

EPA Worksheet: Provide Telemedicine Services

Robert Englander, MD MPH, Bradley Benson, MD; Mark Rosenberg, MD; Joshua Thompson, MD MPH

1. EPA Title	Provide Telemedicine Services
2. Description of the activity	<p>The COVID-19 pandemic of 2020 has underscored the need for providing telemedicine services that will likely long outlast the acute pandemic. In the future, all healthcare professionals will likely need to provide telemedicine services under defined situations within the scope of their practice. The WHO defines telemedicine as: “The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”.¹</p> <p>Specific Functions:</p> <ul style="list-style-type: none"> ● Know guidelines/protocols/algorithms related to the specific telehealth encounter ● Integrate and analyze data from external sources (e.g. EHRs, self-reported data from patients/patient applications, PCPs) ● Utilize information technology to optimize care delivery ● Recognize patients who require referral to a higher level of care (specifically indications for in-person evaluation and/or care) ● Know one’s limitations and scope of practice ● Counsel patients and families ● Ensure understanding through bidirectional communication ● Delineate clear follow-up plans/reasons to seek further help ● Demonstrate confidence that puts patients and families at ease
3. Link with Domains of Competence	<p><input checked="" type="checkbox"/> Patient Care <input checked="" type="checkbox"/> Knowledge for Practice <input checked="" type="checkbox"/> Practice-based Learning and Improvement <input checked="" type="checkbox"/> Interpersonal & Communication Skills</p> <p><input type="checkbox"/> Professionalism <input type="checkbox"/> Systems-based Practice <input checked="" type="checkbox"/> Personal & Professional Development <input type="checkbox"/> Interprofessional Collaboration</p>
4. Critical Competencies	<p>PC 1: Gather essential and accurate information about the patient</p> <p>PC 9: Counsel patients and families</p> <p>KP 3: Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision-making, clinical problem solving, and other aspects of evidence-based health care.</p> <p>KP 4: Apply Principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention and health promotion efforts for patients and populations</p> <p>ICS 1: Communicate effectively with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds</p> <p>PBLI 1: Identify strengths, deficiencies, and limits in one’s knowledge and expertise</p> <p>PBLI 7: Use information technology to optimize learning and care</p> <p>PPD 8: Demonstrate self-confidence that puts patients, families, and members of the health care team at ease</p>

1. WHO. A health telematics policy in support of WHO’s Health-for-all strategy for global health development: report of the WHO group consultation on health telematics, 11-16 December, Geneva, 1997, Geneva, World Health Organization, 1998

EPA: Provide Tele Healthcare

Competency	Pre-entrustable Learners ¹		Entrustable Learner ^{1,2}
	Novice	Advanced beginner	Competent
<i>PC 1: Gather essential and accurate information about the patient through history-taking and telemedicine</i>	<p>Gathers excessive or incomplete information with each piece of information gathered seeming as important as the next.</p> <p>Uses a template and cannot deviate from it</p> <p>Limited ability to gather, filter, prioritize, and connect pieces of information. Recalls clinical information in the order elicited.</p> <p>Does not seek secondary data, even when appropriate, or is overly reliant on it</p>	<p>Few errors of omission or commission in gathering data. Uses a logical progression of questioning</p> <p>Uses a template but can deviate from the template when necessary.</p> <p>Questions are prioritized and clinical information is prioritized</p> <p>Seeks secondary data (e.g. EHR, PCP) when indicated but may be overly reliant on it.</p>	<p>Obtains a complete and accurate history in an organized fashion.</p> <p>Uses a template but can deviate from the template when necessary.</p> <p>Clinical experience allows synthesis and filtering of information to prioritize</p> <p>Seeks secondary sources of information when needed (eg EHR, PCP)</p>
<i>PC 7: Counsel patients and families</i>	<p>Communication is unidirectional.</p> <p>Provides little opportunity for discussions, questions, or demonstration of patient understanding.</p> <p>Does not respond to patient verbal and non-verbal cues</p> <p>Frequently uses medical jargon</p>	<p>Beginning to engage the patient in bidirectional communication</p> <p>Provides opportunities for patient questions but inconsistent in eliciting demonstration of patient understanding</p> <p>Responds to patient verbal and non-verbal cues in times of low stress/volume</p> <p>Occasionally uses medical jargon</p>	<p>Engages in bidirectional communication with active listening</p> <p>Provides opportunities for questions and consistently elicits patient understanding.</p> <p>Responds to patient verbal and non-verbal cues, even in times of stress and increased volume of patients</p> <p>Rarely uses medical jargon</p>

