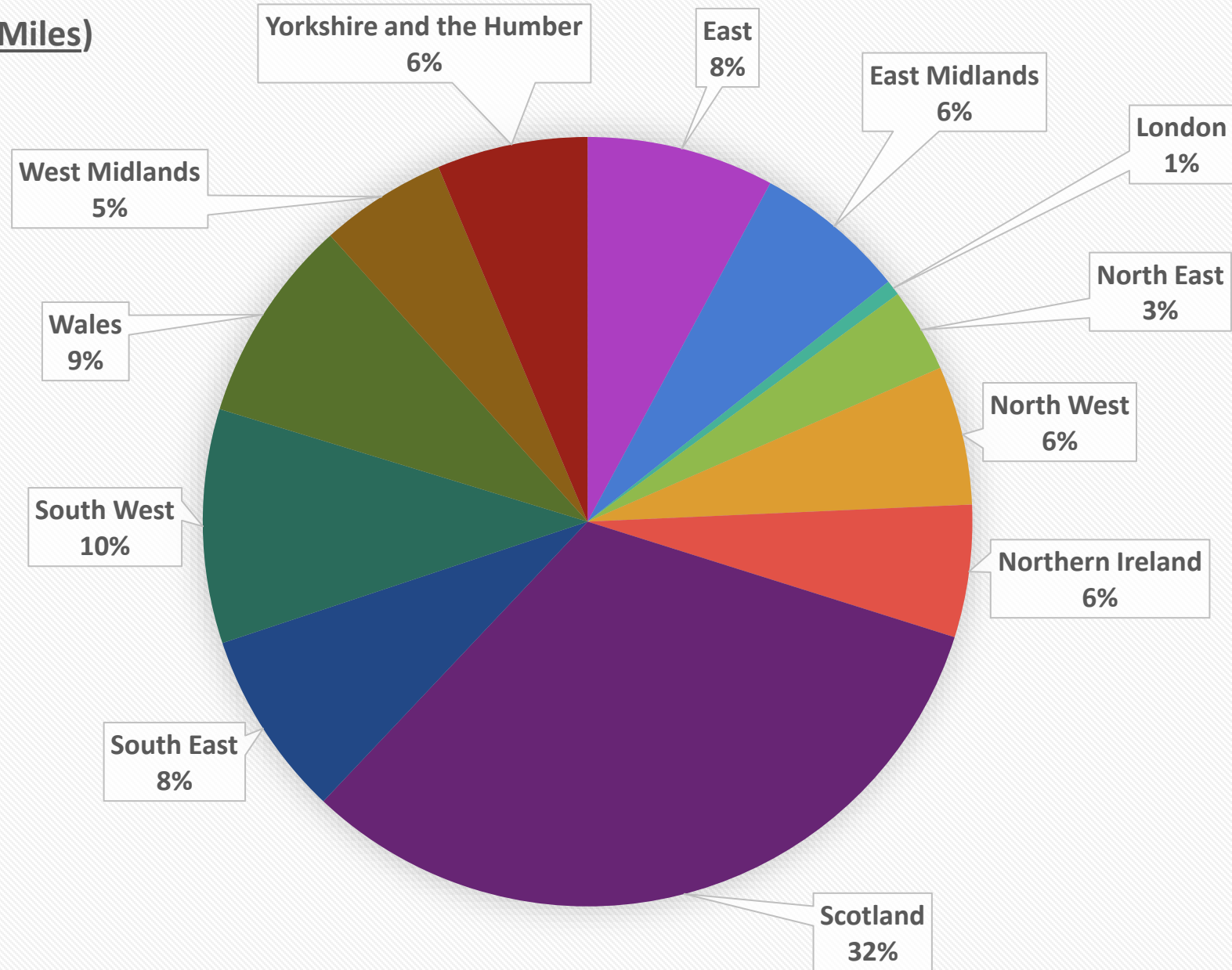


EXPERIAN DATA: SOCIAL DISTANCING DATA CHALLENGE

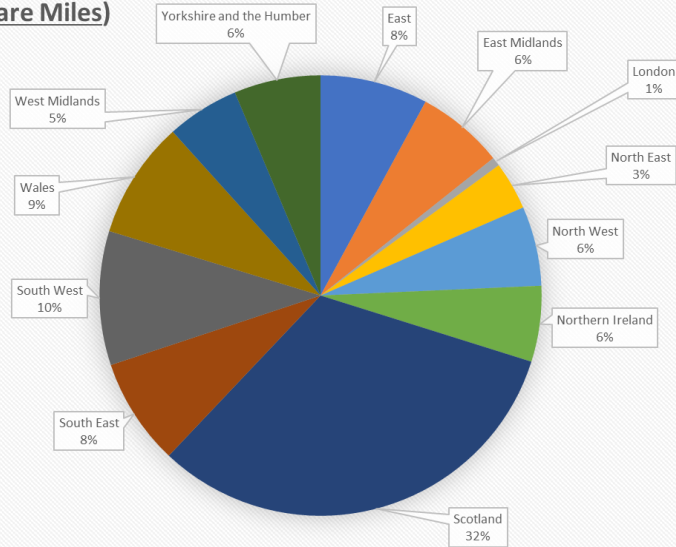
BY BANSARI SANGHVI

Area (Square Miles)



Task A:

Area (Square Miles)



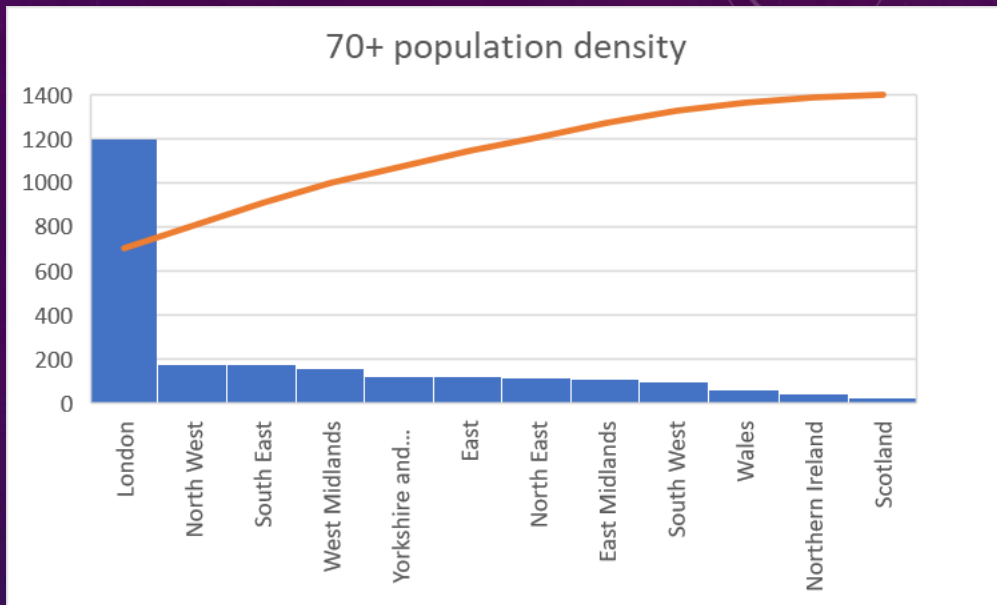
- As shown on this slide, you can see that Scotland has the highest area (square miles) in the UK covering 32% of the UK with a total area of 30399.69 (2dp) square miles.
- However the lowest area is London covering only 1% of the UK with 608.64 (2dp) square miles.
- This means the smaller the area, the more likely people are going to encounter other people as they are living closer distances together increasing the possibility of transmitting the virus more rapidly in comparison to Scotland.
- As Scotland has the highest area in square miles, people don't live that close to each other making social distancing more effective as travelling is significantly reduced as Scotland mainly consists of upland areas. However Scotland may require more hospitals at a closer proximity due to its large area helping the most vulnerable people to get medical attention as quickly as possible.

