Making a Difference:
Investing in Sustainable Health and Well-being for the People of Wales

Executive Summary
2016
About this Report

This report offers research evidence and expert opinion in support of preventing ill health and reducing inequalities to achieve a sustainable economy, thriving society and optimum health and well-being for the present and future generations in Wales.

Public Health Wales has developed this report as part of its mission to protect, improve and promote the health and well-being of the people in Wales and reduce health inequalities.

The report also reflects Public Health Wales’ responsibility to inform, support and advocate for wider health policy and cross-sector approaches and interventions offering benefits to the people, health system, society and the economy.

The report has been informed by:

- **Research evidence**
- **Professional guidance and expertise** in public health, policy, social studies, equity and economics
- **Welsh priorities** for health and well-being
- **Current Welsh policy and health context**

The report consists of three parts published separately:

1. **Making a Difference: Investing in Sustainable Health and Well-being for the People of Wales - Executive Summary** (this document);
2. **Making a Difference: Investing in Sustainable Health and Well-being for the People of Wales – Supporting Evidence**; and
3. **Series of 8 infographics** focusing on key health challenges for Wales and suggested evidence-based solutions.

This is not an exhaustive public health review but presents selected summarised research evidence, data and contextual information available at the time of the report development.
Executive Summary

**Foreword**

The momentum is accelerating to focus our efforts on making a difference to the health and well-being of the present and future generations living and working in Wales.

We have made great strides in improving the health of the population. We are living longer, fewer of us are dying from infections and chronic diseases and we have better health services. However, we still face significant challenges in how we reduce the poverty and health inequalities that exist in some parts of Wales. We also face challenges in how to support better our growing older population to stay healthy and independent for as long as possible; how to best prevent and manage chronic conditions and how to prepare ourselves and manage new epidemics and global threats to our security.

This is also set within an environment of fiscal and economic challenges that require us to shift, even more so, to a more informed and targeted approach to investing in what will have the maximum impact to improve health and well-being and enable health, wealth and growth to thrive in Wales.

Now we know more than ever that prevention saves lives and money and brings multiple benefits to the people, communities and the economy – this is a significant opportunity for us. An extensive body of evidence already exists to support the types of interventions and policies which address the root causes of ill health and inequalities and lead to better mental, physical and social well-being together with enhancing resilience, employment and growth. This report provides the most up-to-date supporting research and expertise on effective and sustainable solutions that are worth investing in to optimise health in Wales.

**Now is the time to act together.** Through a systems approach - sharing our collective assets, following the principles of sustainability and prudent healthcare and complying with our unique legislation, the Well-being of Future Generations (Wales) Act, we have the opportunity and responsibility to work united across sectors and organisations. It is essential to listen to and empower our people and to appreciate the assets of our communities, allowing them an equal part in all decisions and plans for their life, health and happiness.

With this timely report, Public Health Wales would like to be part of the solution, to inform and support decisions and policies and to join an all-Wales commitment and action to make a positive change towards a healthier, happier and more sustainable future for our people in Wales.

Dr Tracey Cooper
Chief Executive,
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High level expert group
We are grateful to the national and international experts in public health, policy, social studies, equity and economics who met in January 2016 to discuss key messages and recommendations and to advise on the report structure and contents. They also provided additional evidence and feedback during the report development.

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This report has been endorsed by the Directors of Public Health of all Health Boards in Wales.

*Policy, Research and International Development and **Health and Wellbeing Directorates, Public Health Wales
We know

The economic, social and natural environment in which we grow up, live and work is a major determinant of our health and well-being and that of our children – directly, and through the ways in which we are living.

There is strong evidence to support a preventative approach

Prevention - removing the causes of poor health and inequalities (rather than addressing the consequences) - offers good value for money. Preventive policies and interventions save lives, money and improve peoples’ mental, physical and social well-being. They show both short and long-term benefits far beyond the health system - across communities, society and the economy.

