

Introduction

Prolonged Intensive Care Unit (ICU) admission is frequently accompanied by ICU acquired weakness, impaired mobility and reduced health related quality of life.^{1,2,3}

The COVID-19 pandemic caused a sudden and unprecedented surge in ICU admissions for severe acute respiratory failure in the UK in two distinct waves between March-April 2020 and Jan-Feb 2021.

Whilst knowledge surrounding medical management of COVID-19 evolved throughout the pandemic, the impact of this on physical recovery and outcomes is less clear.

Aim

To explore the impact of ICU admission on physical function in COVID-19 survivors across two distinct UK waves.

Methods

A retrospective clinical review of patients admitted to ICU with a primary diagnosis of COVID-19 between March-April 2020 and January-February 2021 was conducted at a large London NHS Foundation Trust.

Electronic clinical notes were reviewed, and the following data extracted: age, ethnicity, sex, BMI, duration of sedation, duration of mechanical ventilation, ICU length of stay (LOS) and hospital LOS. Physical impairment was based on the Intensive Care Unit Mobility Score (ICUMS).

Degree of Physical Impairment	ICU Mobility Score
Significant	≤3 (SOEOB)
Moderate	ICUMS ≤6 (MOS)
Mild	≥7 (mob with Ao2)
Nil	10 (mob independently)

Table 1. Classification of degree of physical impairment.

Data was analysed using descriptive statistics, reported as absolute numbers, percentages (%) and median (range).

Comparisons were made between data sets from each wave.

Results

157 patients were included in the final analysis (figure 1)

Baseline patient demographics were equally matched across both waves (table 2).

Wave 1 patients were sedated longer and ventilated longer with longer ICU and hospital LOS than those in Wave 2 (table 2).

Patients in Wave 2 had a higher ICUMS at ICU discharge than those in Wave 1 (chart 1)

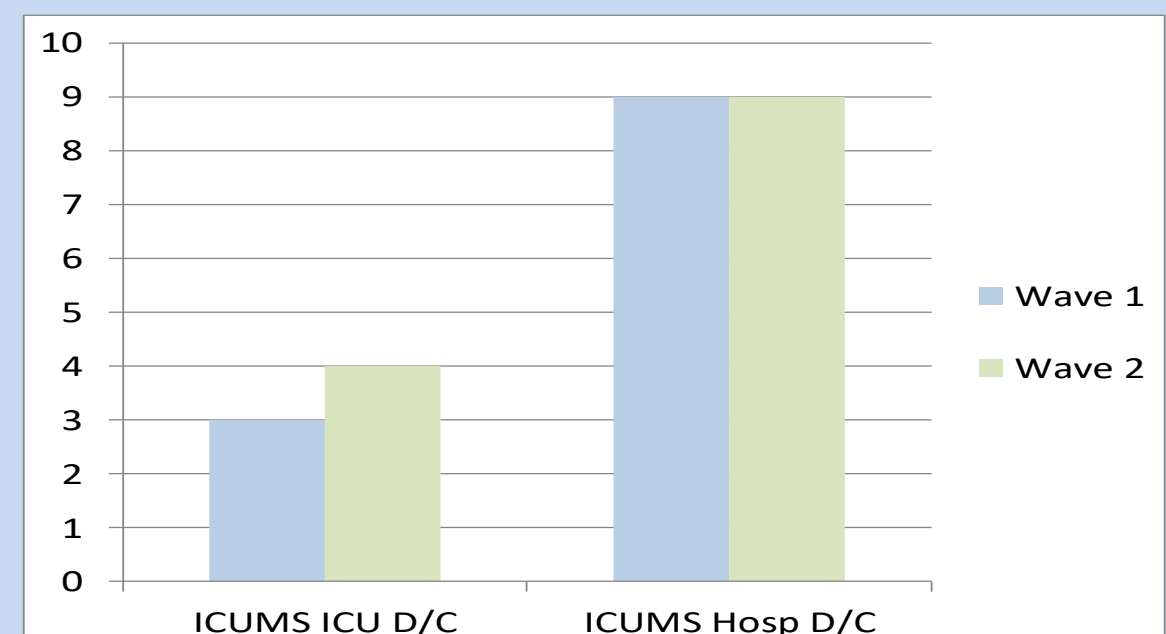


Chart 1. ICUMS at ICU and hospital discharge.

A higher percentage of patients in Wave 1 were discharged from ICU with severe physical impairment compared to Wave 2. Moderate physical impairment was the most frequent presentation category at ICU discharge for Wave 2 patients (chart 2).

