



North of England  
Commissioning Support

## Logic Models – A Practical Guide



**January 2016**

Partners in improving local health

# Logic Models– Aide Memoire

## Introduction

This document has been prepared to assist in the compilation of logic models. It is intended to provide some background on the theory of logic models and practical help in preparing logic models.

## General comments

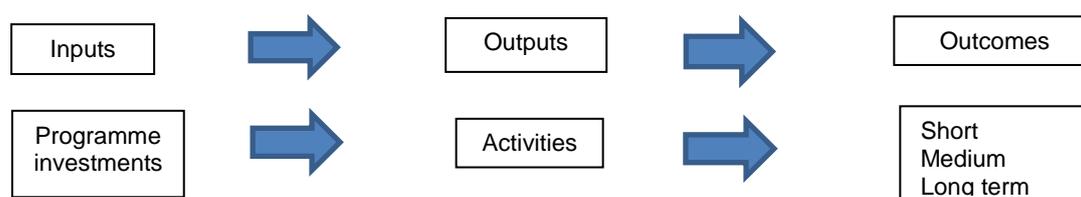
A logic model is a roadmap or simplified picture that displays connections between resources, activities and outcomes within the programme/plan. They are graphic representations of programmes showing the intended relationships between investments and results. They are also based around evaluation. It is intended they assist as a model of change.

*"A theory of change is a description of how and why a set of activities-be they part of a highly focused programme or a comprehensive initiative-are expected to lead to early, intermediate and longer term outcomes over a specified period."* (Anderson, 2000)

A basic logic model in its simplest form:



This can be expanded as follows:



1. The summary logic model is described in fig 1.
2. Outcomes answer the “so what?” question. Usually they are short, medium and long term, relate to learning/action/conditions and are measurable
3. A key question is what is the situation or problem(s) you are trying to solve.
4. Setting of priorities assists in focussing on desired outcomes to ensure activities are relevant to the problem(s) and impacts.
5. A logic model is just a model. It is a representation of the key issues needing to be resolved, their potential impacts and intent. Logic models help make our assumptions explicit.

Logic models do not include all aspects of the programme. They are not intended as operational plans.

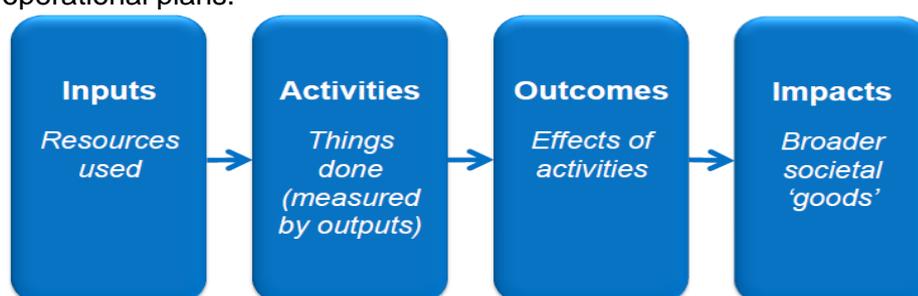
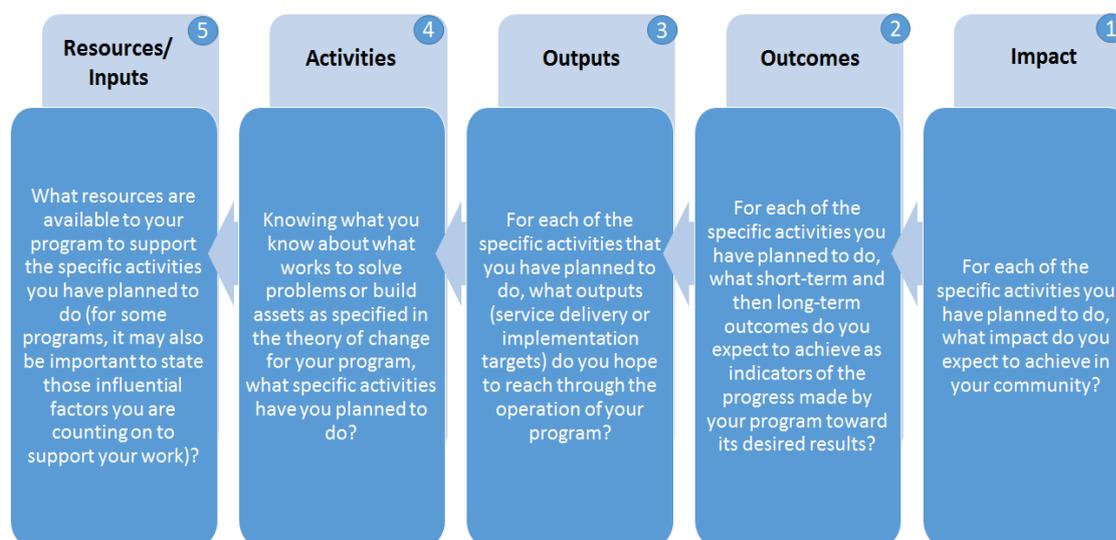


