AGENDA ITEM
6.1

QUALITY & SAFETY COMMITTEE

A SUMMARY OF AVOIDABLE MORTALITY BETWEEN 2001 AND 2019 AND THE COVID19 UPDATE IN CWM TAF MORGANNWG

Date of meeting	22 November 2021
FOI Status	Open/Public
If closed please indicate reason	Not Applicable - Public Report
Prepared by	Dr Kelechi Nnoaham, Executive Director of Public Health
Presented by	Dr Kelechi Nnoaham, Executive Director of Public Health
Approving Executive Sponsor	Executive Director of Public Health
Report purpose	FOR NOTING

Engagement (internal/external) undertaken to date (including receipt/consideration at Committee/group)		
Committee/Group/Individuals	**Date**	**Outcome**
		Choose an item.

ACRONYMS	

1. SITUATION/BACKGROUND

1.1 The Office for National Statistics (ONS) released national Avoidable Mortality Statistics for 2019 on 26th February 2021. I reflected on it,

looking back into the same data for previous years. I thought I would share my reflections with colleagues.

This report presents local and comparative standardised data on avoidable, treatable and preventable mortality in Cwm Taf Morgannwg from 2001-2019 and current the Covid-19 picture in the following sections.

2. SPECIFIC MATTERS FOR CONSIDERATION BY THIS MEETING (ASSESSMENT)

Avoidable mortality and its sub-categories are best understood in the following way:

- Avoidable mortality - avoidable deaths are all those defined as preventable, treatable, or both, where each death is counted only once. Where a cause of death falls within both the preventable and treatable definition, all deaths from that cause are counted in both categories when they are presented separately.
- Treatable (or amendable) mortality - a death is treatable if, in the light of medical knowledge and technology at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided through good quality healthcare.
  Note: The label "amenable" mortality used in the previous data was changed to "treatable" in the new avoidable mortality definition to make more explicit the link with the health care interventions
- Preventable mortality - a death is preventable if, in the light of understanding of the determinants of health at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided by public health interventions in the broadest sense.

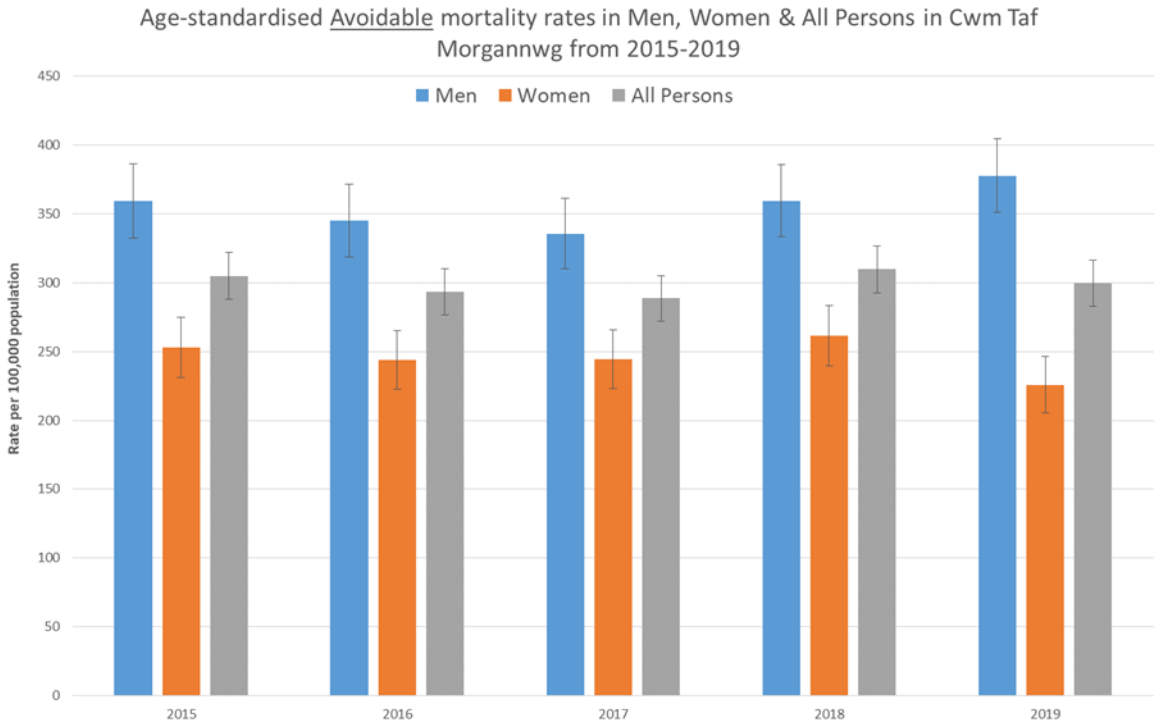
Avoidable deaths reflect two things; (1) the degree to which the healthcare system successfully influences the health of the public; (2) the general conditions of people's lives (ill health, poverty, lack of work, low levels of skills and education) which are, in turn, associated with behaviours known to cause ill health - such as smoking, alcohol misuse and obesity. Therefore, one of the main expected uses of these statistics is the monitoring of the performance of healthcare and public health systems and policies. The Organisation for Economic Co-operation and Development (OECD) assessed the feasibility of using treatable mortality as an indicator of the performance of healthcare systems in OECD countries, concluding that the potential for this indicator for cross-country comparisons of healthcare effectiveness was very high.

Age-standardised mortality rates are calculated using the number of deaths registered in a year and mid-year population estimates (MYPE) for that year. Age-standardisation allows for differences in the age structure of populations to be taken into account and therefore allows valid comparisons to be made between geographical areas. Using the direct method of standardisation, age-specific rates for each year are applied to the European standard population to obtain the number of cases expected in each age group in the standard population.

The numbers of expected cases are then added up across all age groups and divided by the total standard population to obtain a summary rate figure.

Comparing recent mortality in men and women in Cwm Taf Morgannwg

Figure 1 - Age-standardised Avoidable mortality rates in Men, Women & All Persons in Cwm Taf Morgannwg from 2015-2019



**The new definition of avoidable mortality has been implemented for the entire time series which means the data will not match previously published data*

Figure 2 - Age-standardised Treatable mortality rates in Men, Women & All Persons in Cwm Taf Morgannwg from 2015-2019

