QUALITY IMPROVEMENT

Improving adult coping with social isolation during COVID-19 in the community through nurse-led patient-centered telehealth teaching and listening interventions

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Abstract

Background: The coronavirus disease 2019 (COVID-19) pandemic led to social isolation which both threatens mental health and has been shown to increase the risk for early death by 50%, and to contribute to increased rates of heart disease, hypertension, stroke, and inflammation.

Local problem: No identified special programs to address loneliness related to social isolation were in place. This project aimed to improve adult coping with COVID-19 in the community to 80% over 8 weeks.

Methods: Three interventions were implemented concurrently and studied through Plan–Do–Study–Act cycles. Each cycle started with a test of change, followed by data collection and analysis using run charts, aggregate data tables, and field notes. This analysis guided the design of new tests of change for each intervention in the following cycle. Iterative changes were introduced through four cycles over 8th weeks.

Interventions: These included a data-gathering survey, a telehealth teach-back tool and a telehealth listening tool. All interventions were implemented remotely through telehealth contacts.

Results: The project engaged 44 participants and successfully addressed loneliness by creating a social connection with 100% of participants and 82% of participants learned something new.

Conclusion: Telehealth interventions hardwired to be patient-centered can provide isolated populations with meaningful social contact.

KEYWORDS
patient-centered care, social isolation, telehealth

1 | INTRODUCTION

In March 2020, stay-at-home orders were issued across the United States in response to the spreading coronavirus disease 2019 (COVID-19) pandemic. Social isolation and loneliness have been linked with poor physical and mental health1 and their risk to health is equivalent to that of cigarette smoking, obesity, and excessive alcohol consumption.2 In April 2020, 47% of people self-isolating due to COVID-19 reported their mental health was negatively impacted.3 The need for increased provision of mental health care was acknowledged in the $425 million included in the Coronavirus Aid, Relief, and Economic Security Act for the Substance Abuse and Mental Health Services Administration.3 Rates of hospitalization due to COVID-19 in Greensboro, NC increased both times that state...
stay-at-home orders were relaxed (J. Yates, personal communication, August 18, 2020). No special programs to address loneliness related to social isolation were in place.

1.1 | Available knowledge

The Centers for Disease Control and Prevention have made recommendations for coping with stress during a pandemic, including connecting with others and staying informed. These recommendations guided the choice of interventions planned for this project. Productive engagement is a successful intervention to mitigate loneliness and social isolation. Bodie et al. found that active telehealth listening is an effective communication technique for alleviating distress. Polansky identifies listening as the essential tool that nurses use to build trust with patients, which can improve outcomes. Care can be delivered effectively through telehealth and implementation barriers can be overcome through planning and use of existing resources. A nurse, with characteristic expertise in listening and patient education, adopted these established tools to the telehealth environment that was required by social isolation during the COVID-19 pandemic.

This quality improvement project was designed using the framework of the Institute of Medicine’s patient-centered quality domain. Patient-centered care is defined as care that is respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions. The public health framework of the Health Impact Pyramid supports the use of the counseling and education interventions that were planned to be implemented in the community while targeting individual health. Teach-back is a strategy recommended by the Agency for Healthcare Research and Quality to enhance patient-education. Telehealth listening was initially understood as a mode of counseling. Education and counseling were theorized to improve coping. Notably, these interventions resembled the function of befriending programs that match volunteers with socially isolated community members to create social contact and which have been shown to lead to health improvements. The project aimed to improve adult coping with COVID-19 in the community to 80% over 8 weeks.

2 | METHODS

The following virtual pilot initiative involved a convenience sample of 44 adults in 14 states across the United States. Participants outside the United States and younger than 18 years old were excluded. The sample was primarily Non-Hispanic White (93%), female (82%), and between the ages of 30–82. This small, homogeneous sample was tolerated for the purpose of a quality improvement demonstration that did not include research. All participants were contacted virtually by the quality initiative leader while in their home or other private location one time only.

The newness of the COVID-19 pandemic and a concern for the wellbeing of community members were the impetus for this 8-week rapid cycle quality improvement project. It consisted of three core interventions. These were implemented concurrently through four Plan–Do–Study–Act (PDSA) cycles. Each cycle started with a test of change (TOC) for each intervention followed by 2 weeks of data collection. Then, data analysis and review of the literature led to the design of a new tests of change for the next 2-week cycle. Four PDSA cycles were completed.

2.1 | Interventions

The core interventions began with a survey administered using Google Forms. The survey questions were continually modified throughout the 8 weeks of implementation according to the iterative quality improvement process. A complete list of survey questions is displayed in Table 3. Of note, every iteration of the dynamic survey included the question “What worries you the most about COVID-19?” This question is the cornerstone of patient-centered care and responses to this question steered the subsequent interventions.

