Appendix 1: Survey

Public Opinion of Telehealth in Surgery during COVID-19

Start of Block: Research Project Information Sheet

Q1 **Public Opinion of the Role of Telehealth in Surgery during the COVID-19 Pandemic**  
Thank you for taking our survey.

This research project is being conducted by the Department of Surgery at Dartmouth-Hitchcock Medical Center and the Geisel School of Medicine at Dartmouth College (New Hampshire, USA). It is a study designed to collect public opinion regarding the role of telehealth in surgery, both in usual practice and during the COVID pandemic. No prior knowledge about surgery or health care is required; we are interested in your thoughts and opinions regarding these topics. Your participation is voluntary. Participation involves completion of an online survey that should take about 10 minutes.

You will be compensated $1.75 for completing the survey.  The information will be collected anonymously and will be maintained confidentially. No personal identifying information will be collected in this survey.

Questions about this project may be directed to: Meredith Sorensen, M.D., M.S. Dartmouth-Hitchcock Medical Center One Medical Center Drive Lebanon, NH 03756603-650-7903

By clicking “continue,” you are agreeing to participate in this research study.

Important Note Before You Begin:    
     
This survey is not designed to see how accurately you can respond to certain questions. Instead, our hope is to learn about your perceptions and opinions about these topics. As such, we'd ask that you complete the survey based on what you think (rather than, for example, looking something up or asking someone else); your thoughts are what we're interested in and we can only learn from you.    
Thank you!

End of Block: Research Project Information Sheet

Start of Block: Demographics, part 1

Q2 How old are you?

* 18-29 (1)
* 30-39 (2)
* 40-49 (3)
* 50-59 (4)
* 60-69 (5)
* 70-79 (6)
* 80 or older (7)

Q3 What is your gender?

* Male (1)
* Female (2)
* Non-binary (3)

Q4 Have you ever had surgery before?

* No (1)
* Yes, within the past 5 years (2)
* Yes, more than 5 years ago (3)

Q5 Have you ever had a very close loved one (i.e., partner, parent, sibling, close friend) for whom you were the primary support have surgery before?

* No (1)
* Yes, within the past 5 years (2)
* Yes, more than 5 years ago (3)

End of Block: Demographics, part 1

Start of Block: Surgery Generally

Q6 Let’s say you did need to undergo an operation.

Q7 How important would it be *to you* to meet your surgeon **in person** prior to the day of surgery?

* Extremely important (1)
* Very important (2)
* Moderately important (3)
* Slightly important (4)
* Not at all important (5)

Q8 How important would it be *to you* to have your surgeon physically examine you prior to the day of surgery?

* Extremely important (1)
* Very important (2)
* Moderately important (3)
* Slightly important (4)
* Not at all important (5)

Q9 How important do you think it is *to* *your surgeon* that they meet you prior to the day of surgery?

* Extremely important (1)
* Very important (2)
* Moderately important (3)
* Slightly important (4)
* Not at all important (5)

Q10 How important do you think it is *to* *your surgeon* that they physically examine you prior to the day of surgery?

* Extremely important (1)
* Very important (2)
* Moderately important (3)
* Slightly important (4)
* Not at all important (5)

Q11 For the following components of a first appointment with your surgeon, do you think they would be accomplished more effectively **in person, virtually, or equally well** either way?

|  |  |  |  |
| --- | --- | --- | --- |
|  | More effective in person (1) | Effective either way (2) | More effective virtually (3) |
| Review your history and the reason for your referral (1) |  |  |  |
| Initiate/complete a diagnostic work-up (order new tests, i.e. labs, imaging, etc.) (2) |  |  |  |
| Perform a physical examination (3) |  |  |  |
| Discuss your treatment options (including non-surgical if possible) (4) |  |  |  |
| Offer an opinion regarding need for/benefit of surgery (5) |  |  |  |
| Explain the technical components of the surgery (6) |  |  |  |
| Establish trust and comfort (7) |  |  |  |
| Explain how your condition will be monitored after surgery (8) |  |  |  |

End of Block: Surgery Generally

Start of Block: Travel & Inconvenience

Q12 How far, on average, do you have to travel (one-way) to get to your doctor's office?

* (1)
* 15-30 minutes (2)
* 30-60 minutes (3)
* 1-2 hours (4)
* >2 hours (5)

Q13 How far, on average do you have to travel (one-way) to get to the nearest hospital?

* (1)
* 15-30 minutes (2)
* 30-60 minutes (3)
* 1-2 hours (4)
* >2 hours (5)

Q14 From the following options, please choose "other" and type in "blue".

* Red (1)
* Orange (2)
* Yellow (3)
* Other (4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q15 Have you ever had a virtual or telephone (Telehealth) doctor's appointment?

