



Utilizing knowledge translation in an iterative paradigm to improve outcomes for ill and injured children in emergency department:

A CIHR Team Grant

Martin Osmond (for Shannon Scott)
CAPHC Meeting, October 2007



Purpose

- **Describe our CIHR Team Grant:**
 - **A novel research model - the “Iterative Figure 8 Loop”**
 - **A program of research that aims to improve the outcomes for ill and injured children in emergency departments through innovative knowledge translation approaches.**



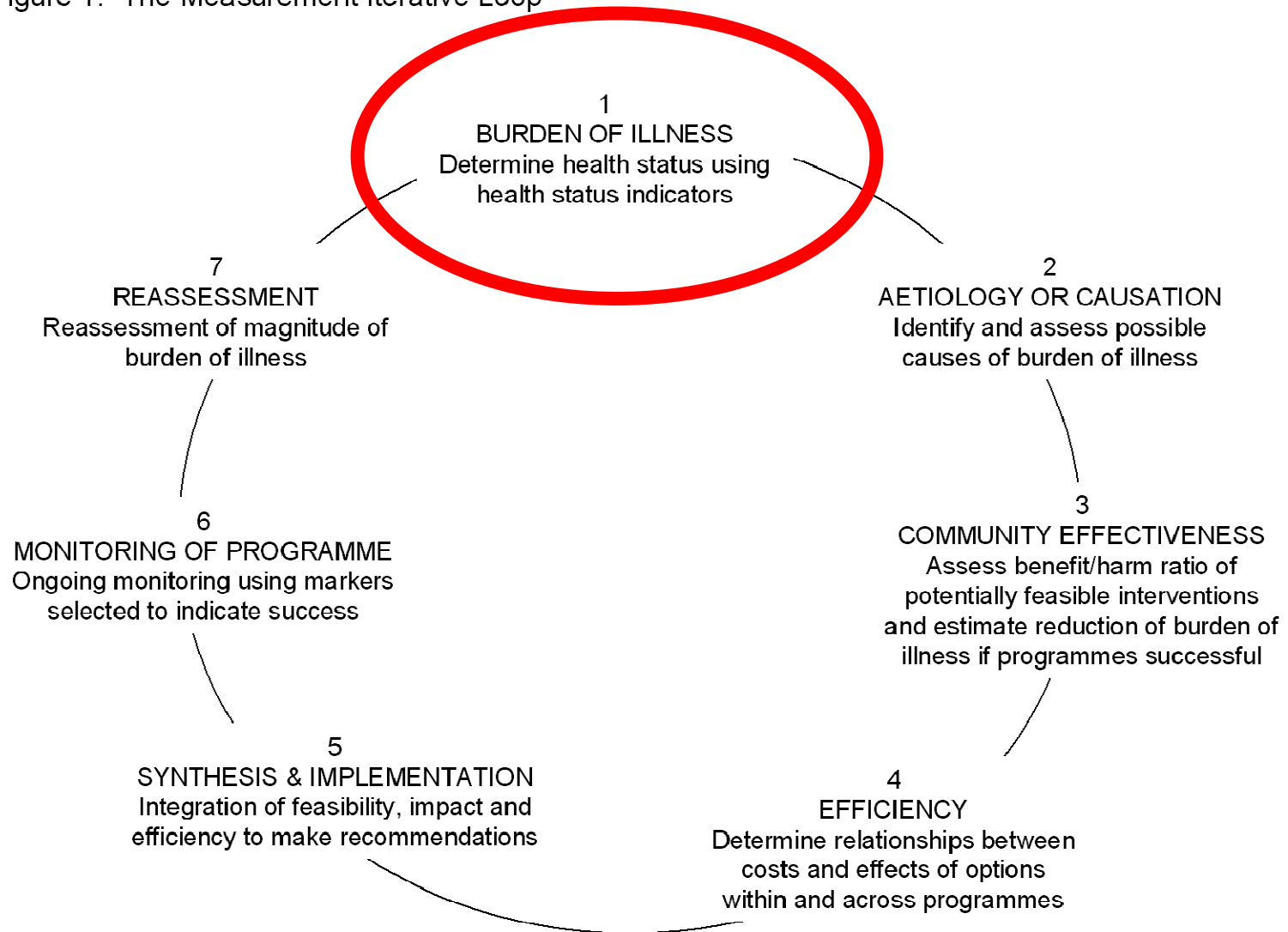
- **network of investigators**
- **established in 1995,**
- **PERC's primary aim is to advance new knowledge in Pediatric Emergency Medicine through collaborative research**



- **14 Canadian Sites (> 500,000 annual ED visits)**
- **> 70 members (multi-disciplinary)**
- **Completed 8 multi-centre trials**
- **5 Current CIHR funded trials**



