Bevan Commission

...promoting health and health services improvement in Wales

Early Intervention and Prudent Health Care

This report represents formal advice from the Bevan Commission to the Minister for Health and Social Care. It is part of a wider programme of work being undertaken by the Bevan Commission.

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Contact

All correspondence should be addressed to the Bevan Commission, 14 Cathedral Road, Cardiff, CF11 9LJ.

Introduction

The purpose of the paper is to consider the potential definitions of early intervention and assess their consistency with the principles of prudent healthcare. To help achieve this we explore the interpretation of early intervention, drawing from its application within **a prudent approach to health.**

Background

Many well known proverbs encourage immediate effort over delayed action; 'a stitch in time saves nine'; 'the early bird catches the worm'; 'many a little makes a mickle'; and 'an ounce of prevention is worth a pound of cure'. The fact that these examples are numerous, well known and have long existed, reinforces the widely held perception of the superiority of early effort and timely action. To many, that such approaches result in clear benefit is a simple, undeniable premise, '***Prevention is better than cure. That is a simple truth...it is a no brainer ...with which few would disagree'*** [1].

Across a range of different areas such as health, social care and justice there is broad consensus that more should be done earlier, but when it comes to the detail there is little clarity or consensus about how this should be achieved. There is little published work challenging the accepted orthodoxy, questioning whether it is always prudent to intervene in all situations at the earliest stage possible.

A wide range of ways exist in which such action can be implemented and to whom, and this has resulted in a variety of terms, definitions and concepts that can obscure rather than illuminate, often leading to confusion - **greater clarity is needed**.

A concept rather than definition?

The ideas behind prevention, early intervention and early action are gaining considerable traction within national and devolved UK policy[2], yet on closer consideration **no strict definitions exist or are consistently applied**.

'Prevention' can be described as operating at a population level pre-empting occurrences and does not broadly concern itself with a particular group. Whereas, 'Intervention' is more concerned with specific individuals 'at risk' either medically or socially, to change or adapt their future trajectory. The key difference being that following an occurrence, a 'trigger point', be it; an illness; a fall; missing school; reaching a certain age; results in the requirement (or the supposed requirement) of an intervention to take place.

Different definitions exist (Figure 1). The terms are often combined or used interchangeably to refer to a focus on tackling the roots of social and medical/health 'problems', rather than treating their consequences. Often these 'models' refer to levels, or layers, or use analogies such as rivers (upstream/midstream/down-stream) and cliffs (up to the edge/over the edge, building a fence[3]) to highlight the trigger point.

Prevention activities are seen as enablers, promoting wellbeing, good health and independence. Whereas intervention activities are synonymous with 'action', targeted efforts to respond, halt/slow down and improve individual situations. Depending on the 'trigger point', the individual's situation and the services in place, these actions or interventions can be described as being on a continuum which ranges from early to late.

[1] **Deacon, S. (2011)** Joining the dots: A better starts for Scotland's children. Scottish Government. http://www.gov.scot/Resource/Doc/343337/0114216.pdf

[2] **Plimmer D & van Poortvliet M (2012)** **Prevention and early intervention Scoping study for the Big Lottery Fund. Available on line at** *https://www.biglotteryfund.org.uk/-/media/Files/Research%20Documents/er_prevention_early_intervention.pdf*

[3] **Early Intervention Task Force (2011)** The Triple Dividend: Thriving lives, Costing Less, Contributing more: http://www.community-links.org/uploads/documents/Triple_Dividend.pdf

NAO (2013) Early Action: Landscape Review	DoH (2008) Transforming Adult Social care	Early Action Taskforce (2011) The Triple Dividend	
• **Prevention (upstream):** 'preventing, or minimising the risk, of problems arising – usually through universal policies like health promotion.'	• **Primary prevention/promoting wellbeing:** 'this is aimed at people who have little or no particular social care needs or symptoms of illness. The focus is therefore on maintaining independence and good health and promoting wellbeing.'	• **Ready for anything community:** 'universal enabling services and clear rules equip us to flourish, protect us from harm and prepare us for change'	**Prevention**
• **Early intervention (midstream):** 'targeting individuals or groups at high risk or showing early signs of a particular problem to try to stop it occurring.'	• **Secondary prevention/early intervention:** 'this aims to identify people at risk and to halt or slow down any deterioration, and actively seek to improve their situation. Interventions include screening and case finding to identify individuals at risk of specific health conditions or events or those who have existing low level social care needs.'	• **Early action = early intervention**: 'not only concerned with the earliest stages of social and personal development…but with early action at all critical life stages where individuals can benefit from and welcome extra support to achieve their full potential. **Early Action** describes the prompt interventions at the first signs of difficulty and responding to them.'	**Early Intervention**
• **Early remedial treatment (downstream):** 'intervening once there is a problem, to stop it getting worse and redress the situation.'	• **Tertiary prevention:** 'this is aimed at minimising disability or deterioration from established health conditions or complex social care needs. The focus here is on maximising people's functioning and independence through interventions such as rehabilitation/ enablement services and joint case management of people with complex needs.'	• **Late Action:** 'as services become more targeted at those with more developed problems and prompt intervention gets closer to an acute service. Eventually it is primarily focussed on containing a problem rather than forestalling it. **Late Action** kicks in once the problem has tipped over, essential but in every sense a last resort'.	**Late Intervention**

