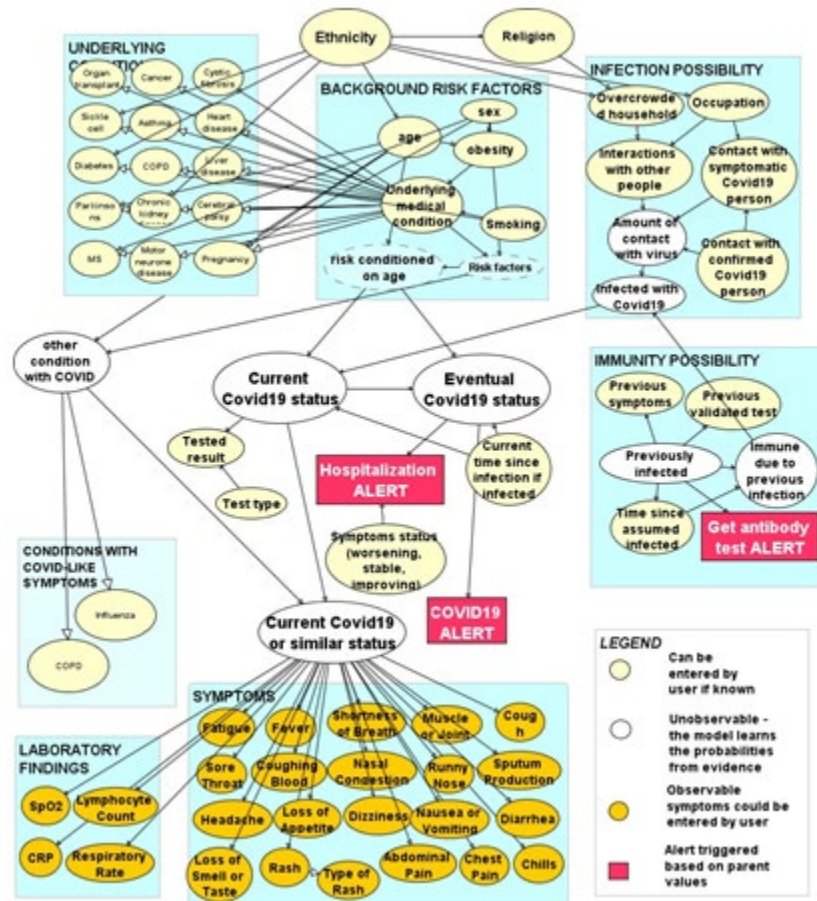


Appendix

This appendix shows the full model, followed by the nodes on which I worked and details how I arrived at their probability tables.

A. Full Model



The model, entitled “CombinedModelForContactTracing.cmpx” can be downloaded at Norman Fenton’s home page <http://www.eecs.qmul.ac.uk/~norman/Models/> and can be run using trial software from agenarisk.com.

B. Nodes

The nodes are presented in the following sections:

- a. Ethnicity
- b. Religion
- c. Other major background risk factors
- d. Underlying medical conditions
- e. Risk factors (combined)
- f. Risk conditioned on age
- g. Infection risks
- h. Outcomes

Other nodes were either inherited from an earlier version of the model or were worked on by my colleague Rachel Butcher.

Ethnicity

White	0.84815186
Mixed/Multiple	0.017982017
Chinese	0.006993007
Other Asian	0.07292707
Black	0.034965035
Other	0.018981019

These data were taken from the latest population estimates (2019) by the Office for National Statistics. <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/researchreportonpopulationestimatesbyethnicgroupandreligion/2019-12-04>.

They are only for England and Wales but I decided that extrapolating the proportions to the rest of the UK was preferable to taking the 2011 Census statistics for the whole of the UK.

I supplemented this with government statistics on the Chinese ethnic group. <https://www.ethnicity-facts-figures.service.gov.uk/summaries/chinese-ethnic-group>.

It seemed important to separate Chinese from other Asian groups because of the very different health and cultural profiles of Chinese and South Asian.

It would also have been useful to separate Black African and Black Caribbean, for the same reason.