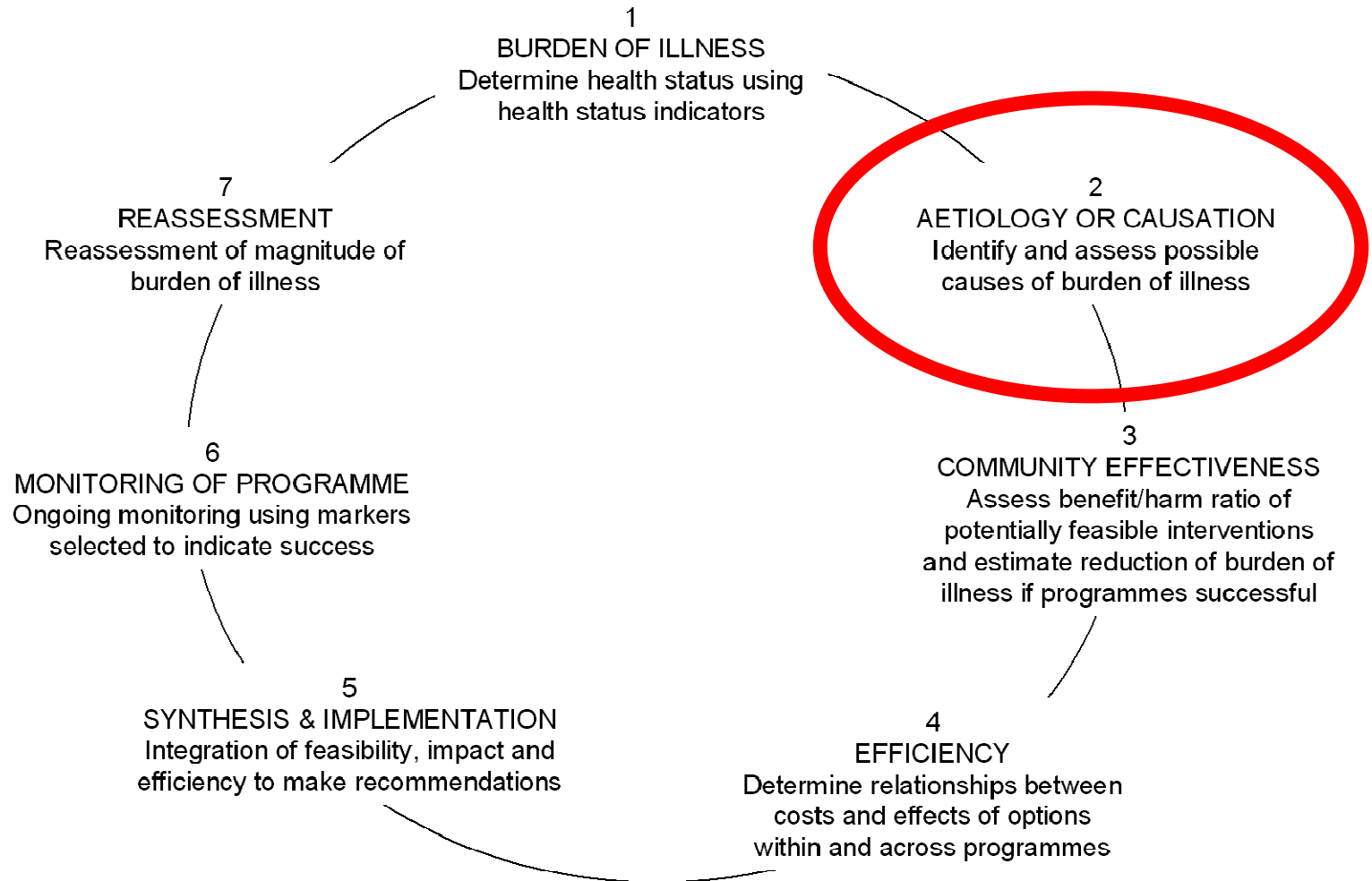
Figure 1. The Measurement Iterative Loop