Region	Area (Square Miles)
East	7440.892665
East Midlands	6046.373763
London	608.6371001
North East	3332.042929
North West	5514.429208
Northern Ireland	5256.960855
Scotland	30399.68614
South East	7410.297013
South West	9292.179247
Wales	8138.101068
West Midlands	5024.21913
Yorkshire and th	5984.458587

2020 DATA:

Region	Females 70 plus	Males 70 plus	Total population of 70+	Area (Square Miles)	Population density 70+
East	484812	393220	878032	7440.892665	118.0008958
East Midlands	360864	297536	658400	6046.373763	108.8917136
London	409890	317994	727884	608.6371001	1195.924468
North East	207618	164555	372173	3332.042929	111.6951396
North West	538410	427804	966214	5514.429208	175.2155959
Northern Ireland	124362	95604	219966	5256.960855	41.84280729
Scotland	417451	316822	734273	30399.68614	24.15396648
South East	708318	563538	1271856	7410.297013	171.6336063
South West	491057	398225	889282	9292.179247	95.70220035
Wales	257737	208160	465897	8138.101068	57.24885893
West Midlands	436184	351066	787250	5024.21913	156.691016
Yorkshire and the Humber	406225	320046	726271	5984.458587	121.3595164

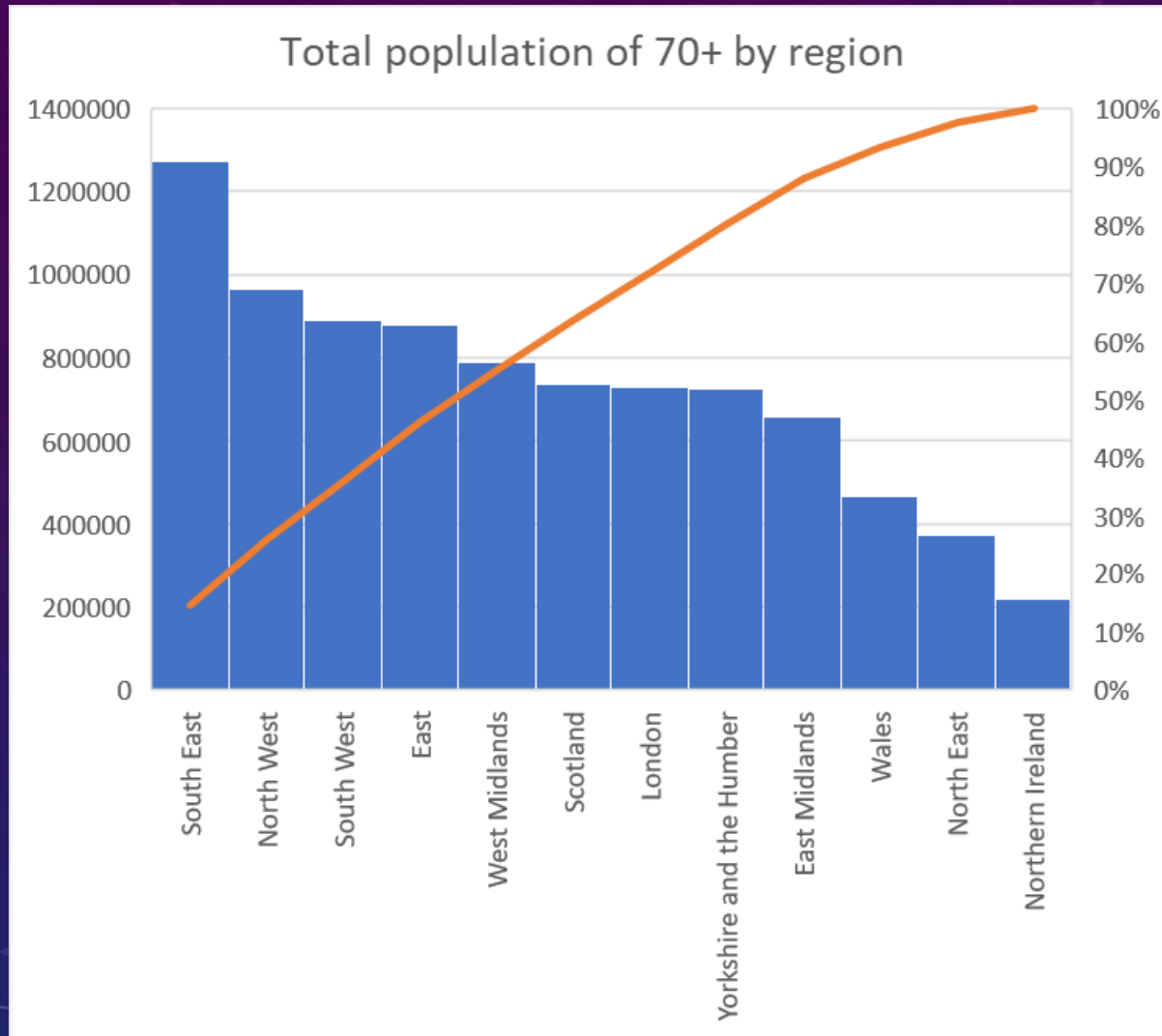
2020 DATA:



Region	Total population of 70+	Population density
East	878032	118.0008958
East Midlands	658400	108.8917136
London	727884	1195.924468
North East	372173	111.6951396
North West	966214	175.2155959
Northern Ireland	219966	41.84280729
Scotland	734273	24.15396648
South East	1271856	171.6336063
South West	889282	95.70220035
Wales	465897	57.24885893
West Midlands	787250	156.691016
Yorkshire and the Humber	726271	121.3595164

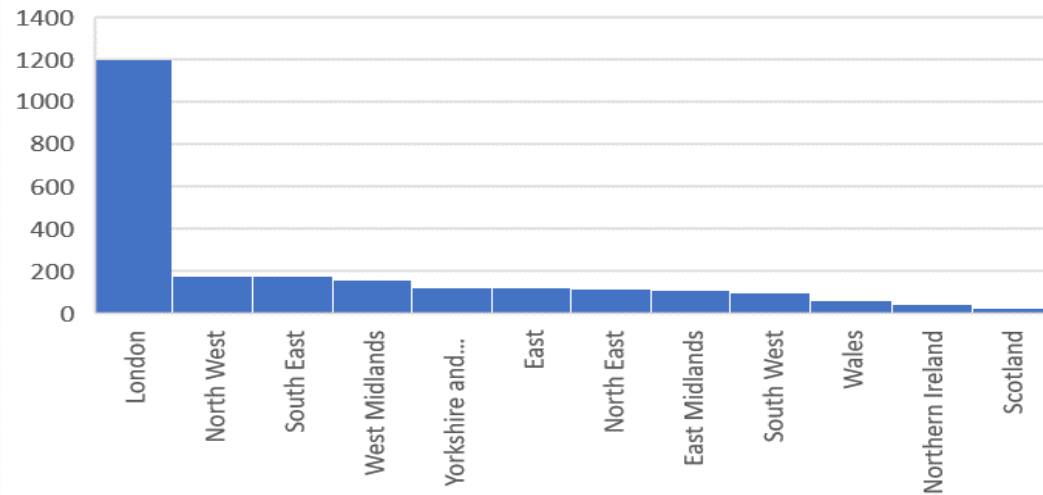
- As shown on this slide, I have calculated the population density for 70+ according to its regions.
- As you can see, London has the highest population density of 1200 rounded to 2sf. This means that the rate of infection can reproduce more rapidly than other areas which have a lower population density such as Scotland.
- As a result of London being the highest population density, I believe that there should be more further investment in Care homes and hospitals in London due to its large density of 70 plus.
- By having more hospitals in London, people will need to travel fewer miles to get to the nearest hospitals benefiting the 70+ to get assistance and treatment more effectively.

