



DesHCA
DESIGNING HOMES FOR
HEALTHY COGNITIVE AGEING



ECONOMIC EVALUATION FRAMEWORK

An Economic Framework for Design for Healthy Cognitive Ageing

Introduction

While there is a growing body of evidence on the effectiveness of design and adaptation to support healthy ageing in place, there is little economic evaluation of these interventions. It can be difficult to make the economic case for a design or adaptation as both the costs and benefits can be quite complicated and distributed across several people or organisations. Laying out the costs and benefits and gathering what evidence you can for each of them, can be really valuable in making good decisions about investing in design and adaptation for healthy ageing. This framework outlines the considerations in producing evidence to inform decision-making about design and adaptation from an economic perspective.

Approaches to economic evaluation

There are several different ways to conduct an economic evaluation. Which one you choose depends on the resources you have for the evaluation, and the evidence that you need to make decisions.

The gold standard is a **cost/benefit analysis**. This is where you value all the benefits in monetary terms and compare them to all the costs. This will give you the most generalised picture, good for comparing different adaptations, but it has the biggest requirement in being able to gather good measures and translate them into financial figures. **Cost utility** removes the need to value all benefits, but instead uses a standard measure of outcomes, such as Quality-Adjusted Life Years (QALY). This is attractive where valuing benefits is challenging, but it does still require good data on the standard measure to be collected. **Cost effectiveness** allows the use of any outcomes that are important and involves just reporting the cost per unit of outcome. It is much easier to calculate, but the downside is that you can't directly compare interventions where the desired outcomes are different. **Cost minimisation** is used when there are different options that achieve the same outcomes, and it is only necessary to measure the costs in order to decide between them. The lightest touch economic evaluation is a **cost-consequence analysis**. This involves measuring both costs and benefits as well as possible, and then presenting them side-by-side, but not combined into one measure. This doesn't require difficult assumptions about how to value or combine costs and benefits, but it then requires the decision maker to consider how these different attributes should be traded off against each other.

Choosing an evaluation approach, consider:

- How detailed is the existing evidence for this design or adaptation?
- What standard of evidence is required to make a decision?

- What resources and expertise are available to conduct an economic evaluation?

A cost/benefit analysis is needed for an overall evaluation of an intervention to consider whether it is worthwhile in the big picture. Cost utility, cost effectiveness or cost minimisation will often be sufficient for an organisation where outcomes are well understood and measured, and the decision is easily between different interventions, adaptations or design features to achieve those outcomes most effectively. Cost-consequence analysis will be appropriate when there are several difficult-to-measure outcomes, but a robust decision-making process that can consider broad evidence.

When conducting an economics evaluation, you must also decide on the perspective to adopt. This guides which costs and benefits should be included, recognising that different stakeholders face different incentives. The broadest perspective is that of society, where all costs and benefits are included. This might conclude that an intervention is worthwhile overall, even if it is not in the interest of all the people and organisations involved. Taking the perspective of your own organisation considers only the outcomes that contribute towards your aims and goals, and only the costs that are incurred by your organisation.

Thinking about benefits

Consider the types of benefits that might accrue from a design or adaptation, and who might receive that benefit. This table has some suggestions, but it depends on the intervention and this is not an exhaustive list.

| | Residents | Family and unpaid carers | Community | Service providers | Local authorities | Health services | Society |
|--------------------------------------|-----------|--------------------------|-----------|-------------------|-------------------|-----------------|---------|
| Quality of life | | | | | | | |
| Wellbeing | | | | | | | |
| Physical health | | | | | | | |
| Mental health | | | | | | | |
| Increased efficiency or cost savings | | | | | | | |
| Health and safety | | | | | | | |

A good first step is to layout in a table like the one above all the potential beneficiaries, and the types of benefits that might be accrued. Benefits might flow directly from the use of the design or adaptations. For example, installing adaptations that reduce trips and falls has a direct benefit for the resident who is now less likely to injure themselves. But also consider wider benefits, such as cost or efficiency savings from reduced hospitalisation if there are fewer falls.

