

Wong R, Ng P, Spinnato T, Taub E, Kaushal A, Lerman M, et al. Expanding telehealth competencies in primary care: a longitudinal interdisciplinary simulation to train internal medicine residents in complex patient care. *J Grad Med Educ.* 2020;12(6):745–752.

Supplementary Data

Intersession Electronic Messaging Activity

Registered Nurse Message: I received a call from the patient that she is not doing well. Her mom was discharged from rehab and is now with living her. They have an aide during the weekdays, but not at night. She's been helping her mother with ADLs at night and her back pain is worse than usual, requesting increase in pain medications because she is taking 3-4 oxycodone a day just to get by. Denies any numbness, tingling, weakness or incontinence, just more painful than usual. I tried to get her in for an appointment, but her car broke down and it's hard for her to get around. She's been taking the local bus to get to work but she works during the week, takes care of mom on the weekends and it's hard to come in for an appointment. Please initiate a SW consult and discuss with Pain Management about what to do for her pain. Our clinic social work is XX.

(Resident Response)

Pain Management Message: I can try to get her in for repeat epidural since she responded fairly well in the past. She may only get a few months relief though, so we will need to discuss a long-term plan.

(Resident Response)

Social Work Message: I contacted the patient and she unfortunately doesn't have Medicaid for transportation through insurance. She does say that a neighbor can bring her to a pain management depending on when the appointment is. FYI she is reporting worsened anxiety and depression (denies any suicidal ideations). She was asking for Xanax which has helped with sleep in the past. She's also sometimes taking a shot of vodka at night because nothing else can get her to sleep. What do you think of the Xanax, especially in light of the prior drug abuse and opioids? I was concerned so made her an appointment with psychiatry, however there's a waiting list so I tentatively booked an appointment with Dr. Y next month. Could you discuss the case with him beforehand to get advice?

(Resident Response)

Psychiatry/Substance Abuse Message: I would recommend against benzodiazepines given her history of substance abuse because she is also on opioids. I can try to get her into the office for evaluation within the next few weeks. For now, why don't you go up on the duloxetine to 90mg a day?

Registered Nurse Message: This case is getting complicated. With so many providers involved in her care, I think that we should hold a tele-board for case discussion. Can we all meet virtually for 30 minutes on XX/XXXX to discuss the case?

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**In the resident continuity clinic, the Registered Nurse role include care manager for Chronic Care Management program*

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Objective Structured Clinical Examination Case and Learner Clinical Tasks

Session	Case Description: Deborah Telesim (DT)	Clinical Tasks
1	<ul style="list-style-type: none"> 62-year-old woman, first tele-visit with this resident provider after her PCP graduated Chronic pain knee arthritis, lumbar radiculopathy on oxycodone 5mg 2x/day, seeing pain management for epidural steroid injections Anxiety, depression and substance abuse in remission Works 5-6 days/week at deli, cares for mother who had a recent stroke and is having car troubles 	<ul style="list-style-type: none"> Establish patient-provider relationship in a virtual visit Assess chronic pain, anxiety and depression Address the patient’s emotional, environmental and social needs
Inter-session	<p>Nursing electronic message: (1-2 weeks after tele-visit)</p> <ul style="list-style-type: none"> Patient reports to RN worsening back pain and increased oxycodone use to 4x/day Mother requires care on nights/weekends and the patient’s car broke down RN suggests social work consultation and to discuss options with pain management <p>Pain Management electronic message</p> <ul style="list-style-type: none"> Recommends office assessment and possible steroid injection, but transportation is an issue <p>Social Work electronic message</p> <ul style="list-style-type: none"> SW will set up short-term transport and further assess caregiver support and long-term transportation needs Concerned that patient reports drinking ETOH at night to sleep and is requesting alprazolam Set up psychiatry appointment for patient and requesting PCP to send consultation <p>Psychiatry electronic message</p> <ul style="list-style-type: none"> Triaged consultation, earliest appointment in 1 month, recommend Addiction Medicine input and interdisciplinary communication to discuss case 	<ul style="list-style-type: none"> Respond to nurse message regarding increased pain and opioid use Message pain management to coordinate care Initiate electronic consult to social work to assess transportation needs and caregiver burden Respond to social work concern for substance misuse Initiate electronic consult to psychiatry
2	<p>Patient portal message from Deborah Telesim</p> <ul style="list-style-type: none"> Reports worsening back pain causing her to miss days of work, financial hardship 	<ul style="list-style-type: none"> Present a case summary and barriers to care