Wales is in a unique position to make a difference

A favourable legislation and policy context, with the groundbreaking Well-being of Future Generations (Wales) Act 2015, presents key opportunities to work differently - across sectors and with communities - to address the increasing health, social and economic challenges in a more effective and sustainable way.

Who needs to act?

Achieving sustainable health and well-being for the people in Wales is everybody’s business. It requires dialogue, shared responsibility and agreement on harnessing action and investment between:

- Decision-makers and policy-makers in national and local governmental roles
- Senior leaders across all public services, those with public health responsibilities, planners and managers
- All professionals whose role has an impact on people’s health and well-being
- Local communities, third sector and private organisations

Public Health Wales suggests three priority areas for preventive action:

1. Building resilience across the life-course and settings
2. Addressing harmful behaviours and protecting health
3. Addressing wider economic, social and environmental determinants of health
Public Health Wales has defined three priority areas for action (Figure 1) where challenges and health needs in Wales are growing and cost-effective preventive interventions exist. These areas are interrelated and interdependent, sharing common determinants and solutions.

Solutions are enabled by the unique Well-being of Future Generations (Wales) Act\(^1\) and its Sustainable Development Principle\(^2\) as well as other legislation and approaches, such as the Social Services and Well-being (Wales) Act\(^3\), the Active Travel (Wales) Act\(^4\), the Prudent Healthcare principles\(^5\) and the concept of Systems Working (building partnerships and synergies across sectors and stakeholders).

The on-going devolution process has the potential to bring more positive developments and unlock key levers (e.g. taxation) to reduce inequalities and benefit people’s well-being.


\(^{2}\) [http://thewaleswewant.co.uk/](http://thewaleswewant.co.uk/)


\(^{5}\) [http://www.prudenthealthcare.org.uk/](http://www.prudenthealthcare.org.uk/)
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For each priority area a summary of key messages is presented, supported by examples from the evidence. More detailed information and references are provided in the Supporting Evidence document.

### Building resilience across the life-course and settings

#### 1. Ensuring a good start in life

Ensuring good maternal health and a safe and caring environment for children, as well as reducing poverty and deprivation, are essential for a good start in life.

**In Wales, Adverse Childhood Experiences (ACEs),** such as child maltreatment and/or living in a household affected by parental separation, domestic violence, mental ill health, alcohol, drug abuse or the incarceration of a parent, are associated with:
- over ½ of the violence and drugs abuse
- over ½ of teenage pregnancies
- nearly ¼ of current adult smoking

Deaths among infants (0-28 days) in the most deprived areas in Wales are one and a half times more than those in the least deprived.

**What works?**

Investing in early years universal (population wide) interventions along with additional resource proportionate to need for vulnerable children is cost-effective and essential to ensure a healthy and productive Wales.

**The most potential for action is in the first 1000 days from conception to the second birthday.**

Investing in targeted interventions and universal child care and paid parental leave could help address as much as £72 billion worth of the cost of social problems such as crime, mental ill health, family breakdown, drug abuse and obesity for Wales.

#### 2. Promoting mental well-being and preventing mental ill health

Mental ill health is associated with worse physical health, increased health risk behaviours, poor education and unemployment. It accounts for a substantial burden of ill health and disability in Wales with high costs to the NHS, the society and the economy.

**In Wales, 13% of adults** reported a mental health condition in 2015 compared to 9% in 2003/4.

The estimated cost of mental ill health to society is £7.2 billion per year.

Inequality is a key determinant of mental ill health and mental ill health leads to further inequality.

In Wales, 24% of those who are long term unemployed or have never worked, report a mental health condition compared with 9% of adults in managerial and professional groups.

**Early life experiences,** such as bullying or abuse, may have long-term consequences for the development of children and young people, with associated costs to society and public services.

In Wales, in 2013/14, over a third of pupils reported bullying at school in the previous two months.

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6 Early years defined as 0 to 7 years of age
7 Estimated from UK data on unadjusted per capita basis
What works?

