Note for Prevention Evidence, Finance committee, Scottish Parliament, March 2015

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1. Executive Summary

1.1 What Works Scotland (WWS) is a collaborative venture encompassing academic and practitioners in using evidence to improve policy-making informed by the four pillars outlined by the Christie Commission.

1.2 Prevention is not a new idea but it is newly central to the Scottish approach to public policy. There is also a high degree of consensus about prevention, at least at the levels of its aims and objectives.

1.3 Prevention incorporates the emphasis on early intervention, the need for a more strategic, research-based approach and potential for financial savings with significant long-term beneficial consequences.

1.4 Prevention is often proposed in areas of classic wicked problems such as health inequalities, where the nature of the problem, the types of delivery mechanisms for corrective interventions and the measurement of intervention outcomes are all complex. They are also context-specific. We should not expect simple solutions that are easy to transfer and spread or which readily result in measurable outcomes in neat time-specific ways.

1.5 Building on Christie, the Scottish government has introduced three change funds to support the 'decisive shift' to prevention relating to older people's services, early years intervention and reducing reoffending. Alongside this there has been extensive long-term work assessing preventative spending in health care.

1.6 There is prevention evidence from the literature across different topic areas such as tobacco cessation and alcohol reduction, the emergency services, early years intervention and health spending.

1.7 The economics of prevention suggests that the costs, benefits and trade-offs of prevention have to be clearly understood in each instance, along with unintended consequences such as spillovers and displacement effects.

1.8 The evidence from health spending to reduce health inequalities indicates that there are pre-conditions for the most effective preventative interventions and these include capturing savings for reduced failure demand and ring-fencing it for prevention.

1.9 Few studies have given thought to the practical difficulties of implementation and taking organisations and citizens with the prevention policy so that resources can be redeployed effectively to reduce future failure demand.

1.10 We urge caution over excessive short termism about the aspirations stakeholders have for prevention. It is potentially very important but impacts will be uneven across space, sector and time. Scrutiny might be more fruitfully deployed to investigating the embedding of processes that will promote prevention and support its implementation and help transition 'losers' from the process.

1.11 Working up a Scottish agenda around proposals for future work on prevention is part of the work plan of What Works Scotland.

1.12 We welcome the opportunity to discuss this with the Finance Committee and to allow Members to contribute to our on-going research and impact agenda on prevention.

2. What is What Works Scotland

http://whatworksscotland.ac.uk

What Works Scotland (WWS) is a collaborative venture aimed at improving the way local areas in Scotland use evidence to make decisions about public service development and reform. Our approach combines geographic case studies and themed research around the 'emerging Scottish policy-making model' informed by the work of the Christie Commission.

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WWS is based in Glasgow and Edinburgh Universities with a network of academic and practitioner partners across Scotland.

The WWS aims to:

- learn what is and what isn't working in their local area
- encourage collaborative learning with a range of local authority, business, public sector and community partners
- better understand what effective policy interventions and effective services look like
- promote the use of evidence in planning and service delivery
- help organisations get the skills and knowledge they need to use and interpret evidence
- create case studies for wider sharing and sustainability.

Our focus on 'wicked problems' that cut across sectors and require collaboration is ambitious, addressing many challenges that cannot be resolved simply or with a quick fix. There will be no easy solutions. Governments and communities have struggled over many years, even decades, with many deep rooted challenges. In its 'Key Messages' in the first pages of its report, the Christie Commission noted:

> *Despite a series of Scottish Government initiatives and significant growth in public spending since devolution, on most key measures social and economic inequalities have remained unchanged or become more pronounced… A cycle of deprivation and low aspiration has been allowed to persist because preventative measures have not been prioritised. It is estimated that as much as 40 per cent of all spending on public services is accounted for by interventions that could have been avoided by prioritising a preventative approach.*[2]

The scale of the challenge is massive but the return on success is considerable. There will be a temptation to seek quick fixes or to assume some single solution or simple set of responses exists. If that was the case, we can assume that governments and communities at all levels across Scotland would have found this by now. A key first lesson from past experience is that reform is challenging, likely to take time and most likely to be incremental and uneven because local contexts matter.

WWS is a partnership network rather than a research centre. Its success depends on its relationships with other bodies, not least as WWS has no formal power to bring about change. It is not a conventional academic project but emphatically engaged in knowledge exchange and intending to have an impact on public policy. Our work is co-produced with our partners.

Our main focus is on Community Planning Partnerships (CPPs) as key delivery agencies. We are working closely with four CPPs – Aberdeenshire, Fife, Glasgow, and West Dunbartonshire - with the intention of rolling out findings over the course of the project and linking these in-depth pieces of work with other work streams (see below). Each of our four case study CPPs has identified particular 'wicked problems' that we are working with them on:

- Aberdeenshire: Local Community Planning, Health and Social Care Integration and Road Safety and Prevention
- Fife: Vulnerable children and school; Community Hubs; and Local Family Hubs
- Glasgow: 'Thriving Places'; In-Work Poverty
- West Dunbartonshire: Neighborhood Management; In-Work Poverty and Child/Family Inequalities.