	<p>May generalize based on age, gender, race, religion, disabilities, and/or sexual orientation</p> <p>Does not consistently consider patient autonomy</p>	<p>Recognizes and avoids generalizations based on age, gender, race, religion, disabilities, and/or sexual orientation</p> <p>Generally considers patient autonomy but may become more authoritarian in times of stress</p>	<p>Recognizes and avoids generalizations based on age, gender, race, religion, disabilities, and/or sexual orientation.</p> <p>Considers patient autonomy even in times of stress and high volume</p>
<p><i>KP 3: Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision-making, clinical problem solving, and other aspects of evidence-based health care.</i></p>	<p>Recalls only discrete, isolated bits of information.</p> <p>Tends toward "intuitive leaps" to conclusions (premature closure). Does not integrate emerging information to update the decision making</p> <p>Clinical reasoning is slow and linear, often with errors from lack of knowledge or the intuitive leaps noted</p>	<p>Recalls the reported information but may focus on features at the expense of pattern.</p> <p>Considers emerging information but may not accurately incorporate into the clinical decision making</p> <p>Clinical reasoning may incorporate and synthesize more data, but focus on features may make one prone to confirmation biases</p>	<p>Can recognize patterns to solve problems or answer clinical questions via just-in-time-learning.</p> <p>Seeks and integrates emerging information to update the clinical decision making.</p> <p>Can focus cognitive processes to discern relevant information, identify the unknowns, and make connections Brings together multiple representations of the problem by comparing, synthesizing, and evaluating.</p>
<p><i>KP4: Apply Principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies,</i></p>	<p>Understands epidemiologic principles (e.g. risk factors, diagnostic screening, incidence, prevalence, probabilities, etc.) but lacks the ability to apply</p>	<p>Understands basic epidemiologic principles and can apply the most basic concepts as outlined through algorithms (such as risk factors and indications for screening)</p>	<p>Understands epidemiologic principles (e.g. risk factors, diagnostic screening, incidence, prevalence, probabilities, etc.) and can apply them to</p>

<p><i>resources, and disease prevention and health promotion efforts for patients and populations</i></p>	<p>the individual patients or populations</p>		<p>individual patients or populations</p>
<p><i>ICS 1: Communicate effectively with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds</i></p>	<p>Communication with patients and families is unidirectional</p> <p>Communication is template-based, without the ability to vary the approach based on a patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs.</p> <p>Frequently uses medical jargon.</p> <p>Respects patient preferences when offered by the patient, but does not actively solicit preferences.</p> <p>Does not engage patients and families in discussions of care plans (i.e., does not engage in shared decision making).</p>	<p>Communication is bidirectional but may become unidirectional when learner pressed for time/stressed</p> <p>Communication is based on a template which the learner can adapt to the patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs when not pressed for time or overly stressed.</p> <p>Conscious of avoiding medical jargon but may lapse when pressed for time</p> <p>Respects patient preferences and actively seeks them when not pressed for time or stressed</p> <p>Engages patients and families in discussions of care plans but reverts to more unilateral decision-making and unidirectional communication when stressed or pressed for time</p>	<p>Communication with patients and families generally bidirectional.</p> <p>When based on a template, can adapt to the patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs, even when pressed for time.</p> <p>Avoids medical jargon.</p> <p>Actively solicits patient preferences</p> <p>Uses a variety of techniques, including nontechnical language, teach back, and appropriate pacing, to ensure that communication results in shared decision making.</p>

