



Local authority population projections for Wales (2014-based): Variant projections

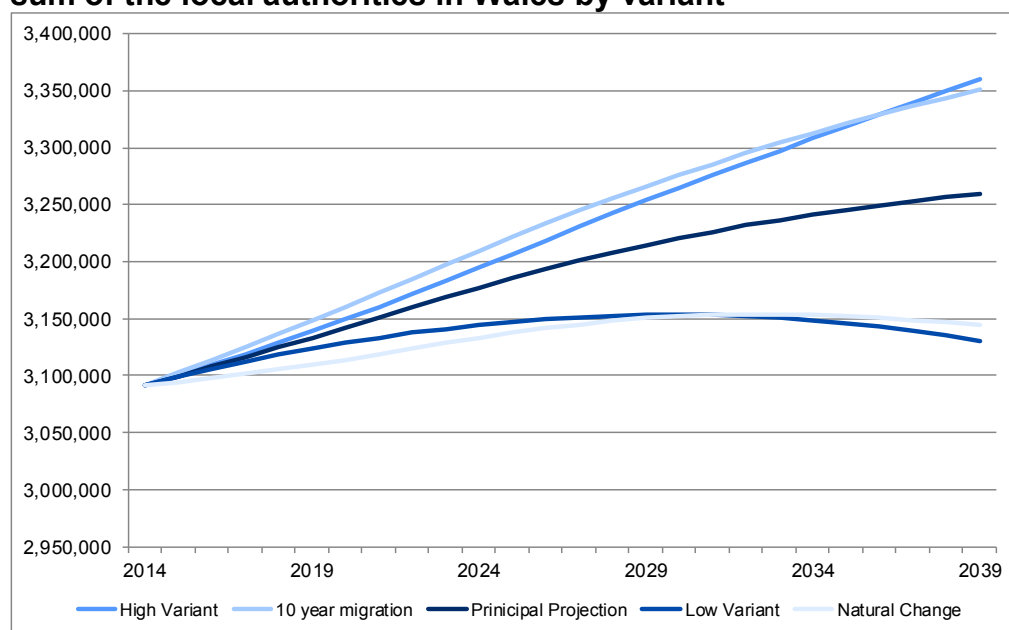
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The 2014-based principal projections are trend-based projections for the 25-year period from 2014 to 2039. As they are trend-based they become less certain the further they are carried forward. To give users an indication of this, a number of variant projections are produced which provide other future scenarios based on alternative assumptions of future fertility, mortality, and migration. These do not represent upper or lower bounds, but do illustrate what the population could look like if, for example, fertility were to become lower than assumed for the principal projection.

Differences between the 'high variant' and principal projection for local authorities are around 4,600 on average, and between the 'low variant' and the principal projection around 5,900 at mid-2039.

The principal projections release can be found [here](#).

Chart 1: Projected percentage change in total population for the sum of the local authorities in Wales by variant



NB: The chart does not start at zero

About this release

This release presents the results of the different variants for the 2014-based local authority population projections for Wales for the 25-year period from 2014 to 2039.

They are based on the mid-year population estimates for 2014 published by the Office for National Statistics (ONS).

Population projections provide estimates of the size of the future population and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years

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Introduction

This release presents results of the variant 2014-based local authority population projections for Wales. Population projections provide estimates of the size of the future population and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years. Population projections are not forecasts and do not attempt to predict the impact that future government policies, changing economic circumstances or other factors (for example, government policies on immigration or the implications of the EU referendum result), might have on demographic behaviour.

These 2014-based projections are trend-based projections for the 25-year period from 2014 to 2039. They are based on mid-year population estimates for 2014 published by the Office for National Statistics (ONS) in June 2015. As they are trend-based they become less certain the further they are carried forward. To give users an indication of this, a number of variant projections are also available which provide other future scenarios based on alternative assumptions of future fertility, mortality, and migration. These do not represent upper or lower bounds, but do illustrate what the population could look like if, for example, fertility were to become lower than assumed for the principal projection.

For the 2014-based set of local authority population projections four variants have been produced along with the principal projection for each authority. The results of these variant projections are presented and discussed in this release, with an emphasis on the period mid-2014 to mid-2029.

Both the principal and variant projections have been developed in close collaboration with local authorities and key users in Wales through the Wales Sub-national Projections working group (WASP). Whilst there are many other variants that could be produced the WASP Working Group considered these four variants to be the most useful.

Key points

Projected total population

- For all local authorities at mid-2029, the higher population variant gives a higher projected population than the principal projection, and the lower population variant gives a lower projected population than the principal projection.
- For nearly all authorities the projected population at mid-2029 is higher based on the ten-year average migration variant than based on the principal projection.
- For two-thirds of local authorities the zero migration variant was lower than the principal projection with the largest differences being for Cardiff (18,200 lower) and Swansea (10,200). For most local authorities the difference was less than 3,000.
- Compared with the principal projection, growth is projected to be just under one percentage point higher for the higher population variant for all local authorities apart from the Isle of Anglesey for which it is just over percentage point higher; and for the lower population variant to be between one and one and a half percentage points lower for all local authorities apart from Cardiff (1.6 percentage points).

Projected population by age

- For all local authorities the higher population variant gives a higher projected population for the 0-15 population than the principal projection. For all local authorities the lower population variant gives a lower projected population for the 0-15 population than the principal projection.
- Based on the ten-year average migration variant the projected population aged 0-15 is projected to be lower than that based on the principal projection apart from Cardiff (400). The ten-year average migration variant is lowest for Carmarthenshire (-1,500)
- For all local authorities the higher population variant gives a very slightly higher projected population for the 15-65 population than the principal projection. For most local authorities the lower population variant gives a very slightly lower projected population for the 15-65 population than the principal projection. These marginal increases were similar for all local authorities.
- For all local authorities the higher population variant gives a very slightly higher projected population for the over 65 population than the principal projection. For all local authorities the lower population variant gives a very slightly lower projected population for the over 65 population than the principal projection. These marginal increases and decrease were similar for all local authorities (and roughly one per cent of the principal projection).

Projected total population

The tables in this and the following section highlight the results of the Local Authority Population Projections for the first fifteen years of the projections, from mid-2014 to mid-2029. Table 1 shows the projected total population at 2029 by local authority in Wales. Table 2 shows the projected percentage growth between mid-2014 and mid-2029 based on the different variants.

Table 1 shows that for all local authorities at mid-2029, the higher population variant gives a higher projected population than the principal projection, and the lower population variant gives a lower projected population than the principal projection. For the higher variant the difference varies from 900 for the Isle of Anglesey, 800 for Ceredigion, and 700 Merthyr Tydfil to 5,100 for Cardiff; and with most local authorities being around 1,500. For the lower variant the difference varies from -1,200 for Merthyr Tydfil to -8,200 for Cardiff; and with most local authorities being between -1,000 and -2,500.

For nearly all authorities the projected population at mid-2029 is higher based on the ten-year average migration variant than based on the principal projection. For Rhondda Cynon Taf the ten-year average migration variant was 500 lower, and for Monmouthshire was 200 lower; but the largest difference was for Ceredigion which was 2,000 lower. There was a high degree of variability for the local authorities for which the principal projected population was higher with the difference varying from Gwynedd and Conwy where there was little difference to Cardiff (principal 9,100 higher), Carmarthenshire (principal 7,300 higher), and Powys (principal 6,100 higher).

For two-thirds of local authorities the zero migration variant was lower than the principal projection with the largest differences being for Cardiff (18,200 lower) and Swansea (10,200). For most local authorities the difference was less than 3,000.

For all the variants the 2014-based pattern was similar to that with the 2011-based variants.

