# Refreshing your Theory of Change and Making it Science-Based

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Claire Dunne and Jill Roberts

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# 1. Glossary[1]

## Activities
The actions, tasks and work a service does to create its outputs and outcomes and achieve its impact. Activities are within a service's control. Examples of activities include: training courses; mentoring; advice or support sessions and referrals.

## Assumptions
The underlying beliefs about how a service will work, the people involved and the context. Assumptions are sometimes implicit in a theory of change, but it can be useful to state them explicitly.

## Causality
The relationship between an event or events (cause or causes) and a second event or events (effect or effects), where it is understood that the second is a consequence of the first. If there is a causal relationship between two things, one thing is responsible for causing the other thing.

## Enablers
Conditions or factors that need to be present or absent to allow a service's work to succeed. The presence or absence of enablers can help or hinder a service. There are two kinds of enablers:

- Internal enablers are mostly within an organisation or project's control. Internal enablers describe the mechanisms by which an organisation delivers its work (such as the quality of services, relationships and the values and attitudes of staff).
- External enablers are often beyond an organisation or project's immediate control. External enablers describe the context in which an organisation works (such as social, cultural, economic and political factors, laws, regulations, and working with other organisations).

## Evidence
Information that you already have or plan to collect that is relevant to supporting or testing a theory of change. This evidence can be based on scientific research or professional experience.

## Evidence-based approach
A way of working which utilises findings from existing science, research and professional experience to inform decisions and develop research, thinking and/or practice.

## Impact
The broader, longer-term change a service is trying to achieve. Whereas an outcome is the change occurring as a direct result of project activities and outputs, the impact is the effect of a service at a higher or broader level. Impact is about sustained or lasting change and often goes beyond the original target group; it should describe the change you want to see in service users. In general, a service should have one overall impact. However, there may be more than one impact if a service works with multiple groups of service users. For example, a project which works with children *and* parents may have an impact for *each* of these groups. When refreshing and defining your impact, consider how your service contributes to LEAP's overall goal of improving child development and reducing inequalities in child development.

## Inputs
The resources that go into the running of a service to enable the activities and outputs to be delivered. These may include: time, money, premises and staff.

## Outcomes
The changes, benefits, learning or other effects that happen as a direct result of a service's activities. They may include changes in users' knowledge, skills, attitudes or behaviour. Outcomes should be specific and measurable. Typically, language such as 'greater', 'improved' or 'increased' is used to indicate the change expected from outcomes. Outcomes can be immediate, intermediate or longer term. It is likely that a service will achieve several outcomes cumulatively before the impact is achieved. The outcomes should be comprehensive enough to reflect the complexity

[1] Definitions based on NPC's Creating your theory of change guide

of the service, their aim is to explain in detail all the changes that are expected to happen to beneficiaries during the programme.

## Outputs

The result of an activity. Outputs are often expressed quantitatively; for example, number of users, how many sessions they receive, the amount of contact they have with a service.

## Service users

Describes anyone who attends or engages with a service either directly or indirectly. For most LEAP services the service user will be children aged 0-4 years old or parents or caregivers. However, some services work directly with the workforce, so their service users will be practitioners.

## Theory of change

A process to help you describe the need you are trying to address, the changes you want to make (your outcomes and impact), and what you plan to do (your activities) to address this need and achieve change. Theory of change is often associated with some sort of visual map, but it can also be presented as a table, chart or in narrative form.

# Section One: Refreshing your Theory of Change

Having a refreshed, up-to-date and accurate theory of change (ToC) for each LEAP service—and the LEAP programme overall—is a priority for the LEAP Evaluation and Research team. This is because an accurate ToC is the blueprint for evaluation at service- and programme-level.

While some services already have a ToC in place, taking the time to revisit and refresh your ToC is important. A ToC should be a working document; it is not meant to be static. It should evolve and develop to reflect a service's learning and development.

Our expectation is that services will either develop or refresh their ToC with our support. This is because services and service leads have in-depth knowledge about the domain(s) of early childhood development (ECD) associated with their service. Evaluators can work with services to review or develop their monitoring and evaluation approach, but first, programmes and services need to be clear about what outcomes and impact they want to achieve and why.

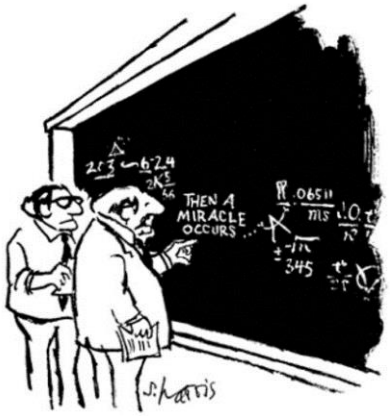
Due to a lack of capacity in our three-person team, we are unable to support each service individually throughout this process. We have therefore developed this document to support and guide you through the process.

We hope this will indirectly support you to develop or refresh your ToC to the best of your ability. However, we recognise that some services may require additional support. In line with this, we will be funding external support to run additional ToC refresh workshops, and to review our service-level ToC and measurement frameworks (MF) later in the year.

## 2. Frequently asked questions

### 2.1. What is a theory of change (ToC)?

A ToC is your description of how you anticipate change happening over time because of your service. It can help you to better: plan new work; understand and communicate what you do (particularly to funders); continuously improve your service and support your monitoring and evaluation.



"I think you should be more explicit here in step two."

Starting from the big change you want to see (the impact), the process maps backwards to articulate and connect the real-world changes (the outcomes) your service intends to achieve with the things you will do (the activities and outputs) – these outcomes are therefore the stepping stones to impact.

As you build your ToC you will be encouraged to think critically about your work, the direction and plausibility of change, and to address the underlying assumptions you're making about the effect your service's activities will have on service users (the practitioners, parents or children your service engages with).

A ToC is a strategic tool and process to help you:

- describe the **need** you are trying to address;
- identify the **longer-term difference** you want to make (your **impact**);
- describe what you **plan to do** (your **activities**);
- articulate the **changes** you expect to achieve through your work (your **outcomes**);
- articulate the **causal links** between your service's **activities** and **outcomes**;
- strengthen the **design and delivery** of your service.

## 2.2. How can a theory of change help with monitoring and evaluation?

Without the clarity of a ToC, we cannot determine what is most important to measure. The process of developing or refreshing a ToC is an excellent opportunity to clarify **what** your service should be measuring, **when**, **how**, and **by whom**. Another way of thinking about a ToC is as a blueprint for evaluation; when done well a ToC will offer all the information necessary to complete an evaluation of your service.

Your ToC can be used to:

- decide **what information to collect** to evaluate your service (your data);
- develop an impact **measurement framework** for your service;
  - *note*: a guide on *'how to develop a measurement framework'* will be published by the LEAP Evaluation and Research Team shortly. This will include the information you or others need to collect to test whether your theory happens in practice. It will also set out *who* collects data, *how* often, using *what* measurement tool or indicator, and *how* data will be used. Please see appendix 2 for an example of a ToC with an associated MF.

Collecting data will help you understand if your programme or service is working and how you can make it better. It is important to choose data collection methods that will provide the most accurate answers to your evaluation questions.

## 2.3. What is the difference between a theory of change and a logic model?

We don't want to get too bogged down in terminology, because it is the *process* of developing a ToC that is most important. But we are sometimes asked what the difference is between a ToC and a logic model, and often the two terms are used interchangeably. However, there are a few key differences. These are outlined below:

| Theory of change[2] | Logic model |
|---|---|
| 1. Focuses on explaining **how** and **why** the desired change is expected to be achieved by detailing the **links between activities** and desired **outcomes** | 1. Focuses on depicting a service's intervention by specifying **inputs**, **activities**, **outputs**, **outcomes**, and **impact** in a sequential series. Does not show **why** activities are expected to produce outcomes |
| 2. Explains **why** activities produce desired outcomes (in other words the ToC clearly shows the **rationale** for **why** one outcome leads to the next outcome) | 2. Just has to be **sequential** (inputs before activities, activities before outcomes), **logical**, and **reasonable** |
| 3. Requires justifications at each step – you must articulate the hypothesis about why something will **cause** something else (it's a causal model) | 3. They have limited scope to plot sequences of outcomes and the subtle aspects of causality |
| 4. Usually begins from the 'top' or 'end point', with the identification of the desired impact then working backwards to map the outcome pathways | 4. Usually designed after a ToC or service is developed. Usually starts at the 'bottom' or 'starting point', depicting the inputs, activities, outputs and outcomes that lead to the desired impact |
| 5. Aims to answer the question: '**If we do X then Y will change because…**' | 5. Aims to state: '**If we to do X, this will give Y result**' |

## 2.4. Why does my service need a theory of change?

One of the best ways to improve the lives of children and families is to provide services and interventions that make a positive difference. However, it is important to know that the service you provide is effective, or, to understand how to make it *more* effective. You may also need to prove to others that your service is both measurable and meaningful. A ToC can help us to understand if, and **how**, a service is making a positive difference.