	<p>Defers or avoids difficult or ambiguous conversations.</p>	<p>Enlists help to deal with difficult or ambiguous conversations</p>	<p>Develops scripts to approach most difficult communication scenarios.</p>
<p><i>PBLI 1: Identify strengths, deficiencies, and limits in one's knowledge and expertise</i></p>	<p>Relies on external prompts for understanding one's strengths, deficiencies, and limits.</p> <p>Understanding of performance is superficial and limited to the overall grade or bottom line</p> <p>Does not recognize when help is needed, sometimes causing unintended consequences for patients or missed opportunities for learning and self-improvement.</p>	<p>Relies on a combination of internal and external prompts for understanding one's strengths, deficiencies and weaknesses</p> <p>Understanding of performance comes from the external feedback with some guided reflections (e.g. on critical incidents and patient outcomes)</p> <p>Recognizes when help is needed when given the opportunity for reflection on action, but does not always recognize the need during reflection in action.</p>	<p>Relies primarily on internal prompts for understanding one's strengths, deficiencies and limits.</p> <p>Understanding of performance comes from reflections on feedback; critical incidents; and patient/population outcomes.</p> <p>Recognizes limitations and seeks help for the sake of the patient that supersedes any perceived value of physician autonomy.</p>
<p><i>PBLI 7: Use information technology to optimize learning and care</i></p>	<p>Reluctant to use IT and initiates use only with mandatory assignments and direct help.</p> <p>Resistant to adopt new technologies.</p> <p>Unable to choose between available databases for clinical query.</p>	<p>Utilizes IT resources but requires direct help for any new applications.</p> <p>Open to new IT resources suggested by others.</p> <p>Can navigate a small number of commonly used databases.</p>	<p>Open to using IT resources and can identify the correct resources without direct help.</p> <p>Identifies and uses new technologies to advance learning and patient care.</p> <p>Can navigate several databases and draw from the best one for any specific data point or clinical information.</p>
<p><i>PPD 7: Demonstrate self-confidence that puts patients, families, and members of the health care team at ease</i></p>	<p>Unsure of when and how to clearly articulate confidence and when to articulate personal limitations to the patient/family requiring continuous supervisor presence for any critical conversations.</p>	<p>Able to demonstrate some confidence in common situations previously encountered but continues to call on supervisors frequently for any unforeseen issues.</p>	<p>Demonstrates insight about when to be confident based on knowledge and skills and when to express uncertainty and get help from supervisors.</p>

	Exhibits tentative behaviors that reflect some discomfort with role as a physician, such that patients and families require reassurance from a more senior colleague or supervisor.	Exhibits behaviors that reflect some comfort and confidence with role as a physician, but families would not necessarily feel at ease without reassurance from a more senior colleague or supervisor.	Alignment between knowledge/skill and degree of certainty allows patients and families to be at ease in many situations.
--	---	---	--

- 1) Milestones were adapted from three sources:
 - a. Core EPAs for Entering Residency milestones for pre-entrustable and entrustable learners (https://store.aamc.org/downloadable/download/sample/sample_id/63/)
 - b. Pediatrics Milestones (<https://www.acgme.org/Portals/0/PDFs/Milestones/PediatricsMilestones.pdf>)
 - c. Core EPAs for Entering Residency Pilot Group Toolkit (<https://www.aamc.org/system/files/c/2/484778-epa13toolkit.pdf>)
- 2) Entrustable Learner: Able to perform the EPA with indirect supervision, with the Supervisor checking key findings

Overview for Vignettes: The scenario for the three vignettes is the following: A health professions student (Mohammed) is working in the telehealth program for following up on patients at home with COVID-19 infection. He has been provided the criteria for entry into the GetWell Loop program, and a template for the telemedicine interaction and conversation designed to elicit information that would allow for referral for a higher level of evaluation or care (e.g. being seen in an Emergency Room or Acute Care Setting), and allows for counseling regarding further home management, isolation/quarantining, and follow-up. His supervisor is Dr. Gloria Rodriguez.

Mr. Jones, a 58 year old white male with a history of DM and HTN has an appointment with the Fairview Health Virtual Urgent Care to ask for assistance due to his concern that he may have COVID-19. He reports having fever for 48 hours (unsure how high as he does not have a thermometer), with minor myalgias, and a mild sore throat. He does not endorse cough, N/V, shortness of breath, blue lips or nail beds, stuffy or runny nose, or loss of taste or smell.

