Process Evaluation

Nai Rui Chng, James Paul Esguerra, Sally Wyke

Once upon a time, an anonymous reviewer said…

“The proposal aims to increase detection of rabies cases, reduce PEP, and improve patient care mainly through a program of IBCM. However, this implies that the usefulness of IBCM is still in question and needs to be verified. But a number of countries already gave positive reports on how IBCM has addressed the aims of this proposal. In fact, the African Pathways for Rabies Control and the Asean Rabies Elimination Strategy already recommends the implementation of an IBCM program. This therefore indicates that the effect of IBCM is no longer a research question, but should be more of an issue where the government should implement such a program in the Philippines. Hence, for more efficient use of research funds, the research objectives should probably focus more on the development of better, more accurate surveillance and diagnostic tools for rabies using genomics approaches. This is because, regardless of whatever program is in place, the bottom line is, if there is a bite case, the most critical and urgent question is still, "is there rabies or not?". If a diagnostic test can be developed to answer this question accurately, then this will improve rabies detection, rationalize PEP, and improve patient care.”

Once upon a time, an anonymous reviewer said…

"The proposal aims to increase detection of rabies cases, reduce PEP, and improve patient care mainly through a program of IBCM. However, this implies that the usefulness of IBCM is still in question and needs to be verified. But a number of countries already gave positive reports on how IBCM has addressed the aims of this proposal. In fact, the African Pathways for Rabies Control and the Asean Rabies Elimination Strategy already recommends the implementation of an IBCM program. This therefore indicates that the effect of IBCM is no longer a research question, but should be more of an issue where the government should implement such a program in the Philippines. Hence, for more efficient use of research funds, the research objectives should probably focus more on the development of better, more accurate surveillance and diagnostic tools for rabies using genomics approaches. This is because, regardless of whatever program is in place, the bottom line is, if there is a bite case, the most critical and urgent question is still, "is there rabies or not?". If a diagnostic test can be developed to answer this question accurately, then this will improve rabies detection, rationalize PEP, and improve patient care."


I THINK YOU SHOULD BE MORE SPECIFIC HERE IN STEP TWO
THEN A MIRACLE OCCURS
S. Harris

WHY DO PROCESS EVALUATION

If an intervention is effective in one context, what additional information does the policy-maker need to be confident that:

- Another organisation (or set of professionals) will deliver it in the same way;
- If they do, it will produce the same outcomes in new contexts?

If an intervention is ineffective overall in one context, what additional information does the policy-maker need to be confident that:

- The failure is attributable to the intervention itself, rather than to poor implementation;
- The intervention does not benefit any of the target population;
- If it was delivered in a different context, it would be equally ineffective?

WHAT IS PROCESS EVALUATION

Process evaluation examines

- Implementation: the structures, resources and processes through which delivery is achieved, and the quantity and quality of what is delivered;
- Mechanisms of impact: how intervention activities, and participants' interactions with them, trigger change;
- Context: how external factors influence the delivery and functioning of interventions.