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	<p>and request for PCP to fill out disability forms</p> <p>Interdisciplinary teleconference</p> <ul style="list-style-type: none"> • 45-minute interdisciplinary tele-board to discuss biopsychosocial issues and coordinate plan of care • Participants: pain management, social work, nursing, psychiatry and addiction medicine 	<ul style="list-style-type: none"> • Facilitate interdisciplinary discussion of the patient’s bio-psychosocial needs and • Incorporate specialist recommendations to create a plan of care • Message patient with plan of care and next steps
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Standardized Patient OSCE Checklist

Identification	
SP Name: Deborah Telesim #__	

The examinee:	YES	NO
Clearly introduced himself/herself and his/her role in my care		
Clearly explained the reason for the visit and the expectations of the visit		
Assessed my pain by asking me:		
-How severe my pain was on average over the past week		
-How much my pain interfered with my enjoyment of life over the past week		
-How much my pain interfered with my general activity over the past week		
Assessed if I had any new symptoms		
Assessed my emotional, environmental and/or social stressors:		
-Asked about my mood		
-Asked if I had concerns about making ends meet		
-Asked if I had concerns about having enough food		
-Asked if I had concerns about paying for housing		
-Asked if I had concerns about transportation		
Reviewed my medication list with me		
Assessed if I have any difficulties adhering to my care plan		
Directed me to reposition myself for optimal virtual viewing		
Discussed and addressed my medical needs		
Was empathetic and provided psychosocial support		
Clearly established how I would follow-up with my care team		
I would return to the examinee for future care		

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E-consultation/E-messaging Evaluation

Identification
SP Name: Deborah Telesim #__
Specialty: (<i>Pain Management, Social Work, Psychiatry</i>)

The examinee:	Unsatisfactory	Satisfactory	Superior
Provided a succinct case summary			
Asked a clear, specific question			
Indicated urgency of consult			
Documented plan for follow up			
Advocated for chosen plan of care			
Discussed risk/benefits of care options			
Effectively communicated the plan of care			

**Each resident was provided with a unique patient identifier (eg. Deborah Telesim 1) for the electronic communication exercise*

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Pre-Intervention Survey

1. Please create a personal ID:

Take the date of birth (month, then day) of your younger parent followed by the first two letters of the city where you were born followed by the date of birth (month, then day) of your older parent. If you do not know one of these dates or one is not applicable), please use the date of birth (month, then day) of your youngest sibling. If you have no siblings, please use the month and day of your birth. Example- parents were born 02/04/63 and 12/22/61, and you were born in Orlando. Your ID would be 0204OR1222

Your personal ID is: _____

2. Age: _____

3. Gender:

- a. Male
- b. Female

4. Ethnicity (Check all that apply)

- a. Asian/Pacific Islander
- b. Caucasian
- c. Black/African American
- d. Hispanic/Latino
- e. Native American
- f. Other
- g. Prefer not to answer

5. Please indicate your PGY year:

- a. PGY1
- b. PGY2
- c. PGY3

6. What type of medical school training did you complete?

- a. Allopathic Medical School (MD)
- b. Osteopathic Medical School (DO)
- c. Other: _____