Fig 1

## Why should you use the logic model? How will it help you?

- Brings detail to broad goals; helps in planning, evaluation, implementation, and communications
- Helps to identify gaps in our programme logic and clarifies assumptions so success may be more likely
- Builds understanding and promotes consensus about what the programme is and how it will work--builds buy-in and teamwork.
- Makes underlying beliefs explicit.
- Helps to clarify what is appropriate to evaluate, and when, so that evaluation resources are used wisely.
- Summarizes complex programmes to communicate with stakeholders, funders, audiences.
- Enables effective competition for resources.

The most effective way to develop a logic model is to work backwards and start with identification of the long-term impacts (fig 2).



Source: <https://www.wkcf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>

Fig 2

## Definitions of logic model terminology

**Impact** - the social, economic, civic and/or environmental consequences of the programme. Impacts tend to be longer-term and so may be equated with goals. Impacts may be positive, negative, and/or neutral, intended or unintended.

- Improved health outcomes
- Improved patient experience

## Questions about impact once the programme has concluded

- What difference does the programme make?
- Who benefits and how?
- What learning, action, and/or conditions have changed/improved as a result of the programme?
- At what cost?
- Did we accomplish what we promised? What didn't we accomplish?
- What, if any, are unintended or negative consequences?
- What did we learn?
- What is the net impact?

Outcomes - the reason for undertaking the activity and what is achieved when the output is complete. This includes the results or changes from the programme such as changes in knowledge, awareness, skills, opinions, aspirations, behaviour, practice, decision-making, social action or status. Outcomes may be intended and/or unintended: positive and negative. Outcomes fall along a continuum from immediate (initial; short-term) to intermediate (medium-term) to final outcomes (long-term). They are measured through either quantitative or qualitative information.

- Outcomes short term: better connection between services, best practice shared across health economy, reduction in waste in duplication of effort to resolve x across health economy
- Outcome medium term: reduction in cases sent outside NCM sites by x%. Increase in activity undertaken through joint working (measured by cases transferred between organisations). Reduction in complaints from patients due to service delay
- Outcome long term: financial impact of the delivery against the roadmap or similar to medium term outcomes but with a greater % achievement

Outcomes often fall along a continuum from shorter- to longer-term results. This continuum is called a "chain of outcomes" (United Way of America, 1996) and the concept - a series of outcomes that are connected - is fundamental to a logic model.

As you identify your outcomes, think about:

- What might result other than what is intended?
- How else might the programme unfold?
- Who might be affected, unintentionally and/or negatively?
- How might the external environment have unintended influences?

Outputs - what will be achieved by the activities listed the activities, events products, people reached and participation generated through the investment of resources. Outputs include such elements as workshops, conferences, counselling, products produced and the individuals, clients, groups, families, and organizations targeted to be reached by the activities. Outputs can lead to different outcomes.

- Output: a complete road map for meeting national standards or a complete strategy for services in the future signed up by all parties

Activities – the tasks or actions undertaken which will produce an output and can produce more than one.

- Activity: undertake gap analysis or review of current services

Inputs - resources that go into a programme including staff time, materials, money, equipment, facilities, volunteer time and influencing factors such as policies or other programmes of activity.