KEY FUNCTIONS OF PROCESS EVALUATION

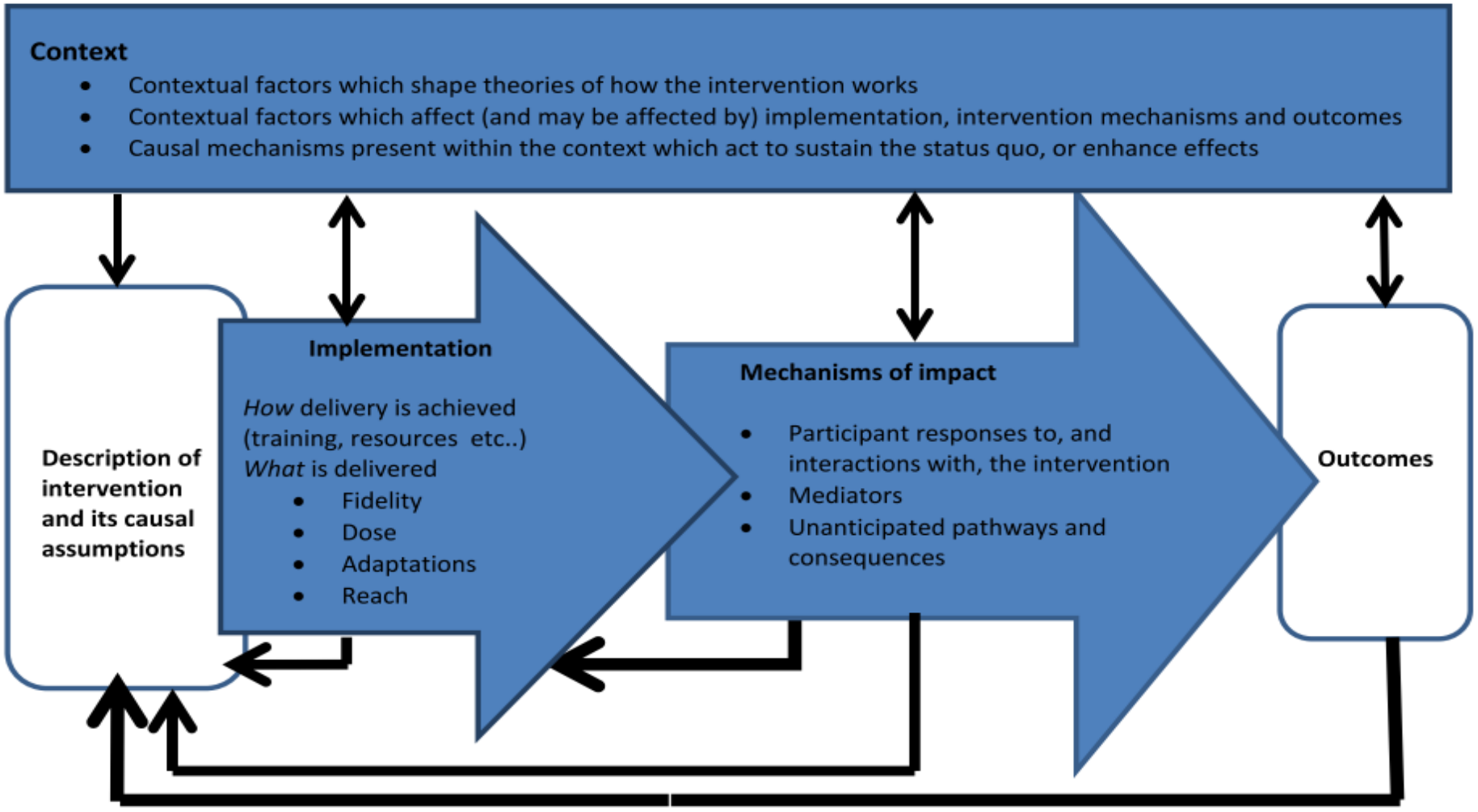


Figure 1. Key functions of process evaluation and relationships amongst them. Blue boxes represent components of process evaluation, which are informed by the causal assumptions of the intervention, and inform the interpretation of outcomes.

Moore *et* al (2014) Process evaluation of complex interventions: Medical Research Council guidance, p11

LOGIC MODEL OF SPEEDIER

Context (barriers & *facilitators*): High use of costly PEP; Low detection of animal rabies cases; Occasional human rabies deaths occur; Limited surveillance guidance to inform dog rabies control programmes; Unable to verify freedom from disease; Limited contingency planning for outbreak response; Weak rabies surveillance system; Poor implementation of RA 9482 (Philippine Rabies Act); Lack of budget for PEP; Not all surveillance officer are trained on IBCM at local government level; No continuous advocacy on responsible pet ownership and rabies awareness; No available diagnostic test in the island; Not implaced serviced delivery network for bite cases and immediate suspected rabies cases esp in the island municipalities; One health program is not yet integrated in the island animal health sector; Poor animal vaccination coverage; Lack of manpower from animal sector; *highly successful bottom-up approaches that entails collaboration across various sectors; national program aligned with the regional Asian roadmap towards rabies control and elimination*