7. Where is your continuity clinic?

- a. VA
- b. Tech park

Please indicate how much you agree with the following statements:	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Somewhat Agree</i>	<i>Agree</i>	<i>Strongly Agree</i>
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8. I have a good understanding of appropriate uses for telemedicine						
9. I am familiar with the types of examination tools used in telemedicine						
10. I have a good general understanding of the field of telemedicine						
11. I have a good understanding of how telemedicine is practiced						
12. I think telemedicine will help decrease health care disparities for underserved patients						
13. I think telemedicine is a good alternative to face-to-face health care						
14. Telehealth improves my patients' access to healthcare services						
15. Telehealth saves my patients' time traveling to a hospital or clinic						
16. Telehealth provides for my patients' healthcare needs						
17. Telehealth is an acceptable way to receive healthcare services						

Please indicate how confident you are in the following tasks:	<i>Very unconfident</i>	<i>Unconfident</i>	<i>Neutral</i>	<i>Confident</i>	<i>Very confident</i>
18. Adjusting a telemedicine camera to maximize my positioning and visibility					
19. Communicating effectively with a patient via telemedicine					
20. Troubleshooting poor performance with videoconferencing during your patient encounter					
21. Taking a patient history via telemedicine					
22. At the start of the visit, explaining to the patient what the visit will entail and what to expect					
23. Providing counseling to the patient for treatment and follow up via telemedicine					
24. Establishing rapport with a patient via telemedicine					
25. Feeling comfortable speaking in front of a camera					
26. Presenting a patient to another provider via telemedicine					

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27. Using the electronic health record messaging to communicate with specialists in the ambulatory setting					
28. Coordinating outpatient interdisciplinary care using electronic health record messaging					
29. Facilitating an interdisciplinary tele-board to coordinate patient care					
30. My ability to communicate with professionals in other health fields regarding the management of pain for my patients					
31. My ability to address the needs of a patient with pain in an interdisciplinary team setting					
32. My ability to work with an interdisciplinary team to formulate a care plan for my patients with pain					

33. How likely are you to use telemedicine in your future practice?

- a. Very unlikely
- b. Unlikely
- c. Neutral
- d. Likely
- e. Very likely

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Post-Session 1 Survey

34. Please create a personal ID:

Take the date of birth (month, then day) of your younger parent followed by the first two letters of the city where you were born followed by the date of birth (month, then day) of your older parent. If you do not know one of these dates or one is not applicable), please use the date of birth (month, then day) of your youngest sibling. If you have no siblings, please use the month and day of your birth. Example- parents were born 02/04/63 and 12/22/61, and you were born in Orlando. Your ID would be 0204OR1222

Your personal ID is: _____

35. Age: _____

36. Gender:

- a. Male
- b. Female

37. Ethnicity (Check all that apply)

- a. Asian/Pacific Islander
- b. Caucasian
- c. Black/African American
- d. Hispanic/Latino
- e. Native American
- f. Other
- g. Prefer not to answer

38. Please indicate your PGY year:

- a. PGY1
- b. PGY2
- c. PGY3

39. What type of medical school training did you complete?

- a. Allopathic Medical School (MD)
- b. Osteopathic Medical School (DO)
- c. Other: _____

40. Where is your continuity clinic?

- a. VA
- b. Tech park

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Please indicate how much you agree with the following statements:	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
41. I have a good understanding of appropriate uses for telemedicine					
42. I am familiar with the types of examination tools used in telemedicine					
43. I have a good general understanding of the field of telemedicine					
44. I have a good understanding of how telemedicine is practiced					
45. I think telemedicine will help decrease health care disparities for underserved patients					
46. I think telemedicine is a good alternative to face-to-face health care					
47. Telehealth improves my patients' access to healthcare services					
48. Telehealth saves my patients' time traveling to a hospital or clinic					
49. Telehealth provides for my patients' healthcare needs					
50. Telehealth is an acceptable way to receive healthcare services					

Please indicate how confident you are in the following tasks:	<i>Very unconfident</i>	<i>Unconfident</i>	<i>Neutral</i>	<i>Confident</i>	<i>Very confident</i>
51. Adjusting a telemedicine camera to maximize my positioning and visibility					
52. Communicating effectively with a patient via telemedicine					
53. Troubleshooting poor performance with videoconferencing during your patient encounter					
54. Taking a patient history via telemedicine					
55. At the start of the visit, explaining to the patient what the visit will entail and what to expect					
56. Providing counseling to the patient for treatment and follow up via telemedicine					
57. Establishing rapport with a patient via telemedicine					
58. Feeling comfortable speaking in front of a camera					