Thinking about costs

The central cost is that of installing or incorporating the adaptation or design feature in a house. This is the direct cost, and should include purchase,

installation and any required maintenance of the item. Also consider any staff costs that might be required in supporting use of the adaptation or features. There may be indirect costs, from changes in practice, procedures, staffing or other elements as a result of adopting the new feature and these should be considered and included as well. Finally, there may be intangible costs of an intervention (e.g. stigma associated with having visible adaptations in ones house) that should be considered, although these can be difficult to measure and value.

| Cost type | Cost detail |
|------------------|---|
| Direct costs | Design or adaptation costs on-site <ul style="list-style-type: none"> • Purchase • Installation • Staff time • Consumables • Maintenance |
| Indirect costs | Wider additional costs incurred, including: <ul style="list-style-type: none"> • changes in staffing • changes to the use of space, or overhead costs, as a result of the intervention. |
| Intangible costs | Inconvenience to residents, family, carers or staff as a result of the design or adaptation. |

Consider the costs over the timeframe of the evaluation, which might be driven by the operational life of the adaptation or design feature. If the timeframe being considered is several years, then remember to appropriately [discount costs](#)¹ that occur in the future.

Make a list of the cost items, and who the costs accrue to. You will then need to decide which costs to include in your evaluation. This will be driven by the perspective from which you are evaluating, as well as practical considerations for data collection. Include as many as you can, but you also need to be realistic about what can be feasibly measured. Note any important costs that you have not been able to include, as these will be important context for understanding your final reported estimates.

It can also be helpful to use a logic model to organise the costs and benefits, and consider who is responsible for them. Attached is an example logic model for housing for healthy cognitive ageing.

Discussion

One of the challenges in both evaluation and implementing interventions in health, social care and housing is that there is a complex institutional ecosystem within which the costs and benefits sit. It may often be the case that the costs accrue to one party, while the benefits accrue to another. There is not always an easy way to take account of this unequal distribution of costs and benefits. For

¹ <https://www.york.ac.uk/che/pdf/tp19.pdf>

example, an adaptation that reduces trips and falls may be installed at the cost to the home owner, local authority or housing provider. But a significant benefit of the adaptation may be in avoided health service use, which benefits health providers. Without a mechanism to allow health providers to share the cost savings with the body paying for the adaptations, fewer adaptations are likely to be installed than would be optimal for society.

This is not an easy problem to fix. But it is worth trying to identify the wider benefits of an intervention that is being considered, as that could play a role in the decision-making process even if there is not a formal mechanism for cost sharing. There may also be opportunities for collaboration with other organisations, or access to funding sources, that can help to spread the costs and share benefits to achieve the best outcomes.

Economic evaluations are challenging. But good evidence will lead to better decision-making and investment. And while a full cost-benefit analysis will not always be feasible or reasonable, it is worth considering how evidence can be collected in a proportionate manner using the approach and principles described above.

Resources

You don't need to start from scratch. You can find out about the sorts of benefits from good design for healthy ageing on the [DesHCA website](#).² The Personal Social Services Research Unit (PSSRU) produce lots of data on [costs of health and social care](#) services³ to use in estimating costs and benefits. If you are considering a more sophisticated cost-benefit or cost effectiveness evaluation then you can draw on [guidance from the UK Government](#)⁴ or health economics resources from organisations such as the [York Health Economics Consortium](#).⁵

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² <https://www.deshca.co.uk/resources/>