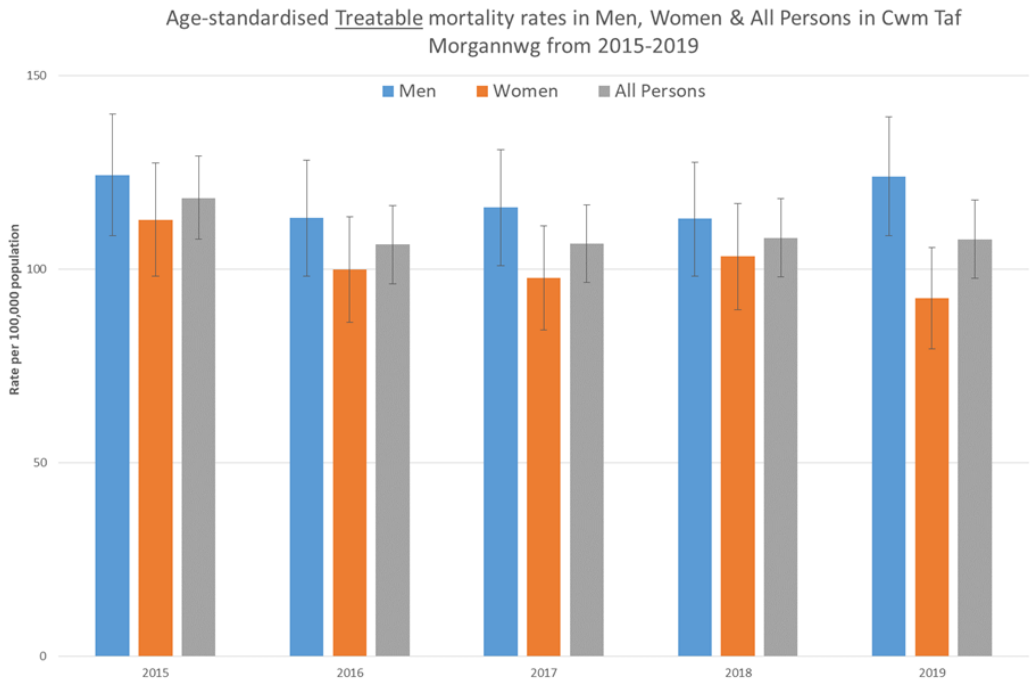
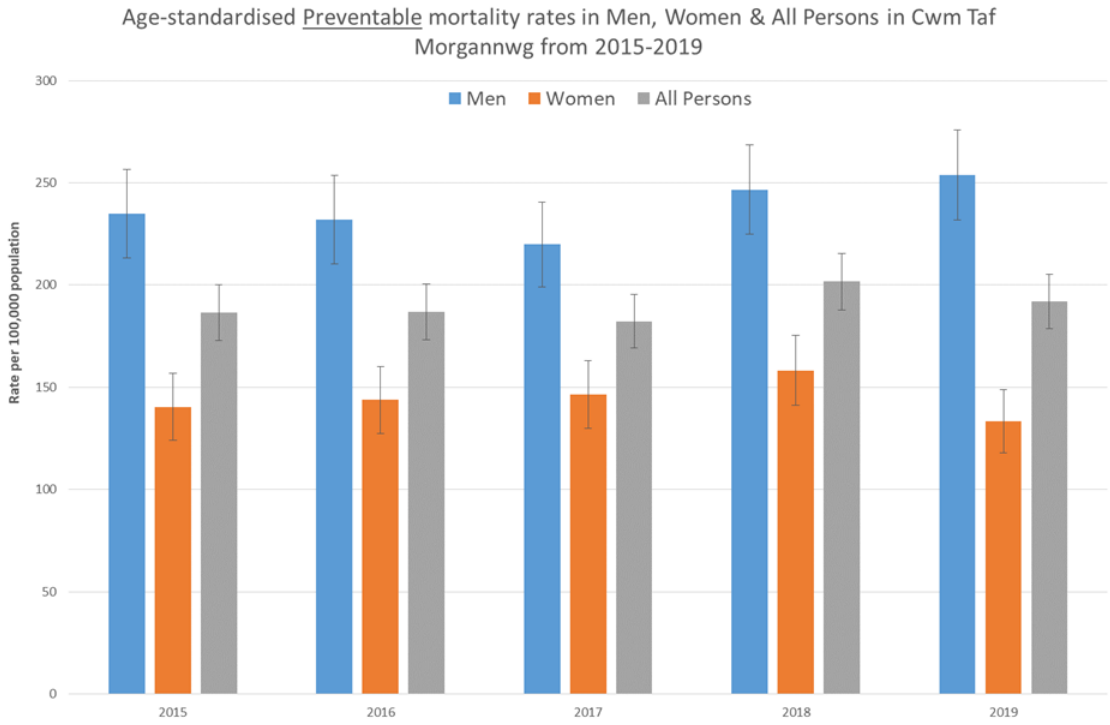


Figure 3 - Age-standardised Preventable mortality rates in Men, Women & All Persons in Cwm Taf Morgannwg from 2015-2019



Avoidable deaths in men in Cwm Taf Morgannwg are significantly higher than those in women. Preventable mortality in men increased again in 2019.

Avoidable mortality in women has decreased in 2019 following an increase in 2018.

Comparing mortality in all persons in Cwm Taf Morgannwg to other Health Boards and Wales

Figure 4 - Trends in Avoidable age-standardised mortality in 2001-2019, All Welsh Health Boards

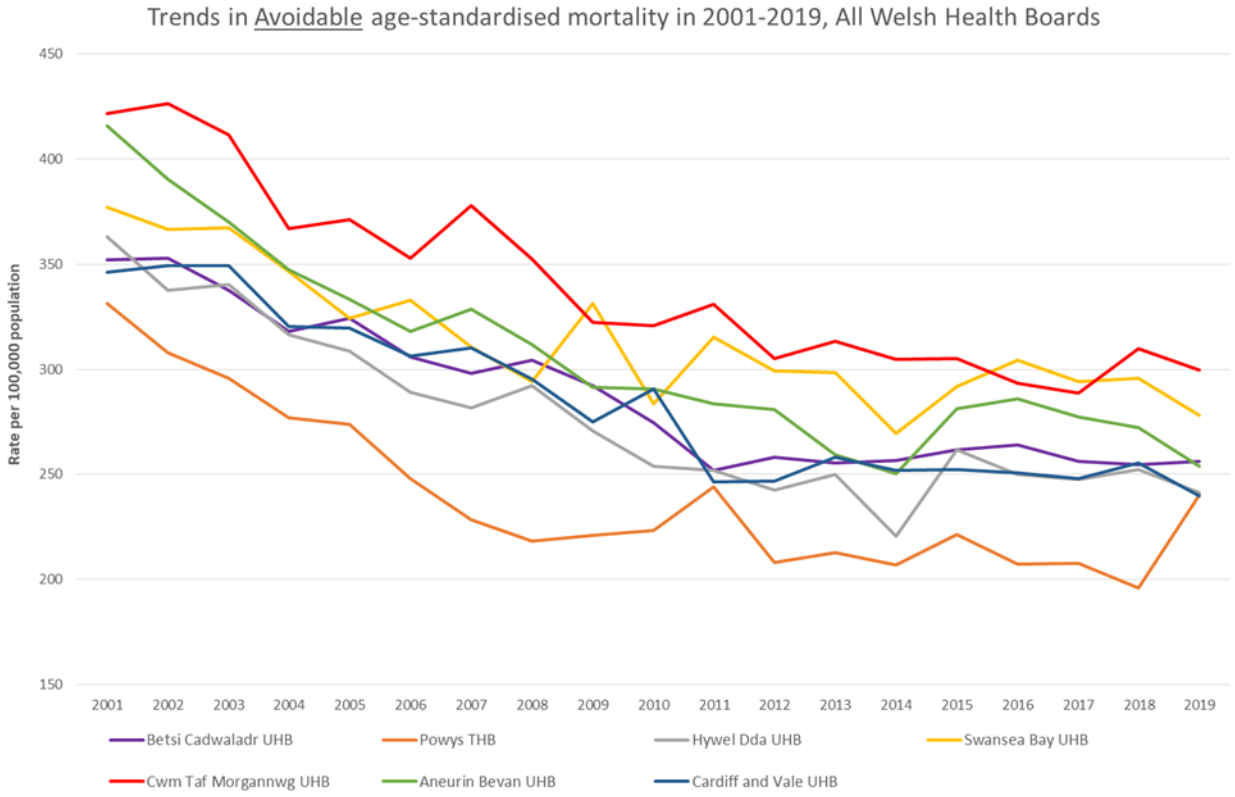


Figure 5 - Trends in Treatable age-standardised mortality in 2001-2019, All Welsh Health Boards