* Yes (1)
* No (2)

Q16 If all of the following options were available, please rank how would you prefer to see your regular/primary doctor? *1 is most preferred, 3 least preferred*

\_\_\_\_\_\_ In person (1)

\_\_\_\_\_\_ Video chat (2)

\_\_\_\_\_\_ Phone call (3)

Q17 If you needed to see a surgeon, please rank how would you prefer to have your initial consultation (if all of the following options were available)?  *1 is most preferred, 3 least preferred*

\_\_\_\_\_\_ In person (1)

\_\_\_\_\_\_ Video chat (2)

\_\_\_\_\_\_ Phone call (3)

Q18 Do you think the cost to you of a visit should be different if it is in person vs. over the phone or on video (Telehealth)?

* Telehealth should cost more than an in-person visit (1)
* Telehealth should cost the same as an in-person visit (2)
* Telehealth should cost less than an in-person visit (3)

End of Block: Travel & Inconvenience

Start of Block: Social Distancing

Q19 Coronavirus Disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 Virus that has spread throughout the globe leading to the current pandemic.   
Social Distancing describes public health protective measures that have been put in place by nations around the globe to prevent the spread of COVID-19. These include: staying at home except for essential activities, maintaining six-feet of distance from people outside of your household, and self-isolating if you feel unwell. During social distancing, many health care providers have used telehealth in order to continue to safely care for patients with non-emergent conditions.

Q20 **During** **social distancing**, how would you prefer to see your regular/primary doctor?

* In person (1)
* Video chat (2)
* Phone call (3)
* Either phone or video (4)
* No preference, any of the above work (5)

Q21 If you needed to see a surgeon **during social distancing**, how would you prefer to have your initial consultation?

* In person (1)
* Video chat (2)
* Phone call (3)
* Either phone or video (4)
* No preference, any of the above work (5)

Q22 If you needed to see a surgeon **after social distancing ends**, how would you prefer to have your initial consultation?

* In person (1)
* Video chat (2)
* Phone call (3)
* Either phone or video (4)
* No preference, any of the above work (5)

Display This Question:

If Have you ever had a virtual or telephone (Telehealth) doctor's appointment? = Yes

Q23 Earlier you indicated that you had a virtual/telephone visit, was that because of COVID-19?

* Yes (1)
* No (2)

Display This Question:

If Have you ever had a virtual or telephone (Telehealth) doctor's appointment? = Yes

Q24 Earlier you indicated that you had a virtual/telephone visit. Please rate your overall satisfaction with your visit.

* Extremely satisfied (1)
* Somewhat satisfied (2)
* Neither satisfied nor dissatisfied (3)
* Somewhat dissatisfied (4)
* Extremely dissatisfied (5)

Display This Question:

If Have you ever had a virtual or telephone (Telehealth) doctor's appointment? = Yes

Q25 Earlier you indicated that you had a virtual/telephone visit. Would you like to continue to see your doctor virtually in the future?

* Yes (1)
* No (2)
* Maybe (3)

End of Block: Social Distancing

Start of Block: Scenario Instructions

Q26 For the following set of questions, we ask you to imagine 6 different surgical scenarios.    
    
We first ask you to imagine it is you that needs this surgery. Then we ask you to imagine that your very close loved one (i.e. partner, parent, sibling, close friend) for whom you would be the primary support.    
    
We want to know **how** you would prefer to meet the potential surgeon, both under normal circumstances and during social distancing.

End of Block: Scenario Instructions

Start of Block: Scenarios

Q27 Let’s say that recently you have noticed a very slowly growing lump on your arm over the course of the past year. It’s not painful, but it moves slightly under your skin if you push on it. Your doctor said that this is likely a lipoma, which is a very common benign tumor. It is not at all dangerous and does not need to be removed, but since it is bothersome, you can undergo a lipoma excision. This is a very simple outpatient procedure, where an incision is made in the skin and the mass is removed under local anesthesia. The overall complication rate is very low.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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| Page Break |  |

Q28 Imagine that you were given a referral to a surgeon to undergo a rhinoplasty, which is a procedure that changes the shape of the nose for cosmetic purposes. You don’t need to undergo this procedure for medical reasons, but have long wanted to improve the appearance of your nose. The surgery is a minimally complex surgery during which the surgeon will readjust the bone and cartilage of your nose. Patients typically go home the same day as their surgery and the risk of complications from this surgery is low (less than 1%) and includes bleeding, infection, pulmonary complications.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

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| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

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| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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Q29 Let's say you've been diagnosed with an inguinal hernia, a bulging out of the abdominal contents into the groin. These hernias are common (occurring in 4% of those 45 years and older) and can be repaired by a relatively straightforward and commonly performed operation. Patients typically go home the same day of their surgery and the risk of complications from this surgery is very low.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