[2] *Report of the Commission on the Future Delivery of Public Services (Christie), 2011, p.viii.*

In addition, we are working with other CPPs under our themed work streams. These work streams were also co-produced with partners and we anticipate these will develop over the course of our three years existence. They currently include:

Collaborative action research
Evidence into action
Capability and outcomes
Community engagement and capacity building
Evaluation approaches
Governance
Improvement and effectiveness
Leadership
Prevention
Spread and sustainability

It should be stressed that while these work streams have been identified separately, we understand the challenges facing Scotland's public services to be cross-cutting. In other words, our stream of work under prevention will be informed by and inform other work streams. Also, there are other elements not explicitly evident in this categorisation of our work including, for example, the implications of much of this for workforce development.

WWS is explicitly collaborative, co-produced and pluralistic – within the spirit of the Christie principles. It brings together academics from different disciplinary backgrounds and practitioners from across a range of public services and third sector bodies and engages with the public. A work plan has been developed that continues to evolve in a co-productive manner.

3. Reflections on prevention from first principles, definition and its antecedents

> *Everyone is in favour of the idea of prevention – stopping disease and injury before they happen – but few want to stake a career on such an uncertain business or invest public funds in preventative measures.*[3]

NESTA defined prevention in its submission to the Christie Commission on the Future Delivery of Public Services,

> Preventative approaches are those which intervene to curb the development of social issues and challenges. When preventative programmes are targeted at solving well researched problems and are strategically led and delivered, they can have an enormous impact on service delivery, providing a cost effective use of taxpayers' money.[4]

This definition captures the essence of prevention incorporating the emphasis on early intervention, need for a more strategic, research-based approach and potential for financial savings with significant long-term beneficial consequences.

The Christie Commission reported that it was estimated that 'as much as 40 per cent of all spending on public services is accounted for by interventions that could have been avoided by prioritising a preventative approach' and insisted that focusing resources on prevention measures must be a 'key objective of public service reform'[5].

[3] D.A. Stone, 'The resistible rise of preventive medicine', Journal of Health Politics, Policy and Law, vol.11, p.671 quoted in Richard Freeman, 'The idea of prevention: a critical review' in S.J. Scott et al (eds), Private Practice and Public Dangers Aldershot, Avebury, 1992.

[4] *NESTA Submission to the Commission on the Future Delivery of Public Services, February 2011, p.*

[5] *Report of the Commission on the Future Delivery of Public Services, 2011, p.viii.*

In practice prevention explicitly or implicitly has been around a long time and most public policy has a preventative dimension, including much policy that may not be labelled 'preventative'. The key element to any distinctively preventative measure is that the measure should reduce or eliminate the need for future interventions. In essence, prevention is defined in contradistinction to reactive policy making.

A distinction drawn in the prevention literature on public health and has been applied in child care is between primary, secondary and tertiary forms of prevention. Primary prevention refers to action designed to prevent a problem arising in the first place (also termed as 'upstream'); secondary prevention refers to addressing a problem early on designed to prevent a problem becoming worse; and tertiary prevention efforts are those designed to limit the damage of an established problem('downstream')[6].

4. Prevention, Christie and Scottish Government Policy

The Christie Commission identified prevention as one of four key 'pillars' that should inform public service reform:

- Reforms must aim to empower individuals and communities receiving public services by involving them in the design and delivery of the services they use.
- Public service providers must be required to work much more closely in partnership, to integrate service provision and thus improve the outcomes they achieve.
- We must prioritise expenditure on public services, which prevent negative outcomes from arising.
- And our whole system of public services – public, third and private sectors – must become more efficient by reducing duplication and sharing services wherever possible.

Prevention featured heavily in evidence taken by the Commission.

The Scottish Government included a significant section on Prevention in its response to the Christie Commission[7]. It committed the Government to a 'decisive shift towards prevention' as 'essential to address the current squeeze on the Scottish budget, tackle persistent inequalities and ensure the sustainability of out public services in the longer term'. This would involve:

- accelerating progress in building prevention into the design and delivery of all our public services;
- focusing support in the first few years of life where we know it can have the biggest impact in improving life chances for the most vulnerable in society;
- unlocking resources currently invested in dealing with acute problems;
- tackling inter-generational cycles of inequality and pockets of disadvantage that blight the life chances of some of our people; and

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[6] *P.Hardiker, K. Exton, and M. Barker, Literature Reviews: Crime Prevention and Prevention in Health Care, University of Leicester, Report for the Department of Health 1986.*
Fuller, R. (1989) 'Problems and possibilities in studying preventive work', Adoption and Fostering 13, pp. 9-13.

[7] *http://www.scotland.gov.uk/Resource/Doc/358359/0121131.pdf, pp.6-9.*

- better utilising the talents, capacities and potential of our people and communities.

Building on existing work, the Government introduced three new funds to support preventative spending:

- A continuation of the **Change Fund** for older people's services. The fund currently amounts to £70 million within the NHS budget for 2011-12. This will increase to £80m / £80m / £70m within NHS budgets, supplemented by funding from local partners.

- An **Early Years and Early Intervention Change Fund** to be overseen by the Early Years Taskforce aimed at using evidence-based interventions to give our children the best start in life. Resources for this fund will be provided by NHS Boards and local authorities, which will work together to agree their local contributions and achieve maximum impact and value for money. As a central contribution to this, the Scottish Government will provide £50 million of resource over the lifetime of this Parliament through the Sure Start Fund component of the Scottish Futures Fund.

