

Comparison of Periodic In-Person ID Care to Daily Tele-ID Care at a Community Hospital

Background

- Access to ID specialists is absent in most U.S. counties.
- Remote access to ID specialists via telemedicine is a potential alternative to in-person ID care.
- As comparative data is lacking, we compared outcomes between periodic in-person and daily remote ID care.

Methods

- Physicians performed a retrospective electronic health record (EHR) analysis of 200 patients at a 164-bed community hospital, which historically had access to some in-person ID specialists every third day with limited telephonic follow-up.
- In May of 2020, access to a team of Tele-ID specialists was provided through live audio-visual and e-consults, with telephonic consults after-hours and on weekends.
- Outcomes for 100 consecutive patients cared for in-person from 01/2019 to 11/2019 were compared to the first 100 patients cared for via Tele-ID from 05/2020 to 08/2020.



Acknowledgements / References / Disclosures

Sowmya Nanjappa, Peter Volpe, Nupur Gupta, Sui Kwong Li & Christian Perez have no disclosures. Rima Abdel-Massih is Co-founder, CMO, and share option holder of Infectious Disease Connect. John Mellors is Co-founder, Advisory Board chair, and share option holder of Infectious Disease Connect.

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Conclusions

Based upon the findings of this study, remote Tele-ID care is a viable solution where access to ID expertise is limited.

- A Tele-ID service with daily availability increased appropriate utilization of ID care at a 150+-bed community hospital.
- Despite higher Charleston Comorbidity Index (CCI) scores in Tele-ID patients, length of stay (LOS) was shorter and discharge on intravenous (IV) antibiotics was less frequent when compared to In-person service and showed no difference in ID related readmissions or in-house mortality.

Results

- Of the 100 patients seen via Tele-ID, 73 were live initial consults and 27 initial e-consults. Most patients were Caucasian, male, and >60 years old (**Table 1**).
- These 100 consults occurred over four months compared with 11 months for the 100 in-person ID consults, revealing greater utilization of Tele-ID services. Additionally, Tele-ID patients had: (**Table 2**):
 - Significantly higher CCI scores (5.3 vs 4.5, $p=0.047$)
 - Shorter LOS (7.5 vs 9.08 days, $p=0.003$)
 - Less frequent discharges with IV antibiotics (34% vs 51%, $p=0.007$)
 - More frequent discharges on oral antibiotics (39% vs 23%, $p=0.014$)
 - No significant differences in the frequency of transfers to tertiary care (13% vs 14%, $p=0.84$) or in-hospital mortality (2% vs 2%)
- While only one readmission for a patient who received Tele-ID care was ID-related (a new *C.difficile* infection), the 30-day readmission rate was higher for Tele-ID (11% vs 1%, $p<0.01$).
- The diversity of ID diagnoses made under Tele-ID and in-person care was not different (**Figure 1**).