Investing to increase access to early intervention mental health services could lead to considerable savings for other public services.

Interventions for children and young people, especially the most vulnerable, could lead to long-term savings by reducing the risk of health and social problems and by improving employment prospects.

**Anti-bullying interventions** in schools can return £15 for every £1 spent; **parenting programmes** to prevent conduct disorder return £8 over six years for every £1 invested.

‘Best buys’ to prevent mental ill health can include interventions and policies to **support parents and young children; to improve workplaces; to change lifestyles; to provide social support and to support communities through environmental improvements.**

3. Preventing violence and abuse

Violence is a major cause of poor physical and mental health. It impacts on society, the health service and the wider economy. Violence affects deprived communities the most.

According to the Welsh ACEs Survey, 16% of participants reported witnessing domestic violence and abuse; 17% experienced physical abuse and 10% sexual abuse, while they were growing up.

Admission to hospital for assaults is 3.7 times more likely in the most deprived areas compared to the least deprived areas in Wales.

**What works?**

Reducing violence and abuse could result in substantial savings to health and social care. Effective interventions include focusing on **children and young people; preventing domestic violence, abuse and violence against women; reducing harmful use of alcohol; and multi-agency approaches.**

Implementing the NICE Guidance on Domestic Violence and Abuse could save £4,700 per month per person on longer-term costs associated with treating and supporting someone experiencing post-traumatic stress disorder as a result of violence and abuse.

**Preventing Adverse Childhood Experiences (ACES) and improving resilience and protective factors for children could reduce acts of violence in adults by 60%.**

In Wales, domestic violence and abuse costs public services £303.5 million per year. Human and emotional costs are an additional £523 million.

Improve workplace, including prevention and early identification of problems, could produce **annual savings of £250,607** for an organisation with **1000 employees.**

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8 Taking into account cost effectiveness, implementation costs and feasibility
9 UK National Institute for Health and Care Excellence
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Addressing harmful behaviours and protecting health

4. Reducing prevalence of smoking

Smoking is the largest single preventable cause of ill health and death in Wales with high costs to the NHS, society and the economy.

In Wales, 1 in 5 adults smoke causing 18% of adult deaths and costs of £386 million per year to the NHS and £791 million per year to the overall economy.

Childhood exposure to tobacco smoke is of specific concern.
Two in three smokers start before the age of 18 years; one in five children aged 10-11 years are exposed to second hand smoke.

Deprivation is a risk factor for smoking.
In Wales, nearly 1/3 of the people in the most deprived fifth of the population smoke (29%), compared to 11% in the least deprived fifth.

The health of babies born into lower income households is disproportionately affected by second hand smoke.

What works?

Cost-effective interventions to reduce smoking include enforcing bans on tobacco advertising; raising taxes on tobacco; offering counselling to smokers and others. Helping smokers to quit could reduce healthcare costs.

Each 25 year old smoker who cuts down on smoking would save the NHS in Wales £882 over the course of their lifetime, and this would increase to £1,592 if they quit.

5. Reducing prevalence of alcohol misuse

Alcohol misuse remains a major threat to public health in Wales. It is a major cause of death and illness with high costs to the NHS, society and the economy.

Alcohol is associated with more than 6000 cases of domestic violence and more than £1 billion cost of harm to society each year.

Heavy drinking increases the risk of unemployment and could account for more than 800,000 working days lost due to absences from work, and nearly 1 million working days lost due to job loss and reduced employment opportunities in Wales.

Alcohol hurts the poorest the most.
Alcohol related deaths are more in the most deprived areas in Wales.

What works?

“Best buys” to reduce alcohol misuse include interventions and policies, such as a minimum unit price (MUP) of 50 pence/unit; limiting availability (i.e. reducing outlet density, hours and days of sale); and better control of advertising.

Brief motivational interviewing in primary care is a cost-effective intervention.