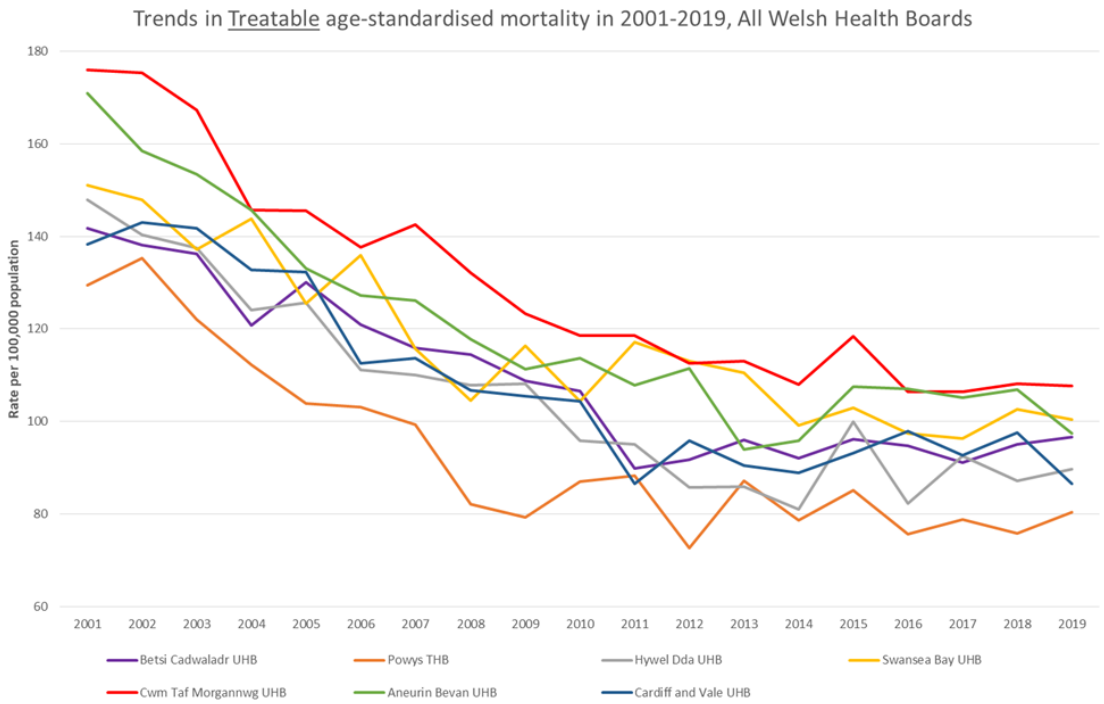
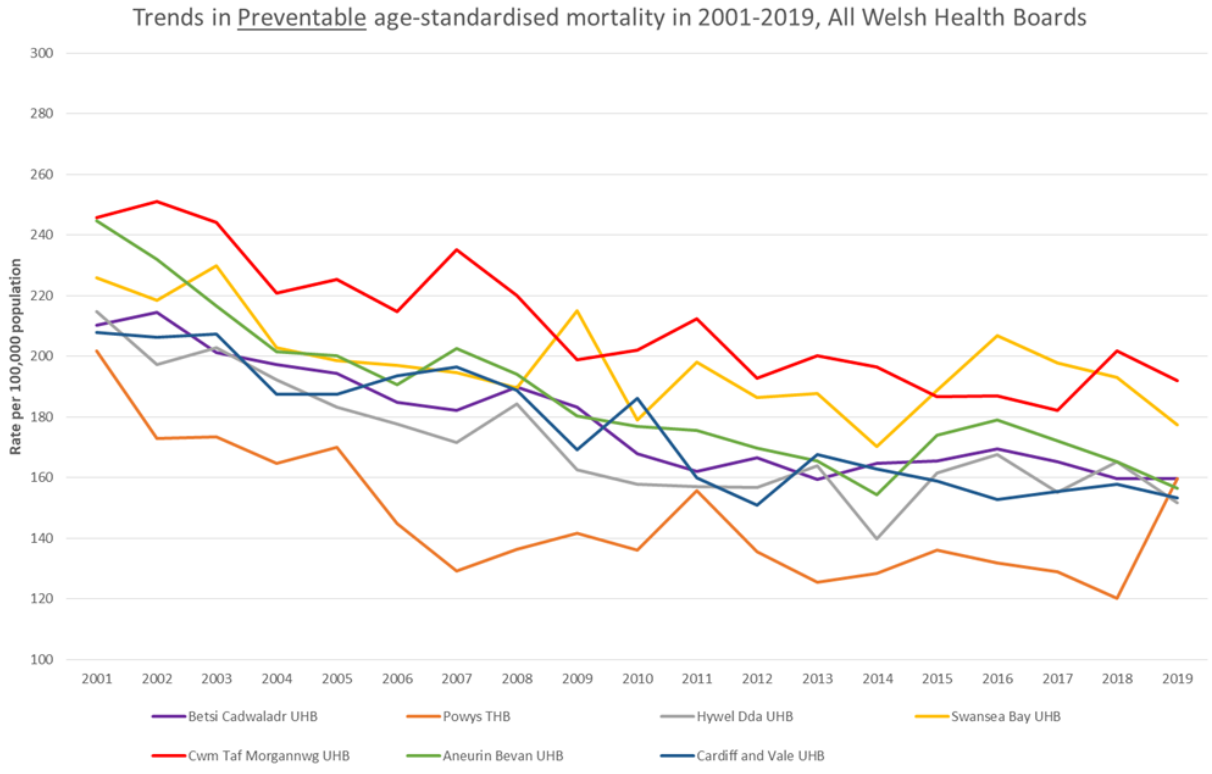


Figure 6 - Trends in Preventable age-standardised mortality in 2001-2019, All Welsh Health Boards



Avoidable deaths in all persons in Cwm Taf Morgannwg UHB are higher compared to other Health Boards although there has been three years where Swansea Bay UHB had higher rates. There has been an overall decrease in avoidable deaths from 2001-2019 and following the increase in 2018, avoidable deaths have decreased again in 2019.

3. KEY RISKS/MATTERS FOR ESCALATION TO BOARD/COMMITTEE

In conclusion, there has been little change in avoidable mortality in all persons in the last five years in Cwm Taf Morgannwg UHB. Recent increases in preventable and treatable mortality in men has driven an increase in avoidable deaths whilst there has been a decrease in avoidable deaths for women. Avoidable deaths remain statistically significantly higher in Cwm Taf Morgannwg men compared to women and this gap has increased in 2019. Merthyr Tydfil has the highest rate of avoidable mortality in Wales for women and the third highest rate for men and RCT has the 2nd highest avoidable mortality for women and 4th highest for men.

4. IMPACT ASSESSMENT

Quality/Safety/Patient Experience implications	Yes (Please see detail below)
Related Health and Care standard(s)	Effective Care
	If more than one Healthcare Standard applies please list below: Safe Care Staying Healthy
Equality Impact Assessment (EIA) completed - Please note EIAs are required for <u>all</u> new, changed or withdrawn policies and services.	No (Include further detail below) If yes, please provide a hyperlink to the location of the completed EIA or who it would be available from in the box below. If no, please provide reasons why an EIA was not considered to be required in the box below.
	Not required
Legal implications / impact	There are no specific legal implications related to the activity outlined in this report.

Resource (Capital/Revenue £/Workforce) implications / Impact	There is no direct impact on resources as a result of the activity outlined in this report.
Link to Strategic Goals	Creating Health

5. RECOMMENDATION

5.1 The Committee are being asked to NOTE the report.

6. CTM COVID-19 UPDATE

6.1 The current CTM COVID-19 epidemiology, testing, vaccinations, demographics, inequalities, admissions and mortality is presented below.

Figure 7 - Breakdown of COVID-19 cases by Local Authority for samples collected between 30/10/21 and 05/11/21

Local Authority	New cases	Cumulative cases	Last 7 days Cases	Incidence*	Change**	Prior 7 days Cases	Incidence*
Vale of Glamorgan	+132	19,116	943	705.9	↓ 35.9	991	741.8
Torfaen	+72	14,743	663	705.6	↓ 57.5	717	763.1
Caerphilly	+100	29,176	1,089	601.4	↓ 130.9	1,326	732.3
Blaenau Gwent	+61	11,651	415	594.0	↓ 64.4	460	658.4
Neath Port Talbot	+86	25,021	844	588.9	↓ 57.2	926	646.1
Cardiff	+332	54,765	2,132	581.1	↓ 21.5	2,211	602.6
Newport	+110	23,434	819	529.5	↓ 100.8	975	630.3
Bridgend	+110	22,801	775	527.0	↑ 59.8	687	467.2
Powys	+103	13,004	694	524.0	↑ 62.6	611	461.4
Swansea	+159	38,271	1,278	517.4	↑ 9.3	1,255	508.1
WALES	+2097	445,691	16,092	510.4	↓ 37.1	17,262	547.5
Pembrokeshire	+65	12,500	637	506.3	↓ 151.0	827	657.3
Monmouthshire	+59	10,039	468	494.8	↓ 68.7	533	563.5
Gwynedd	+77	11,624	592	475.3	↑ 32.1	552	443.2
Carmarthenshire	+112	25,023	894	473.6	↓ 39.7	969	513.3
Merthyr Tydfil	+44	11,460	273	452.5	↓ 53.1	305	505.6
CTM UHB	+275	74,845	2,012	448.5	↓ 37.4	2,180	485.9
Denbighshire	+51	13,079	409	427.4	↓ 41.8	449	469.2
Ceredigion	+23	5,922	304	418.2	↓ 30.2	326	448.4
Wrexham	+100	20,681	559	411.2	↓ 4.4	565	415.6
Flintshire	+89	20,441	627	401.7	↑ 0.7	626	401.0
Rhondda Cynon Taf	+121	40,584	964	399.6	↓ 92.8	1,188	492.4
Conwy	+56	12,818	429	366.0	↑ 1.7	427	364.3
Isle of Anglesey	+32	6,394	226	322.7	↓ 77.1	280	399.8
Outside Wales	+74	17,588	430			637	
Unknown	+3	3,144	58			56	