Figure 1: Models of Preventative Services

Population Need

The Early Intervention Foundations[4] emphasis is firmly on the child, with many reports focusing solely on children and young people. As such the term 'early intervention' is increasingly perceived in policy as referring only to the first five years of life[5].

While there is greater potential to alter the trajectory over a longer period in a younger person such emphasis can be unhelpful as early interventions can be found at many points during the life course (Figure 2). Where intervention is referred to in the context of later life this more often relates to early intervention in acute

[4] **Early Intervention Foundation** http://www.eif.org.uk/what-is-ei/

[5] **Plimmer D & van Poortvliet M (2012)** Prevention and early intervention Scoping study for the Big Lottery Fund. Available on line at *https://www.biglotteryfund.org.uk/-/media/Files/Research%20Documents/er_prevention_early_intervention.pdf*

situations i.e. an acute 'trigger' has taken place, a hospitalisation due to an exacerbation of a chronic disease, falls, stroke or heart attack for example.

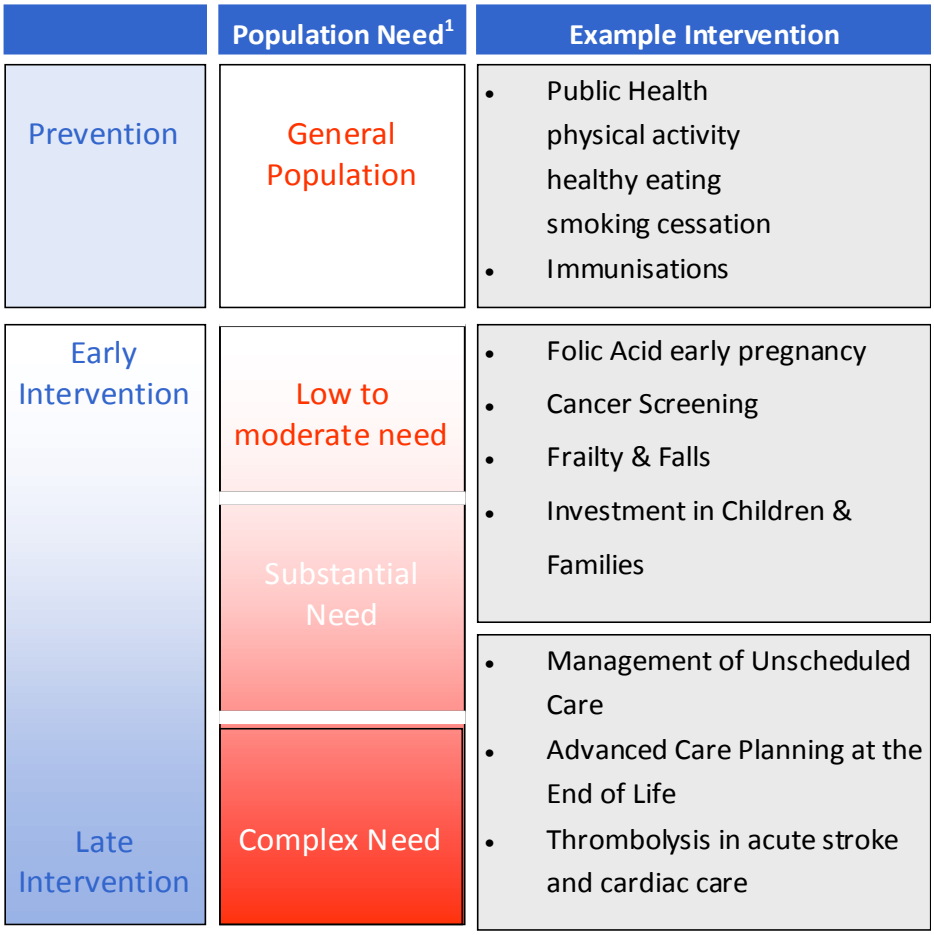

Figure 2: Population need driven preventative services
1. Based on Department of Health (2013) categories of need

Successful Interventions

Example 1 –The annual number of live births in Wales is fairly consistent and there were 33 544 live births in 2014[6]. **Folic acid supplementation** has been shown to effectively reduce the risk of neural tube defects (NTDs) and is recommended for women trying to conceive and during the first 12 weeks of pregnancy. NTDs are the second most common group of serious birth defects and the costs involved in providing folic acid intervention are far outweighed by the costs of NTDS to healthcare systems, various healthcare payers and to society more generally[7]. In addition the success of folic acid supplementation can be evaluated in a consistent and relatively short time frame associated with gestation.