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| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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Q30 Imagine that you had recently been diagnosed with papillary thyroid cancer. Your thyroid is a gland at the base of your neck which produces hormones that help regulate your body’s metabolism, heart rate, blood pressure, and weight. While some thyroid cancers can be aggressive, yours is the type that grows very slowly and has an excellent prognosis. It is rare and very few people will die from this cancer. It is treated with an operation known as a thyroidectomy, where all or a portion of your thyroid is removed. Patients typically go home within a day of surgery and complications are rare.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

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| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

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| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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Q31 Consider if you were diagnosed with pancreatic cancer, a rare (occurring in 1-10 per 100,000 people) but deadly cancer. Only 5% of people are alive 5 years after diagnosis. It can be treated surgically with a major, highly complex operation known as a Whipple procedure during which parts of the pancreas, stomach, and gallbladder are removed. Patients typically spend 7-10 days in the hospital following this surgery and postoperative complication rate is about 40%.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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Q32 Let’s say that you have been diagnosed with knee osteoarthritis, a chronic condition where the cartilage in your knee has been worn down. This has worsened overtime and it now causes you significant pain most of the time, limiting your ability to be physically active. You are told that your best treatment option is to have a knee replacement surgery. This procedure is a common but moderately complex surgery, which replaces the arthritic knee joint with an artificial one. It can be quite painful after surgery and often requires significant physical therapy and/or pain medication post-operatively. Patients typically spend 1-2 days in the hospital following this surgery and the postoperative complication rate is about 2%.

|  |  |  |
| --- | --- | --- |
|  | How would you prefer to have the initial visit with the potential surgeon **under normal circumstances?** | How would you prefer to have the initial visit with the potential surgeon **during social distancing**? |
|  |  |  |
| **You yourself** need the surgery (1) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |
| **Your loved one** needs the surgery (2) | ▼ In person (1 ... No preference, all work (5) | ▼ In person (1 ... Wait until social distancing ends (6) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| In person (1) | Video chat (2) | Phone call (3) | Either phone or video (4) | No preference, all work (5) | Wait until social distancing ends (6) |

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| --- | --- |
| Page Break |  |

End of Block: Scenarios

Start of Block: Demographics, part 2

Q33 Finally, we'd like to ask just a little bit more about you

Q34 How limited are you in your interactions and activities during social distancing? Choose an option that best fits your day-to-day life for the past 1-2 weeks.

* I haven't left the house (1)
* I only leave the house for essential activities (e.g. groceries, prescriptions, mandatory work) (2)
* I still hang out with close friends/family not in my household (5)
* I haven't really made any changes to my daily life (6)

Q35 Do you have any professional medical training?

* Physician (MD or DO) (1)
* Associate Provider (APRN or PA) (2)
* Nurse (RN, LPN, or equivalent) (3)
* Nurse Aide or Medical Assistant (LNA, CNA, MA or equivalent) (4)
* Paramedic, EMT, or equivalent (5)
* Other, please specify (6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* None (7)

Q36 How would you describe your race and ethnicity? You may choose more than one

* Hispanic or Latino (1)
* White (2)
* Black or African American (3)
* Asian (includes East Asian, Southeast Asian, and South Asian) (4)
* American Indian or Alaska Native (5)
* Native Hawaiian or Pacific Islander (6)
* Other, please specify (7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q37 What is the highest level of education you have completed?

* Less than high school diploma/GED (1)
* High school diploma/GED (2)
* Some college, no degree (3)
* College degree (4)
* Advanced degree (5)

Q38 Which of the following best approximates the size of the city or town where you live?

* Urban (>50,000 people) (1)
* Suburban (10,000-50,000 people) (2)
* Rural ( (3)

Q39 What type of health insurance do you have?

* None (1)
* Employer-based or private health insurance (2)
* Medicare (4)
* Medicaid (5)
* Other, please specify (6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q40 Which of the following best describes your level of employment?

* Employed full-time (1)
* Employed part-time (2)
* Unemployed (3)
* Retired (4)
* Student (5)
* Unable to work (6)
* Other, please specify (7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q41 What is your annual total household income before taxes?

* Less than $25,000 (1)
* $25,000-$100,000 (2)
* Over $100,000 (3)
* N/A or prefer not to say (4)

Q42 If you have any additional thoughts about surgery, initial visits with a surgeon, telehealth, or anything related, we'd welcome you to share them here.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q43 You've reached the end of the survey! Thanks for taking it. Once you click the arrow at the bottom of this page, your responses will be submitted and you will receive your MTurk validation code.

End of Block: Demographics, part 2