There are many benefits to having a ToC. Developing a ToC can help you:

- clarify **what** it is your service does and **why**;

[2] Definitions based on Evaluation flashcards from the Otto Bremer Trust

- articulate what it is your service is trying to achieve and how its activities intend to facilitate this;
- test whether your understanding and expectation of the impact your service will have is supported by what happens in reality;
- generate appropriate shared expectations;
- demonstrate how your service contributes to the broader picture of social change;
- provide a framework against which you can monitor, evaluate and analyse your service's progress.

## 2.5. Why am I being asked to refresh my service's theory of change?

A ToC should not be static. For it to be effective it should be revised and updated as understanding and knowledge is gained about your service through evidence and observation. Your ToC should be a live or working document, one that is reviewed regularly to ensure it remains relevant and accurately reflects your service and the latest scientific evidence. If there are changes made to your service, these should be updated in your service plan.

## 2.6. How long will it take to refresh my service's theory of change?

This is a difficult question to answer; it will depend on your service, and how up-to-date your current ToC is. We are less interested in you developing a beautiful visual, and more interested in confirming the essential descriptive questions about your service – the need you're trying to address, what your service is trying to achieve, and how its activities intend to facilitate this.

## 2.7. Why does my service's theory of change need to be informed by the latest scientific evidence?

A ToC illustrates ideas and hypotheses ('theories') about how change happens. These theories can be based on a person's beliefs, assumptions or experience. However, for a theory to be robust and reliable, it should *also* be evidence-based. This is because we don't need to concentrate our evaluation efforts where there is already strong scientific evidence supporting causal links between outcomes, and outcomes and activities. Ensuring service's ToC are informed by the latest scientific evidence will help us work out how best to prioritise our evaluation efforts.

The most accurate and useful theories of change are informed by your expert experience *and* scientific evidence.

### 1) Expert experience

Your experience needs to inform the change you expect to see in your ToC. This experience is based on years of knowledge, conversations, and learning in the strand(s) you are working within at LEAP. This knowledge will underpin the hypothesis or 'theory' in your ToC.

### 2) Scientific evidence

Services that are rooted in findings from research have a greater chance of providing benefits to children and families. To prove that a theory or hypothesis is correct, research much be conducted. Research is an iterative process and scientific evidence is built continually as new theories are tested. Scientific evidence supports services to confidently answer:

- what will the service do?
- what will the service achieve?
- who will benefit from the service? *and*
- how much of the service will be needed?

Most services are informed by theories that causally link activities to improved child or caregiver outcomes. These theories are based on assumptions about children's development and the ways in which families, communities and services support various developmental processes.

A clear understanding of what is already known about child development from existing science and research is important for confirming your service's outcomes, who the service is for and what the activities will be. Science and research do not stand still, therefore, the science underpinning your service should be continually revisited throughout your service's development.

Naturally, some of our more innovative ways of working will have less published evidence than more established ways of working. LEAP advocates innovation because it is Innovative practice that could help us address embedded issues and challenges. Evaluators just need to know where links in ToC are based on expert knowledge and assumptions only, because this will help us see where we could usefully add to the evidence base.

Overall, LEAP and A Better Start are research-focused programmes. They build on research which shows that early childhood can set the foundation for children's future learning, behaviour and health. Therefore, we anticipate the learning we gain through LEAP will contribute to the scientific and research knowledge base.

## 2.8. What is a narrative theory of change?

Where a ToC diagram can be useful to illustrate the order of outcomes and offer an overview of the theory behind a service; a narrative ToC offers further detail to the ToC diagram. It can be used to develop and explain the detail depicted in the diagram.

Developing a narrative ToC can help you:

- unpack and **explore assumptions** in the ToC;
- clarify or **define the terms** used in the diagram;
- **provide evidence** to support the theories depicted in the ToC;
- draw out **causal links** between activities, outcomes and impact;
- provide **more detail** on the aspects of the ToC that are central to achieving your intermediate outcomes and impact;
- identify **other influences** which may contribute to producing outcomes that are preconditions to your service's impact;
- **explain the theory** behind a service which engages with a limited number of service users will ultimately result in population-level change.

The key elements of the narrative ToC are:

### Context

The context in which your service and service users operate. This could be a description of who your service users are and why they are engaging in your activities. It could cover wider social, political and economic circumstances. Do not repeat anything that is clearly illustrated and easily understood from the ToC diagram.

### Assumptions

The assumptions that show why you think one outcome will lead to another. Where existing science, academic research or your own evaluation evidence is not available, it is useful to identify the assumptions that underpin your ToC. This can help you understand the causal processes involved and avoid misrepresenting what you are doing and why. If you have identified many assumptions, then prioritise them: include the assumptions that are most critical to your service's success, have the highest risk, are most unstable, you know least about, or have implications for long-term success.

### Evidence

The evidence that shows why and how your activities will achieve your desired outcomes. Where you can, include evidence that supports your activities, as well as evidence that one outcome leads to another. All services working for social change want their projects to be successful; as far as possible, activities should be based on knowledge of what works in a particular field. If evidence exists to show that your activities are effective, you should include it; it will add weight to your ToC.

### Internal and external enablers

The internal and external enablers that need to exist for your ToC to happen. Without enablers, a ToC cannot happen, so explaining your enablers is important. There may be many enabling factors in your ToC, but some areas we have found to be particularly important are:

- The **quality** of a service, activity or campaign (this will have a bearing on how successful you are at achieving your goals. Consider questions such as: - How do you work as well as you do?)
- What **'good practice'** have you learned and plan to deploy?

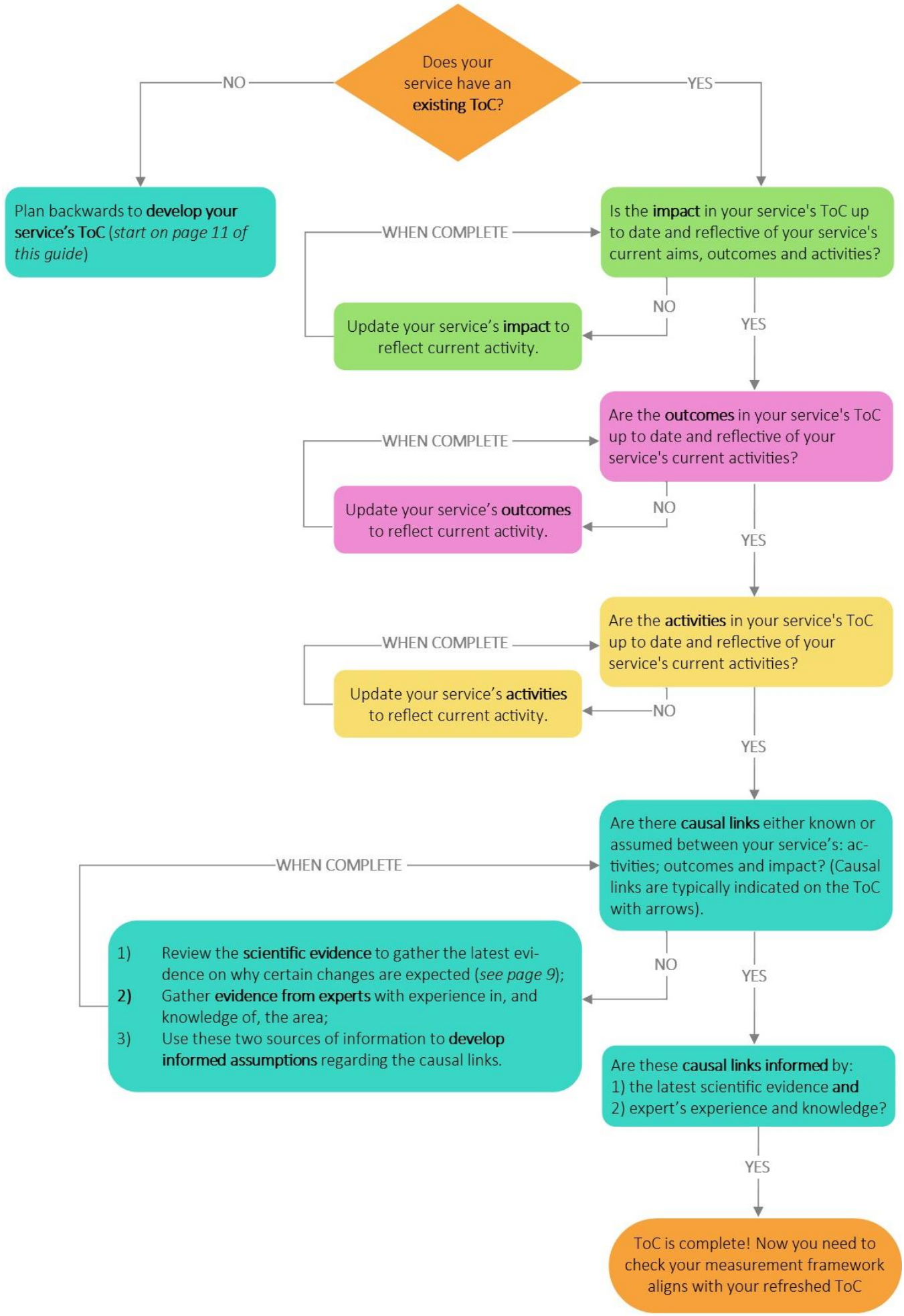
- What is **unique, distinctive** or **special** about your project or organisation?
- What should service users be **thinking, feeling,** or **doing** when they receive the service?
- The process of building **relationships** with service users. This will likely be pivotal to a service's success. Most social programmes work through their ability to influence and change peoples' choices, so describing how you intend that to happen is key.