Table 1: Projected population at mid-2029 for local authorities in Wales, by variant

		Mid-2029 population based on				
		Principal projection	High	Low	Ten-year average migration	Zero migration
	Mid-2014 Population		fertility & life expectancy	fertility & life expectancy		
Isle of Anglesey	70,200	69,700	70,600	68,400	71,100	69,800
Gwynedd	122,300	128,500	130,000	126,100	128,600	124,800
Conwy	116,300	118,500	119,900	116,300	118,600	112,100
Denbighshire	94,800	97,300	98,500	95,400	100,100	94,800
Flintshire	153,800	156,900	158,800	153,900	157,900	157,700
Wrexham	136,700	145,500	147,300	142,700	150,100	140,000
Powys	132,700	128,800	130,200	126,400	134,900	129,800
Ceredigion	75,400	79,400	80,200	78,100	77,400	78,000
Pembrokeshire	123,700	124,400	125,900	122,100	127,600	122,200
Carmarthenshire	184,900	189,000	191,300	185,600	196,300	182,200
Swansea	241,300	255,400	258,300	250,800	258,200	245,200
Neath Port Talbot	140,500	143,100	144,800	140,400	144,500	140,100
Bridgend	141,200	146,800	148,600	144,100	149,100	141,900
Vale of Glamorgan	127,700	129,300	130,800	127,000	133,400	129,400
Cardiff	354,300	407,000	412,100	398,800	416,100	389,000
Rhondda Cynon Taf	236,900	243,700	247,000	238,800	243,200	241,200
Merthyr Tydfil	59,100	59,200	59,900	58,000	60,600	59,900
Caerphilly	179,900	183,000	185,400	179,400	184,500	184,300
Blaenau Gwent	69,700	68,400	69,300	67,000	69,600	70,200
Torfaen	91,600	92,500	93,600	90,700	93,200	93,700
Monmouthshire	92,300	93,900	94,900	92,400	93,700	90,400
Newport	146,800	154,500	156,500	151,300	157,500	154,000

Table 2 shows the percentage growth for the projected populations between mid-2014 and mid-2029. Compared with the principal projection, growth is projected to be less than one percentage point higher for the higher population variant for all local authorities apart from the Isle of Anglesey for which it is just over percentage point higher. The lower population variant compared to the principal projection is projected to be between one and one and a half percentage points lower for all local authorities apart from Cardiff (-2.3 percentage points). This is a very similar pattern to that with the 2011-based projections.

Compared with the principal projection, growth to mid-2029 is projected to be up to 3.7 percentage points higher for the ten-year average migration variant for most local authorities; except for Cardiff which has by far the highest increase (17.4 percentage points). This is noticeably higher than for the 2011-based projections. The local authority for which the difference is slightly negative is Blaenau Gwent.

Based on the zero migration variant, average growth is projected to be higher for the principal projection for most local authorities, but lower for some of the rural local authorities. The biggest differences are for Cardiff (9.8 percentage points higher) and Newport (4.8 percentage points higher)

Table 2: Projected population change mid-2014 to mid-2029 for local authorities in Wales, by variant

	Percentage population change mid-2014 to mid-2029				
		High	Low		
	Principal projection	fertility & life expectancy	fertility & life expectancy	Ten-year average migration	Zero migration
Isle of Anglesey	-0.6	0.6	-2.6	1.3	-0.6
Gwynedd	5.1	6.3	3.1	5.2	2.1
Conwy	1.9	3.1	0.0	2.0	-3.6
Denbighshire	2.6	4.0	0.6	5.6	0.0
Flintshire	2.0	3.2	0.1	2.6	2.6
Wrexham	6.4	7.7	4.4	9.8	2.4
Powys	-3.0	-1.9	-4.7	1.7	-2.2
Ceredigion	5.2	6.3	3.5	2.6	3.4
Pembrokeshire	0.6	1.8	-1.3	3.2	-1.2
Cardiganshire	2.2	3.4	0.4	6.2	-1.4
Swansea	5.8	7.0	3.9	7.0	1.6
Neath Port Talbot	1.8	3.1	-0.1	2.8	-0.3
Bridgend	4.0	5.2	2.0	5.6	0.5
Vale of Glamorgan	1.3	2.5	-0.6	4.5	1.3
Cardiff	14.9	16.3	12.5	17.4	9.8
Rhondda Cynon Taf	2.9	4.2	0.8	2.7	1.8
Merthyr Tydfil	0.2	1.4	-1.7	2.6	1.5
Caerphilly	1.7	3.0	-0.3	2.5	2.4
Blaenau Gwent	-1.9	-0.6	-3.8	-0.1	0.7
Torfaen	0.9	2.2	-1.0	1.8	2.3
Monmouthshire	1.7	2.7	0.0	1.5	-2.1
Newport	5.2	6.6	3.0	7.3	4.8

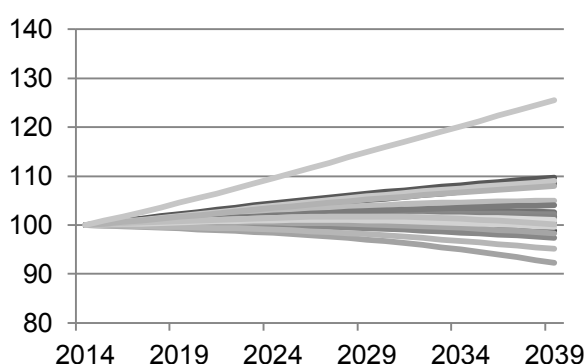
Comparison of variants by local authority

The charts below show the projected change in population for each local authority between 2014 and 2039 by variant. Each local authority starts at 100, a projected fall in population will be less than 100 and any increase will be more than 100. For example a 25 per cent increase is shown as 125 in the chart below, whilst a fall of 10 per cent is shown as 90.

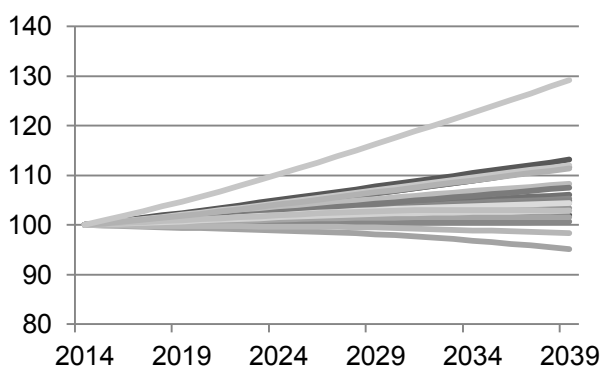
In all of the variants, Cardiff is projected to have the largest increase in population, ranging from 30 per cent in the high and ten year average migration variants to 12.3 per cent in the zero migration (or natural change only) variant. In the principal projection Powys was projected to have the largest fall in population, down 7.7 per cent. It is also projected to have the largest fall in the high (down 4.9 per cent) and the low (11.5 per cent) variants. In the zero migration (or natural change only) variant Conwy is projected to have the largest fall (down 5.9 per cent), whilst in the ten year average migration variant, Blaenau Gwent is projected to have the largest fall (down 2.0 per cent).

Charts 2-6: Change in projected population by local authority and variant from 2014 (base year) to 2039

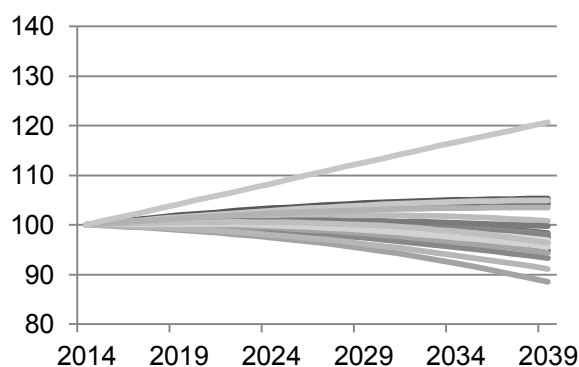
Principal projection



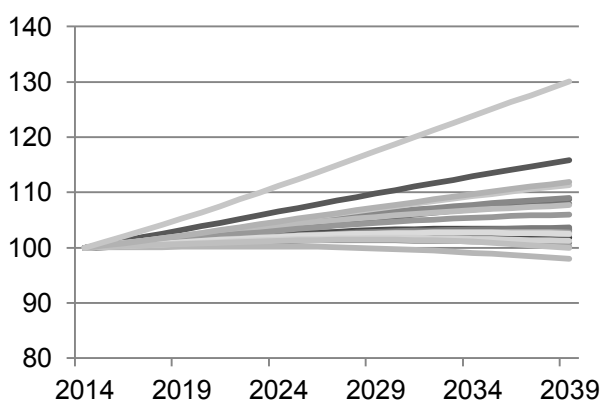
High variant



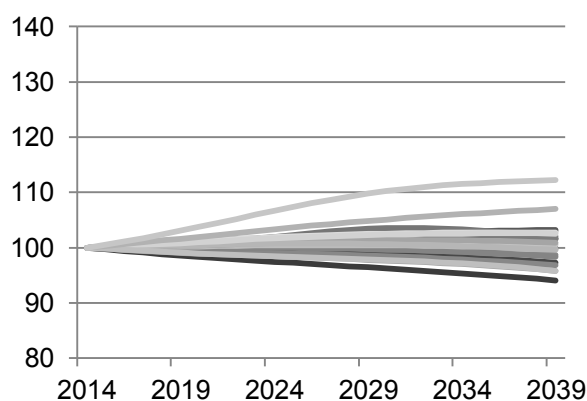
Low variant



Ten year average migration variant



Zero migration (natural change) variant



Projected population by age

Full results of the variant projections by single year of age are provided on the StatsWales website. Tables 3 to 10 summarise the results to show the effect of the variant assumptions on the population for the age groups 0-15, 65 and over, and 85 and over. These age groups are particularly important for areas of policy and service planning like education, health, and social services.

