Public Health England

Protecting and improving the nation's health

Place-based approaches to reducing health inequalities

Evaluation toolkit for local areas

Contents

Introduction

This document is intended for local areas that are utilising place-based approaches to reducing health inequalities (PBA) and provides a toolkit to support areas to evaluate their interventions. In November 2019, Public Health England (PHE) piloted workshops to introduce PBA and commissioned the University of Manchester to conduct an evaluation of the workshops and the universal offer available through the PHE website. As part of this evaluation, the University of Manchester has developed a set of tools which local areas could draw on in order to address the success of PBA in their own context. The tools provided below are based on our realist evaluation and can be adapted to meet local need.

The full realist evaluation carried out by the University of Manchester can be found on the PHE webpage Health inequalities: place-based approaches to reduce inequalities.

Evaluation is a vital part of any implementation, to assess a programme's level of success and whether it has met the desired outcomes. In the context of PBA, the learning from an evaluation may inform whether the programme receives further funding and resources, whether improvements can be made for future iterations, and the extent to which it may be incorporated into organisational policy. It is also important to ensure that no harm was done by the intervention, and that the benefits were felt equally across the target population.

Stakeholders will have different ideas of what they want the evaluation and the programme to achieve, and we recommend that all stakeholders are brought together at an early stage of the process to agree how success will be measured, and the scope of the evaluation. Given the PBA focus on bringing civic, service and community sectors together, ideally this should also be replicated in the evaluation process.

Evaluation should be considered from the outset, to allow for the collection of baseline data, and the establishment of appropriate data collection and monitoring processes. Reducing health inequalities is a complex field, and we would expect that some desired outcomes such as a reduction in the gap in life expectancy for a particular area may not be apparent for several years. Recognising this complexity, but also the need for shorter and intermediate term indicators to aid decision-making, we have provided suggestions of evaluation tools which can be applied at various stages and incorporate levels of complexity across the life of the intervention.

How to use this toolkit

As PBA is a multifaceted approach to a very complex issue, forms of evaluation which take a simple output-based approach, may not uncover the true successes and differences made by using PBA. It may, therefore, be beneficial to consider a basket of evaluation techniques. This toolkit is structured around 3 areas of evaluation, outlined in the following sections:

1. Intermediate outcomes – As part of our evaluation of the PBA approach, we developed a programme theory based on our findings and the existing relevant literature. The most important elements of this programme theory were condensed into a set of indicators which can be used to track progress over time. You can find out more about this below: Success indicators for intermediate outcomes.
2. Long-term outcomes – Data on health inequalities over time for long term outcomes. PHE has already developed a range of tools which can be used to collate and analyse data on health inequalities, which can be used to look at the longer-term impacts of a PBA programme. You can find out more about these below: Health inequalities data for long term outcomes.
3. Addressing complexity – recognising the complex nature of a PBA approach, it is important to consider the different outcomes that might be observed when a programme is attempted in different contexts or with different populations. We need to establish which aspects of the intervention have worked, in what circumstances, and for whom. We recommend a realist approach to try and answer these questions. In a later section we provide a summary of realist evaluation and how to use it as an evaluation framework for PBA.

Local areas may choose to cover all aspects of the evaluation outlined here or decide on the approach most relevant for their local context. The tools provided here can also be combined with any existing evaluation strategy used within organisations or local areas. Further details on the background theory and the links to our original evaluation can be found in the appendices.

Success indicators for intermediate outcomes

Ten success indicators for PBA were identified from the programme theory, and are presented here in the form of questions in a Visual Analogue Scale (VAS) – a simple to use tool allowing for quantifiable measurement of characteristics that lie along a continuum and are otherwise difficult to measure (1). This allows local perspectives to be captured and placed into a quantifiable framework for measurement.

The VAS questions require participants to assign a score of between 0 and 10 to each question about their area, where 0 is the worst and 10 is the best. These questions have been aligned to the framework developed with PHE and are based on existing literature and evidence generated during the evaluation. Please refer to the full Visual Analogue Scale document on the webpage Health inequalities: place-based approaches to reduce inequalities, which contains further details about the rationale behind the question, and what kinds of things participants might consider in their responses. It may be useful to refer to the VAS whilst reading this section.

