

Using the Contribution Analysis Approach to Evaluate Science Impact

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BOARD OF SCIENTIFIC COUNSELORS MEETING

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Previous NIOSH Program Reviews

Commissioned National Academies (2005)

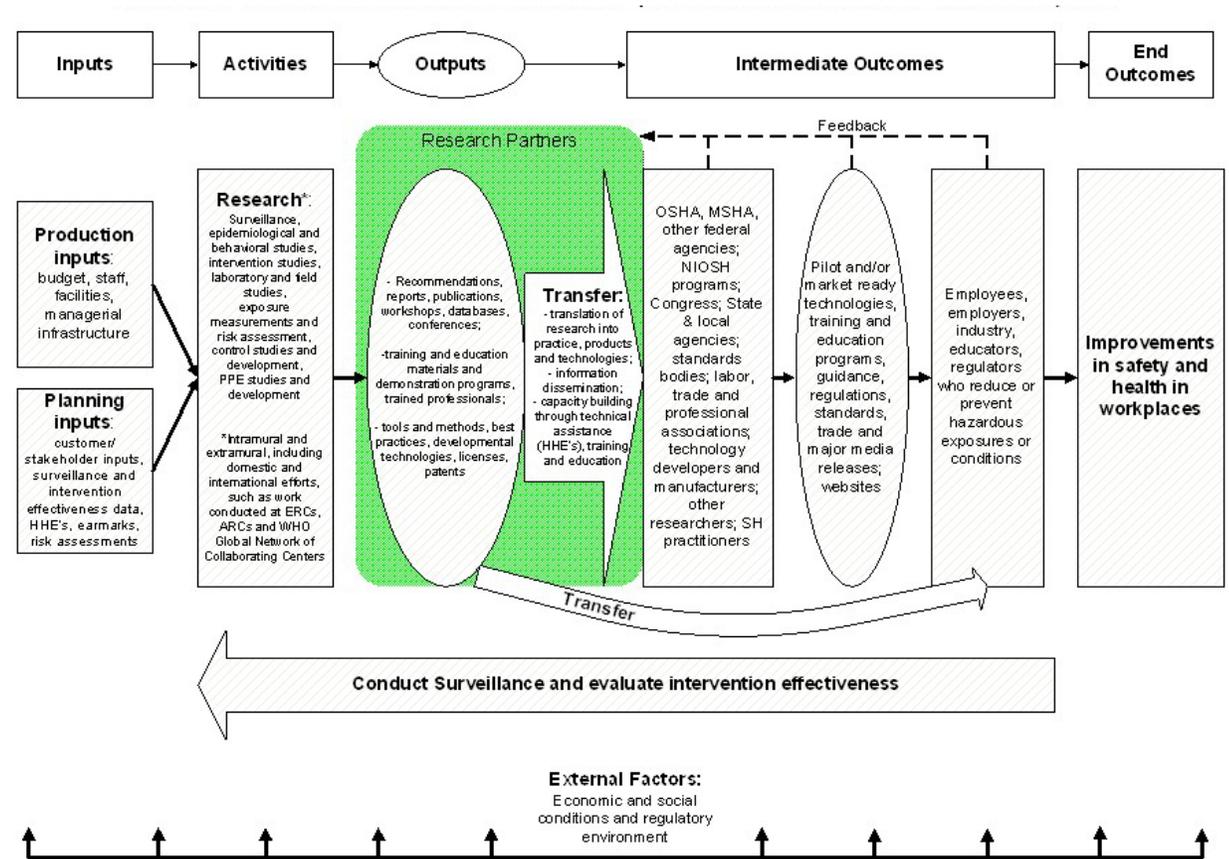
Eight NIOSH programs

Guided by a framework

- NIOSH logic model
- Component definitions
- Scoring criteria

Evidence package

- Organized by OSH outcome
 - Loosely around logic model headings
- Exhaustive lists