- A **Reducing Reoffending Change Fund**, focusing on preventative spending, will be created to bolster those interventions that we know can reduce reoffending. This work will take account of the particular contribution that can be made by third sector service providers. The fund will expand the coverage and impact of those interventions with a proven track record in reducing reoffending, as well as supporting innovation. This will help shift the focus of services, to get the correct balance between proactive and reactive services, as part of the next phase of the reducing reoffending programme.

There was consensus on the need for a shift to prevention amongst Holyrood parties, local and central government and public and third sector bodies.

5. Evidence from literature

International evidence on prevention tends to focus on a few celebrated cases. There is a rich body of research and literature on specific preventative measures and issues. There is now a well-developed body of work, for example on the impact of preventative measures in tackling alcohol misuse. The North Karelia Project in Finland is amongst the most cited examples in this area.[8] This five year project was designed to alter diet, increase levels of exercise, address smoking and drinking habits through health promotion, disease prevention and economic incentives that led to significant lowering of heart disease and lung cancer amongst working-age population. After 25 years, evidence of success is partly due to preventative measures.[9]

Other case studies point to the impact of preventative measures with regard to the abuse of alcohol.[10] Prevention policy in the field of alcohol abuse is acknowledged to involve a wide range of organisations, institutions and measures: pricing and regulating the physical availability of alcohol; taxation; modifying the drinking context through licensing and other means; drink driving counter measures; restrictions on marketing; education and persuasion; treatment and early intervention[11]. Key conclusions to be drawn from this are:

i. Prevention is a strategy rather than a policy and may require multiple strands

[8] *Puska, P. (2002), 'The North Karelia Project: Pioneering Work to Improve National Public Health.' Helsinki: National Public Health Institute.*

[9] *Vartiainen E., Jousilahti P., Alfthan G., Sundvall J., Pietinen P., and Puska P. (2000) 'Cardiovascular risk factor changes in Finland, 1972–1997', International Journal of Epidemiology vol.29, 49–56.*

[10] *Thomas Babor et al (2010), Alcohol: No ordinary commodity: Research and public policy, Oxford University Press, 2nd edition.*

[11] *Ibid. Chapters 8-14.*

ii. Those involved in successful prevention include an array of individuals and organisations including the public and media; formal government institutions at all 'levels'; voluntary sectors; commercial interests; and the scientific community.
iii. Multiple policy tools are required
iv. A key challenge is addressing individual behaviour – sometimes referred to as cultural change
v. Change can be slow and providing unambiguous evidence that a policy/strategy or measure has been successful is not always easy.

In essence, these are all characteristics of what are referred to as 'wicked problems' ie problems resistant to simple solutions due to complex interdependencies and competing understandings of the nature of the problems.

6. Scottish experience of preventative public policy

Nearer to home, there is ample evidence across a range of areas – early years, climate change, health and social care mediation, fire prevention and smoking[12]. Drawing out general conclusions from such disparate policy areas is difficult and dangerous. Difficulties also exist in comparative public policy analysis. The danger arises, aside from important institutional and policy making differences, from mistakenly identifying a variable that may be common in each case and assumed to be causal though it may have a different non-causal relationship. What is lacking is any overview of the experience of preventative public policy to identify common lessons and good practice. We now have a large body of evidence but it remains fairly piecemeal though rich and useful in particular cases. We consider some examples of good practice in this section in an attempt to identify potential generalizable conclusions i.e. in order to see whether lessons from one policy area might help us in addressing challenges in others. However, we stress that more work is required to learn what works across a range of preventative measures and practices.

6.1 SMOKING IN PUBLIC PLACES: The ban on smoking in public places from March 2006 has been one of the most celebrated examples of a preventative public policy. An international review of the impact of a ban was undertaken and published in 2005 prior to the ban[13].15 This estimated that banning smoking in public places would result in an estimated reduction of 219 deaths from lung cancer and coronary heart disease with possibly an additional 187 lives saved from stroke and respiratory diseases and that the full benefits would only be realized between 10 and 30 years after commencement of the ban. The study attempted to quantify the economic benefits and estimated that there could be annual savings to the NHS of between £5.7m and £15.7m as well as productivity gains, savings from fire damage and cleaning costs. There was considerable uncertainty especially in the impact on productivity and on the hospitality sector, especially on bars. Evidence of smoking's impact on health was itself complex with a variety of studies on a range of different aspects of health[14].