Expected Behaviors of a Novice Learner

- During history taking, gathers excessive or incomplete information
 - Uses a template for the telehealth interaction and cannot deviate from it (e.g. based on a patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs)
 - Does not seek secondary data, even when appropriate, or is overly reliant on it
 - Engages in unidirectional communication, providing little opportunity for discussions, questions, or demonstration of patient understanding.
 - Does not respond to patient verbal and non-verbal cues
 - Frequently uses medical jargon
 - May generalize based on age, gender, race, religion, disabilities, and/or sexual orientation
 - Tends toward "intuitive leaps" to conclusions (premature closure).
 - Understands epidemiologic principles (e.g. risk factors, diagnostic screening, incidence, prevalence, probabilities, etc.) but lacks the ability to apply the individual patients or populations
 - Respects patient preferences when offered by the patient, but does not actively solicit preferences.
 - Does not engage patients and families in discussions of care plans (i.e., does not engage in shared decision making).
 - Relies on external prompts for understanding one's strengths, deficiencies, and limits
 - Does not recognize when help is needed
 - Reluctant to use IT and requires prompting and direct help to do so
 - Unsure of when and how to clearly articulate confidence and when to articulate personal limitations to the patient/family requiring continuous supervisor presence for any critical telehealth encounters
- 1) Preview patient you are about to call-criteria met?
 - 2) Introductions and explanation of the program and the process
 - 3) follow a template with specific questions
 - 4) follow an algorithm for disposition (continue at home with check-up in "x" days, order testing, inpatient visit)
 - 5) Close the conversation with clear follow-up
 - 6) Ensure patient understanding (close-loop communication)
 - 7) debrief and feedback

Vignette for a novice learner:

Mohammed calls Mr. Jones and matches his symptoms to the template provided for suspected COVID-19 infection. Given the early time in the course of the illness, the fever, sore throat, and myalgias, he suspects COVID-19 is a possibility. Mohammed connects his supervisor Dr. Rodriguez to the call and presents the case. He summarizes at the end that Mr Jones is a "58 yo with a h/o HTN who has a 2 day h/o fevers and a sore throat concerning for COVID-19". Dr. Rodriguez confirms the medical history with Mr. Jones who adds that he has a history of diabetes. She agrees with the suspected diagnosis and recommends inviting the patient to enroll in the GetWell Loop for suspected or confirmed COVID-19 patients at home. After the call is over, Dr. Rodriguez debriefs with Mohammed and gives feedback on

the presentation noting that the DM would be an important comorbidity and that the myalgias would be an important symptom to include. She asks Mohammed to estimate Mr. Jones' risk for severe illness and he says, "Well I know DM is a risk factor and age is as well, but I do not think he is in the high risk age group." Dr. Jones asks him how he would find out, and he is unsure. She suggests he access the CDC website to see the risk factors. She asks about the demographics of race and COVID-19 and Mohammed is unsure.

Mohammed consults his orientation packet for the template patient instructions informing the patient that he will get an invitation to enroll in the GetWell Loop program. He asks his supervisor to help enter the order in Epic as he cannot remember how to do that. Dr. Rodriguez shows him how to use the GetWell Loop Referral order in Epic.

Later, Mohammed is monitoring the GetWell Loop inbox and notices Mr. Jones' response. At this point Mr. Jones is writing to express concerns that his fever is persisting despite Tylenol and that he is feeling more fatigued. Mohammed consults the template and, after consulting with Dr. Rodriguez, follows the instructions by writing back to Mr. Jones to affirm his symptoms as they are expected and not cause for escalating care. Dr. Rodriguez has to remind him to dismiss the alert after he sends the return email.

Two days later, Mohammed notices an email with an alert in which Mr. Jones expresses that he is now having trouble "catching his breath" when walking up the flight of stairs at his home. Mohammed notifies Dr. Rodriguez and says he thinks he should respond to Mr. Jones through a message in GetWell Loop to ask some additional questions. Dr. Rodriguez suggests they call rather than using a text message, as SOB may be heralding COVID pneumonia. Dr. Rodriguez asks Mohammed what he wants to find out from Mr. Jones and he says he wants a better history and intends to obtain a full history. She states that the key will be focusing on his respiratory symptoms to decide about next steps. She asks what specific questions he would ask and he says how long the shortness of breath has been going on and what makes it better or worse. She states that they should also find out if he has any cyanosis and take note of how well he can speak as a measure of his breathing (e.g. in full sentences). She also suggests they have him measure his respiratory rate for 30 seconds.

