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Futures for Wales: Background Report



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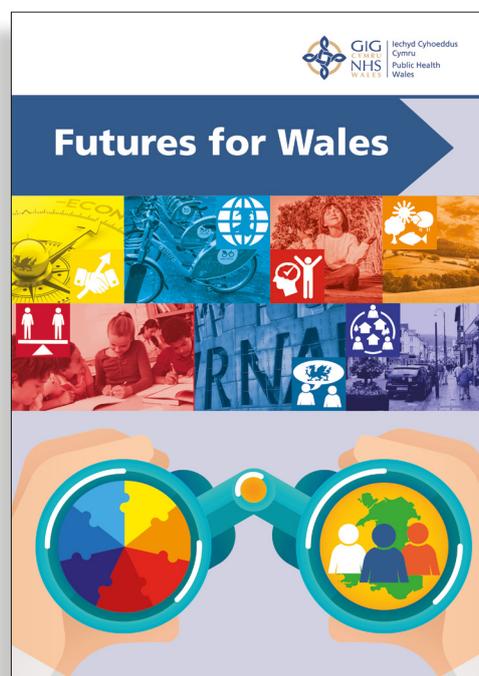
i Round-table discussion participants

ii Provided advice and assistance

About this report

Public Health Wales has produced the report *Futures for Wales* to support policy makers, public bodies, Public Services Boards (PSBs) and other organisations across sectors, who are considering their approach to planning for the long term. The aim is to identify key intelligence and tools to enable the building of a sustainable future for the people in Wales, whilst addressing the long-term challenges we face.

This is an accompanying background report to provide information on methodology used and further details of research findings, including approaches used by PSBs to look to the future, further information about each of the case studies and a summary of resources that may be of interest to the reader.



Methodology

This section provides further details of the methodology used for developing *Futures for Wales*.

Part 1

To identify evidence that would provide an overview of current thinking about the future key issues that may affect well-being in Wales, a Researcher identified reports, intelligence and data resources (quantitative and qualitative) using the following criteria:

- The sources looked to the future of Wales (taking future to mean “a period of time regarded as still to come” and “events that will or are likely to happen in time to come”, Oxford English Dictionaries)
- They were publically available
- They referred to the Wales context
- They were timely and therefore presented the best available evidence to date

The identification and review of the data sources was informed by discussions with health intelligence experts, as well as experts in the field of sustainable development and futures (see acknowledgements).

A range of evidence sources were identified:

- Well-being Assessments (the focus of the report, 19 in total)
- Population Assessments (7 in total)
- Director of Public Health Annual Reports
- Welsh Government’s Future Trends Report
- Other grey literature and expert reports

The emphasis of the research was the Well-being Assessments (WBAs), as these, in the main, identified much of the intelligence available on how the future of Wales may look.

The WBAs were reviewed by the Researcher and all ‘future related’ narrative was extracted. The narrative was collated into themes relating to the seven Well-being Goals of the Well-being of Future Generations (Wales) Act 2015. In addition, the different approaches used to undertake future looking activity in each of the 19 WBAs was identified (page 6).

This information was tabulated (page 10), to provide an overview of the themes covered in each of the WBAs, as well as the strength of the evidence available. The narratives were reviewed, with further distillation of the most pertinent qualitative and quantitative data and intelligence relevant to each Well-being Goal.

Following analysis of the WBAs, other data and information sources were reviewed and any additional relevant information was included in the report, under the relevant theme.

Part 2

Part 2 summarises methods and tools that might assist policy makers and organisations to look to and plan for the future. Academic and grey literature on the subject of futures approaches, methodologies, tools and resources (in Wales and internationally) were identified through a literature search using *Google Scholar*, as well as through dialogue with experts with an interest in the public health futures field. To enhance the richness of this information, the Researcher held meetings and semi-structured interviews with a range of experts within and outside the UK to help guide the work and to gather additional qualitative information.

In addition, an expert panel meeting (see acknowledgements) was held to review the different methods, tools and resources available. The panel was asked to provide its views on the following questions:

1. What is the value of “future looking” tools and which tools do you use in your projects?
2. What is the best way to do futures work for public health on a Wales-wide scale? Which tools would be least helpful?
3. What is the best way to do futures work for public health at Public Services Board/ Local Health Board level? Which tools would be least helpful?
4. What is the best way to do futures work at community level? Which tools would be least helpful?
5. Which tools would maximise community and stakeholder involvement?
6. How would the approach differ if themes / issues were to be considered instead? (e.g. housing, dementia, alcohol consumption, debt)
7. In relation to the Well-being of Future Generations (Wales) Act 2015, how could futures tools assist in meeting the challenges and opportunities?

Approaches used in Well-being Assessments for looking to the future

PSB

Approach to future forecasting

Anglesey (Ang) and Gwynedd (Gwy)

- The assessment is structured around 4 themes of the Well-being of Future Generations (Wales) Act 2015 (the Act) (Economic, Social, Cultural, Environmental).
- Long term projections are included, but without analysis.
- Engagement events identify insights into present concerns that may radically change the future of some localities.

Blaenau Gwent (BG)

- The assessment is structured around the 4 themes of the Act (Economic, Social, Cultural, Environmental).
- Projections from a range of sources are included.
- Taking a horizon scanning approach, the assessment provides a brief overview of opportunities and challenges for the PSB.
- For each topic considered under the 4 themes, the PSB includes a concluding table '*Thinking for the Long Term*'. The future for specified topics is divided into the short term (defined as 1-2 years), medium term (5 years) and long term (10 years).

Bridgend (BR)

- The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental).
- For each of the 4 themes the PSB includes a section speculating on future issues - both macro trends and emerging themes.
- Information on the PSB's strengths and weaknesses are included.

Caerphilly (CP)

- The assessment is structured around the 7 Well-being Goals of the Act.
- The document includes some future projections work collated from a variety of sources.
- The introduction refers to the document having a 25 year timeframe and this is reflected in the narrative for some of the goals.

- Cardiff (CDF)**
- Cardiff's assessment is structured around population wide outcomes (Quality of life; Prosperous; Crime trends; Health; Skills for life; Environment; and Inequality).
 - Futures work is signposted with a 'Cardiff Tomorrow' section at the end of each chapter.
 - The report identifies how key issues e.g. population growth and climate change may impact on the city, identifying the shift in thinking needed to meet the opportunities and challenges posed by key drivers of change.

- Carmarthenshire (Car)**
- The assessment is structured around the life stages: New beginnings, Childhood, Youth, Adulthood, Older people.
 - Projections work from a range of sources is included, but not organised into a future trends section.
 - The PSB used future oriented questions in its community engagement activities such as 'What do you want well-being to look like in the future?' to 6–11 year olds during a primary school engagement exercise.

