

**Supplementary Table S1.** ICES Data Sources used for this study.**Ontario Health Insurance Plan Claims Database (OHIP)**

The OHIP claims database contains information on inpatient and outpatient services provided to Ontario residents eligible for the province's publicly funded health insurance system by fee-for-service health care practitioners (primarily physicians) and "shadow billings" for those paid through non-fee-for-service payment plans. The main data elements include patient and physician identifiers (encrypted), code for service provided, date of service, associated diagnosis, and fee paid.

**Discharge Abstract Database (DAD)**

The DAD is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures/interventions), demographic, and administrative information for all admissions to acute care hospitals, rehab, chronic, and day surgery institutions in Ontario. At ICES, consecutive DAD records are linked together to form 'episodes of care' among the hospitals to which patients have been transferred after their initial admission.

**Same Day Surgery Database (SDS)**

The SDS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), demographic, and administrative information for all patient visits made to day surgery institutions in Ontario. The main data elements include patient demographics, clinical data (diagnoses, procedures, physician), administrative data (institution/hospital number, etc.), financial data, service-specific data elements for day surgery and emergency.

**National Ambulatory Care Reporting System (NACRS)**

The NACRS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), demographic, and administrative information for all patient visits made to hospital- and community-based ambulatory care centres (emergency departments, day surgery units, hemodialysis units, and cancer care clinics). At ICES, NACRS records are linked with other data sources (DAD, OMHRS) to identify transitions to other care settings, such as inpatient acute care or psychiatric care.

**Registered Persons Database (RPDB)**

The RPDB provides basic demographic information (age, sex, location of residence, date of birth, and date of death for deceased individuals) for those issued an Ontario health insurance number. The RPDB also indicates the time periods for which an individual was eligible to receive publicly funded health insurance benefits and the best-known postal code for each registrant on July 1st of each year.

**Ontario Laboratories Information System (OLIS)**

The OLIS contains laboratory test orders and results from hospitals, community laboratories, and public health laboratories. Laboratory values are the gold standard when compared to administrative coding algorithms.

**Supplementary Table S2.** ICES codes for ICU admission and ventilation.

Codes from ICES data dictionary	Description
<b>SCU codes for ICU admission</b>	
10	Medical intensive care nursing unit (MICU)
40	Cardiac intensive care nursing unit
45	Coronary intensive care nursing unit
80	Respirology intensive care nursing unit
<b>CCI codes for ventilation</b>	
1GZ31CAND	Endotracheal intubation and positive pressure
1GZ31CRND	Tracheostomy, positive pressure
1GZ31GPND	Jet ventilation, positive pressure
<b>OHIP fee codes to identify ICU admission</b>	
Intensive Care Area comprehensive assessment and care (covers all aspects of care including mechanical ventilation)	
G557	Day 1 only
G558	Days 2-10 inclusive
G559	Days 11 onward
<b>Ventilatory Support – Intensive Care Area</b> (covers management of mechanical ventilation only)	
G405	Day 1 only
G406	Days 2-10 inclusive
G407	Days 11 onward
<b>Critical Care excluding Ventilatory Support</b>	
G400	Day 1 only
G401	Days 2-10 inclusive
G402	Days 11 onward

**Supplementary Table S3.** Characteristics of RA patients and their association with risk of related COVID-19 hospitalisation.

	Variable value	Multivariable regression odds ratio (95% CI) n=2,551 (COVID-19 related hospitalisations n=97)
Sex at enrolment	Female	0.84 (0.52-1.35)
Age group at enrolment, years	<30	n/a
	30-40	0.62 (0.19-2.10)
	40-50	0.81 (0.41-1.61)
	50-60	Ref
	60-70	1.24 (0.75-2.05)
	70-80	0.96 (0.68-1.29)
	>80	0.35 (0.05-2.65)
Education at enrolment	Post-secondary	0.82 (0.54-1.24)
Disease duration at enrolment, years		<b>1.02 (1.00-1.24)</b>
Positive RF at enrolment	Yes - n (%)	1.14 (0.49-2.67)
Biologic agent use	Yes - n (%)	1.37 (0.88-2.11)
JAKi use	Yes - n (%)	1.48 (0.85-2.57)
csDMARD use	Yes - n (%)	2.05 (0.63-2.69)
Oral steroid use	Yes - n (%)	1.46 (0.95-2.24)

RA: rheumatoid arthritis; RF: rheumatoid factor; JAKi: Janus kinase inhibitors; csDMARDs: conventional synthetic disease-modifying anti-rheumatic drugs.