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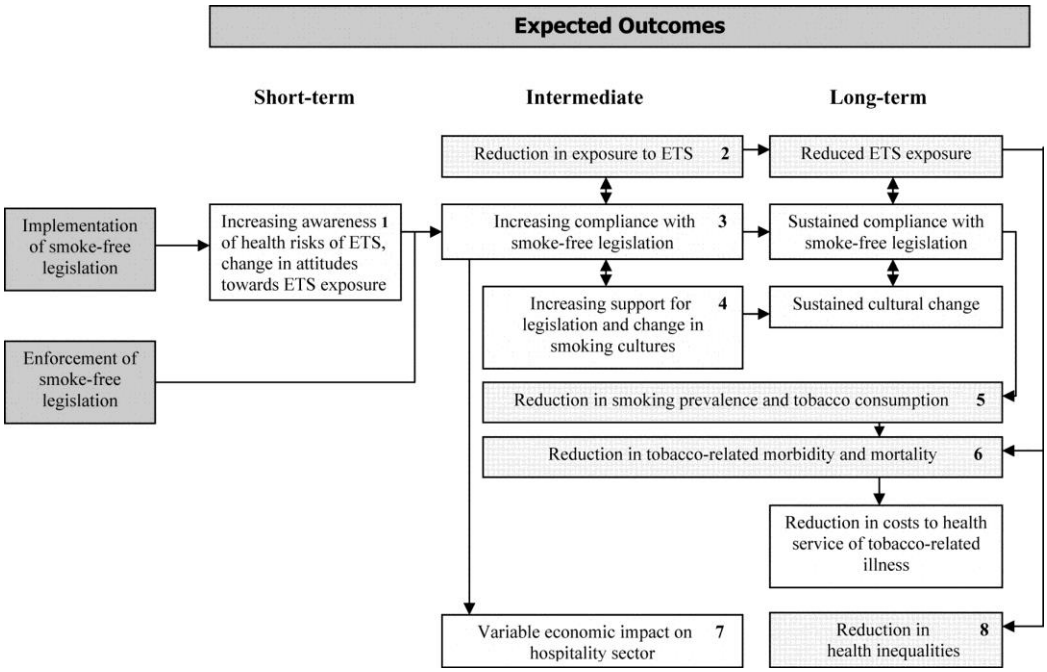
[12] *These were listed in the 2011 report of the Finance Committee into Preventative Spending, para.16, http://archive.scottish.parliament.uk/s3/committees/finance/reports-11/fir11-01.htm#4*

[13] *Anne Ludbrook, Sheona Bird and Edwin van Teijlingen, International Review of the Health and Economic Impact of the Regulation of Smoking in Public Places, 2005, http://www.healthscotland.com/uploads/documents/7010-InternationalReviewFullReport.pdf*

[14] *Haw et al, 'Legislation on smoking in enclosed public places in Scotland: how will we evaluate the impact?', Journal of Public Health, 2006, vol.28, pp,24-30 includes a list of articles that summarised just some of the evidence on the health impact of smoking: Brennan P, Buffler PA, Reynolds P et al. Secondhand smoke exposure in adulthood and risk of lung cancer among never smokers: a pooled analysis of two large studies', International Journal Cancer 2004, 109: 125–131; Carey IM, Cook DG. The effects of environmental tobacco smoke exposure on lung function in a longitudinal study of British adults. Epidemiology 1999; 10: 319–326; Chan-Yeung M, Dimich-Ward H. Respiratory health effects of exposure to environmental tobacco smoke. Respirology 2003; 8: 131–139.; International Agency for Research on Cancer 2002. Monograph. Volume 83. Involuntary smoking.; Iribarren C, Darbinian J, Klatsky AL, Friedman GD. Cohort study of exposure to environmental tobacco smoke and risk of first ischemic stroke and transient ischemic attack. Neuroepidemiology 2004; 23: 38–44; Law MR, Morris JK, Wald NJ. Environmental tobacco smoke exposure and ischaemic heart*

A logic model of expected outcomes associated with smoke-free legislation was developed:



There have been a number of studies since the smoking ban highlighting its impact, in some cases in unanticipated ways. There had been greater voluntary restrictions on smoking in private dwellings following the ban in public places[15]; there had been reductions in the amount smoked by those who continued smoking and greater efforts to abandon smoking[16]; there had been significant reductions in cardiovascular and respiratory diseases[17].
There are a number of general conclusions that can be drawn from the case of banning smoking in public places:

- It is difficult in advance to predict with accuracy, especially in quantifiable terms, the likely benefits of preventative public policy;
- It may be difficult to anticipate when a preventative measure will have an effect especially over the long-term;
- There are likely to be unintended and unforeseen benefits and potential costs in preventative measures: for instance, the unanticipated growth in the technology and demand for e-cigarettes; also, in contributing to the cultural shifts away from smoking, the ban in public places may also in time reduce preventable fires (see below);

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disease: an evaluation of the evidence. Br Med J 1997; 31: 973–980; Whincup PH, Glig JA, Emberson JR et al. Passive smoking and risk of coronary heart disease and stroke: prospective study with cotinine measurement. Br Med J 2004; 329: 1–6.

