Propositional Program Logic or putting logic back into program logic

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Agenda

1. Brief intro to program logic
2. *Discussion*: What makes a program logic logical?
3. *Discussion*: What do the arrows mean in a program logic?
4. Are these examples in line with what people discussed?
5. Introduction to *propositional program logic*

Program logic

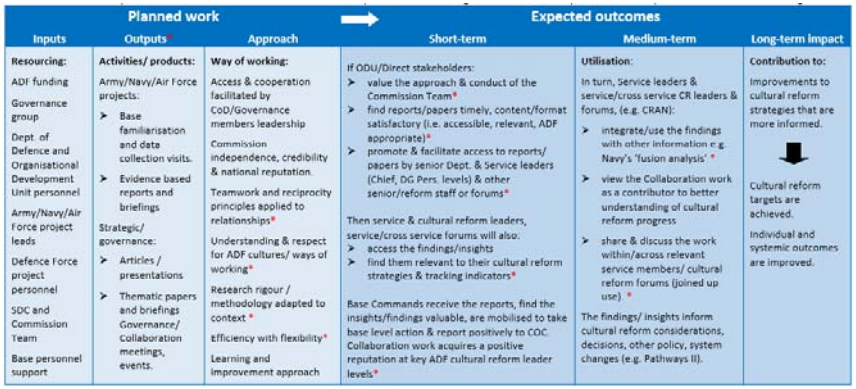
- A one page diagram or model of the important components of an intervention and how they work together to deliver outcomes
- “A program logic model is a schematic representation that describes how a program is intended to work by linking activities with outputs, intermediate impacts and longer term outcomes. Program logic aims to show the intended causal links for a program”*

*Centre for Epidemiology and Evidence. Developing and Using Program Logic: A Guide. Evidence and Evaluation Guidance Series, Population and Public Health Division. Sydney: NSW Ministry of Health, 2017

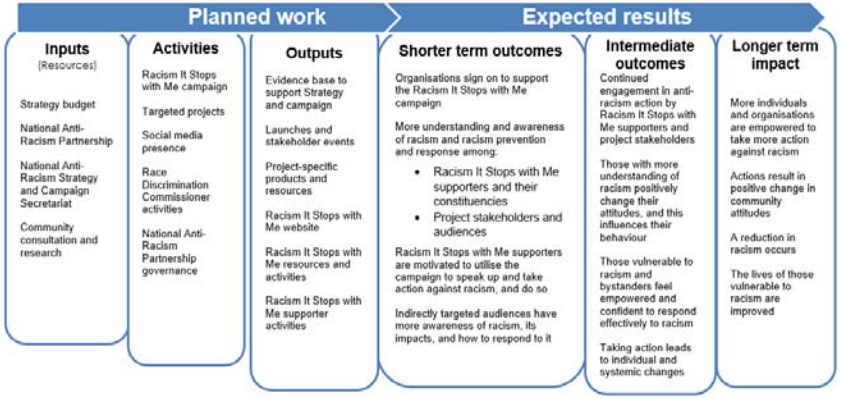
Program logic examples: pipeline

Logic model: building evaluation capability in a Govt micro agency to meet demands of the Enhanced Commonwealth Performance Framework (ECPF)