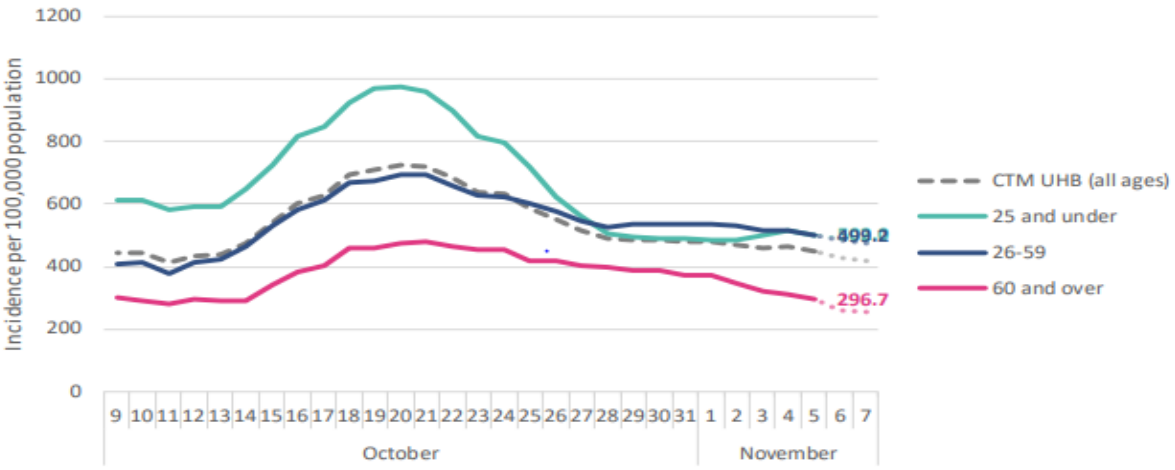
Infection rates in CTM are falling and currently sit at 448.5 per 100,000 population however a slight rise can be seen in Bridgend compared to the previous 7 days of 59.8 per 100,000 population

Figure 8 - Breakdown of COVID-19 positivity rates by Local Authority for samples collected between 30/10/2021 – 05/11/2021

Local Authority	Last 7 days					Prior 7 days		
	Cases	Tests*	Positivity	Change		Cases	Tests*	Positivity
Vale of Glamorgan	943	3,988	23.6%	↓	3.4%	991	3,675	27.0%
Torfaen	663	2,859	23.2%	↓	3.6%	717	2,680	26.8%
Cardiff	2,132	9,581	22.3%	↓	3.1%	2,211	8,698	25.4%
Caerphilly	1,089	4,977	21.9%	↓	6.4%	1,326	4,689	28.3%
Powys	694	3,316	20.9%	↓	0.6%	611	2,847	21.5%
Neath Port Talbot	844	4,089	20.6%	↓	7.0%	926	3,354	27.6%
Blaenau Gwent	415	2,016	20.6%	↓	4.3%	460	1,847	24.9%
Outside Wales	430	2,107	20.4%	↓	1.5%	637	2,914	21.9%
Gwynedd	592	2,927	20.2%	↓	0.7%	552	2,639	20.9%
Pembrokeshire	637	3,168	20.1%	↓	6.2%	827	3,146	26.3%
Swansea	1,278	6,394	20.0%	↓	2.8%	1,255	5,496	22.8%
WALES	16,092	80,824	19.9%	↓	3.7%	17,262	73,078	23.6%
Newport	819	4,119	19.9%	↓	5.5%	975	3,836	25.4%
Flintshire	627	3,207	19.6%	↓	2.9%	626	2,778	22.5%
Bridgend	775	3,970	19.5%	↓	1.9%	687	3,205	21.4%
Monmouthshire	468	2,396	19.5%	↓	3.5%	533	2,321	23.0%
Wrexham	559	2,999	18.6%	↓	4.7%	565	2,421	23.3%
Denbighshire	409	2,265	18.1%	↓	3.5%	449	2,076	21.6%
CTM UHB	2,012	11,309	17.8%	↓	4.1%	2,180	9,951	21.9%
Carmarthenshire	894	5,015	17.8%	↓	3.2%	969	4,611	21.0%
Ceredigion	304	1,786	17.0%	↓	1.6%	326	1,755	18.6%
Rhondda Cynon Taf	964	5,703	16.9%	↓	5.4%	1,188	5,317	22.3%
Conwy	429	2,575	16.7%	↓	1.5%	427	2,341	18.2%
Merthyr Tydfil	273	1,636	16.7%	↓	4.6%	305	1,429	21.3%
Isle of Anglesey	226	1,377	16.4%	↓	3.6%	280	1,401	20.0%
Unknown	58	461	12.6%	↑	1.7%	56	516	10.9%

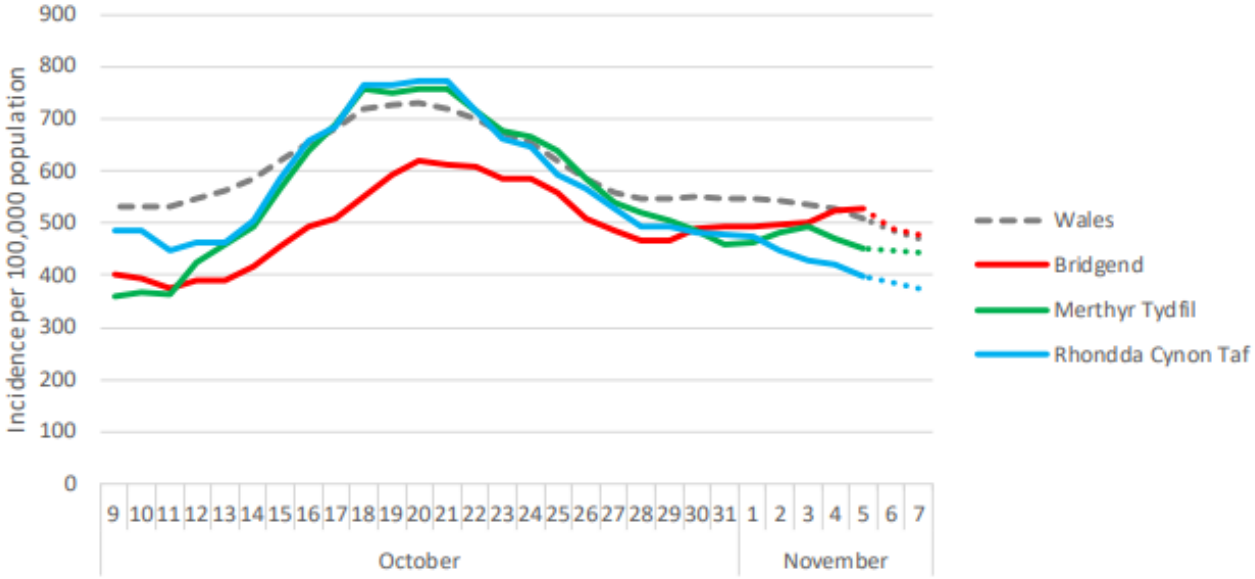
Positivity rates are falling across wales and CTM has a positivity rate of 17.8% - a 4.1% decrease compared to last week

Figure 9 - Rolling 7-day incidence per 100,000 by age group for samples collected between 9th October and 7th November 2021 in Cwm Taf Morgannwg UHB residents.