The survey was followed by a telehealth encounter via either phone or video call for the implementation of both of the other interventions. First, education was provided and then reinforced using a telehealth teach-back tool. All teaching was followed by use of a telehealth teach-back tool. The tool used was a single question asked by the project implementer during the call: “I want to be sure that I explained that clearly, please teach it back to me.” A variety of teaching topics were explored over the 8 weeks, these were planned to address learning needs identified through the survey. Initially teaching was provided around the prevention of COVID-19. By the end of the first 2-week cycle, a good understanding of prevention measures had been established in the community, so a survey question was added to ask “What question do you have/what would you like to learn more about relating to COVID-19?” Teaching on the topic identified by each participant was then addressed during that participant’s telehealth contact, following the principals of patient-centered care. However, by the completion of the second cycle, it was apparent that project participants were struggling to identify teaching needs. It was also noted that many participants reported on the survey that what worried them the most was the death or critical illness of themselves or someone they loved. Consequently, the teaching topic for Cycle 3 addressed end of life care decision making using guidance from The Conversation Project, an initiative of the Institute for Healthcare Improvement. This iterative change was made to maintain patient-centeredness. Questions were added to the survey to prepare the participants for this discussion. These survey questions revealed that, in contrast to the general population, 80% of project participants already had health care proxy documents in place. By this time, survey data revealed that almost all participants were struggling with loneliness during social isolation. Iterative techniques ultimately led to standardized teaching of strategies to...
mitigate loneliness as discussed in a current publication in the popular press.14

Telehealth listening was the second intervention implemented during the call. Implementation was standardized by using the single question tool: “On your survey you reported that [insert survey response] is the thing that worries you the most about Covid-19; please say more about that.” The project implementer used active listening techniques as the participant spoke. The link between the survey and the telehealth listening intervention compelled the project to remain patient-centered. At the completion of each PDSA cycle success on each of the three interventions, as well as information gathered, were used to inform the new TOC (Table 1).

2.2 | Study of interventions

Objective information on the processes and outcomes of the interventions was collected using surveys and tallies taken during participant contacts and then displayed in run charts and aggregate data workbooks. Reflections on encounters with participants recorded in the field notes were also studied by the implementer every 3 to 4 days. Additionally, awareness of current events and topics in the news were key to planning small tests of change. Ogrinc et al.16 describe iterative change as a strategy to overcome natural resistance to change and ensure buy-in. It is a powerful method to achieve lasting change in complex systems.

2.3 | Measures

A portfolio of six measures was assembled to monitor the impact of the three core interventions in identifying and meeting community members needs during social isolation. Measures planned for studying the interventions are displayed in Table 2. The pre-survey was studied to measure the reliability of administration and success in obtaining the desired information. The telehealth provision of both active listening and of new information, and a check for clarity in the participant’s understanding were tracked. Finally, the participants’ level of concern following telehealth listening was measured. Reliability of the process data was achieved using Google technology and the rigor of the project implementer. Contextual changes were documented in the field notes and in the aggregate data tables. The data was assessed for completeness and accuracy by crosschecking the workbooks with the results data collected by Google Forms for the pre- and post-surveys. Tallies taken during contacts with participants depended on the diligence of the project implementer.

2.4 | Analysis

Quantitative data were displayed on run charts and analyzed by identifying runs, shifts, and trends that would indicate special cause variation, meaning that variation in the data could be attributed to the
intervention. Qualitative data on the aggregate data tables and in the field notes were analyzed by looking for themes and patterns (Tables 3 and 4). Reactions to the pandemic were sudden and new at the beginning of implementation. Participants adjusted over time, making time an important variable. This project was approved by a university’s Institutional Review Board. No outside funding was received for this project.

3 | RESULTS

Forty-four adults from 14 states participated in the standardized screening, telehealth teaching and telehealth listening interventions which successfully identified the community need to address social isolation and addressed that need. Patient-centeredness was sustained through the project through continual modifications to the survey and by using survey responses to guide the telehealth teaching and telehealth listening interventions. The project met the aim of identifying a community need during COVID-19, which was found to be a need for social connection—and addressing that need through telehealth teaching and telehealth listening. The interventions resulted in participants reporting both that they felt a connection with the project implementer and that “it was nice to talk with someone for a while today” in 100% of the cases.