- Input: some national policy or statement about the fit for purpose state of women and childrens services

### Outputs v outcomes

Try not to confuse outcomes with outputs. Outputs are the activities we do or accomplish that help achieve outcomes. Outcomes are the results of those activities for individuals, families, groups, or communities. These are described in the following examples:

| Outputs   | Outcomes   |
|---|--|
| The programme trains and empowers community volunteers.                       | Community volunteers have knowledge and skill to work effectively with at-risk youth.          |
| Programme staff teach financial management skills to low-income families.     | Low-income families are better able to manage their resources.                                 |
| The camp experience provides leadership development opportunities for youths. | Campers, aged 12-15 years of age, learn new leadership and communication skills while at camp. |

Logic models can be designed in various formats. An example of a format is shown in fig 3

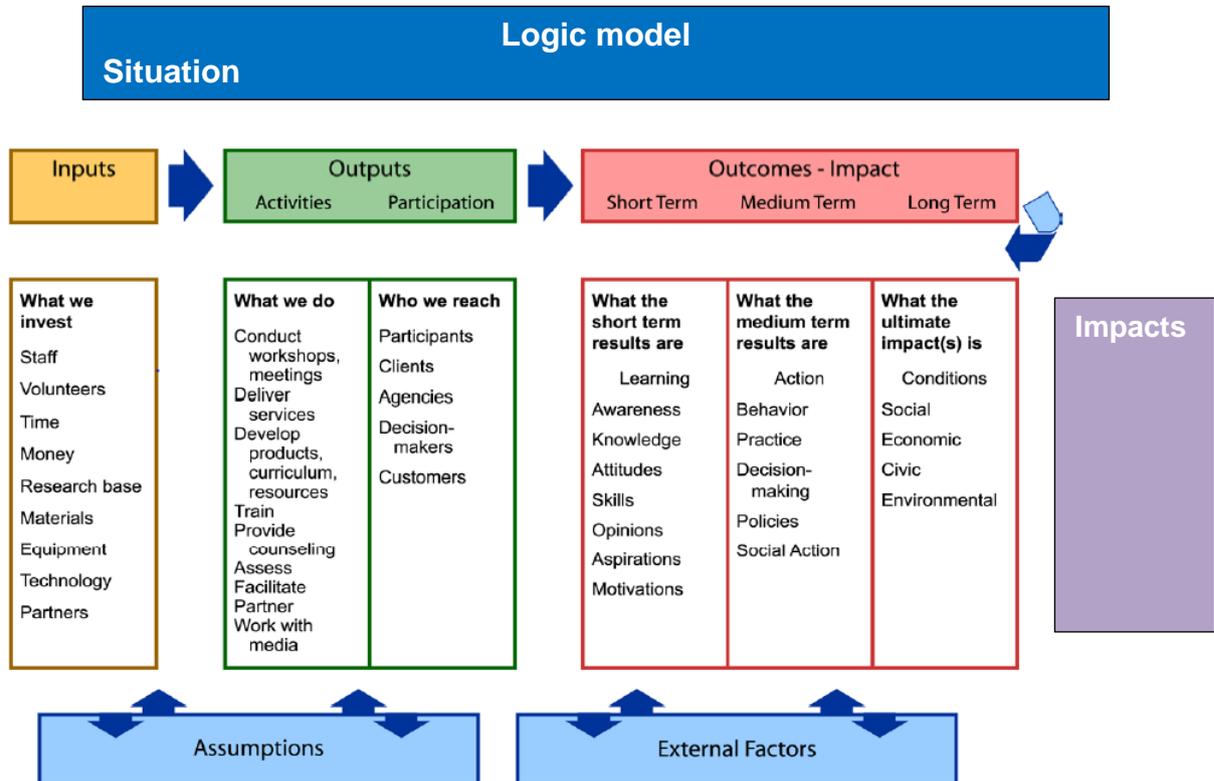


Fig 3

**Situation** - the originating problem, or issue, set within a complex of socio-political, environmental and economic circumstances. The situation is the beginning point of logic model development.

**Assumptions** – these include the beliefs you have about: the programme, the people involved, and how you think the programme will work. Assumptions include your ideas about the problem or situation; the way the programme will operate; what the programme expects to achieve; how the participants learn and behave, their motivations, etc.; the resources and staff; the external environment; the knowledge base; and the internal environment. Faulty assumptions are often the reason for poor results.

**External factors** - aspects external to the programme that influence the way the programme operates, and are influenced by the programme. Dynamic systems interactions include the cultural milieu, biophysical environment, economic structure, housing patterns, demographic makeup, family circumstances, values, political environment, background and experiences of participants, media, policies and priorities, etc. Elements that affect the programme over which there is little control.

When completing your logic model it should be borne in mind that it is not the answer in itself, as it remains only a model. It is a process that encourages an understanding of the issues being faced and the various contextual aspects being experienced and a logic model

is intended as a road map from problem to solution. It does help you articulate assumed causal linkages. It does help build consensus in discussion with stakeholders about what the programme is trying to accomplish. It also helps identify what and when to evaluate.