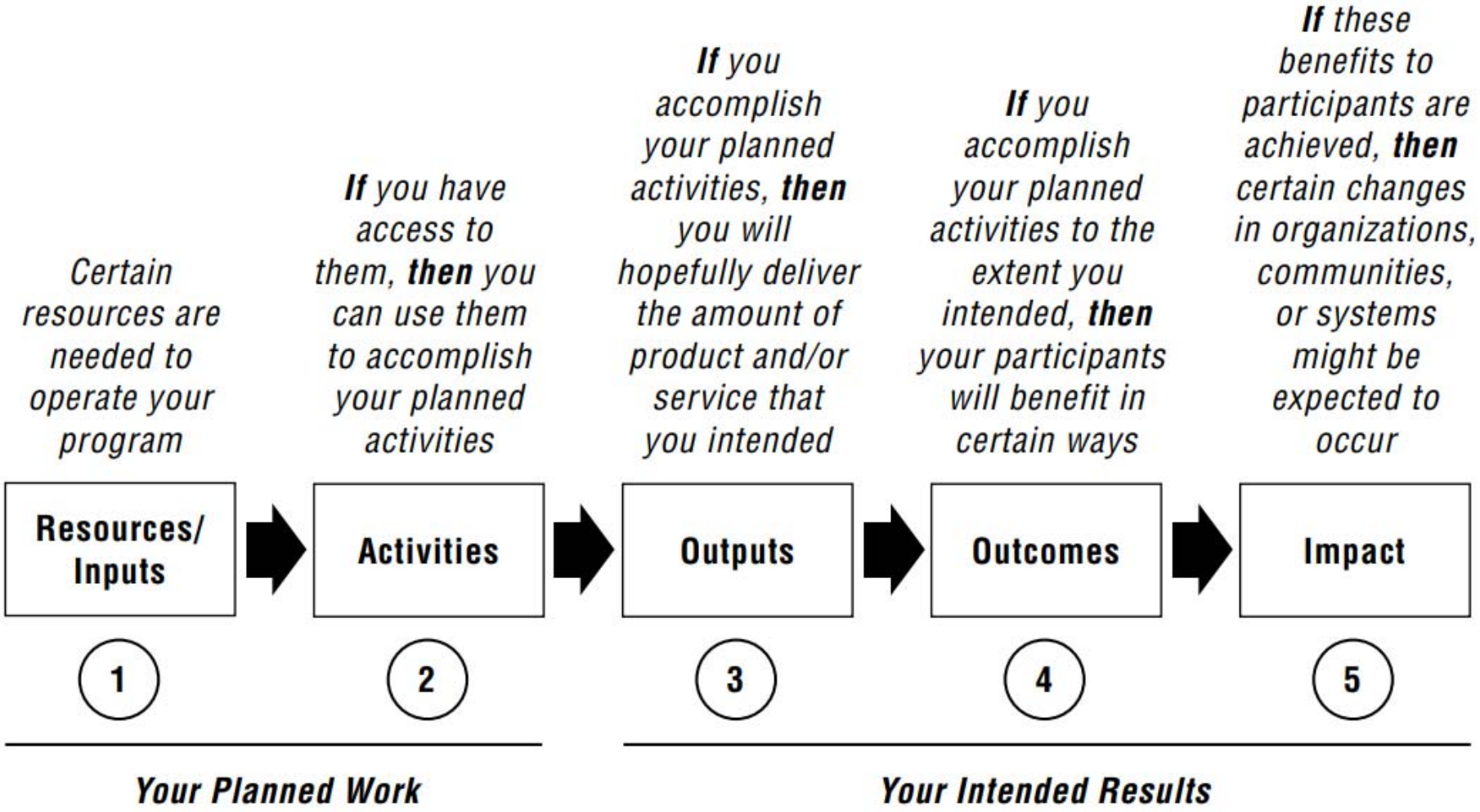
The underlying theory of change is: *if the agency invests in ECB, its programs and ability to demonstrate their outcomes will improve. Accordingly, APS entities with evaluation capacity will be better positioned to report against their purpose and meet the ECPF requirements.*