These questions are designed to be asked of a range of stakeholders involved in the PBA process, who have been identified during the initial evaluation planning process. At a minimum, measures should be taken at the start and end of the programme, but we would recommend monitoring progress at regular intervals through the programme for an ongoing and interactive evaluation. It may be possible to map significant changes in the indicator outcomes with pivotal events in the implementation of the programme.

VAS questions are:

1. How would you rank the current priority of tackling health inequalities in your area?
2. To what extent has PBA become a standard way of working?
3. How cooperatively do different organisations work together in your area to meet the needs of your population?
4. How do you rate the availability of resources made available to tackle health inequalities?
5. How integrated are services to address health inequalities in your area?
6. How confident is your workforce in tackling health inequalities using PBA?
7. How confident is your community in tackling health inequalities using PBA?
8. To what extent has the community been involved in strategic decision-making?
9. How well are services planned and co-produced in the area with community members?
10. How well is the community involved in service delivery?

Some areas may find it useful to use the stretch question below.

Stretch question: How flexible are systems to be able to meet changing needs of the community?

Analysis of these indicators track changes in stakeholder perceptions across the lifetime of the programme, indicating the level of success that has been achieved.

Health inequalities data for long term outcomes

Over the long-term, local areas will hope to see a reduction in health inequalities as a measurable outcome. There are a number of existing tools which have been produced by PHE to support local areas with this analysis. We recommend that these are utilised by local areas when looking at the long-term impact of a PBA approach.

PHE has produced a useful document, A guide to using national and local data to address health inequalities (3). The document offers guidance on how to navigate several national tools and datasets such as the PHE Health Inequalities Dashboard which displays trends in health inequalities in England, and the PHE Wider Determinants of Health Tool, which describes the wider determinants of health at a variety of levels.

These can be utilised alongside more localised data in Joint Strategic Health Needs Assessments and other data sources that aim to address health inequalities. In addition to these, it would be beneficial to interrogate local data sources such as service and contractual monitoring and ad hoc data sources for local experts and providers, to enable full review and support plans to address health inequalities.

Check with your local authority research or intelligence team to see what data is available.

Realist evaluation

PBA is a complex and multifaceted intervention, used in this case to address a very complex issue. In order to gain a full understanding of the impact of an intervention, it is necessary to move beyond looking at quantifiable outcomes from datasets, and to incorporate the wider contextual factors which will impact on how well the programme works, and how this might change in different populations or settings. Realist evaluation is a methodology which is useful for evaluating complex interventions such as PBA, below we outline how it might be utilised for this task.

Realist evaluation was developed by Pawson and Tilly (2) and is often used for policy related interventions. Underpinned by the philosophical concept of realism, it assumes that an intervention will work differently and have different outcomes for different people and in different contexts. A realist evaluation asks: 'What works, for whom and in what circumstances?'. It is therefore a useful tool to evaluate whole-systems or community-based public health interventions, where circumstances may vary between different settings and implementation of the same intervention may lead to very different outcomes.

PHE has produced a short introduction to realist evaluation, which provides more background on the theory behind the method. Here we will draw on this document and our own experience with the method to outline the basic steps involved in performing a realist evaluation on a complex intervention such as PBA.

Components of a realist evaluation

Interventions have a 'programme theory', that is, a theory about how the programme leads to particular outcomes. In a realist evaluation, this theory is tested and refined by looking at how the programme works in different settings.

To help break down complexities, different elements are identified as Contexts, Mechanisms and Outcomes (CMOs), categorised as follows:

1. Contexts, for example, economic, geographic, historical, social and political settings and circumstances, cultural values and experiences of participants.
2. Mechanisms – entities, processes, or structures that cause an outcome to happen in the particular context.
3. Outcomes – there may be several different types of outcome from a programme, and these may be intended, unintended, short or long term, and some may hold more importance to certain stakeholders than others.

Combinations of contexts and mechanisms will lead to different outcomes. During the evaluation, the different context and mechanism combinations are mapped to produce CMO matrices. In a complex intervention, there may be many possible combinations leading to different intended and unintended outcomes.

Types of evidence

There is no pre-determined data collection method in realist evaluation. All useful sources of information could be incorporated into the process. However, as the approach focuses on identifying how the programme was expected to work, and how it worked in practice, qualitative data from interviews or focus groups is often incorporated.