Every £1 spent on motivational interviewing and supportive networks for people with alcohol dependence returns £5 to the public sector in reduced health, social care and criminal justice costs.

10 Estimated from UK data on unadjusted per capita basis
11 Taking into account cost effectiveness, implementation costs and feasibility
6. Promoting physical activity

Many people in Wales are not physically active\(^{12}\) enough to protect their health. The burden of physical inactivity is rising\(^ {13}\) with significant costs to the health system and the wider economy.

Physical inactivity is related to social disadvantage.

In Wales, 40% of adults in the most deprived fifth reported physical activity for less than 30 minutes in the previous week, compared with 23% in the least deprived fifth.

Increasing physical activity can: improve physical and mental well-being; help prevent and manage many illnesses; and reduce the risk of early death.

What works?

“Best buys”\(^ {14}\) to increase physical activity include interventions and policies, such as mass media campaigns; active transport strategies i.e. moving from driving to walking or cycling, promoting physical activity in work places, schools and communities, and providing advice and support in primary care.

Primary care brief interventions are more cost-effective than prescribing drugs to lower cholesterol levels.

Increasing cycling and walking in urban areas could save \(£0.9\) billion for the NHS in Wales over 20 years\(^ {16}\).

7. Promoting healthy diet and preventing obesity

Over half of Welsh adults and a large proportion of children are overweight or obese\(^ {13}\). The burden of overweight and obesity is rising with significant costs to the health system and the economy.

If rates of overweight and obesity continue to rise, by 2050, this will cost the NHS in Wales \(£465\) million per year, with a cost to society and the economy of \(£2.4\) billion.

Overweight and obesity are related to social disadvantage.

In Wales, 28.4% of children in the most deprived areas are overweight or obese, compared to 20.9% in the least deprived areas.

What works?

“Best buys”\(^ {14}\) to reduce levels of unhealthy diet include interventions and policies, such as restricting the marketing of unhealthy food and beverages to children; raising public awareness of healthy diets; increased taxes of unhealthy foods; promoting healthy eating in schools and workplaces and providing counselling in primary care.

Introducing a 10% tax on sugar sweetened drinks elsewhere resulted in decrease in drinks purchased by an average of 6% and by 9% in more deprived households.

Offering counselling to obese people in primary care could provide an additional 5,700 years of life in good health per year in Wales\(^ {15}\).

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12 Physically active for 150 minutes or more a week.
13 For ‘overweight’ and ‘obesity’ definitions, see Supporting Evidence document
14 Taking into account cost effectiveness, implementation costs and feasibility
15 Estimated from England and Wales data on unadjusted per capita basis
8. Protection from disease and early identification

Infectious diseases are still a major health and economic burden in Wales. Rates of HIV and other sexually transmitted and some blood-borne infections are increasing.

The estimated HIV-related life time costs for diagnosed individuals ranges between £280,000 and £360,000 in the UK.

Each unplanned hospital admission for flu treatment was estimated to cost the NHS between £347 and £774.

Inequalities exist for some communicable diseases. 60% of tuberculosis cases are found in people in black and other minority ethnic groups.

Cancer is a major cause of ill health and premature death in Wales with the number of new cases continuing to rise both in men and women.

Colorectal cancer alone accounted for 1,327 new cases and 528 deaths in men and 1,008 new cases and 399 deaths in women in 2014 in Wales. The total number of new cases of any cancer in 2014 was 19,118, a 14% increase since 2005.

Deprivation is linked to poorer uptake of all adult screening programmes.

For 2014/15, bowel screening uptake in Wales was 41.5% in the most deprived areas compared to 57.1% in the least deprived areas. The uptake of Abdominal Aortic Aneurysm screening was lower in men living in the most deprived areas (67.7%) compared to men living in the least deprived areas (79.5%).

What works?

Vaccination provides a return on investment.

£1.35 would be returned for every £1 spent on targeted flu vaccination. Savings would increase to £12 per vaccination when health care workers are included.