They do a three-way call and Mr. Jones answers right away. Dr. Rodriguez introduces herself and states they are following up on his email regarding his shortness of breath. She asks Mohammed to introduce himself as well. Mohammed starts with "how are you feeling?" and Mr. Jones states "not well, but I've been worse." Mohammed begins to ask a full history ("can you tell me when your symptoms began? What did you notice first?"). Dr. Rodriguez interrupts to say "Mohammed that's important information but maybe we can start with the shortness of breath. Mr. Jones, let's talk about your breathing." Mr. Jones says he noticed some very mild SOB the day before, but today it was a little worse and he wrote because they told him to with any concerns about shortness of breath. He wasn't overly concerned but said he was a little out of breath when he climbed the stairs in his apartment. She asked how many stairs and he said he thought around 12-14. She asks him if he is able to sleep or his breathing interferes and he says he sleeps ok when the fever is down. She asks if he has been able to eat and drink and he says yes. She then asks if he has any blueness in his nails or lips and he says no.

She asks Mohammed if he has any other questions and he says no. She says "let's talk about how best to proceed" and Mohammed replies that he's not sure. She asks Mr. Jones what he thinks and he says "I think I am OK for now. I really don't want to go to the hospital." She tells Mr. Jones that she agrees and ensures close follow-up through the GetWell program. She asks what he understands would be the reasons to get back in touch and he states if my breathing gets worse or I am unable to drink ok or I see any blueness in my lips or fingernails. She affirms his knowledge. They all agree that he will at least follow up with a message the next day and Mohammed promises to look for it as they end the call. Mohammed documents a note in GetWell and Epic that is mostly accurate but does not include that the patient is drinking well and able to sleep. Dr. Rodriguez explains why those are important parts of the history and cosigns the note.

Expected Behaviors of an Advanced Beginner

- Few errors of omission or commission in gathering data. Uses a logical progression of questioning
- Uses a template but can deviate from the template when not pressed for time or stressed (e.g. based on a patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs)
- Seeks secondary data (e.g. EHR, PCP) when indicated but may be overly reliant on it.
- Beginning to engage the patient in bidirectional communication, providing opportunities for patient questions but inconsistent in eliciting demonstration of patient understanding and may become unidirectional when the learner is pressed for time/stressed
- Responds to patient verbal and non-verbal cues in times of low stress/volume
- Conscious of avoiding medical jargon but may lapse when pressed for time
- Recognizes and avoids generalizations based on age, gender, race, religion, disabilities, and/or sexual orientation
- Generally considers patient autonomy but may become more authoritarian in times of stress
- Recalls the reported information but may focus on features at the expense of pattern making one prone to confirmation biases
- Understands basic epidemiologic principles and can apply the most basic concepts as outlined through algorithms (such as risk factors and indications for screening)
- Respects patient preferences and actively seeks them when not pressed for time or stressed
- Relies on a combination of internal and external prompts for understanding one's strengths, deficiencies and weaknesses
- Recognizes when help is needed when given the opportunity for reflection on action, but does not always recognize the need during reflection in action
- Utilizes IT resources for patient care but may still require direct help even with minor difficulties or new applications
- Able to demonstrate some confidence in common situations previously encountered but continues to call on supervisors frequently for any unforeseen issues.

Vignette for an advanced beginner learner

Mohammed calls Mr. Jones and matches his symptoms to the template provided for suspected COVID-19 infection. Given the early time in the course of the illness, the fever, sore throat, and myalgias, he suspects COVID-19 is a possibility. Mohammed connects his supervisor Dr. Rodriguez to the call and presents the case. He summarizes at the end that Mr Jones is a "58 yo with a h/o HTN and DM who has a 2 day h/o fevers, myalgias, and a sore throat" Dr. Rodriguez agrees with the suspected diagnosis. Mohammed says he will use the instruction sheet he received in orientation to invite Mr. Jones to enroll in the GetWell Loop for suspected or confirmed COVID-19 patients at home. After the call is over, Dr. Rodriguez debriefs with Mohammed. She asks him to estimate Mr. Jones' risk for severe illness and he says, "DM is his only major risk factor. Age is a risk factor as well, with the highest risk being 65 years and older." Dr. Jones asks him how he knew this and he stated he was following the CDC website. She asks about the demographics of race and COVID-19 and Mohammed is unsure, but says he will look it up.

Mohammed consults his orientation packet for the template patient instructions informing him that he will get an invitation to enroll in the GetWell Loop program. He then orders the referral in Epic as instructed.