Religion

Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Black	Other
'Christian	0.6392776	0.4625637	0.19573641	0.09970134	0.6908563	0.19763666
Buddhist	0.0017348279	0.00804884	0.12551223	0.025770145	0.001506255	0.0064715734
Hindu	2.49E-04	0.007972068	0.0073408782	0.20372605	0.0029352938	0.01449895
Jewish	0.0050467337	0.0034702711	8.29E-04	6.39E-04	8.64E-04	0.020255601
Muslim	0.004368858	0.083781436	0.02041761	0.47705418	0.14586115	0.51497436
Sikh	1.55E-04	0.0041832733	0.0025919455	0.09619018	7.67E-04	0.07209915
Other	0.003790608	0.0060160076	0.0039553237	0.009977516	0.0038066588	0.0064733475
None	0.2730012	0.3232996	0.55641866	0.034573957	0.0737132	0.0919893
Not stated	0.07237602	0.10066482	0.08719772	0.05236743	0.07968996	0.075601034

These data came from the ONS via a 2015 Freedom of Information request. <https://www.ons.gov.uk/aboutus/transparencyandgovernance/freedomofinformationfoi/ethnicityandreligionbyage> The absolute numbers in the xls file are normalised by the AgenaRisk software to add up to 1 in each column.

Background Risk Factors

Age

Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Black	Other
75 and above	0.08727237	0.012266416	0.020000458	0.021542113	0.025700176	0.017351551
65-74	0.095409095	0.016625285	0.029999414	0.035962854	0.036260583	0.028616488
55-64	0.12686937	0.028467821	0.07199962	0.06665908	0.04970856	0.0607597
35-54	0.2798486	0.16767396	0.24899973	0.2605109	0.3147982	0.2778235
25-34	0.124623135	0.14566073	0.21999995	0.21280235	0.16364022	0.22974086
16-24	0.11281764	0.1795067	0.29099992	0.14314783	0.13706492	0.14736845
0-15	0.1731598	0.4497991	0.11800092	0.2593749	0.27282736	0.23833945

I used data from the same FOI request as for the Religion node above.

The numbers needed some rearranging into the age groupings I had chosen. Here and in other similar situations I used this population-distribution calculator from the ONS to weight the results:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/august2019>

Sex

Male	0.49
Female	0.51

Data source:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates>

Obesity

age	75 and above		65-74		55-64		35-54	
sex	Male	Female	Male	Female	Male	Female	Male	Female
morbidly obese	0.009	0.02	0.022	0.02	0.031	0.05	0.036	0.056
obese	0.286	0.3	0.298	0.31	0.325	0.27	0.287	0.271
overweight	0.458	0.38	0.46	0.4	0.428	0.35	0.428	0.3
Normal/unde...	0.247	0.3	0.22	0.27	0.216	0.33	0.249	0.373

age	25-34		16-24		0-15	
sex	Male	Female	Male	Female	Male	Female
morbidly obese	0.021	0.05	0.003	0.05	0.0	0.0
obese	0.174	0.21	0.103	0.16	0.17	0.16
overweight	0.382	0.29	0.222	0.22	0.12	0.13
Normal/unde...	0.423	0.45	0.672	0.57	0.71	0.71

These data were taken from the NHS Health Survey for England 2017. (I could not find such detailed data in more recent surveys.)

<https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

There were separate government figures available on obesity by ethnicity:

<https://www.ethnicity-facts-figures.service.gov.uk/health/diet-and-exercise/overweight-adults/latest>

But I was unable to find data on obesity by all three factors. I decided in favour of age and sex because a quick Excel analysis suggested they were bigger influencers of obesity than ethnicity. I was also able to capture some of the relationship between ethnicity and obesity by conditioning diabetes on ethnicity (see Diabetes section below).

Smoking

Current	0.134
Previous	0.352
never	0.514

Data are from here:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adult-smokinghabitsingreatbritain/2019#data-on-smokers-who-have-quit-and-smokers-who-intend-to-quit-great-britain-1974-to-2019>

The numbers are for adults aged 16 and above. I decided to assume there were no smokers aged below 16, given that numbers would be small and risks at that age, in terms of indicating an underlying health condition, would be minimal.