[15] *Akhtar PC, Haw SJ, Currie DB, Zachary R, Currie CE (2009) 'Smoking restrictions in the home and secondhand smoke exposure among primary schoolchildren before and after introduction of the Scottish smoke-free legislation', Tobacco Control 18: 409–415; Haw SJ, Gruer L (2007) Changes in exposure of adult non-smokers to second hand smoke after implementation of smoke-free legislation in Scotland: A national cross-sectional survey. BMJ 335: 549 ; Mackay DF, Haw S, Pell JP (2011) Impact of Scottish smoke-free legislation on smoking quit attempts and prevalence. PLoS ONE, 2011, vol.6.*

[16] *Mackay DF, Haw S, Pell JP (2011) Impact of Scottish smoke-free legislation on smoking quit attempts and prevalence. PLoS ONE 6*

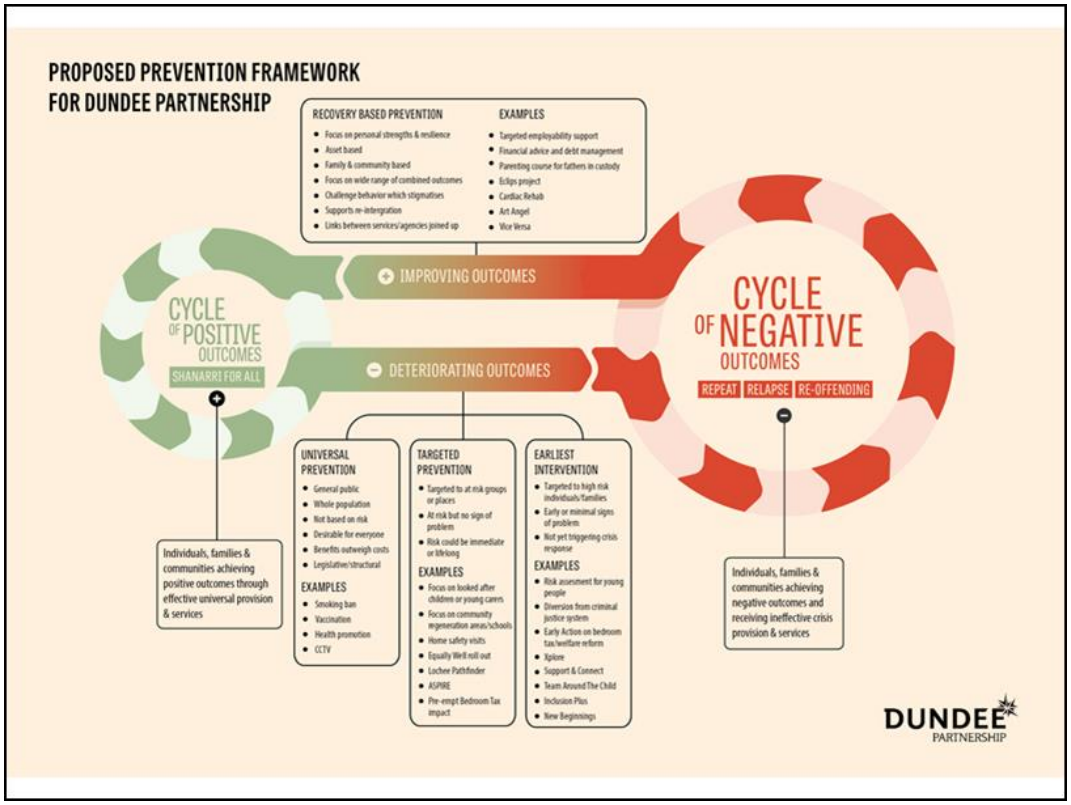
[17] *Ayres JG, Semple S, MacCalman L, Dempsey S, Hilton S, et al. (2009) Bar workers' health and environmental tobacco smoke exposure (BHETSE): symptomatic improvement in bar staff following smoke-free legislation in Scotland. Occupational and Environmental Medicine, vol.66: 339–346; Mackay D, Haw S, Ayres JG, Fischbacher C, Pell JP (2010),'Smoke-free legislation and hospitalizations for childhood asthma' New England Journal of Medicine, 363: 1139–1145.*

- It is important to attempt to develop a logic model of anticipated expected outcomes;

- Identifying means of measuring the impact can be difficult given the number of other variables likely to affect outcomes but some effort is necessary in order to anticipate future planning and drawing lessons;

- The symbolic impact of a preventative public policy may itself have value, as evidence in the efforts made by smokers to reduce or stop smoking around the time of the ban.

6.2. DUNDEE PARTNERSHIP: A key to success appears to lie in monitoring developments, commitment from participants and have a clear sense of *how* change is to be achieved. The logic model above is an example of a 'theory of change'[18]involving the identification of long-terms goals, and mapping a route to change through deliberation in which challenges are identified. Where possible, steps on the road to change should be identified. The logic map above is one example of this but this can take other forms such as that below from the Dundee Partnership. This kind of model also offers the opportunity for discrete organisations, budget centres and place-based policy organisations to initially map out their different classes of upstream and downstream spending and hence specify the scope for preventative budgeting.