Policy documents, plans, observations from meetings, reports, and so on, may also be useful sources of information.

Since we are testing how a theory works in a particular context there is no need for a control site. Often a case study approach is taken, allowing for a range of contexts to be investigated.

Stages of a realist evaluation

The following steps draw on the University of Manchester Evaluation Team's previous experience with complex evaluations and offers one systematic way to approach realist evaluation.

1. Set aims of the evaluation – as with all evaluations, it is important to determine what the commissioners of the evaluation want to know. This should be determined through dialogue with relevant stakeholders at the start of the process.

2. Identify the programme theory (CMO1) – The first CMO matrix to be built identifies the programme theory, that is, how the programme is expected to work. This will outline the intervention itself and the expectations of the outcomes of the intervention. It can be developed from a variety of sources including documentary evidence from the decision-making processes around the choice of intervention and planning, specification documents and interviews with those involved in this process.

   Possible questions to ask may include:

   What is the intervention?
   Who is the target population of the intervention?
   Why was this intervention chosen?
   Who made the decisions and how did they come to those decisions?
   What are the expected outcomes?

   The information gathered in this process is then configured into a CMO matrix. This is a set of hypotheses linking context, mechanisms and outcomes. Several linked hypotheses may be generated. These can be mapped on a chart, with each row showing one CMO configuration. An example of this is provided below. The development of a CMO matrix can be complex, and it is usually achieved through a process of discussion and refinement by the evaluation team. Validation from stakeholders may also be appropriate.

3. Identify the evidence for the programme theory (CMO2) – in the next stage, a literature review is performed, identifying evidence for outcomes that might be observed from the programme, the mechanisms that have led to similar outcomes, or
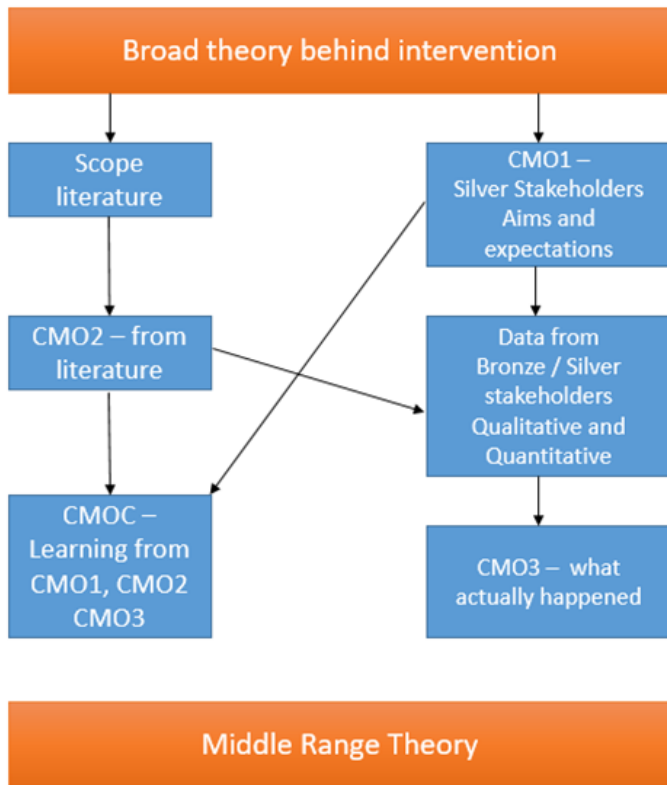
where different outcomes have been generated in similar interventions. The information from this search is configured as above in a second CMO matrix.

4. Identify actual programme outcomes (CMO3) – at an appropriate stage in the programme, a realist evaluation will aim to gather information about the actual outcomes from the intervention. Again, a range of data sources can be used and at this stage, it is likely that information from participants or intended beneficiaries from the intervention will also be sought. CMO1 and CMO2 are then reconfigured to produce a third CMO matrix.

5. Produce an overall Context-Mechanism-Outcome Configuration (CMOC) – Actual outcomes from CMO3 and attributed to the intervention are disaggregated to account for the different contexts in which they took place, and a set of statements can be produced which describe the CMO relationship, for example:

   a. in context A, mechanism C generated outcomes X and Y
   b. in context B, mechanism D generated outcome Z

   The CMOC can be used to inform further iterations or make improvements to programme or intervention.