59. How likely are you to use telemedicine in your future practice?
 a. Very unlikely

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- b. Unlikely
- c. Neutral
- d. Likely
- e. Very likely

60. How would you rate today's workshop overall?

- a. Excellent
- b. Good
- c. Fair
- d. Poor

61. Please list 3 things that you liked about today's telemedicine workshop.

62. Please list 3 ways we can improve this telemedicine workshop and/or list additional topics that you want to be covered.

63. Would you like to participate in more telemedicine training in the future?

- a. Yes
- b. No

64. Please include any additional comments or questions that you may have with today's workshop

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Post-Session 2 Survey

65. Please create a personal ID:

Take the date of birth (month, then day) of your younger parent followed by the first two letters of the city where you were born followed by the date of birth (month, then day) of your older parent. If you do not know one of these dates or one is not applicable, please use the date of birth (month, then day) of your youngest sibling. If you have no siblings, please use the month and day of your birth. Example- parents were born 02/04/63 and 12/22/61, and you were born in Orlando. Your ID would be 0204OR1222

Your personal ID is: _____

66. Age: _____

67. Gender:

- a. Male
- b. Female

68. Ethnicity (Check all that apply)

- a. Asian/Pacific Islander
- b. Caucasian
- c. Black/African American
- d. Hispanic/Latino
- e. Native American
- f. Other
- g. Prefer not to answer

69. Please indicate your PGY year:

- a. PGY1
- b. PGY2
- c. PGY3
- d. PGY4

70. What type of medical school training did you complete?

- a. Allopathic Medical School (MD)
- b. Osteopathic Medical School (DO)
- c. Other: _____

71. Where is your continuity clinic?

- a. VA

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b. Tech park

Please indicate how much you agree with the following statements:	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
72. I have a good understanding of appropriate uses for telemedicine					
73. I am familiar with the types of examination tools used in telemedicine					
74. I have a good general understanding of the field of telemedicine					
75. I have a good understanding of how telemedicine is practiced.					
76. I think telemedicine will help decrease health care disparities for underserved patients					
77. I think telemedicine is a good alternative to face-to-face health care					
78. Telehealth improves my patients' access to healthcare services					
79. Telehealth saves my patients' time traveling to a hospital or clinic					
80. Telehealth provides for my patients' healthcare needs					
81. Telehealth is an acceptable way to receive healthcare services					
82. I planned a patient intervention with multi-disciplinary team members					
83. I integrated patient's circumstances, beliefs, and values into care/intervention plans					
84. I included relevant health professionals in patient management as appropriate					
85. I participated in interdisciplinary discussions about patient/client care or group/community intervention					
86. I demonstrated respect for others in and outside the team					
87. I invited the opinions of other team members					
88. I participated in discussions about team performance					
89. I was sensitive to the needs of the team					
90. I provided constructive feedback to team members about their performance					

Please indicate how confident you are in the following tasks:	<i>Very unconfident</i>	<i>Unconfident</i>	<i>Neutral</i>	<i>Confident</i>	<i>Very confident</i>
91. Feeling comfortable speaking in front of a camera					
92. Presenting a patient to another provider via telemedicine					

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93. Using the electronic health record messaging to communicate with specialists in the ambulatory setting					
94. Coordinating outpatient interdisciplinary care using electronic health record messaging					
95. Facilitating an interdisciplinary tele-board to coordinate patient care					
96. My ability to communicate with professionals in other health fields regarding the management of pain for my patients					
97. My ability to address the needs of a patient with pain in an interdisciplinary team setting					
98. My ability to work with an interdisciplinary team to formulate a care plan for my patients with pain					

99. How likely are you to use telemedicine in your future practice?

- a. Very unlikely
- b. Unlikely
- c. Neutral
- d. Likely
- e. Very likely