The estimated cost of measles treatment was between £159 and £356 per case, while the cost of measles vaccination and control ranged from £0.13 to £0.74 per person in 2003 across Europe.

Early diagnosis of infections saves lives and costs. If 1% of patients with HIV are diagnosed at an earlier stage of disease this could save around £12,114 a year for men who have sex with men and £15,143 a year for black Africans in Wales.

Cancer screening can be cost-effective and early identification could lead to patients living longer and to fewer hospital emergency admissions and diagnostic tests.

If the proportion of cancer diagnosed at early stages increased by 10% - between 7000 and 9000 more people would survive cancer for 5 years in the UK.

16 Estimated from England and Wales data on unadjusted per capita basis
Economic and social inequalities persist in Wales with multi-generational negative impacts on health and wellbeing, triggering and sustaining health inequalities, unhealthy behaviours and influencing future generations and their life prospects.

Children from disadvantaged households die more often than average as babies and are more likely to have lower income or live in poverty as adults, thus perpetuating a vicious circle. A greater proportion of adults in the most deprived areas of Wales die as a result of smoking and alcohol misuse compared to those in the least deprived areas.

Social inequality is a barrier to sustainable growth.

The detrimental effects of austerity are felt greatest by those less resilient; such as those with less economic security or poor physical and mental health.

Babies living in fuel poor homes (cold and damp) are more likely (by 30%) to be admitted to hospital or to attend primary care.

What works?

Tackling the causes of social and economic inequalities that drive health inequalities is likely to be most effective. This may include interventions to ensure a living wage, reduce unemployment, improve the physical environment and provide universal services (accessible to all) while also investing additionally to support vulnerable groups.

Almost a quarter (20-25%) of the deaths among unemployed people over the 10 years following the loss of job could be prevented if they were employed.

A living wage is associated with improvements in life expectancy, mental health, alcohol consumption, and a fall in mortality.

Preventing ill health across the population is generally more effective at reducing health inequalities than a focus on clinical interventions.

Minimum unit pricing for alcohol reduces alcohol consumption among the lowest income group by 6% and reduces mortality among the heavy drinkers in routine/manual occupations by 8%.

Investing in insulation and heating to address cold and damp housing could return savings of nearly £35 million for the NHS in Wales.

Treating public finances as a public health issue could mitigate austerity measures, i.e. monitoring the impact of all economic and welfare reforms on the public services and public health. This could be done through using Health Impact Assessment.

Estimated costs of inequalities to the Welsh economy are £1.8 to £1.9 billion per year due to productivity losses and £1.1 to £1.8 billion per year due to welfare payments and lost taxes.

17 Estimated from England and Wales data on unadjusted per capita basis
18 Assessing systematically the potential influences of policies, plans and projects in different non health sectors on health and well-being
Environmental risks include occupational risks, urban outdoor air pollution, unsafe water, indoor smoke from solid fuels, lead exposure and global climate change.

A triple jeopardy of air pollution, impaired health and social deprivation could increase ill health, disabilities and death disproportionately between and within regions in Wales.

Breathing polluted air causes premature death. It increases the risk from heart disease, stroke, respiratory disease and lung cancer and imposes a considerable cost to society.

In Wales, around 1,320 deaths and 13,549 years of life are lost due to small particles in the air. The financial, individual and societal costs of air pollution are estimated at nearly £1 billion per year.

Poor quality housing, including issues such as mould, poor warmth and energy efficiency, infestations, second-hand smoke, overcrowding, noise, lack of green space and toxins, is linked to physical and mental ill health. It impacts the individual, as well as costs to the individual, society and the NHS in terms of associated higher crime, unemployment and treatment costs.

1100 deaths, 42,000 in-patient admissions and 445,000 emergency department attendances were due to injuries in 2009 in Wales.

Injury is a leading cause of death and disability in Wales.

What works?