Later, Mohammed is monitoring the GetWell Loop inbox and notices Mr. Jones' response. At this point Mr. Jones is writing to express concerns that his fever is persisting despite Tylenol and that he is feeling more fatigued. Mohammed consults the template and, after consulting with Dr. Rodriguez, follows the instructions by writing back to Mr. Jones to affirm his symptoms as they are expected and not cause for escalating care. Mohammed then dismisses the alert as called for in the protocol.

Two days later, Mohammed notices a Red Alert in which Mr. Jones expresses that he is now having trouble "catching his breath" when walking up the flight of stairs at his home. Mohammed notifies Dr. Rodriguez and says he thinks they should bypass a text message and call Mr. Jones as SOB can herald pneumonia. Dr. Rodriguez asks Mohammed what he wants to find out from Mr. Jones and he says he wants a better history and details on the SOB. She asks what specific questions he would ask and he says how long the shortness of breath has been going on, what makes it better or worse. With prompting

regarding other issues that might help them determine disposition, he states they should ask if he is drinking and eating ok. She adds that they should also find out if he has any cyanosis and take note of how well he can speak as a measure of his breathing (e.g. in full sentences). She also suggests they have him measure his respiratory rate for 30 seconds.

They do a three-way call and Mr. Jones answers right away. Mohammed introduces himself and his role and invites Dr. Rodriguez to introduce herself. Mohammed starts with "how are you feeling?" and Mr. Jones states "not well, but I've been worse." Mohammed begins by asking "Can we talk about your breathing." Mr. Jones says he noticed some very mild SOB the day before, but today it was a little worse and he wrote because they told him to with any concerns about shortness of breath. He wasn't overly concerned but said he was a little out of breath when he climbed the stairs in his apartment. Mohammed started to ask about sleep and Dr. Rodriguez interrupted to ask, "how many stairs?" Mr. Jones said he thought around 12-14. Mohammed asked him if he is able to sleep or his breathing interferes and he says he sleeps ok when the fever is down. He asks if he has been able to eat and drink OK and he says yes. Mohammed asks if he is peeing normally and he says yes. Mohammed asks Dr. Rodriguez if she has any other questions and she asks Mr. Jones if he has any blueness in his nails or lips and he says no.

Mohammed then looks at Dr. Rodriguez and says I am not sure how best to proceed from here, and she says to Mr. Jones, "What do you think?" he says "I think I am OK for now. I really don't want to go to the hospital." She tells Mr. Jones that she agrees and ensures close follow-up through the GetWell program. She asks what he understands would be the reasons to get back in touch and he states if my breathing gets worse or I am unable to drink ok or I see any blueness in my lips or fingernails. She affirms his knowledge. They all agree that he will at least follow up with an email the next day and Mohammed promises to look for it as they end the call. Mohammed documents a note in GetWell and Epic that captures the key findings and the follow-up plan. Dr. Rodriguez cosigns the note, and provides feedback that she would like Mohammed to think more about the criteria for the different triage decisions.

Expected Behaviors of a Competent Learner

- Obtains a complete and accurate history in an organized fashion
- Uses a template but can adapt when necessary to the patient's unique demographic, cognitive, physical, cultural, socioeconomic, or situational needs, even when pressed for time.
- Seeks secondary sources of information when needed (eg EHR, PCP)
- Engages in bidirectional communication providing opportunities for questions and consistently eliciting patient understanding
- Responds to patient verbal and non-verbal cues, even in times of stress and increased volume of patients
- Rarely uses medical jargon
- Recognizes and avoids generalizations based on age, gender, race, religion, disabilities, and/or sexual orientation.
- Considers patient autonomy even in times of stress and high volume
- Can recognize patterns to solve problems or answer clinical questions via just-in-time-learning; seeks and integrates emerging information to update the clinical decision making.
- Understands epidemiologic principles (e.g. risk factors, diagnostic screening, incidence, prevalence, probabilities, etc.) and can apply them to individual patients or populations
- Uses a variety of techniques, including nontechnical language, teach back, and appropriate pacing, to ensure that communication results in shared decision making.
- Relies primarily on internal prompts for understanding one's strengths, deficiencies and limits.
- Recognizes limitations and seeks help for the sake of the patient that supersedes any perceived value of physician autonomy.
- Utilizes IT resources without the need for direct help and can identify new resources that might improve patient care
- Demonstrates insight about when to be confident based on knowledge and skills and when to express uncertainty and get help from supervisors.