Anti-Racism Strategy logic model



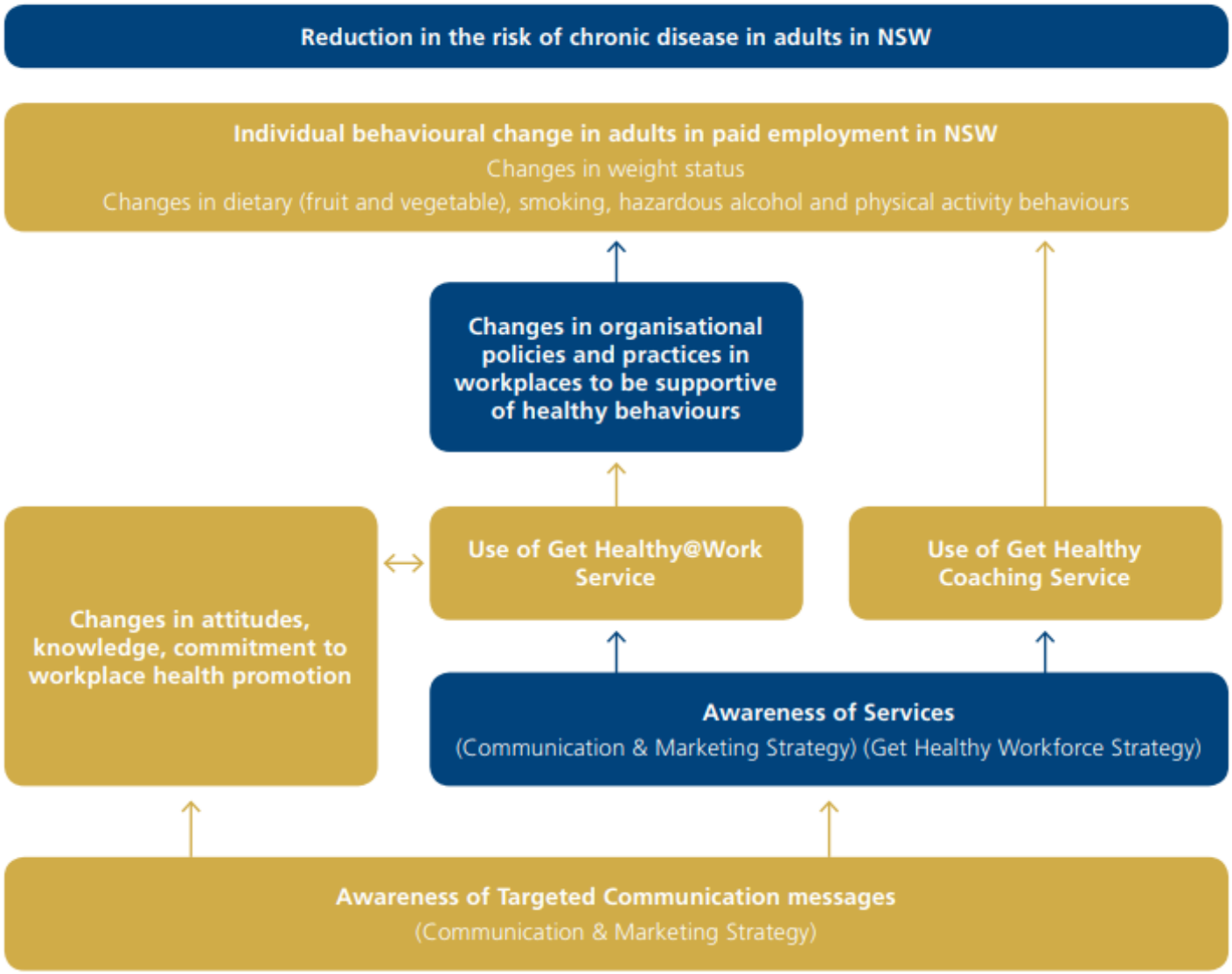
Pipeline logic: too much hope



Source: Kellogg foundation guide to program logic

Program logic example: Outcomes hierarchy

Figure 1. Example of an outcomes hierarchy for the NSW Implementation of the Healthy Workers Initiative



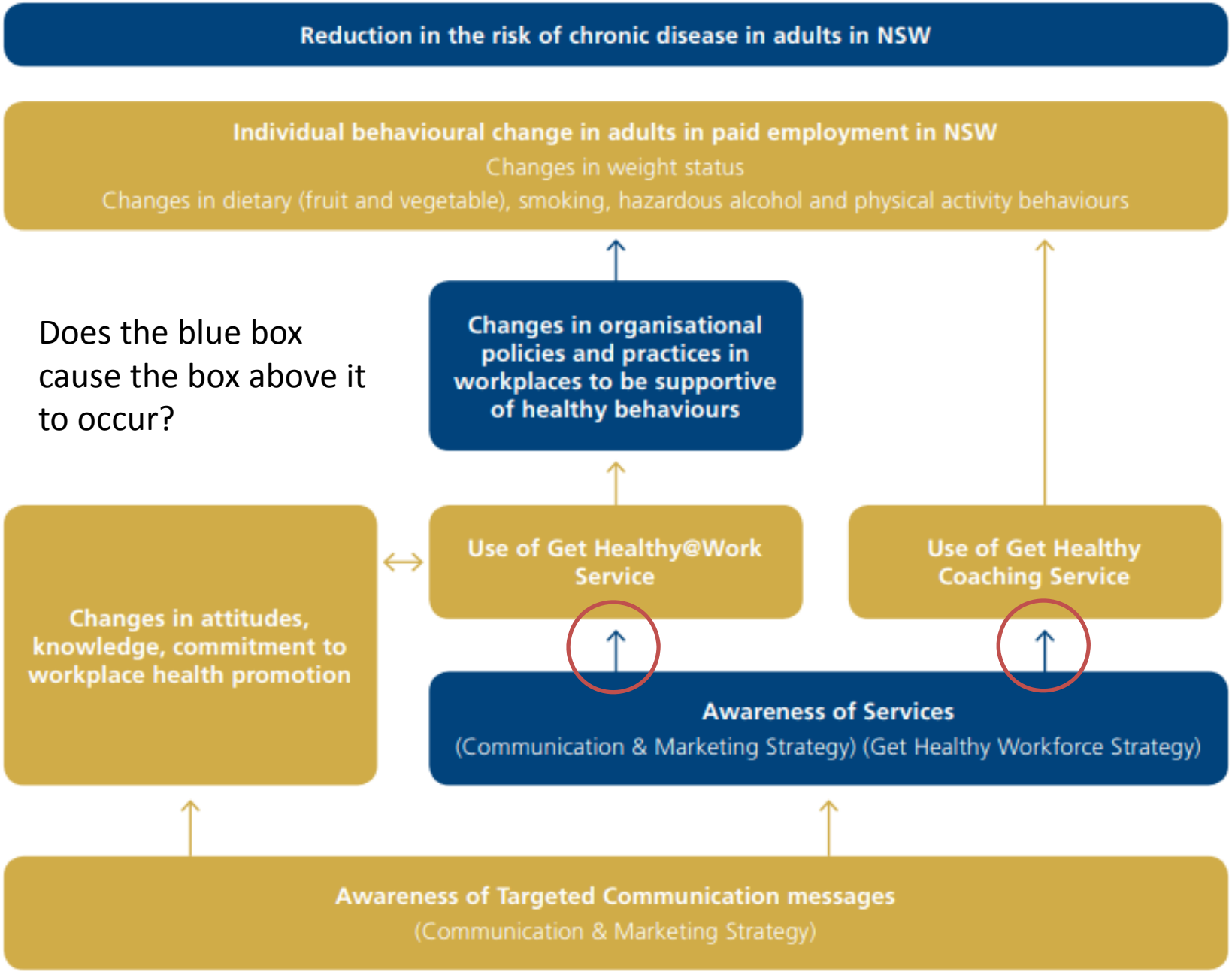
Discussion points

- What makes a program logic logical? – talk to your neighbour for 5 minutes and report back to the group.

