Changes in Patient Demographics During a Transition to Telehealth

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Background
- The Cardinal Free Clinics (CFCs) are two student-run free clinics affiliated with the Stanford School of Medicine that serve a diverse patient population in the California Bay Area.
- In-person visits were suspended in March 2020 due to the global COVID-19 pandemic, and the CFCs reopened in July 2020 after transitioning to telehealth.
- Certain patient populations might be excluded from the transition to telehealth due to lack of access to technology, low literacy or language barriers, and other socioeconomic factors.
- We performed a retrospective analysis to identify changes in patient demographics before and after the shift to telehealth.

Methods
- Demographic data, diagnosis codes, and prescribed medications for telehealth patients seen at the CFCs July 2020-January 2021 (post-COVID, N=152) were compared with in-person patients seen at the CFCs July 2019-January 2020 (pre-COVID, N=516) as well as telehealth patients seen at Stanford Health Care (SHC) July 2020-July 2021. Pearson’s chi square test with Yates’ continuity correction was used for all statistical comparisons.

Compared to our pre-COVID cohort of patients, we observed the following changes, none of which were significant at the 5% level:
- **Sex** - 57% (pre-COVID) to 57% female patients (p=0.91)
- **Language** - 42% (pre-COVID) to 50% primarily English-speaking patients (p=0.15)
- **Age** - 27% (pre-COVID) to 19% of patients over 65 (p=0.08)

Figure 1. Patient demographics before vs. after telehealth

Figure 2. Top diagnosis codes and prescriptions comparing CFCs in-person vs. telehealth and CFCs telehealth vs. SHC telehealth

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<tbody>
<tr>
<td>#1 Diabetes mellitus</td>
<td>61 (5.4)</td>
<td>34 (10.0)</td>
<td>117 (9.7)</td>
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<tr>
<td>#2 Hypertension</td>
<td>116 (9.4)</td>
<td>34 (10.0)</td>
<td>87 (6.9)</td>
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<tr>
<td>#3 Preventive health care</td>
<td>51 (4.0)</td>
<td>44 (12.4)</td>
<td>72 (5.7)</td>
</tr>
<tr>
<td>Type 2 Diabetes</td>
<td>50 (3.9)</td>
<td>30 (8.9)</td>
<td>72 (5.6)</td>
</tr>
<tr>
<td>#5 Tdap vaccine</td>
<td>9 (0.7)</td>
<td>36 (10.3)</td>
<td>10 (0.8)</td>
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Hypertension was the most common diagnosis in the telehealth period (n=34), followed by **type 2 diabetes mellitus** (n=19). Previously, **hypertension** (n=61) and **influenza vaccine** (n=58) were most common in-person. Atorvastatin, amldipine, metformin, and omeprazole remain top medications. **Anxiety** was a top diagnosis in both the CFC and SHC populations post-COVID.

Figure 3. Demographic trends by month comparing CFCs in-person vs. telehealth and CFCs telehealth vs. SHC telehealth

While CFC pre-COVID in-person and SHC post-COVID telehealth trends were roughly constant, the CFCs’ proportions of patients **under age 65** and primarily **English-speaking** patients seen via telehealth have **increased** over time during the pandemic.

Conclusions
- Our post-COVID telehealth patient population is largely comparable to our pre-COVID in-person population.
- There is a downward trend in the age of patients over time during the pandemic, as well as an increase in English-speaking patients, which may coincide with a shift from existing patient follow-ups to new patient visits. Stanford Health Care (SHC) did not experience similar changes in age or primary language.
- **Hypertension** was the most common diagnosis during both time periods, suggesting that telehealth is an effective platform for diagnosing and treating our patient population.
- **Gabapentin** emerged as a top five prescription and **anxiety** was a top five diagnosis during the pandemic period in both the CFC and SHC populations.
- A notable limitation of telehealth is inability to provide vaccines such as influenza and Tdap, which previously were commonly administered.
- Close monitoring will be required to assess whether demographic differences widen over time as the CFCs see new patients. The clinics may consider proactive outreach strategies to address emerging demographic trends.

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