# 3. How to refresh your theory of change

To account for the fact that services are at different stages in their ToC we have developed two ways of engaging with the ToC refresh – developing a ToC from scratch and refreshing an existing ToC. The flowchart (see page 10) is an appropriate starting point for *all services*, whether you have an existing ToC or not.

At each stage of the flowchart there are action points which align with the stages outlined in section 3.2 of this guide. Depending on the stage of development of your ToC and your service, you may only need to engage with a few steps. If your ToC is several years old, was designed by a different service lead or does not exist you will likely need to follow all the steps. There are two elements to a theory of change: narrative and diagram, which we'll cover in further detail below.

# 3.1. How to refresh your theory of change: overview



## 3.2. How to refresh your theory of change: step by step

### Step 1: Why does your service exist and for who?

The very first step to refresh your ToC is to write down **why your service exists**. In other words, what is the need or opportunity your service wants to address? Or, what is the broader social change your service is trying to achieve? Be specific – put the problem into one sentence.

For example:

- Our service aims to improve breastfeeding rates across LEAP (including relevant statistics), *or*
- Our service aims to reduce inconsistencies in understanding of childhood development across the workforce, and particularly in X sector (with any relevant evidence to support this).

You then need to be explicit about **which population groups**, if any, would most benefit from your service. Without understanding this, services risk only reaching families who might want, but not necessarily need, your service, which in turn risks exacerbating inequalities in child development.

Now you have defined the problem you can start to address how you plan to improve it. Follow this step by step guide on how to refresh your ToC.

### Step 2: Refresh your impact

Your service's impact is the starting point for your ToC; it is the goal towards which everything is directed. Your service's impact statement should clearly describe the **broad** or **long-term difference** you want to see happen as a **direct result** of your service. It should also clearly articulate how this impact is linked to, or important for, early childhood development.

This impact will most likely be a cumulative effect of all your service's activities and outcomes. Impact often relates to the overall aim or mission of your service. It can also be defined as **'the difference your service makes'**. As you are developing or refreshing your service's impact, consider whether you can answer the question: **'Why or how is this impact important or beneficial for LEAP children and their development?'**

The answer should be based on a combination of existing **scientific evidence**, **research** and your **expert knowledge and experience**. If your answer is not based on both sources, you need to:

1) **Consult** with your **colleagues** (and perhaps a sample of your **service users**), to understand how your service's impact contributes to improving early childhood development;
2) **Review recent scientific evidence and research** to find up-to-date knowledge which will inform your service's impact. The evidence may already exist, or it may be a deficit in the current literature which your service can begin to fill in. You can find specific guidance on how to do this on pages 13-16.

### Step 3: Refresh your intermediate outcomes

Next, work backwards from your impact to think about the changes (**outcomes**) that will **lead to** your impact. You may be able to identify outcomes by thinking about what causes the main issue you are trying to improve through your service's work.

For example, if one aspect of the challenge of poor literacy in children is that the Home Learning Environment (HLE) isn't well developed, your theory might suggest developing a stronger HLE. In order to do that, parents and practitioners will need to be engaged, informed and supported to do this. Therefore, *'more parents are supported by practitioners to improve the HLE'* could be one of your service's intermediate outcomes.

As you develop your **outcomes**, it may be helpful to think about the different areas in which change could occur.

**Possible changes** for **children, parents** and **practitioners** might be present in their:

- situation (*e.g. housing, employment*)
- wellbeing (*e.g. mental or physical heath*)

- behaviour (*e.g. engagement with services, attendance at a training event*)
- attitudes and feelings (*e.g. how people feel about their parenting skills or abilities*)
- skills and abilities (*e.g. communication skills*)
- relationships (*e.g. with peers, family or at work*)

**Other changes** might be seen in:

- policy (*e.g. changes in child protection law*)
- environment (*e.g. better access to green spaces*)
- services (*e.g. new services or services delivered in different ways*)
- ways of working (*e.g. new partnerships developed*)
- social norms (*e.g. knowledge, attitudes, values or behaviours*)

When developing intermediate outcomes, it is good to use words associated with change, like: **more**, **less**, **increased**, **greater** and **improved**. They should be phrased as if they have been achieved already. They should be comprehensive enough to reflect the complexity of your service; their aim is to explain in detail all the changes that happen to beneficiaries during your service.

Once you have defined your outcomes, you need to show the **order** in which they will occur. Work backwards to plot the preceding stages in greater detail. Have you considered the **change that will be needed** before an outcome can occur? Do you know **how the outcomes will impact each other**? For example, you may discover from published evaluations that behaviour change only happens once parents increase their knowledge of child development, which in turn increases their confidence to make changes.

The answers should be informed by of existing **scientific evidence**, **research** and your **expert knowledge and experience**. If your answer is not based on both sources, you need to:

1) **Consult** with your **colleagues** and potentially **service users** to understand how your service's outcomes contribute to improving early childhood development;
2) **Review recent scientific evidence and research** to find up-to-date knowledge on the direction of change that has resulted in similar outcomes your service hopes to achieve. The evidence may already exist, or it may be a deficit in the current literature which your service can begin to fill in. You can find specific guidance on how to do this on pages 13-16.

## Step 4: Refresh your activities (and outputs)

List the **activities** (what you do) your service is currently delivering (or will deliver) which you expect will lead to the intermediate outcomes. Each activity should have a **direct link** to one or more of the intermediate outcomes. Activities can be quantified to explain 'dosage' i.e. to explain exactly how much of an activity a participant takes part in (for example, 1 x 3-hour session per week).

You don't need to include process activities like recruitment or distributing a survey, only activities that are **delivered to directly achieve the impact** of the service. Activities should be sufficiently detailed, so that someone unfamiliar with the service can understand what each activity entails. This is a good chance to consider how well activities are delivering your anticipated outcomes.

Have you considered which activities will be **most effective** in bringing about your desired outcomes? Do you know when and how they are best delivered? To answer these questions, you should:

1) **Consult** with your **colleagues** and potentially **service users** to understand how your service's activities contribute to improving early childhood development;
2) **Review recent scientific evidence and research** to find up-to-date knowledge on the kinds of activities that have resulted in similar outcomes your service hopes to achieve. The evidence may already exist, or it may be a deficit in the current literature which your service can begin to fill in. You can find specific guidance on how to do this on pages 13-16.

# Section Two: Making your Theory of Change Science-Based

Section two provides strategies and resources for locating the most recent and robust scientific evidence and research to support and refresh your ToC.

We are not expecting a comprehensive review of the literature. However, owing to the volume of services under the LEAP umbrella, we ask that, wherever possible, services themselves (the experts in each domain) attempt to review their theories of change by checking the scientific evidence, using open-access resources – your service plans are a great place to start!

We will be able to support some services to do this. We will also be funding an external review of LEAP's programme- and service-level theories of change, later in the year.

## 4. How to search the scientific evidence base (if you're not affiliated with a university)

### 4.1. Searching Google Scholar

The steps below provide a starting point for searching Google Scholar for relevant research. Once you have defined your outcomes, you can show the order in which they will occur. The principles are the same for searching other evidence bases, but, given the breadth of Google Scholar, you may need to refine your results further.

