

Why is it difficult to evaluate the effectiveness and cost-effectiveness of complex public health interventions in the community? A Health Economics Perspective.

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The metamorphosis of health economics has been traced as far back as the 1940s, to improve the allocation of health resources whilst mediating the struggle between efficient production and the equitable distribution of health.

This article seeks to articulate why it is difficult to evaluate the effectiveness and cost-effectiveness of complex public health interventions in communities from a health economics perspective. I will operationalise the complexities of interventions, evaluation processes, and outcomes as well as why,

despite various limitations in appraising effectiveness and cost effectiveness in health economics, continuous improvement in the field remains the way forward.

Complexity of Interventions

First, common wisdom says that public health interventions incur inflated upfront costs and only provide benefits at a later date. Perhaps tellingly, the costs emanate from extensive implementation and monitoring, whilst requiring a lengthy period of time to distinguish environmental and individual behavioural changes attributable to the intervention.¹ Myopic, impatient decision-makers who subscribe to 'living here-and-now' thinking can exacerbate these issues, yet such a short-term view is a legitimate perspective in economics.²

In order to implement interventions, researchers must convince decision-makers to mainstream

interventions on a greater scale within the community, which will reduce developmental costs through economies of scale.³ Furthermore, convincing stories need to be articulated to convince decision-makers that the delayed benefit will be worthwhile in light of pervasive evidence that investing in public health interventions ensures a more sustainable use of resources of the public sector. For instance, as the cost of depression treatment is expected to increase £1bn in the next 20 years, opting for preventive health measures such as social prescribing can be more sustainable for the health and social care purse.⁴ The neoliberal politics of austerity creates a complex environment for these discussions.

Complexity of Evaluation Processes

Second, the challenge of evaluating effectiveness and cost-effectiveness stems from the impetus to generalise complex health interventions to another

setting. The heterogeneity of the target population can hamper the achievement of this goal, however. Often, interventions are applied within a variable social setting and a one-size-fits-all approach does not guarantee Pareto-optimal resource allocations.⁵

Innovative tools such as Diffusion of Innovations Theory⁶ have been devised to support decision-makers and practitioners by determining factors such as the comparability of the interventions with the prevailing values and the communities. Here, adapting to the context of the target community is critical to successful implementation. Furthermore, researchers who publish both the details of intervention development and study outcomes may have more success in influencing policy.⁷ Similarly, if the epistemic community develops taxonomies to precipitate standardisation of a vocabulary framework of public health interventions, this may support a greater number of public health interventions.⁸ Such quality assurance mechanisms

can support greater generalisability of interventions from one setting to another through enhanced transparency in reporting.

Effectiveness and cost-effectiveness evaluation should consider broader socio-economic outcomes and inter-sectoral impacts. The conventional parameters such as the number of disease cases prevented or quality-adjusted-life-years (QALYs) do not readily incorporate outcomes beyond health.⁹ Thus confining evaluations to pecuniary values represents false economy, especially when maximising health is not the sole goal of public health interventions. Considering interventions are often funded by stakeholders outside health, particularly since the transference of public health functions into local authorities following the Health and Social Care Act 2012, it is indefensible to confine public health interventions to health outcomes.

It is important for researchers to broaden the evaluation horizon to include socio-economic outcomes, which may include improved social interactions and increased support for family members and concerned others. Additionally, the use of Social Return on Investment, which incorporates social, environmental, and economic costs and benefits, is emerging.¹⁰ Whilst the technique is still in its infancy, its capability in gauging broader socio-economic outcomes and converging views of multiple stakeholders into a single financial metric suggests its potential to transform the field.

Complexity of Outcomes

Finally, researchers often confront the efficiency and equity dilemma when evaluating public health interventions. Normative economics are concerned with maximising benefit from the available resources to achieve efficiency, following adoption of the

welfarist stance.¹¹ Proponents pursue the Paretian theoretical basis through consumer choice theory by amassing individual preference using a social welfare ordering.¹²

However, adopting a welfarist outlook within a public health context is aspirational. This view has been criticised as remote from the real-world context; Mooney and Russell charge that it “cannot cope with mixed outcomes...because its assessment is [purely] based traditionally on the individual’s utility from consumption”.¹³

Adopting extra-welfarism from the equity standpoint is perhaps more pragmatic. It takes into account, for instance, a broader public health impact such as caring externalities where utility is a joint function between oneself and others’ consumption,¹⁴ for instance, through vaccination or health education messages on sexual health.

A Confluence of Factors

This article has identified difficulties in evaluating effectiveness and cost-effectiveness of community public health interventions. Considering the upfront costs and the delayed benefits, making decision-makers realise that mainstreaming interventions, over time, will achieve greater economies of scale, whilst pointing to the existing evidence that preventive measures can improve resource management in a time of austerity, should be the way forward.

Innovative evaluation tools can be used to promote the generalisability of findings to another context, as can greater transparency in reporting and priority setting, standardising intervention terminologies, and capitalising upon the development of Social Return on Investment in assessing effectiveness and cost-effectiveness of health interventions.

It has been nearly 77 years since the health economics discipline was first developed and the

field has since undergone extensive transformation. Despite the complexities in appraising effectiveness and cost effectiveness, the field should continue to evolve. As Williams rightly comments, health economists “are not defeatist prophets of gloom and doom, obsessed with deaths and taxes, but active workers for improvement, concerned with improving the quality of people’s lives to the maximum feasible extent.”^{15(p1)}

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