

## Longitudinal changes in proportionate mortality due to COVID-19 by occupation in England and Wales<sup>1</sup>

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1. Supplementary Material
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S1: Occupational coding based on the SOC10 coding system

Group	SOC10 code	SOC Title
Health associate professionals and associates	2211	Medical practitioners
Health associate professionals and associates	2212	Psychologists
Health associate professionals and associates	2213	Pharmacists
Health associate professionals and associates	2231	Nurses
Health associate professionals and associates	2232	Midwives
Health associate professionals and associates	2217	Medical radiographers
Health associate professionals and associates	3213	Paramedics
Health associate professionals and associates	2218	Podiatrists
Health associate professionals and associates	3219	Health associate professionals n.e.c.
Health associate professionals and associates	3217	Pharmaceutical technicians
Health associate professionals and associates	3218	Medical and dental technicians
Health associate professionals and associates	1181	Health services and public health managers and directors
Health associate professionals and associates	1241	Health care practice managers
Health associate professionals and associates	2221	Physiotherapists
Health associate professionals and associates	2219	Health professionals n.e.c.
Health associate professionals and associates	2222	Occupational therapists
Health associate professionals and associates	2223	Speech and language therapists

		Therapy professionals
Health associate professionals and associates	2229	n.e.c.
Health associate professionals and associates	2214	Ophthalmic opticians
Health associate professionals and associates	2215	Dental practitioners
Health associate professionals and associates	6143	Dental nurses
Support staff	4211	Medical secretaries
Support staff	6141	Nursing auxiliaries and assistants
Support staff	6142	Ambulance staff (excluding paramedics)
Support staff	7114	Pharmacy and other dispensing assistants
Support staff	9271	Hospital porters
Social care	1184	Social services managers and directors
Social care	1242	Residential, day and domiciliary care managers and proprietors
Social care	2442	Social workers
Social care	2444	Clergy
Social care	3231	Youth and community workers
Social care	3234	Housing officers
Social care	2449	Welfare professionals n.e.c.
Social care	3239	Welfare and housing associate professionals n.e.c.
Social care	6144	Houseparents and residential wardens
Social care	6145	Care workers and home carers
Social care	6146	Senior care workers
Social care	6147	Care escorts

Social care	6232	Caretakers Undertakers, mortuary and crematorium
Social care	6148	assistants Teaching and Educational
Education	231	Professionals Secondary education teaching
Education	2314	professionals Primary and nursery education teaching
Education	2315	professionals Special needs education teaching
Education	2316	professionals Nursery nurses
Education	6121	and assistants Teaching
Education	6125	assistants Shopkeepers and proprietors – wholesale and
Food retail and distribution	1254	retail
Food retail and distribution	5431	Butchers Bakers and flour
Food retail and distribution	5432	confectioners Fishmongers and poultry
Food retail and distribution	5433	dressers Sales and retail
Food retail and distribution	7111	assistants Retail cashiers and check-out
Food retail and distribution	7112	operators
Food retail and distribution	9251	Shelf fillers Elementary sales occupations
Food retail and distribution	9259	n.e.c. Managers and directors in storage and
Food retail and distribution	1162	warehousing Managers and
Food retail and distribution	1190	directors in

		retail and wholesale Food, drink and tobacco process operatives
Food production	8111	Managers and proprietors in agriculture and horticulture
Food production	1211	Managers and proprietors in forestry, fishing and related services
Food production	1213	
Food production	5111	Farmers Horticultural trades
Food production	5112	Agricultural and fishing trades
Food production	5119	n.e.c.
Food production	9111	Farm workers Fishing and other elementary agriculture occupations
Food production	9119	n.e.c.
Taxi and cab drivers and chauffeurs	8214	Taxi and cab drivers and chauffeurs
Bus and coach drivers	8213	Bus and coach drivers
Van drivers	8212	Van drivers Managers and directors in transport and distribution
Other transport workers	1161	Train and tram drivers
Other transport workers	8231	Rail travel assistants
Other transport workers	6215	Large goods vehicle drivers
Other transport workers	8211	Rail transport operatives
Other transport workers	8234	Postal workers, mail sorters, messengers and couriers
Other transport workers	9211	Senior police officers
Police and protective services	1172	