#### Step 1: Define the question

Work out the question you are trying to answer. There may be multiple ways of phrasing the question. Note that the search you conduct will generate slightly different results depending on the combination of words you search for. Therefore, it is beneficial to consider different iterations of the question. For example:

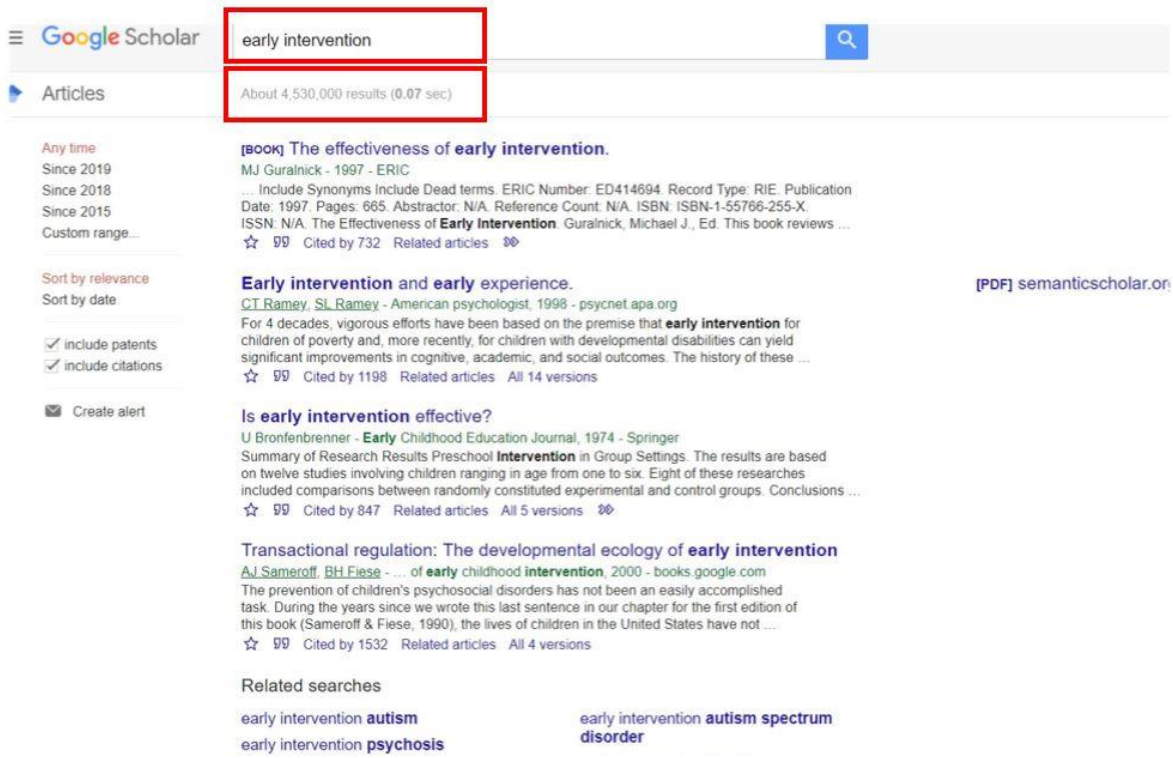
- 'What are the benefits of early intervention for children?'
- 'How do early interventions impact children?'
- 'In what ways are early interventions effective for children?'

#### Step 2: Key word search

Because the search will return results for the exact phrases you type in, if you were to search the exact question the results would be limited.

Therefore, it is more effective to type relevant key words into Google Scholar (https://scholar.google.co.uk/). For example, for the question in step 1, you could start with 'early intervention'.

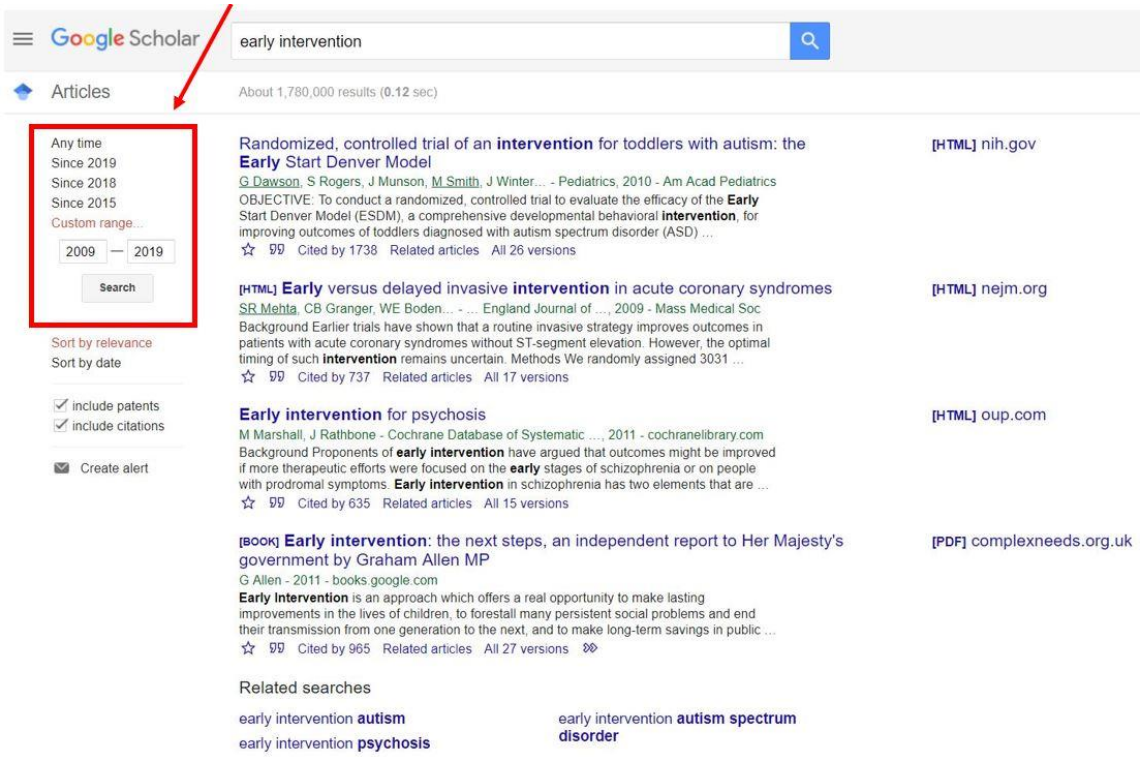
This initial search returned about 4,530,000 results (see page 14). It will be helpful to refine these results further.




## Step 3: Consider the search results

Consider how helpful the search results are for your purposes. You may find some useful research papers, but you may also wish to broaden or specify your results.

One way of specifying your results is to search within a time frame. More recent research (published in the last ten years) is often more relevant than older research, so it can be helpful to customise the dates of your search results. Google scholar lets you do this with the panel on the left:

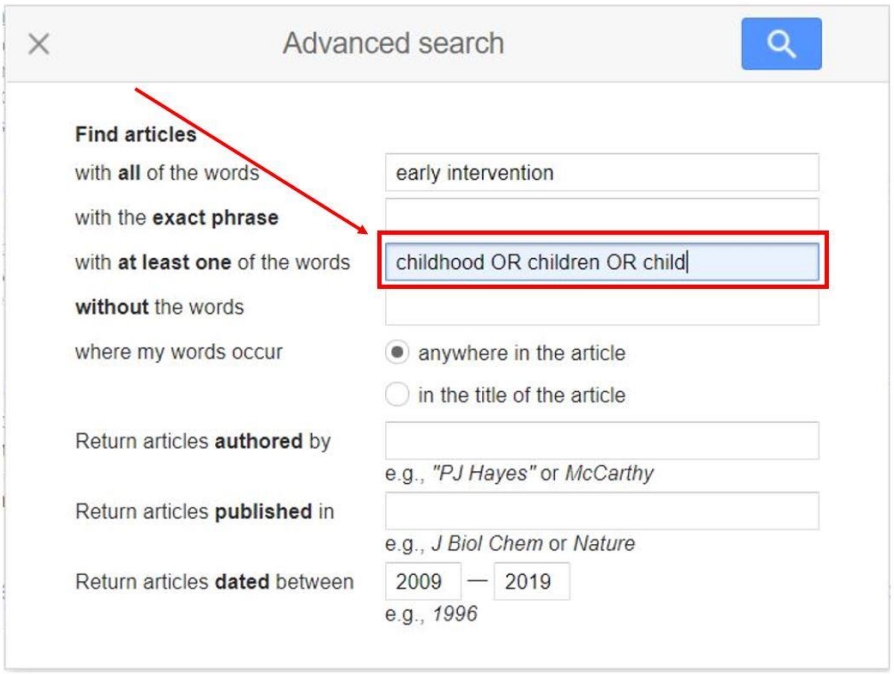



By narrowing the search field to a ten-year period, the number of results has decreased from 4,530,000 to 1,780,000.