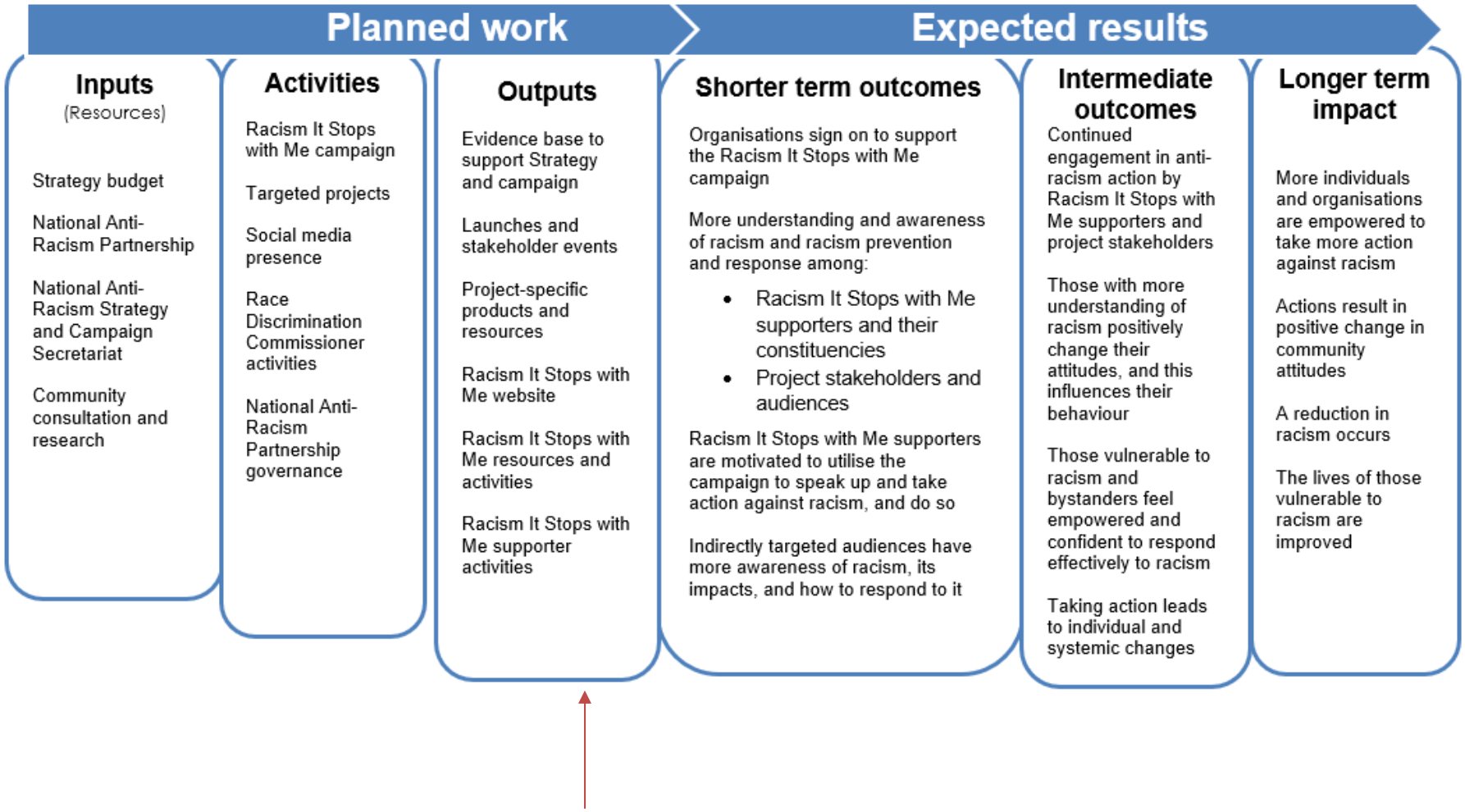
- What do the arrows mean in a program logic? – small groups 5 minutes and report back to the group.

Are the following program logics logical?

Figure 1. Example of an outcomes hierarchy for the NSW Implementation of the Healthy Workers Initiative



Anti-Racism Strategy logic model



Is this collection of outputs enough to ensure the outcomes occur, – what's the connection between these and outcomes, is it causal, logical, hopeful?