Population aged 0 to 15

Table 3 shows that for the principal projection the 0-15 population is projected to decrease for most local authorities between mid-2014 and mid-2029. The largest projected decrease is for Powys (1,900); with other decreases between -1,200 and -100. By far the largest increase is Cardiff (12,800) with other increases between 100 and 900.

For all local authorities the higher population variant gives a higher projected population for the 0-15 population than the principal projection. For all local authorities the lower population variant gives a lower projected population for the 0-15 population than the principal projection.

Based on the ten-year average migration variant the projected population aged 0-15 is projected to be lower than that based on the principal projection apart from Cardiff (400). The ten-year average migration variant is lowest for Carmarthenshire (-1,500) but remained the same for Conwy, Flintshire and Monmouthshire.

For the 0-15 population the zero migration variant is between 500 higher and 950 lower for all local authorities when compared to the Principal Projections apart from Ceredigion (2,900 higher) and Bridgend (-1,500 lower).

Table 3: Projected population aged 0 to 15 at mid-2029 for local authorities in Wales, by variant

	Mid-2014 population aged 0-15	Mid-2029 population aged 0-15 based on				
		Principal projection	High	Low	Ten-year average migration	Zero migration
			fertility & life expectancy	fertility & life expectancy		
Isle of Anglesey	12,100	12,000	12,500	11,000	12,500	12,400
Gwynedd	20,900	21,300	22,400	19,500	21,400	22,100
Conwy	18,900	18,700	19,500	17,200	18,700	18,300
Denbighshire	17,100	17,800	18,600	16,400	18,200	17,800
Flintshire	28,400	27,600	28,900	25,400	27,600	26,900
Wrexham	26,300	26,200	27,400	24,100	27,100	24,800
Powys	21,900	20,000	20,800	18,400	21,100	20,700
Ceredigion	11,000	11,100	11,700	10,200	11,200	14,000
Pembrokeshire	21,600	20,400	21,300	18,800	21,000	20,200
Carmarthenshire	32,600	31,400	32,700	28,900	32,900	29,900
Swansea	41,500	41,200	43,200	37,800	42,100	41,300
Neath Port Talbot	24,500	24,500	25,600	22,600	24,800	23,400
Bridgend	25,500	25,700	26,900	23,700	25,900	24,200
Vale of Glamorgan	23,700	22,700	23,700	21,000	23,500	21,600
Cardiff	65,300	78,100	82,100	71,200	79,400	79,100
Rhondda Cynon Taf	44,200	45,100	47,400	41,500	44,700	43,900
Merthyr Tydfil	11,000	10,200	10,700	9,400	10,600	10,500
Caerphilly	34,200	33,100	34,700	30,400	33,300	32,900
Blaenau Gwent	12,200	11,800	12,400	10,800	12,100	12,400
Torfaen	16,900	16,900	17,700	15,600	17,200	16,900
Monmouthshire	15,600	14,200	14,800	13,200	14,200	12,900
Newport	29,300	30,100	31,600	27,600	30,900	29,400

Table 4 shows the projected percentage of the population aged 0 to 15 between mid-2014 and mid-2029. Based on the principal projection by 2029 the highest percentage of the population aged 0 to 15 is expected be in Newport (19.5%), closely followed by Cardiff (19.2%) The lowest is expected be in Ceredigion (14.0%).

For all local authorities at mid-2029, the higher population variant gives a slightly higher projected population percentage than the principal projection (0.4 to 0.7 percentage points higher), and the lower population variant gives a slightly lower projected population than the principal projection (from 0.9 to 1.3 percentage points lower).

Based on the ten-year average migration variant the projected percentage of the population aged 0 to 15 is projected to be marginally different than that based on the principal projection for nearly all local authorities (some a slightly higher, some a slightly lower); between -0.5 and 0.1 percentage points different for two-thirds of the local authorities.

The percentage of the 0-15 population is higher with the zero migration variant than the principal projection for a half of local authorities and lower for the half. The difference is mainly one percentage point or less apart from Ceredigion for which it is 4 percentage points higher.

Table 4: Projected percentage aged 0 to 15 of total population at mid-2029 for local authorities in Wales, by variant

		Percentage aged 0-15 at mid-2029 based on				
	Mid-2014	Principal	High	Low	Ten-year	Zero
	population	projection	fertility &	fertility &	average	migration
	aged 0-15		life	life	migration	
			expectancy	expectancy		
Isle of Anglesey	12,100	17.2	17.8	16.1	17.6	17.7
Gwynedd	20,900	16.6	17.2	15.5	16.6	17.7
Conwy	18,900	15.7	16.3	14.8	15.8	16.3
Denbighshire	17,100	18.3	18.9	17.2	18.2	18.8
Flintshire	28,400	17.6	18.2	16.5	17.5	17.1
Wrexham	26,300	18.0	18.6	16.9	18.0	17.7
Powys	21,900	15.5	16.0	14.6	15.6	15.9
Ceredigion	11,000	14.0	14.5	13.0	14.5	18.0
Pembrokeshire	21,600	16.4	16.9	15.4	16.4	16.6
Carmarthenshire	32,600	16.6	17.1	15.6	16.8	16.4
Swansea	41,500	16.1	16.7	15.1	16.3	16.8
Neath Port Talbot	24,500	17.1	17.7	16.1	17.1	16.7
Bridgend	25,500	17.5	18.1	16.5	17.4	17.1
Vale of Glamorgan	23,700	17.6	18.1	16.5	17.6	16.7
Cardiff	65,300	19.2	19.9	17.9	19.1	20.3
Rhondda Cynon Taf	44,200	18.5	19.2	17.4	18.4	18.2
Merthyr Tydfil	11,000	17.2	17.8	16.1	17.5	17.5
Caerphilly	34,200	18.1	18.7	17.0	18.1	17.9
Blaenau Gwent	12,200	17.3	17.9	16.2	17.4	17.7
Torfaen	16,900	18.3	18.9	17.2	18.5	18.0
Monmouthshire	15,600	15.1	15.6	14.2	15.1	14.3
Newport	29,300	19.5	20.2	18.3	19.6	19.1

Population aged 15 to 65

Table 5 shows that for the principal projection the 15-65 population is projected to decrease for most local authorities between mid-2014 and mid-2029. By far the largest projected decrease is for the Powys (12,400); most of the other increases are between 3,000 and 7,000. There are three relatively small increases, and a large increase for Cardiff (22,900).

For all local authorities the higher population variant gives a very slightly higher projected population for the 15-65 population than the principal projection. For most local authorities the lower population variant gives a very slightly lower projected population for the 15-65 population than the principal projection. These marginal increases were similar for all local authorities.

Based on the ten-year average migration variant the projected population aged 15 to 65 is projected to be higher than that based on the principal projection for all but two local authorities and mainly less than 4,000 higher. The ten-year average migration variant is 8,100 higher for Cardiff and 2,300 lower for Ceredigion.

For the 15-65 population the zero migration variant is between 2,000 higher and 5,000 lower for all local authorities apart from Cardiff (20,300 lower) and Swansea (10,200 lower).

