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BUSINESS PROJECT

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## EXPANDING TELEMEDICINE TO OFFSET COST OF MISSED APPOINTMENTS

Sandra Paredes

## MEDICARE SURVEY DATA

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# INTRODUCTION

### Motivation

- ▶ Midtown New York primary care practice has mostly older patients living with chronic diseases who have limited mobility on public transportation.
- ▶ Missed appointments cost the practice **\$200 on average** per unused hour [1].

### Business Opportunity

- ▶ Medicare expanded telehealth coverage [2] during COVID and accelerated its adoption [3].
- ▶ Telehealth would address patients' transportation issues.
- ▶ **How might we offset costs with telemedicine?**

### Goal

- ▶ Assess patients' interest in telehealth to explore if investing in telehealth services would offset cost of missed appointments.



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# INTRODUCTION

### Solution Path

- ▶ Exploratory data analysis to see how many Medicare patients over the age of 75 in urban areas used telehealth services during 2021 to inform a decision about investing in the technology.
- ▶ Classification model to identify what is the likelihood patients are interested in telehealth.
- ▶ Clustering for customer segmentation.

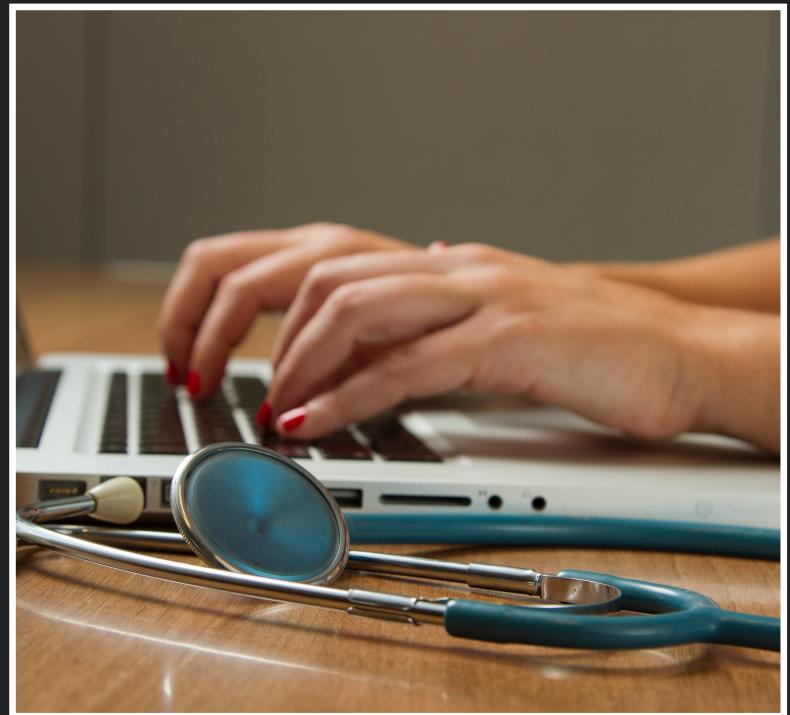


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# INTRODUCTION

## Impact Hypothesis

- ▶ Offering telehealth services would **reduce costs** the medical practice incurs due to missed appointments.

## Success Metrics

- ▶ 15 % cost reduction from missed appointments
- ▶ 10% increase in appointment retainment
- ▶ 15% increase in patient overall health due to continuity of care