Planned work			Expected outcomes		
Inputs	**Outputs***	**Approach**	**Short-term**	**Medium-term**	**Long-term impact**
Resourcing: ADF funding Governance group Dept. of Defence and Organisational Development Unit personnel Army/Navy/Air Force project leads Defence Force project personnel SDC and Commission Team Base personnel support	**Activities/ products:** Army/Navy/Air Force projects: ➢ Base familiarisation and data collection visits. ➢ Evidence based reports and briefings Strategic/ governance: ➢ Articles / presentations ➢ Thematic papers and briefings Governance/ Collaboration meetings, events.	**Way of working:** Access & cooperation facilitated by CoD/Governance members leadership Commission independence, credibility & national reputation. Teamwork and reciprocity principles applied to relationships* Understanding & respect for ADF cultures/ ways of working* Research rigour / methodology adapted to context * Efficiency with flexibility* Learning and improvement approach	If ODU/Direct stakeholders: ➢ value the approach & conduct of the Commission Team* ➢ find reports/papers timely, content/format satisfactory (i.e. accessible, relevant, ADF appropriate)* ➢ promote & facilitate access to reports/ papers by senior Dept. & Service leaders (Chief, DG Pers. levels) & other senior/reform staff or forums* Then service & cultural reform leaders, service/cross service forums will also: ➢ access the findings/insights ➢ find them relevant to their cultural reform strategies & tracking indicators* Base Commands receive the reports, find the insights/findings valuable, are mobilised to take base level action & report positively to COC. Collaboration work acquires a positive reputation at key ADF cultural reform leader levels*	**Utilisation**: In turn, Service leaders & service/cross service CR leaders & forums, (e.g. CRAN): ➢ integrate/use the findings with other information e.g. Navy's 'fusion analysis' * ➢ view the Collaboration work as a contributor to better understanding of cultural reform progress ➢ share & discuss the work within/across relevant service members/ cultural reform forums (joined up use). * The findings/ insights inform cultural reform considerations, decisions, other policy, system changes (e.g. Pathways II).	**Contribution to:** Improvements to cultural reform strategies that are more informed. ⬇ Cultural reform targets are achieved. Individual and systemic outcomes are improved.

Good example of using a logical approach explicit 'if-then' thinking

But are there any assumptions we are relying on, i.e. any barriers to use? These might need to be identified and evaluated

Program logic problems

- Problems in program logic stem from an implicit assumption about causality and the desire to present a ‘causal chain’ rather than ‘causal package’
  - Successionist causality
  - Generative causality
  - Configurationalist causality
- Does not put a brake on overly optimistic ideas about what a program is actually designed to be sufficient for and what it may only contribute towards
  - Under-funded interventions with unrealistic expectations
  - Money wasted trying to measure unlikely outcomes
  - Frustration, cynicism and lack of progress
- Based on an implicit assumption that the design, implementation and evaluation of interventions are better framed by discussions of theory than of value propositions or arguments
- Theory plays an important role in providing reasons why a program or component of a program are thought to be effective – but program itself is not a theory, it is better understood as an argument or value proposition.
- A logical rather than theoretical approach will support conversations about what a program is actually sufficient for (and if that is ok?) without confusion about ‘theory of change’ or ‘theory of action’

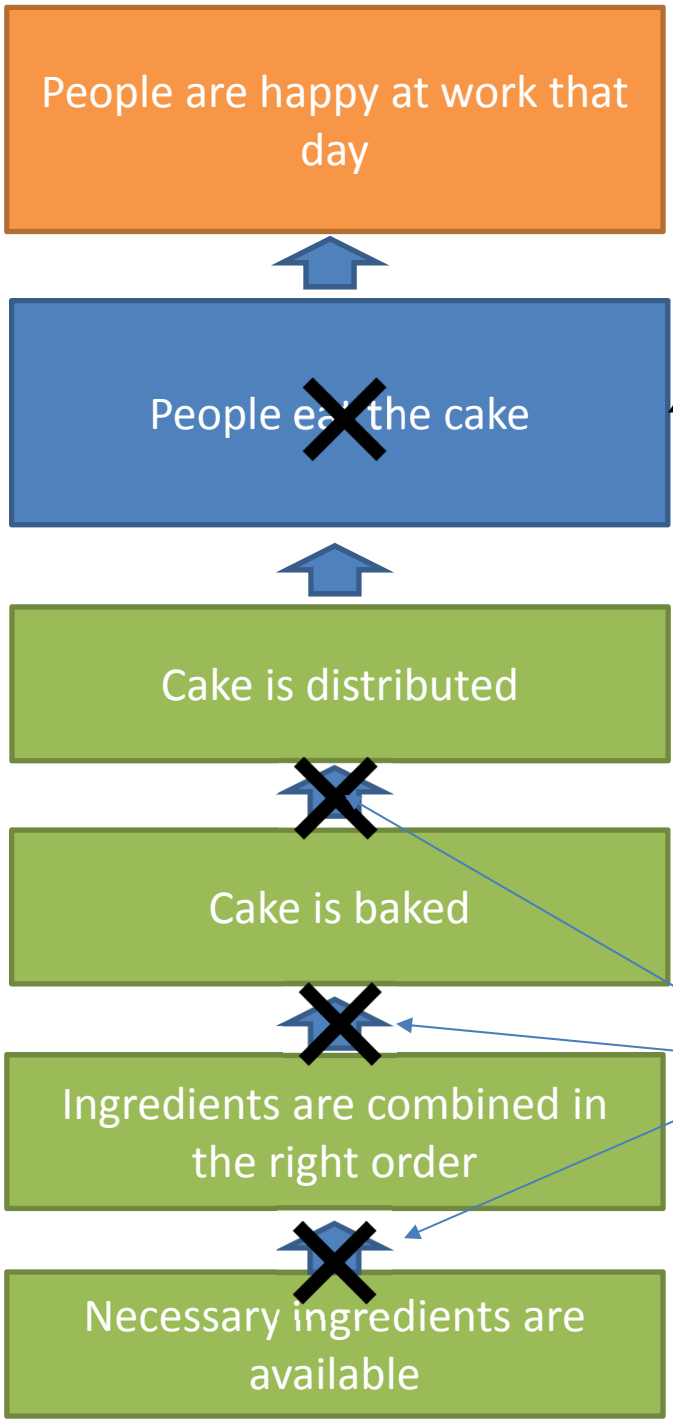
What do we mean by ‘caused’