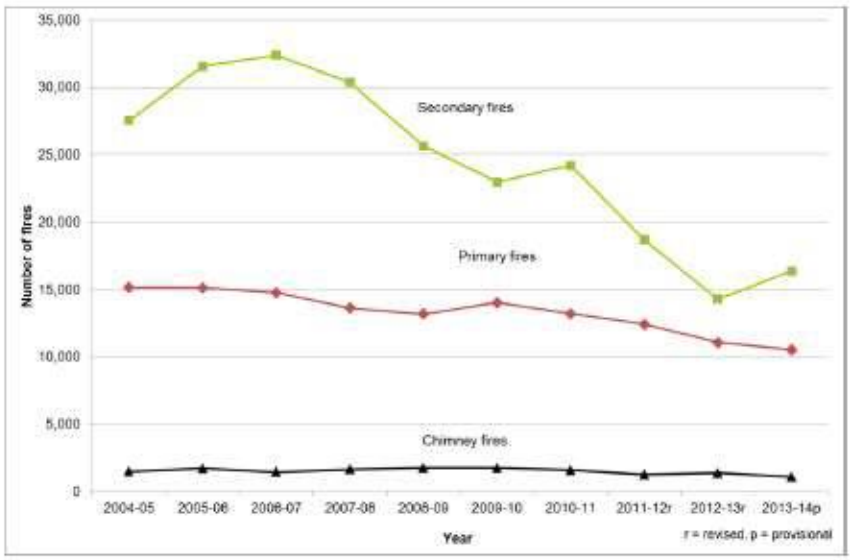


6.3 FIRE AND RESCUE: One of the most notable examples of a shift towards prevention has been evident in the shift to prevention in the fire and rescue service. In its submission to Christie, CoSLA noted that, 'over the last decade, we have witnessed a quiet revolution from reactive organisations ostensibly designed to tackle fires to organisations that are now more

[18] *See Dana Taplin and Helene Clark, Theory of Change Basics: A Primer on Theory of Change, March 2012, http://www.theoryofchange.org/wp-content/uploads/toco_library/pdf/ToCBasics.pdf*

focused on community safety and fire prevention'. In its evidence to a previous Finance Committee Inquiry, the Chief Fire Officers Association Scotland (CFOAS) provided case studies showing how arrangements agreed across different bodies can achieve preventative outcomes[19]. Mounting evidence shows the significant gains that can be achieved through preventative measures but also the need to continually monitor and improve delivery. An evaluation of the Community Improvement Partnership in Glasgow, for example, highlighted significant improvements and identified means of progress from existing success: the way data and intelligence was gathered across different organisations and put to good use was recognised; the clarity of purpose of different organisations. The evaluation noted that the partnership would benefit from other organisations being involved[20].

Similarly, data produced by the Fire and Rescue Service highlight the significant gains from the long-term shift towards prevention. It is notable that for the sixth year in a row, the most common source of ignition for accidental fires in dwellings in which a fatality occurred was 'smokers' materials and matches' (accounting for 14 of 24 deaths in 2013-14).[21] Reductions in the number of smokers is likely to have an impact on the number of fires highlighting the **virtuous circle** that can arise with preventative approaches. Similarly, impairment due to alcohol and/or drugs use was a contributory factor in 15% of accidental dwelling fires in 2013-14. Tackling alcohol abuse is likely to have implications for fires further emphasising the virtuous circle of prevention.



EARLY YEARS: There have been many international studies of early years intervention. The Wave Trust published a review of many of these EY studies. The overview of the findings specifically from international research was summarised as follows:

> *The short answer is there is general expert consensus that it is somewhere between economically worthwhile and imperative to invest more heavily, as a proportion of both local and national spend, in the very earliest months and years of life. Nine approaches to evaluating the outcomes of early years' investment are reviewed here.*
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> - *Every approach – even the most cautious and circumspect in its recommendations – finds that returns on investment on well-designed early years' interventions significantly exceed their costs.*

[19] *http://archive.scottish.parliament.uk/s3/committees/finance/inquiries/preventative/PS-CFOAS.pdf*

[20] *Improvement Service, Community Improvement Partnership Evaluation: report summarizing independent evaluation of the Community Improvement Partnership in Glasgow.*

[21] *Scottish Government, Statistical Bulletin Crime and Justice Series, Fire and Rescue Publications for Scotland, http://www.scotland.gov.uk/Publications/2014/12/2384/0*

- *The benefits range from 75% to over 1,000% higher than costs, with rates of return on investment significantly and repeatedly shown to be higher than those obtained from most public and private investments.*

- *Where a whole country has adopted a policy of investment in early years' prevention, returns are not merely financial but in strikingly better health for the whole population. The benefits span lower infant mortality at birth through to reduced heart, liver and lung disease in middle-age.*

- *The logical links between the investments and the health benefits are described in the 'Adverse Childhood Experiences' (ACE) studies which reveal that for every 100 cases of child abuse society can expect to pay in middle or old age for (amongst a wide range of physical and mental health consequences):*

    - *one additional case of liver disease*

    - *two additional cases of lung disease*

    - *six additional cases of serious heart disease, and*

    - *16% higher rate of anti-depressant prescription*

- *None of the estimates takes account of the economic value of the knock-on effect that child abuse averted in one generation will itself result in a cumulative reduction in this dysfunction during future generations*[22].