Underlying Medical Condition

Smoking	Current				Previous				never			
	morbidity obese	obese	Over weight	Normal/ under wel	morbidity obese	obese	Over weight	Normal/ under wel	morbidity obese	obese	Over weight	Normal/ underwel
High	0.5	0.2	0.1	0.01	0.4	0.1	0.02	0.005	0.2	0.05	0.01	0.002
Medium	0.3	0.4	0.3	0.29	0.3	0.4	0.28	0.2	0.3	0.4	0.2	0.2
Low	0.2	0.4	0.6	0.7	0.3	0.5	0.7	0.795	0.5	0.55	0.79	0.798

These are rough approximations conditioned on smoking and obesity status. The probabilities are altered by backward inference when an observation is made for any specific medical condition.

Underlying Conditions

I took the risk classification from here: <https://www.nhs.uk/conditions/coronavirus-covid-19/people-at-higher-risk/whos-at-higher-risk-from-coronavirus/>

For each underlying condition, I first took the classification of high- or medium-risk, summed the total high-risk and medium-risk patients, and then calculated how probable this particular condition was given an overall rating of high or medium for “underlying medical condition”.

High Risk	Organ	Cancer	Cystic	Sickle	Total High							
number of cases	53000	2900000	10500	15000	2978500							
% of population	0%	4%	0%	-								
% of high risk	1.80%	97.30%	0.40%	0.50%								
% of all underlying												
MODE-RATE RISK	asthma	COPD	heart	diabetes	kidney	liver	Parkinson's	motor	MS	cerebral	pregnant	TOTAL MODE-RATE
number of cases	5400000	1500000	2300000	4700000	3000000	9300	145000	5000	130000	30000	549000	17768300
% of population	8%	2%	4%	7%	5%	0%	0%	0%	0%	0%	1%	
% of moderate risk	30.39%	8.44%	12.94%	26.45%	16.88%	0.05%	0.82%	0.03%	0.73%	0.17%	3.09%	
% of all underlying	26%	7.23%	11.10%	22.70%	14.50%	0.04%	0.70%	0.02%	0.63%	0.14%	2.65%	

Organ Transplant

Underlying	High	Medium	low
FALSE	0.982	1.0	1.0
TRUE	0.018	0.0	0.0

<https://www.organdonation.nhs.uk/get-involved/news/more-than-50-000-now-alive-thanks-to-organ-donations/>

Cancer

Underlying	High	Medium	low
FALSE	0.27	1.0	1.0
TRUE	0.973	0.0	0.0

https://www.macmillan.org.uk/_images/cancer-statistics-factsheet_tcm9-260514.pdf

Cystic Fibrosis

Underlying	High	Medium	low
FALSE	0.996	1.0	1.0
TRUE	0.004	0.0	0.0

<https://www.cysticfibrosis.org.uk/what-is-cystic-fibrosis/faqs#:~:text=Around%2010%2C500%20people%20in%20the,100%2C000%20people%20in%20the%20world>

Sickle Cell Disease

Underlying ...	High					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	0.99822	0.99822	0.99822	0.99822	0.91	0.99822
True	0.00178	0.00178	0.00178	0.00178	0.09	0.00178

Underlying	Medium					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	1.0	1.0	1.0	1.0	1.0	1.0
True	0.0	0.0	0.0	0.0	0.0	0.0

Underlying ...	Low					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	1.0	1.0	1.0	1.0	1.0	1.0
True	0.0	0.0	0.0	0.0	0.0	0.0

<https://www.sicklecellsociety.org/about-sickle-cell/>

Asthma

Underlying	High	Medium	low
FALSE	0.74	0.74	1.0
TRUE	0.26	0.26	0.0

<https://www.asthma.org.uk/about/media/facts-and-statistics/>

Heart Disease

Underlying	High	Medium	low
FALSE	0.889	0.889	1.0
TRUE	0.111	0.111	0.0

<https://www.bhf.org.uk/what-we-do/our-research/heart-statistics>

Diabetes

Underlying ...	High					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	0.834	0.834	0.847	0.674	0.725	0.834
True	0.116	0.116	0.153	0.326	0.275	0.116