	Resources and Programme inputs	**Logic of Change**			**Outcomes**		**Goal**
	Relational: 1) Institutional commitment (National, Provincial, Municipal) to support programme **Physical:** 1) Training & certification materials; 2) Refined protocols, (IBCM risk assessment, PEP administration, Outbreak investigations, reporting); 3) Technologies (Mobile App, Rapid Diagnostic Tests (RDTs), Portable Sequencing, Bioinformatics pipeline, Genomic Database, Data Vizualization Platform) **Financial:** Funding to pay for training, materials, time, activities, communications **Human**: 1) Programme	**Train participants and provide resources**	**Implement IBCM and Rationalized PEP**	**Participants Maintain IBCM and Rationalized PEP**	**Short term**	**Longer term**	**Guide and sustain the elimination of rabies in the Philippines through the establishment of a cost-effective, epidemiologically robust, and enhanced disease surveillance and response package**
		Recruit frontline health and animal health workers responsible for implementing surveillance: 1) Draw on workers interests and motivations; 2) Reassure workers that intervention not dissimilar to status quo. Train and certify frontline workers to proficient standard and update devices: 1) Functional database and surveillance forms developed by computer scientist with support of epidemiologist; 2) Participants trained in revised protocols, procedures using relevant devices; 3) Provision of materials, SOPs and equipment	**Deployment of functioning real-time surveillance & response system**: 1) Frontline workers have knowledge, skills, confidence, & motivation to follow new SOPs; 2) Frontline workers follow SOPs and record data using digitial devices and configured forms; 3) Alerts are promptly transmitted through digitial devices and infrastructure; 4) Trained epidemiologist receives, analyses and interprets surveillance; 5) Epidemiologist shares results with frontline workers who adhere to SOPs; 6) Epidemiologist shares data with relevant institutions	**Routinisation into daily activities**: 1) Improved working relationship between human and animal health workers; 2) Improved data & understanding of local rabies situation	**Evidence and replication plans**: 1) Reduction in PEP use & costs; 2) Data identifies high-risk exposures; 3) Active (& increased) case investigation; 4) Guidance for replication developed; 4) Provide evidence to inform policy-making in NRPCP	**A proven template and best practice developed for improving clinical practice, demonstrating and sustaining freedom from rabies and realising cost savings for NRPCP:** 1) NRPCP scale up; 2) Provincial & Municipal offices allocate budget for surveillance	
Outputs	1115; 1125; 1225	1111-1114; 1121-1124; 1131-1133; 1211-1214; 1221-1224; 1311-1314; 1321-1322; 1331-1332;		1411-1412; 1421-1423; 1431-1432	1110; 1120; 1130; 1210; 1220; 1310; 1320; 1330; 1410; 1420; 1430	1100; 1200; 1300; 1400	

Mechanisms	Inputs provided are sufficient to adequately train and support participants and all required materials provided	1) App is used for IBCM & field investigations 2) Risk assessment informs PEP administration 3) Suspicious bites trigger investigations 4) Quarantine/observation gives confidence in withholding PEP 5) Real-time sequencing informs geographic risk assessment 6) Data is shared between health & vet sectors 7) Detailed data guides dog rabies control & verifies freedom	Maintenance of implemented IBCM and rationalized PEP is evaluated to provide adequate evidence and replication plans	Evidence and replication plans are disseminated to national, provincial and municipal levels with engagement to support roll-out	

USING THEORY TO PROCESS EVALUATE SPEEDIER

Normalisation Process Theory (NPT) is concerned with how a complex intervention becomes a routine part of everyday life

NPT suggests that for a new approach to be implemented sustainably it is necessary that:

1. It makes sense to staff;
2. Staff engage with each other about the new approach;
3. Staff do the work required in the new system;
4. Staff can monitor the effects and make amendments to improve delivery

