptoms, build trust, and manage treatment expectationse. Implementing self-management strategies for symptom relief and chronic condition managementf. Coordinating care and referrals with specialists for integrated, multidisciplinary careg. Combining traditional western medicine treatments (e.g., pharmaceuticals and diagnostics) with integrative approaches (e.g., lifestyle medicine, acupuncture, mindfulness, supplements) to comprehensively address the multifaceted challenges of long COVID.
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	<p>3. Please RANK which types of treatment you think should be prioritized in training programs for managing long COVID (1 = Highest Priority, 6 = Lowest Priority.)</p> <ul style="list-style-type: none"> a. Prescription medications b. Supplements c. Ancillary services (e.g., physical therapy, speech therapy) d. Therapy/counseling e. Other adjunct therapies (e.g., acupuncture, massage, hydrotherapy) f. Lifestyle medicine (e.g., nutrition, sleep hygiene, stress management) <p>4. How would you balance the importance of patient experience (e.g., good communication, feeling heard) and clinical expertise (e.g., medical knowledge, accurate diagnosis) in caring for patients with long COVID? (0 being fully patient experience, 100 people fully clinical expertise)</p> <p>5. What skills should be prioritized to help primary care clinicians address diagnostic uncertainty with long COVID patients?</p> <p>6. What other considerations or emerging topics do you believe should be addressed in primary care education regarding long COVID that we may not have covered here?</p>
Section 4	<p>Interdisciplinary Collaboration</p> <p>1. Rank the interdisciplinary care approaches that you believe are the most critical for managing long COVID (1 = Essential, 5 = Less Critical):</p> <ul style="list-style-type: none"> a. Specialist referral networks: Building connections with specialists for timely referrals. b. Coordinated care with specialists: Communicating with specialists to align and manage care. c. In-house management with limited referrals: Managing care primarily within the clinic. d. Collaboration with ancillary teams: Partnering with physical therapists, speech therapists, or other support teams. e. Virtual care models: Using telemedicine to collaborate and deliver care remotely.
Section 5	<p>1. What outcomes would you value most from a long COVID training program for PCPs?</p> <ul style="list-style-type: none"> a. Improved diagnostic accuracy

	<ul style="list-style-type: none">b. Clear treatment strategies for common symptomsc. Enhanced collaboration with specialistsd. Better communication skills for discussing long COVID with patients <p>2.</p>
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