Table 5: Projected population aged 15 to 65 at mid-2029 for local authorities in Wales, by variant

		Mid-2029 population aged 15-65 based on				
	Mid-2014 population aged 15 - 65	Principal projection	High fertility & life expectancy	Low fertility & life expectancy	Ten-year average migration	Zero migration
Isle of Anglesey	43,000	38,700	38,800	38,700	39,400	38,900
Gwynedd	77,100	77,100	77,100	77,000	77,300	72,400
Conwy	70,000	65,100	65,100	65,000	65,400	62,300
Denbighshire	58,500	54,800	54,900	54,800	57,100	54,000
Flintshire	99,000	92,800	92,900	92,700	93,800	94,000
Wrexham	88,200	89,400	89,500	89,300	93,100	85,900
Powys	81,000	68,700	68,800	68,600	72,900	70,900
Ceredigion	49,100	48,600	48,600	48,600	46,300	43,900
Pembrokeshire	75,900	69,400	69,500	69,300	72,200	68,800
Carmarthenshire	115,500	109,000	109,100	108,900	114,300	105,800
Swansea	159,000	161,900	162,000	161,700	164,200	151,700
Neath Port Talbot	91,300	85,600	85,700	85,500	86,900	83,900
Bridgend	91,800	88,500	88,600	88,400	90,700	86,600
Vale of Glamorgan	81,600	75,700	75,800	75,700	78,800	76,900
Cardiff	247,100	270,000	270,200	269,800	278,100	249,700
Rhondda Cynon Taf	154,800	150,700	150,900	150,600	150,700	149,100
Merthyr Tydfil	38,900	36,600	36,700	36,600	37,700	37,000
Caerphilly	117,400	111,700	111,800	111,600	113,000	113,200
Blaenau Gwent	45,800	41,800	41,900	41,800	42,600	42,900
Torfaen	59,100	54,700	54,800	54,700	55,200	56,100
Monmouthshire	57,900	52,500	52,600	52,500	52,700	51,600
Newport	95,500	95,700	95,800	95,600	98,500	95,500

Table 6 shows the projected percentage of the population aged 15 to 65 between mid-2014 and mid-2029. Based on the principal projection by 2026 the highest percentage of the population aged 15 to 65 is expected be in Cardiff (66.3%) and the lowest is expected to be in Powys (53.4%).

For all local authorities at mid-2029, the higher population variant gives a slightly higher projected population percentage than the principal projection (0.5 to 0.8 percentage points higher), and the lower population variant gives a slightly lower projected population than the principal projection (from 0.9 to 1.3 percentage points lower).

Based on the ten-year average migration variant the projected percentage of the population aged 15 to 65 is projected to be marginally different than that based on the principal projection for nearly all local authorities (some slightly higher but most slightly lower); between -0.1 and 0.8 percentage points different with the exception of Ceredigion, which is 1.4% higher.

The percentage of the 15 to 65 population is higher with the zero migration variant than the principal projection for a nearly half of local authorities and lower for the other half. The difference is mainly around two percentage points or less apart from Ceredigion for which it is 4.9 percentage points higher

Table 6: Projected percentage aged 15 to 65 of total population at mid-2029 for local authorities in Wales, by variant

		Percentage aged 15-65 at mid-2029 based on				
	Mid-2014		High	Low		
	population	Principal	fertility &	fertility &	Ten-year	Zero
	aged 15-65	projection	life	life	average	migration
			expectancy	expectancy	migration	
Isle of Anglesey	43,000	55.5	54.9	56.6	55.5	55.7
Gwynedd	77,100	60.0	59.4	61.1	60.1	58.0
Conwy	70,000	54.9	54.3	55.9	55.2	55.5
Denbighshire	58,500	56.4	55.7	57.4	57.1	57.0
Flintshire	99,000	59.2	58.5	60.3	59.4	59.6
Wrexham	88,200	61.5	60.8	62.6	62.0	61.3
Powys	81,000	53.4	52.8	54.3	54.1	54.6
Ceredigion	49,100	61.2	60.7	62.2	59.9	56.4
Pembrokeshire	75,900	55.8	55.2	56.8	56.6	56.3
Carmarthenshire	115,500	57.6	57.0	58.7	58.2	58.1
Swansea	159,000	63.4	62.7	64.5	63.6	61.9
Neath Port Talbot	91,300	59.8	59.2	60.9	60.1	59.9
Bridgend	91,800	60.3	59.6	61.4	60.8	61.1
Vale of Glamorgan	81,600	58.6	57.9	59.6	59.1	59.4
Cardiff	247,100	66.3	65.6	67.7	66.8	64.2
Rhondda Cynon Taf	154,800	61.9	61.1	63.1	62.0	61.8
Merthyr Tydfil	38,900	61.9	61.2	63.0	62.1	61.8
Caerphilly	117,400	61.0	60.3	62.2	61.2	61.4
Blaenau Gwent	45,800	61.2	60.4	62.3	61.3	61.1
Torfaen	59,100	59.2	58.5	60.3	59.2	59.8
Monmouthshire	57,900	55.9	55.4	56.8	56.2	57.1
Newport	95,500	62.0	61.2	63.2	62.6	62.0

Table 7 shows that for the principal projection for the over 65 population is projected to increase for all local authorities between mid-2014 and mid-2029. The largest projected increase is for Cardiff (18,500); the other increases are evenly distributed from around 3,000 to 12,000.

For all local authorities the higher population variant gives a very slightly higher projected population for the over 65 population than the principal projection. For all local authorities the lower population variant gives a very slightly lower projected population for the over 65 population than the principal projection. These marginal increases and decrease were similar for all local authorities (and roughly one per cent of the principal projection).

Based on the ten-year average migration variant the projected population aged over 65 is projected to be higher than that based on the principal projection for half the local authorities (by 900 or less); and lower in the other half local authorities (by 600 or less).

The over 65 population based on the zero migration variant is projected to be higher than that based on the principal projection for nearly half the local authorities and highest in Cardiff (1,600). The over 65 population is projected to be lower for the other half of local authorities and lowest in Conwy (-3,600).

Table 7: Projected population aged 65 and over at mid-2029 for local authorities in Wales, by variant

	Mid-2014 population aged 65+	Mid-2029 population aged 65 and over based on				
		Principal projection	High fertility & life expectancy	Low fertility & life expectancy	Ten-year average migration	Zero migration
Isle of Anglesey	17,000	20,900	21,200	20,500	21,000	20,200
Gwynedd	27,300	32,900	33,400	32,400	32,800	33,100
Conwy	30,400	38,000	38,500	37,300	37,600	34,300
Denbighshire	21,700	27,300	27,700	26,800	27,500	25,400
Flintshire	30,300	40,500	41,000	39,800	40,500	40,800
Wrexham	25,400	33,400	33,900	32,800	33,500	32,800
Powys	33,600	43,600	44,100	42,900	44,500	41,300
Ceredigion	17,100	21,300	21,600	21,000	21,500	21,600
Pembrokeshire	29,500	37,800	38,300	37,200	37,700	36,000
Cardiff	41,500	53,600	54,400	52,700	54,200	50,900
Swansea	46,300	57,900	58,700	56,800	57,500	57,700
Neath Port Talbot	28,100	36,700	37,200	36,000	36,500	36,300
Bridgend	27,400	36,300	36,800	35,600	36,200	34,600
Vale of Glamorgan	25,500	34,200	34,700	33,700	34,400	34,000
Cardiff	48,800	67,300	68,200	66,100	66,800	68,900
Rhondda Cynon Taf	43,600	53,700	54,600	52,700	53,700	54,100
Merthyr Tydfil	10,600	13,900	14,100	13,600	13,800	13,900
Caerphilly	32,700	42,800	43,400	42,000	42,800	42,800
Blaenau Gwent	13,400	16,500	16,700	16,100	16,600	16,600
Torfaen	17,800	23,200	23,500	22,800	23,200	23,000
Monmouthshire	21,300	29,800	30,100	29,300	29,400	28,100
Newport	25,500	32,400	32,800	31,800	31,800	32,900

Table 8 shows the projected percentage of the population aged 65 and over between mid-2014 and mid-2029. Based on the principal projection by 2029 the highest percentage of the population aged 65 and over is expected be in Powys (33.9%) and the lowest is expected be in Cardiff (16.5%).

For all local authorities at mid-2029, the higher population variant gives a very slightly lower projected population percentage than the principal projection (0.1 or less percentage points lower), and the lower population variant gives a slightly higher projected population than the principal projection (0.1 or less percentage points higher).

Based on the ten-year average migration variant the projected percentage of the population aged 65 and over is projected to be lower than that based on the principal projection for nearly all local authorities; between -0.8 and 0.1 percentage points different with the exception of Ceredigion, which is 1.0% higher.

The percentage of the 65 and over population is higher with the zero migration variant than the principal projection for a nearly half of local authorities and lower for the other half. The difference is less than two percentage points lower or 0.9 percentage points higher.