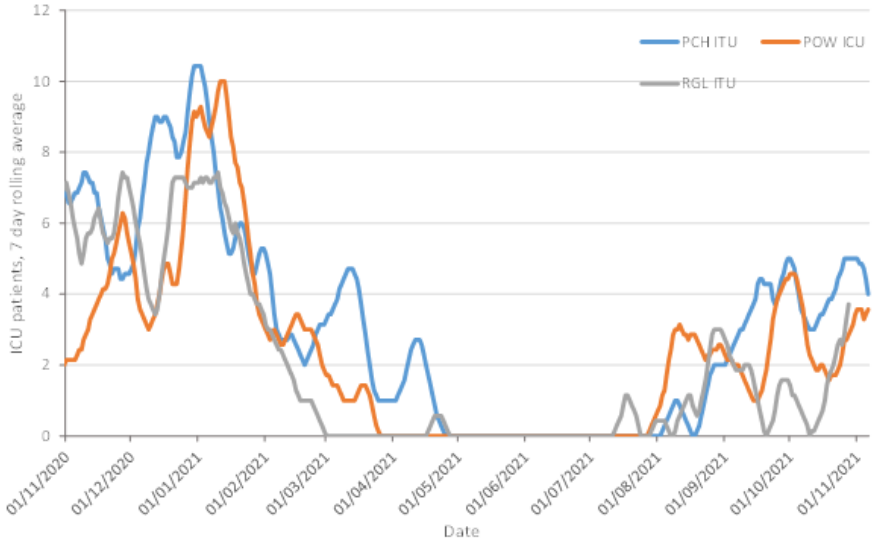
Rates have been highest among those aged 25 and under however during the half-term break rates dropped dramatically and have continued to fall in all age groups.

Figure 10 - Rolling 7-day incidence per 100,000 by Local Authority for samples collected between 9th October and 7th November 2021 in Cwm Taf Morgannwg UHB residents.



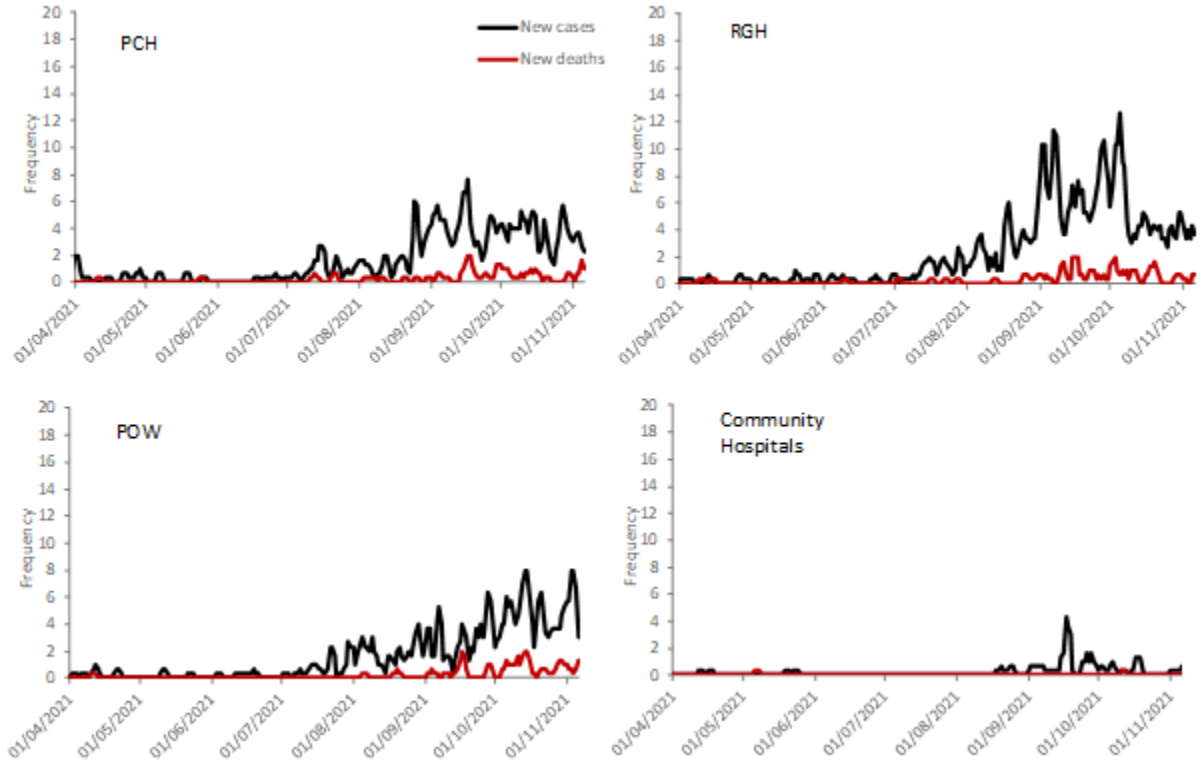
In the past 7 days rates have decreased in CTM except for Bridgend which has seen a slight increase which is not typical of the trend seen across Wales

Figure 11 - COVID-19 positive patients in ITU, 7-day rolling average, previous 12 months


PCH ITU
POW ICU
RGL ITU
ICU patients, 7 day rolling average
12
10
8
6
4
2
0
01/11/2020
01/12/2020
01/01/2021
01/02/2021
01/03/2021
01/04/2021
01/05/2021
01/06/2021
01/07/2021
01/08/2021
01/09/2021
01/10/2021
01/11/2021
Date

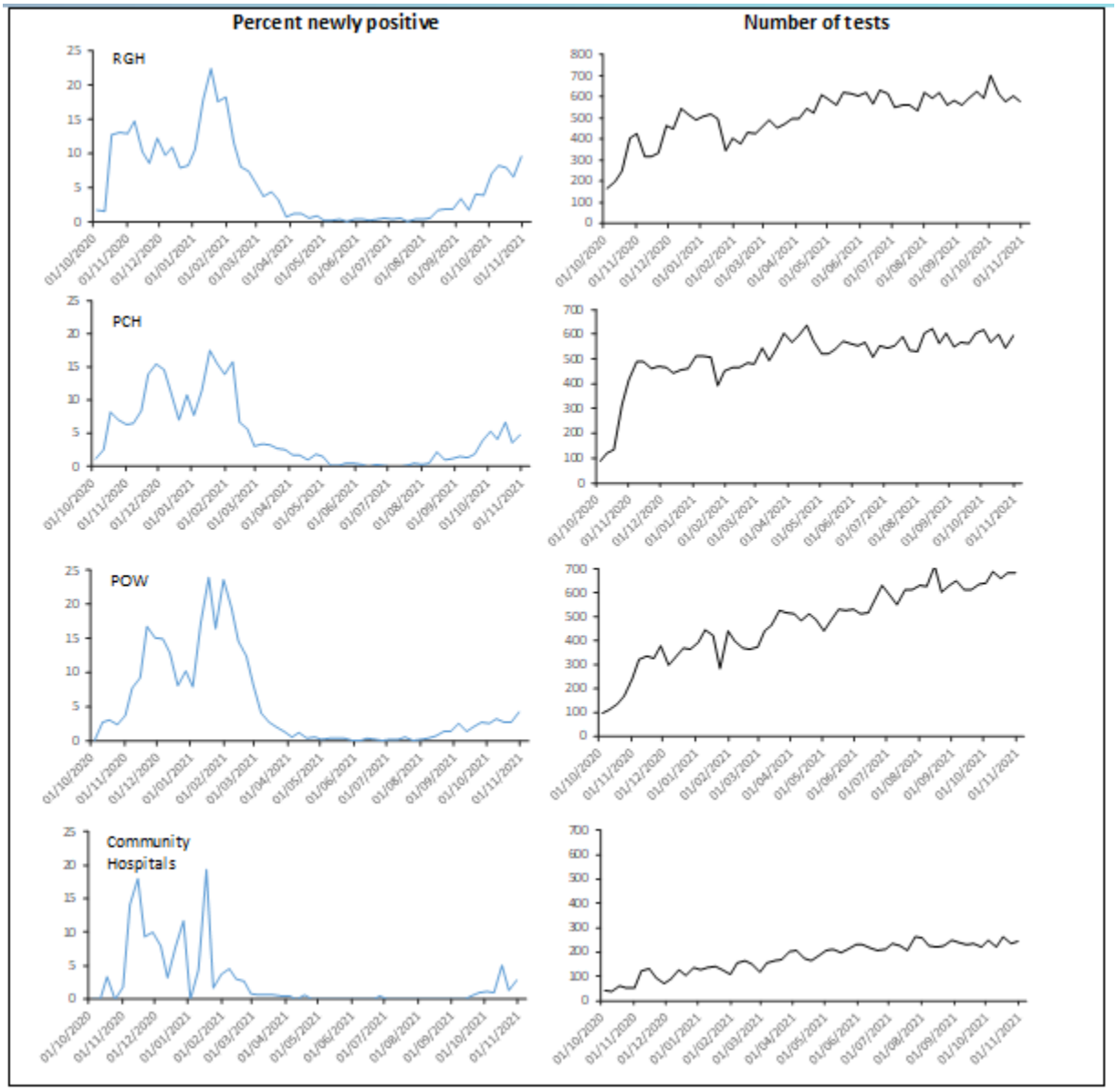
There has been an upward trend of ICU patients in all hospitals however numbers are much lower than the "2nd wave" in early 2021. PCH has seen a recent dip in patients in the past week