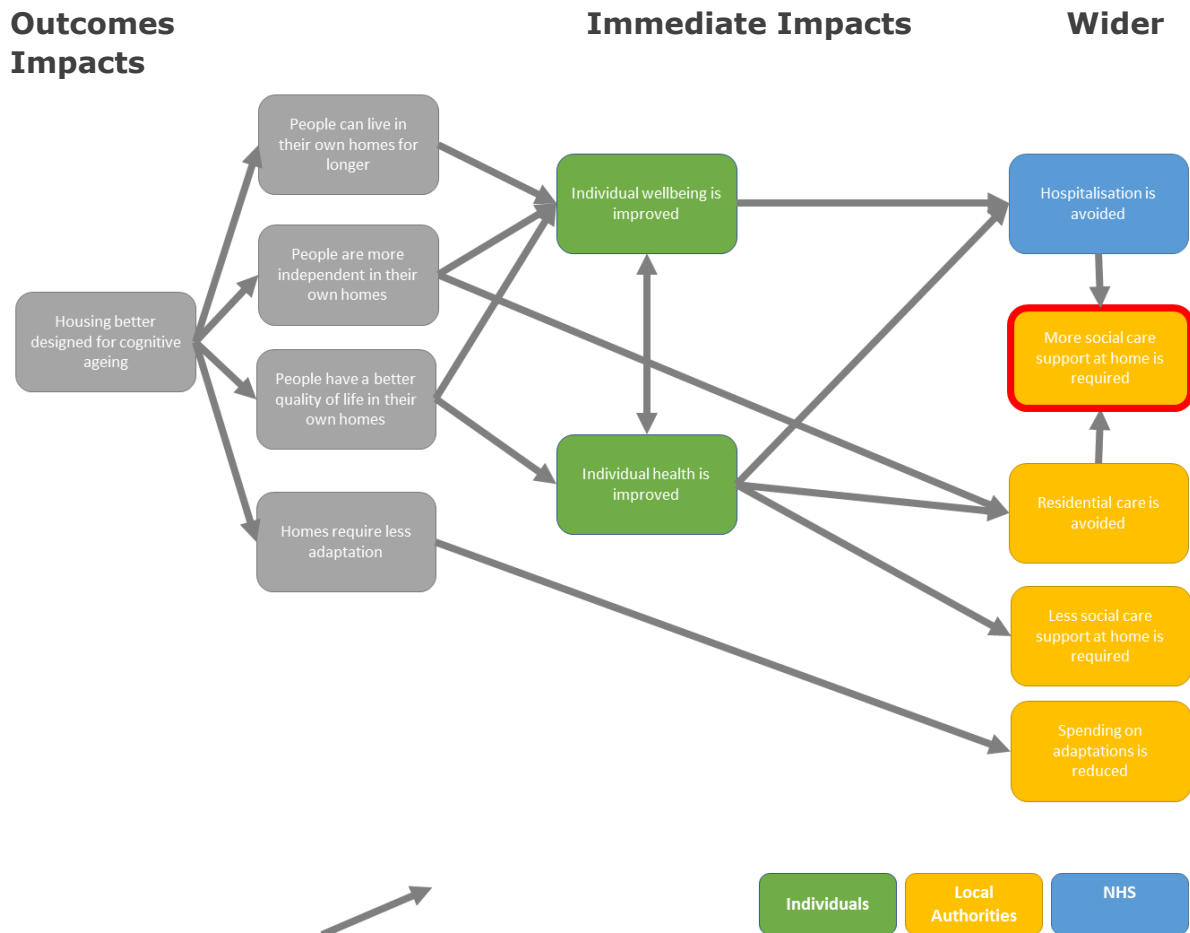
³ <https://www.pssru.ac.uk/unitcostsreport/>

⁴ <https://www.gov.uk/guidance/economic-evaluation-health-economic-studies>

⁵ <https://yhec.co.uk/resources/>

Appendix One: Example Logic Model

A logic model organises the activities and outcomes of an intervention. The example logic model below shows some of the potential benefits of developing housing to support healthy cognitive ageing. It identifies a range of outcomes, and considers who receives the benefit of these outcomes.



This example provides a starting point for outcomes and impacts. You should add the inputs, outputs and activities for the specific development or adaptation that you are considering to identify costs, and also add any additional outcomes or impacts to identify benefits.