Considerations for a New Approach

Lessons learned from previous eight reviews

Advances in evaluation science

Sustaining rigorous, independent reviews over time

GPRA target

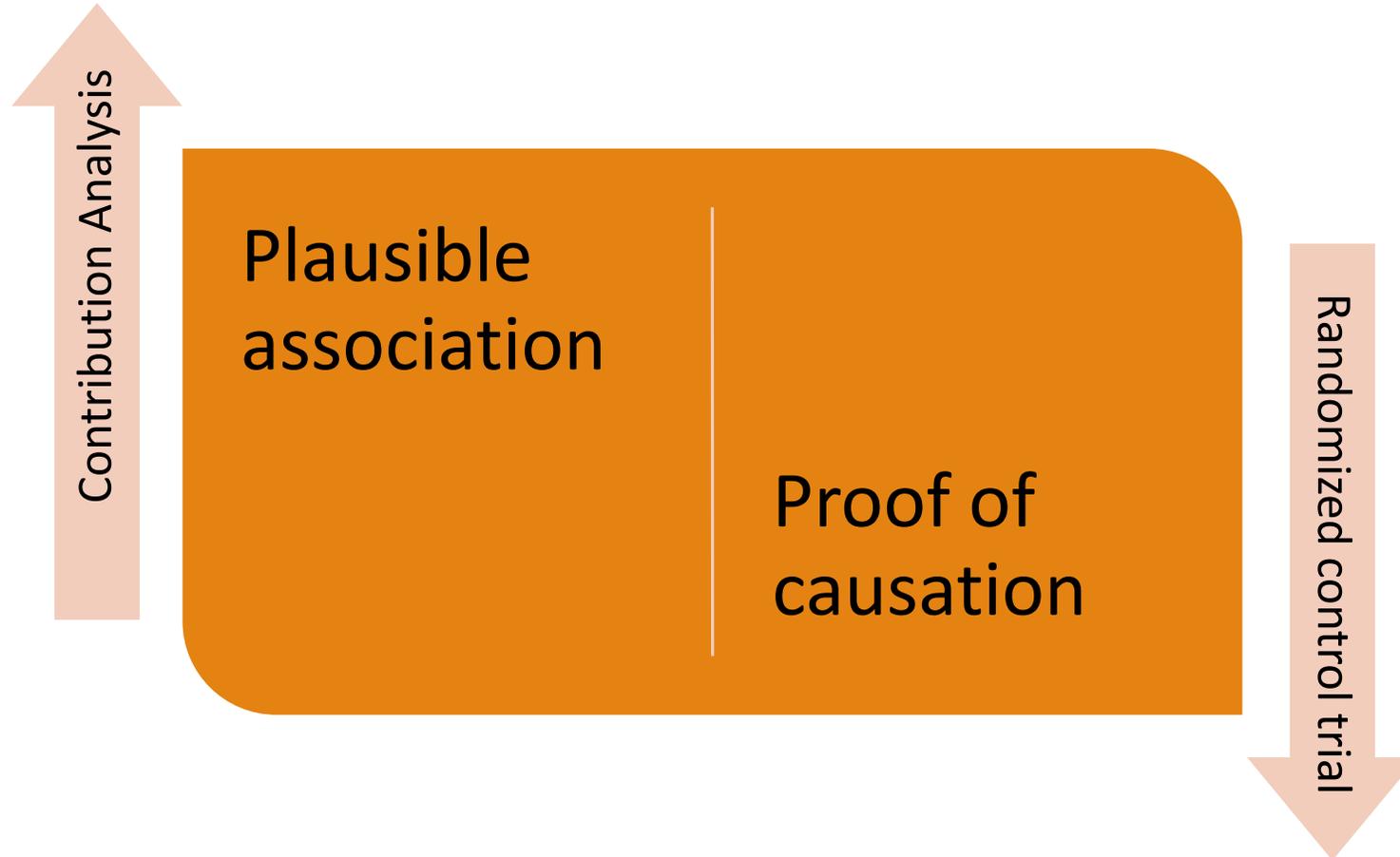


Contribution Analysis

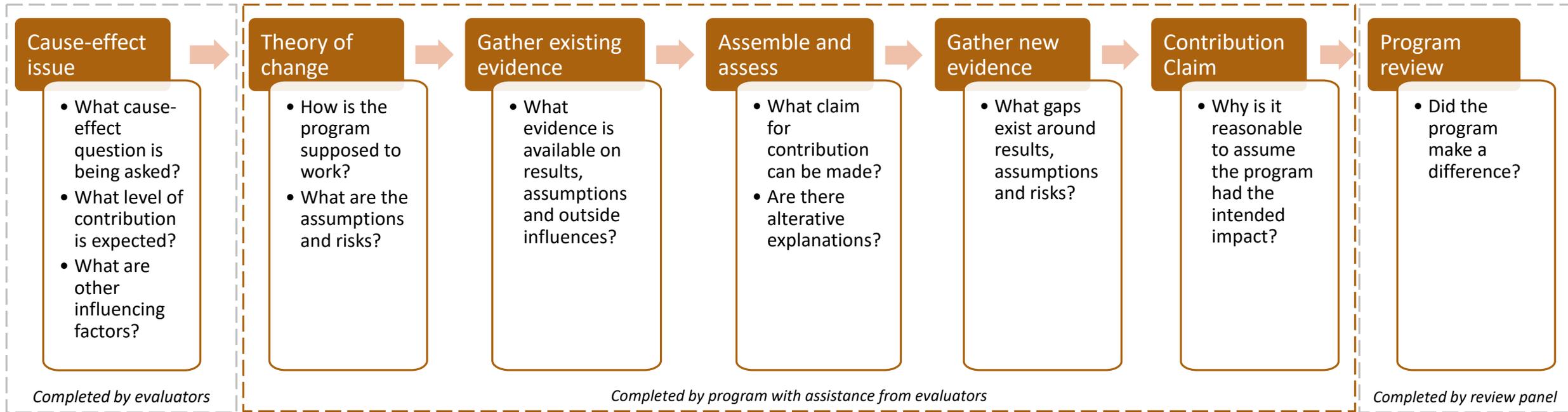
Theory-based evaluation

- Develop plausible theory for how program goes from input to impact
- Look at evidence supporting theory and alternate explanations
- If evidence supports, then reasonable to assume program contributed to impact

Contribution Analysis: Why it Makes Sense



Contribution Analysis Steps



Adapted from: Mayne, J. (2011). Contribution Analysis: Addressing Cause and Effect. In Forss, K., Marra, M., and Schwartz, R., Eds. *Evaluating the Complex: Attribution, contribution and beyond*. New Brunswick: Transaction Publishers.

Contribution Analysis Steps

Cause-effect issue



- What cause-effect question is being asked?
- What level of contribution is expected?
- What are other influencing factors?