Figure 12 - New COVID-19 cases and deaths in CTM patients in the previous 12 months, by site of test (3-day rolling average)



An increase in both cases and deaths can be seen in all hospitals since Summer 2021 and a very recent uptick in deaths can be seen across all hospitals.

Figure 13 - Number tested and percent newly positive per week by site, since 1st October 2020



With testing almost plateauing in the most recent months, positivity has increased which implies that many cases are being undetected and community transmission remains high.

Figure 14 - Test results sequenced for Delta (VOC-21APR-02) by Health Board of Current Residence and type of transmission (as of 19/10/2021).

Health Board	Arriving traveller	Contact of an arriving traveller	Contact of a confirmed variant case	Definite hospital onset	No established link	Probable hospital onset	Total
Aneurin Bevan UHB	36	7	1,166	19	7,286	6	8,520
Betsi Cadwaldr University Health Board	47	0	3,266	35	9,728	8	13,084
Cardiff and Vale University Health Board	59	6	770	14	8,158	10	9,017
Cwm Taf Morgannwg University Health Board	47	5	1,389	28	7,210	8	8,687
Hywel Dda University Heath Board	28	2	796	12	4,630	4	5,472
Powys Teaching Health Board	5	0	427	4	1,083	0	1,519
Swansea Bay University Health Board	24	4	1,284	22	8,191	9	9,534
Unknown	1	0	13	0	119	0	133
Total	247	24	9,111	134	46,405	45	55,966

As of 19th October 2021, 8,687 positive tests have been sequenced and confirmed to be Delta variant. Majority have no established link as to where transmission occurred which is the same across Wales.

Figure 15-16 - Coverage of COVID-19 vaccination by age group and sex, CTMUHB, at 10/10/2021

At least dose 1:

Age Group	Male				Female			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
80+	68,600	65,508	95.5	(95.3-95.6)	98,201	94,893	96.6	(96.5-96.7)
70-79	149,781	144,322	96.4	(96.3-96.4)	163,488	158,313	96.8	(96.7-96.9)
60-69	190,033	177,386	93.3	(93.2-93.5)	194,755	185,410	95.2	(95.1-95.3)
50-59	233,098	206,469	88.6	(88.4-88.7)	228,536	213,243	93.3	(93.2-93.4)
40-49	202,763	164,524	81.1	(81-81.3)	192,084	171,447	89.3	(89.1-89.4)
30-39	218,613	163,672	74.9	(74.7-75.1)	209,472	171,992	82.1	(81.9-82.3)
18-29	248,527	189,219	76.1	(76-76.3)	238,695	189,532	79.4	(79.2-79.6)
16-17	35,817	25,611	71.5	(71-72)	34,197	25,784	75.4	(74.9-75.9)
12-15	84,336	18,075	21.4	(21.2-21.7)	80,095	17,697	22.1	(21.8-22.4)

Full two dose course:

Age Group	Male				Female			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
80+	68,600	64,985	94.7	(94.6-94.9)	98,201	93,853	95.6	(95.4-95.7)
70-79	149,781	143,399	95.7	(95.6-95.8)	163,488	157,161	96.1	(96-96.2)
60-69	190,033	175,453	92.3	(92.2-92.4)	194,755	183,333	94.1	(94-94.2)
50-59	233,098	202,400	86.8	(86.7-87)	228,536	209,604	91.7	(91.6-91.8)
40-49	202,763	157,957	77.9	(77.7-78.1)	192,084	165,980	86.4	(86.3-86.6)
30-39	218,613	152,216	69.6	(69.4-69.8)	209,472	160,789	76.8	(76.6-76.9)
18-29	248,527	168,992	68.0	(67.8-68.2)	238,695	171,324	71.8	(71.6-72)
16-17	35,817	6,868	19.2	(18.8-19.6)	34,197	7,285	21.3	(20.9-21.7)
12-15	84,336	167	0.2	(0.2-0.2)	80,095	136	0.2	(0.1-0.2)

Figure 17-18 - Coverage of at least dose 1 of COVID-19 vaccination by risk group and sex, CTMUHB, at 10/10/2021

At least dose 1:

Priority Group	Male				Female			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
Care home residents	4,166	4,071	97.7	(97.2-98.2)	9,859	9,695	98.3	(98.1-98.6)
Care home workers	6,912	6,513	94.2	(93.7-94.8)	30,414	28,631	94.1	(93.9-94.4)
Health care workers	32,023	31,050	97.0	(96.8-97.1)	104,242	101,029	96.9	(96.8-97)
CEV aged 16-69 years	35,259	33,465	94.9	(94.7-95.1)	45,218	43,169	95.5	(95.3-95.7)
None of the above	1,366,323	1,079,707	79.0	(79-79.1)	1,262,215	1,045,807	82.9	(82.8-82.9)

Full two dose course:

Priority Group	Male				Female			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
Care home residents	4,166	3,964	95.2	(94.5-95.8)	9,859	9,530	96.7	(96.3-97)
Care home workers	6,912	6,363	92.1	(91.4-92.7)	30,414	27,753	91.3	(90.9-91.6)
Health care workers	32,023	30,649	95.7	(95.5-95.9)	104,242	99,252	95.2	(95.1-95.3)
CEV aged 16-69 years	35,259	32,916	93.4	(93.1-93.6)	45,218	42,371	93.7	(93.5-93.9)
None of the above	1,366,323	998,545	73.1	(73-73.2)	1,262,215	970,560	76.9	(76.8-77)

As expected, coverage is highest in the older age groups as the vaccine rollout prioritised these age groups. In those ages 50 and over, coverage for the two dose course is similar to coverage for one dose. However across all age groups, coverage is higher among women than men.

Double vaccine coverage is highest among care home residents and health care workers. There are far more female care home and healthcare workers compared to men which may be why coverage is slightly lower among women.