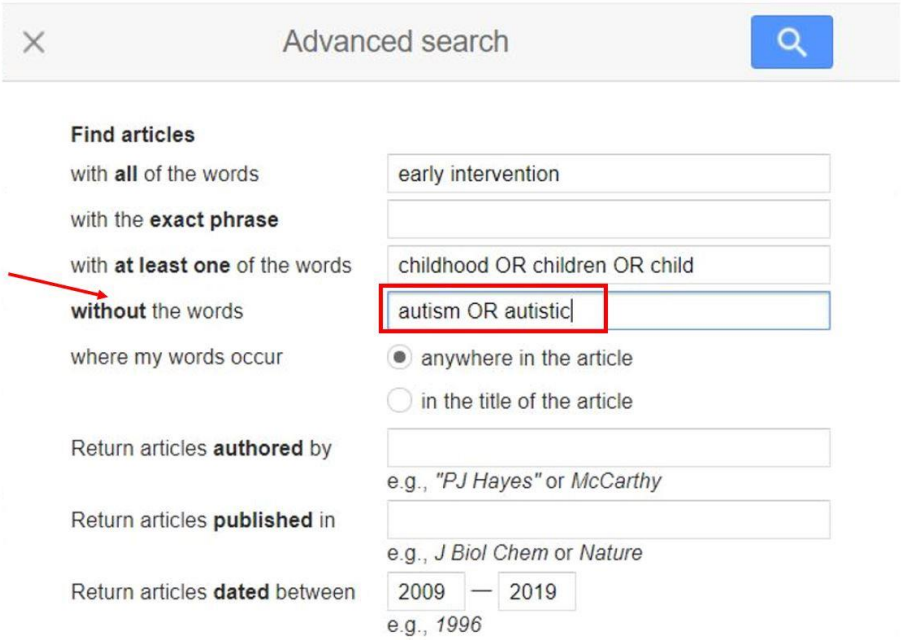
## Step 4: Develop your search terms

Have a play with the key words you type in. Develop a list of synonyms and alternative terms. Try these words in different combinations to see if the results differ.

The 'advanced search' option in google scholar lets you specify one or more term you would accept in your results using 'OR' ( for example: 'child' OR 'childhood' OR 'children'). You can also specify a combination of terms by using 'AND' (for example: 'child' AND 'socioeconomic status').



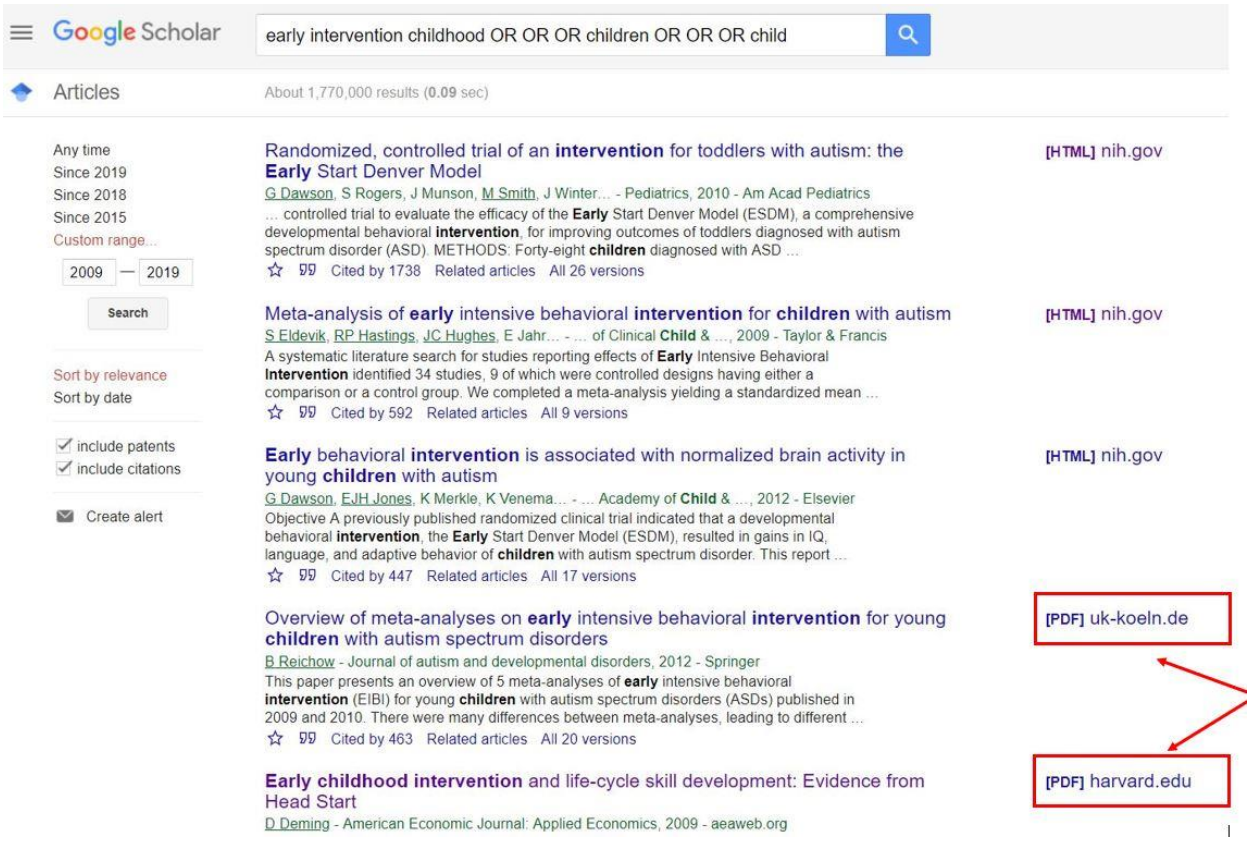

Similarly, you can exclude words to reduce the number of articles returned which are not relevant to your question:



## Step 5: Read some paper abstracts

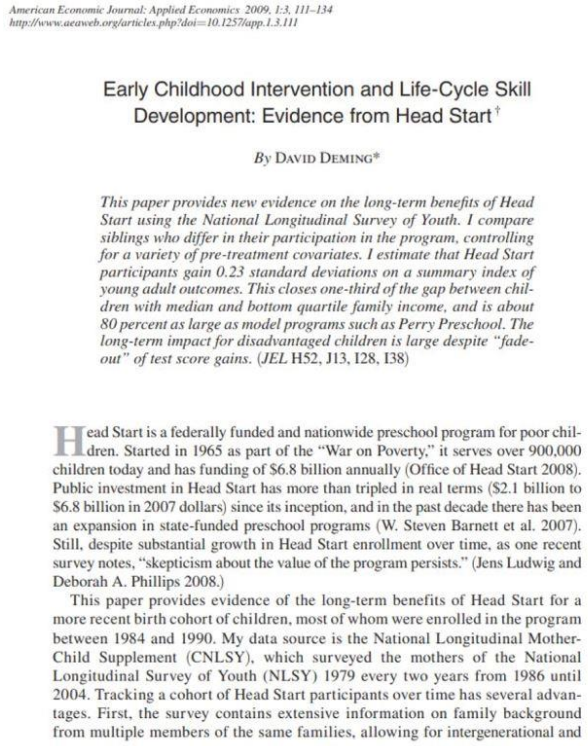
To explore your findings further, without reading whole papers, you can read the abstract of a paper. This will give you an overview of overview of the paper's research questions, methodology and sample to assess how relevant its findings are. When you click on the title of a paper you will be able to read the abstract.

To determine which papers you can access in full without paying, look to the right of their title. The papers which have [PDF] next to them indicate that you will be able to access and download the full paper for free:




## Step 6: Extend your search terms

From the abstracts or papers you have found which are relevant, you can develop more specific and relevant search terms. You can also begin to start reading and evaluating the findings in the papers you have found. What does the research tell you about the area of child development your service targets?



*American Economic Journal: Applied Economics 2009, 1:3, 111–134*
*http://www.aeaweb.org/articles.php?doi=10.1257/app.1.3.111*

Early Childhood Intervention and Life-Cycle Skill Development: Evidence from Head Start†

*By* David Deming*

*This paper provides new evidence on the long-term benefits of Head Start using the National Longitudinal Survey of Youth. I compare siblings who differ in their participation in the program, controlling for a variety of pre-treatment covariates. I estimate that Head Start participants gain 0.23 standard deviations on a summary index of young adult outcomes. This closes one-third of the gap between children with median and bottom quartile family income, and is about 80 percent as large as model programs such as Perry Preschool. The long-term impact for disadvantaged children is large despite "fade-out" of test score gains.* (*JEL* H52, J13, I28, I38)

Head Start is a federally funded and nationwide preschool program for poor children. Started in 1965 as part of the "War on Poverty," it serves over 900,000 children today and has funding of $6.8 billion annually (Office of Head Start 2008). Public investment in Head Start has more than tripled in real terms ($2.1 billion to $6.8 billion in 2007 dollars) since its inception, and in the past decade there has been an expansion in state-funded preschool programs (W. Steven Barnett et al. 2007). Still, despite substantial growth in Head Start enrollment over time, as one recent survey notes, "skepticism about the value of the program persists." (Jens Ludwig and Deborah A. Phillips 2008.)