6. Middle Range Theory – The above process can be repeated as the programme is rolled out in different settings, or as more information becomes available. In a complex intervention, several CMOCs may be produced as part of the evaluation. These can be bought together in a similar way to that described above and as common patterns begin to emerge or improvements are made, elements which are transferrable may become apparent and it will be possible to produce a conceptual framework, or Middle Range Theory, as to how the programme or intervention works in practice across a range of settings.

7. Reporting the results – results should be validated with stakeholders. A final report will incorporate the initial programme theory and CMO hypotheses and the data collected. The disaggregated outcomes for the different groups should be presented, along with the evidence on the different context and mechanisms, to explain how and why the differential outcomes exist. Finally, a refined programme theory should be presented, along with its policy and practice implications, linking back directly to the purposes for which the evaluation is being used.

Figure 1: The realist approach summarised

Broad theory behind intervention

Scope literature

CMO2 – from literature

CMOC – Learning from CMO1, CMO2 CMO3

CMO1 – Silver Stakeholders Aims and expectations

Data from Bronze / Silver stakeholders Qualitative and Quantitative

CMO3 – what actually happened

Middle Range Theory

What actually happened? Why did it happen? What was the context in which it happened? Would this happen again in a different context? Was the outcome attributable to the intervention?

CONTEXT – What conditions are in place that produce the outcomes?

MECHANISM – What was it that led to the outcome in this particular context?

OUTCOME – What actually happened in this particular context through these causal mechanism?

Worked example

The following hypothetical example follows these processes step-by-step.

CMO1

Table 1 shows a hypothetical and simplified example of a local campaign aimed at reducing smoking within a community through the removal of outdoor heaters from the beer garden of the local pub. In this example, CM01 shows what the community leaders implementing the campaign might have expected to happen because of the removal of heaters. As this is a small community with only one local pub (context), they anticipated that the removal of the warm place for people to smoke whilst in the pub (mechanism) would result in a fall in the number of smokers (outcome). They also thought that because the area had a high level of poverty (context), combined with the fact there is no longer a warm place to smoke in the pub (mechanism) would result in a decline in local cigarette sales (outcome).

Table 1: An example of an initial CMO1 following interviews with local community leaders

Context	Mechanism	Expected outcome (stakeholders)
Community with one local pub	Lack of warm space for people to smoke	Fall in number of smokers
High levels of poverty in the area	Lack of warm space for people to smoke	Sales of cigarettes locally go down

CMO2

In this hypothetical scenario, Table 2 demonstrates the CMO2 matrix, devised by the evaluation team following a review of available literature. The CMO2 investigates whether the results that are expected in CMO1 have occurred in other examples, as well as investigating what other outcomes were recorded in similar interventions and contexts. In this hypothetical example, the literature confirmed that we would expect to see a fall in the number of smokers as expected in CMO1 but unlike CMO1, it found that there was no change in the local sales of cigarettes. As well as those contexts identified in CMO1, the literature found an additional context, that in winter, although the same mechanism of a lack of warm space for people to smoke occurs, there is a negative outcome of an increase in the number of people reporting cold and flu symptoms.

Table 2: A possible example of a CMO2 following literature review

Context	Mechanism	Expected outcome (literature)
Similar community with one local pub	Lack of warm space for people to smoke	Fall in number of smokers
Similar community with high level of deprivation	Lack of warm space for people to smoke	No changes in local sales of cigarettes
Winter time	Lack of warm space for people to smoke	Increase in number of people reporting cold, flu symptoms

CMO3

Table 3 demonstrates a CMO3 matrix, which identifies the actual outcomes that were observed in the hypothetical intervention. In this scenario, the outcomes identified in CMO1 and CMO2 of a fall in number of smokers were observed. However, upon further investigation (interviews with local residents), it was found that a local community leader died from lung cancer whilst the intervention was taking place which shocked some of the smokers into giving up. CMO3 also identified that, as in CMO1, sales of cigarettes locally went down. However, upon further investigation it was found that the intervention

coincided with an increase in the price of cigarettes. Both of these outcomes occurred as anticipated in CMO1, CMO2 or both, but upon further investigation, we were not able to attribute these outcomes to the intervention.