Example 2 - About 6,000 people have a **stroke** each year in Wales, making it the fourth biggest health killer after cancer, heart disease and respiratory disease. Thrombolysis is an effective early intervention for patients suffering an ischaemic stroke providing it is given soon after the onset of symptoms. Evidence shows that the faster the drug is given to a patient the better their outcome will be. In Wales the percentage of patients being

[6] **Office National Statistics (2015)** Birth Summary tables, England and Wales, 2014 http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-370345
[7] **Yi et al (2011)** Economic burden of neural tube defects and impact of prevention with folic acid: a literature review Eur J Pediatr 170:1391–1400

thrombolysed within one hour of arriving at the hospital has improved by over 50 patients, from 17% in 2012-13 to 26% in 2013-14[8].

Example 3 - Approximately 1 million people in the UK sustain **traumatic brain injury (TBI)** each year with resulting societal, economy and individual cost. Despite receiving a standard package of care many people with TBI fail to return to the workplace. Intervening early, providing Vocational rehabilitation (whatever helps someone with a health problem return to or remain in work) in TBI cases, demonstrates an increased return to work (27% more of those with moderate/severe head injury; 15% more overall) compared to usual care provided[9]. Returning TBI people to work by intervening in their acre not only has the potential for short-term impact on a person's working life and ability to contribute to the economy, but also on their longer term health and well-being and that of family members.

Example 4 - **'Invigor8'** is a community-based exercise intervention programme aimed at anyone aged 65 or over who is at risk from falls. Launched by Ayrshire and Arran NHS, in conjunction with Ayrshire Councils and Third Sector Leisure Services, provides community-based classes. This reports an overall reduction in the risk of falls, a reduced fear of falling, and increased physical activity and balance ability[10].

Example 5 – In Wales it is estimated that 182,600 people have diabetes, with a further 70,000 people estimated to have Type 2 diabetes but are undiagnosed[11]. **The Diabetic Retinopathy Screening Service Wales** works with all persons who have a confirmed diagnosis of diabetes to detect sight threatening diabetic retinopathy at an early, ensuring early treatment and helping preventing loss of vision in 70-90% of people. All persons who have a confirmed diagnosis of diabetes should be referred to the service and be invited for retinopathy screening within 3 months of registration[12]. The evidence base informing the interval between ongoing screenings prioritises individual diabetic risk, cost effectiveness and patient acceptance[13][14].

Inappropriate Intervention

The superiority of early effort and timely action as discussed above is a premise that is widely held but what if sometimes doing nothing was better than doing something? This may be because either an early intervention may be shown to be ineffective, may result in harm or not deemed cost effective. All of these can be seen in practice, often as a result of the high expectations of both professionals and patients and sometimes irrespective of the evidence.

Complex interventions in social care can be difficult to accurately quantify[15] as their outcomes can be over prolonged periods of time compared to that seen in relatively short episodes such as Folic acid supplementation or acute clinical episodes such as stroke. Interventions particularly those in public health can be complex and programmatic which can make them difficult to evaluate[16] . Furthermore the timescales involved particularly in

[8] **Welsh Government (2014)** Stroke Delivery Plan, Annual Report 2014 http://gov.wales/docs/dhss/publications/141121strokeen.pdf
[9] **Radford et al 2013** Return to work after traumatic brain injury: Cohort comparison and economic evaluation Brain Injury 27(5): 507–520
[10] **NHS Ayrshire and Arran (2015)** Community Falls Prevention Pathway: INVIGOR8 programme Ayrshire & Arran Summary Data Report
[11] **Diabetes UK:** State of the Nation- Wales. Challenges for 2015 and beyond. https://www.diabetes.org.uk/Upload/Wales/Website%20NEW/Diabetes%20In%20Wales/State%20of%20the%20Nation%20WALES%202015.pdf
[12] **Diabetic Retinopathy Screening Service Wales** http://www.eyecare.wales.nhs.uk/drssw
[13] **Yeo et al (2012)** Diabetic retinopathy screening: perspectives of people with diabetes, screening intervals and costs of attending screening. Diabet Med.;29(7):878-85.
[14] **Scanlon et al (2015)** Development of a cost-effectiveness model for optimisation of the screening interval in diabetic retinopathy screening. Health Technology Assessment ;19(74):1-116.
[15] **NICE (2011)** The costs and benefits of early interventions for vulnerable children and families to promote social and emotional wellbeing: economics briefing http://www.nice.org.uk/guidance/ph40/documents/social-and-emotional-wellbeing-early-years-expert-report-32
[16] **L Rychetnik et al 2002 Criteria for evaluating evidence on public health interventions** *J Epidemiol Community Health*

interventions targeted in the younger years make it difficult to attach a definitive causative effect for example in later life.