- Ceredigion (Cer)**
- The assessment is structured around the stages of the human life cycle: New beginnings, Childhood, Youth, Adulthood, Older people.
 - In its 'Future trends and scenarios section', the assessment concentrates on certain trends that are of particular relevance to Ceredigion: population change, climate change, work and services.
 - The PSB includes future scenarios for four issues: Adverse Childhood Experiences, the impact of healthy behaviours on later life, the Welsh language and a generational scenario. Issues are highlighted that have implications for the future.

- Conwy & Denbigh (C&D)**
- The assessment is structured around 36 strategic topics that were decided upon by grouping key issues identified during community and staff engagement activities.
 - Future forecasting work is clearly signposted ('What we know or predict about the future'). This draws on available local and national future projections work combined with some observations / horizon scanning. The chief focus is short and medium term, rather than long term projections.
 - There is also a section highlighting issues that arose during consultations, which sometimes include a future focus.

- Cwm Taf (Merthyr & RCT) (CT)**
- The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental).
 - There is a section titled 'A future perspective', which includes desired policy goals presented together with projections work for selected issues.

Flintshire (FT)

- Taking a similar approach to Conwy & Denbighshire, the assessment is structured around 36 strategic topics decided upon by grouping key issues identified during engagement activities with local communities and staff.
- Future forecasting work is clearly signposted ('What we know or predict about the future'). This draws on available local and national future projections work combined with some observations / horizon scanning. The chief focus is short and medium, rather than long term projections.
- There is also a section highlighting issues that arose during consultations, which sometimes include a future focus.

Monmouthshire (Mon)

- The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental).
- The assessment includes a Future Trends chapter in which the PSB undertakes horizon scanning for seven issues (population and migration; the economy; climate change; fracking; threats to habitats and ecosystems; health and well-being; Welsh language).
- The 'Conclusions' section closes with a list of issues the PSB believes likely to have the greatest impact in the short, medium and long-term.

Neath Port Talbot (NPT)

- The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental).
- Each theme concludes with a future trends section that collates selected existing quantitative work.
- There is a detailed background paper produced on 'future trends'.

Newport (NP)

- The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental).
- Some futures work is done for each of the four themes and community profiles.
- The PSB makes brief predictions on a range of health-related issues under the 'Social' theme.

Pembrokeshire (Pem)

- The assessment is structured around the stages of the human life cycle: New beginnings, Childhood, Youth, Adulthood, Older people.
- Some future trends work is included the main commentary for each chapter and the question 'How would you like [well-being] to look in the future?' is asked in the consultation exercise.
- The assessment includes a discussion of how Pembrokeshire might look in 25 or 50 years for three topics: Population and demography, climate change, economy and society. The PSB also looks to answer two further questions: 'What might work look like in the future?' and 'What might public services look like in the future?'.

| | |
|--------------------------------|---|
| Powys (Pow) | <ul style="list-style-type: none"> ● The assessment is structured around the 4 themes of the Act (Economic, Social, Cultural, Environmental). ● 32 strategic topics are grouped under the four themes, with a distinct 'Scenario' section signposting the PSB's future trends work. Topics include issues such as 'Young People's Mental Well-being', 'Energy in Housing' and 'Health Inequalities'. ● The PSB uses short (5 years), medium (10 years) and long term (25 years) timescales to frame future trends work. ● The approach for each area varies, utilising both data rich projections work from expert sources as well as posing speculative questions. |
| Swansea (SWA) | <ul style="list-style-type: none"> ● Swansea's assessment is structured around six population wide outcomes from which the authors derive 19 drivers. ● For each of the 19 drivers, there is a 'Future prospects' section. ● The report uses available projections and horizon scanning. |
| Torfaen (Tor) | <ul style="list-style-type: none"> ● The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental). ● There is a chapter on future trends on a variety of issues (demographics, health forecast, economic forecast, climate change, energy, land use, future housing demand). ● There is collation of available local and national statistics, with some horizon scanning. |
| Vale of Glamorgan (VOG) | <ul style="list-style-type: none"> ● The assessment is structured around 4 themes of the Act (Economic, Social, Cultural, Environmental). ● Future trends are discussed for issues identified. ● The assessment uses projections tools for issues such as smoking and obesity. ● The impact of projections are considered for different localities. |
| Wrexham (Wre) | <ul style="list-style-type: none"> ● The assessment is structured around the 7 Well-being Goals, with 44 strategic topics. For each goal, the PSB asks 'What is the future for ... [e.g. Wrexham town centre]?' ● Detailed information draws on available local and national future projections, combined with speculative observations / horizon scanning. There is a focus on the future of the locality's assets, though this is for the short term. ● The assessment includes a table in which it considers the five ways of working in the short, medium and long term for issues identified by the PSB. |

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|--|-------|-----|-------|-------|-------|-----|-----|--------|--------|-------|-------|-------|-------|-----|--------|--------|-------|-----|--------|--------|
| Decrease in children (0-15) to 2039 | Green | Red | Green | Green | Green | | | | | Green | | | Green | | Green | | | Red | | |
| People 65+ predicted to be living alone | Red | Red | Red | | | | | | Green | | Green | | | | | Green | Green | Red | Green | Green |
| Number of households | | | | | | | | | Yellow | | | Green | | | | Yellow | | | Red | Yellow |
| Young people leaving the area | Red | Red | | | | | | | Yellow | | | | | | | Green | | | | |
| Children with disabilities | | | | | | | | | Red | | | | | | | | | | | |
| Adults with learning disabilities | | | | | | | | | | | | | | | | | Green | | | |
| Armed forces veterans | | | Green | | | | | | | Red | | | | | | | | | | Green |
| Asylum seekers / refugees | | | | | | | | | | | | | | Red | | | | | | Red |
| Growth of new technology | | | Red | | | | | Yellow | | | | | | | | | | | Yellow | Red |
| Migration / immigration | | | | | | | | | | | | | Red | | Yellow | | | | | Red |
| Number of people with sight and hearing loss | | | | | | | | | | | | | | | | | | Red | | |
| Funding gap for NHS until 2025 | | | Green | | | | | | | | | | | | | | | | | |
| Rising cost of living | | | | | | | | | | | | | | | | | | | Red | |
| Single parent levels to stabilise | | | | | | | | | | | | | Green | | | | | | | |
| Older people 65+ remaining in the workforce | | | Red | | | | | Red | | Red | | | | Red | Green | | | | | |
| Number of children and young people displaying challenging behaviour | | | | | | | | | | | | | Green | | | | | | | |
| Demand for support for vulnerable families | | | | | | | | | | | | | | | | | | | Yellow | |