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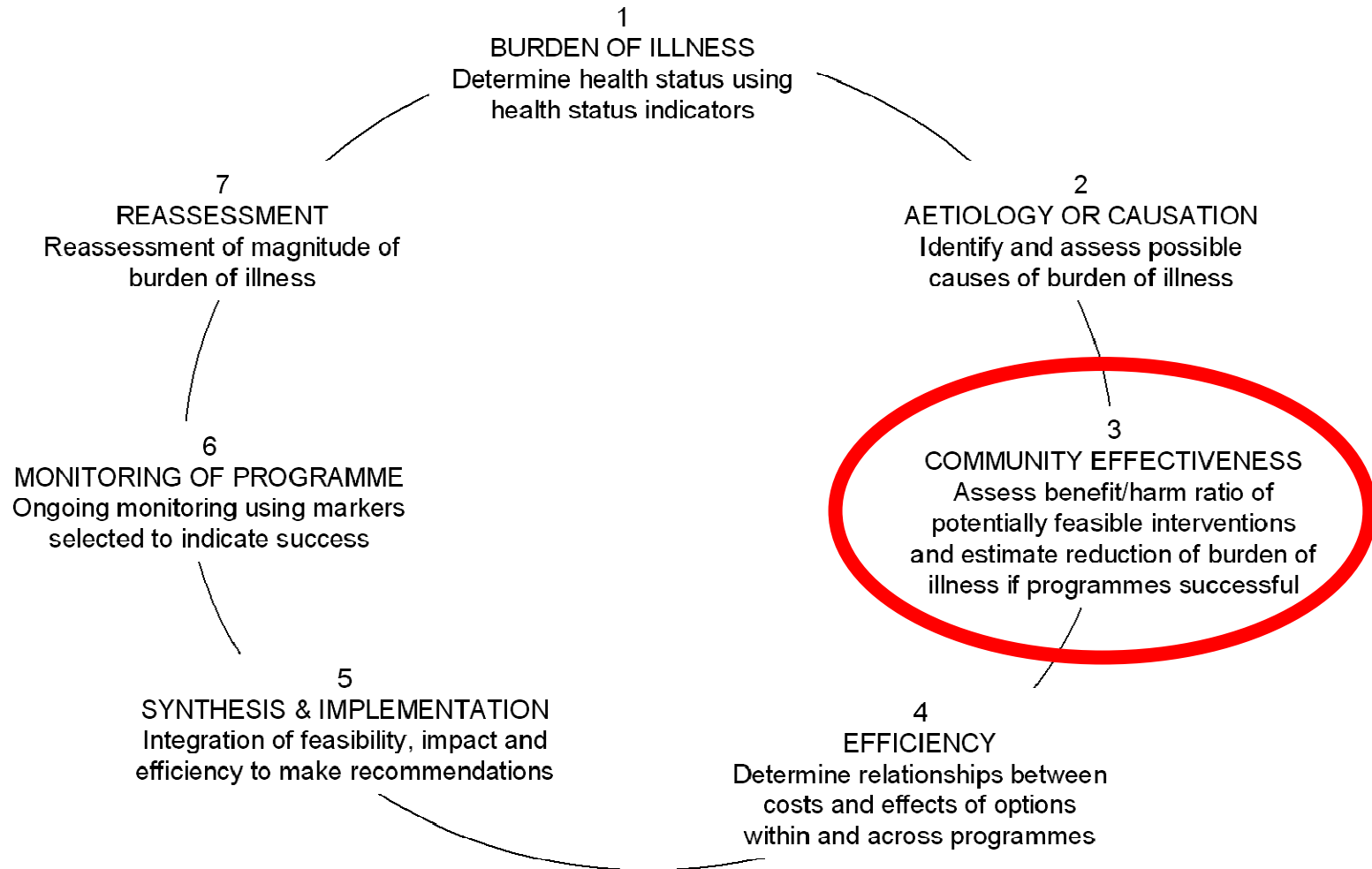
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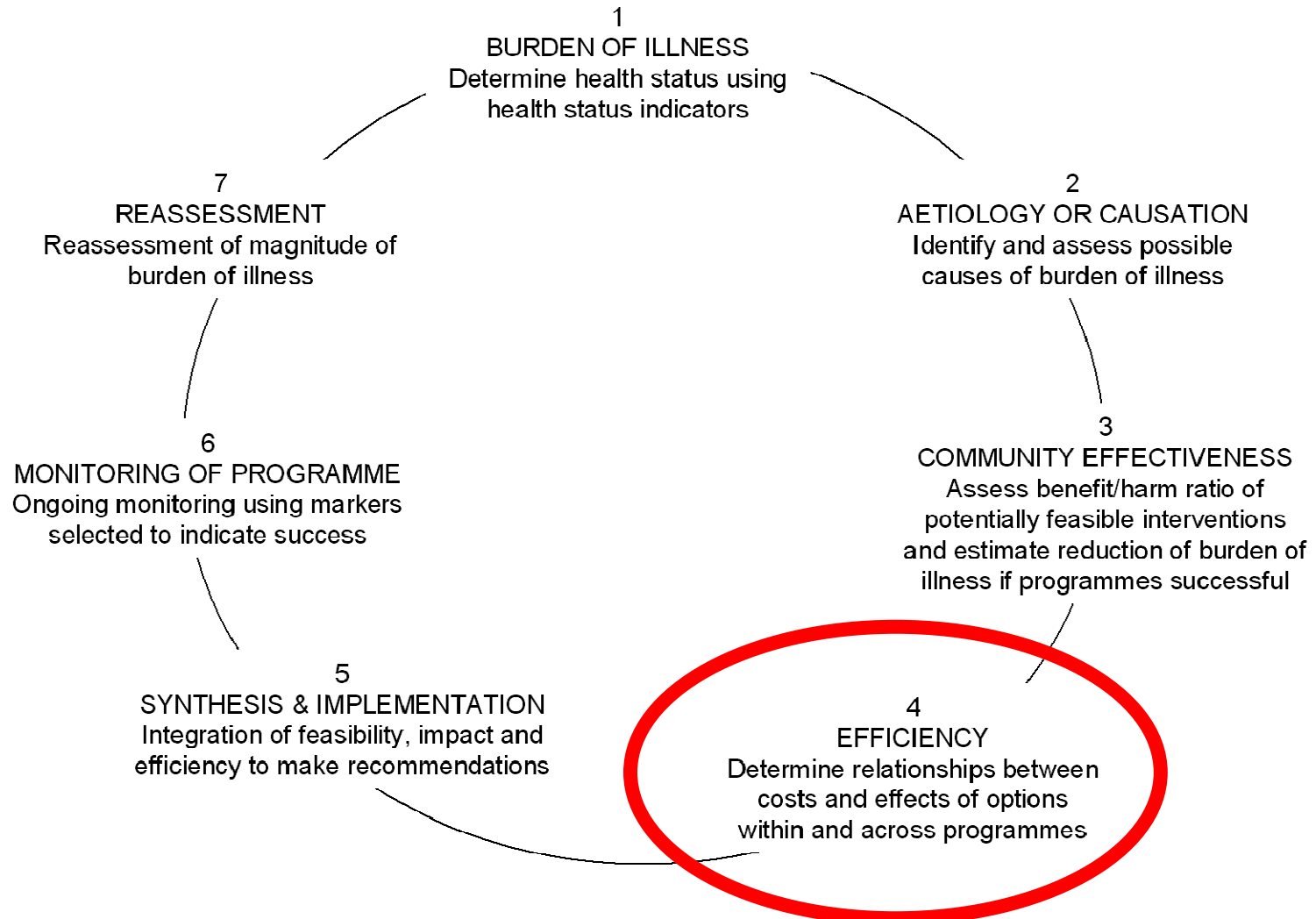
