

Table S1 Variables included in the CGH database

Variable	Description	
Demographics	Age	
	Sex	
	Ethnicity	
	Height	
	Weight	
Comorbidities	All comorbidities including but not limited to: <ul style="list-style-type: none"> • Myocardial infarction • Congestive heart failure • Peripheral vascular disease • Cerebrovascular disease • Hemiplegia or paraplegia • Dementia • Chronic pulmonary disease • Rheumatologic disease • Peptic ulcer disease • Diabetes mellitus (with or without complications) • Renal disease • Malignancy • Metastatic solid tumor • Liver disease (mild, moderate, or severe) • Acquired immune deficiency syndrome • Hypertension • Dyslipidemia • Asthma • Gastroesophageal reflux disease • Depression • Anxiety 	
	COPD classification (grading or ABCD grouping)	FEV ₁
		CAT score
		Exacerbations leading to hospitalization
	Smoking status	Ex-smoker
		Current smoker
		Never-smoker
		Pack-year history
	Vaccines	Pneumococcal (PCV13 or PPSV23) vaccinations
		Influenza vaccinations
	Investigations	Laboratory results including full blood count (e.g., eosinophils), C-reactive protein, procalcitonin, and arterial blood gases
		Microbiology results including sputum gram stain and culture, tuberculosis smear and culture
		Lung function tests including pre- and post-bronchodilator spirometry (FEV ₁ /FVC ratio), diffusion capacity, lung volumes, 6-minute walk test, exhaled nitric oxide test
		Radiology including chest X-ray and computed tomography
		2D echocardiography including left ventricular ejection fraction and pulmonary hypertension echocardiography
	Patient-reported outcomes	CAT score
	Medications (only within CGH)	Quantity of medications prescribed, and quantity of medications dispensed within CGH
All medications including but not limited to (including combinations of): <ul style="list-style-type: none"> • SABA • SAMA • LABA • LAMA • ICS • Methylxanthine (e.g., theophylline) • Phosphodiesterase type 4 inhibitor (e.g., roflumilast) • Antibiotics (e.g., penicillins, fluoroquinolones, macrolides, tetracycline) • Beta blockers • Diuretics • Antiplatelets and angiotensin-converting enzyme inhibitors 		
Mortality		Date of death
		Hospital encounters including dates and times
All-cause and COPD-related admissions		
Mechanical ventilation (invasive and non-invasive)		
Diagnostic codes		
Outpatient visits		
		Severity of exacerbation (ICU/mechanical ventilation or not)

CGH, Changi General Hospital; COPD, chronic obstructive pulmonary disease; FEV₁, forced expiratory volume in 1 second; CAT, COPD assessment test; FVC, forced vital capacity; 2D, two-dimensional; SABA, short-acting beta2-agonist; SAMA, short-acting muscarinic antagonist; LABA, long-acting beta2-agonist; LAMA, long-acting muscarinic antagonist; ICS, inhaled corticosteroid; ED, emergency department; ICU, intensive care unit.