A prosperous Wales

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Economic uncertainty | Yellow |
| Need to increase productivity | Grey | Grey | Grey | Grey | Red | Yellow | Grey | Red | Red | Yellow | Red |
| Demand for workforce with higher skills | Red | Red | Red | Red | Yellow | Yellow | Grey | Red | Red | Yellow | Red |
| More professional jobs (requiring highly skilled employees) | Red | Red | Red | Red | Yellow | Yellow | Grey | Red | Red | Yellow | Red |
| Future labour demands | Grey | Grey | Grey | Grey | Yellow | Yellow | Grey | Red | Red | Yellow | Red |
| Precarious jobs and the "gig economy" | Grey | Yellow |
| Automation of lower skilled jobs | Grey | Grey | Grey | Grey | Grey | Yellow | Grey | Yellow | Yellow | Yellow | Red |
| Decrease in manufacturing jobs | Grey | Red | Red | Green | Red |
| Big data | Grey | Red | Red | Green | Red |
| Pupils' attainments | Grey | Yellow | Green |
| Building schools | Grey | Grey | Grey | Grey | Yellow | Green | Yellow | Yellow | Yellow | Green | Red |
| Educational improvements | Grey | Grey | Grey | Grey | Grey | Red |
| School exclusions | Grey |
| Future of agricultural sector | Yellow |
| Gap in attainment at school | Red |
| Long term sickness | Grey | Grey | Green |
| Reduction in workless households | Grey | Grey | Green |
| Children living in workless households | Grey | Grey | Green |
| Individuals' future income levels | Grey | Grey | Green |

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|---|-----|-----|--------|--------|-----|--------|-----|-----|-----|-----|-----|-----|--------|-----|--------|--------|-------|-------|-------|-----|
| Low pay in 2020 | | | Yellow | | | | | | | | | | | | | | | | | |
| Longer commutes for workers | | | Green | | | | | | | | | | | | | | | | | |
| Decreasing employment opportunities | | | Red | | | | | | | | | | | | | | | | | |
| Unemployment rate | | | Red | | | | | | | | | | Red | | | | | | | |
| Growth in employment in Health & Social Care Sector | | | | | | Red | | | Red | | Red | | Green | | | Yellow | | | Red | Red |
| Growth in service sector | | | | | | Red | | | Red | | Red | | Green | | | Yellow | | | Red | Red |
| Swansea Bay City Regional Deal | | | | | | | | | | | | | | | Yellow | | Green | | | |
| Cardiff Capital City Deal | | | Red | Yellow | Red | Yellow | | | | | | Red | Yellow | | | | | Green | | |
| Reduced retail shop occupancy | | | | | | | | | | | | | Yellow | | | | | | Green | Red |
| Brexit | Red | Red | Yellow | Red | | | | | Red | Red | Red | Red | Red | Red | | Red | | | Red | Red |

A healthier Wales

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|--|-----|-----|----|----|----|-----|-----|-----|-----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| Life expectancy | | | | | | | | | | | | | | | | | | | | |
| Healthy life expectancy | | | | | | | | | | | | | | | | | | | | |
| Gaps in life expectancy | | | | | | | | | | | | | | | | | | | | |
| Diabetes | | | | | | | | | | | | | | | | | | | | |
| Dementia | | | | | | | | | | | | | | | | | | | | |
| Cancer | | | | | | | | | | | | | | | | | | | | |
| Limiting long-term illnesses | | | | | | | | | | | | | | | | | | | | |
| Complex care needs | | | | | | | | | | | | | | | | | | | | |
| Carers | | | | | | | | | | | | | | | | | | | | |
| Unpaid carers | | | | | | | | | | | | | | | | | | | | |
| Adults 65+ providing 50+ hours of unpaid care / week | | | | | | | | | | | | | | | | | | | | |
| Young carers | | | | | | | | | | | | | | | | | | | | |
| People 65+ receiving residential based services | | | | | | | | | | | | | | | | | | | | |
| Immunisation | | | | | | | | | | | | | | | | | | | | |
| Low birth weight | | | | | | | | | | | | | | | | | | | | |
| Adverse Childhood Experiences | | | | | | | | | | | | | | | | | | | | |
| Drinking above guidelines | | | | | | | | | | | | | | | | | | | | |
| Smoking rates | | | | | | | | | | | | | | | | | | | | |
| Obesity | | | | | | | | | | | | | | | | | | | | |

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
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| Childhood obesity | | | Green | | | | Green | | | Yellow | | | | Green | | | | Green | Red | |
| Fruit and vegetable consumption | | | Red | | Red | | | Red | Red | Yellow | | Red | | Green | | | Red | Green | Green | |
| Physical activity levels | | | Red | | Yellow | | | Red | Red | Red | Red | Red | | Red | | | Red | Red | Red | |
| Number of people predicted to have a mental health problem | | | | Green | | | | Green | Green | Green | Green | | Green | | | | | | | Green |
| Mental health | Red | Red | Red | Green | Red | | Green | Red | Green | Green | Green | Red | | | | | Yellow | Green | | Red |
| Children's mental health | Red | Red | Green | Yellow | | Yellow | | | | Red | | Green | | | | Green | | Green | | Red |
| Antimicrobial resistance | | | | | | | | | | | Yellow | | | | | | Yellow | | | Red |
| Spread of disease in an interconnected world | | | | | | | | | | | Yellow | | | | | | | | | Red |
| Newly emerging diseases | | | | | | | | | | | | | | | | | | | | Red |
| Health literacy | | | Red | | Red | | | | Red | | | | | | Red | | | | | |
| People 75+ with a limiting long-term illness | | | | | | | | | | | | | Green | | | | | Red | | Red |
| People 65+ with impaired mobility | | | | | | | Green | | | | | | Green | | | Green | | Red | | |
| People 65+ with continence issues | | | | | | | | | | | | | Green | | | | | | | |
| People 65+ requiring support to perform household tasks / manage self-care | | | | | | | | | | | | | Green | | | | | | | |
| Alcohol, substance misuse & anti-social behaviour | | | Red | | | | | | | | | | | | | | | | | Red |
| Recruitment problems with GPs and nurses | | | | | | | | | Yellow | | Yellow | | | | | | | | Yellow | Yellow |
| Increase in number of people with autism | | | | | | | | | | | | | | | | | Red | | | |
| Impact of vaping | | | | | | | | | | | | | | | | | Red | | Red | |
| Welsh Government health spend to 2030 | | | Red | | | | | | | | | | Green | | | | | | | |
| Alcohol and Drug use | | | | | | | | | | | | | Red | | | | | | | Red |

A resilient Wales

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|---|--------|--------|--------|-------|--------|-------|-------|-------|--------|--------|-------|--------|-------|--------|--------|-------|-------|-------|-------|-------|
| Climate Change | Yellow | Yellow | Green | Green | Yellow | Red | Red | Red | Green | Yellow | Red | Green | Green | Yellow | Yellow | Green | Grey | Green | Green | Green |
| Heat-related illnesses and deaths | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red |
| Lack / loss of access to greenspace | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red |
| Flooding | Red | Green | Red | Red | Yellow | Red | Green | Green | Yellow | Yellow | Red | Red | Green | Red | Red | Red | Red | Green | Red | Green |
| Air pollution / quality | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Red | Red |
| Emissions | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Green | Red | Red |
| Resilience of green spaces | Red | Yellow | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Yellow | Red | Yellow | Red | Red | Red | Red | Red | Red |
| Timber shortage | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red |
| Declining biodiversity & risk from invasive species | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Green | Red | Green | Green | Red | Yellow | Red | Red | Red | Red | Red |
| Increased winter rainfall | Red | Red | Red | Red | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green | Green |
| Development threatening natural resources / greenfield sites / unsuitable locations | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Food security | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Likelihood of extreme weather events | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |

A more equal Wales

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|------------------------------------|-----|-----|-------|----|-----|--------|--------|--------|--------|--------|--------|-----|-------|--------|-----|-------|--------|--------|-----|-----|
| In-work poverty | | | | | Red | Red | | Red | | | | | Red | | | | Red | | | |
| Fuel poverty | | | | | | | Yellow | | | | | | Green | | | Green | | | | |
| Child poverty | | | Red | | Red | Red | | Red | Red | Red | | | Green | | Red | | | | | Red |
| Welfare reform affects | | | Red | | Red | Red | | Yellow | Yellow | Yellow | Yellow | | Green | | Red | | Red | Red | | Red |
| Likelihood of continued austerity | | | Green | | Red | Red | | Yellow | Yellow | Yellow | Yellow | | Green | | | | Yellow | Yellow | | Red |
| Pensioner poverty | | | | | | | | | | | | | | | | | | | | |
| Money worries / debt concerns | | | Red | | Red | Red | | | | | | | Red | | | | Red | | | |
| Families facing repayment problems | | | | | | | | | | | | | Green | | | | Red | Red | | |
| Wealth distribution | | | | | | Yellow | | Yellow | | | | | | Yellow | | | | | | |
| Rural poverty | | | | | | | | | | | | Red | | | | | | | | |

A Wales of cohesive communities

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|--|--------|--------|--------|-----|--------|--------|------|-----|--------|--------|--------|--------|--------|--------|-----|--------|-----|-------|--------|-------|
| Loneliness | Yellow | Yellow | Red | Red | Red | Red | Grey | Red | Yellow | Red | Yellow | Red | Grey | Red | Red | Red | Red | Red | Yellow | Red |
| Isolation | Red | Red | Yellow | Red | Grey | Yellow | Grey | Red | Red | Yellow | Grey | Yellow | Grey | Red | Red | Red | Red | Red | Yellow | Green |
| Digital exclusion | Grey | Grey | Red | Red | Grey | Grey | Grey | Red | Yellow | Red | Yellow | Red | Green | Red | Red | Red | Red | Red | Red | Green |
| Digitalising services | Grey | Grey | Red | Red | Grey | Grey | Grey | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red |
| Volunteering | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Housing stock quality | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Affordable homes | Red | Red | Red | Red | Green | Yellow | Red | Red | Red | Yellow | Red | Red | Red | Yellow | Red | Yellow | Red | Green | Yellow | Red |
| Decreasing household size | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Red | Red |
| Increasing number of households | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Red | Green |
| Homelessness | Red | Red | Red | Red | Yellow | Red | Red | Red | Green | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red |
| Demand for more housing (all tenures) | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Red | Red |
| Increase in single person households | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Yellow | Red | Red | Red | Green |
| Expectation of quality of public services | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Under supply of nursing homes, sheltered housing and housing with care | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Future demand for social housing | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Growing private rented sector | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Yellow | Red | Red | Red | Red | Red | Red | Red | Red | Red |
| Anti-social behaviour levels | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Green | Red | Red | Red | Red | Red | Red | Red |
| Increasing prison population | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red |
| Increase in cyber crime | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Red | Yellow | Red | Red | Red | Red | Red | Red | Red |

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|-------------------------------|-----|-----|-----|----|-----|-----|-----|-----|-----|--------|--------|-----|-----|-----|-----|--------|-----|-----|-----|-----|
| Fear of crime | | | | | Red | Red | | | | Red | | | Red | | | | | | | |
| Domestic violence | | | Red | | Red | | | | Red | Yellow | Yellow | | | | | Yellow | | | | Red |
| Hate crime | | | Red | | | | | | | | | | | Red | Red | | | | | Red |
| Modern slavery | | | Red | | | | | | | | | | | | | | | | | Red |
| Community spirit | Red | Red | | | | Red | | | | | | | | | | | | | | |
| Out migration of young people | Red | Red | | | | | | | Red | | Red | | | | | | | | | Red |

A Wales of vibrant culture and thriving Welsh Language

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|--|-------|-------|--------|-------|--------|--------|-----|-------|-------|--------|-------|--------|--------|-------|-------|--------|--------|--------|-----|--------|
| Welsh language | Green | Green | Yellow | Green | Yellow | Yellow | Red | Green | Green | Yellow | Green | Green | Green | Green | Green | Yellow | Yellow | Yellow | Red | Green |
| Funding for arts bodies | Red | Red | Red | Red | | | | | | | | | Yellow | | | Yellow | | | | |
| Arts and heritage | | | | | Red | | | | | Red | | | | | Red | | | | | |
| Children engaging in sport | | | | | | | | | | | | | Red | | | | | | | Red |
| Heritage sites | | Red | | | | | | | | | | | | | | | | Red | | Red |
| Opportunities for children to play | | | | | | | | | | | | | | | | | | | | Red |
| Tourism | | | Red | | | Green | | Red | Green | | Green | | Red | | Red | Green | | | | Yellow |
| Library usage | | | | | | | | | | | | Yellow | | | | | | | | |
| Cultural services operated by community groups | | | | | Yellow | | | | | | | | | | | | Yellow | | | Yellow |
| Cost of arts and sport | | | | | | | | | | Yellow | | | | | | | Yellow | | | Green |

A globally responsible Wales

| | Ang | Gwy | BG | BR | CP | CDF | Car | Cer | C&D | CT | FT | Mon | NPT | NP | Pem | Pow | SWA | Tor | VOG | Wre |
|---|-----|-----|----|----|----|-----|-----|-----|-----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| Energy infrastructures | | | | | | | | | | | | | | | | | | | | |
| Transport links | | | | | | | | | | | | | | | | | | | | |
| Sustainable transport | | | | | | | | | | | | | | | | | | | | |
| Forecast traffic on roads | | | | | | | | | | | | | | | | | | | | |
| Landfill maximisation | | | | | | | | | | | | | | | | | | | | |
| Unsustainable pressure on reservoir system | | | | | | | | | | | | | | | | | | | | |
| Water planning surplus | | | | | | | | | | | | | | | | | | | | |
| Waste and recycling | | | | | | | | | | | | | | | | | | | | |
| Developing the green economy | | | | | | | | | | | | | | | | | | | | |
| Peak oil / oil supply | | | | | | | | | | | | | | | | | | | | |
| Renewable energy opportunities | | | | | | | | | | | | | | | | | | | | |
| Improving public transport | | | | | | | | | | | | | | | | | | | | |
| Increasing commodity prices | | | | | | | | | | | | | | | | | | | | |
| Increasing food prices | | | | | | | | | | | | | | | | | | | | |
| Increased demand for energy | | | | | | | | | | | | | | | | | | | | |
| Community participation in environmental activity | | | | | | | | | | | | | | | | | | | | |
| Food security | | | | | | | | | | | | | | | | | | | | |
| Fracking | | | | | | | | | | | | | | | | | | | | |
| Road safety | | | | | | | | | | | | | | | | | | | | |