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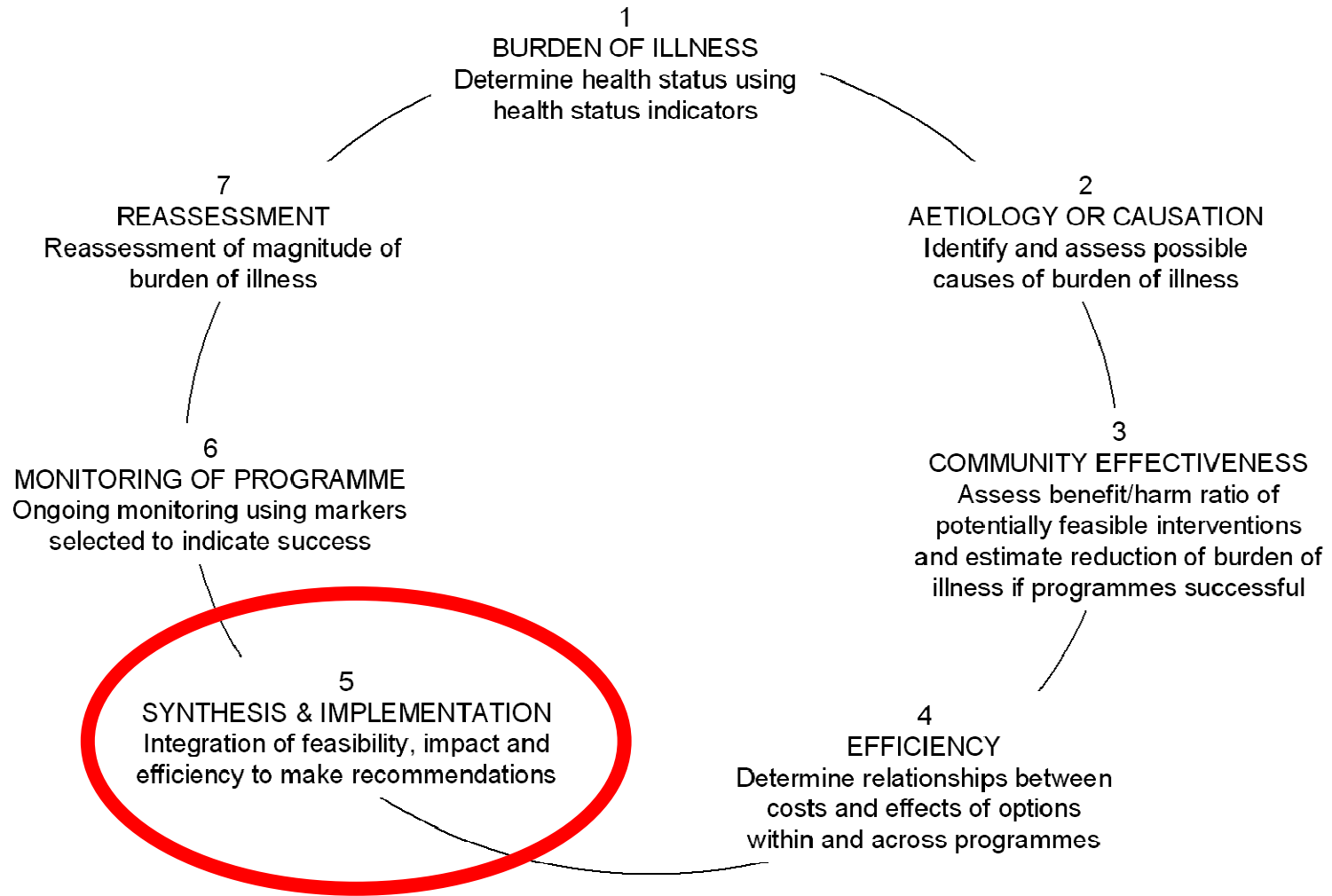
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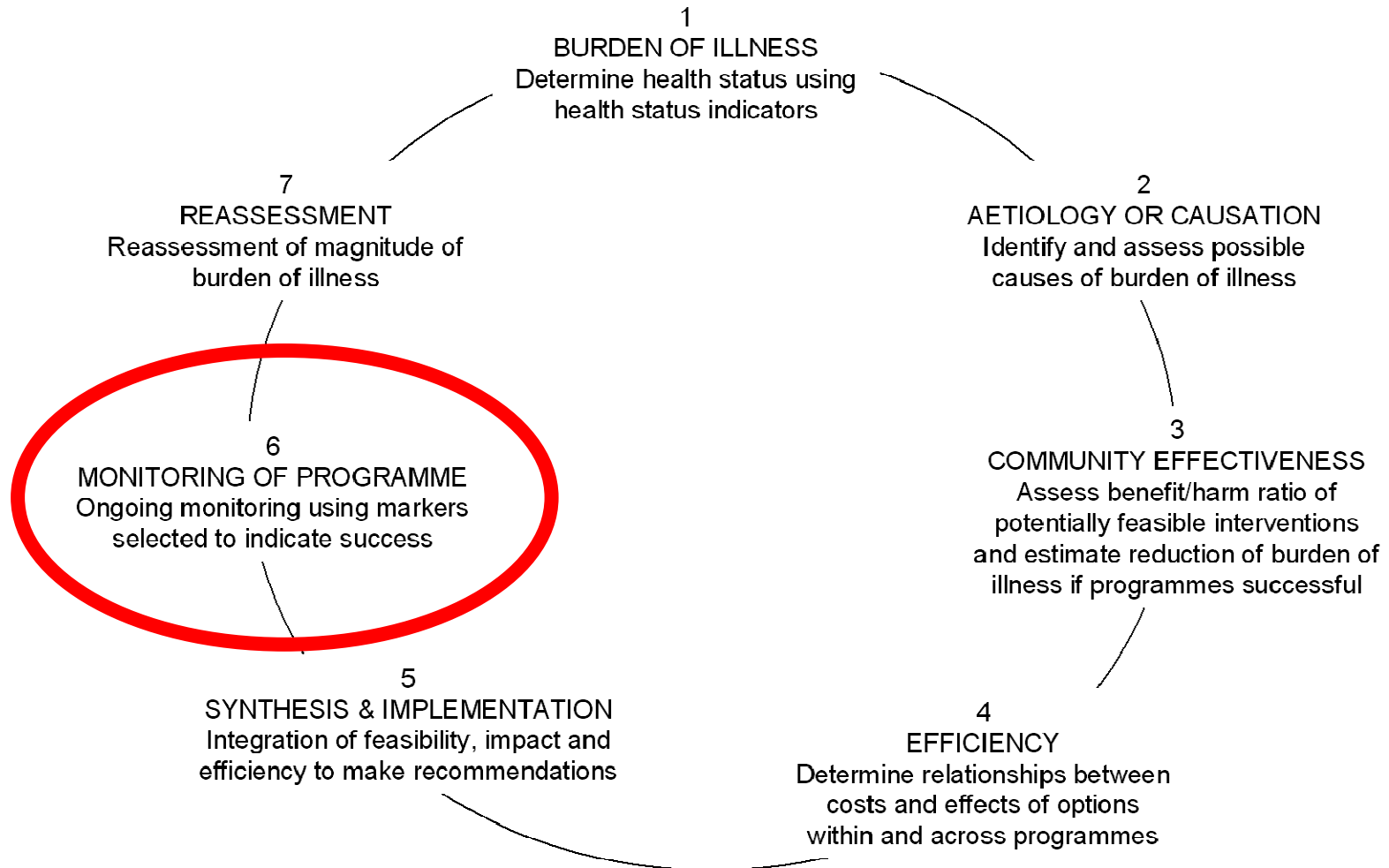
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