This paper provides evidence of the long-term benefits of Head Start for a more recent birth cohort of children, most of whom were enrolled in the program between 1984 and 1990. My data source is the National Longitudinal Mother-Child Supplement (CNLSY), which surveyed the mothers of the National Longitudinal Survey of Youth (NLSY) 1979 every two years from 1986 until 2004. Tracking a cohort of Head Start participants over time has several advantages. First, the survey contains extensive information on family background from multiple members of the same families, allowing for intergenerational and

## 4.2 Other sources of evidence

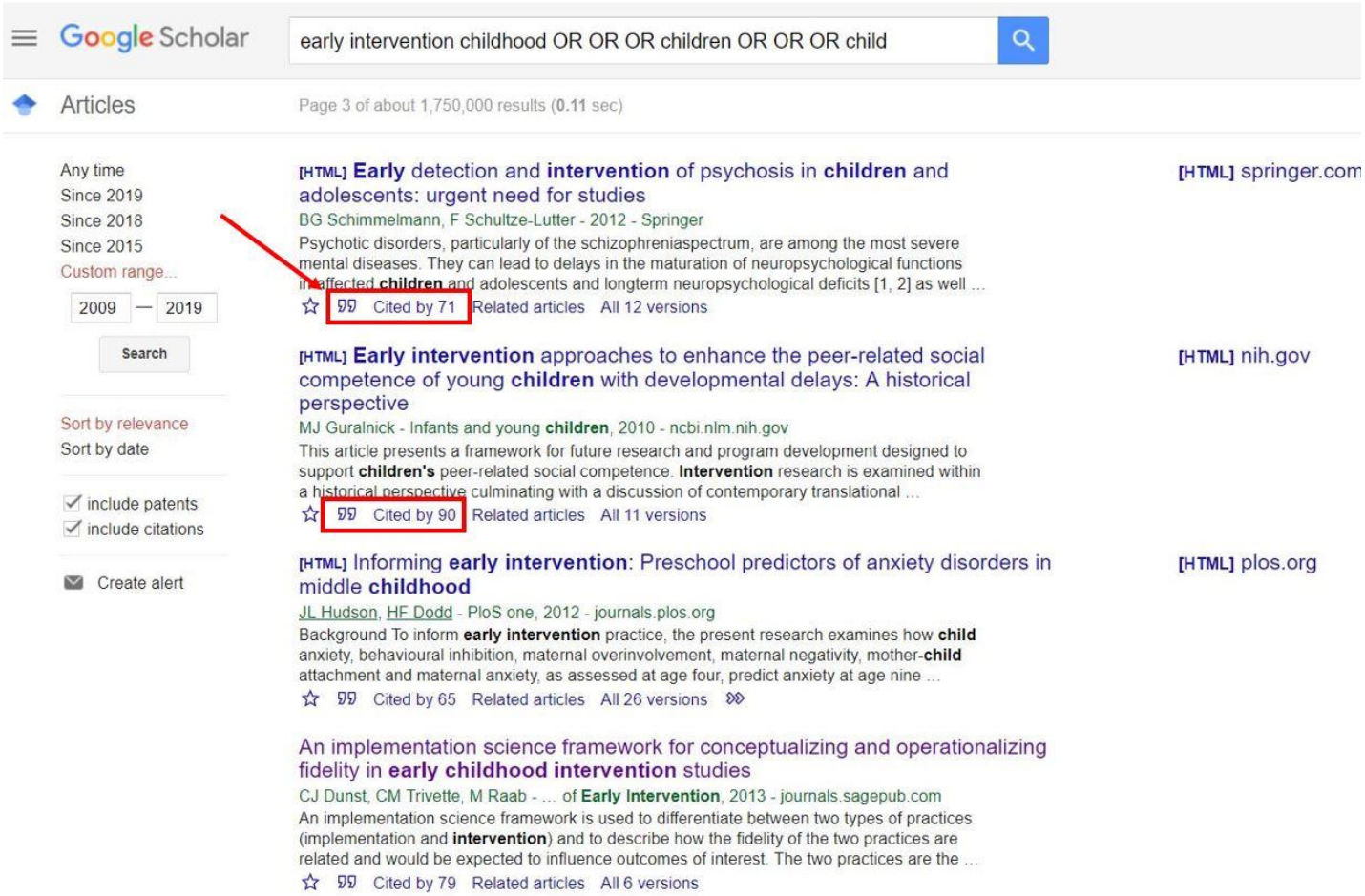
Articles published in top academic journals are a good place to start to find the most recent scientific evidence regarding child development within your service's area of interest. A list of the top journals is listed in the Additional Resources section on pages 13-15.

The landing page for all these journals will have a **search box**. You can use the same steps listed for searching google scholar to find relevant articles. The searches will result in a list of titles and abstracts that can be reviewed. Journals will typically allow you to refine your search further, such as by topic, date or document type (journal articles, webpages or summaries).

Aim to find overview articles to help you understand child developmental milestones and processes as they relate to your service. This will help you identify which primary outcome(s) are **important**, **specific** and **realistic** for your ToC. Recent articles, written in the last 5-10 years are most relevant. While journals frequently charge to download the full article, the title might be located for free on Google Scholar, or by contacting the author directly via Research Gate.

Not all sources of evidence are equally robust. For example, the methods used for selecting articles in peer-reviewed journals are far more rigorous than those used in sector magazines or government reports. Cochrane reviews, for example, base their findings on the results of studies that meet certain quality criteria. And NHS Behind the Headlines provides an unbiased and evidence-based analysis of health stories that make the news. The number of times a paper has been cited can be another way to quickly assess the quality (the more often a paper has been cited by other researchers, the more likely it is to be respected in the field).

You can find the number of times a paper has been cited here:




This is one way of assessing the quality of papers - the Evaluation and Research Team can be contacted for further advice on other ways to assess quality.

# 5. Additional Resources

The Evaluation and Research Team will be available throughout this process to support your ToC refresh. However, there are numerous online resources which will be beneficial to your ToC development as well.

## 5.1. Theory of Change Development

There are a range of resources available online to support your ToC development.

- Better Evaluation
- Centre on Theory of Change
- Changeroo
- Inspiring Impact
- Monitoring and Evaluation on a Shoestring
- NCVO (The National Council for Voluntary Organisations)
- NEF Consulting (New Economics Foundation)
- Nesta
- New Philanthropy Capital (NPC)
- Project Oracle
- The Legal Education Foundation

## 5.2. Theory of Change Examples

You can find some examples of theories of change from a range of organisations. You will see that there are various ways of presenting the illustrative ToC. Appendix A depicts a template which is available to be used and modified for LEAP services.

- Department for International Development (Roads and development in Eastern DRC) (see page 19)
- NEF (Caerphilly Family Intervention Project)
- Project Oracle (Reducing Youth Offending Project) (see page 1)
- War Child
- Young Enterprise

## 5.3. Overviews of child development

- Encyclopaedia on Early Childhood Development: http://www.child-encyclopedia.com/
- Harvard Centre on the Developing Child: https://developingchild.harvard.edu/
- The Handbook of Child Psychology and Developmental Science: https://bit.ly/2TCzmkR
- Outcomes framework: An Equal Start: https://www.cypnow.co.uk/digital_assets/an_equal_start.pdf
- Outcomes framework: Measuring What Matters: http://www.instituteofhealthequity.org/resources-reports/measuring-what-matters-a-guide-for-childrens-centres/measuring-what-matters.pdf
- Zero to Three: https://www.zerotothree.org/early-development

## 5.4. Systematic reviews

Systematic reviews are useful for identifying where there are evidence gaps. A systematic review is a literature review that tries to identify, appraise, select, and synthesize all high-quality research evidence relevant to a research question.

- Cochrane Database of Systematic Reviews: https://www.cochranelibrary.com/cdsr/about-cdsr
- The Campbell Collaboration: https://campbellcollaboration.org/library.html
- EPPI Centre, a centre focusing on systematic reviews and research use: https://eppi.ioe.ac.uk/cms/ (among other resources, it contains an index of systematic reviews, with summaries, under the Publications tab).

## 5.5. What works clearinghouses

What works clearinghouses are based on the principle that good decision-making should be informed by the best available evidence; they provide a central source of scientific evidence on 'what works' to improve outcomes in an area. They aim to improve the way organisations create, share and use high quality evidence for decision-making.