Case Studies

Future Drivers of the Health of Londoners

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| Organisation | Co-produced by Public Health England (London) and the Association of Directors of Public Health (London) |
| Report authors | Public Health England (PHE) |
| Purpose | To facilitate discussions about the future drivers of health in London, among public health teams and system leaders with the aim of informing strategic planning. |
| Process | <p>Five webinars were held with an invited panel including representatives from the Mayor of London's Office, NESTA, GLA and Directors of Public Health from across London boroughs.</p> <p>The topics considered at each webinar were:</p> <ol style="list-style-type: none"> 1. London in the future 2. What type of place will London be in the future? 3. Public Sector Reform: The implications of place based policy 4. Public Sector Reform: What is the contribution of health and social care services and health improvement? 5. New ways of supporting Londoners <p>Each webinar ran for at least two hours with participant teams reflecting on stimulus material, asking questions and sharing insights.</p> |
| Tools | Identifying drivers (to identify innovative approaches to meeting anticipated future demands); horizon scanning. |
| Resources | Delegate briefing packs were produced for each webinar. Packs focused on population, finance, housing and transport, employment, digital and big data and people power. |
| Outputs | Project report; Horizon Scanning Game to support professionals to consider the opportunities and implications of the future drivers of health. |
| Successes | The project complemented a wider drive towards transformational change. Insights informed workforce development. The project influenced strategy and specific projects, for example transforming PHE London's Digital Mental Health strategy. The work raised questions on whether traditional approaches to public health were appropriate for society in the future. The webinars challenged and disrupted conventional thinking. |
| Challenges | Technological problems during the webinars. |
| Further information | Association of Directors of Public Health. London. Future Drivers of the Health of Londoners: http://adph.org.uk/networks/london/programme/future-drivers-of-the-health-of-londoners/ |

Lansbury Park: A Deep Place Plan (2017)

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|----------------------------|--|
| Organisation | The Deep Place Centre |
| Report authors | D Adamson and M Lang |
| Sponsors | Commissioned by Caerphilly County Borough Council (CBC) |
| Purpose | To investigate the reasons for, and consequences of, economic inactivity in Lansbury Park, a large Local Authority housing estate near Caerphilly town centre. |
| Tools | Horizon scanning; data analysis; one- to-one interviews; focus groups; backcasting. |
| Resources | On the ground and desktop research took place over a six month period. Caerphilly CBC, together with other public, private and third sector partners and members of the local community, provided support during the research process. |
| Approach | Using a Deep Place Approach (with a hyperlocal focus), this was at the time, one of the only place-based studies undertaken in Wales. Co-production with members of the local community via 'Think Spaces' was key. |
| Outputs | A series of detailed action points for community renewal were generated. |
| Successes | Caerphilly PSB endorsed the report and agreed its first two action points. A 'Coalition for Change' was established to drive forward local improvements; further involvement with the local community will take place to inform and respond to key issues. |
| Challenges | Difficulties in obtaining key health data at a Lower Super Output Area (LSOA) level. |
| Further information | The report is available at: www.caerphilly.gov.uk/CaerphillyDocs/News/LansburyParkDeepPlacePlan.aspx |

Tredeggar Deep Place Study (April 2014)

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|----------------------------|--|
| Organisation | CREW (<i>Regeneration Wales Adfywio Cymru</i>) |
| Report authors | D Adamson and M Lang |
| Sponsors | CREW was funded by Welsh Government, with assistance from Local Health Boards. |
| Purpose | To develop a complete understanding of a single disadvantaged location (Tredeggar) and identify issues constraining the area, as well as opportunities for establishing a sustainable future for the community. |
| Tools | Horizon scanning; desk-based qualitative and ethnographic qualitative research; project steering group to maximise community participation in the study; backcasting. |
| Resources | Two experts working with report authors over twelve months. |
| Approach | The study involved an innovative approach using deep analysis of one place to explore key issues, such as the structure of the local economy. The approach was underpinned by a number of theories including Total Place thinking, Transition Theory and Foundational Economics. |
| Further information | www.regenwales.org/project_9_The--Deep-Place--Study |

| Health and Safety Executive (HSE) | |
|--|--|
| Sponsor | HSE's Chief Scientific Adviser |
| Purpose | To provide foresight capability to the HSE to identify new and emerging issues, in order to inform specialists and policy staff of potential future workplace health and safety risks. To offer a foresight service to external bodies. |
| Tools | Horizon scanning; driver mapping; Delphi; axes of uncertainty; 7 questions; scenarios; policy stress-testing; SWOT analysis. |
| Resources | A dedicated team of approximately 5 wte futures and knowledge management staff in a Foresight Centre. |
| Outputs | Internal reports and external customer reports; workshops; peer reviewed and other publications; presentations; annual report; website pages and intranet community; targeted and general scanning. |
| Successes | The work influenced HSE research programmes and divisional plans. Horizon scanning was undertaken for a government customer and a scenario project was carried out for a European Union customer. |
| Challenges | Identifying and reaching internal customers and and informing people of issues they were not aware of. |
| Further information | www.hse.gov.uk/horizons/ |

| Newport 2050 Ward Scenarios: Langstone; Lliswerry; Pillgwenlly; Rogerstone | |
|---|---|
| Report authors | Netherwood Sustainable Futures |
| Background | Newport City Council were part of the 'Early Adopters' project, in advance of the Well-being of Future Generations Act introduction. |
| Purpose | To engage Council officers, members and partners in training and capacity building to understand the relevance of future trends, long term and preventative approaches and multi-generational challenges. |
| Tools | Horizon scanning; scenario-planning; science fictioning. |
| Approach and outputs | Scenarios in the form of narratives, described possible futures for four council wards in 2050, where many of the trends and patterns evident today had developed along an expected course (such as worsening global warming). Wild cards, such as a serious flood in 2030, provided a reminder of the inherent unpredictability of the future. The narratives did not aim to predict the future but rather stimulate discussion and ask key questions, such as: <ul style="list-style-type: none"> ● Will my locality look like this by 2050? ● What are the risks to future generations? ● Are our current approaches fit for the future? |

Tackling Obesities: Future Choices – Modelling Future Trends in Obesity & Their Impact on Health (2004)