Completed by evaluators

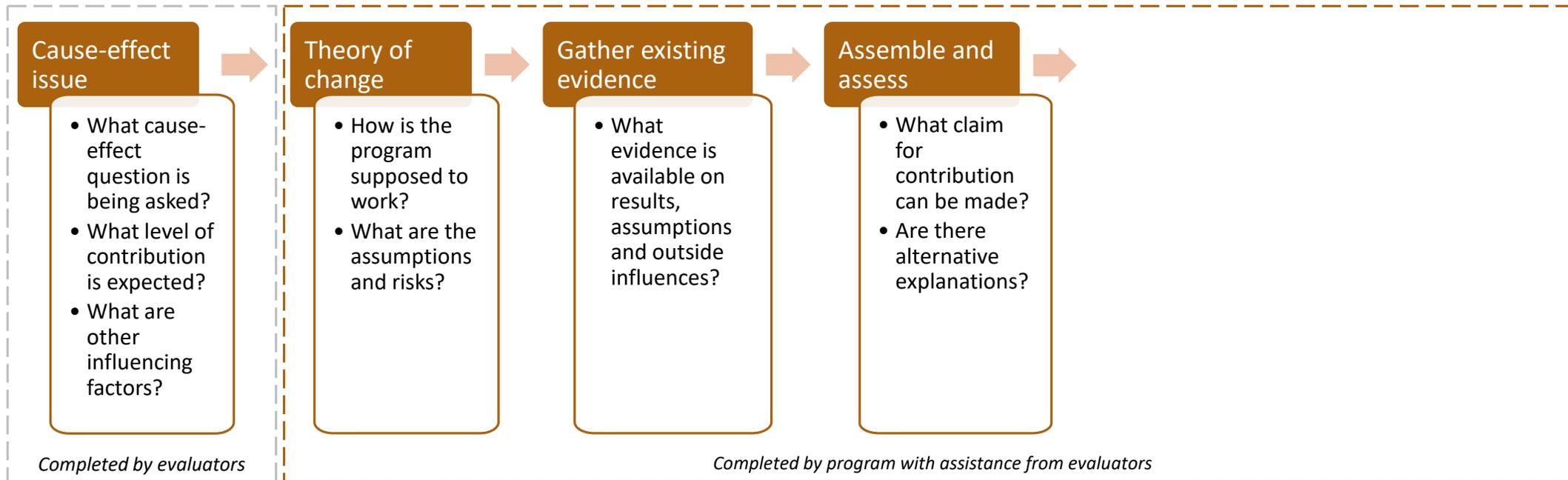
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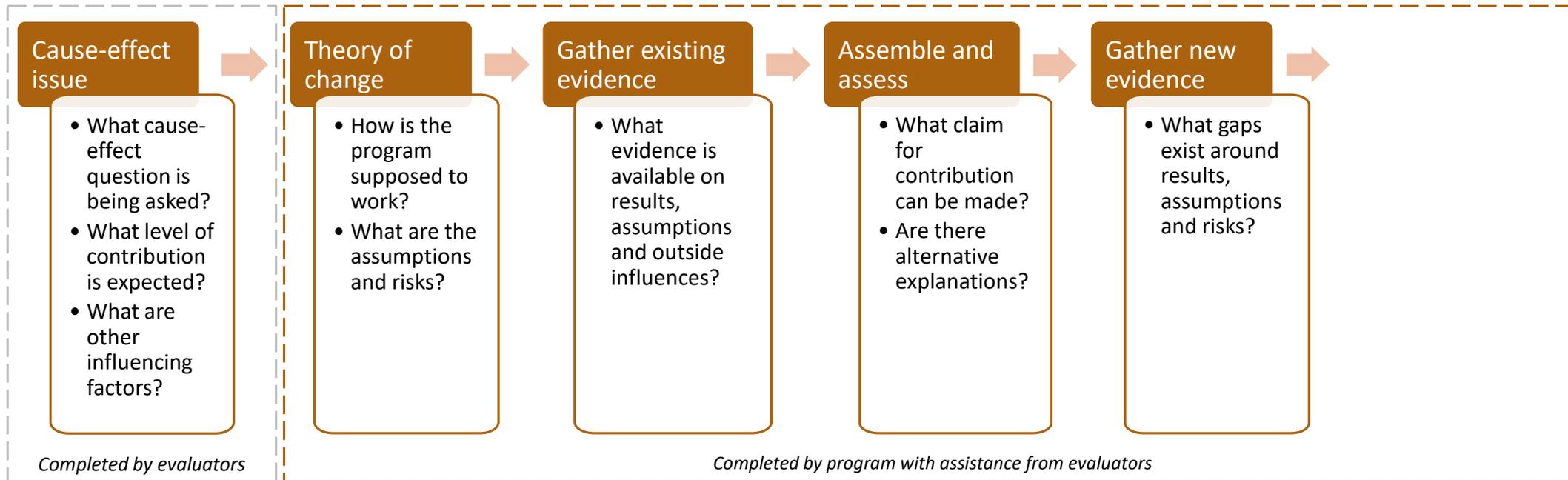
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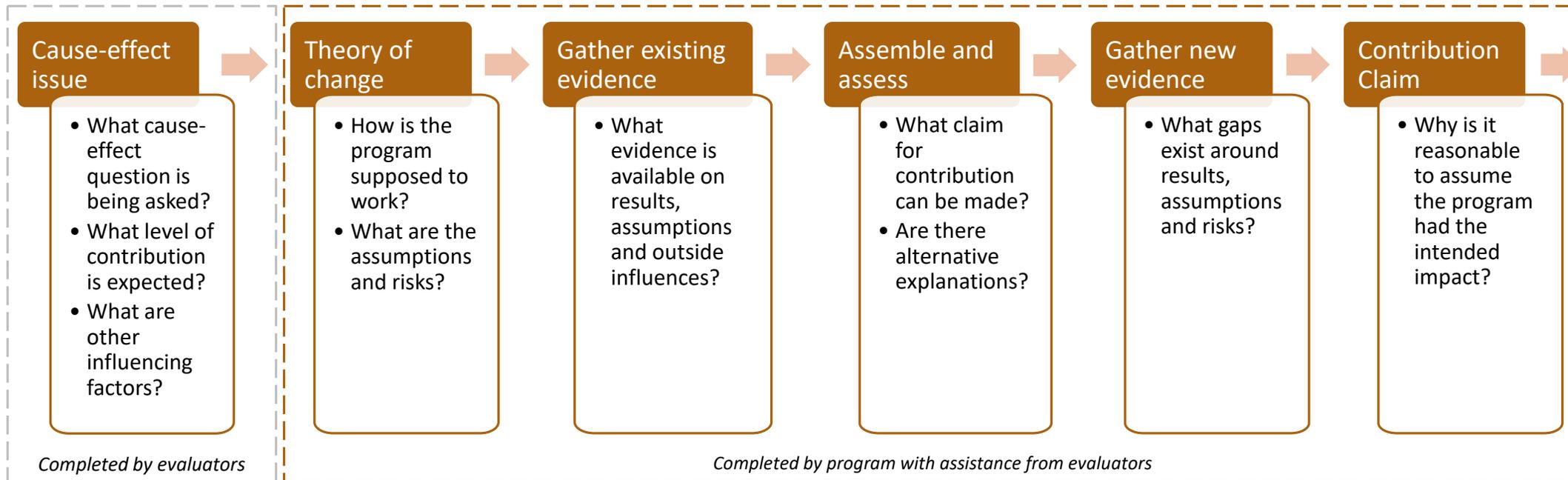
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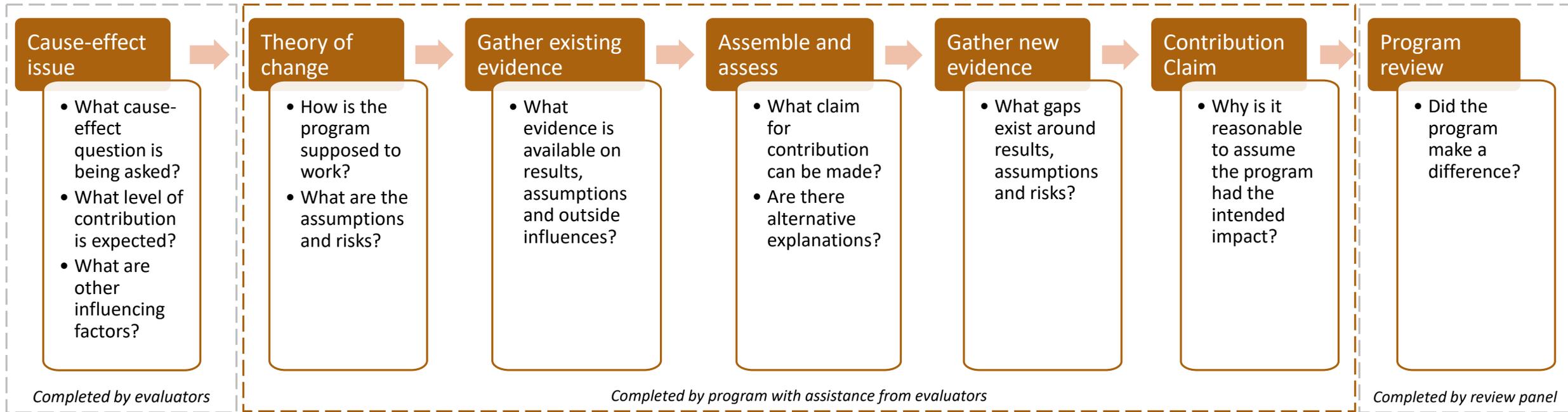
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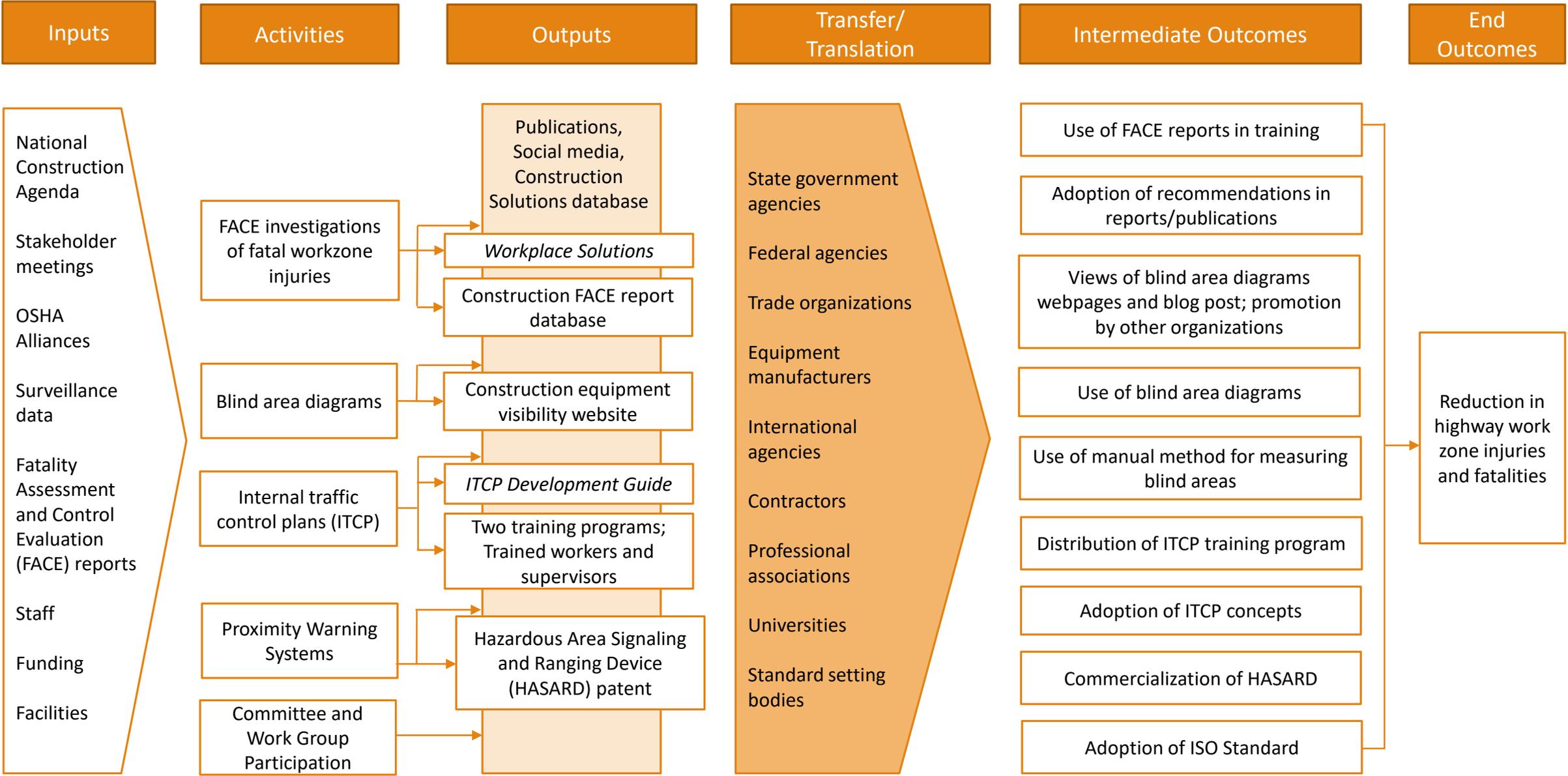


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Lessons Learned

Good fit for NIOSH

- 2017 AEA presentation and accepted journal article
- *I suspect there are many government agencies that would benefit from this approach.*
 - Former Director of Office within Federal Agency

Flexibility in scope and subject matter of the review

Targeted, actionable recommendations

Process improvements

Where we are now....

Two programs developing response and implementation plan

- Healthcare and Social Assistance
- Exposure Assessment

Two programs under review

- Construction
- Emergency Preparedness and Response

Questions

How could NIOSH use the evidence packages or pieces of the evidence contained within the packages to demonstrate its relevance and impact more broadly to stakeholders?

How would you like to be kept informed of panel findings and recommendations? Program responses and recommendation implementation?