- Better Evidence for a Better Start: What Works: An overview of the Best Available Evidence on Giving Children a Better Start: https://www.abetterstart.org.uk/sites/default/files/What%20works%20-%20Main%20text%20(2%20December%202013)_0.pdf
- Blueprints for Healthy Youth Development: https://www.blueprintsprograms.org/
- California Evidence-Based Clearinghouse for Child Welfare: https://www.cebc4cw.org/
- Centre for Analysis of Youth Transitions (IFS): http://cayt.mentor-adepis.org/
- National Institute of Justice: https://www.nij.gov/Pages/welcome.aspx
- National Registry of Evidence-based Programmes and Practices (SAMHSA): https://www.samhsa.gov/nrepp
- Penn State University EPIS Center: http://www.episcenter.psu.edu/
- The EIF Guidebook: https://guidebook.eif.org.uk/

## 5.6. Journals

Academic journals are forums for the presentation, scrutiny and discussion of research. Content in journals typically take the form of articles presenting original research, review articles and book reviews.

### General child development

- American Psychologist: https://www.apa.org/pubs/journals/amp/
- British Journal of Developmental Psychology: https://www.apa.org/pubs/journals/amp/
- Child Development: https://onlinelibrary.wiley.com/journal/14678624
- Child Development Perspectives: https://onlinelibrary.wiley.com/journal/17508606
- Developmental Psychology: https://www.apa.org/pubs/journals/dev/
- Developmental Science: https://onlinelibrary.wiley.com/journal/14677687
- Infant and Child Development: https://onlinelibrary.wiley.com/journal/15227219
- Infant Behaviour and Development: https://www.journals.elsevier.com/infant-behavior-and-development
- PlosOne: https://journals.plos.org/plosone/
- Prevention Science: https://link.springer.com/journal/11121
- Psychological Bulletin: https://www.apa.org/pubs/journals/bul/

### Cognitive development

- Cognition: https://www.journals.elsevier.com/cognition
- Journal of Experimental Child Psychology: https://www.journals.elsevier.com/journal-of-experimental-child-psychology

### Social and emotional development

- Development and Psychopathology: https://www.cambridge.org/core/journals/development-and-psychopathology
- Journal of Child Psychology and Psychiatry: https://onlinelibrary.wiley.com/journal/14697610
- Journal of Consulting and Clinical Psychology: https://www.apa.org/pubs/journals/ccp/

### Physical development

- British Medical Journal: https://www.bmj.com/
- Journal of the American Medical Association: https://jamanetwork.com/journals/jama
- The Lancet: https://www.thelancet.com/
- Pediatrics: http://pediatrics.aappublications.org/content/143/1?current-issue=y

### Child abuse and neglect

- Child Abuse and Neglect: https://www.journals.elsevier.com/child-abuse-and-neglect
- Child and Family Social Work: https://onlinelibrary.wiley.com/journal/13652206
- Child Maltreatment: https://journals.sagepub.com/home/cmx

- Child Welfare: https://www.cwla.org/child-welfare-journal/
- Children and Youth Services Review: https://www.journals.elsevier.com/children-and-youth-services-review
- Development and Psychopathology: https://www.cambridge.org/core/journals/development-and-psychopathology

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# **Appendix 1a:** Narrative example of a science-based theory of change

## Baby Steps: science-based narrative theory of change *(draft)*

### 1. Context

Baby Steps works with expectant parents. The original programme, developed by the NSPCC, was designed to work with parents who need additional support, including who traditionally might be called 'hard to reach'. However, the service for LEAP is offered as a universal service to all expectant parents who live in LEAP wards.

### 2. Assumptions

Building positive relationships between parents and their baby, as well as between the parents themselves, offers parents and babies the opportunity to thrive. It covers the topics that parents expect from traditional antenatal education, such as birth, breastfeeding and practical baby care. Importantly, the programme also focuses on the key themes that reflect the importance of protective factors in the perinatal period:

- Strengthening parent-infant relationships
- Strengthening couple relationships
- Building strong support networks
- Improving feelings of self-confidence as well as levels of low mood and worry
- Helping parents to understand babies' development

By developing their skills in these areas, parents are better-equipped to provide sensitive, responsive care to their babies. They will also feel more confident as parents. This may ultimately result in these children having better long-term outcomes. The approach of the Baby Steps facilitators is just as important as their professional knowledge and skills. Facilitators develop mutually respectful, valued relationships with parents, which enable them to benefit fully from the programme and to model the secure relationships they can create with their child.

Relationships between the Baby Steps facilitators and parents are crucial to the change process. Parents need to develop skills and confidence in a mutually respectful, supportive environment. Parents need to feel positive about themselves and be resilient to setbacks. The small number of mums in groups facilitates the development of close social bonds between parents.

### 3. Evidence

#### Antenatal education

- Current antenatal education is inconsistent in quality and can fail to support parents in preparing for parenthood; it is often highly medicalised, ignores relationship changes and excludes fathers.[3]

#### Parent-foetal and parent-infant relationship

- Parents' relationship with their baby is incredibly important for healthy development. This begins in the womb: a parent's mental image of their baby can be important predictors of their later relationship.[4]
- After babies are born, they need their caregivers to recognise and respond appropriately to their feelings and needs.[5] [6]
- Evidence shows that parents' awareness of and ability to recognise their baby's mental states – capacities known as reflective function or mind-mindedness – are important to enable them to respond sensitively to their baby and form a healthy relationship.[7] [8]

[3] Schrader McMillan, A. S., Barlow, J., and Redshaw, M. (2009)
[4] Benoit, D., Parker, K. C., and Zeanah, C. H. (1997)
[5] National Scientific Council on the Developing Child. (2004)
[6] Wolff, M. S., and van Ijzendoorn, M. H. (1997)
[7] Slade, A., Grienenberger, J., Bernbach, E., Levy, D., and Locker, A. (2005)
[8] Meins, E., Fernyhough, C., Wainwright, R., Das Gupta, M., Fradley, E., and Tuckey, M. (2002)

### Parent-couple relationship

- Baby Steps is also designed to strengthen the couple relationship. The transition to parenthood can be a difficult and disruptive time, and this can have a negative effect on a parent's relationship with their partner. Family discord can have a negative impact on child development, in part because relationship conflict makes it harder for parents to be attuned to their children's needs.[9] [10]
- During pregnancy and after birth a dad or partner plays an important role in influencing the wellbeing of the mother, and in supporting her to maintain healthy behaviours that benefit their baby: a woman whose partner remains involved during pregnancy is more likely to attend antenatal care, take better care of her health and to deliver a healthy baby.[11]
- Research shows that the father's attitudes and behaviour play a unique role in maternal parenting, for example, whether a mother gives up smoking or breastfeeds her baby.[12] [13] [14]
- The speed at which a woman recovers from postnatal depression is also linked to the quality of her relationship with her partner.[15]

### Parental social support

- Baby Steps enables parents to build social capital. Meeting and making friends with other new parents is a reason why many parents attend antenatal education.[16]
- The quality of a mother's social support – both prenatal and postnatal – has been found to be associated with her sensitivity towards her infant, and the security of the infant-mother attachment, particularly when the family is under stress. [17]
- It is thought that social support can act as a buffer against stress, enabling parents to be more available to their baby. Support from family and friends has also been associated with babies' health at birth, mother's mental health, and breastfeeding initiation and duration.[18] [19]

### Parental mental health

- Maternal perinatal depression and anxiety are common, with 20 per cent of women experiencing a diagnosable depressive episode during pregnancy and the first three months after birth. Additionally, at least an equivalent number of new mothers report subclinical levels of depression during this period. Depression, whether diagnosable or subclinical, is likely to have an impact on parenting and child outcomes.[20]
- Fathers are also at risk of experiencing depression in the postnatal period, due in part to changes in sleep patterns, changes in social support networks and changes in their relationship with their partner.[21]
- We now know that a woman's mental health in pregnancy affects foetal development, potentially with lasting results.[22]
- After the baby's birth, parents' mental health can influence their ability to be emotionally available and attuned to their infant.[23]

## 4. Internal and External Enablers

- Baby Steps facilitators need to develop strong relationships of trust, honestly and openness with parents, which will facilitate the successful delivery of support (internal enabler).
- When the Baby Steps programme ends, parents need to continue to implement their learning from the programme with their child and partner (external enabler).
- Long-term success depends on parents maintaining engagement with local services, as well as sustaining contact with the social support networks developed through Baby Steps (external enabler).