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| Organisation | Foresight Unit, Government Office for Science, UK Government. |
| Report authors | Bryony Butland et al. |
| Sponsors | UK Chief Scientist and UK Government Ministers |
| Purpose | To inform UK government policy on reducing obesity. |
| Tools | Issues tree; drivers of change analysis; scenarios; systems mapping; wind-tunnelling. |
| Resources | A four-person project team working over 15 months. |
| Outputs | Project report; a systems map; scenarios and policy options for reducing obesity levels. |
| Successes | The report had a significant impact on several UK Government policy documents, as well as being recognised internationally. |
| Further information | www.gov.uk/government/collections/tackling-obesities-future-choices |

Health Education England (HEE)

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|----------------------------|---|
| Sponsors | Director of Strategy and Director of Workforce Intelligence |
| Purpose | To provide HEE with evidence to underpin its workforce development strategies and long-term investment decisions. |
| Tools | Horizon scanning; evidence base development; demand driver analysis. |
| Resources | An ongoing internal programme with approximately 2 staff and access to analytical staff to support specific work programmes. |
| Outputs | Health Education England Strategic Framework 2014-2029; Internal Horizon Scanning Bulletin (produced bi-monthly, shared across HEE's national and local offices); Weekly Alert Scanning used to identify areas for further investigation. |
| Further information | https://hee.nhs.uk/our-work/strategic-framework |

Embedding horizon scanning activities across Public Health England (PHE)

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|-------------------|---|
| Sponsors | PHE Director of Strategy. |
| Purpose | To ensure that horizon scanning becomes an effective, PHE-wide, corporate activity that better enables the organisation to prepare for threats, risks, issues and opportunities and better enables the organisation to deliver its four core functions. |
| Tools | Literature review; scenario development; workshop (using PESTLE approach). |
| Resources | Limited resource from within PHE's Strategy Directorate. |
| Outputs | Summary report. |
| Successes | The work programme introduced, for the first time, a PHE-wide approach to horizon scanning. The workshop was well attended from across the organisation and the overall approach was endorsed by senior leaders. |
| Challenges | Variable understanding of the value and impact of the work. Limited resources, constraining the embedding of horizon scanning. |

International case studies

Images of the Future of Social and Health Services ("Tulevaisuuskuvia sosiaali- ja terveystalvakuista") Finland, 2015

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|----------------------------|---|
| Sponsors | Co-produced with The Finnish Innovation Fund: 'Sitra'. |
| Purpose | To assist social and healthcare sector (both public and private) in the planning of future services. |
| Tools | Horizon scanning; scenario-building; quantitative and qualitative analysis (performed by the Finland Futures Research Centre using data provided by 'Sitra'). |
| Approach | The process used foresight and images of futures, as a tool to enable more in-depth customer understanding, so that Finnish social and health care organisations could better design and develop services. |
| Successes | The work provided valuable insights, for example identifying that different customer groups had different images of a desirable future of social and health care services. For example, men and healthy people seemed to be interested in mobile services and appreciated the possibilities that technological development could enable, such as self-diagnosis. |
| Application | <p>Insights from this project influenced Finnish Government decisions for reforming social and health care in the country.</p> <p>Finland's regional authorities were receptive to the project, being especially attracted to ideas that could save money and increase patient satisfaction. Learning informed the introduction of pilot projects, such as opening service points offering appointments with nurses in busy drug stores. Regional authorities were also interested in testing new technologies e.g. new digital services and distant appointments with doctors in sparsely populated areas.</p> |
| Further information | University of Turku: www.utu.fi/en/units/ffrc/Pages/home.aspx |

A Healthier Netherlands Netherlands, 2014

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|----------------------------|---|
| Organisation | National Institute for Public Health and the Environment (RIVM), Bilthoven, Netherlands |
| Report authors | N. Hoeymans, A.J.M. van Loon, M. van den Berg, M.M. Harbers, H.B.M. Hilderink, J.A.M. van Oers, C.G. Schoemaker (Ed.s) |
| Sponsors | Government of the Netherlands: Ministry of Health, Welfare and Sport |
| Purpose | To develop a report to serve as the basis for health policy in the Netherlands. |
| Tools | Horizon scanning, scenario-planning, data analysis. |
| Output | <p>A four yearly report identifying four primary societal challenges in the field of public health in the future:</p> <ol style="list-style-type: none"> 1. To keep people healthy as long as possible and to cure illness promptly 2. To support vulnerable people and enable social participation 3. To promote individual autonomy and freedom of choice 4. To keep health care affordable. <p>Part A described quantitative trends relating to each of these four challenges and their underlying developments.</p> <p>In part B, the report focused on societal challenges, and the ways in which they are interconnected.</p> |
| Further information | The report is available at: http://eurohealthnet.eu/sites/eurohealthnet.eu/files/A%20healthier%20Netherlands%2C%20PHSF-2014.pdf |

The Danish Healthcare System 2030 Denmark

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|----------------------------|--|
| Organisation | Copenhagen Institute of Futures Studies |
| Report author | B Eliassen |
| Sponsors | Jointly sponsored by stakeholders. |
| Purpose | To identify the challenges and opportunities for health in a Danish context. |
| Tools | Scenario-planning; horizon scanning; in-depth internal and external research. |
| Resources | 3-4 senior staff who attended each workshop and provided methodologies and analysis of findings. |
| Outputs | Reports for external stakeholders and participants and sponsors; increased capacity for workshop participants to do futures work. |
| Findings | The reports identified the future impact of precision medicine, genomics and digital health care. They raised awareness that existing institutions were not equipped to deal with transformation in health care. |
| Challenges | Perceptions that the project took a long time to generate a report. |
| Further information | Copenhagen Institute for Futures Studies: http://cifs.dk/ |

| Future Demand New Zealand, 2014 | |
|--|--|
| Organisation | New Zealand Ministry of Transport |
| Report authors | G Lyons, C Davidson, T Forster, I Sage, J McSaveney, E MacDonald, A Morgan, A Kole |
| Purpose | To explore the uncertainty of demand for personal travel (car use in particular) by developing four future scenarios looking at the possible impact on travel. To produce a range of divergent, but plausible, futures for New Zealand in 2042, identifying implications for policy making and investment. |
| Approach | The project used the following as its focal question: <i>How could or should our transport system evolve in order to support mobility in the future?</i> |
| Outputs | A report with detailed supporting papers and an accessible video introduction. |
| Successes | This work was taken forward in an academic paper looking at two alternative policy making pathways and was also used to inform an initiative in the UK for the Chartered Institution of Highways & Transportation (CIHT FUTURES). This involved over 200 transport professionals participating in workshops and sharing their views of future uncertainty and policy making pathways. |
| Further information | The report is available at: www.transport.govt.nz/ourwork/keystrategiesandplans/strategic-policy-programme/future-demand/ Lyons, G. and Davidson, C. (2016). Guidance for transport planning and policymaking in the face of an uncertain future. Transportation Research Part A: Policy and Practice, 88, 104-116. http://dx.doi.org/10.1016/j.tra.2016.03.012 CIHT FUTURES: www.ciht.org.uk/en/knowledge/futures/index.cfm |