2020 DATA:

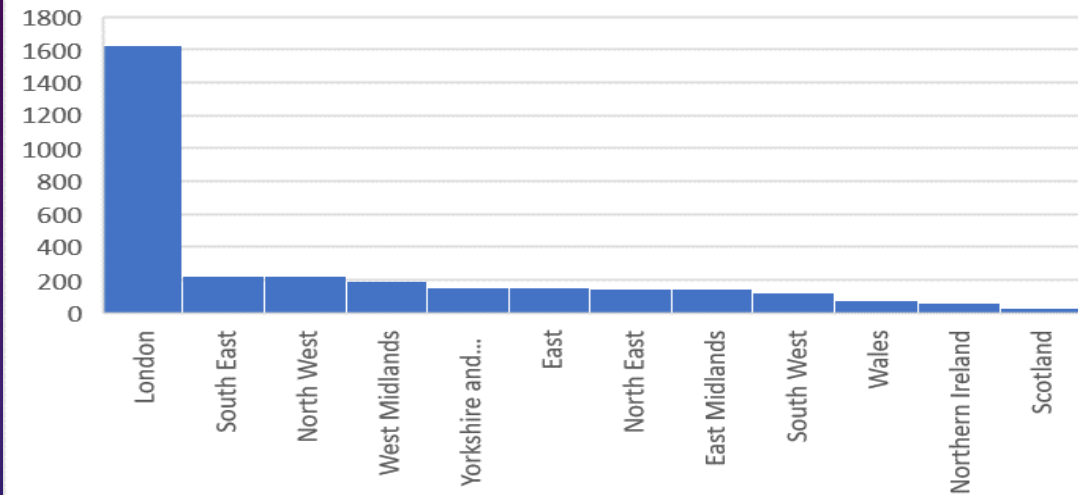


- Another factor to consider is the total population of 70+. This is because we know that particular age group is at the highest risk for COVID-19.
- The highest population of 70+ is found in the South East of England with a total population of 1,271,856 highlighting to us the area most likely to be affected and we may see a drop in the total population of 70+ in the future...
- The lowest total population of 70+ is found in Northern Ireland with a total population of 219,966.
- This is difference of 1,051,890 between the highest and lowest total population of 70+
- Northern Ireland as shown the previous slides has a low population density suggesting that COVID-19 will not severely affect those areas as much as other areas such as London.

70+ population density 2020



70 + population density 2031



- As shown on this slide, you can a comparison between the population density of 70 plus.
- From 2020 to 2031, some regions have increased whilst some have remained the same.
- London has remained to be the highest for the population density and has increased by 400 people per square mile.
- South East has increased over taking the North West.

TASK A: SUMMARY (MY OVERALL RANK FOR MOST LIKELY TO LEAST LIKELY REGIONS WHO ARE AT RISK)

MOST LIKELY ↑

London
North West
South East
West Midlands
East
Yorkshire and Humber
East Midlands
Wales
North East
South West
Northern Ireland

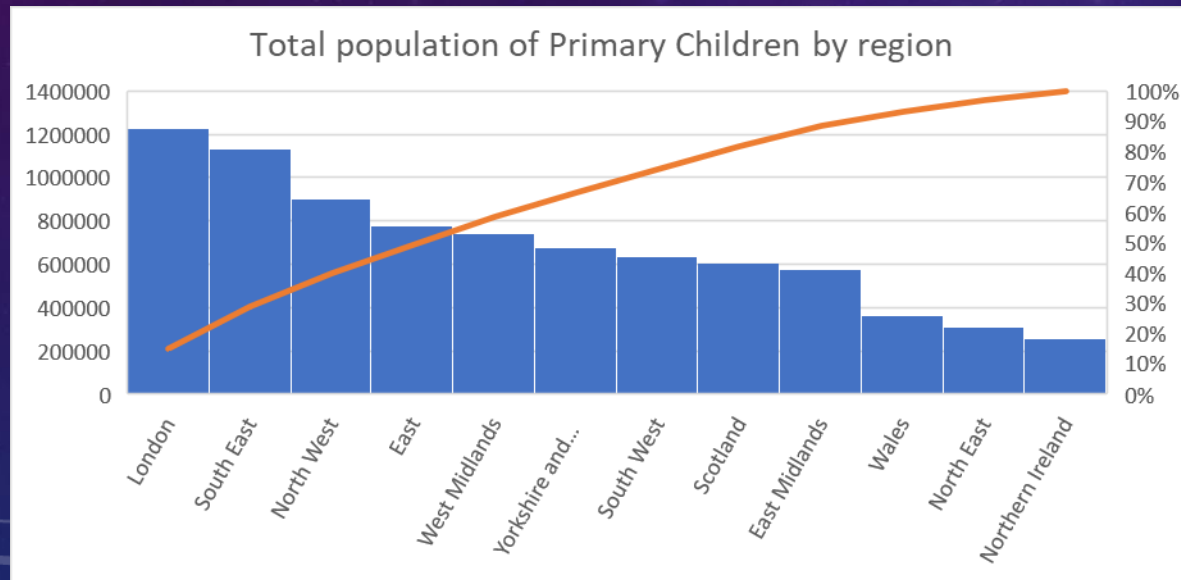
↓ LEAST LIKELY

- **London**: I chose it being the most likely to be at risk because according to my data, London has the highest total population in the UK and the lowest area in square miles meaning the area is very overcrowded increasing the possibility of the infection being transferred person to person making social distancing very hard..
- **South East and North West** : These 2 parts of the UK are very similar in population density but South East has the 2nd highest total population of 70 plus but has a bigger area in square miles allowing social distancing be more effective however compared to North West, it is on the higher side of total population of 70 plus (but less than the South East) however it as a lower area in square miles placing it higher up on the rank as the cases may increase in that area in the future.
- **West Midlands, East, Yorkshire & Humber , East Midlands**: These places I have placed using the same approach by using which places has a higher elderly population but a low area in square miles.
- **Northern Ireland and Scotland**: Both these places have the highest land area in square miles outcompeting the rest of the UK along with a low 70+ age group reducing the possibility of it being an area of high risk.

Task B: Investigating the impact on different age groups between 2020 and 2031 .

This will include: Students (younger years and teens), working class and 70 plus age groups

Region	Females 0 to 4	Females 5 to 9	Males 0 to 4	Males 5 to 9	Total population by region of Primary	Area (Square Miles)	Population density
East	185778	193725	194939	203311	777753	7440.892665	104.5241525
East Midlands	137039	143311	143671	149860	573881	6046.373763	94.91325256
London	309167	290334	324963	304470	1228934	608.6371001	2019.157228
North East	73229	77609	77904	81680	310422	3332.042929	93.16266526
North West	216777	223299	228096	234522	902694	5514.429208	163.6967247
Northern Ireland	61808	64569	64617	67542	258536	5256.960855	49.17974608
Scotland	142649	152269	149988	158426	603332	30399.68614	19.84665227
South East	266638	285066	280415	300180	1132299	7410.297013	152.8007579
South West	151287	159415	159207	167853	637762	9292.179247	68.63427653
Wales	85145	91544	89497	95999	362185	8138.101068	44.50485401
West Midlands	178556	183143	188125	193198	743022	5024.21913	147.888056
Yorkshire and the Humber	162532	168825	170791	176983	679131	5984.458587	113.4824463