Figure 19-20 - Coverage of one dose and two doses of COVID-19 vaccination by age and ethnic groups, CTMUHB at 10/10/2021

Age Group	White				Black, Asian, Mixed and Other Combined			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
80+	147,703	144,435	97.8	(97.7-97.9)	1,769	1,581	89.4	(87.8-90.8)
70-79	277,147	269,488	97.2	(97.2-97.3)	3,712	3,274	88.2	(87.1-89.2)
60-69	324,332	310,396	95.7	(95.6-95.8)	8,159	7,160	87.8	(87-88.5)
50-59	375,063	351,102	93.6	(93.5-93.7)	14,573	12,360	84.8	(84.2-85.4)
40-49	298,792	265,977	89.0	(88.9-89.1)	22,419	17,577	78.4	(77.9-78.9)
30-39	317,609	258,588	81.4	(81.3-81.6)	25,674	16,665	64.9	(64.3-65.5)
18-29	347,766	279,694	80.4	(80.3-80.6)	27,098	17,659	65.2	(64.6-65.7)
12-17	181,170	61,730	34.1	(33.9-34.3)	17,952	4,846	27.0	(26.3-27.7)

Age Group	White				Black, Asian, Mixed and Other Combined			
	Denominator	Vaccinated (n)	(%)	95% CI	Denominator	Vaccinated (n)	(%)	95% CI
80+	147,703	143,208	97.0	(96.9-97)	1,769	*	n/a	n/a
70-79	277,147	267,973	96.7	(96.6-96.8)	3,712	*	n/a	n/a
60-69	324,332	307,627	94.8	(94.8-94.9)	8,159	6,998	85.8	(85-86.5)
50-59	375,063	345,710	92.2	(92.1-92.3)	14,573	11,998	82.3	(81.7-82.9)
40-49	298,792	257,674	86.2	(86.1-86.4)	22,419	16,846	75.1	(74.6-75.7)
30-39	317,609	242,581	76.4	(76.2-76.5)	25,674	15,333	59.7	(59.1-60.3)
18-29	347,766	256,148	73.7	(73.5-73.8)	27,098	15,645	57.7	(57.1-58.3)
12-17	181,170	11,188	6.2	(6.1-6.3)	17,952	735	4.1	(3.8-4.4)

Vaccine coverage is lower among BAME communities compared to white residents. The inequality widens by up to 16% with younger age groups and this can be seen in both 1 dose and 2 dose coverage

Figure 21 - Coverage of COVID-19 vaccination by age and WIMD quintile of deprivation of area of residence, CTMUHB at 10/10/2021

Age Group	Quintile of deprivation of area of residence (WIMD)	Denominator	Dose 1			Dose 2		
			Vaccinated (n)	(%)	95% CI	Vaccinated (n)	(%)	95% CI
80+ Years	1- Most deprived	23,725	22,255	93.8	(93.5-94.1)	21,987	92.7	(92.3-93)
	2	30,100	28,880	95.9	(95.7-96.2)	28,574	94.9	(94.7-95.2)
	3	34,833	33,530	96.3	(96.1-96.5)	33,208	95.3	(95.1-95.6)
	4	38,212	37,113	97.1	(97-97.3)	36,777	96.2	(96-96.4)
	5 -Least deprived	39,246	38,294	97.6	(97.4-97.7)	37,969	96.7	(96.6-96.9)
70-79 Years	1- Most deprived	45,084	43,044	95.5	(95.3-95.7)	42,657	94.6	(94.4-94.8)
	2	56,873	54,884	96.5	(96.3-96.7)	54,470	95.8	(95.6-95.9)
	3	66,285	64,037	96.6	(96.5-96.7)	63,611	96.0	(95.8-96.1)
	4	71,494	69,578	97.3	(97.2-97.4)	69,124	96.7	(96.6-96.8)
	5 -Least deprived	72,289	70,568	97.6	(97.5-97.7)	70,191	97.1	(97-97.2)
60-69 Years	1- Most deprived	63,613	58,917	92.6	(92.4-92.8)	57,964	91.1	(90.9-91.3)
	2	72,771	68,472	94.1	(93.9-94.3)	67,611	92.9	(92.7-93.1)
	3	80,899	76,133	94.1	(93.9-94.3)	75,296	93.1	(92.9-93.2)
	4	84,487	80,797	95.6	(95.5-95.8)	80,060	94.8	(94.6-94.9)
	5 -Least deprived	80,910	77,638	96.0	(95.8-96.1)	77,035	95.2	(95.1-95.4)
50-59 Years	1- Most deprived	83,437	73,927	88.6	(88.4-88.8)	71,749	86.0	(85.8-86.2)
	2	89,830	81,636	90.9	(90.7-91.1)	79,922	89.0	(88.8-89.2)
	3	93,695	85,231	91.0	(90.8-91.1)	83,750	89.4	(89.2-89.6)
	4	96,778	89,568	92.5	(92.4-92.7)	88,296	91.2	(91.1-91.4)
	5 -Least deprived	94,541	88,301	93.4	(93.2-93.6)	87,294	92.3	(92.2-92.5)
40-49 Years	1- Most deprived	79,373	64,313	81.0	(80.8-81.3)	60,818	76.6	(76.3-76.9)
	2	77,874	65,882	84.6	(84.3-84.9)	63,197	81.2	(80.9-81.4)
	3	76,419	64,549	84.5	(84.2-84.7)	62,233	81.4	(81.2-81.7)
	4	77,331	68,221	88.2	(88-88.4)	66,342	85.8	(85.5-86)
	5 -Least deprived	79,990	71,898	89.9	(89.7-90.1)	70,312	87.9	(87.7-88.1)
30-39 Years	1- Most deprived	98,559	72,966	74.0	(73.8-74.3)	66,499	67.5	(67.2-67.8)
	2	88,930	69,467	78.1	(77.8-78.4)	64,527	72.6	(72.3-72.9)
	3	84,136	65,533	77.9	(77.6-78.2)	61,165	72.7	(72.4-73)
	4	77,815	64,402	82.8	(82.5-83)	60,646	77.9	(77.6-78.2)
	5 -Least deprived	73,505	62,180	84.6	(84.3-84.9)	59,163	80.5	(80.2-80.8)
18-29 Years	1- Most deprived	107,428	77,689	72.3	(72-72.6)	68,308	63.6	(63.3-63.9)
	2	94,952	74,360	78.3	(78-78.6)	66,762	70.3	(70-70.6)
	3	106,025	82,896	78.2	(77.9-78.4)	73,697	69.5	(69.2-69.8)
	4	86,151	70,819	82.2	(81.9-82.5)	64,584	75.0	(74.7-75.3)
	5 -Least deprived	85,665	71,547	83.5	(83.3-83.8)	65,783	76.8	(76.5-77.1)
16-17 Years	1- Most deprived	15,214	9,972	65.5	(64.8-66.3)	2,433	16.0	(15.4-16.6)
	2	13,711	9,846	71.8	(71-72.6)	2,546	18.6	(17.9-19.2)
	3	13,010	9,670	74.3	(73.6-75.1)	2,627	20.2	(19.5-20.9)
	4	13,200	10,301	78.0	(77.3-78.7)	2,944	22.3	(21.6-23)
	5 -Least deprived	13,781	11,523	83.6	(83-84.2)	3,565	25.9	(25.1-26.6)
12-15 Years	1- Most deprived	37,831	7,333	19.4	(19-19.8)	27	0.1	(0-0.1)
	2	32,532	7,355	22.6	(22.2-23.1)	47	0.1	(0.1-0.2)
	3	30,362	6,333	20.9	(20.4-21.3)	56	0.2	(0.1-0.2)
	4	30,890	6,902	22.3	(21.9-22.8)	96	0.3	(0.3-0.4)
	5 -Least deprived	31,004	7,816	25.2	(24.7-25.7)	74	0.2	(0.2-0.3)

Higher coverage among the least deprived can be seen across all age groups. The gap in coverage between dose 1 and dose 2 widens in younger age groups which may be due to the waiting time between jabs.

To support Aim 2 of the CTM vaccination programme, a multi-agency CTM Vaccine Equity Group has been established, and is meeting monthly. The CTM Vaccine Equity Group aims to reduce the inequality in preventable disease distribution, by increasing uptake of vaccinations in areas of deprivation and vulnerable populations. The priorities of this group are to:

- Assess population need, including vaccine uptake data, formal insight work, and insight from partners, considering barriers and facilitators to uptake.
- Review the evidence and explore best practice, for example, what works to improve uptake, colleagues' activity in other areas.
- Identify and implement actions, ensuring equivalent access in different groups, given some may require greater input or additional tailored support, advocating for a co-production approach.
- Monitor and evaluate actions, utilising a template for planning/reporting, considering what outcomes we can measure and at what frequency.

In order to tackle the significant COVID vaccine equity gaps in vulnerable and deprivation groups in CTM, ongoing work includes (but not limited to):

☐ General:
- Walk in approach within CVCs – people are able to access COVID-19 vaccinations without booking an appointment.

☐ Pregnant women:
- A survey has recently been undertaken with pregnant women receiving antenatal care in CTM, and CTM midwifery staff to understand levels of engagement with the COVID vaccination programme, facilitators and barriers of such, and the frequency and nature of conversations held with healthcare professionals about the COVID vaccine. A number of recommended actions have been suggested based on the findings, this document is available on request
- A number of education and information gathering opportunities have been established for all maternity staff.
- In-house vaccination for staff and clients.
- Antenatal vaccination audit tool – introduced on maternity hand held notes to document vaccination conversations and uptake.