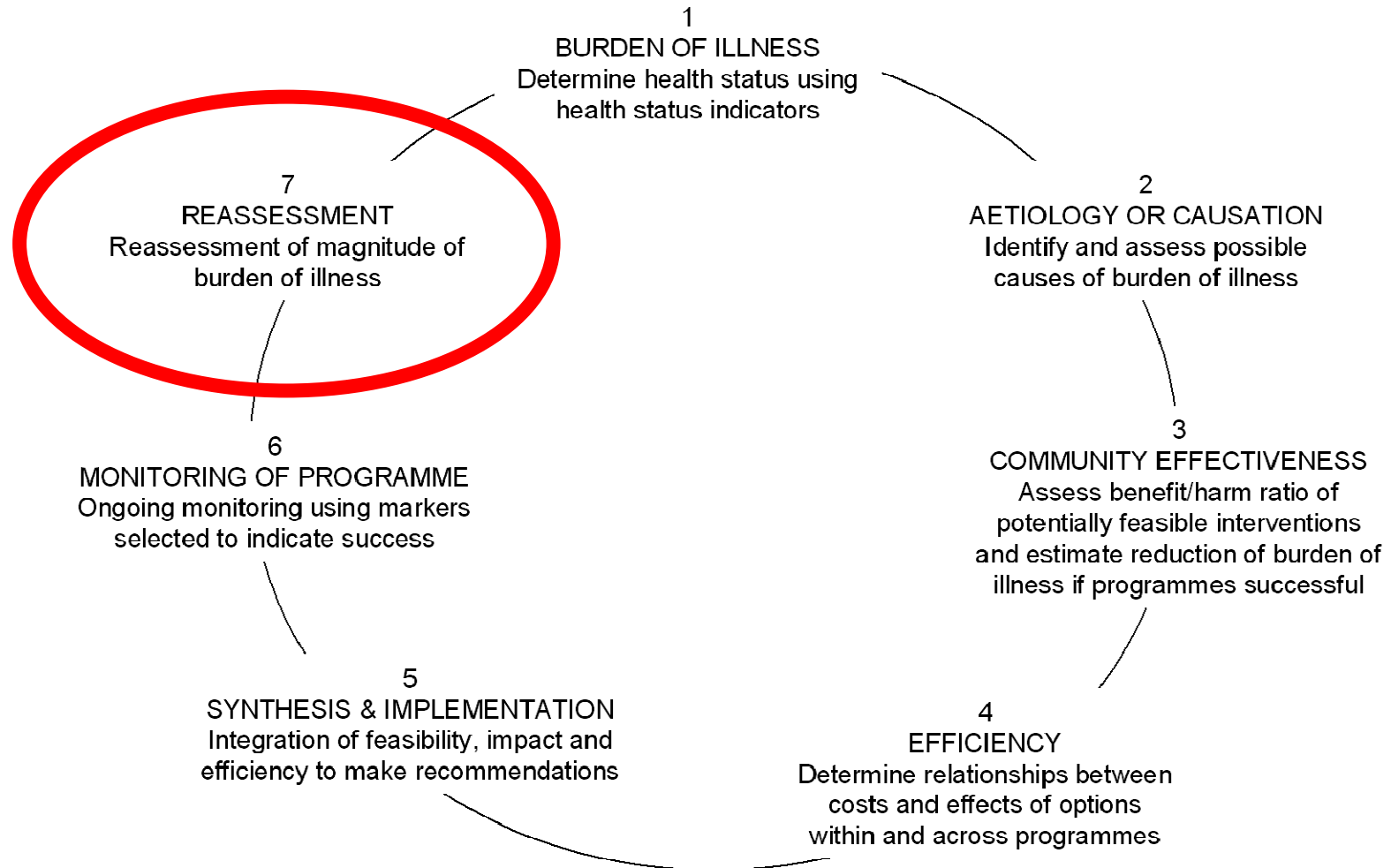
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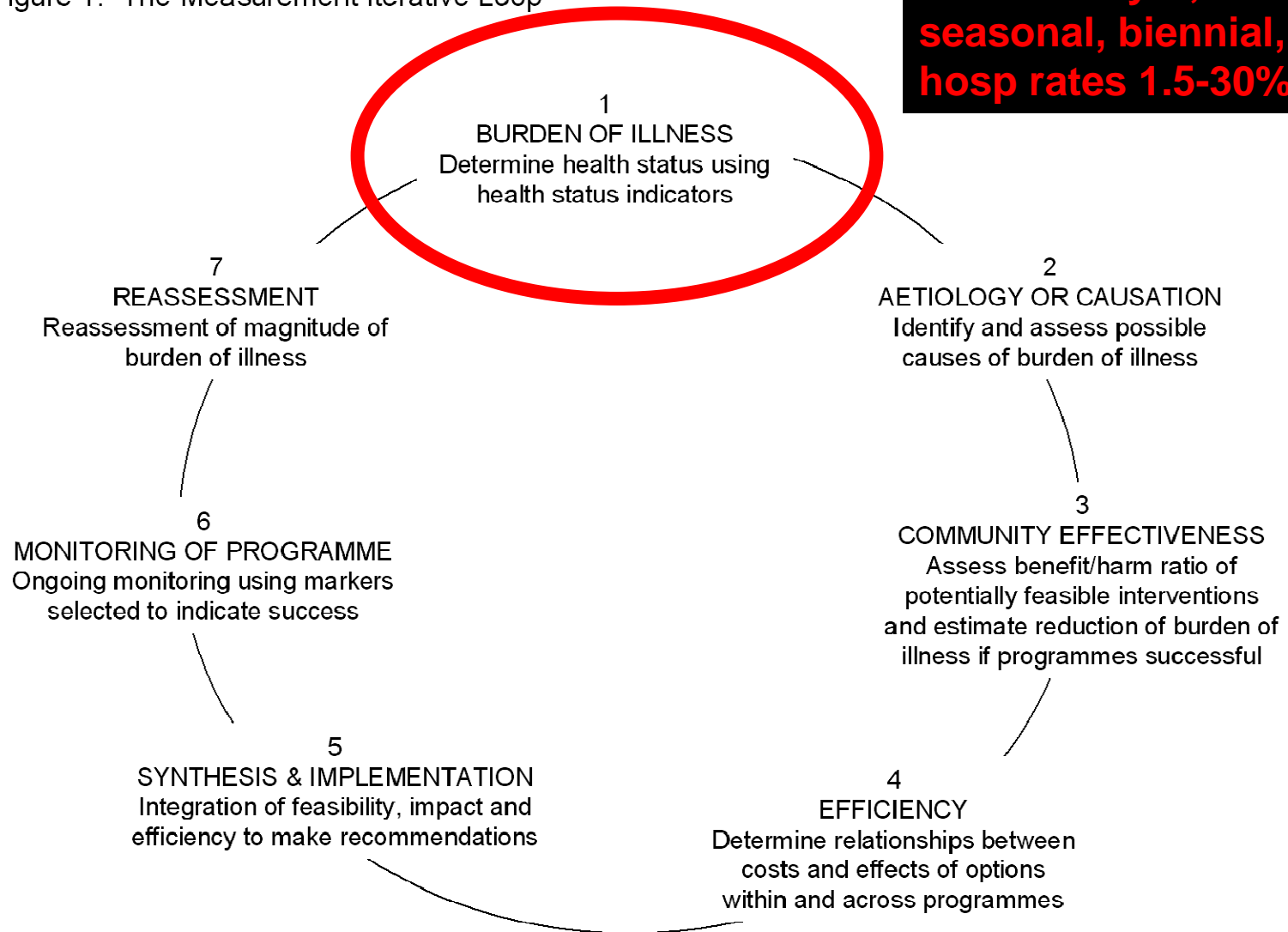
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Croup