CMO3 also shows that as expected in CMO2, there was an increase in the number of people reporting cold of flu symptoms. Upon further investigation, there was an added context and mechanism where the high levels of poverty (context) and the inability to afford extra layers of clothing (mechanism) also caused the outcome, but this outcome was still attributed to the intervention as during the focus groups and interviews, people indicated that the cold or flu symptoms were from them using the smoking area without the heater.

CMO3 also shows an observed outcome that wasn't identified in either CMO1 or CMO2, in that there was a reduction in revenue for the local pub. Upon further investigation, it was observed that this scenario occurred as a result of the intervention because people no longer frequented the pub as they didn't want to go outside to smoke (mechanism) and it was the only pub in the area (context).

Table 3: A hypothetical example of a CMO3 analysis of the data collected through focus groups and questions

Context	Mechanism	Actual observed outcome
Community with one local pub	Lack of warm space for people to smoke	Fall in number of smokers
Community leader dies of lung cancer	Psychological effects of unexpected death of local character	
High levels of poverty in the area	Lack of warm space for people to smoke	Sales of cigarettes locally go down
High levels of poverty in the area	Price of cigarettes increases	
Winter time	Lack of warm space for people to smoke	Increase in number of people reporting cold, flu symptoms
Winter time and high level of poverty in the area	People unable to afford extra clothing layers	
Community with one local pub	People don't go to pub because they don't want to go outside to smoke	Reduction in revenue for local pub

CMOC

In the CMO3, we have categorised the various CMOs into whether they can be attributed to the intervention or not. From the analysis, only the outcomes 'Increase in number of people reporting cold, flu symptoms' and 'Reduction in revenue for local pub' have been found to be directly linked to the intervention. As a result, these will form our CMOC (below).

Table 4: CMOC for example of intervention to reduce smoking in community by removing heater from local pub

Context	Mechanism	Actual observed outcome
Winter time and high level of poverty in the area	Lack of warm space for people to smoke and the inability of people to afford extra clothing layers	Increase in number of people reporting cold, flu symptoms
Community with one local pub	People don't go to pub because they don't want to go outside to smoke	Reduction in revenue for local pub

The hypothetical CMOC is developed only from observed outcomes that further investigation links to the actual intervention. There may be several context and mechanisms that explain the causal pathway. Those observed outcomes in CMO3 that were unable to be directly linked to the intervention may be investigated further with a view to them being added to the CMOC. In the above example, the fall in the number of smokers may have been a result of the death, but as the intervention is ongoing, an investigation later might find that there is a link between the outcome and the intervention. On the other hand, as the changing price of cigarettes is beyond the scope of the programme, it may not be worthwhile to investigate whether the sales of cigarettes can be attributed to the intervention any further. The decision as to whether to investigate further will be made through stakeholder engagement.

These results will be fed back to stakeholders to inform further iterations or improvements to programmes.

Using realist evaluation for PBA

Using a realist evaluation for PBA will likely be more complex than the above example, and elements will vary considerably depending on the local context, but a similar step by step approach can be applied, allowing for a deeper understanding of what works, for whom and in what circumstances.

Conclusion

The toolkit above provides resources that local areas can draw on in their evaluation of using a PBA approach to reducing health inequalities. It is not intended to be exhaustive, and can be combined with specific organisational approaches to evaluation, or methods suited to the local context, but the above tools provide a useful starting point for the evaluation of the Place-Based Approach at different stages of the process, and at different levels of complexity.

The results of the evaluation will provide valuable information for the local area moving forward and may also inform other areas wishing to explore a similar approach. We therefore recommend that the findings from the evaluation be disseminated widely. This will allow successes to be built upon, and key learning points can be drawn from interventions that have been more challenging.

Local areas may also want to refer to the case studies published by PHE from areas which have successfully incorporated a PBA approach, and we would recommend that case studies are generated alongside their evaluation for wider dissemination.

PHE Knowledge and Library Services – Place-based approaches to reduce health inequalities.

References

1. Gould, D. (2001). Visual analogue scale (VAS). Journal of Clinical Nursing, 10, 697–706
2. Pawson, R., & Tilley, N. (1997). Realistic evaluation. SAGE Publications
3. Public Health England. (2019). A guide to using local and national data to address health inequalities (viewed on January 11, 2021)

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Published July 2021
PHE gateway number: GOV-8343

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