Much of the work in this area has been informed by the work of James Heckman, labour economist, econometrician and Nobel Laureate. Heckman's arguments were summarised in the Wave report:

1. *Many major economic and social problems such as crime, teenage pregnancy, dropping out of high school and adverse health conditions are linked to low levels of skill and ability in society.*
2. *In analyzing policies that foster skills and abilities, society should recognize the multiplicity of human abilities.*
3. *Currently, public policy in the U.S. and many other countries focuses on promoting and measuring cognitive ability through IQ and achievement tests. A focus on achievement test scores ignores important non-cognitive factors that promote success in school and life.*
4. *Cognitive abilities are important determinants of socioeconomic success.*
5. *So are socio-emotional skills, physical and mental health, perseverance, attention, motivation, and self-confidence. They contribute to performance in society at large and even help determine scores on the very tests that are commonly used to measure cognitive achievement.*
6. *Ability gaps between the advantaged and disadvantaged open up early in the lives of children.*
7. *Family environments of young children are major predictors of cognitive and socio-emotional abilities, as well as a variety of outcomes, such as crime and health.*
8. *Family environments in the U.S. and many other countries around the world have deteriorated over the past 40 years. A greater proportion of children is being born into disadvantaged families including minorities and immigrant groups. Disadvantage*

[22] *Wave Trust in collaboration with the Department for Education, Appendix 4, The economics of early years' investment, 2013. See http://www.heckmanequation.org/ http://www.wavetrust.org/sites/default/files/reports/economics-appendix-from-age-of-opportunity_0.pdf*

should be measured by the quality of parenting and not necessarily by the resources available to families.

9. *Experimental evidence on the positive effects of early interventions on children in disadvantaged families is consistent with a large body of non-experimental evidence showing that the absence of supportive family environments harms child outcomes.*
10. *If society intervenes early enough, it can improve cognitive and socioemotional abilities and the health of disadvantaged children.*
11. *Early interventions promote schooling, reduce crime, foster workforce productivity and reduce teenage pregnancy.*
12. *These interventions are estimated to have high benefit-cost ratios and rates of return.*
13. *As programs are currently configured, interventions early in the life cycle of disadvantaged children have much higher economic returns than such later interventions as reduced pupil-teacher ratios, public job training, convict rehabilitation programs, adult literacy programs, tuition subsidies, or expenditure on police. The returns are much higher than those found in most active labour market programs in Europe.*
14. *Life cycle skill formation is dynamic in nature. Skill begets skill; motivation begets motivation. Motivation cross-fosters skill and skill cross-fosters motivation. If a child is not motivated to learn and engage early on in life, it is more likely that in adulthood, he or she will fail in social and economic life. The longer society waits to intervene in the life cycle of a disadvantaged child, the more costly disadvantage is to remediate.*
15. *A major refocus of policy is required to capitalize on knowledge about the importance of the early years in creating [or reducing] inequality and in producing skills for the workforce*[23]*.*

7. The Economics of Prevention

The New Economics Foundation has taken a strategic interest in promoting prevention. [24] They argue that a transition to prevention is essential to tackle the long-term ills of inequality, climate change and sustainable economic growth. Drawing on the work of Ian Gough, Michael Jacobs and Adair Turner, among others, they strongly assert the case for prevention. They also, however, identify the importance of thinking about prevention systemically rather than on a piecemeal basis, that we must be aware of unintended consequences in complex social settings, that broad alliances of policymakers, practitioners, communities and citizens must be constructed to champion and deliver prevention, and, that work is required to develop behavioural incentives and policy mechanisms with which to deliver prevention.

There are a number of analytical issues that sensible assessment of prevention needs to address. SPICe (2010) makes a couple of valuable general points.

- In early years children receive many different formal and informal services at the same time – it is difficult to attribute which services have contributed to a particular outcome and hence it is difficult to attribute outcomes or financial savings to preventative modes of policy. It is also difficult to tell what would have happened in the absence of the intervention.

- The general policy problem of transferability from other jurisdictions arises because it is not clear whether the policy is applicable in different cultural, political or institutional setting (and may be true within different arts of Scotland and for different groups within Scottish society).[25]

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[23] *James Heckman, 'Schools, Skills and Synapses', Economic Inquiry, 2008, vol.46, pp.289-324.*

[24] *New Economics Foundation (2013) The Prevention Papers; www.neweconomics.org . See also, The Wisdom of Prevention published by NEF, April, 2012.*

[25] *Burnside, R (2010) Preventative Spend – literature Review. Financial Scrutiny Unit Briefing. SPICe.*

Craig provides an instructive overview of the comparatively extensive literature on the economics of prevention applied to health inequalities. He concludes that upstream interventions aimed at tackling the determinants of health inequalities are cost-effective (compared to treatment of illness or downstream measures), that greater efficiency need not be at the expense of better equality outcomes but that identifying and using savings form prevention can be hard to realise[26].

Craig argues that there are three important pre-conditions for the success of health preventive spend to reduce future 'failure' demand. First, the intervention spend must reduce the time people spend in ill-health. Second, spending must reduce in those areas of falling future demand of resources are to be freed up for other uses. This is very difficult and Craig notes that many studies that identify savings give no steer as to how to tackle how such savings are to be implemented. Third, funds identified as recovered or saved from previous failure demand must not be used for other forms of unmet need in the same area but rather released for prevention.

Craig also argues that the lessons from prevention and tackling health inequalities have a wider currency for other social policy areas. He develops a useful simple conceptual framework, contending that the 'best buys' for preventative spend should involve three elements: cost-effectiveness, those likely to reduce health inequalities and those likely to reduce future 'failure' demand.