☐ Black, Asian and Minority Ethnic:
- Outreach team supporting targeted insight gathering regarding vaccine uptake, and the associated facilitators and barriers of such. Insight highlighted to relevant TTP work streams and RSOG as appropriate.
- CVC walk-through video developed to be used as part of outreach work.

☐ Homeless population:

- Outreach programme of vaccination undertaken at hostels and other places supporting those who are experiencing homelessness, for example B&Bs.

☐ Housebound clients:
- Outreach vaccination service being offered for housebound clients.

☐ Prison:
- Agreement to undertake training with prisoner healthcare champions re the COVID vaccine, and to hold an FAQ session via the prison based radio channel to dispel myths and answer any questions.

☐ Substance misuse:
- Scoping currently being undertaken to train CDaT nurses to vaccinate their clients.

☐ Learning disabilities:
- Learning disability nurses vaccinating clients.

7. Appendix 1

Condition group and cause	ICD-10 codes	Age	Treatable	Preventable
Infectious diseases				
Intestinal diseases	A00-A09	0-74		•
Diphtheria, Tetanus, Poliomyelitis	A35, A36, A80	0-74		•
Whooping cough	A37	0-74		•
Meningococcal infection	A39	0-74		•
Sepsis due to streptococcus pneumonia and sepsis due to haemophilus influenza	A40.3, A41.3	0-74		•
Haemophilus influenza infections	A49.2	0-74		•
Sexually transmitted infections (except HIV/AIDS)	A50-A60, A63, A64	0-74		•
Varicella	B01	0-74		•
Measles	B05	0-74		•
Rubella	B06	0-74		•
Viral Hepatitis	B15-B19	0-74		•
HIV/AIDS	B20-B24	0-74		•
Malaria	B50-B54	0-74		•
Haemophilus and pneumococcal meningitis	G00.0, G00.1	0-74		•
Tuberculosis	A15-A19, B90, J65	0-74	• (50%)	• (50%)
Scarlet fever	A38	0-74	•	
Sepsis	A40 (excl. A40.3), A41 (excl. A41.3)	0-74	•	
Cellulitis	A46, L03	0-74	•	

Legionnaires disease	A48.1	0-74	•	
Streptococcal and enterococci infection	A49.1	0-74	•	
Other meningitis	G00.2, G00.3, G00.8, G00.9	0-74	•	
Meningitis due to other and unspecified causes	G03	0-74	•	
Neoplasms				
Lip, oral cavity and pharynx cancer	C00-C14	0-74		•
Oesophageal cancer	C15	0-74		•
Stomach cancer	C16	0-74		•
Liver cancer	C22	0-74		•
Lung cancer	C33-C34	0-74		•
Mesothelioma	C45	0-74		•
Skin (melanoma) cancer	C43	0-74		•
Bladder cancer	C67	0-74		•
Cervical cancer	C53	0-74	• (50%)	• (50%)
Colorectal cancer	C18-C21	0-74	•	
Breast cancer (female only)	C50	0-74	•	
Uterus cancer	C54, C55	0-74	•	
Testicular cancer	C62	0-74	•	
Thyroid cancer	C73	0-74	•	
Hodgkin's disease	C81	0-74	•	
Lymphoid leukaemia	C91.0, C91.1	0-74	•	
Benign neoplasm	D10-D36	0-74	•	
Endocrine and metabolic diseases				
Nutritional deficiency anaemia	D50-D53	0-74		•
Diabetes mellitus	E10-E14	0-74	• (50%)	• (50%)
Thyroid disorders	E00-E07	0-74	•	
Adrenal disorders	E24-E25 (excl. E24.4), E27	0-74	•	
Diseases of the nervous system				
Epilepsy	G40, G41	0-74	•	
Diseases of the circulatory system				
Aortic aneurysm	I71	0-74	• (50%)	• (50%)
Hypertensive diseases	I10-I13, I15	0-74	• (50%)	• (50%)
Ischaemic heart diseases	I20-I25	0-74	• (50%)	• (50%)
Cerebrovascular diseases	I60-I69	0-74	• (50%)	• (50%)
Other atherosclerosis	I70, I73.9	0-74	• (50%)	• (50%)
Rheumatic and other heart diseases	I00-I09	0-74	•	
Venous thromboembolism	I26, I80	0-74	•	
Diseases of the respiratory system				

Influenza	J09-J11	0-74		•
Pneumonia due to streptococcus pneumonia or haemophilus influenza	J13-J14	0-74		•
Chronic lower respiratory diseases	J40-J44	0-74		•
Lung diseases due to external agents	J60-J64, J66-J70, J82, J92	0-74		•
Upper respiratory infections	J00-J06, J30-J39	0-74	•	
Pneumonia, not elsewhere classified or organism unspecified	J12, J15, J16-J18	0-74	•	
Acute lower respiratory infections	J20-J22	0-74	•	
Asthma and bronchiectasis	J45-J47	0-74	•	
Adult respiratory distress syndrome	J80	0-74	•	
Pulmonary oedema	J81	0-74	•	
Abscess of lung and mediastinum pyothorax	J85, J86	0-74	•	
Other pleural disorders	J90, J93, J94	0-74	•	
Diseases of the digestive system				
Gastric and duodenal ulcer	K25-K28	0-74	•	
Appendicitis	K35-K38	0-74	•	
Abdominal hernia	K40-K46	0-74	•	
Cholelithiasis and cholecystitis	K80-K81	0-74	•	
Other diseases of gallbladder or biliary tract	K82-K83	0-74	•	
Acute pancreatitis	K85.0, K85.1, K85.3, K85.8, K85.9	0-74	•	
Other diseases of pancreas	K86.1, K86.2, K86.3, K86.8, K86.9	0-74	•	
Diseases of the genitourinary system				
Nephritis and nephrosis	N00-N07	0-74	•	
Obstructive uropathy	N13, N20-N21, N35	0-74	•	
Renal failure	N17-N19	0-74	•	
Renal colic	N23	0-74	•	
Disorders resulting from renal tubular dysfunction	N25	0-74	•	
Unspecified contracted kidney, small kidney of unknown cause	N26-N27	0-74	•	
Inflammatory diseases of genitourinary system	N34.1, N70-N73, N75.0, N75.1, N76.4, N76.6	0-74	•	
Prostatic hyperplasia	N40	0-74	•	
Pregnancy, childbirth and the perinatal period				
Tetanus neonatorum	A33	0-74		•

Obstetrical tetanus	A34	0-74		•
Pregnancy, childbirth and the puerperium	O00-O99	0-74	•	
Certain conditions originating in the perinatal period	P00-P96	0-74	•	
Congenital malformations				
Certain congenital malformations (neural tube defects)	Q00, Q01, Q05	0-74		•
Congenital malformations of the circulatory system (heart defects)	Q20-Q28	0-74	•	
Adverse effects of medical and surgical care				
Drugs, medicaments and biological substances causing adverse effects in therapeutic use	Y40-Y59	0-74	•	
Misadventures to patients during surgical and medical care	Y60-Y69, Y83-Y84	0-74	•	
Medical devices associated with adverse incidents in diagnostic and therapeutic use	Y70–Y82	0-74	•	
Injuries				
Transport Accidents	V01-V99	0-74		•
Accidental Injuries	W00-X39, X46-X59	0-74		•
Intentional self-harm	X66-X84	0-74		•
Event of undetermined intent	Y16-Y34	0-74		•
Assault	X86-Y09, U50.9	0-74		•
Alcohol-related and drug-related deaths				
Alcohol-specific disorders and poisonings	E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, Q86.0, R78.0, X45, X65, Y15	0-74		•
Other alcohol-related disorders	K73, K74.0-K74.2, K74.6-K74.9	0-74		•
Drug disorders and poisonings	F11-F16, F18-F19, X40-X44, X85, Y10-Y14	0-74		•
Intentional self-poisoning by drugs	X60-X64	0-74		•