Underlying	Medium					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	0.834	0.834	0.847	0.674	0.725	0.834
True	0.116	0.116	0.153	0.326	0.275	0.116

Underlying ...	Low					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Block	Other
False	1.0	1.0	1.0	1.0	1.0	1.0
True	0.0	0.0	0.0	0.0	0.0	0.0

https://www.diabetes.org.uk/resources-s3/2017-11/diabetes_in_the_uk_2010.pdf

COPD

Underlying ...	High			Medium			Low		
Smoking	Current	Previous	Low	Current	Previous	Low	Current	Previous	Low
False	0.935	0.935	0.933	0.935	0.935	0.933	1.0	1.0	1.0
True	0.065	0.065	0.069999998	0.065	0.065	0.069999998	0.0	0.0	0.0

<https://www.hse.gov.uk/statistics/causdis/copd.pdf>

<https://www.nhs.uk/conditions/chronic-obstructive-pulmonary-disease-copd/causes/>

Liver Disease

Underlying ...	High	Medium	Low
False	0.9996	0.9996	1.0
True	4.00E-04	4.00E-04	0.0

<https://www.statista.com/statistics/1036415/prevalence-of-cirrhosis-in-the-uk-by-gender/>

Parkinson's Disease

Underlying ...	High						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	0.974	0.9931	0.9994	0.99998	1.0	1.0	1.0
FALSE	0.025999999	0.0069	6.00E-04	2.00E-05	0.0	0.0	0.0

Medium							
75 and above	65-74	55-64	35-54	25-34	16-24	0-15	
0.974	0.9931	0.9994	0.99998	1.0	1.0	1.0	
0.025999999	0.0069	6.00E-04	2.00E-05	0.0	0.0	0.0	

Low							
75 and above	65-74	55-64	35-54	25-34	16-24	0-15	
1.0	1.0	1.0	1.0	1.0	1.0	1.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	

<https://www.parkinsons.org.uk/professionals/news/parkinsons-diagnoses-rise-uk#>

Chronic Kidney Disease

Underlying ...	High					
Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Black	Other
False	0.862	0.938	0.876	0.8	0.736	0.938
True	0.138	0.062	0.124	0.2	0.264	0.062

Medlin					
White	Mixed/Multiple	Chinese	Other Asian	Black	Other
0.862	0.938	0.876	0.8	0.736	0.938
0.138	0.062	0.124	0.2	0.264	0.062

Low					
White	Mixed/Multiple	Chinese	Other Asian	Black	Other
1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0

<https://www.renalreg.org/wp-content/uploads/2014/09/06-Chap-06.pdf>

Cerebral Palsy

Underlying ...	High	Medium	Low
False	0.9986	0.9986	1.0
True	0.0014	0.0014	0.0

<https://thepacecentre.org/information-centre/stats-facts/>

Multiple Sclerosis

Underlying ...	High		Medium		Low	
	Male	Female	Male	Female	Male	Female
FALSE	0.9989	0.9973	0.9989	0.9973	1.0	1.0
TRUE	0.0011	0.0027	0.0011	0.0027	0.0	0.0

<https://www.gov.uk/government/publications/multiple-sclerosis-prevalence-incidence-and-smoking-status/multiple-sclerosis-prevalence-incidence-and-smoking-status-data-briefing>

Motor Neurone Disease

Underlying ...	High	Medium	Low
False	0.9998	0.9998	1.0
True	2.00E-04	2.00E-04	0.0

<https://www.nhsinform.scot/illnesses-and-conditions/brain-nerves-and-spinal-cord/motor-neurone-disease-mnd>

Pregnancy

Underlying ...	High						
Sex	Male						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FALSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Underlying ...	High						
Sex	Female						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	0.994006	0.818	0.911	1.0
FALSE	0.0	0.0	0.0	0.005994006	0.182	0.089	0.0

Underlying ...	Medium						
Sex	Male						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FALSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0


Underlying ...	Medium						
Sex	Female						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	0.994	0.818	0.911	1.0
FALSE	0.0	0.0	0.0	0.006	0.182	0.089	0.0