Secondly, the logic model focuses on expected outcomes. However, there will be unexpected or unintended outcomes that often occur; either positive, negative or neutral. Wherever possible you need to think about alternative pathways of change; alternative outcomes that may occur; and be observant for unintended and unexpected outcomes.

The third limitation that needs to be mentioned is the challenge of causal attribution. A logic model depicts assumed causal connections and associations; the reasoning behind a programme; not direct cause and effect relationships. The emphasis is on "reasonable, not definitive conclusions or absolute proof" (Michael Patton, Utilization-Focused Evaluation, 1997:217). Some people may find this uncomfortable. What actually is attributed to an effect will vary. There are likely to be many factors that influence observed outcomes.

There are various ways to produce logic models. These are described below:

### **Approach 1 - work backwards**

Start at the end by identifying the long-term outcome(s) of interest. This often results from a visioning or strategic planning process. Then, work backwards across the model and ask:

1. What preconditions in the medium term must be met for the long-term outcome(s) to be achieved? You can also phrase the question, "What needs to exist as a precursor for the long-term outcome(s) to be achieved?"
2. Moving backwards ask what preconditions in the short term must be met in order to reach the medium-term outcomes? (These are your short-term outcomes.)
3. Who must be involved, reached, targeted, and/or a participant for the short-term outcomes to be achieved? Be specific about "who" (age, gender, defining characteristics).
4. What activities, products, events must be undertaken so that those specific individuals (or groups) will achieve the desired outcomes?
5. Think about: How can these people be reached/engaged? How do they best learn? Cluster activities into strategies (activities that fit together conceptually) such as training, media work, coalition development, etc.
6. What resources are needed to conduct these activities, to reach those people, to effect those outcomes?
7. What assumptions have you made about...? What does research, experience, wisdom tell us?
8. What external factors outside our control may affect our theory of action?

### **Approach 2 - focus on activities**

1. Programme staff and stakeholders are often most comfortable talking about what they do in the programme or intend to do...the programme activities. Write down all activities involved in (or planned for) the programme – workshops, services, products, etc.
2. For each activity, complete one of the following statements, continue repeating and completing the statement until you reach a logical end point.
3. "We do \_\_\_\_\_, SO THAT \_\_\_\_\_ will occur."
4. "IF we do \_\_\_\_\_, THEN \_\_\_\_\_ will occur."
5. You can also use the question "But, why?" For example: **But, why** do I advertise the workshop? Answer: so that people will attend. **But, why?** Answer: So that people will increase their knowledge about...etc.
6. Continue until a chain of connections is created that links programme activities to desired end results.
7. List the resources needed to ensure the chain of connections is achieved.
8. List all assumptions.
9. List the external factors that may impede your expected theory of action.



It is the linkages, not just what is labelled as input, output, or outcome, that give the model its validity. Drawing the connections is often messy and time-consuming, but necessary. It is what helps you make sure you have addressed all the logical connections. Sometimes you simplify and only include the primary linkages; otherwise, the logic model may become too difficult to read.

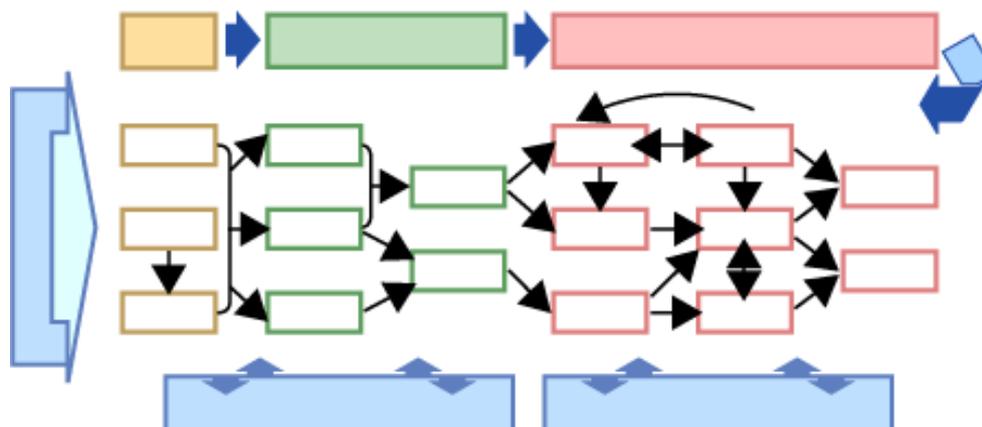


Fig 5

Logic models are not just about inputs, outputs and outcomes that get placed in their respective columns, rows or boxes. The power of logic models in planning, implementation and evaluation is how the input, outputs, and outcomes fit together, connect, and relate in order to achieve desired end results.