3.1 | Survey intervention

Over the 8-week implementation period, 100% (44) of participants were surveyed using the project survey tool that was continually modified using the quality improvement methodology. The open-ended question asking “What worries you the most about COVID-19?” appeared on every iteration of the survey. This is a variation on the question “What matters to you?” that is promoted by the Institute for Healthcare Improvement as a tool to increase healthcare care quality and safety and to minimize barriers to care.15 It was also used by the Institute of Medicine in developing the quality domain of patient-centered care.17 Responses to this question ranged from concerns about illness and death, vaccines, the behavior of others and economic issues. In Cycle 1 (N = 14), the survey was introduced, and success in its administration process was established. It was discovered that the survey could also be used to direct the teaching provided. In Cycle 2 (N = 10), a survey question was added to identify a topic of interest for teaching. This did not change the outcome being measured. Just 5 (50%) of participants identified a topic for teaching, so this question was removed from the survey at the end of Cycle 2. In Cycles 3 and 4, the proportion of respondents who identified a concern remained unchanged despite the survey being revamped in Cycle 3 (N = 11) to eliminate the questions assessing risk for COVID-19 infection that were not addressed in the project interventions and to include questions about end-of-life decision-making. Participants were more eager and conscientious in completing the surveys than expected. Table 3 displays questions included on the survey.

3.2 | Telehealth teach-back tool

All of the participants (N = 44) were taught new information based on the needs indicated on the intake survey and the telehealth teach-back tool was used in 33 (75%) of the cases. In Cycle 1 (N = 14), the telehealth teach-back method was introduced on the topic of COVID-19 prevention, and 6 (43%) of participants were found to need a clarification. It was discovered that teaching via fact sheets was ineffective because participants referred back to the fact sheets during the telehealth teach-back method, undermining the tool. In Cycle 2, teaching was instead delivered verbally during the call (N = 10) and was provided on a topic that the participant identified on their survey. The topic of the teaching evolved from COVID-19 prevention because a good community understanding of prevention methods had been achieved by that time. Instead, a survey question was added to ask “What question do you have/what would you like to learn more about

### Table 2 Tools and measures

| TOC/Core intervention | Measure | Operational definition (Numerator/denominator or mean score) | Project mean N = 44 |
|------------------------|---------|-------------------------------------------------------------|-------------------|
| AIM: Improve adult comprehension and coping with COVID-19% to 80% over 60 days. | | Mean score on COVID knowledge and concern survey (1–5) | 3.3 |
| Risks and needs survey | Process: | # surveys used/# encounters | 100 |
| | Outcome: | Mean % patients identified with at least one concern | 100 |
| Teach back | Process: | # participants reporting they looked at the fact sheets or who had oral teaching/# participants who returned surveys | 100 |
| | Outcome: | Proportion of participants who needed clarifications on info presented | 30 |
| Listening | Process: | # participants engaged in active listening (social interaction)/# participants who identified a concern | 100 |
| | Outcome: | Mean % participants reporting decrease in level of concern | 27 |

Abbreviations: COVID-19, coronavirus disease 2019; TOC, test of change.
TABLE 3 Responses to survey questions

| Question                                                                 | Included in cycles 1–4 (N = 44) | Included in cycles 1–2 (N = 24) | Included in cycles 3–4 (N = 20) |
|-------------------------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Have you been connecting with social groups?                            | 35 (80)                          | 23 (96)                          | 12 (85)                          |
| Are you considered higher risk due to a vulnerable condition?           | 26 (60)                          | 0 (0)                            | 11 (55)                          |
| (weakened immune system due to certain conditions or medications), has lung disease (asthma or COPD), or has chronic health conditions (diabetes, heart disease, and hypertension). |                                  |                                  |                                  |
| Have you been connecting with social groups?                            | 9 (20)                           | 1 (4)                            | 3 (15)                           |
| Have you traveled internationally (outside of the United States) within the past 14 days? | 26 (60)                          | 0 (0)                            | 11 (55)                          |
| Have you traveled to one of the endemic areas in the United States in the past 14 days? (Endemic areas are those in which there is a higher incidence of COVID-19). | 18 (40)                          | 24 (100)                         | 9 (45)                           |
| Have you had close contact with a laboratory-confirmed or probable case of COVID-19 within the past 14 days? | 18 (40)                          | 24 (100)                         | 9 (45)                           |
| Have you had close contact with a person with acute respiratory illness who has been outside the United States in the past 14 days? | 18 (40)                          | 24 (100)                         | 9 (45)                           |
| Does your family still have income?                                     | 35 (80)                          | 23 (96)                          | 12 (85)                          |
| Have you been able to get the kinds of food that you like to eat?        | 9 (20)                           | 1 (4)                            | 3 (15)                           |
| Have you found ways to get as much exercise as you did before?          | 26 (60)                          | 0 (0)                            | 11 (55)                          |
| Have you been using delivery services to get groceries, prescriptions, etc.? | 18 (40)                          | 24 (100)                         | 9 (45)                           |
| Have you felt bad about not being able to get your hair or nails done, update your wardrobe, etc.? | 18 (40)                          | 24 (100)                         | 9 (45)                           |
| Have you been doing things online like paying bills, getting e-books from the library, having telehealth visits with your doctor, etc.? | 26 (60)                          | 24 (100)                         | 9 (45)                           |
| Do you know about how to access community resources such as a food bank, transportation assistance, shelter, utility assistance, unemployment, etc.? | 23 (96)                          | 23 (96)                          | 12 (85)                          |

