

## Pharmacist Participation in General Medical Ward Rounds via Telehealth in a COVID Pandemic

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### Background

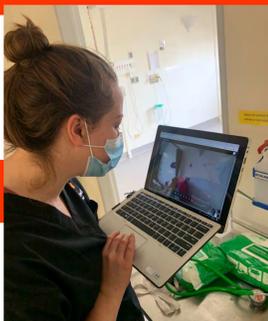
The coronavirus disease (COVID-19) global pandemic has created an emphasis on physical distancing for reducing transmission risk. This has led to the expansion of telehealth services in many countries, including Canada<sup>1</sup>, Australia, United States<sup>1,2</sup> and China.<sup>3</sup>

Various risk mitigation measures were implemented at Alfred Health, a major tertiary-referral metropolitan health service in Melbourne. Actions including reduction in ward round size (i.e. 2 clinicians per round) and reduction in staff movement around the hospital. As a result, pharmacist participation on ward rounds transitioned to being via telehealth for all COVID General Medical Teams from the 18<sup>th</sup> of August 2020.



### Objectives

To evaluate the impact of pharmacists' participation in daily medical ward rounds via telehealth, compared to physical attendance. The study was approved by the Alfred HREC (Project number 715/20).



### Methods

This retrospective cohort study was conducted in the General Medical (GenMed) Units of Alfred Health from 18<sup>th</sup> Aug 2020 to 26<sup>th</sup> Oct 2020.

**Participants:** (1) All patients admitted to COVID GenMed units and non-COVID GenMed units, and (2) Patients who had pharmacy activities linked to them in the electronic medical records (EMR) within the documented ward round times.

**Intervention:** Pharmacists attended ward rounds (Mon-Fri) via *telehealth* for COVID Medical Teams. Telehealth involved interacting with medical team and patients virtually whilst stationed on ward using real-time video conferencing on Teams. *Physical attendance* on ward rounds continued for non-COVID General Medical Teams.

**Primary outcomes:** number of pharmacist *clinical activities per patient per day* during telehealth ward round compared to face-to-face participation in ward rounds.

**Secondary outcomes:** number of medication orders placed, number of verified medication orders, number of notes documented, number of medication requests by nursing staff, and number of discharge prescriptions generated.

### Results

1827 patients were admitted to COVID and non-COVID General Medical teams during the study period. 1230 (67.3%) met the inclusion criteria (Table 1).

Table 1: Patient demographics and clinical characteristics

	Non-COVID (n=468)	COVID (n=762)	P-value
Age (y), median (IQR)	79.5 (65.0-86.0)	76.0 (61.0-86.0)	0.08
Male	226 (55.2%)	421 (48.3%)	0.02
Length of stay (days), median (IQR)	6.8 (3.7-12.0)	4.9 (2.5-9.7)	<0.0001
ATS (maximum waiting time for medical assessment)			
1 (immediate)	7 (1.5%)	8 (1.0%)	0.72
2 (10 min)	106 (22.6%)	192 (25.2%)	
3 (30 min)	240 (51.3%)	381 (50.0%)	
4 (60 min)	82 (17.5%)	136 (17.8%)	
5 (120 min)	3 (0.6%)	4 (0.5%)	
Missing	7 (0.9%)	3 (0.6%)	
Direct admission	27 (5.8%)	34 (4.5%)	
Number of regular medications at admission, median (IQR)	12.0 (8.0-19.0)	11.0 (7.0-17.0)	0.02