Public Health 2030: A scenario exploration USA, 2014

| | |
|----------------------------|---|
| Organisation | Institute for Alternative Futures (USA) |
| Sponsors | Funded by the Robert Wood Johnson Foundation and the Kresge Foundation |
| Purpose | To identify answers to a series of questions: <ul style="list-style-type: none"> ● What will be the greatest accomplishments for public health in the next two decades? ● What obstacles may prove insurmountable? ● What will public health look like in the U.S. in the year 2030? ● What should public health leaders be doing today? ● What do we want public health to be in the U.S. in 2030 that can inform today's agenda? |
| Tools | Horizon scanning; scenario-planning; expert panels; workshops. |
| Output | Report; local and state Public Health workshop toolkits; video overviews for four scenarios. |
| Scenarios | Using the Aspirational Futures approach, IAF developed four alternative scenarios describing public health to 2030. Leaders explored preliminary versions of these scenarios in a workshop. The four scenarios generated were: <ul style="list-style-type: none"> ● Scenario 1: One Step Forward, Half a Step Back ● Scenario 2: Overwhelmed, Under-Resourced ● Scenario 3: Sea Change for Health Equity ● Scenario 4: Community-Driven Health and Equity |
| Further information | Institute for Alternative Futures. <i>Public Health 2030: A Scenario Exploration</i> . Alexandria, VA. May 2014. |

Infographics: references

A prosperous Wales

| Date | Figure | Source |
|-----------|---|---|
| 2020 | Average gross weekly pay is £570 (£492 in 2016) | Blaenau Gwent Public Service Board 2017. <i>Blaenau Gwent Well-being Assessment</i> . Ebbw Vale: Blaenau Gwent Public Service Board, p.134 |
| 2022 | 1.2 million new IT sector workers needed across the UK (compared with 2012) | Dass M, Goodwind A, Wood M, Luanaigh A. (2015). <i>Sector insights: skills and performance challenges in the digital and creative sector</i> . London: UK Commission for Employment and Skills. |
| 2022 | 47% of the workforce have level 4+ qualifications (36% in 2012) | Newport Public Services Board 2017. <i>2017 Community Well-being Profile</i> . Newport: Newport Public Services Board, p.44 |
| 2024-25 | Health spend is 57% - 67% of revenue budget (42% in 2010-11) | Wales Public Services 2025. <i>Future Pressures on Welsh Public Services. Financial, demand and other cost pressures to 2025 and a review of potential responses. Summary Report.</i> |
| 2025 | Public services revenue funding gap is £2.6bn - £4.6bn | Wales Public Services 2025. <i>Future Pressures on Welsh Public Services. Financial, demand and other cost pressures to 2025 and a review of potential responses. Summary Report.</i> |
| 2030 | Net contribution of older people to the economy is £75 billion per year in the UK | Pembrokeshire Public Services Board 2017. <i>Well-being Assessment for Pembrokeshire</i> . Pembrokeshire Public Services Board, p.49 |
| 2030/31 | Social care spend almost doubles to £2.3bn | Flintshire Public Services Board 2017. <i>Assessment of local well-being</i> . Flintshire: Flintshire Public Services Board., p.61 |
| 2036 | Cardiff Capital Region City Deal aims to deliver 25,000 new jobs | Torfaen Public Services Board 2017. <i>Torfaen Well-being Assessment</i> . Pontypool: Torfaen Public Services Board, p.156 |
| 2027-2037 | 35% of existing UK jobs at high risk from automation | Monmouthshire Public Service Board 2017. <i>Monmouthshire Public Service Board Well-being Assessment</i> . Usk: Monmouthshire Public Service Board, p.107 |

A resilient Wales

| Date | Figure | Source |
|--------------|---|--|
| 2040 | Global warming results in hotter, drier summers; warmer, wetter winters; lower groundwater levels; more extreme weather events in Wales | Torfaen Public Services Board 2017. <i>Torfaen Well-being Assessment</i> . Pontypool: Torfaen Public Services Board, p.160 |
| 2050s | Average summer temperatures increase by 1.0 - 4.6°C | Statistics for Wales 2017. Welsh Government Future Trends Report 2017: Climate Change. |
| 2050s | Average summer rain decreases by 17% | Statistics for Wales 2017. Welsh Government Future Trends Report 2017: Climate Change. |
| 2050s | Average winter rain increases by 14% | Statistics for Wales 2017. Welsh Government Future Trends Report 2017: Climate Change. |
| 2080 | Heat related deaths increase four fold (2.4 /100,000 in 2000 to 10.6 / 100,000) | Public Health Wales Observatory 2018. Health and its Determinants in Wales. Cardiff: Public Health Wales |
| 2080 | Cold related deaths decrease by 42% (83.9 /100,000 in 2000 to 48.7 / 100,000) | Public Health Wales Observatory 2018. Health and its Determinants in Wales. Cardiff: Public Health Wales |
| 2080s | Cost of flooding damages increase 18 fold to £1,235 million (compared with 2004) | Environment Agency Wales 2010. Future flooding in Wales: flood defences. Cardiff: Environment Agency. |

A healthier Wales

| Date | Figure | Source |
|---------|--|---|
| 2025 | 15% of adults smoke | Public Health Wales Observatory 2017. Public Health Wales Observatory - Well-being of Future Generations Act projections 2017 |
| 2025 | 62% of adults overweight or obese | Public Health Wales Observatory 2017. Public Health Wales Observatory - Well-being of Future Generations Act projections 2017 |
| 2030/31 | Non-elective treatment spend increases by over 80% | The path to sustainability: Funding projections for the NHS in Wales to 2030/31. The Health Foundation, 2016 |
| 2035 | 7% increase in adults with a common mental health problem (compared with 2017) | Institute of Public Care 2017. Daffodil |
| 2035 | 64% increase in over 65s living with dementia (compared with 2017) | Institute of Public Care 2017. Daffodil |
| 2035 | 27% increase in adults with a heart condition (compared with 2017) | Institute of Public Care 2017. Daffodil |
| 2037 | 130,000 additional carers needed in Wales | Powys Public Service Board 2017. <i>Powys Well-being Assessment Briefing Document: Social</i> . Powys Public Service Board. Estimates, calculated from UK figure, on unadjusted per capita basis. |
| 2066 | A 65-year-old man can expect to live to 90.3 years and a woman to 92.3 years | Office for National Statistics. Expectation of life. Principal projections, Wales. 2016 based. December 2017. |