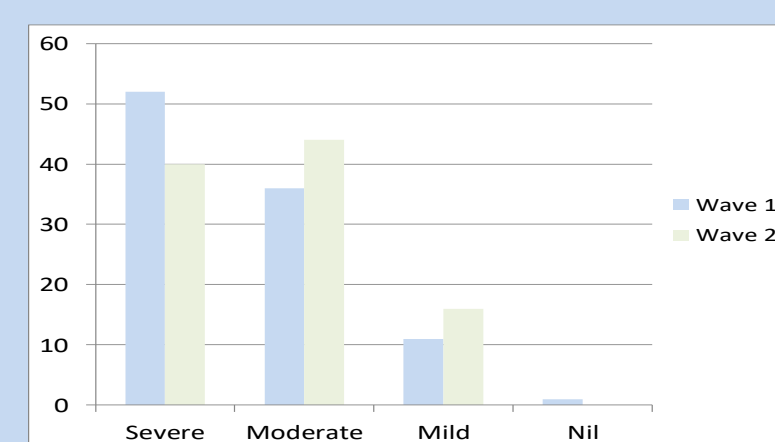


Chart 2. Degree of physical impairment at ICU discharge

At hospital discharge 66% of patients in Wave 1 and 76% in Wave 2 had ongoing rehab needs, although the majority of these were mild in both cohorts (chart 3)

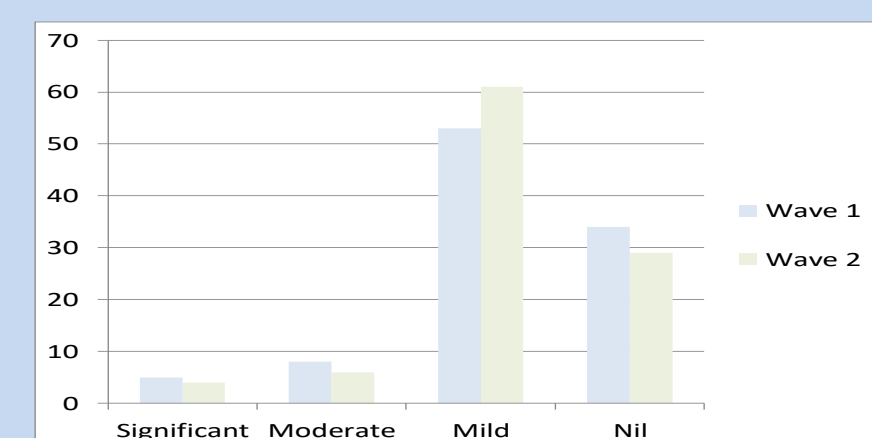


Chart 3. Degree of physical impairment at hospital discharge.

Conclusions

These preliminary data comparisons between the first two waves of the COVID-19 pandemic suggest evolving knowledge and experience of the condition resulted in reduced sedation duration, ventilation days, ICU and hospital LOS.

There were also improved physical outcomes for patients at ICU discharge but long-term rehabilitation needs persisted.

Ongoing exploration of the acute and longer-term needs of individuals surviving ICU admission for COVID-19 is required to inform future rehabilitation provision and health care policy.

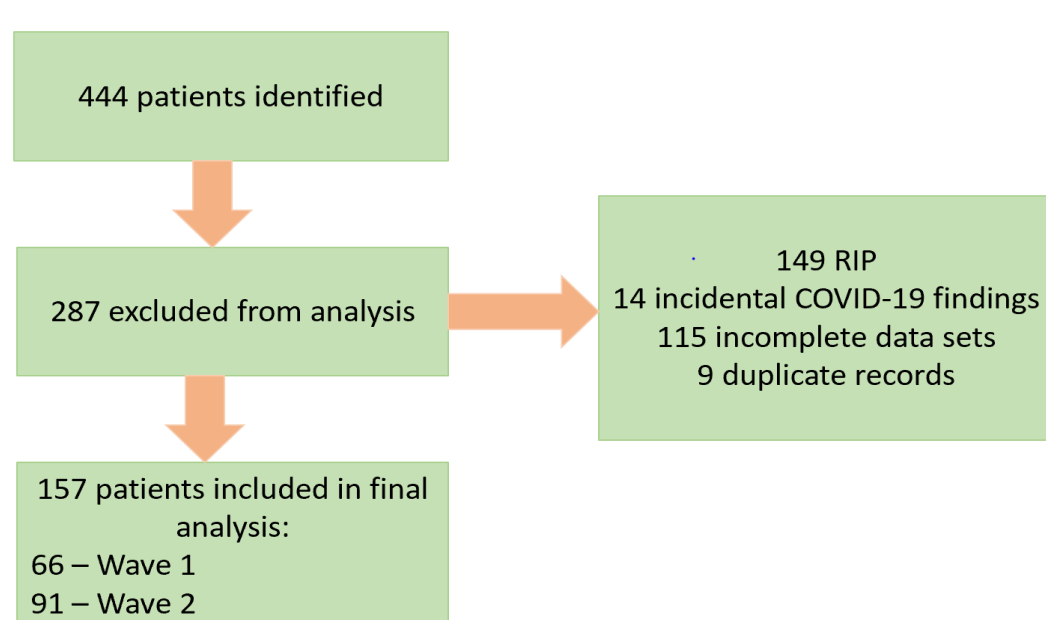


Figure 1. Patients included in final analysis.

Table 2. Patient demographics per Wave.

	Age	Gender (% Male)	Ethnicity (% White)	BMI	Clinical Frailty Score	Sedation duration (days)	Mech Vent (days)	ICU LOS (days)	Hosp LOS (days)
Wave 1 (n=66)	54 (25-78)	61%	29%	26.7 (19.9-59.3)	3(1-7)	13 (0-39)	25 (0-277)	27 (2-277)	49 (5-277)
Wave 2 (n=91)	58 (24-80)	60%	28%	27.5 (20.5-53.3)	3(1-7)	11 (0-83)	13 (0-175)	17 (1-182)	32 (4-189)

References

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