IQR: interquartile range; ATS: Australasian triage scale

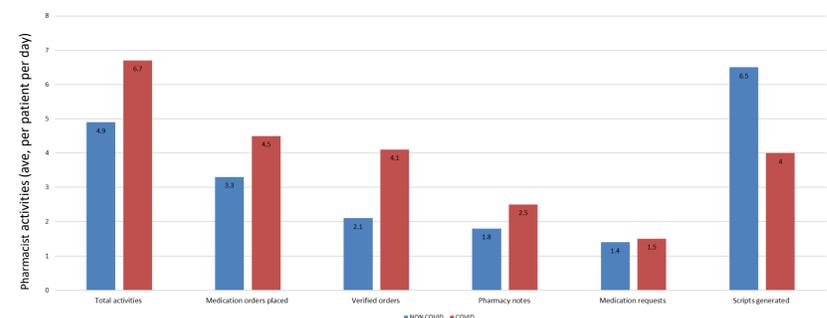
### Results

Table 2: Summary ward round data

	Non-COVID (n=468)	COVID (n=762)	p value
Total number of patient encounters on ward rounds	1255	1637	
Number of ward rounds	147	206	
Patient encounters per ward round (ave)	8.5	7.9	0.096
Total number of EMR-documented pharmacist activities	5390	9690	
Total number of patient encounters with an activity documented	1110 (88%)	1451 (89%)	0.91
Duration of ward rounds (ave)	203.4 mins	205.7 mins	0.74

There was no significant difference between the average number of patients seen per ward round, average duration of ward rounds and percentage of patient encounters with an activity (Table 2).

Figure 1: Documented clinical pharmacist activities



**Primary outcome:** Pharmacist participation of ward rounds via telehealth (COVID wards) demonstrated a significantly greater number of total documented activities per patient per day, compared with face-to-face ward rounds (6.7 vs 4.9,  $p < 0.001$ ), see Figure 1.

**Secondary outcome measures:** The intervention cohort had a significantly greater number of orders placed via pharmacy partnered medication charting (ave 4.5 vs 3.3 per patient per day,  $p < 0.001$ ), medication orders verified (4.1 vs 2.1,  $p < 0.001$ ), documented pharmacy notes (2.5 vs 1.8,  $p < 0.001$ ) and medication requests processed (1.5 vs 1.4,  $p = 0.009$ ). More discharge prescription items were generated for non-COVID patients (4.0 vs 6.5,  $p = 0.002$ ), see Figure 1.

### Discussion

Pharmacist participation on medical ward rounds via telehealth enabled the ongoing provision of pharmacy services to patients and medical teams during the COVID-19 pandemic, while minimising compromises to patient care and clinician safety.

Since the start of the COVID-19 pandemic, there have been hospitals in the United States that have deployed clinical pharmacy services via telehealth in the inpatient setting. However, there are no published studies to quantify the outcome of this new model of care. There is evidence that adoption of inpatient telehealth services may decrease PPE use.<sup>2,3</sup>

Initial challenges encountered when implementing the telehealth service included lack of familiarity with use of the conferencing system, WIFI connectivity issues and resistance from some clinicians. However, with technical support from the pharmacy Digital Health team, all clinicians involved became engaged, resulting in a feasible and resource-effective service.

### Conclusion

This project has demonstrated the successful delivery of clinical pharmacy services via telehealth, as a pivotal component of infection control during a pandemic. As the nature and role of telehealth expands, alternate team configurations and rounding workflows will continue to be explored.

### References

- Elbeddini A, Yeats A. Pharmacist intervention amid the coronavirus disease 2019 (COVID-19) pandemic: from direct patient care to telemedicine. *J Pharm Policy Pract* 2020; 13(1).
- Kjerengtroen S, et al. COVID-19 preparedness: Clinical pharmacy services remote staffing in a quaternary, level 1 trauma and comprehensive stroke center. *Am J Health-Syst Pharm* 2020; 77(15): 1250-1256.
- Vilendrer S, et al. Rapid Deployment of Inpatient Telemedicine In Response to COVID-19 Across Three Health Systems. *J Am Med Inform As* 2020; 27(7): 1102-1109.
- Liao Y, et al. Role of pharmacists during the COVID-19 pandemic in China - Shanghai Experiences. *J Am Coll Clin Pharm* 2020; 3: 997-1002