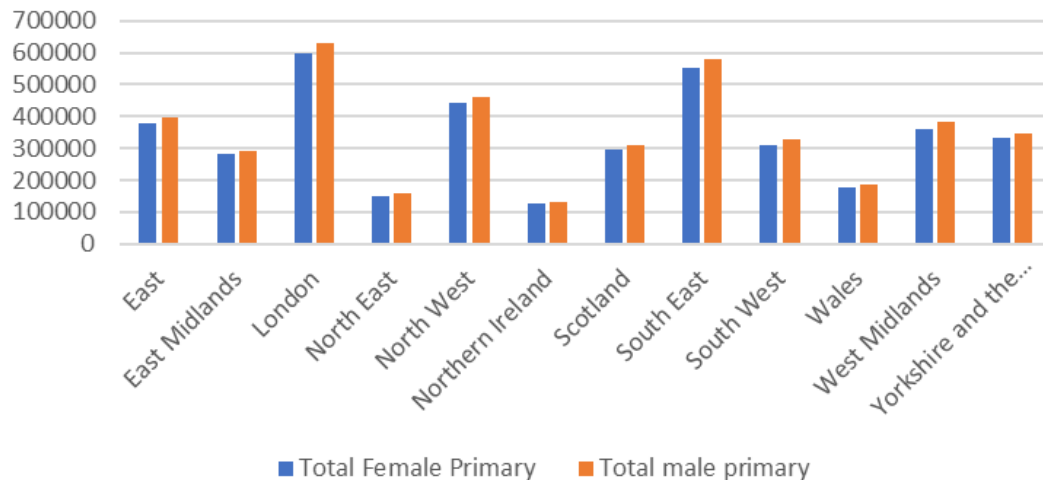


- Firstly, I calculated the total population and population density of those in primary schools which included the groups 0-4 and 5-9 both male and female.
- As you can see the majority of younger years are found in London making it a key location for the virus to spread which agrees to my previous hypothesis of London being the area of the highest risk.
- Northern Ireland being the lowest total population of younger years will keep the number of cases in this year group to a low number unless scientifically proven otherwise.

2020 DATA:

Region	Total Female Primary	Total male primary
East	379503	398250
East Midlands	280350	293531
London	599501	629433
North East	150838	159584
North West	440076	462618
Northern Ireland	126377	132159
Scotland	294918	308414
South East	551704	580595
South West	310702	327060
Wales	176689	185496
West Midlands	361699	381323
Yorkshire and the Humbe	331357	347774

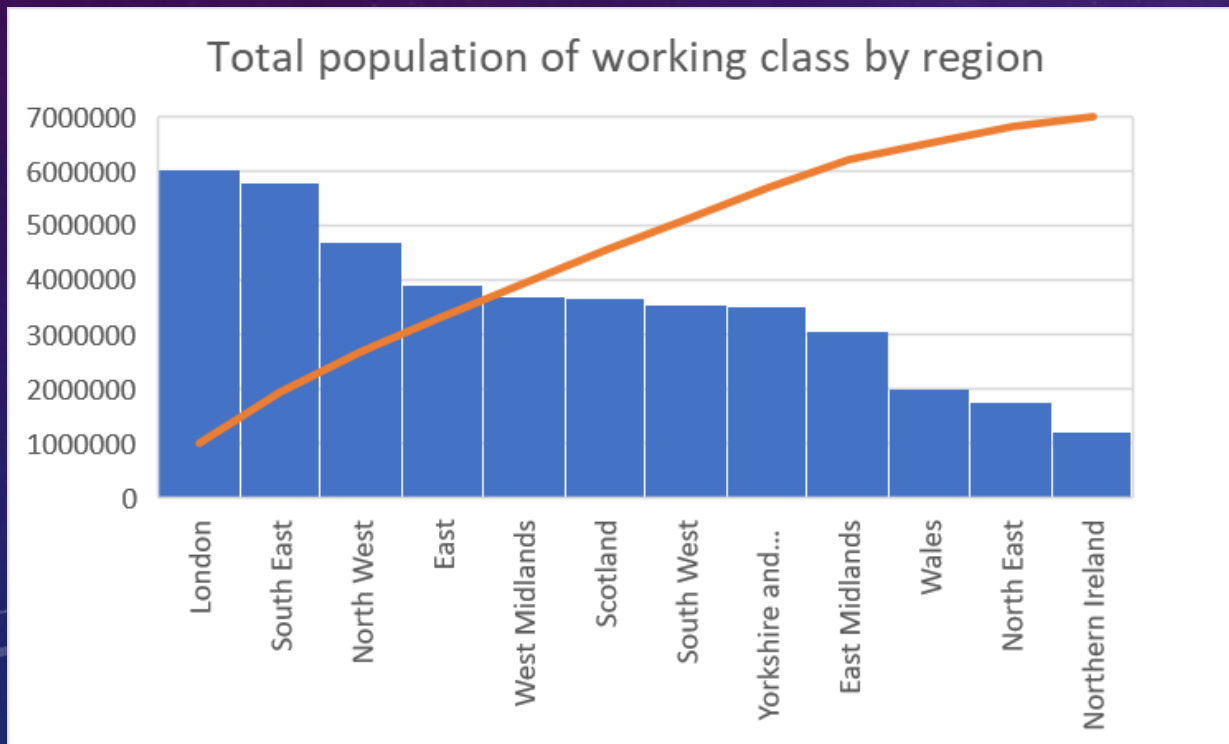
Ratio comparison between male and female for younger years



- After that, I calculated the difference between male and female ratio for the younger years according to each region for 2020.
- As shown on this slide, the general trend shows that there is a higher male to female ratio population within each region mainly in areas like London and South East.
- This could suggest that the male population may be at a slightly higher risk rate than women due to a higher total population however this is hard to say because the figures are very close to each other.
- The lowest areas include areas like the North East and Northern Ireland.
- In my opinion, if the UK was to invest further in schools like building more schools in densely populated areas like London, social distancing would be more effective because you can decrease the amount of pupils in each class whilst allowing more classrooms for pupils to get face to face learning. Having more classrooms, will allow more pupils to return to school and have trust by the parents that they will be safer.

Region	Females 20 to 29	Females 30 to 39	Females 40 to 49	Females 50 to 59	Females 60 to 69	Males 20 to 29	Males 30 to 39	Males 40 to 49	Males 50 to 59	Males 60 to 69	Total population b	Area (Square Mile	Population densit
East	362907	405148	420672	427716	355865	384071	392027	410439	419502	335476	3913823	7440.892665	525.9883694
East Midlands	311725	295717	317640	336422	278734	326785	287689	309142	329022	270192	3063068	6046.373763	506.5958739
London	715852	807678	610424	517699	349240	709328	853984	625787	502008	322877	6014877	608.6371001	9882.534271
North East	181473	166450	170779	197323	165171	190586	160322	162461	188455	156557	1739577	3332.042929	522.0752065
North West	487499	466898	478988	510849	412657	504409	461561	464875	496013	399264	4683013	5514.429208	849.2289633
Northern Ireland	123021	128414	129520	130569	98233	126455	122757	123188	126219	95389	1203765	5256.960855	228.9849655
Scotland	378496	362880	376369	417136	337536	378816	348527	355202	394509	317849	3667320	30399.68614	120.6367718
South East	540763	588266	632047	638524	512458	571753	564647	613017	626716	486126	5774317	7410.297013	779.2288204
South West	333062	327235	360551	400248	352737	361425	322953	348599	384647	332554	3524011	9292.179247	379.2448366
Wales	203223	184583	198999	223059	195844	218076	182987	190720	213326	186516	1997333	8138.101068	245.4298593
West Midlands	388237	370497	379318	390171	320303	408983	366061	374404	383029	307628	3688631	5024.21913	734.1700082
Yorkshire and the Humber	376882	346745	355770	374068	308522	394267	341782	351577	368861	298677	3517151	5984.458587	587.7141514

Year 2020 DATA:



- In this slide, using the 2020 data sheet I have calculated the total population of the working class category and its population density.
- As previously stated, London again has the highest population density despite it being a city and its population is constantly increasing at a rapid rate.
- However, the whole UK has a high overall working class in every region placing them at the highest risk out of all the categories I will be investigating.
- If lockdown was to ease, the working class total population would most likely decrease the most as they are more prone to transfer the disease more quickly as they would travel to work using public transport systems.