Vignette for a competent learner

Mohammed calls Mr. Jones and matches his symptoms to the template provided for suspected COVID-19 infection. Given the early time in the course of the illness, the fever, sore throat, and myalgias, he suspects COVID-19 is a possibility. He lets Mr. Jones know that he will receive an invitation to join the GetWell Loop program and includes that information in his electronic AVS. He then orders the referral in Epic as instructed. He calls his preceptor, Dr. Rodriguez, presents Mr. Jones' case and finishes by saying "Mr. Jones is a "58 yo with a h/o HTN and DM who has a 1 day h/o fevers, myalgias, and a sore throat concerning for COVID-19. I think he meets criteria for PCR testing and have given him the scheduling information for this. I have also invited him to the GetWell Loop program." Dr. Rodriguez agrees with the suspected diagnosis and plan. She debriefs with Mohammed after the call and asks him to estimate Mr. Jones' risk for severe illness and he says, "DM is his only major risk factor. Age is a risk factor as well, with the highest risk being 65 years and older." Dr. Rodriguez asks him how he knew this and he stated he was following the CDC website. She asks about the demographics of race and COVID-19 and Mohammed says that in the US, race has been a significant risk factor for both severity of disease and death, but studies were needed to further understand the root causes of the disparities.

Later, Mohammed is monitoring the GetWell Loop inbox and notices Mr. Jones' response. At this point Mr. Jones is writing to express concerns that his fever is persisting despite Tylenol and that he is feeling more fatigued. Mohammed consults the template and follows the instructions by writing back to Mr. Jones to affirm his symptoms as they are expected and not cause for escalating care. Mohammed then dismisses the alert as called for in the protocol.

Two days later, Mohammed notices a Red Alert in which Mr. Jones expresses that he is now having trouble "catching his breath" when walking up the flight of stairs at his home. Mohammed notifies Dr. Rodriguez and says he thinks they should bypass a text messages and call Mr. Jones as SOB can herald pneumonia. Dr. Rodriguez asks Mohammed what he wants to find out from Mr. Jones and he says he wants a better history and details on the SOB. She asks what specific questions he would ask and he says how long the shortness of breath has been going on, what makes it better or worse, how he is eating and drinking, whether he has other signs of pneumonia or hypoxia, and what he would like to do going forward. He says he can also get a sense of Mr. Jones' shortness of breath from his breathing and can maybe ask him to measure his respiratory rate while they are on the phone. Dr. Rodriguez concurs.

Mohammed calls from a private location in his home. Mr. Jones answers right away. Mohammed introduces himself and his role Mohammed starts with "how are you feeling?" and Mr. Jones states "not well, but I've been worse." Mohammed begins by asking if he could talk about Mr. Jones' breathing." Mr. Jones says he noticed some very mild SOB the day before, but today it was a little worse and he wrote because they told him to with any concerns about shortness of breath. He wasn't overly concerned but said he was a little out of breath when he climbed the stairs in his apartment. Mohammed asked "how many stairs?" and Mr. Jones said he thought around 12-14. Mohammed asked him if he is able to sleep or his breathing interferes and he says he sleeps ok when the fever is down. He asks if he has been able to eat and drink OK and he says yes. Mohammed asks if he is peeing normally and he says yes. Mohammed asks if he has any blueness in his nails or lips and he says no.

Mohammed then asks Mr. Jones "How would you like to proceed?" He says, "I think I am OK for now. I really don't want to go to the hospital." Mohammed tells Mr. Jones that he agrees he doesn't need the hospital now and ensures close follow-up through the GetWell program. He asks what Mr. Jones understands would be the reasons to get back in touch and Mr. Jones states "if my breathing gets worse or I am unable to drink ok or I see any blueness in my lips or fingernails." Mohammed affirms his knowledge. Mohammed and Mr. Jones agree that they will at least follow up with an email the next day and Mohammed promises to look for it as they end the call. Mohammed documents a note in GetWell and Epic that captures the key findings and the follow-up plan, and alerts Dr. Rodriguez to its completion. Dr. Rodriguez cosigns the note. The next day she provides feedback that he did a great job documenting his clinical reasoning in the chart for why he thought it remained safe for Mr. Jones to stay in place.