Although there are serious gaps in the economic evidence due to the complexity of environmental hazards and long lag of visible effect (i.e. disease), the World Health Organisation suggests approaches with health, social, economic and environmental benefits. These are shown to be cost-effective with potential returns on investment and include active transport, safe green spaces, low emission zones, speed management, heat wave plans, chemical regulation and removal of lead and mercury.

Introducing a traffic congestion charge in London has resulted in 9% reduction in bronchiolitis (lung condition) hospital stays.

Investing in housing improvements provides a cost-effective way of preventing ill health and reducing health inequalities. It could lead to less time off from school or work, increased use of the home for study and leisure, and improved relationships between household members.
The unique Welsh policy context, especially the Well-being of Future Generations (Wales) Act 2015, has the potential to enable positive change and secure sustainable solutions for the present and future generations.

The five Sustainable Development Principles, agreed with the Welsh population are: prevention, long-term view, integration, collaboration and involvement. They are in part complemented by the four Prudent Healthcare principles: ‘do no harm and only do what’s needed’, ‘co-production’, ‘reduce inappropriate variation and use evidence’ and ‘care for those with the greatest health need first’.

A key enabler for all health interventions is ‘systems working’ to improve the public’s health, i.e. taking a whole systems approach which aligns public policies, financial flows and accountability with local public, private and third sector delivery and shared outcomes. A collaborative approach with an emphasis on prevention and public health will help address the current and future health, social and economic challenges in Wales.

Drawing on recommendations from national and international experts in public health and policy, social studies, equity and economics, we have brought together recommendations on how to embed these principles into practice.

### Enabling Principles

1. **Prevention**
   Invest in preventive interventions which are based on evidence and offer value for money. This report has highlighted potential ‘solutions’ and approaches in some key public health areas.

2. **Long-term view**
   Adopt a long-term investment and prioritisation framework (on national and local level) to protect, improve and promote the health and well-being of people and communities in Wales.

3. **Integration**
   Utilise Health Impact Assessment across Welsh Government, Local Government and the public sector in order to consider the impact of any decision and intervention on health, well-being and inequalities, i.e. assessing the potential influences of policies, plans and projects in different non health sectors.

4. **Collaboration and ‘systems working’**
   Working in partnership and synergy across sectors on national and local level, including governmental, public, private and third sector organisations.

5. **Involvement and ‘co-production’**
   Ensure communities and people in Wales are given a voice, involved in decisions about their health and well-being and listened to through ‘knowledge forums’ to facilitate the engagement of the public, professionals, policy makers and academic experts.

6. **Minimise and mitigate harms to health**
   Ensure impacts on health, well-being and equity are known and harms are minimised and mitigated through adopting a ‘Health in All Policies’ approach across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts, to improve population health and health equity.

7. **Reduce variation and address the greatest population health need first**
   Ensure a ‘Proportionate Universalism’ approach, i.e. all decisions and interventions which benefit health and well-being are implemented for all people but delivered at scale proportionate to need.
About us

Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales.

We are part of the NHS and report to the Minister for Health and Social Services in the Welsh Government.

Our vision is for a healthier, happier and fairer Wales. We work locally, nationally and, with partners, across communities in the following areas:

**Health protection** – providing information and advice and taking action to protect people from communicable disease and environmental hazards.

**Microbiology** – providing a network of microbiology services which support the diagnosis and management of infectious diseases.

**Screening** – providing screening programmes which assist the early detection, prevention and treatment of disease.

**NHS quality improvement and patient safety** – providing the NHS with information, advice and support to improve patient outcomes.

**Health improvement** – working across agencies and providing population services to improve health and reduce health inequalities.

**Primary, community and integrated care** – strengthening its public health impact through policy, commissioning, planning and service delivery.

**Safeguarding** – providing expertise and strategic advice to help safeguard children and vulnerable adults.

**Health intelligence** – providing public health data analysis, evidence finding and knowledge management.

**Policy, research and international development** – influencing policy, supporting research and contributing to international health development.