### Multiple logic models

#### Multi-level management system

Multiple logic models may be needed to clarify various levels, issues or goals of a single management system. A national initiative, for example, might include the national (most macro) level, the state level, and the community level. Each level is depicted with a logic model in a series of hierarchically linked models. The level of detail may become more specific as the focus narrows.

These "nested" logic models (Wauchope, 2001; Hernandez, 2000) depict the hierarchy of various levels and how they connect within a single system. Each logic model is built with reference to the level above (or below) and in relation to the organization's or programme's overall mission (fig 6 refers).

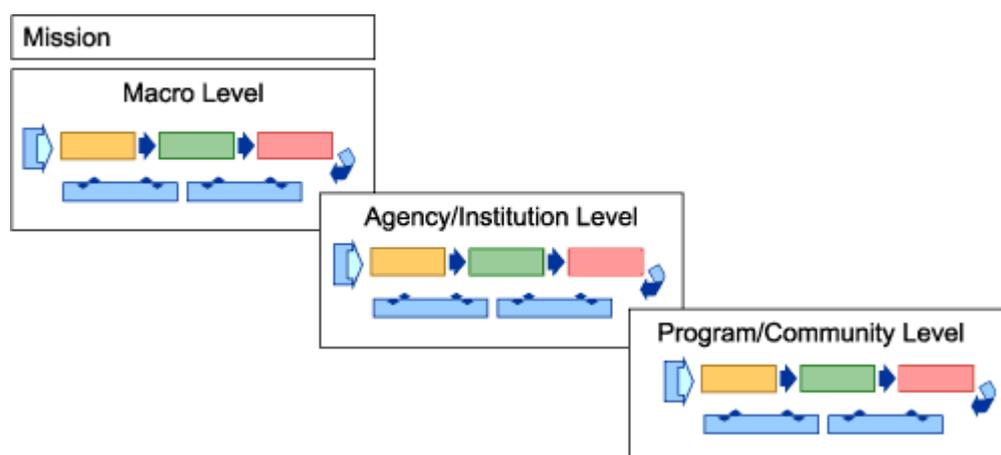


Fig 6

#### Multi-component initiative

In a complex, multifaceted initiative several models might depict the various programmatic components, goals, sites, or target populations. Each of these "sub logic models" and its expected outcomes links to the overall logic model to ensure that programmatic outcomes are achieved. For example, for a community-wide nutrition education programme, there may

be one "programme" logic model that provides the "big picture" of the total programme and then separate, sub logic models for the specific workstreams, projects, components, or target populations within the community-wide effort. For instance, a community tobacco control effort might have goals related to youth prevention, clean indoor air, and cessation. A general logic model depicts the total effort. Separate, more detailed logic models depict the inputs-outputs-outcomes relative to each component/goal--for example an initiative to change a restaurant ordinance within the environmental tobacco smoke component. Expected outcomes for each of the sub-logic models link to the outcomes expressed in the overall model (fig 7).