Table 8: Projected percentage aged 65 and over of total population at mid-2029 for local authorities in Wales, by variant

	Mid-2014 population aged 65+	Percentage aged 65 and over at mid-2029 based on				
		Principal projection	High	Low	Ten-year average migration	Zero migration
			fertility &	fertility &		
			life expectancy	life expectancy		
Isle of Anglesey	17,000	29.9	30.0	30.0	29.5	29.0
Gwynedd	27,300	25.6	25.7	25.7	25.5	26.6
Conwy	30,400	32.1	32.1	32.1	31.7	30.6
Denbighshire	21,700	28.1	28.1	28.1	27.5	26.8
Flintshire	30,300	25.8	25.8	25.9	25.6	25.9
Wrexham	25,400	23.0	23.0	23.0	22.3	23.4
Powys	33,600	33.9	33.9	33.9	33.0	31.8
Ceredigion	17,100	26.9	26.9	26.9	27.9	27.6
Pembrokeshire	29,500	30.4	30.5	30.5	29.5	29.5
Cardiganshire	41,500	28.4	28.4	28.4	27.6	27.9
Swansea	46,300	22.7	22.7	22.7	22.3	23.5
Neath Port Talbot	28,100	25.6	25.7	25.7	25.3	25.9
Bridgend	27,400	24.7	24.8	24.7	24.3	24.4
Vale of Glamorgan	25,500	26.5	26.5	26.5	25.8	26.2
Cardiff	48,800	16.5	16.5	16.6	16.1	17.7
Rhondda Cynon Taf	43,600	22.0	22.1	22.0	22.1	22.4
Merthyr Tydfil	10,600	23.5	23.5	23.5	22.8	23.2
Caerphilly	32,700	23.4	23.4	23.4	23.2	23.2
Blaenau Gwent	13,400	24.1	24.1	24.1	23.8	23.7
Torfaen	17,800	25.1	25.1	25.1	24.8	24.6
Monmouthshire	21,300	31.7	31.7	31.7	31.3	31.1
Newport	25,500	21.0	21.0	21.0	20.2	21.4

Table 9 shows that for the principal projection for the over 85 population is projected to increase for all local authorities between mid-2014 and mid-2029. The largest projected increase is for Swansea (3,900) closely followed by Powys, Carmarthenshire, Cardiff and Flintshire and lowest is Merthyr Tydfil (700)

For all local authorities the higher population variant gives a slightly higher projected population for the over 85 population than the principal projection. For all local authorities the lower population variant gives a slightly lower projected population for the over population than the principal projection. These marginal increases and decrease were similar for all local authorities.

Based on the ten-year average migration variant the projected population aged over 85 is projected to be higher than that based on the principal projection for two thirds of the local authorities (mainly higher by 200 or less); and lower the other third of local authorities (mainly by - 200 or less).

The over 85 population based on the zero migration variant is projected to be higher than that based on the principal projection for two thirds of the local authorities and mainly higher by less than 300. The over 85 population is projected to be lower for the other third of local authorities and mainly lower by less than 250.

Table 9: Projected population aged 85 and over at mid-2029 for local authorities in Wales, by variant

	Mid-2014 population aged 85+	Mid-2029 population aged 85 and over based on				
		Principal projection	High fertility & life expectancy	Low fertility & life expectancy	Ten-year average migration	Zero migration
Isle of Anglesey	2,200	3,600	3,700	3,400	3,600	3,800
Gwynedd	3,800	6,400	6,600	6,100	6,400	6,700
Conwy	4,600	6,900	7,100	6,500	6,900	7,000
Denbighshire	2,700	4,300	4,400	4,000	4,300	4,200
Flintshire	3,400	6,700	7,000	6,400	6,800	7,000
Wrexham	3,200	5,300	5,600	5,000	5,400	5,200
Powys	4,500	7,900	8,200	7,500	8,100	8,000
Ceredigion	2,300	4,000	4,100	3,800	4,100	4,300
Pembrokeshire	3,800	6,800	7,000	6,400	6,700	6,700
Carmarthenshire	5,400	8,700	9,100	8,200	8,800	8,600
Swansea	6,200	10,100	10,500	9,500	10,000	10,200
Neath Port Talbot	3,600	5,700	5,900	5,300	5,600	5,800
Bridgend	3,200	5,600	5,800	5,300	5,600	5,300
Vale of Glamorgan	3,300	5,600	5,800	5,300	5,700	5,700
Cardiff	7,100	10,400	10,700	9,800	10,200	10,500
Rhondda Cynon Taf	5,100	7,900	8,300	7,400	8,000	8,000
Merthyr Tydfil	1,200	1,900	2,000	1,800	2,000	2,100
Caerphilly	3,500	6,200	6,500	5,900	6,300	6,400
Blaenau Gwent	1,500	2,600	2,700	2,400	2,600	2,600
Torfaen	2,300	3,700	3,900	3,500	3,800	3,700
Monmouthshire	2,800	5,200	5,400	5,000	5,200	5,100
Newport	3,200	5,100	5,300	4,800	5,000	5,200

Table 10 shows the projected percentage of the population aged 85 and over between mid-2014 and mid-2029. Based on the principal projection by 2029 the highest percentage of the population aged 85 and over is expected be in Powys (6.2%) and the lowest is expected be in Cardiff (2.5%).

For all local authorities at mid-2029, the higher population variant gives a very slightly higher projected population percentage than the principal projection (0.1 or less percentage points higher), and the lower population variant gives a slightly lower projected population than the principal projection (0.2 or less percentage points higher).

Based on the ten-year average migration variant the projected percentage of the population aged 85 and over is projected to be slightly lower than that based on the principal projection for nearly half of all local authorities; between -0.1 or less percentage points lower.

The percentage of the 85 and over population is higher with the zero migration variant than the principal projection for all of local authorities with the exception of Torfaen (0.1 percentage points). The difference is highest for Ceredigion and Conwy and less than 0.5 percentage points higher.

Table 10: Projected percentage aged 85 and over of total population at mid-2029 for local authorities in Wales, by variant

	Mid-2014 population aged 85+	Percentage aged 85 and over at mid-2029 based on				
		Principal projection	High fertility & life expectancy	Low fertility & life expectancy	Ten-year average migration	Zero migration
Isle of Anglesey	2,200	5.1	5.2	4.9	5.1	5.4
Gwynedd	3,800	5.0	5.1	4.8	5.0	5.3
Conwy	4,600	5.8	5.9	5.6	5.8	6.3
Denbighshire	2,700	4.4	4.5	4.2	4.3	4.5
Flintshire	3,400	4.3	4.4	4.2	4.3	4.4
Wrexham	3,200	3.7	3.8	3.5	3.6	3.7
Powys	4,500	6.2	6.3	6.0	6.0	6.1
Ceredigion	2,300	5.1	5.2	4.9	5.3	5.5
Pembrokeshire	3,800	5.4	5.6	5.2	5.3	5.5
Carmarthenshire	5,400	4.6	4.7	4.4	4.5	4.7
Swansea	6,200	3.9	4.0	3.8	3.9	4.2
Neath Port Talbot	3,600	4.0	4.1	3.8	3.9	4.1
Bridgend	3,200	3.8	3.9	3.6	3.7	3.8
Vale of Glamorgan	3,300	4.3	4.4	4.2	4.3	4.4
Cardiff	7,100	2.5	2.6	2.4	2.5	2.7
Rhondda Cynon Taf	5,100	3.2	3.3	3.1	3.3	3.3
Merthyr Tydfil	1,200	3.3	3.4	3.1	3.2	3.4
Caerphilly	3,500	3.4	3.5	3.3	3.4	3.5
Blaenau Gwent	1,500	3.8	3.9	3.6	3.7	3.7
Torfaen	2,300	4.0	4.1	3.9	4.0	4.0
Monmouthshire	2,800	5.6	5.7	5.4	5.5	5.6
Newport	3,200	3.3	3.4	3.2	3.2	3.4

Table 11 shows the projected Total Fertility Rate (TFR) by local authority for Wales based on the principal projection. The highest projected TFR in 2038-39 is expected to be seen in Denbighshire (2.29) and lowest in Swansea (1.72). TFR in 2038-39 increases for all local authorities from 2014-15. The projected change from 2014-15 and 2038-39 is similar in all local authorities from 0.08 in Merthyr Tydfil to 0.14 in Powys and Ceredigion.