2020 DATA:

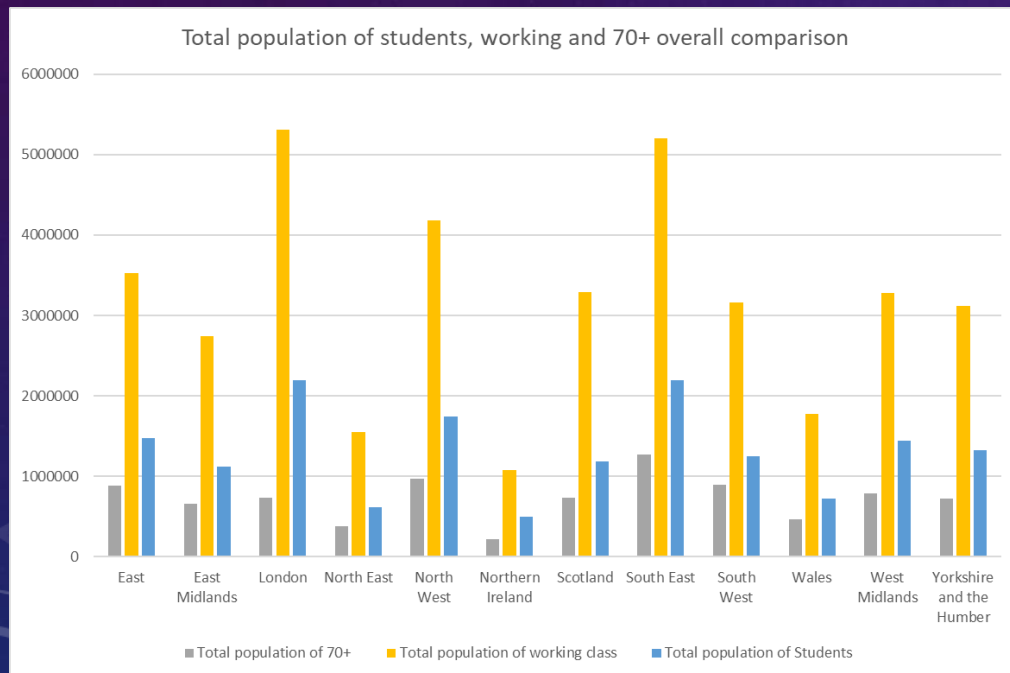
Region	Total working female	Total working male
East	1972308	1941515
East Midlands	1540238	1522830
London	3000893	3013984
North East	881196	858381
North West	2356891	2326122
Northern Ireland	609757	594008
Scotland	1872417	1794903
South East	2912058	2862259
South West	1773833	1750178
Wales	1005708	991625
West Midlands	1848526	1840105
Yorkshire and the Humber	1761987	1755164

Comparison between working class male and female by region



- In this slide, I have compared the male to female ratio of the working class sector.
- As shown on this slide, each region has fairly proportional data in terms of male and female.
- There is a very small difference between the total population between male and female and is not very clearly visible on the bar chart shown on this slide.
- This means that it doesn't matter whether it is male or female, showing that the virus doesn't not impact only on one gender type.

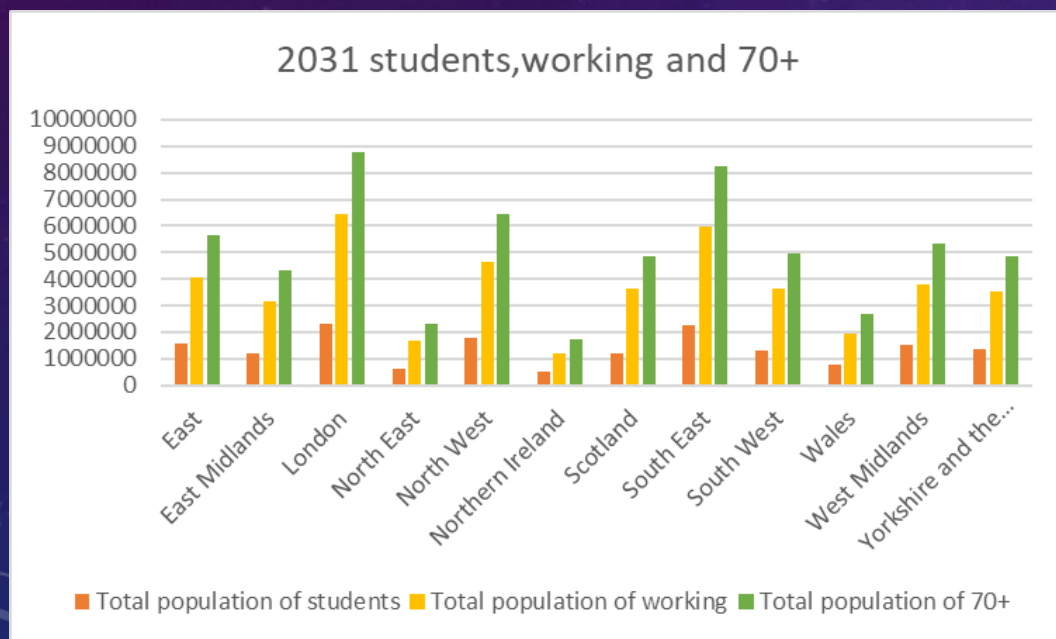
Region	Total population of teens	Total population of Primary	Total population of 70+	Total population of working class	Total population of Students
East	699140	777753	878032	3529752	1476893
East Midlands	547877	573881	658400	2736283	1121758
London	967696	1228934	727884	5305549	2196630
North East	298123	310422	372173	1548991	608545
North West	835772	902694	966214	4178604	1738466
Northern Ireland	237453	258536	219966	1077310	495989
Scotland	585330	603332	734273	3288504	1188662
South East	1061408	1132299	1271856	5202564	2193707
South West	615453	637762	889282	3162586	1253215
Wales	354803	362185	465897	1779257	716988
West Midlands	693795	743022	787250	3279648	1436817
Yorkshire and the Humber	638670	679131	726271	3122884	1317801



- In conclusion from analysing the 2020 data, it is clear that the most affected would be the working class and we might see a change if social distancing was eased.
- Working class would possibly experience in the future a population surplus.
- Personally, I feel students numbers will not fall or be severely affected unless the area has a high population density.
- In the future, there may be a declining number of 70+.

Region	Total population of students	Total population of working	Total population of 70+
East	1572020	4084727	5656747
East Midlands	1176050	3141343	4317393
London	2333075	6463300	8796375
North East	604820	1692563	2297383
North West	1783110	4665949	6449059
Northern Ireland	488869	1217420	1706289
Scotland	1198753	3630173	4828926
South East	2275570	5980884	8256454
South West	1326244	3624398	4950642
Wales	745451	1949350	2694801
West Midlands	1508310	3800872	5309182
Yorkshire and the Humber	1335516	3523050	4858566

2031 DATA:

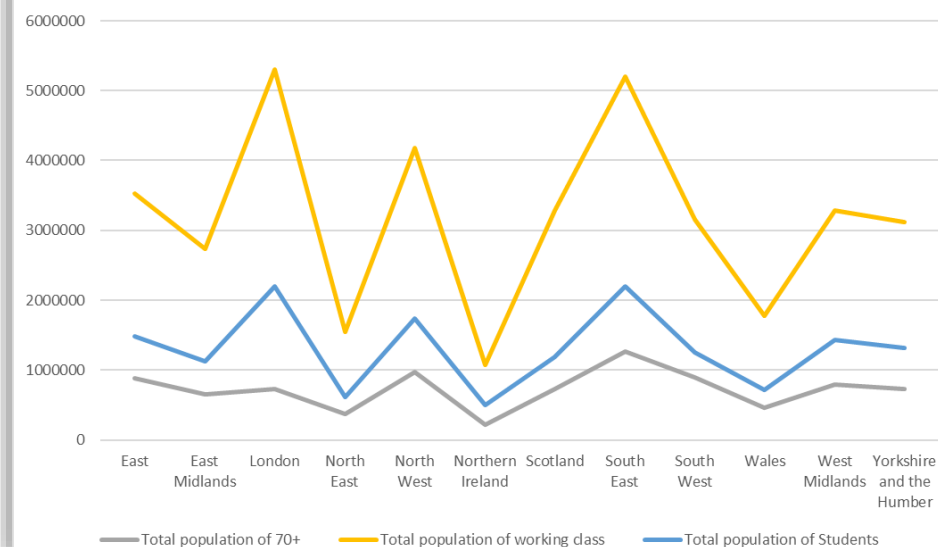


- Compared to 2020, you can see from the bar chart, there is an exponential decline within each age group within each region
- Surprisingly, the 70+ category has significantly increased instead of declining. This could be due to an increase in new technology and more care homes provided.
- Even though the 70 plus total population has increased, unfortunately the total working population has decreased significantly
- However, the number of students has stayed fairly constant within each region