[9] Teubert, D., and Pinquart, M. (2010)
[10] Owen, M. T., and Cox, M. J. (1997)
[11] Fletcher, R., May, C., and St George, J. (2014)
[12] Meedya, S., Fahy, K., and Kable, A. (2010)
[13] Martin, L. T., McNamara, M. J., Milot, A. S., Halle, T., and Hair, E. C. (2007)
[14] Penn, G., and Owen, L. (2002)
[15] Misri, S., Kostaras, X., Fox, D., and Kostaras, D. (2000)
[16] Schrader McMillan, A. S., Barlow, J., and Redshaw, M. (2009)
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[18] Dennis, C. L. (2002)
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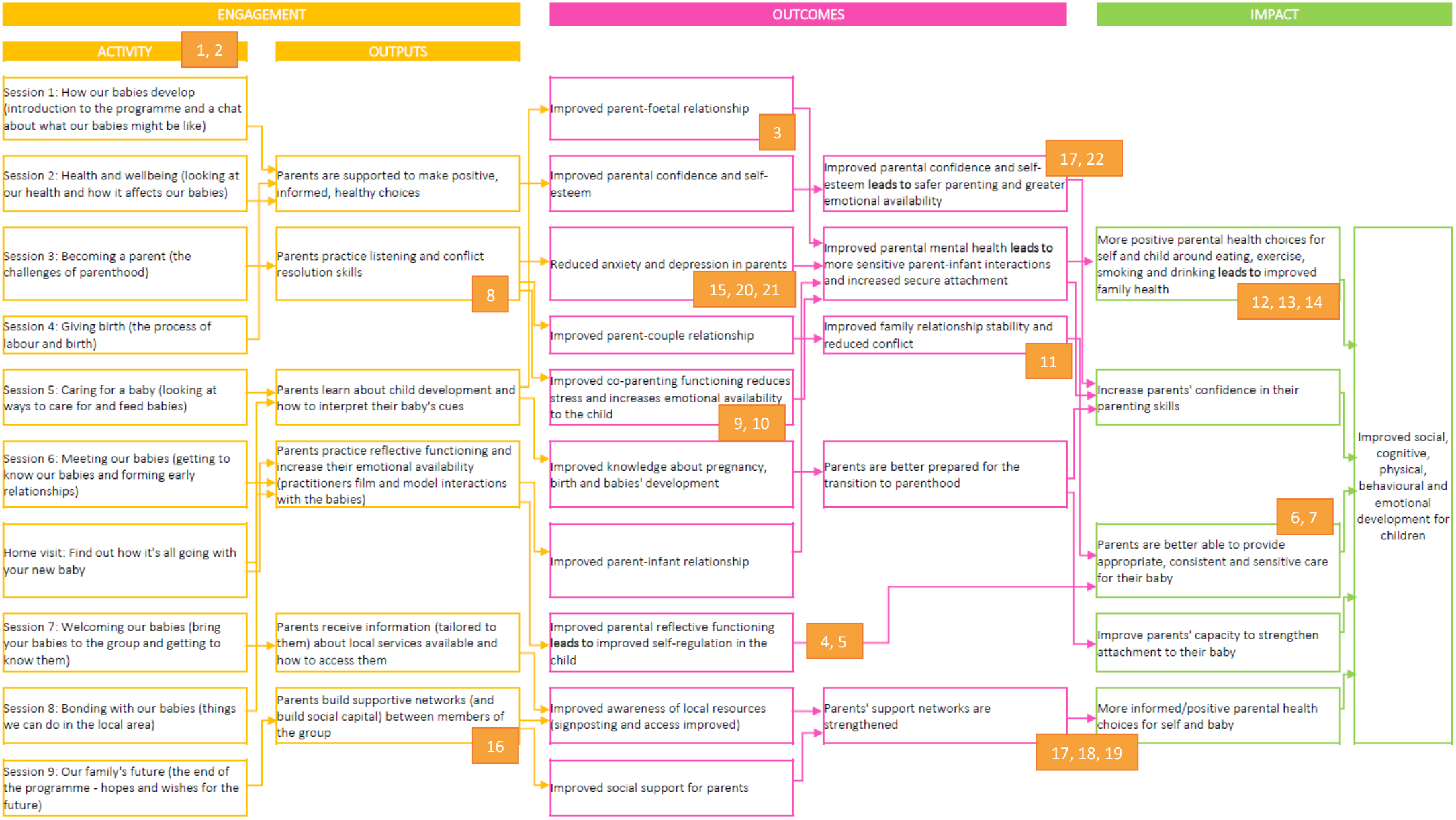
[20] O'Hara, M. W., and Wisner, K. L. (2014)
[21] Domoney, J., Iles, J., Ramchandani, P. (2014)
[22] Brand, S. R., and Brennan, P. A. (2009)
[23] Milgrom, J., Westley, D. T., and Gemmill, A. W. (2004)

# Appendix 1b: Illustrative example of a science-based theory of change

## Baby Steps: science-based theory of change *(draft)*



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# **Appendix 2:** Measurement framework (linked to science-based theory of change)

## Baby Steps: Measurement framework extract (outcomes)

| | INTERMEDIATE OUTCOMES | OUTCOME INDICATORS | MEASURE | COLLECTION | | FREQUENCY | RESPONSIBLE |
|---|---|---|---|---|---|---|---|
| | A change in the knowledge, skills, attitudes, thinking or behaviour of participants | An outcome indicator should assess: population, target, threshold and timeline | How will the impact be measured? Measurement Tool | How will data be collected? | Who will data be collected from? | When will data be collected? | Who will measure it? |
| 5.1 | Improved parent self-esteem | Improved parental confidence and self-esteem (leads to safer parenting and greater emotional availability) | Rosenberg Self-Esteem Scale | In person | Parents | Sessions 1, 9 and home visit | Health visitor/ midwife |
| 5.2 | Reduced anxiety and depression in parents | Parents are better prepared for the transition to parenthood | Prenatal Attachment Inventory (PAI) for mums; adapted measure for dads | In person | Parents | Session 1 and home visit | Health visitor/ midwife |
| | | Decreased levels of anxiety in parents | Hospital anxiety and depression Scale (HADS) | In person | Parents | Sessions 1, 7 and home visit | Health visitor/ midwife |
| | | Decreased levels of depression in parents | Hospital anxiety and depression Scale (HADS) | In person | Parents | Sessions 1, 7 and home visit | Health visitor/ midwife |
| | | Improved parental mental health leads to more sensitive parent-infant interactions | Mother-child relationship scale (Mors-SF) | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| | | Parents are more confident to access services and local resources | Parent feedback form/ LEAP referrals data | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents are supported to access and engage with wider support and local resources | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that the service increased their awareness of wider support opportunities | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that the service helped them feel more positive about being a parent | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that the service helped them feel more confident as a parent | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that they made new connections (friends/network) from their group | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that they have increased support from their: partner, group, community and networks | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| 5.3 | Improved parent-foetal relationship | Parents reporting that the service helped them prepare for the birth of their child | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Parents reporting that the service supported an increased attachment to their unborn baby | Prenatal Attachment Inventory (PAI) for mums; adapted measure for dads | In person | Parents | Session 1 | Health visitor/ midwife |
| | | Parents engage positively with their unborn baby | Prenatal Attachment Inventory (PAI) for mums; adapted measure for dads | In person | Parents | Session 1 | Health visitor/ midwife |
| 5.4 | Improved parent-infant relationship | Parents learn about child development and babies cues | Mother-child relationship scale (Mors-SF) | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| | | Improved parental reflective functioning (leads to improved self-regulation in the child) | Mother-child relationship scale (Mors-SF) | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| | | Parents reporting that they have experienced increased feelings of warmth towards their baby | Mother-child relationship scale (Mors-SF) & Parent feedback form | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| | | Improved quality of interaction between parents and child | Mother-child relationship scale (Mors-SF) | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| | | Parents practice and observe mentalisation and reflective functioning | Parental Reflective Functioning Questionnaire (PRFQ) | In person | Parents | Home visit and session 7 | Health visitor/ midwife |
| 5.5 | Improved parent-couple relationship | Improved family relationship stability and reduced conflict | Relationship quality index | In person | Parents | Session 1 and home visit | Health visitor/ midwife |
| | | Improved co-parenting functioning reduces stress and increases emotional availability to the child | Relationship quality index/ parent feedback form | In person | Parents | Session 1 and home visit | Health visitor/ midwife |
| | | Parents practice listening, communication and conflict resolution skills | Relationship quality index/ parent feedback form | In person | Parents | Session 1 and home visit | Health visitor/ midwife |
| | | Parents reporting that the service helped their relationship improve | Parent feedback form | In person | Parents | Session 9 (end of service) | Health visitor/ midwife |
| | | Quality of parent's relationship improves | Relationship quality index | In person | Parents | Session 1 and home visit | Health visitor/ midwife |