A more equal Wales

| Date | Figure | Source |
|------|---|--|
| 2019 | Annual household food bills increase by £350 | Neath Port Talbot Public Services Board 2016. <i>Future Trends for Neath Port Talbot: Background Paper</i> . Neath Port Talbot Public Services Board, p.11 |
| 2020 | Budget for Wales is 8% lower in real terms (compared with 2010) | Blaenau Gwent Public Service Board 2017. <i>Blaenau Gwent Well-being Assessment</i> . Ebbw Vale: Blaenau Gwent Public Service Board, p.88 |
| 2021 | Relative poverty increases to 23.6% (from 21.3% in 2014-15) | Hood, A. and Waters, T. 2017. <i>Living standards, poverty and inequality in the UK: 2016-17 to 2021-22</i> . London: Institute for Fiscal Studies. |
| 2021 | Relative child poverty increases to 36% (from 29% in 2014-15) | Hood, A. and Waters, T. 2017. <i>Living standards, poverty and inequality in the UK: 2016-17 to 2021-22</i> . London: Institute for Fiscal Studies. |
| 2024 | Gap in healthy life expectancy between the most and least deprived fifth of the population is 12.7 years for women and 11.4 years for men | Public Health Wales Observatory 2017. Public Health Wales Observatory - Well-being of Future Generations Act projections 2017 |
| 2080 | Equal number of women directors in the FTSE 100 (across Great Britain) | Equality and Human Rights Commission 2011. <i>Sex and Power 2011 Scotland</i> . Scotland: Equality and Human Rights Commission. |

A Wales of cohesive communities

| Date | Figure | Source |
|------|---|---|
| 2020 | All social landlords required to meet Welsh Housing Quality Standard | http://gov.wales/topics/housing-and-regeneration/housing-quality/welsh-standard/?lang=en |
| 2021 | An extra 20,000 affordable homes | http://gov.wales/newsroom/housing-and-regeneration/2017/171116-rise-in-new-affordable-homes-welcomed/?lang=en |
| 2027 | All households have internet access | Wrexham Public Services Board 2017. <i>Wrexham's Well-being Assessment</i> . Wrexham: Wrexham Public Services Board, p.121. |
| 2036 | Additional 190,000 households | Wrexham Public Services Board 2017. <i>Wrexham's Well-being Assessment</i> . Wrexham: Wrexham Public Services Board, p.23. |
| 2039 | Sharp increase in the number of older people compared with working age adults | Welsh Government. Future Trends Report. May 2017 (Population section, slide 12) |
| 2039 | Cardiff population increases from 354,300 (2014) to 444,700 | StatsWales |

A Wales of vibrant culture and thriving Welsh Language

| Date | Figure | Source |
|------|--|--|
| | 1,200 - 2,000 fewer fluent Welsh speaker each year | Statistics for Wales 2017. Welsh Government Future Trends Report 2017: Society and Culture. |
| 2020 | Welsh Government aims to increase tourism earnings by 10% (compared with 2013) | Welsh Government Tourist Strategy: Partnership for Growth |
| 2020 | People have more conversations with bots than with their spouses | Gartner Inc (2016). <i>Top Strategic Predictions for 2017 and Beyond: Surviving the Storm Winds of Digital Disruption</i> . USA: Gartner Inc. Available at: www.gartner.com/binaries/content/assets/events/keywords/cio/ciode5/top_strategic_predictions_fo_315910.pdf |
| 2022 | 75th Anniversary of the Llangollen International Music Eisteddfod | http://international-eisteddfod.co.uk/a-bit-of-background/history-of-lime/ |
| 2026 | Policy and cultural attitudes not fully supporting sport participation and active lifestyles | Future Foundation 2014. <i>Acting Today for an Active Tomorrow. Trends which will transform sport in Wales</i> . London: Future Foundation. |
| 2031 | 150th Anniversary of the formation of the Welsh Rugby Union | www.wru.co.uk |
| 2050 | Welsh Government aims to raise the number of Welsh speakers to one million | Welsh Government 2017. <i>Cymraeg 2050. A million Welsh Speakers</i> . Cardiff: Welsh Government. |

A globally responsible Wales

| Date | Figure | Source |
|------|--|---|
| 2020 | 80% of fuels come from overseas | Caerphilly Public Services Board 2017. <i>Caerphilly County Borough Area Assessment of Local Well-being</i> . Hengoed: Caerphilly Public Services Board |
| 2030 | Welsh Government aims for a carbon neutral public sector | Welsh Government December 2017. Public sector decarbonisation. Call for evidence. Available at: http://gov.wales/topics/environmentcountryside/climatechange/public-sector-decarbonisation/?lang=en |
| 2035 | Cardiff experiences increased demand for gas (44%) and electricity (28%) | Cardiff Public Services Board 2017. <i>Cardiff Liveable City Report</i> . Cardiff: Cardiff Public Services Board, p.10. |
| 2050 | Urban energy use increases threefold compared to 2005 | Neath Port Talbot Public Services Board 2016. <i>Future Trends for Neath Port Talbot: Background Paper</i> . Neath Port Talbot Public Services Board, p.22. |
| 2050 | Wales aims to reduce emissions by 80% | Welsh Government December 2017. Public sector decarbonisation. Call for evidence. Available at: http://gov.wales/topics/environmentcountryside/climatechange/public-sector-decarbonisation/?lang=en |
| 2050 | Ambition for Wales' ecological footprint of waste to be at 'one planet' levels (65% reduction in waste compared to current levels) | Conwy and Denbighshire Public Services Board 2017. <i>Assessment of local well-being</i> . Conwy: Conwy and Denbighshire Public Services Board, p.7 |

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Futures Conferences / presentations. Available at: <https://futuresconference2017.wordpress.com/> and https://futuresconference2017.files.wordpress.com/2017/06/keynote_riel-miller.pdf

Involve. Available at: www.involve.org.uk/

Involve is a charity and think tank established in 2003 to improve the quality of democracy between elections. It aims to make politics, government and society more open, participatory and deliberative.

The Pontypool Deep Place Study. Available at: www.cardiff.ac.uk/sustainable-places/research/projects/the-deep-place-study

This study seeks to further develop the 'Deep Place' approach to sustainable place-making. Deep Place is a holistic approach and is grounded in an empirical concern with how to achieve more economically, socially, environmentally and culturally sustainable places and communities.

D. Snowden and R. Miller define 'sidecasting'. Available at <http://cognitive-edge.com/blog/sidecasting/>



Health Improvement
Providing information, advice and taking action, across sectors, to promote health, prevent disease and reduce health inequalities



Health Protection
Providing information, advice and taking action to protect people from communicable disease and environmental hazards



Microbiology
Providing a network of microbiology services which support diagnosis and management of infectious diseases



Health intelligence
Providing public health data analysis, evidence finding and knowledge management



**Public Health Wales
what we do**

We exist to protect and improve health and wellbeing and reduce health inequalities for people in Wales. We work locally, nationally and internationally, with our partners and communities, in the following areas:



Safeguarding
Providing expertise and strategic advice to help safeguard children and vulnerable adults



Screening
Providing screening programmes which assist the early detection, prevention and treatment of disease



Primary, community and integrated care
Strengthening public health impact through policy, commissioning, planning and service delivery



NHS quality improvement and patient safety
Providing the NHS with information, advice and support to improve patient outcomes

www.publichealthwales.org

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