Some interventions that can show a beneficial outcome at an individual level may have wider unintended consequences that can be harmful at a population level. For example, while use of prophylactic antibiotics in COPD patients has been shown to reduce disease exacerbations [17] there is potential for more wide spread antibiotic use to negatively affect global antimicrobial resistance.

There are also some examples of interventions with the potential to actively cause harm and/or distress to individuals within screening. There is currently no screening programme for prostate cancer in the UK, because it has not been proven that the benefits would outweigh the risks[18]. In addition side effects of the various treatments are potentially so serious that men may choose to delay treatment until absolutely necessary.

There are some questions regarding the efficacy of breast cancer screening which suggests there is so much over diagnosis that the best thing a women can do to lower her risk of becoming a breast cancer patient is to avoid going to screening[19]. There needs to be debate around the risk benefits of interventions around informed and engaged decision making based upon prudent principles.

Can Early Intervention be Prudent?

Prudent Principle 1: Achieve health and well being with the public, patients and professionals as equal partners through co-production

Interventions are normally initiated by a 'trigger' which presupposes that the intended recipients are either victims or responsible, with such language seen as both reductive and discouraging[20]. With individuals passively receiving such interventions, it can be difficult to see how such approaches can be seen as prudent. It would require greater dialogue and conversation between the recipients and professionals, explaining the reasoning and any pros and cons behind interventions to fully include patients in plans for their care. This clearly points to a more engaged and empowered approach through co-production, where the public and the professionals are working together on a more equal footing.

Prudent Principle 2: Care for those with the greatest health need first, making most effective use of all skills and resources

Despite the frequent emphasis on early years, intervention and preventative services can be developed for use at all ages, for those whose needs vary from the simplest to the most complex or urgent. The extent to which we target early intervention to those with the greatest need is difficult to assess, as opposed to intervening with those where it is easiest to do so. There is a clear tendency to treat according to lists without questioning the greatest need, often consistent with the performance management processes in place. More effective targeted intervention at high risk groups is needed, for example those who may have had an initial fall in more deprived areas or those with little or no support at home. There is also a need to consider how we might best use the skills and assets in our communities to work more prudently on early intervention. To what extent do we use of local community leaders or advocates to encourage and support take up for example flu injections or MMR.

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[17] **Ni et al (2015**) Prophylactic use of macrolide antibiotics for the prevention of chronic obstructive pulmonary disease exacerbation: a meta-analysis. PLoS One. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0121257

[18] **NHS Choices Prostate Cancer** http://www.nhs.uk/Conditions/Cancer-of-the-prostate/Pages/Prevention.aspx

[19] **Gøtzsche 2015** Mammography screening is harmful and should be abandoned Journal of the Royal Society of Medicine 108(9) 341–345

[20] **Early Intervention Task Force (2011)** The Triple Dividend: Thriving lives, Costing Less, Contributing more: Available on line at http://www.community-links.org/uploads/documents/Triple_Dividend.pdf

Prudent Principle 3: Do only what is needed, no more, no less; and do no harm

What level of evidence is needed to underpin early intervention activities? Despite it being a strongly held conviction by many, it does not appear that in every situation early intervention always produces better outcomes. This is an issue that should be more broadly discussed and debated in competing with other priorities which may have greater impact and value and cause less harm.

Prudent Principle 4: Reduce inappropriate variation using evidence based practices consistently and transparently

There should be no excuse for unwarranted variation, particularly around early intervention where there is clear evidence and where the impact can be demonstrated. Opportunities to more openly share information around this should be actively pursued to ensure that we give everyone across society the best chance of avoiding illness or disease wherever possible.

In Conclusion

Early intervention can vary in definition, scope, timescale, target group and more importantly effectiveness. As such, no simple, single definition exists that can encapsulate its complexity. This paper has set out some of the issue around this and has highlighted that not all early interventions are indeed prudent or without harm.

There is a clear need for more open discussion and debate around early interventions at both local and national levels, with both individuals and the public. A prudent approach to early intervention should aim to enable recipients to have more active involvement in the decisions around their health care with greater dialogue, discussion and shared information.

We need to move away from the passive acceptance of early interventions towards a more prudent approach, where we continue to question whether proposed interventions are too early or indeed too late and whether they are equally accessible by all. We also need to ensure that there an aligned approach between practice, performance and outcome evaluation.

The prudent principles provide a framework that allows for greater challenge and transparency in determining the most prudent course of action consistently – in this case early intervention. It offers the basis to fully consider the different types of early interventions and for the actions to be given a balanced and considered assessment with all those involved, to best promote a prudent approach to health and well being in Wales.