Underlying ...	Low						
Sex	Male						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FALSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0


Underlying ...	Low						
Sex	Female						
age	75 and above	65-74	55-64	35-54	25-34	16-24	0-15
TRUE	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FALSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<https://www.statista.com/statistics/297718/conception-rate-per-thousand-women-in-england-and-wales-by-age/>

Risk Factor

Expression Type	 TNormal Normal distribution truncated at finite end values
Mean	wmean(10.0,underlying,1.0,sex)
Variance	1.0E-4

Risk Conditioned on Age

Expression Type	 TNormal Normal distribution truncated at finite end values
Mean	wmax(10.0,age,1.0,risks)
Variance	0.01

Infection Risks

Occupation

Ethnicity	White	Mixed/Multiple	Chinese	Other Asian	Black	Other
Frontline he..	0.026	0.017	0.006	0.039	0.051	0.059
Student/ Pupil	0.19	0.19	0.19	0.19	0.19	0.19
Other Essential	0.15	0.15	0.15	0.15	0.15	0.15
Non Essential	0.634	0.643	0.654	0.621	0.609	0.601

<https://www.ethnicity-facts-figures.service.gov.uk/workforce-and-business/workforce-diversity/nhs-workforce/latest>
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812539/Schools_Pupils_and_their_Characteristics_2019_Main_Text.pdf

<https://commonslibrary.parliament.uk/research-briefings/cbp-7857/#>

Overcrowded Household

Ethnicity	White								
	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.02	0.02	0.02	0.09	0.02	0.02	0.02	0.02	0.02
No	0.98	0.98	0.98	0.91	0.98	0.98	0.98	0.98	0.98

Ethnicity	Mixed/Multiple								
Religion	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.058000002	0.058000002	0.058000002	0.09	0.058000002	0.058000002	0.058000002	0.058000002	0.058000002
No	0.942	0.942	0.942	0.91	0.942	0.942	0.942	0.942	0.942

Ethnicity	Chines								
Religion	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.07	0.07	0.07	0.09	0.07	0.07	0.07	0.07	0.07
No	0.93	0.93	0.93	0.91	0.93	0.93	0.93	0.93	0.93

Ethnicity	Other Asian								
Religion	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.124	0.124	0.124	0.09	0.124	0.124	0.124	0.124	0.124
No	0.876	0.876	0.876	0.91	0.876	0.876	0.876	0.876	0.876

Ethnicity	Black								
Religion	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.121999994	0.121999994	0.121999994	0.09	0.121999994	0.121999994	0.121999994	0.121999994	0.121999994
No	0.878	0.878	0.878	0.91	0.878	0.878	0.878	0.878	0.878

Ethnicity	Other								
Religion	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	None	Not stated
Yes	0.084	0.084	0.084	0.09	0.084	0.084	0.084	0.084	0.084
No	0.916	0.916	0.916	0.91	0.916	0.916	0.916	0.916	0.916

<https://www.ethnicity-facts-figures.service.gov.uk/housing/housing-conditions/overcrowded-households/latest>
https://www.jpr.org.uk/documents/JPR_Census_Jewish_families_and_Jewish_households_report_March_2015.pdf

Contact With Symptomatic Covid-19 Person

Contact with Confirmed	Yes				No			
	Frontline healthc..	Student/Pupil	Other Essential	Non-Essential/no..	Frontline healthc..	Student/Pupil	Other Essential	Non-Essential/no..
Yes	1.0	0.9	1.0	1.0	0.1	0.02	0.015	0.01
No	0.0	0.1	0.0	0.0	0.9	0.98	0.985	0.99

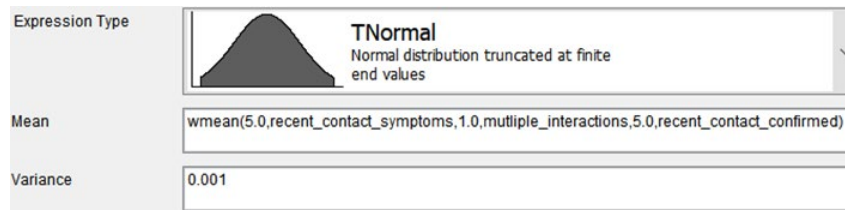
Contact With Confirmed Covid-19 Person

Yes	0.02
No	0.98

Interactions with Other People

Occupation Over Crowd	Frontline heathc..		Student/ Pupil		Other Essential		Non- Essential/no..	
	Yes	No	Yes	No	Yes	No	Yes	No
Multiple exte..	1.0	1.0	1.0	1.0	1.0	0.7	1.0	0.1
Some External	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Minimal	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7