- The presence of something is invariably followed by the presence of something else (**successionist**) [simple change]
- The configuration of certain somethings immediately brings about a new something (**configurationalist**) [complicated change]
- The presence of something with certain latent powers interacting with the latent powers of something else in a certain context creates a new something (**generative**) [complex change]

Propositional Program Logic

- A proposition that a course of action will be sufficient to bring about a desired result, outcome or condition
  - A one page diagram – looks just like a regular PL
  - Contains a series of 'conditions' or 'propositions' to be achieved
  - Relies on assumptions, a strong program minimises these
  - A course of action will not be the only way, but must be sufficient for bringing about a new state of affairs (i.e. a change)
  - Components may or may not all be necessary
  - Will contribute to aspirational outcomes also effected by external factors
- Focus is on a 'causal package' not a 'causal chain'.
- Sound program logic is valid (makes sense on paper) and well grounded (intended conditions achieved). Evaluation can be of the validity of the argument or the well groundedness of its premises using empirical data.
- Theories are a special case of a broader class of warrants or reasons to think each step is necessary and that together they will be sufficient.
- Weakness is reliance on what we think we know about the world and our interventions – this is accepted as it is considered necessary for rational policy making that reasoning can be laid out and interrogated, even if it is limited.
- Program logic should be updated with new knowledge about whether each condition is necessary, whether they are sufficient, what assumptions may or may not hold and what external factors matter.

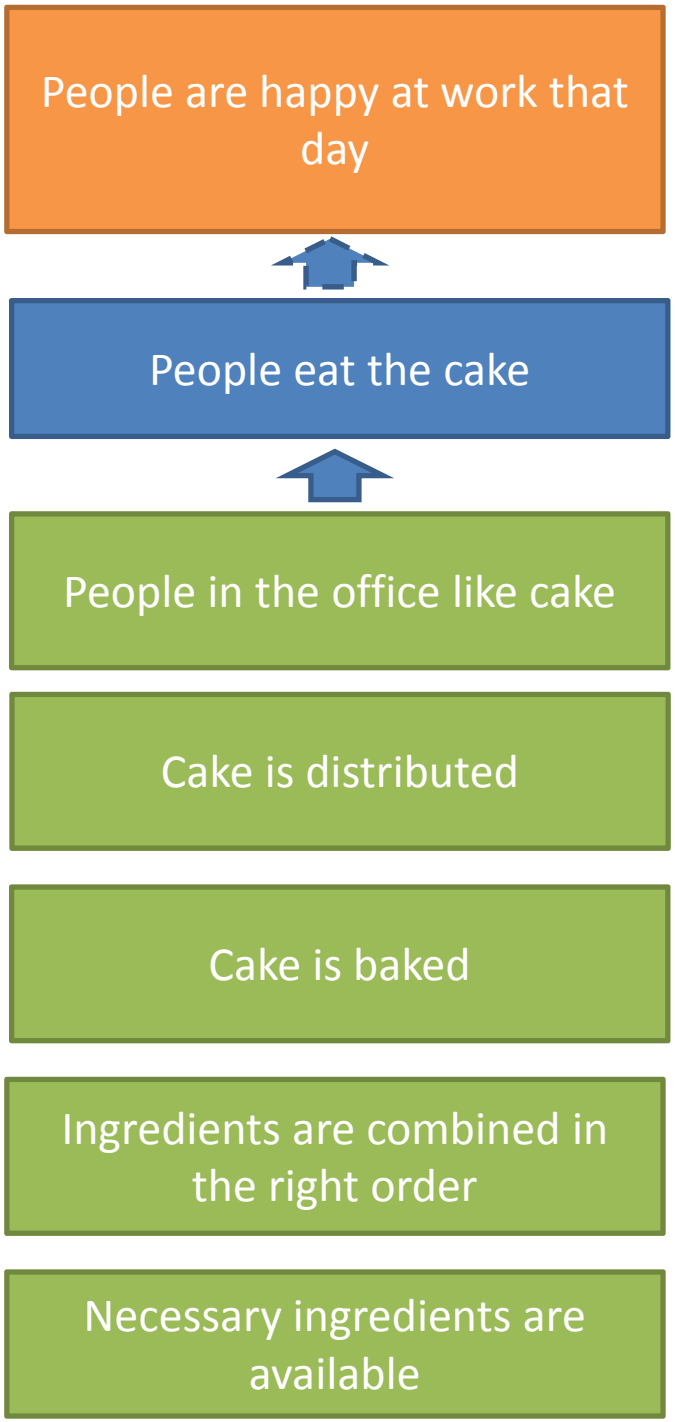
People are happy at work that day
People eat the cake
Cake is distributed
Cake is baked
Ingredients are combined in the right order
Necessary ingredients are available
Our intervention needs to contribute towards this
Our intervention needs to be sufficient for this to occur
These are necessary for our intervention to be a success