		Senior officers in fire, ambulance, prison and related services
Police and protective services	1173	NCOs and other
Police and protective services	3311	ranks
Police and protective services	3312	Police officers (sergeant and below)
Police and protective services	3313	Fire service officers (watch manager and below)
Police and protective services	3314	Prison service officers (below principal officer)
Police and protective services	3319	Protective service associate professionals n.e.c.
Police and protective services	2443	Probation officers
Sanitary workers	9231	Window cleaners
Sanitary workers	9232	Street cleaners
Sanitary workers	9233	Cleaners and domestics
Sanitary workers	9235	Refuse and salvage occupations
Sanitary workers	9239	Elementary cleaning occupations n.e.c.
	All others/not in the list above	All others/not in the list above
Non-essential		

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S2: Odds of Covid-19 deaths compared with non-essential occupations for expanded occupational grouping

<b>Occupational classification (SOC 10 code)</b>	<b>Unadjusted MOR (95%CI)</b>	<b>Adjusted for age and sex (95%CI)</b>	<b>Adjusted for age , sex and deprivation (95% CI)</b>	<b>Adjusted for age, sex and region (95%CI)</b>	<b>Adjusted for age, sex, deprivation, region, urban/rural and population density</b>
Administrative occupations (41)	0.83 (0.73-0.93)	1.02 (0.9-1.15)	0.99 (0.87-1.11)	0.95 (0.84-1.08)	0.93 (0.82-1.05)
Assemblers and construction operatives (81)	0.79 (0.66-0.94)	0.82 (0.69-0.98)	0.76 (0.64-0.91)	0.79 (0.66-0.94)	0.77 (0.65-0.92)
Business and public service associate professionals (24)	0.79 (0.69-0.91)	0.87 (0.76-1)	0.86 (0.75-0.99)	0.85 (0.74-0.98)	0.84 (0.73-0.97)
Business, media and public service professionals (35)	0.94 (0.81-1.08)	1.01 (0.88-1.17)	1.01 (0.87-1.16)	0.93 (0.8-1.07)	0.91 (0.79-1.06)
Caring personal service occupations (excluding care workers and home carers) (61)	0.8 (0.66-0.95)	1.16 (0.96-1.39)	1.12 (0.93-1.35)	1.06 (0.88-1.28)	1.05 (0.87-1.27)
Culture, media and sports occupations (34)	0.52 (0.43-0.63)	0.58 (0.48-0.7)	0.57 (0.47-0.69)	0.52 (0.43-0.63)	0.51 (0.42-0.62)
Customer service occupations (72)	0.99 (0.81-1.23)	1.28 (1.03-1.58)	1.22 (0.98-1.51)	1.24 (1-1.53)	1.2 (0.97-1.49)
Elementary trades and related occupations (91)	0.75 (0.66-0.86)	0.77 (0.67-0.88)	0.71 (0.62-0.81)	0.74 (0.65-0.85)	0.74 (0.65-0.85)
Health professionals (22)	1.03 (0.9-1.19)	1.33 (1.15-1.54)	1.3 (1.13-1.51)	1.29 (1.11-1.49)	1.27 (1.09-1.46)
Leisure, travel and related personal service occupations (62)	0.91 (0.78-1.06)	1.11 (0.95-1.3)	1.06 (0.9-1.24)	1 (0.85-1.18)	0.98 (0.84-1.16)
Mobile machine and other drivers (82)	0.98 (0.82-1.16)	0.92 (0.77-1.1)	0.86 (0.72-1.03)	0.87 (0.73-1.04)	0.86 (0.72-1.03)
Other managers and proprietors (12)	1.09 (0.96-1.24)	1.15 (1.01-1.3)	1.11 (0.98-1.26)	1.09 (0.96-1.25)	1.1 (0.97-1.25)
Protective service occupations (33)	0.79 (0.65-0.95)	0.76 (0.63-0.93)	0.74 (0.61-0.9)	0.79 (0.65-0.96)	0.79 (0.65-0.96)