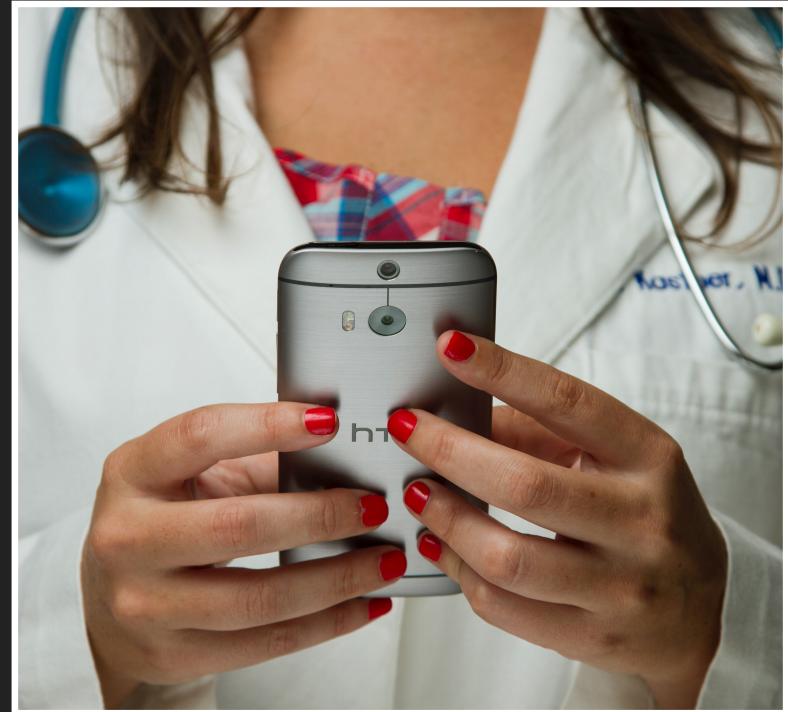


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# INTRODUCTION

### Risks

- ▶ Telehealth services have **hidden costs** that do not offset the income lost to no-shows.
- ▶ The Medicare data does **not represent** the patient population of the client practice and is not generalizable.

### Assumptions

- ▶ Patients with one or more **chronic conditions** are less likely to get around alone on public transportation.
- ▶ Physicians can **assess patients** via telemedicine as well as in-person visits.

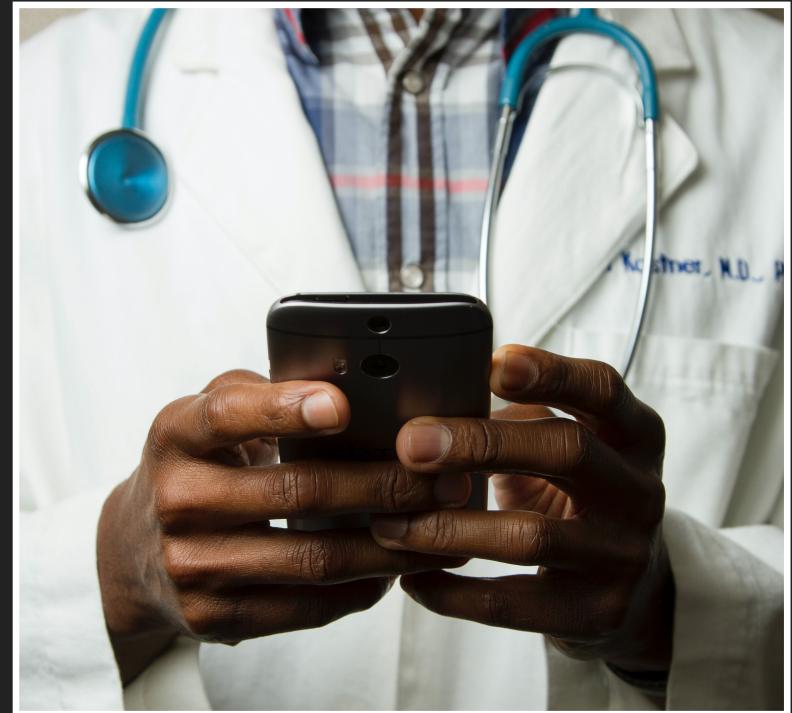


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# METHODOLOGY

### Data

- ▶ Medicare Current Beneficiary Survey, Winter 2021 [3]
- ▶ Subset: Northeast and West (n=4,305)

### Responses

- ▶ Telehealth use
- ▶ Technology at home
- ▶Forgone medical care and reasons why



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# PRELIMINARY RESULTS

Figure 1.

- ▶ Something high
- ▶



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### PRELIMINARY RESULTS

Figure 2.

- ▶ Something low
- ▶



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# CONCLUSIONS

### Insights

- ▶ ...
- ▶ ...

### Recommendations

- ▶ ...
- ▶ ...



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## FUTURE WORK

- ▶ ...
- ▶ ...
- ▶ ...



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## APPENDIX

- ▶ Summary, data, and slides are available at [github.com/slp22/business-project](https://github.com/slp22/business-project)
- ▶ Tableau Public Dashboard is available at ...



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## SOURCES

1. Missed appointment costs: <https://www.hcinnovationgroup.com/clinical-it/article/13008175/missed-appointments-cost-the-us-healthcare-system-150b-each-year>
2. Medicare telehealth expansion: <https://www.medicare.gov/coverage/telehealth>
3. Telehealth adoption: [https://c8y.doxcdn.com/image/upload/v1/Press Blog/Research Reports/2020-state-telemedicine-report.pdf](https://c8y.doxcdn.com/image/upload/v1/Press%20Blog/Research%20Reports/2020-state-telemedicine-report.pdf)
4. Data set: <https://mcbs.norc.org/us/en/mcbs.html>