Sometimes we combine ingredients and bake a cake but if they were not the 'necessary' ingredients (e.g. halal gelatine) – the cake may be baked, but not eaten.

These do not lead to the next step – but they are necessary preconditions

A 'necessary' condition may be important not just because of the next important outcome, but for a higher up outcome i.e. there is no 'chain'.



Our program might not be sufficient – want if people aren't hungry, what if they don't like any form of cake?

Are we willing to assume people like cake and are hungry enough to eat some at morning tea – or do we need to stimulate demand. Maybe some propaganda that 'eating cake makes you happy?

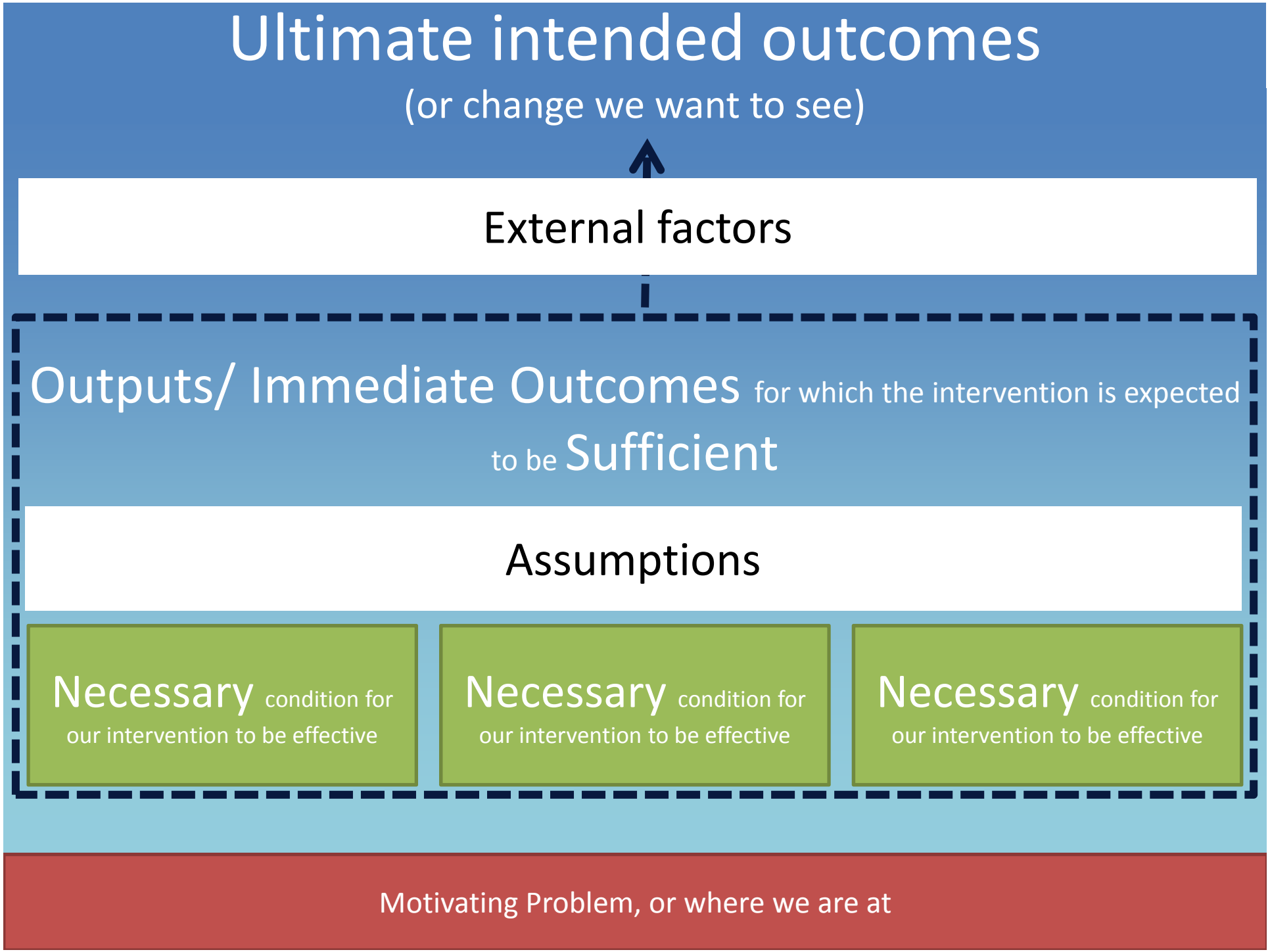
Assumption or pre-condition we need to ensure is in place? Is this an early or late step?