Table 11: Projected Total Fertility Rate (TFR) by local authority for Wales, 2014-based principal projections

	2014-15	2022-23	2030-31	2038-39
Isle of Anglesey	2.12	2.22	2.24	2.25
Gwynedd	1.78	1.88	1.90	1.90
Conwy	1.94	2.03	2.05	2.05
Denbighshire	2.17	2.27	2.29	2.29
Flintshire	1.89	1.99	2.01	2.01
Wrexham	1.93	2.02	2.04	2.04
Powys	1.97	2.08	2.10	2.11
Ceredigion	1.68	1.79	1.81	1.82
Pembrokeshire	1.91	2.00	2.02	2.03
Carmarthenshire	1.81	1.90	1.91	1.92
Swansea	1.61	1.70	1.71	1.72
Neath Port Talbot	1.81	1.88	1.90	1.90
Bridgend	1.86	1.94	1.96	1.96
Vale of Glamorgan	1.87	1.97	1.99	1.99
Cardiff	1.63	1.73	1.75	1.76
Rhondda Cynon Taf	1.81	1.89	1.90	1.90
Merthyr Tydfil	1.76	1.83	1.84	1.84
Caerphilly	1.84	1.92	1.93	1.94
Blaenau Gwent	1.78	1.85	1.86	1.87
Torfaen	1.87	1.95	1.96	1.97
Monmouthshire	1.75	1.85	1.87	1.88
Newport	1.89	1.98	2.00	2.01

Table 12 shows the Expectation of Life at Birth (EOLB) by local authority for Wales based on the principal projection. The highest projected EOLB in 2038-39 is expected to be seen in Ceredigion (88.0) and lowest in Blaenau Gwent (84.1). EOLB in 2038-39 increases for all local authorities from 2014-15. The projected change from 2014-15 and 2038-39 is similar in all local authorities from 4.7 in multiple authorities to 5.3 in Merthyr Tydfil.

Table 12: Expectation of Life at Birth (EOLB) in years, by local authority for Wales, 2014-based principal projections

	2014-15	2022-23	2030-31	2038-39
Isle of Anglesey	81.2	83.3	84.9	86.2
Gwynedd	82.7	84.6	86.3	87.5
Conwy	81.5	83.5	85.2	86.5
Denbighshire	79.7	81.8	83.4	84.7
Flintshire	81.9	84.0	85.7	87.0
Wrexham	80.3	82.4	84.1	85.4
Powys	82.5	84.4	85.9	87.1
Ceredigion	83.2	85.2	86.8	88.0
Pembrokeshire	81.6	83.6	85.2	86.5
Carmarthenshire	80.9	82.9	84.5	85.7
Swansea	81.2	83.2	84.9	86.2
Neath Port Talbot	80.2	82.3	84.0	85.3
Bridgend	79.7	81.7	83.3	84.6
Vale of Glamorgan	81.8	83.7	85.3	86.6
Cardiff	81.1	83.2	84.9	86.2
Rhondda Cynon Taf	79.1	81.1	82.8	84.1
Merthyr Tydfil	79.4	81.6	83.4	84.8
Caerphilly	80.1	82.2	83.8	85.1
Blaenau Gwent	79.4	81.7	83.6	85.0
Torfaen	81.0	83.1	84.8	86.1
Monmouthshire	83.0	84.9	86.5	87.7
Newport	80.4	82.5	84.2	85.4

Table 13 shows the average migration for local authorities based on a ten year average for 2004 to 2014. Net internal migration was largest Carmarthenshire (730) and biggest net fall in internal migration is Rhondda Cynon Taf (-250). The majority of local authorities saw a net increase in net internal migration over this period.

Net international migration is largest by far in Cardiff (1,600) and biggest net fall in internal migration is Monmouthshire (-60), which along with Caerphilly (-40) are the only local authorities to see a fall in net international migration.

Overall the largest net total migration by far is Cardiff (1,600) and is driven by international migration. The local authority with the biggest net fall in total migration is Blaenau Gwent (-40), which along with Torfaen and Caerphilly (-20) are the only local authorities that saw a fall in net total migration.

Table 13: Average migration for local authorities in Wales, based on mid-2004 to mid-2014

	Internal			International			Total		
	In	Out	Net	In	Out	Net	In	Out	Net
Isle of Anglesey	2,300	2,200	90	140	110	30	2,500	2,300	120
Gwynedd	5,400	5,500	-70	920	560	360	6,300	6,000	290
Conwy	4,700	4,200	570	310	380	-60	5,000	4,500	500
Denbighshire	4,500	4,100	410	230	220	10	4,700	4,300	420
Flintshire	4,600	4,700	-90	380	280	100	5,000	5,000	10
Wrexham	3,900	3,800	90	880	370	500	4,700	4,100	590
Powys	5,300	4,900	430	330	290	30	5,700	5,200	470
Ceredigion	5,900	5,800	30	620	470	150	6,500	6,300	180
Pembrokeshire	4,000	3,600	370	410	350	60	4,400	4,000	430
Carmarthenshire	6,200	5,500	730	540	310	230	6,800	5,800	960
Swansea	9,100	9,100	60	1,800	1,100	770	10,900	10,100	830
Neath Port Talbot	4,000	3,700	270	160	150	10	4,100	3,900	270
Bridgend	4,000	3,500	460	280	240	40	4,200	3,700	500
Vale of Glamorgan	4,800	4,600	290	290	290	-10	5,100	4,800	290
Cardiff	18,900	18,900	-10	5,000	3,400	1,600	23,800	22,200	1,600
Rhondda Cynon Taf	6,200	6,500	-250	860	550	310	7,100	7,000	60
Merthyr Tydfil	1,400	1,500	-90	190	80	110	1,600	1,600	30
Caerphilly	4,400	4,400	20	160	190	-40	4,500	4,500	-20
Blaenau Gwent	1,600	1,700	-70	100	70	30	1,700	1,800	-40
Torfaen	2,300	2,400	-20	100	100	0	2,400	2,500	-20
Monmouthshire	4,200	3,900	340	180	240	-60	4,400	4,100	280
Newport	5,100	5,200	-150	940	670	270	6,000	5,900	120

Table 14 shows the difference in the projected average migration for local authorities based on the principal projection, which uses a five year average, compared to the ten-year average migration projection. The biggest difference in net internal migration is in Carmarthenshire, which has a difference in internal migration of 320 fewer people in the ten-year average migration projection than the principal projection. Variation between the ten-year average migration projection and the principal projection range from -320 and 220 for all local authorities.

By far the biggest difference in net international migration between the two projections is in Cardiff, which has an increase in international migration of 680 fewer people in the ten-year average migration projection than the principal projection. With the exception of Cardiff variation between the ten-year average migration projection and the principal projection range from -130 and 100 for all local authorities.

Overall biggest difference in net total migration between the two projections is in Cardiff, which has an increase in international migration of 470 fewer people in the ten-year average migration projection than the principal projection. With the exception of Cardiff variation between the ten-year average migration projection and the principal projection range from -470 and 110 for all local authorities.

Table 14: Principal and ten-year average migration assumptions for local authorities in Wales, 2014-based projections

	Net internal migration		Net international migration		Net total migration	
	Principal	Ten-year average	Principal	Ten-year average	Principal	Ten-year average
Isle of Anglesey	10	90	20	30	30	120
Gwynedd	-150	-70	460	360	310	290
Conwy	600	570	-100	-60	500	500
Denbighshire	280	410	-20	10	270	420
Flintshire	-120	-90	80	100	-40	10
Wrexham	-60	90	410	500	340	590
Powys	140	430	-60	30	90	470
Ceredigion	90	30	200	150	290	180
Pembrokeshire	270	370	-20	60	250	430
Carmarthenshire	410	730	140	230	550	960
Swansea	-90	60	820	770	720	830
Neath Port Talbot	160	270	30	10	190	270
Bridgend	350	460	10	40	360	500
Vale of Glamorgan	140	290	-70	-10	60	290
Cardiff	210	-10	920	1,600	1,130	1,600
Rhondda Cynon Taf	-290	-250	360	310	70	60
Merthyr Tydfil	-130	-90	80	110	-50	30
Caerphilly	-80	20	-30	-40	-110	-20
Blaenau Gwent	-130	-70	10	30	-110	-40
Torfaen	-50	-20	0	0	-50	-20
Monmouthshire	410	340	-90	-60	320	280
Newport	-150	-150	140	270	-10	120

Key quality information

Background

Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths, and migration. The assumptions are generally based on trends in recent years. They are not forecasts and do not try to predict the potential effects of local or central government policies on future population changes, or of changes in the lifestyle of the population.

The components of population change on which projections are based can be affected by changes in the economy and in the lifestyle of the population. The uncertainty associated with the local authority projections was modelled by producing variant projections together with the main population projection. These variant projections showed how possible variations in the fertility, mortality, and migration assumptions could affect the projections.

Local authorities are advised to use these published projections as a starting point, and are encouraged to produce their own variant projections and scenarios if required. The PopGroup software (there is a brief description in the *software* section) used to produce the projections is available to local authorities in Wales and (as in previous projection rounds) permission will be sought from ONS to share the base data used so that local authorities can use the data to create their own variants if they want to.