8. Challenges in shifting to prevention

The Christie Commission acknowledged that public servants were 'generally held in high esteem' and wanted to 'provide the best services they can; to make a real difference' but that there was 'compelling evidence that many staff feel their skills and knowledge are not being fully used, and that their levels of autonomy are diminishing'[27]. Impediments limit or preclude optimum public policy outcomes. These impediments are not designed deliberately to undermine policy but may include institutions and practices that exist for good or well intended reasons. They may be institutional, financial or cultural (mindsets) that were created or have developed over time but have had unintended consequences. They may also include practices that impede best practice in one respect but are designed to assist with best practice in another and involve a trade-off. The failure to adopt a preventative approach, especially involving a shift in resources, is particularly challenging as it may involve reducing spending in an area of negative demand. At a time when budgets are shrinking, shifting spending to prevention involves reducing budgets elsewhere. While there may be long-term savings through prevention – as well as improving wellbeing – this can take time and involves a degree of risk. The scope for cuts to allow for a shift to prevention diminishes as total budgets are cut and demand remains high.

Reducing budgets to provide headroom for a shift towards prevention is politically difficult. Existing policies create interests that are organised around the policy thus impeding change. This well-known insight from public policy analysis has been explained by Daniel Kahneman and colleagues who have emphasised the importance of **loss aversion**, the tendency to strongly prefer avoiding losses as to acquiring gains. Studies suggesting that loss aversion can be as much as twice as powerful as gains.[28] This gain-loss asymmetry is a major challenge in any shift to prevention. The related ideas from the behavioural economics of prospect theory - mental accounting and cognitive bandwidth taxes - may also help explain why individuals and organisations resist change and fial to work in an integrated or holistic

[26] *Neil Craig (2014 Best Preventive Investments for Scotland. NHS Health Scotland.*

[27] *Christie Report, para.4.45.*

[28] *D. Kaheneman and A. Tversky, 'Prospect Theory: An analysis of decision under risk', Econometrica, 1979, vol.47, pp.263-291; 'Choices, values, and frames', American Psychologist, vol.39 pp.341-350.*

manner [29]. Public policy analysis is replete with evidence that what is best is often that which satisfices.[30] Recent work on the politics of fiscal squeeze 'chimes with' loss aversion.[31] The combination of loss aversion, incremental change and satisficing are likely to be drags on any efforts to shift towards prevention.

9. Conclusions: sensible caution around long term impacts, transferability and Spread

A key lesson from the study of wicked problems is the need to take each problem case by case, acknowledging the that impact time scales will vary by issue, by sector and by location. Context matters not only in terms of the depth of the problem one is dealing with but also in terms of the institutional capacity to respond. Wicked problems do not work to electoral or other fixed timescales and we should not expect even or consistent progress in terms of a decisive shift in preventative outcomes. We might however at least expect to see genuine progress more broadly concerning setting up processes by which prevention can be inserted more strategically and consistently into the fundamental nature of service delivery and social policy more generally. However, we would reiterate that reaping the benefits may take decades rather than a Parliament lifespan to deliver. First and foremost, the general acceptance and support for prevention has to be translated into a consensus-based willingness to follow its logic through, including managing disinvestment, organisational change and client demand.

Looking forward, the New Economic Foundation argue that a number of prevention work streams should be prioritised, chief among them:

- Developing a deeper understanding of the costs, benefits and trade-offs involved in taking a preventative approach to public policy and practice, compared to conventional approaches
- Better understanding of the political, cultural and economic barriers to prevention, how these relate to and influence each other, and how they can be overcome
- Building alliances for prevention and designing emblematic pilots or pathfinders of prevention in public policy
- Stimulating wider public debate about the need to prevent harm.

We welcome the opportunity to discuss this with the Finance Committee and to allow Members to contribute to our on-going research and impact agenda on prevention.

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[29] *Prospect theory is the overarching alternative decision making model under conditions of risk and uncertainty developed by Tversky and Kaheneman. Mental accounting, a direct application, is most associated with Richard Thaler and is concerned with the implications of budgeting shortcuts people make under wider non-fungibility or non-transferability of their funds (the point being that people and organisations so affected will be less likely to pool or share funds and budgets in amore integrated fashion – see Wilkinson, N and Klaes, M (2012) An Introduction to Behavioural Economics (Palgrave). In Mulainathan and Shafir's book Scarcity (2013, Penguin), the authors argue that individual and organisational pressures to make good decisions come up against a form of bounded rationality or cognitive capacity – and this pertains most strongly to the multiply disadvantaged – pressure on time, multi-tasking, etc. leads to poor decisions especially over budgeting and longer term decisions – this is the cognitive bandwith tax.*

[30] *The idea of satisficing is well established in public policy analysis. "Evidently, organisms adapt well enough to 'satisfice'; they do not, in general, 'optimize'."; page 136: "A 'satisficing' path, a path that will permit satisfaction at some specified level of all its needs.' Herbert Simon (1956). 'Rational Choice and the Structure of the Environment', Psychological Review vol.* ***63****, p.129.*

[31] *D. Heald and C. Hood, 'The Politics of Fiscal Squeeze', in C. Hood, D. Heald and R. Himaz (eds.), When The Party's Over: The Politics of Fiscal Squeeze in Perspective, Oxford University Press, p.10.*