Comparison between total population of students, working class and 70 plus (2031 projection) of all regions



Comparison of population between 70+ , working class and Students 2020



2031 and 2020 DATA:

COMPARISON BETWEEN TOTAL POPULATION OF 2020 AND 2031

2020 Projection

- London, North West, South East and The West Midlands has the highest total population for all age ranges
- There is a fluctuating relationship between each region.
- The working class in each region in 2020 is higher than in 2031
- The 70+ is lower in 2020 than 2031
- The number of students is lower in 2020 than 2031
- North East, Northern Ireland and Wales have the lowest out of all the regions total population in 2020

2031 Projection

- Total population of 70+ is higher in 2031 compared to 2020 which is a lot lower.
- Total population of working in 2031 is lower than 2020
- Total population of students in 2031 has decreased in comparison to 2020.
- London, North West, South East and West Midlands remains to be the highest in all categories
- North East, Northern Ireland, East Midlands and Wales increase a bit but remain fairly low on the chart.

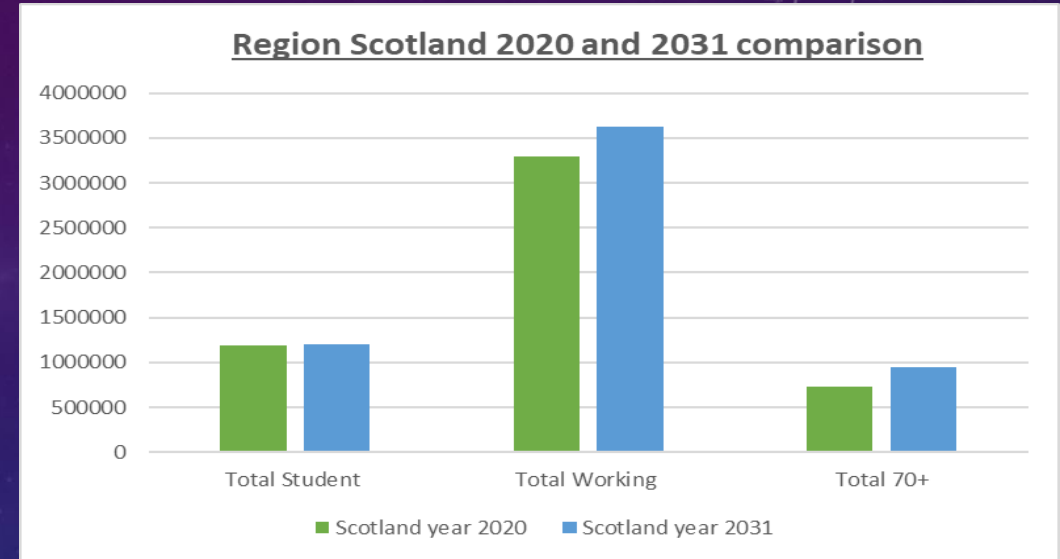
TASK C: FINAL OPINION AND ANALYSIS ON EACH REGION (SUMMARY)

LONDON:



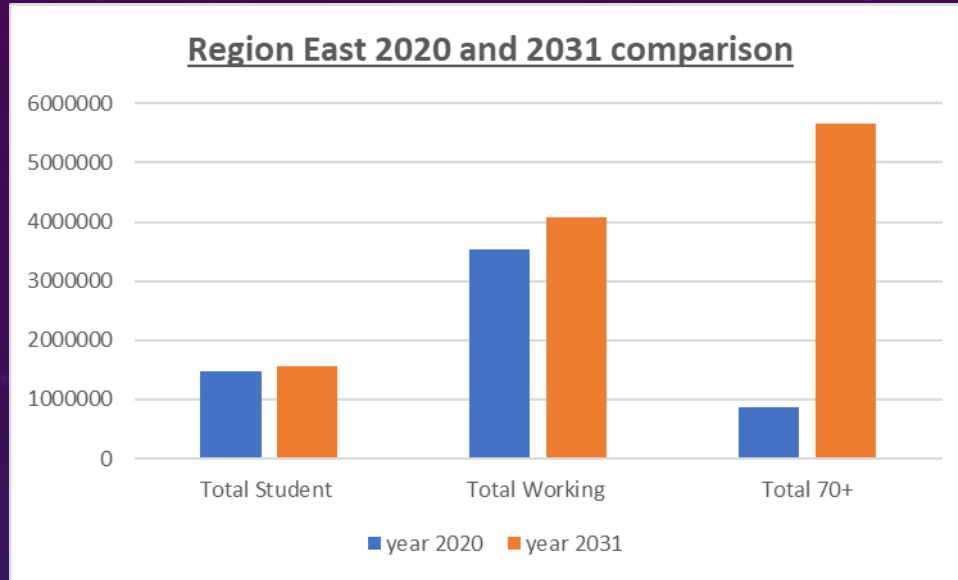
- London is very densely populated therefore would require more medical facilities due to its very fast growing working class sector and increasing population density.
- If social distancing was to ease, more investment in school would also be required to lower class sizes but is not the priority yet.
- More cares homes would also be necessary to get medical attention more effectively.
- There would also be an increase in demand in housing

SCOTLAND:



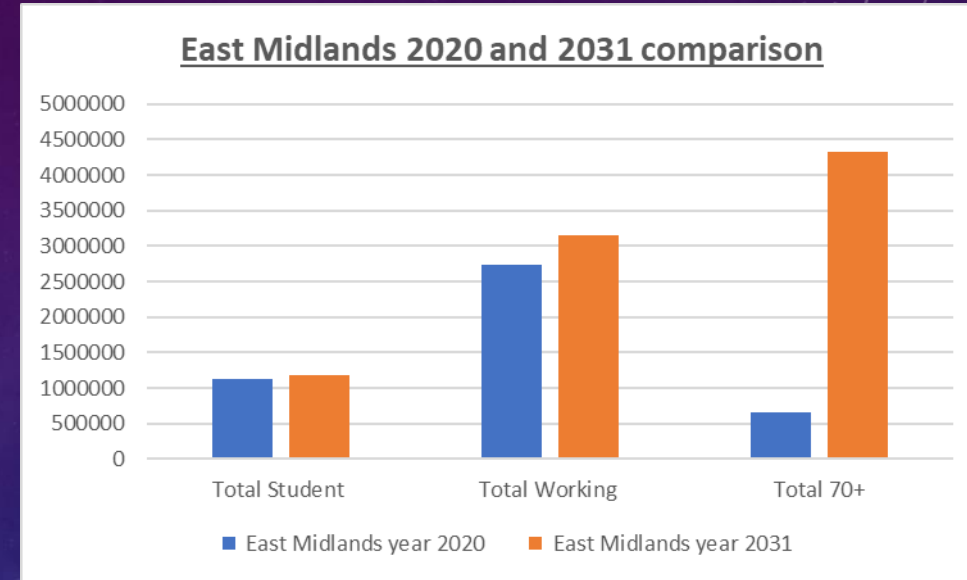
- Scotland has a very large area with a high 70+ population predicted in 2031 therefore would require more care homes to accommodate.
- Also more effective transport systems would be required to get medical attention more quickly due to its geology mainly consisting of upland areas and the north south divide.
- More hospitals would also be required due to its large area in square miles.