Figure 1. Diagnoses

Diversity of ID Diagnoses by Service

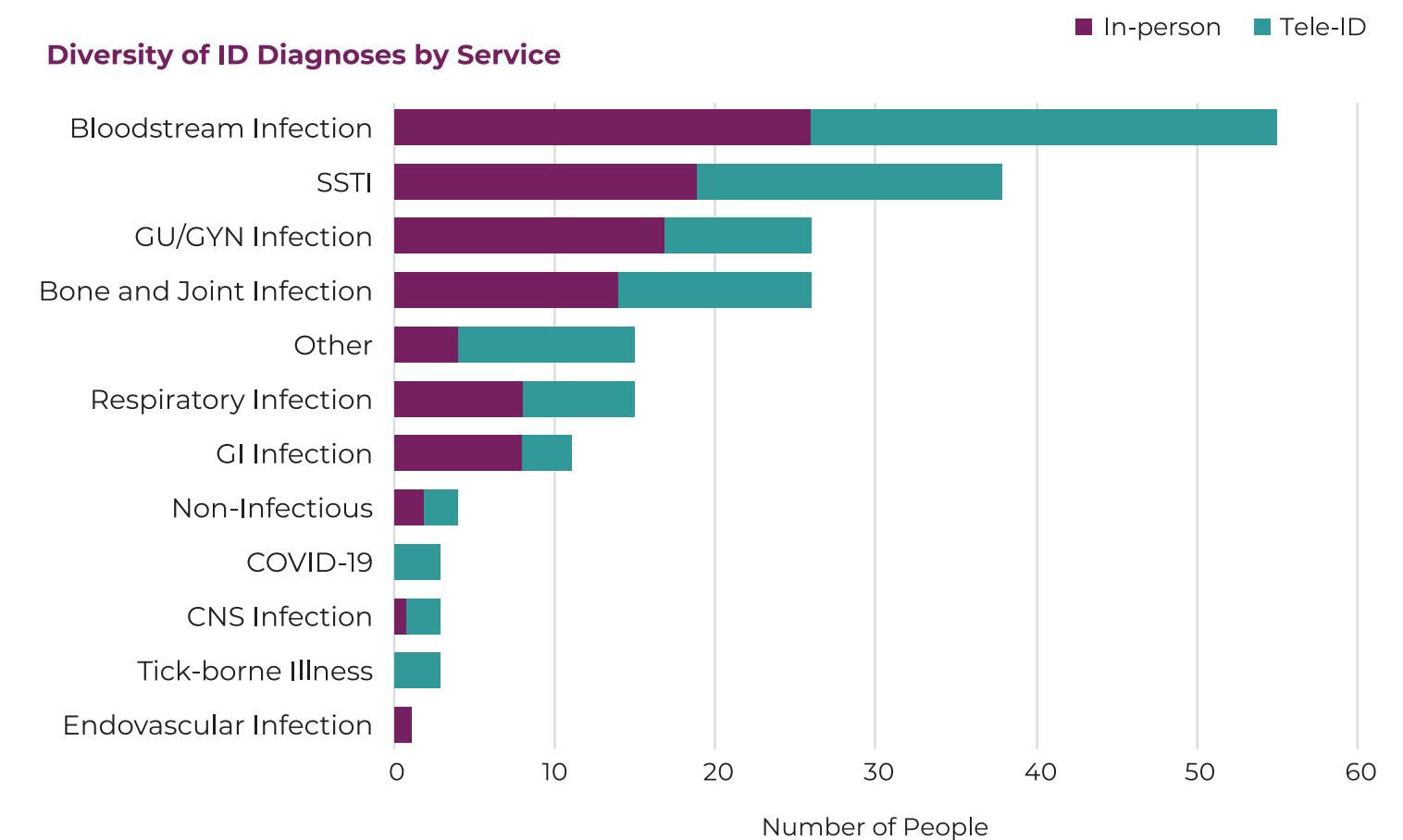


Table 1. Patient Demographics

| | In-person ID Service | Tele-ID service | p-value |
|-------------------------|----------------------|-----------------|---------|
| Total Encounters | 100 | 100 | |
| Mean age (years) | 63.59 | 67.84 | 0.0553 |
| Caucasian (%) | 100 | 98 | 1.552 |
| Female (%) | 41 | 44 | 0.668 |
| CCI score (mean) | 4.5 | 5.3 | 0.047 |

Table 2. Outcomes

| | In-person ID Service | Tele-ID Service | p-value |
|---|----------------------|-----------------|---------|
| Average LOS (days) | 9.08 | 7.5 | 0.003 |
| Discharge on IV antibiotics (%) | 51 | 34 | 0.007 |
| Discharge on PO antibiotics (%) | 23 | 39 | 0.014 |
| Transfer to tertiary care center (%) | 14 | 13 | 0.84 |
| In-house mortality (%) | 2 | 2 | - |
| 30-Day readmission (%) | 1 | 11 | 0.007 |