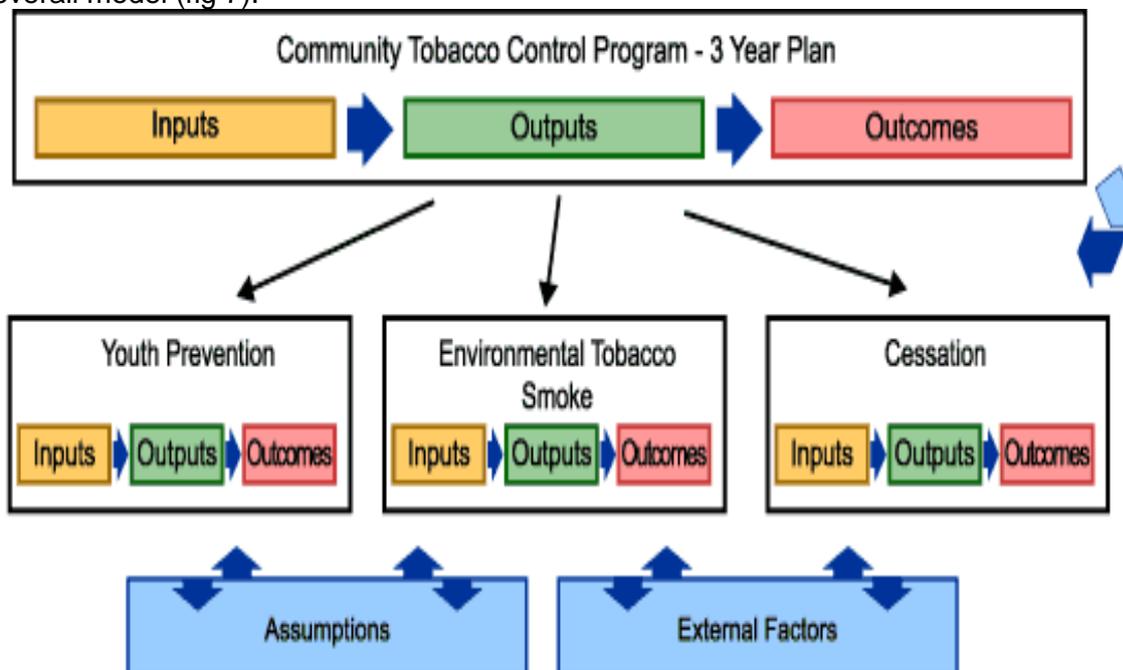


Fig 7

### Valid logic models and limitations

There are various criteria to be used to assess the validity of a logic model. This includes:

1. Meaningful – it represents action that is valued and worth doing
2. Plausible – it makes sense
3. Doable – it can be carried out
4. Measurable – it can be verified
5. The activities, their outcomes can deliver the impact and address the original problem(s)

### Benefits of logic models

- Helps differentiate between what you do and the results (outcomes)
- Guides and helped focus work
- Increases intent and purpose
- Guides prioritisation and allocation of resources
- Helps to identify important variables to measure

### Cautions

- Can become time consuming and/or a paper exercise
- Can become too focussed on outcomes without sufficient spent on the other elements
- May end up focussing on the wrong thing
- Mixing levels within one logic model
- Not to become fixed and remain flexible

## How good is your logic model?

### Ask yourself:

1. Is each listed outcome truly an 'outcome'? Does the logic model clearly separate outcomes from outputs, or are the distinctions blurred?
2. Does the highest-level outcome represent a *meaningful benefit of value to the public*?
3. Does it have inherent value? Can it be associated with the programme?
4. Is the model truly logical? Do the relationships among the programme elements make sense and are the casual relationships supported? Three ways to check:
  - a. Starting at inputs, ask "why?" at each level: why do we need these inputs? Why do we need to conduct these activities?
  - b. Starting at the impact level, and working backward, ask "how?" How are we going to produce these outcomes? The items immediately preceding an outcome should show "how."
  - c. Some elements are necessary but not sufficient. Ask yourself, "What else?" For example, achieving healthy one-year-olds requires not only achieving a healthy birth but also achieving proper care during the baby's first year. Asking 'what else?' helps spot leaps of faith.
5. Are the resources realistic? Is what you intend to do even possible given your resources?
6. How valid are the assumptions? Are they based on experience and research, or are they best guesses?
7. Does the logic model reflect the opinions and support of key stakeholders? Were any stakeholders left out?

## Evaluation

The analytical framework which guides the evaluation should be based on a theory of change with logic models being used to illustrate this. From April 2016, when most vanguards will start to consider commissioning evaluations, the logic models should be in place within the vanguard. This should be used as a tool for managing the programme, engaging local stakeholders in the goals of the programme locally and acting as a skeleton for the value propositions submitted to the programme team. It should also provide a robust framework for conducting an evaluation programme. They should:

- identify a set of measures that will be used to establish the success of the programme;
- identify a source for these data; and
- establish targets which define success.

## References

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Strategy Unit, Midlands and Lancashire CSU

**NECS Commissioning Support Unit** was established in 2012. With staff numbers in excess of 950 we are based in the north east of England and provide support across the country to:

- CCGs – contracting, data analysis, CHC, performance management, GPIT, end to end commissioning
- providers – data management, demand management
- NHS England eg NHS Maternity Services Review
- Vanguards with logic models in urgent care, care homes and acutes as well as a comprehensive service offerings over the broad range of Vanguard support