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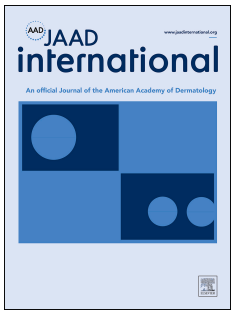

Use of a hybrid teledermatology model in an Australian tertiary hospital in the COVID-19 pandemic

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The COVID-19 pandemic has led to the adoption of teledermatology by health services across the world. There is increasing support for the utility of teledermatology in the outpatient setting, however the role in the inpatient and emergency setting is less established. We report on the use of teledermatology in the inpatient and emergency setting at St George Hospital Dermatology Department, a tertiary centre in Sydney, Australia.

Inpatient and emergency consultations are conducted in our institution by one of two staff Dermatologists per day and one hospital-based Dermatology resident. A hybrid model of inpatient teledermatology consults was established prior to the COVID-19 pandemic. All referrals were seen face-to-face by the Dermatology resident to ensure a relevant history, and high-quality clinical and dermatoscopic photographs were taken. Referrals would then be summarised and sent to the on-call dermatologist who provided an impression and plan for the resident to enact. For severe or life-threatening cases, the on-call dermatologist would also attend for a face-to-face consultation. This system involved both synchronous and asynchronous models depending on the triaging of consults performed by the Dermatology resident. To avoid COVID-19 exposure of the on-call Dermatologists, which would subsequently shut down provision of dermatology services to both the outpatient and the inpatient/emergency service, this hybrid-model of inpatient teledermatology was maintained during the pandemic and outpatient clinics were converted to teledermatology for large proportions of 2020 and 2021.

Using this hybrid approach, our dermatology service avoided any shut down periods from COVID-19 exposures to the two on-call dermatologists. The main exposure site for COVID-19 was in the emergency department and this was the main source of inpatient referrals (Figure 1). There was no statistically significant difference ($p > 0.05$, Student *T*-Test) in the number of inpatient consults seen between pre-COVID-19 2019 (n=295, mean 27 consults per month(CPM), standard deviation (SD) 10.9), 2020 (n=305, mean 25 CPM, SD 6.3) or 2021 (n=323, mean 27 CPM, SD 8.1)[1]. This may be due to the establishment of a hybrid model of inpatient teledermatology. In 2021, 70% of inpatient consults had a treatment plan provided to the referring team within the same day of referral.

The role of teledermatology to increase efficiency of inpatient consults has been described prior to the COVID-19 pandemic with a reduction in the time taken for inpatient medical teams to receive advice from Dermatology consults[2]. Concordance in investigations and treatment plans between tele-consults and face-to-face consults has also been described[3,4]. The COVID-19 pandemic has seen the wider adoption of teledermatology services[5]. The experience of our department supports the use of teledermatology for efficient delivery of care that has been stable throughout the COVID-19 pandemic. Our experience supports use of a hybrid model of teledermatology rather than a virtual model and could be applied in other parts of the world.

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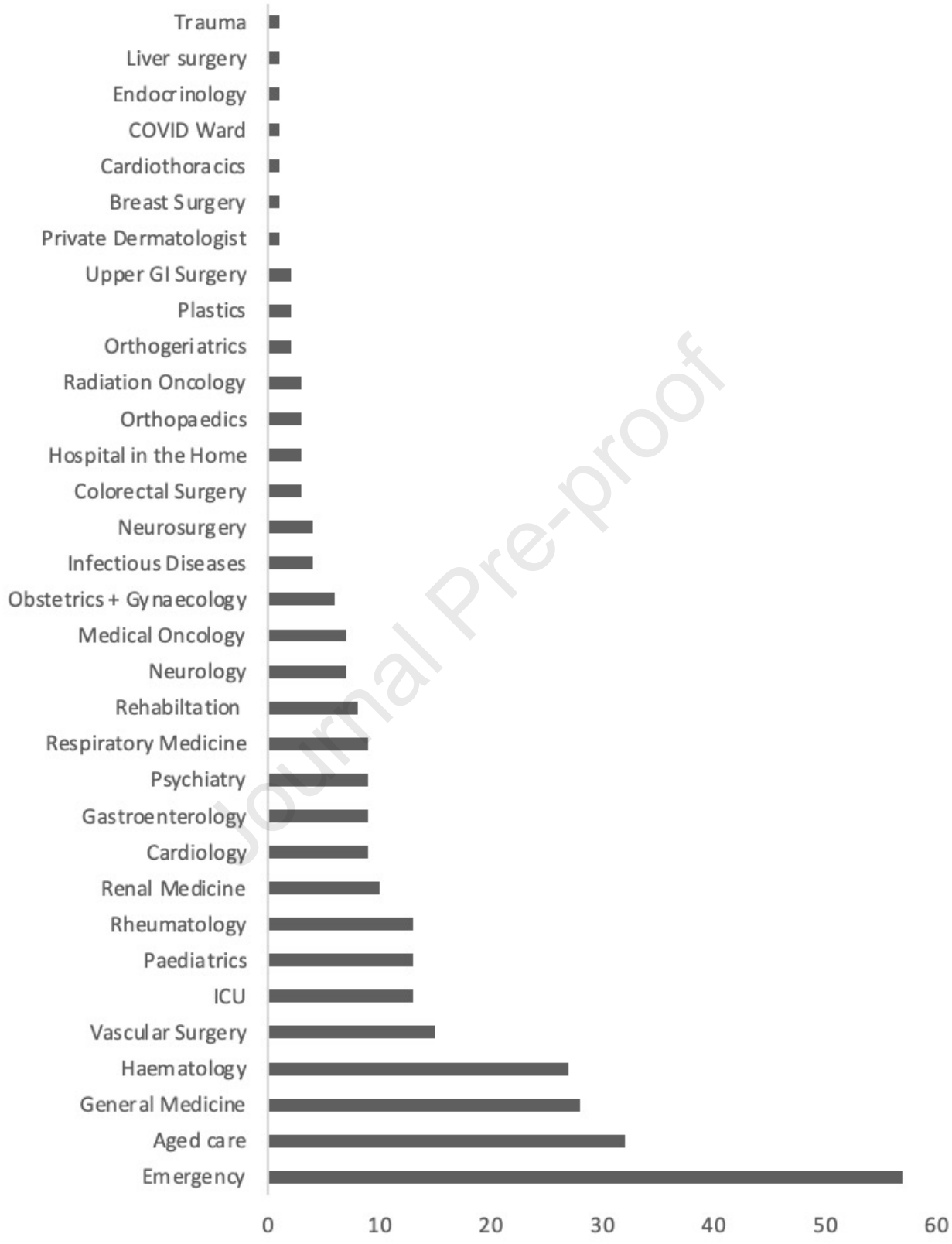

Figure 1. Spread of referring specialties to Dermatology in 2021