Amount of Contact with Virus



Outcomes

Infected with Covid-19

Immune due to pre... Amount of contact	FALSE					TRUE				
	very Hihg	High	Medium	low	None	very Hihg	High	Medium	low	None
Yes	0.4	0.004	5.00E-04	5.00E-06	0.0	0.0	0.0	0.0	0.0	0.0
No	0.6	0.996	0.999995	0.999995	1.0	1.0	1.0	1.0	1.0	1.0

Government community infection survey pilot: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveysurvey/pilot/englandandwales21august2020>

Current Time Since Infection if Infected

> 5 days	0.5
<= 5 days	0.5

This on how long COVID-19 remains infectious: <https://covid.joinzoe.com/post/covid-long-term>

And this on incubation period: <https://www.acpjournals.org/doi/10.7326/M20-0504>

Current Covid-19 Status

Infected will...	Yes					
	High		Medium		Low	
Risk condition..	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time..	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 sev..	0.4	2.01E+04	0.1	3.01E-05	0.05	0.0
Covid 19 mild	0.5	3.01E-04	0.7	3.01E-04	0.8	0.001
Covid 19 asy..	0.1	0.9994977	0.2	0.999669	0.15	0.999
None	0.0	0.0	0.0	0.0	0.0	0.0

Infected will...	No					
	High		Medium		Low	
Risk condition...	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time..	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 sev...	0.0	0.0	0.0	0.0	0.0	0.0
Covid 19 mild	0.0	0.0	0.0	0.0	0.0	0.0
Covid 19 asy...	0.0	0.0	0.0	0.0	0.0	0.0
None	1.0	1.0	1.0	1.0	1.0	1.0

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronavirus/covid19infectionsurveyepilot/englandandwales21august2020>

Eventual Covid-19 Status

Current Covid 19 Status	Covid19 severe					
	High		Medium		Low	
risk conditioned on age	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time since inf...	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 severe	1.0	1.0	1.0	1.0	1.0	1.0
Covid 19 mid	0.0	0.0	0.0	0.0	0.0	0.0
Covid19 asymptomatic	0.0	0.0	0.0	0.0	0.0	0.0
More	0.0	0.0	0	0.0	0.0	0.0

Current Covid 19 Status	Covid19 Mild					
	High		Medium		Low	
risk conditioned on age	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time since inf...	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 severe	0.2	0.9	0.1	0.5	0.0	0.1
Covid 19 mid	0.8	0.1	0.9	0.5	1.0	0.9
Covid19 asymptomatic	0.0	0.0	0.0	0.0	0.0	0.0
More	0.0	0.0	0	0.0	0.0	0.0

Current Covid 19 Status	Covid19 asymptomatic					
	High		Medium		Low	
risk conditioned on age	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time since inf...	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 severe	0.1	0.7	0.0	0.1	0.0	0.1
Covid 19 mid	0.5	0.3	0.3	0.7	0.2	0.1
Covid19 asymptomatic	0.4	0.1	0.7	0.2	0.8	0.9
More	0.0	0.0	0	0.0	0.0	0.0

Current Covid 19 Status	None					
	High		Medium		Low	
risk conditioned on age	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Current time since inf...	> 5 days	<= 5 days	> 5 days	<= 5 days	> 5 days	<= 5 days
Covid 19 severe	0.0	0.0	0.0	0.0	0.0	0.0
Covid 19 mid	0.0	0.0	0.0	0.0	0.0	0.0
Covid19 asymptomatic	0.0	0.0	0.0	0.0	0.0	0.0
More	1.0	1.0	1.0	1.0	1.0	1.0