Relevance

Population and migration statistics are important for policy development, planning, and the provision of public services. There is a high demand for population and migration statistics for a range of uses. These include:

- planning services and estimating future need at national and local level, (for example, schools, health, and social services) including the preparation of Local Development Plans;
- contributing to the Local Government Finance revenue settlement;
- policy development;
- advice to Ministers;
- informing debate in the National Assembly for Wales and beyond;
- the calculation of further statistics (for example, Housing Estimates, and Household Projections);
- denominators in rates (for example, birth rates and mortality rates);
- the production of the weights in some sample surveys;
- geographic profiling, comparisons, and benchmarking;
- analysis of population cohorts and migration trends;
- supporting well-being assessments required under the Well-being of Future Generations (Wales) Act 2015.

There are a range of users of population data from national and local government, charities and voluntary sector organisations, other government departments, students, academics and universities, individual citizens, and private companies. In particular there is a high level of interest in projections at the local authority level. Those who plan for the future to deliver services and to

help frame sustainable policies need to consider the population analysed by age and sex. Population projections can identify trends that shape the context for future policy development.

The Planning (Wales) Act 2015 gained royal assent in July 2015. A key element of the Act is to enable local planning authorities to come together and prepare a Strategic Development Plan which transcends local authority boundaries, covering a wider geographical area and dealing with not just local issues. Evidence to support plan preparation will include demographic statistics and population and household projections which will need to be considered in a strategic context. Future iterations of projections will play a role in shaping strategic plans.

All local planning authorities with adopted Local Development Plans (LDPs) have to prepare an Annual Monitoring Report (AMR) which measures how policies have performed and what corrective action may be required. AMRs play a critical role in ensuring that the LDP is kept up-to-date. The progress demonstrated within the AMRs can have a bearing on future population levels and distribution, demographic profiles, and house prices. These outcomes and their relationship to the key objectives of the plan will form part of the AMR.

National Statistics status

The [United Kingdom Statistics Authority](#) has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the [Code of Practice for Official Statistics](#).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

The projections have been assessed by the [UK Statistics Authority](#) (UKSA) and have since been published as National Statistics. They are currently being re-assessed (together with those of other UK countries) and their National Statistics status is subject to confirmation, once all the requirements in the assessment report have been met.

There is more detail of the UKSA assessment in the *accessibility and clarity* section.

Accuracy

Population projections are trend-based projections that provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are generally based on past trends. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution, and change. Population projections have their limitations. These local authority population projections are not policy-based forecasts; they indicate what is expected to happen if the trends on which they are based continue.

As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward. Demographic change affects some populations more rapidly and to a greater effect than others. Due to the size of estimated migration flows, for some local authorities migration assumptions are more critical than fertility and mortality assumptions. Therefore, migration assumptions can have a significant long-term effect on certain areas.

Assumptions around birth and death rates are based on historical levels of mortality and fertility and their interaction with the population size at each age. They are subject to variation (for example, through changes in fertility trends or increases in life expectancy) but such changes are not usually short-term. Migration can also interact with these trends, but the migration assumptions themselves are subject to short-term fluctuations based on economic or social circumstances. So the setting of migration rates for the future using the rates for the previous five years means that the projections are potentially vulnerable to short-term volatility in migration rates. This may be particularly true for current projections, since the assumptions are based on a period which included the global recession and widespread changes in levels of migration.

There are factors which can influence the projections and the three main components of population change: changes in the economy; changes in individual, family, and household behaviour; and events outside the UK. In order to illustrate the uncertainty associated with the local authority projections four variant projections were produced alongside the main (or principal) population projection. These variant projections showed how possible variations in the fertility, mortality, and migration assumptions could affect the projections.

Timeliness and punctuality

A consultation on Welsh Government statistical outputs on population and household estimates and projections ran from February to May 2016. The aim of the consultation was to find out about the experience of users in using these statistical outputs and how it would be possible to improve them.

The consultation stated that it had been proposed to start work on new projections for the 22 local authorities and the 3 national park authorities during the first half of 2016. The stated aim was to begin to publish results from the autumn of 2016, with on-going outputs up to early 2017 and the local authority population projections (that the ones in this Release) in September 2016.

Respondents were asked the following questions:

- Do you agree with this timetable?

- What are your future needs for projections?
- How frequently should they be produced?

Most respondents thought that sub-national population projections and household projections should be produced once every three years. The National park authorities preferred them to be produced every other year. Respondents were evenly divided on whether household estimates should be produced annually.

The consultation response stated that sub-national population projections and household projections will be produced every three years (including those for national park areas). Household estimates will be produced annually (probably around three months after the mid-year population estimates are published). The plan is to produce 2014-based household projections before the end of the current financial year.

The UKSA have proposed that the Welsh Government should work with ONS and other UK administrations to align the base year for sub-national and national projections where possible. Respondents were asked the following question:

- Do you agree with this approach?

All respondents agreed with this. The Welsh Government will work with ONS and other UK administrations to align the base year for sub-national and national projections as far as possible. Currently the planned publication frequencies for the Welsh Government and ONS are different (three years and two years respectively), so user needs will be considered ahead of each projections cycle. If there is an overwhelming user need for projections on a different base year to the national projections (as was the case for the 2011-based projections) this will be considered and any decision explained to users.

[Report detailing the summary of the consultation responses and the Welsh Government follow-up actions.](#)

Please send any feedback on any aspects of these publications and any views on future timing requirements to: stats.popcensus@wales.gsi.gov.uk.

Accessibility and clarity

The UKSA published [Assessment Report 310, Population Estimates and Projections for Wales \(produced by the Welsh Government\)](#), in July 2015. It is one of a series of reports prepared under the provisions of the Statistics and Registration Service Act 2007. The Act gives the Statistics Authority power to re-assess whether the Code of Practice for Official Statistics continues to be complied with in relation to official statistics already designated as National Statistics. The report covers the following population estimates and population projections produced by the Welsh Government for Wales and reported in:

- Mid-year Estimates of the Population,
- Principal and Variant Local Authority Population Projections for Wales,
- Population Projections for National Parks.

The report forms part of a broader assessment of sets of population statistics across the UK that are produced by the Office for National Statistics (ONS); the Welsh Government; National Records of Scotland (NRS), and the Northern Ireland Statistics and Research Agency (NISRA). Assessment reports 309, 311 and 312 examine the population statistics produced by ONS, NRS and NISRA respectively.

Requirement 8 of the UKSA assessment stated that:

“The accessibility of the Welsh Government’s existing population estimates and projections outputs needs improving.

The Welsh Government should:

- a) Improve the standard of commentary – to include additional contextual information and explanation for changes – and presentation to maximise accessibility for a wider range of users. ...”

The Welsh Government response to this requirement was:

“We made significant improvements to the commentary and presentation of the [Population Projections for National Parks in Wales](#) release, including seeking feedback from the UKSA Good Practice team. Commentary is provided on the population structure in the 2015 Release and explanations of the factors affecting population change are included (for example, population trends for differing age groups, natural change, and migration).

The text of the 2015 Release has been assessed for accessibility by a member of staff with a Diploma in Plain English awarded by the Plain English Campaign, which means that they are qualified to assess whether a document would receive a Crystal Mark (the industry standard for accessibility). It was judged that the 2015 Release would receive a Crystal Mark. The Release was found to have a Flesch Reading Ease Index of 35.1, a 37 per cent improvement over the 2011 Release. We will make similar improvements to the First Release *Local Authority Population Projections for Wales (2014-based)*.”

Comparability and coherence

Population projections are based on mid-year population estimates (as at 30 June each year). Mid-year population estimates for Wales and England are produced by the ONS. In order to produce the local authority projections the population estimates are combined with assumptions about births, deaths, and migration. These assumptions are based on past trends.

For migration the UN definition of an international migrant is used; that is, those changing country of residence for a period of at least 12 months. Short-term migrants (for example, migrant workers from Eastern European countries) are not counted in the population estimates.

These local authority projections are based on the [mid-2014 population estimates for local authorities in Wales](#).

The base data used to make the calculations is produced by ONS for the length of the projection period, usually twenty-five years. In order to produce population projections, assumptions need to be formed to project future levels of fertility, mortality, and migration for each local authority.

[Guidance on the methodology used by the ONS to produce the population estimates](#).

These projections are based on a similar methodology to the one used for the 2011-based local authority population projections.

Local authority population projections are produced using a well established demographic approach known as the cohort component method. That is:

- taking the most recent year's population estimate;
- taking out special population groups;
- ageing every person on one year;
- adding births and subtracting deaths;
- allowing for inward and outward migration;
- adding back in the special population groups.