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**6 month-6 yrs,
seasonal, biennial,
hosp rates 1.5-30%**

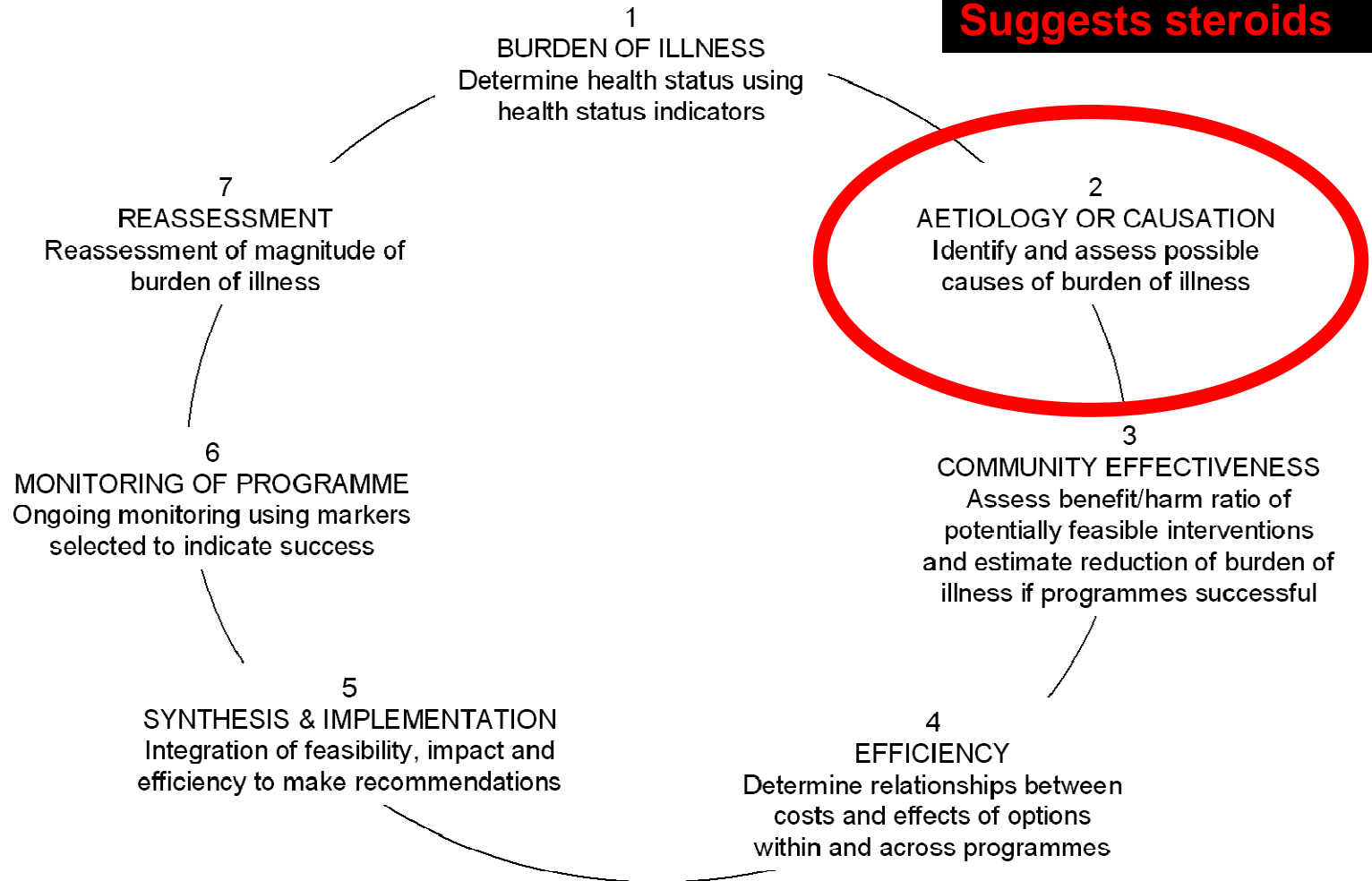


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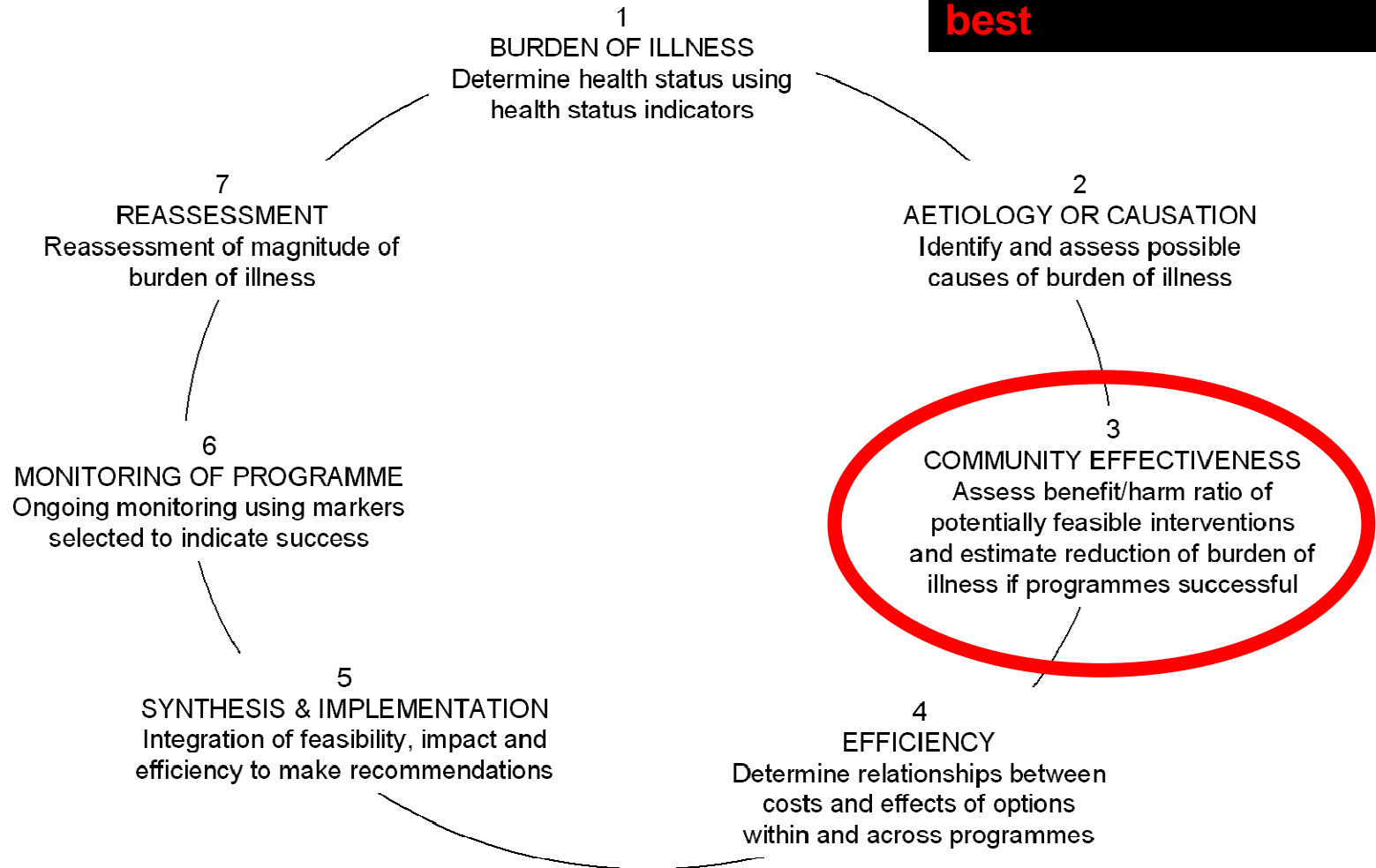
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Croup