METHODS OF PROCESS EVALUATION

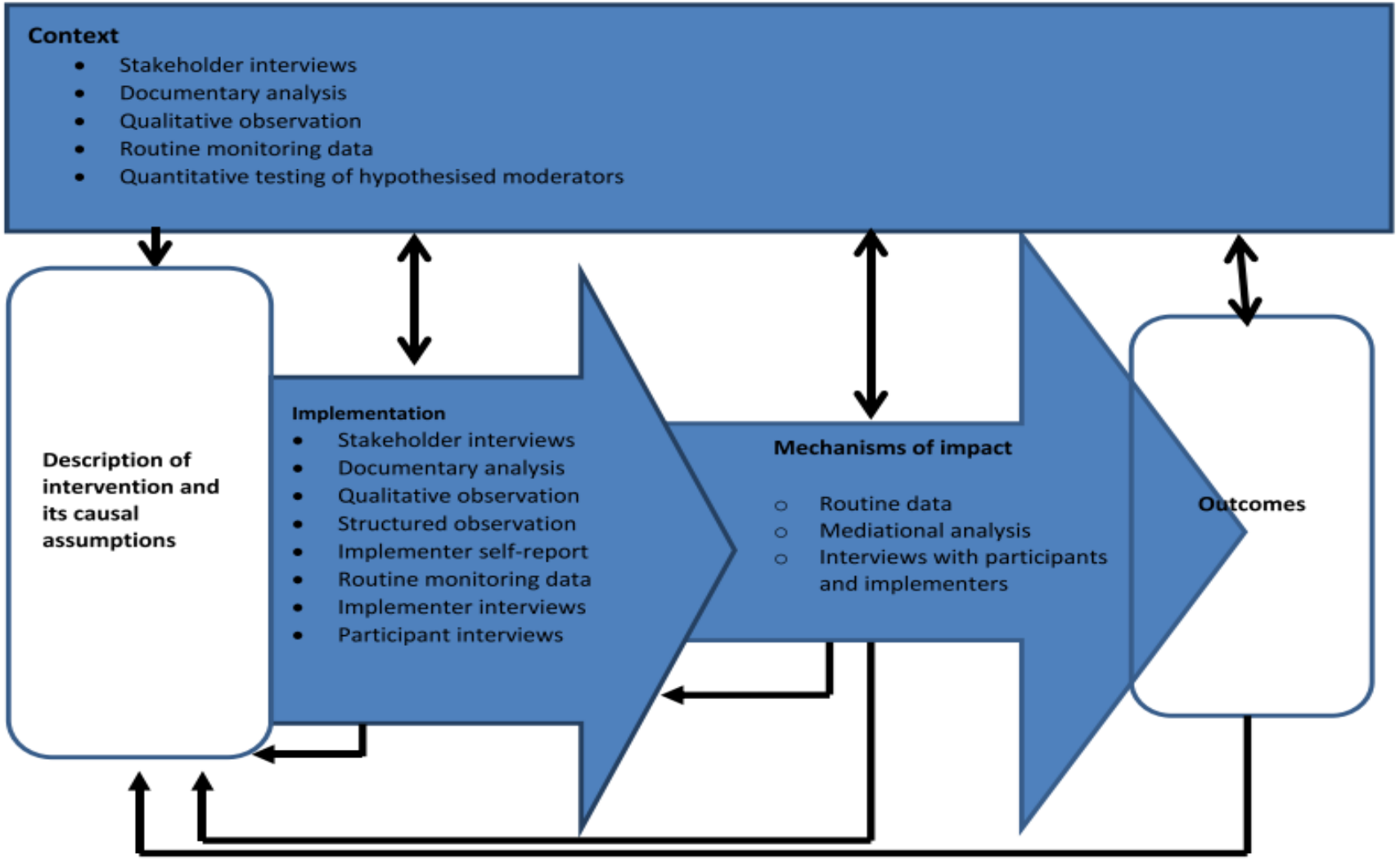
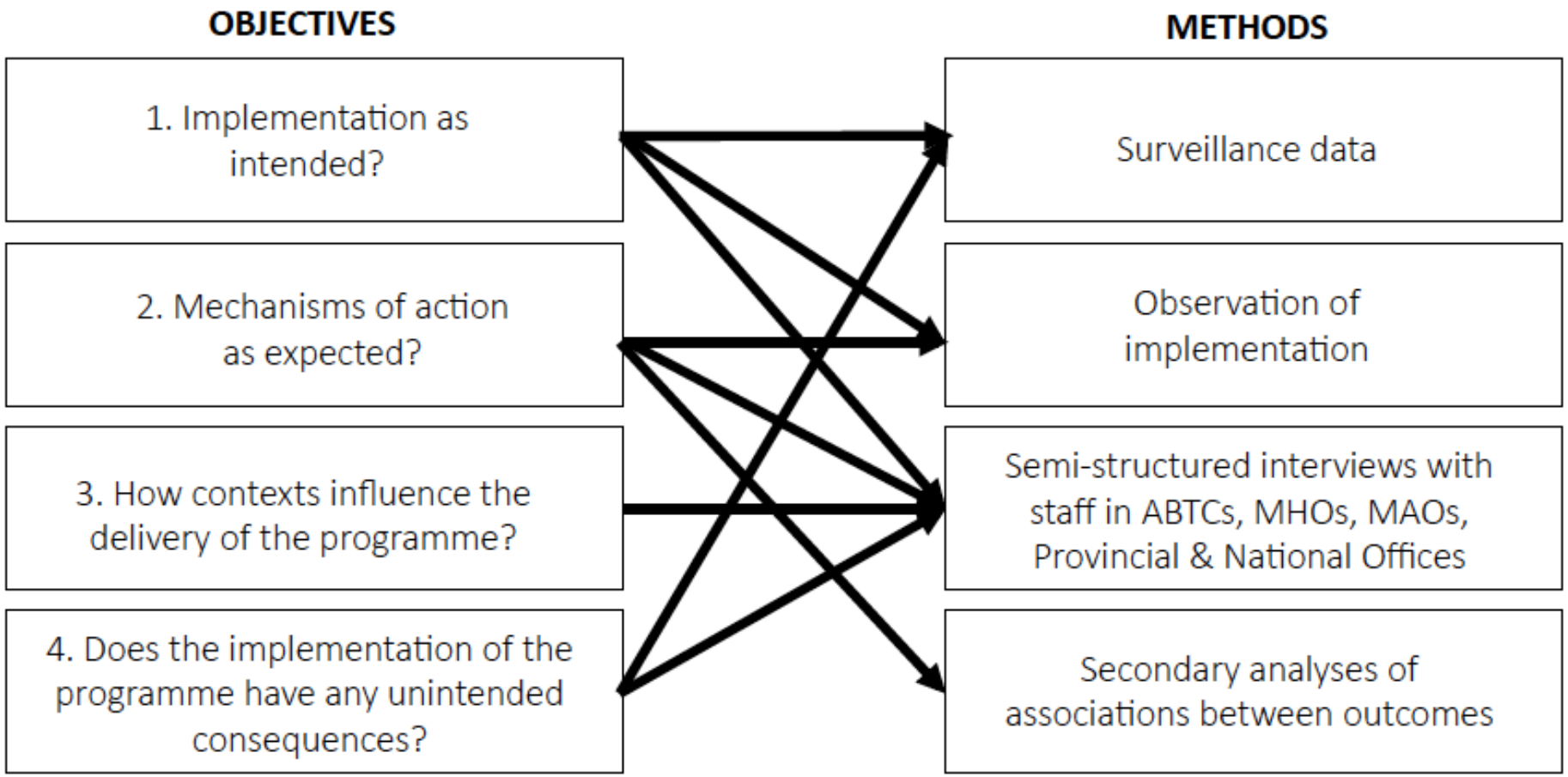


Figure 8. Examples of common methods for process evaluation and their relationship to each core function of process evaluation.

Moore *et* al (2014) Process evaluation of complex interventions: Medical Research Council guidance, p67

OBJECTIVES AND METHODS



Two phases of process evaluation

- Pilot (IBCM) – Formative process evaluation
- Trial (Rationalized PEP) – Summative process evaluation