The methodology for these projections has been developed in close collaboration with local authorities and key users in Wales through the Wales Sub-national Projections (WASP) working group. This group has met on a regular basis during the preparation of the projections and has been a forum for technical discussion on the methodology and the base data used. Members of WASP include local authority and national park representatives and others with knowledge of and experience of demographic data and population projections.

[Papers relating to and minutes of WASP meetings.](#)

Regular updates have also been provided at full meetings of the Welsh Statistical Liaison Committee (WSLC). [Further information on the WSLC, including membership.](#)

The assumptions are generally based on trends during the most recent 5 years, and the projections indicate what may happen should these trends continue. Adjustments have been made to the mortality assumptions at a five-year age group level, to take into account of future improvements in mortality rates. These adjustments have been taken from the ONS-produced national population projections. In recent years, there has been an improvement in mortality rates, and thus a longer life expectancy. This is assumed to continue into the future.

The fertility assumptions are based on trends in recent years; in which the general trend has been for slightly higher birth rates for women in their thirties indicating delayed motherhood. The projections indicate what may happen in the future should these trends continue. Adjustments have been made to the fertility assumptions at a five year age group level, to take into likely future patterns in terms of age of mother. These adjustments have been taken from the ONS produced national population projections.

All figures relating to working age and pensionable age populations are based on the state pension age for the given year. Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women, to 65 years for both sexes. Between 2024 and 2046, state pension age will increase in three stages from 65 years to 68 years for both sexes.

Guidance on the detailed methodology used to produce the subnational population projections for Wales has been published in this [technical report](#).

It describes how the local authority population projections were produced, and describes in detail the methodology used to derive assumptions on fertility, mortality, and migration.

Population projections are produced for similar small areas in England, Scotland and Northern Ireland, however, it should be noted that these projections are not directly comparable due to differences in methodology and base years. [Information on the similarities and differences in these projections.](#)

Software

The PopGroup software was used to produce the projections. POPGROUP is a family of demographic models developed to generate population, household, labour force, and other derived projections for specified geographical areas or population groups (or both).

Forecasts can be made using a variety of data inputs and assumptions. Current populations and future populations can be estimated, with detailed age and sex composition. The main POPGROUP module provides a cohort component model (the methodology used by the UK national statistical agencies) that enables the development of population projections based on births, deaths, and migration inputs and assumptions.

POPGROUP can be used to produce population statistics of a quality suitable for use in strategic planning, service planning and policy development. POPGROUP is used extensively by local authorities and local and regional organisations across the UK. It uses Excel workbooks to manage the data inputs and outputs, and provides flexibility to enable users to experiment and analyse alternative projections.

Use of administrative data

The population projections use ONS administrative data. [Link to the ONS quality and methodology information reports for the population theme.](#)

The reports contain information on the methods used to compile the data for the named output and on the quality of that data. They are designed to give information on the strengths and limitations of the data so that decisions can be made on the appropriate uses of the data. ONS has the responsibility for assuring the quality of administrative data for use in official statistics. However, as a key user and producer of statistics the Welsh Government must ensure that the processes are appropriate to address any quality issues relevant to these projections, and the Welsh Government will work with ONS to consider how any improvements could be made in the future.

The administrative data used in the projections has been subject to internal checks for consistency and plausibility by the Welsh Government.

Birth statistics are based on the number of births occurring in a given year. They present data on births that occur and are then registered in England and Wales. Statistics are based on information collected at birth registration. Annual data are released in a series of theme-specific packages, usually between July and December. Annual birth statistics for the UK and its constituent countries are published in the vital statistics: population and health reference tables.

ONS birth statistics are based on registrations provided by the General Register Office (GRO). The data represent a legal record, making it the best and most complete data source.

As part of the birth registration process, before data are submitted through the Registration Online system for births and deaths (RON), the registrar asks the informant to verify that all data entered are accurate. The registrar is then able to correct any errors. There are some validation checks built into RON to help the registrar with this process. Information supplied at birth registration is generally believed to be correct since wilfully supplying false information may render the informant liable to prosecution.

When ONS receive birth registrations, a number of checks are carried out on records to ensure that they are valid. Checks are more frequent on those records with extreme values for main variables (such as age of mother and age of father) as these have a greater impact on published tables. Any birth records which appear questionable are raised with the GRO on a monthly basis for further investigation. Any proposed changes to the recording and collection of birth registration data are carefully managed and involve ONS, GRO, and other stakeholders. This ensures that any implications on birth statistics are taken into full consideration.

Changes recently made to the Population (Statistics) Act 1938 mean that improved data on previous children has been collected since May 2012. The changes will improve the accuracy of birth statistics by birth order and feed into estimates for family size and measures of fertility.

ONS carry out quarterly checks on the births dataset.

The Births and Deaths Registration Act (1836) made it a legal requirement for all deaths to be registered from 1 July 1837. Mortality statistics for England and Wales are based on the information collected when a death occurs and is then registered. Published figures represent the number of deaths registered in a reference period.

The annual mortality statistics cover England and Wales. The Annual Time Series Data table in the vital statistics: population and health reference tables provide a range of mortality statistics for the UK and its constituent countries, with some measures available back to 1838.

Daily extracts of death registrations from RON are received by ONS and then pass through a series of automatic validation processes which highlight any inconsistencies. The Mortality Metadata provides detailed information on the collection, processing, and quality of mortality data for England and Wales.

Internal consistency checks are then conducted to eliminate any errors made during the recording of deaths, and to ensure the annual dataset is complete. Before becoming usable for analysis the data pass through more validation checks and processes, these include running frequency counts on a range of variables, checking the plausibility of combinations of fields, and checking inconsistencies. Suspect records are referred back to register offices. Any concerns relating to cause of death are referred to a Medical Advisor or Medical Epidemiologist.

Long-term international and internal migration estimates at local authority level for England, Wales, Scotland and Northern Ireland are produced by ONS, NRS, and NISRA for the purpose of producing a range of population estimates. The data are presented as:

- Long-term international immigration and emigration volumes - representing the number of people arriving in the UK or leaving the UK for a period of at least 12 months.
- Internal in-migration and out-migration volumes - an estimate of migration within the UK (crossborder flows between each of the constituent countries, as well as migration between local authorities).
- Long-term international and internal migration turnover rates (such as volume of movement between in- and out-migration) per 1000 (of the total population)
- Long-term international inflow and outflow rates per 1000 (of the total population)
- Total volume of migration per 1000 (the sum of internal and international migration). This indicates more clearly the areas with high levels of population turnover

Short-term international migration estimates at local authority level for England and Wales are produced by ONS. The data consists of short-term international immigration volumes, representing the number of people who stayed in England and Wales for a period between 3 and 12 months.

The coverage of international migrants joining an administrative source will depend on the purpose of the particular administrative system and will invariably differ between sources.

From mid-2011 onwards, prisoners were regarded as usually resident at an institution if they are serving a custodial sentence of six months or more. Previously, prisoners were considered usually resident if they were serving a custodial sentence and had already been in prison for six months or more. This definition was changed in order to be more consistent with the 2011 Census definition of usual residence for prisoners.

For the Armed Forces special population, five years of data was averaged to estimate the number of armed forces in Wales for each sex and single year of age. These figures were then held constant through each year of the projection.

Prior to mid-2011, school boarders were treated as a special population as it was believed their movements were not captured in the data sources used to estimate internal migration. However, further research has shown that school boarder moves are measured in the internal migration estimates and therefore this component will no longer be included in the mid-year estimates. As a consequence school boarders were treated as a special population in the 2006-based and 2008-based local authority population projections but this will not be the case in current and future projections.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section

(10)(1) of the Act, the Welsh Ministers must (a) publish indicators (“national indicators”) that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016; and although this Release does not provide data for any of the targets explicitly, some of the targets could be considered in relation to the projected population sizes in the Release.

Information on indicators and associated technical information - [How do you measure a nation's progress? - National Indicators](#)

Further information on the [Well-being of Future Generations \(Wales\) Act 2015](#).

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.

Further details

The document is available at:

<http://gov.wales/statistics-and-research/local-authority-population-projections/>

[Guidance leaflet on the local authority population projections for Wales](#). It provides guidance on: population projections, the length of the projections, the use of local authority population projections, and when to use the national and local authority projections.

[Frequently Asked Questions](#).

Next update

September 2019 (provisional)

Feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to stats.popcensus@wales.gsi.gov.uk

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