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**Extensive research
Oral Dexamethasone
best**



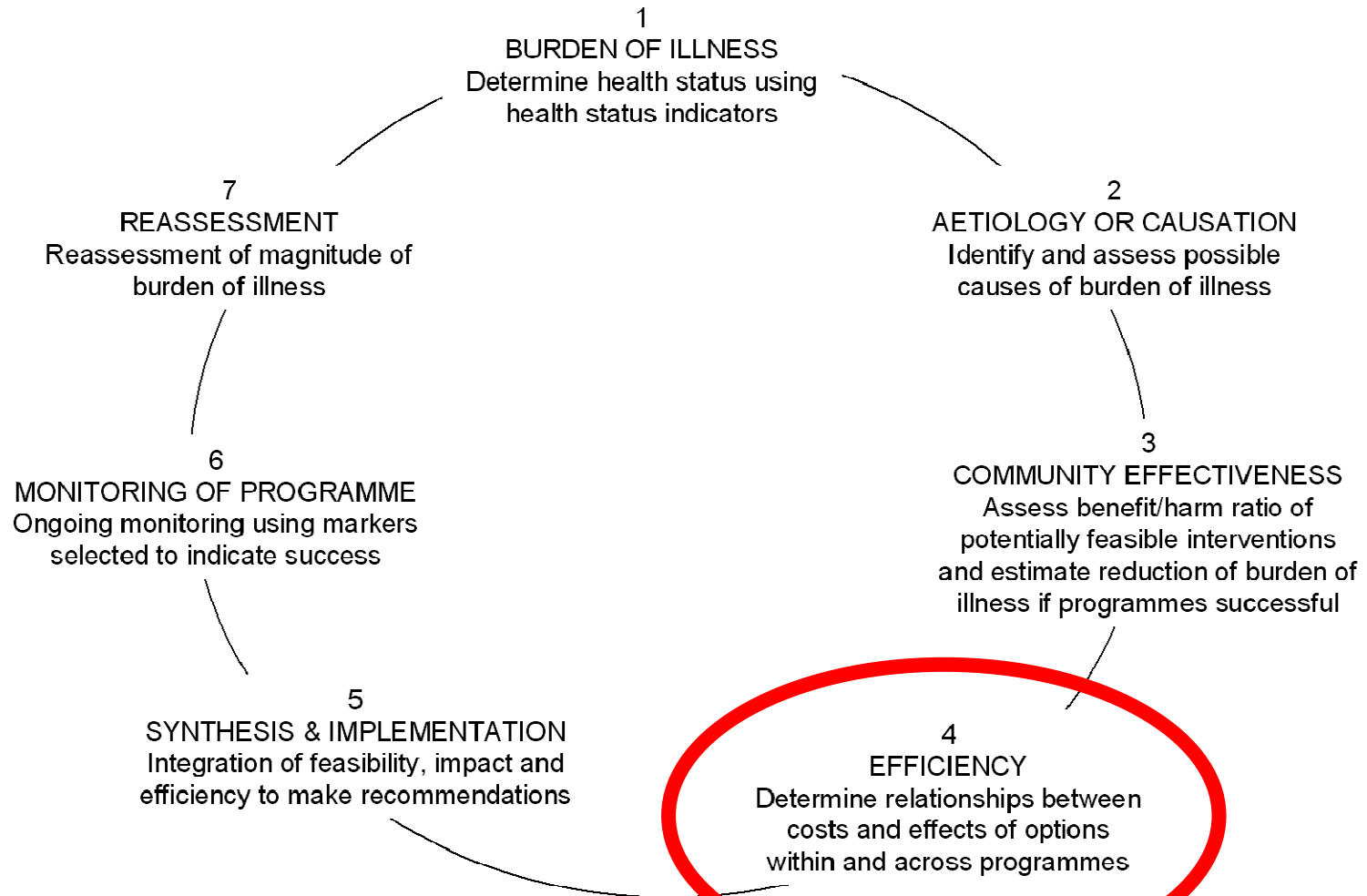
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Croup

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Oral Dexamethasone is inexpensive & safe



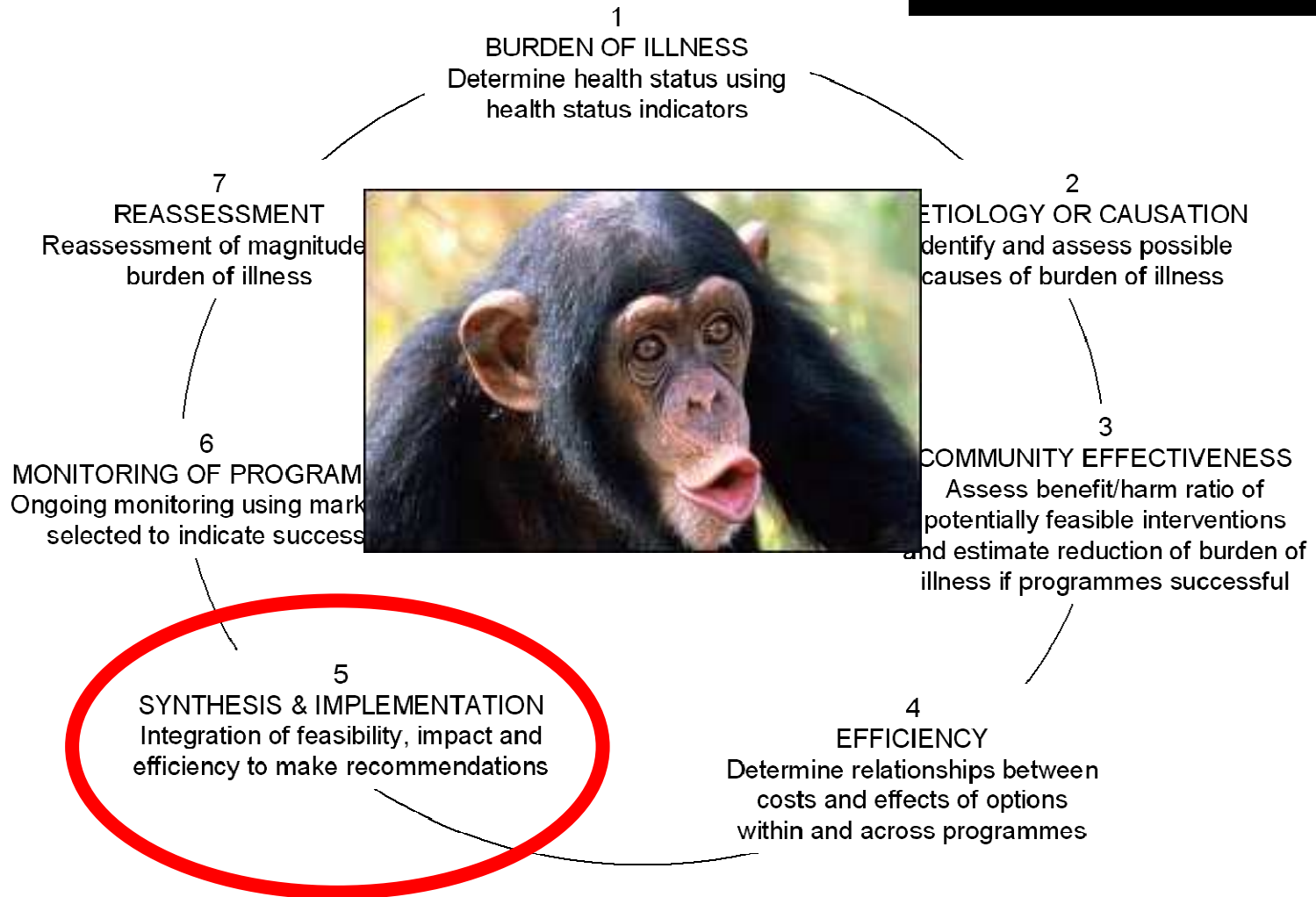
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OOOPS!