EAST:



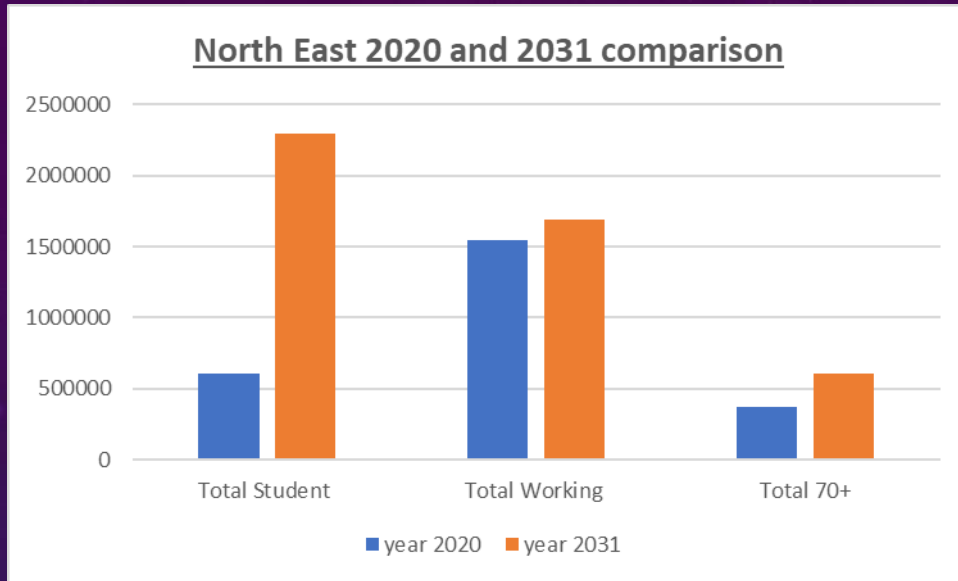
- This area requires the most amount of attention regarding care homes due to its very rapid over 70 growth rate in 2031 as shown above. (Over 50 life insurance policy?)
- The East will also require some attention on the working class by providing some housing demands.

EAST MIDLANDS:



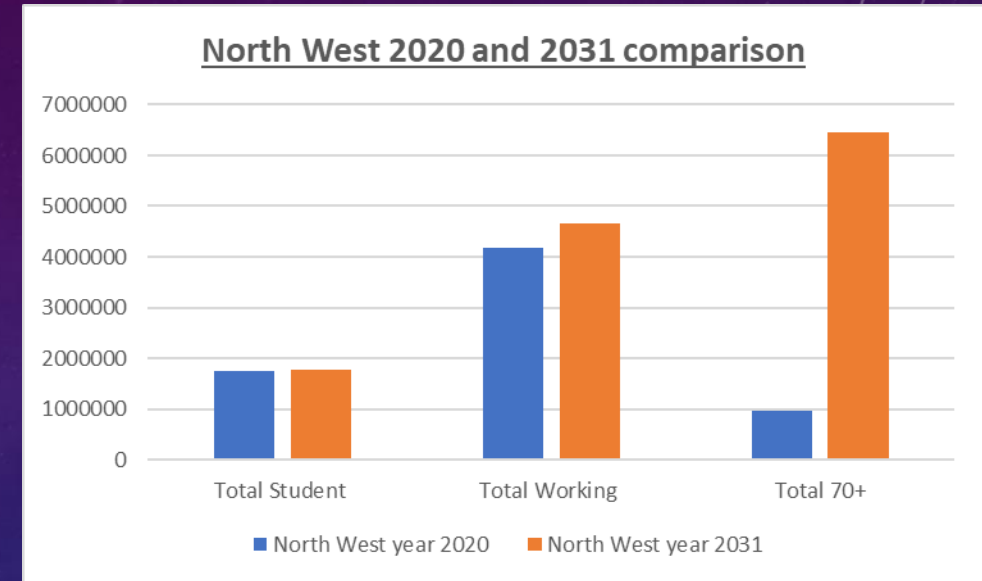
- As shown in the diagram above, its ratio between student to working class is fairly proportional and is increasing at a steady rate.
- However, the 70+ population is increasing very rapidly which seems like the general trend within each region.
- We should encourage to build more care homes within every area to accommodate the elderly population in 2031.

NORTH EAST:



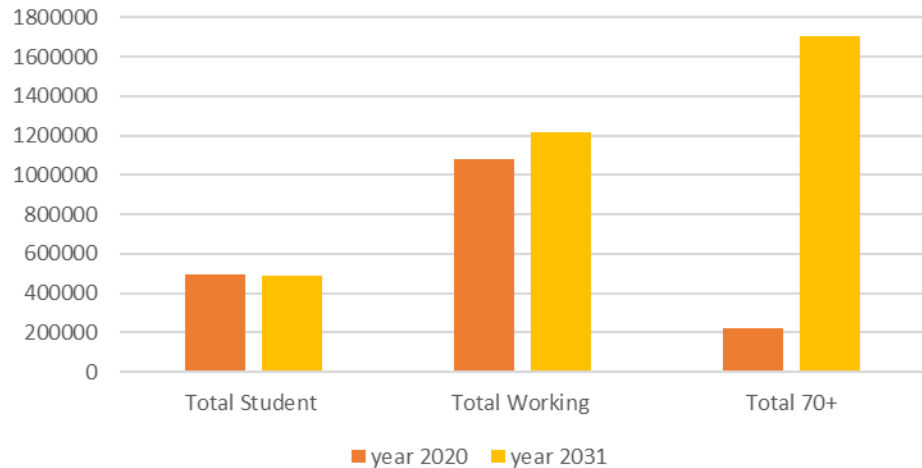
- This area has the highest rapidly growing student rate from 2020 to 2031.
- Due to this, I believe more primary and secondary schools should be built to lower class sizes and avoid over unsubscribed in the future.
- More schools will also allow disadvantaged pupils to get the opportunity to get higher education
- However, this will be a concern between the pupil to teacher ratio within each school.
- Housing demands may also increase for the working class.

NORTH WEST



- This area is more targeted at the 70+ category due to its fast growing 70+ 2031 data.
- Therefore, I believe more hospitals and care homes should be provided.
- Also you could potentially increase the amount of pension to only help those in disadvantaged backgrounds to help them buy medication and treatments.
- Housing demands may also increase as well.

Northern Ireland 2020 and 2031 comparison



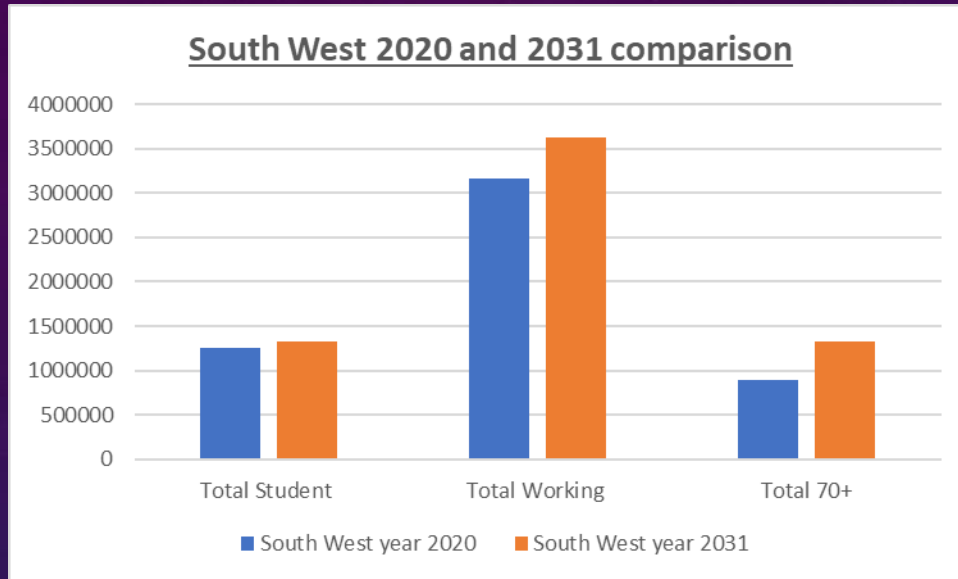
South East 2020 and 2031 comparison



NORTHERN IRELANDS & SOUTH EAST:

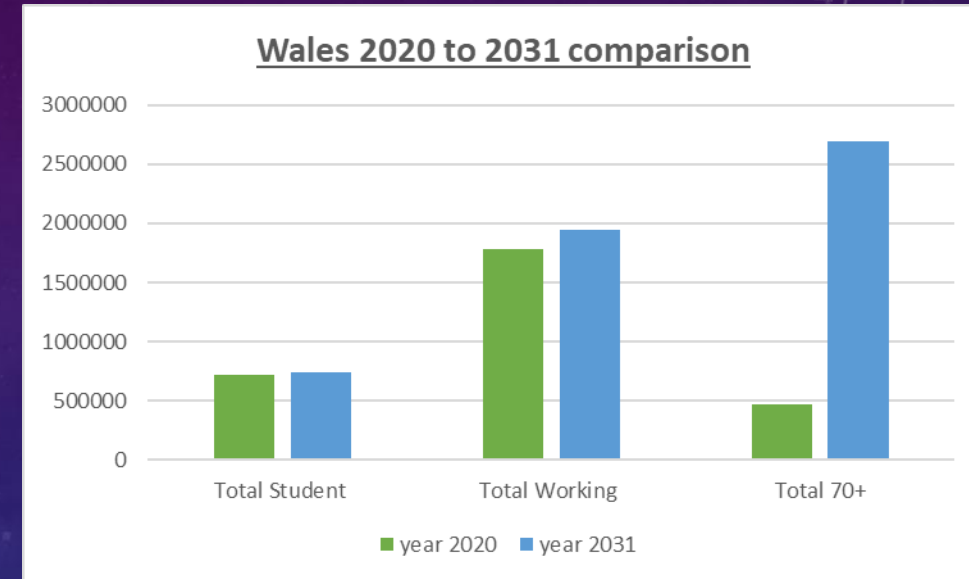
- Both these areas are similar to each other and the general area of concern for both of these areas is the 70+ category.
- I believe more care homes should be provided in both regions to allow elderly people to get medical attention more easily.
- In particular, more hospitals should be invested in Northern Ireland due to its large area in square miles.
- More job opportunities should also be considered for young people.

SOUTH WEST:



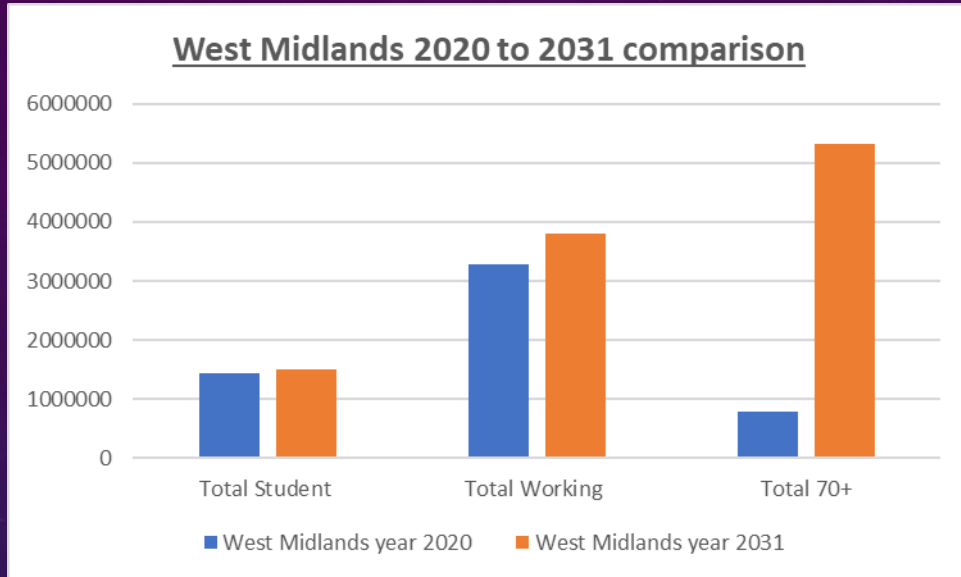
- In the South West, there is a concern for the working class.
- There may be job shortages for young people in 2031 due to its rapidly growing population.
- The government could provide some sort of scheme to help young people get job opportunities and to manage working whilst studying.
- 70+ is also increasing as well so there might be pressure on care homes.

WALES:



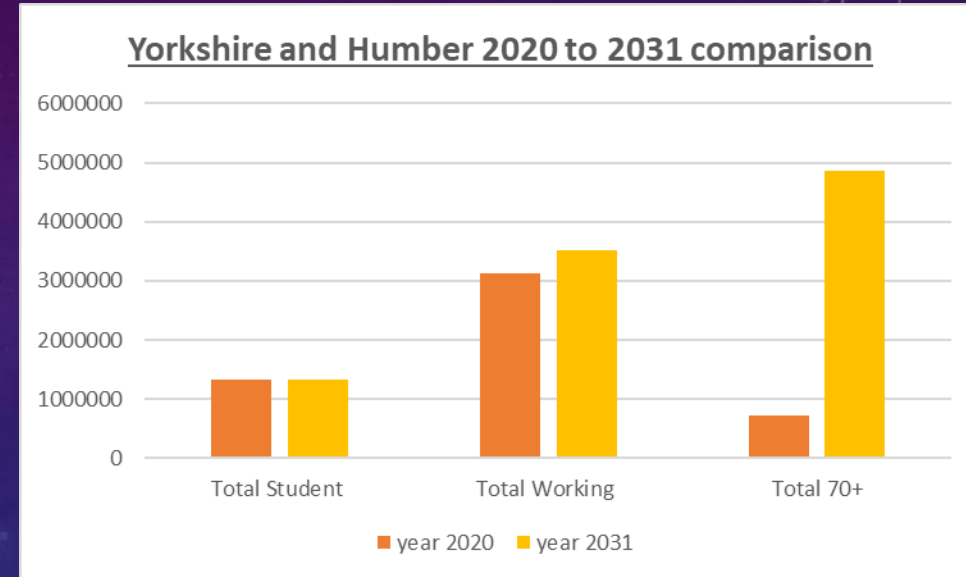
- In Wales, the main concern is the 70+ as it is rapidly increasing which may put pressure on care homes.
- Due to this crisis, it might also require more hospitals to build in the area.

WEST MIDLANDS:



- This area does not require much assistance as well as most categories are fairly proportional to each other except 70+
- This would require more care homes and housing demands to be invested within the area to ensure they can receive medical care.
- Also places for community for 70+ to gather should also be encouraged.

YORKSHIRE AND HUMBER:



- This area does not require much assistance from the government in terms of further investment.
- Only more care homes should be considered for the rapid growth in 70 plus category

SUMMARY OF ALL THE KEY POINTS AND FACTS:

- The main regions that require further investment in care homes and hospitals for the 70+ include: London, East, East Midlands, North West, Northern Ireland, West Midlands and Yorkshire.
- The fastest region with growing 70+ total population between 2020 to 2031 is the East of the UK with a population of 6,000,000 in 2031.
- The slowest region with 70+ total population difference is the South West.
- Schools should be further invested by building more schools in areas such as South East to lower class sizes and make the school environment safer. It also avoids the schools from being oversubscribed in the future.
- There is a concern for housing demands to increase causing house prices to increase due to an increase in population of the working class mainly in areas such as South West , London and Scotland.
- Government should also introduce a scheme to help young people regarding job opportunities with disadvantaged backgrounds.

Any Question?

You can type on the
chat or say it out
loud.