It doesn't lead to anything. If we need to prepare the ground work its probably an early step. If we can take the cake somewhere it *is* liked then it might be a late step?

People in the office like cake

Program components as INUS conditions in propositional program logic

- A program is not the only way to achieve something but it must be sufficient.
- A program has components that we think are necessary and when all achieved are sufficient for bringing about some outcome.
- Each component (i.e. output) is an insufficient but non-redundant (i.e. it is needed) part of an unnecessary (i.e. there are other ways), but sufficient condition (i.e. the program) - INUS
- IMPORTANT: Components are written as conditions or propositions ‘who or what achieves, or is in, what state’
- Remember at this level we are not focusing on the ‘why’ of each component at this stage or ‘when it works and for whom’ because we are focused on the conditions, not how or why they are brought about.


Ultimate intended outcomes
(or change we want to see)
External factors
Outputs/ Immediate Outcomes for which the intervention is expected to be Sufficient
Assumptions
Necessary condition for our intervention to be effective
Necessary condition for our intervention to be effective
Necessary condition for our intervention to be effective
Motivating Problem, or where we are at

Why does this matter?

It is too easy to make a fanciful program logic where we develop the policy, we implement the policy and people change their behaviour.

If we think about whether our activities will be sufficient AND if they are all in fact necessary we will develop more effective programs that are more efficient in their design

We know one thing does not CAUSE the next. It's the collection of things that CAUSE the next. Those things can be broken down into manageable chunks – i.e. what we think is important for our attention. There will always be judgment about whether something is important enough to include on a PL. Setting out what you think your actions will be sufficient for and then evaluating the logical and empirical outcomes is far more likely to result in good programs that implying step by step linear causation (which is always apologised for but somehow remains a feature of diagrams?) and just evaluating the outcomes.

So a program can be evaluated while its on paper – is the propositional argument sound? i.e. If our assumptions hold and if each step on the way to our intended outcome were achieved, would our intended outcome follow with near certainty? It can then be evaluated once its in the field – is each proposition well grounded? i.e. did each step actually occur, was each step actually necessary, and if they did was our outcome achieved, if not our activities were clearly NOT sufficient? We need to go back to our original proposition or propositional argument augment and check it. Without one we don't know what to check.

It might not make a big change to choosing evaluation methods and generating reports – but it does make a big difference to the design and improvement of interventions because it demands more rigorous thinking about what is necessary in order to be sufficient.

How does this relate to theory of change?

A program might be effective for many reasons. Sometimes we need theory to provide a reason to think some aspect of a program will be effective. But a program is not 'A' theory. There is not one theory that explains it – and similarly programs are not like theories in that they are either correct or incorrect in what they say about the world. Programs are just one way of bringing about change. They are rarely necessary, but must be sufficient.

In philosophy of causation the program is a sufficient condition built on INUS conditions (insufficient but non-redundant parts of an unnecessary but sufficient condition).

E.g. a program to move homeless people out of Martin Place may be sufficient for moving them out, but not for addressing homelessness – it depends. A program logic that has information session and sign-ups to meet with support staff may be sufficient for movement, but not for addressing homelessness unless it is assumed that the only problem that needs to be addressed is a lack of information and access to existing homelessness services. A useful evaluation may provide evidence and insight about people leaving Martin Place. It may be most valuable in identifying that a more ambitious program may be needed.

Evaluation should support an honest conversation about the likely value of what we are willing to fund. It should not serve to exclude people from debate about the value of a program. Most citizens and public servants will be assisted by propositional program logic more than discussion of theories of change. Even if 'theories of change' are necessary for reasoned action, they are not sufficient, adding 'implementation theory' just makes it even more theoretical: an argument or value proposition is more accessible and complete.