

Review of: "Telehealth versus face-to-face visits: A comprehensive outpatient perspective-based cohort study of patients with kidney disease"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Introduction:

The COVID-19 pandemic greatly impacted how healthcare was delivered to patients throughout the United States. To minimize the risk of infection, patients and physicians, where possible, changed the modality of care from conventional face-to-face visits to telehealth visits, either telephone alone or video. This dramatic change in modality was supported by government interventions to pay for these types of "remote" services, which, in the past, were not reimbursed. The investigators sought to evaluate patient perceptions about the quality of kidney care delivered using telehealth compared to standard face-to-face visits during the first wave of the pandemic. Through surveys, they evaluated 4 spheres of perception: (a) access to renal care, (b) relationship with the provider, (c) opinions about the telehealth technology and (d) overall perception of care provided.

Methods:

Patients who presented at outpatient nephrology visits from March 1, 2020 to July 31, 2020 were included in the analysis, while outpatient transplant and end-stage kidney disease visits were excluded. The Mayo Clinic contracts with a third-party vendor to generate and randomly distribute patient satisfaction surveys. These surveys had been tested for validity, reliability, and readability for the 4 domains of patient satisfaction. The patients answered according to a 5-point Likert Scale with 1 being very poor and 5 being very good.

Results:

1. 4611 nephrology encounters occurred with 3455 unique patients. Of the unique patients 443 patients responded to the survey.
2. Of the 4611 visits included in the study, 75.6% were face-to-face visits and 24.4 % were telenephrology. The majority of the telenephrology encounters were telephone-based at 71.8% while only 28.2% were video-based.
3. 443 unique patients responded to the patient satisfaction survey with 79% completing surveys on face-to-face appointment and 21% responding to telenephrology visits.
4. Established patients were seen in 79.6% of telenephrology appointments while only 60.9% of established patients were evaluated in face-to-face appointments ($p<0.001$).
5. Of unique patients, white subjects were more likely to have face-to-face appointments than telenephrology, while non-

whites were equally likely to be seen in face-to-face vs. telenephrology.

6. Patients' perception of their access to care, relationship to the nephrologist and overall assessment did not differ between face-to-face and telenephrology care.
7. The telemedicine technology was well received.
8. Geographic distribution of the different types of visits showed that 81% of the telenephrology appointments occurred in subjects who were located outside of Rochester, MN and 13% lived more than 500 miles outside Rochester, MN.
9. Satisfaction with telenephrology technology, including ease of talking with provider over telephone or video and quality of connection, declined after the first month and then improved after 3 months when the process was changed from a centralized telehealth process to a localized, division specific process.
10. Chronic kidney disease (stage 1-5) made up 36.5% of the patients seen via telehealth.

Limitations:

1. The total number of surveys sent to subjects during the study period was not disclosed so the response rate for the survey was unknown.
2. This is a largely white homogenous population with few non-whites responding to the survey. Therefore, cultural barriers to telenephrology may exist in a minority population and not be addressed in this paper.
3. The ideal patient group to study telenephrology perceptions would be those subjects who performed both face-to-face renal and telenephrology visits since they would have experienced both types of encounters and thereby be able to compare equally. This was not noted in the study. It was also not mentioned whether the telenephrology modality existed prior to the pandemic and to what capacity prior to March 2020.
4. Due to the urgency to isolate during the pandemic, positive perceptions of telenephrology may be motivated by fear of direct contact with healthcare providers versus true preference for a video or telephone encounter.
5. Because established patients comprised a larger portion of the telenephrology visits, satisfaction with these visits may be tied to familiarity with the provider rather than mode of health care delivery.

Summary:

This is the largest patient survey study performed in the United States that evaluated the patient perception of telenephrology (phone and video) vs face-to-face visits. It was performed during the March 2020 pandemic when there was an urgency to reduce face-to-face visits. The investigators show that telenephrology was well received by patients with little negative feedback.