Sales occupations (71)	1.01 (0.89-1.14)	1.26 (1.11-1.43)	1.19 (1.05-1.36)	1.19 (1.05-1.36)	1.17 (1.03-1.33)
Science, engineering and technology associate professionals (31)	0.85 (0.68-1.05)	0.9 (0.72-1.11)	0.88 (0.71-1.09)	0.89 (0.72-1.11)	0.87 (0.7-1.08)
Science, research, engineering and technology professionals (21)	0.76 (0.65-0.89)	0.77 (0.66-0.9)	0.77 (0.66-0.9)	0.76 (0.65-0.89)	0.75 (0.64-0.89)
Secretarial and related occupations (42)	0.68 (0.57-0.82)	0.94 (0.78-1.13)	0.92 (0.76-1.11)	0.88 (0.73-1.07)	0.86 (0.71-1.04)
Skilled agricultural and related trades (51)	0.48 (0.39-0.6)	0.47 (0.38-0.58)	0.45 (0.37-0.56)	0.5 (0.4-0.62)	0.53 (0.43-0.66)
Skilled construction and building trades (53)	0.63 (0.55-0.71)	0.59 (0.52-0.67)	0.56 (0.5-0.64)	0.55 (0.49-0.63)	0.55 (0.48-0.62)
Skilled metal, electrical and electronic trades (52)	0.82 (0.73-0.93)	0.77 (0.68-0.87)	0.73 (0.65-0.83)	0.76 (0.67-0.86)	0.75 (0.66-0.85)
Teaching and educational professionals (23)	0.8 (0.68-0.93)	0.96 (0.82-1.13)	0.95 (0.81-1.12)	0.94 (0.8-1.1)	0.92 (0.79-1.09)
Textiles, printing and other (excluding food preparation and hospitality) skilled trades (54)	0.93 (0.76-1.14)	0.94 (0.77-1.15)	0.89 (0.73-1.1)	0.88 (0.72-1.08)	0.87 (0.71-1.07)
Caring personal services (614)	1.23 (1.05-1.45)	1.56 (1.32-1.83)	1.47 (1.25-1.73)	1.47 (1.24-1.74)	1.44 (1.22-1.7)
Elementary administration occupations (921)	1.29 (1.06-1.57)	1.27 (1.04-1.54)	1.21 (0.99-1.47)	1.16 (0.95-1.41)	1.12 (0.92-1.37)
Elementary cleaning occupations (excluding cleaners and domestics) (923)	0.66 (0.52-0.84)	0.65 (0.51-0.84)	0.61 (0.48-0.77)	0.6 (0.47-0.76)	0.59 (0.46-0.75)
Elementary security occupations (924)	1.52 (1.32-1.76)	1.56 (1.35-1.81)	1.45 (1.25-1.68)	1.33 (1.15-1.55)	1.3 (1.12-1.51)
Food preparation and hospitality trades (543)	0.97 (0.84-1.12)	1.07 (0.92-1.23)	1 (0.87-1.16)	0.98 (0.85-1.14)	0.97 (0.84-1.12)
Other elementary occupations (927)	0.84 (0.71-0.99)	1.04 (0.88-1.23)	0.97 (0.82-1.14)	0.96 (0.81-1.13)	0.94 (0.79-1.11)
Plant and machine operatives (812)	0.82 (0.68-0.99)	0.79 (0.65-0.95)	0.74 (0.61-0.89)	0.81 (0.67-0.98)	0.79 (0.65-0.96)

Process operatives (811)	1.37 (1.13-1.65)	1.37 (1.14-1.65)	1.27 (1.05-1.53)	1.35 (1.11-1.63)	1.33 (1.1-1.61)
Bus and coach drivers (8213)	2.01 (1.66-2.44)	1.84 (1.51-2.23)	1.71 (1.41-2.08)	1.66 (1.36-2.01)	1.63 (1.34-1.98)
Care workers and home carers (6145)	1.15 (1.02-1.29)	1.51 (1.33-1.71)	1.41 (1.24-1.6)	1.44 (1.27-1.63)	1.42 (1.25-1.61)
Cleaners and domestics (9233)	0.89 (0.76-1.04)	1.11 (0.95-1.3)	1.02 (0.88-1.2)	1.01 (0.87-1.19)	1 (0.85-1.17)
Elementary storage occupations (9260)	0.9 (0.77-1.06)	0.92 (0.78-1.08)	0.86 (0.73-1.01)	0.88 (0.75-1.04)	0.87 (0.74-1.02)
Large goods vehicle drivers (8211)	1.01 (0.86-1.18)	0.91 (0.78-1.07)	0.88 (0.75-1.03)	0.92 (0.78-1.08)	0.92 (0.79-1.08)
Managers and directors in retail and wholesale (1190)	1.17 (0.95-1.43)	1.34 (1.09-1.65)	1.31 (1.06-1.61)	1.28 (1.04-1.58)	1.27 (1.03-1.56)
Taxi and cab drivers and chauffeurs (8214)	2.87 (2.48-3.32)	2.63 (2.27-3.05)	2.46 (2.12-2.85)	2.25 (1.93-2.61)	2.18 (1.88-2.53)
Van drivers (8212)	1.13 (0.96-1.33)	1.07 (0.91-1.27)	1.01 (0.86-1.2)	1 (0.85-1.19)	0.99 (0.83-1.17)

Source: ONS; n.b. Reference group is Corporate Managers (excluding Retail)