Note: N = 44, all cycles; N = 24, cycles 1–2; N = 20, cycles 3–4.
Abbreviations: COVID-19, coronavirus disease 2019; COPD, chronic obstructive pulmonary disease.

relating to COVID-19?” and teaching was provided to address that topic. The result was that 2 (20%) needed clarification. For Cycle 3 (N = 11), the teaching topic evolved further as many participants struggled to identify a learning need and the implementer predicted that end-of-life decision making would be of interest to all participants due to rising death rates from COVID-19. In this cycle the survey revealed that only 2 (18%) of participants had not already talked to their designated health care proxy about their wishes for end of life care. This led to telehealth teach-back being used inconsistently and just 1 (9%) participant needed clarification. So, in Cycle 4 the teaching topic was changed to strategies to address loneliness because 10 (90%) participants in Cycle 3 reported that they wished they had more social contact. In Cycle 4 (N = 9), telehealth teach-back was used more consistently, and 3 (33%) of participants needed clarification. The smallest number of participants who required clarifications occurred during Cycle 3 because the implementer decided against using telehealth teach-back in this cycle. Patient-centeredness was prioritized in the context of teaching that was not meaningful to the participants. This prioritization is understood as a bias of the project implementer.

3.3 | Telehealth listening tool

The telehealth listening tool was used in all 44 cases, but this intervention did not consistently lead to a decrease in participants’ level of concern. What was found instead is that 100% of participants asked reported that they felt a connection with the project implementer and 100% reported that “it was nice to talk with someone for a while today.” Patient- centeredness was assured in every contact as the tool asked the participant to discuss the concern that they had previously identified on the survey. In Cycle 1, the telehealth listening tool was introduced (N = 14), and 5 (36%) reported a decrease in their level of concern. It was discovered that the efficacy of the telehealth listening tool used via phone calls was limited, so in Cycle 2 (N = 10), video calls were used instead of phone calls, which resulted in 3 (33%) of participants reporting a decrease in their level of concern. At this point, it was discovered that social interaction was more meaningful for participants than counseling. So, in Cycle 3 (N = 11) a question was added to the follow-up survey to measure how much the participant valued the social contact made through project participation. In this Cycle, 2 (18%)
The project was systematically patient-centered as the survey was used to collect information about each participant’s needs and values which was then incorporated into the subsequent telehealth interventions. Use of the telehealth teach-back tool resulted in 36 (82%) of participants learning something new through the project. The telehealth listening tool led to 100% of participants feeling a connection with the project implementer and 100% reporting that “it was nice to talk with someone.” Social contact made a difference.

4 | DISCUSSION

The project was successfully provided meaningful social contact for community members impacted by COVID-19 through the use of telehealth teaching and listening tools implemented by an advanced practice nurse. Patient-centeredness was foundational to the project design and contributed to the success of the interventions. This telehealth project mirrors befriending projects. Further study should work to illuminate all the benefits of befriending programs and best practices for their implementation, especially in a telehealth environment.

4.1 | Interpretation

The quality improvement initiative pilot project demonstrated that social contact via patient-centered telehealth tools was an effective structure for mitigating loneliness and isolation in a convenience sample of adults living in the United States. Patient-centeredness is an approach found to decrease anxiety. Respect for patients’ preferences, education, and emotional support are core concepts of patient-centered care. The project was designed to be patient-centered by using patient-reported needs and concerns to direct the use of the telehealth listening and telehealth teach-back tools.

Telehealth teach-back was in fact a strong tool for reinforcing teaching, but its use was found to be influenced by the implementer’s biases. This finding aligns with Talevski et al.’s call for support for clinicians in implementing the teach-back method. Listening has been found to be impactful in promoting emotional improvement, but is often employed without the control of standardized tools. The success of the telehealth listening tool was best demonstrated once it was framed as a form of social contact. Given the impact of social isolation and loneliness on health, there may be value in considering telehealth listening interventions as a public health initiative. This would align with the current transition of befriending programs to digital communications.

4.2 | Limitations

Almost all participants in this study had a personal relationship with the implementer and so do not represent the general population. A convenience sample was used to meet the time constraints of the project, and no effort was made to control for this bias. Further, the survey tools used were not validated, and there were no controls on the implementation of the telehealth teach-back tool or telehealth listening tool, though conscientiousness was encouraged.

5 | CONCLUSION

This project successfully provided meaningful social contact for community members impacted by COVID-19 through the use of telehealth teaching and listening tools implemented by an advanced practice nurse. Patient-centeredness was foundational to the project design and contributed to the success of the interventions. This telehealth project mirrors befriending projects. Further study should work to illuminate all the benefits of befriending programs and best practices for their implementation, especially in a telehealth environment.

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