# QUALITY IMPROVEMENT PROJECT OF COVID-19 THERAPEUTICS PRESCRIBING A AL BADI<sup>1</sup>, K MCDONOUGH<sup>1</sup>, D GALLAGHER<sup>1</sup> <sup>1</sup>INFECTIOUS DISEASE DEPARTMENT, UNIVERSITY HOSPITAL GALWAY



## BACKGROUND

Since the WHO declared the end of the coronavirus disease pandemic clinicians are seeing less hospitalised COVID-19 patients. This quality improvement project aims to provide a quick reference tool to clinicians on pharmacological therapeutic strategies for COVID-19 as well as education sessions and to assess their impact on prescribing. We also assessed the volume of COVID-19 related consults to the infectious diseases team before and after our intervention.



See Tables 2-5 for the following. Five (25%) required an infectious diseases consult on COVID-19 therapeutic agents. Twelve (44.44%) patients required pharmacist intervention including advice regarding dosing, what agents are indicated and correction of prescribing errors. The prescribing of VTE prophylaxis and corticosteroids was correct in 92.59% (n=25) patients. The prescribing of nirmatrelvir/ritonavir and remdesivir was appropriate in 74.07% (n=20) patients. Seven patients (25.93%) were prescribed the wrong antiviral or were eligible and did not receive it.

### **METHODS**

We assessed COVID-19 therapeutics prescribing among patients with a confirmed COVID-19 polymerase chain reaction test (PCR) result admitted to an isolation ward in University Hospital Galway in August 2023 (baseline data). The patients were stratified to the risk tier list suggested by national HSE COVID-19 therapeutic guidelines (Table 1). Prescribing data of antivirals (nirmatrelvir/ritonavir and remdesivir), corticosteroids and venous thromboembolism prophylaxis was collected and compared with HSE guidelines. A new quick reference sheet was designed and distributed to the wards and medicine information website within GUH (See figure 1). COVID-19 therapeutics agents were discussed in dedicated teaching sessions for nursing and medical staff. Following this intervention, data was recollected and analysed.

#### **Risk Group** Tier

- Immunocompromised adult patients not expected to mount an adequate immune\* response to COVID -19 vaccination or SARS-coV-2 infection due to their underlying conditions, regardless of vaccine status
  - Immunosuppressed adult patients taking rituximab within 12 months and other B or T cell depleting therapies OR high dose steroids.
- Children with profound immunodeficiency (e.g. peri-transplant or CAR-T treatment) or who have specific congenital immune disorders (APECED, Interferon pathway disorders)
- Unvaccinated adult patients at the highest risk of severe disease (adults > 75 years or adults > 55 years with additional risks)
- Unvaccinated adult patients at risk of severe disease not included in Tier 1 (adults > 65 years or adults < 55 years with additional risks)
- Unvaccinated children who are under hospital supervision for conditions such as severe complex neurodisability with multiple medical needs OR complex medical needs with multiple co-morbidities (e.g. technology dependent -tracheostomy, home ventilation etc)
- Vaccinated adult patients at high risk of severe disease

In the second phase of the quality improvement project after our intervention, we collected data on 24 patients. The patient population was slightly younger with a mean age of 74.58 years  $(SD \pm 10.76)$ . See Figures 6-9 for the following. Of the 20 patients not under the infectious diseases team there were no infectious diseases consults. Appropriateness of VTE prophylaxis and corticosteroid prescribing remained similar at 91.67% (n=22). Prescribing of the appropriate antiviral for eligible patients went up to 100% (n=24).



https://www.hse.ie/eng/about/who/acute-hospitals-division/drugs-management-programme/hse-interim-guidance-for-the-pharmacological-management-of-patients-hospitalised-with-covid-19.pdf

(adults > 75 years or adults > 65 years with additional risks)

Vaccinated adult patients at risk of severe disease

(adults > 65 years or adults > 65 with additional risks)

## RESULTS

In the first stage of the quality improvement project 27 patients were identified with a mean patient age of 80 years (SD  $\pm$  15.33). Four of these patients were admitted under the infectious diseases team.

## **CONCLUSION**

This quality improvement project has resulted in improved prescribing of therapeutics agents for COVID-19 by implementing a quick reference algorithm for clinicians and education sessions for staff. We also demonstrated a reduction in formal infectious diseases consultation for COVID-19 therapeutics. We will next focus on sustainability of our improvements and addition of algorithm to our GAPP Antimicrobial prescribing policy.



Table 1

## **Post QI project results Figures 6-9:**





Figure 1

1. O'Connell N, Ainle FN. COVID-19 Evidence Review Group for Medicines RER for thromboprophylaxis in the management-of-covid19.pdf 19.pdf 19.p 2. Higher dose corticosteroids in patients admitted to hospital with COVID-19 who are hypoxic but not requiring ventilatory support (RECOVERY): a randomised, controlled, open-label, platform trial. Lancet. 2023;401(10387):1499-507. 3. Beigel JH, Tomashek KM, Dodd LE, Mehta AK, Zingman BS, Kalil AC, et al. Remdesivir for the Treatment of Covid-19 - Final Report. New England Journal of Medicine. 2020;383(19):1813-26.