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Variability in practice in Alberta for CROUP

	<u>Treated with antibiotics</u>	<u>Treated with steroids</u>	<u>Admission rate</u>
Low Volume Hospitals	28%	22%	116 per 1000 cases
Med Volume Hospitals	28%	36%	
High Volume Hospitals	8%	62%	21 per 1000 cases



**So..... NOT all children
benefiting from this knowledge?**





CIHR Team Grant

Team up Pediatric Emergency (PERC) with KT researchers

- Terry Klassen (PI)
- David Johnson
- Martin Osmond
- Amy Plint
- Jeremy Grimshaw
- Ian Graham
- Jamie Brehaut
- Shannon Scott

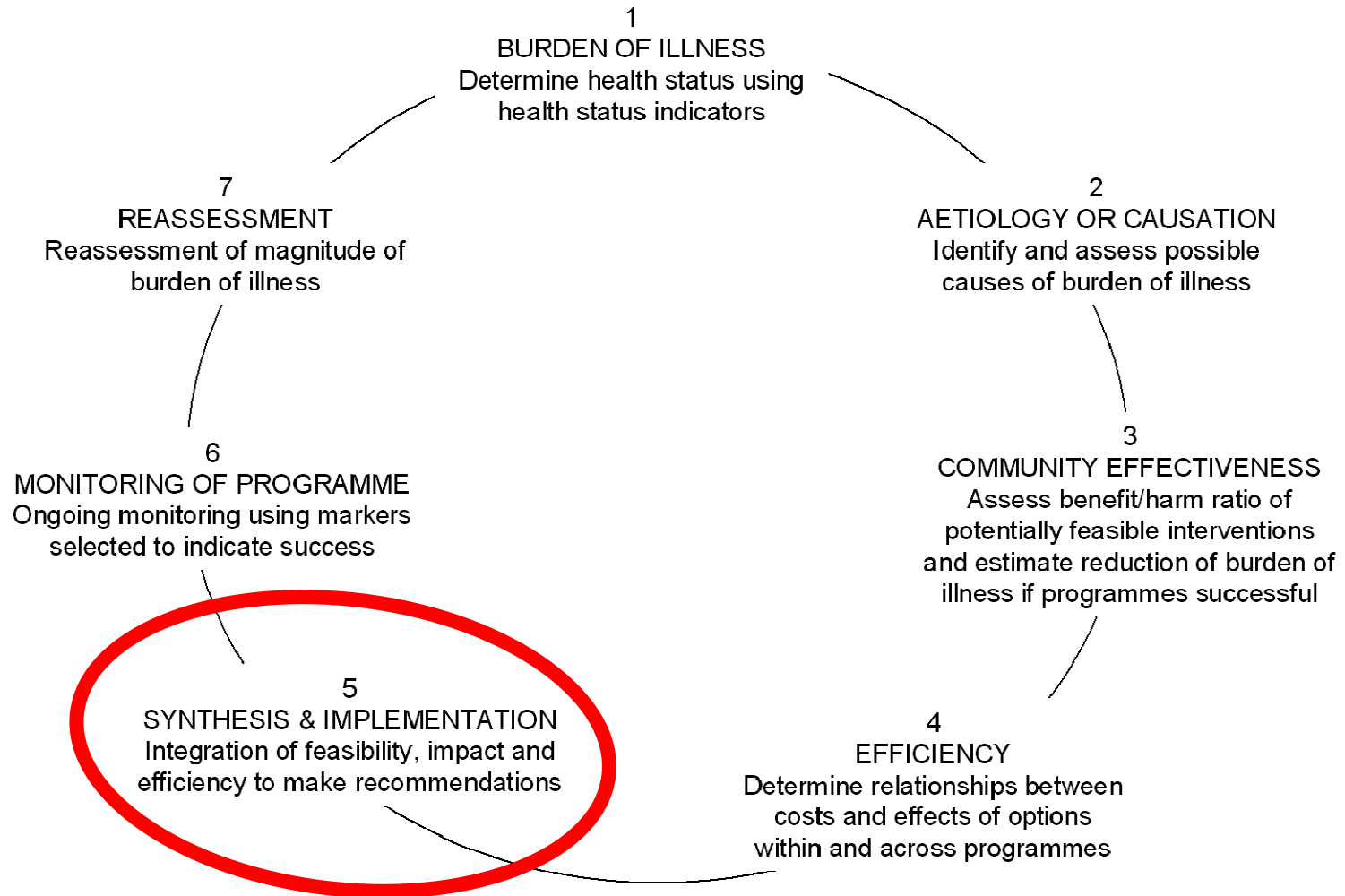


Team....

- Alberto Nettel-Aguirre
- Amy Plint
- Cam Donaldson
- Craig Mitton
- David Johnson
- Gillian Currie
- Ian Graham
- Jamie Brehaut
- Janet Curran
- Julie Fox
- Jeremy Grimshaw
- Jim Kellner
- Lisa Hartling
- Maala Bhatt
- Martin Osmond
- Martin Pusic
- Monica Taljaard
- Nicola Shaw
- Rollin Brant
- Shoo Lee
- Shannon Scott
- Ted Bishop
- Terry Klassen
- Tim Lynch
- Tom Marrie



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Figure 1. Research Paradigm: The Iterative Figure-Eight

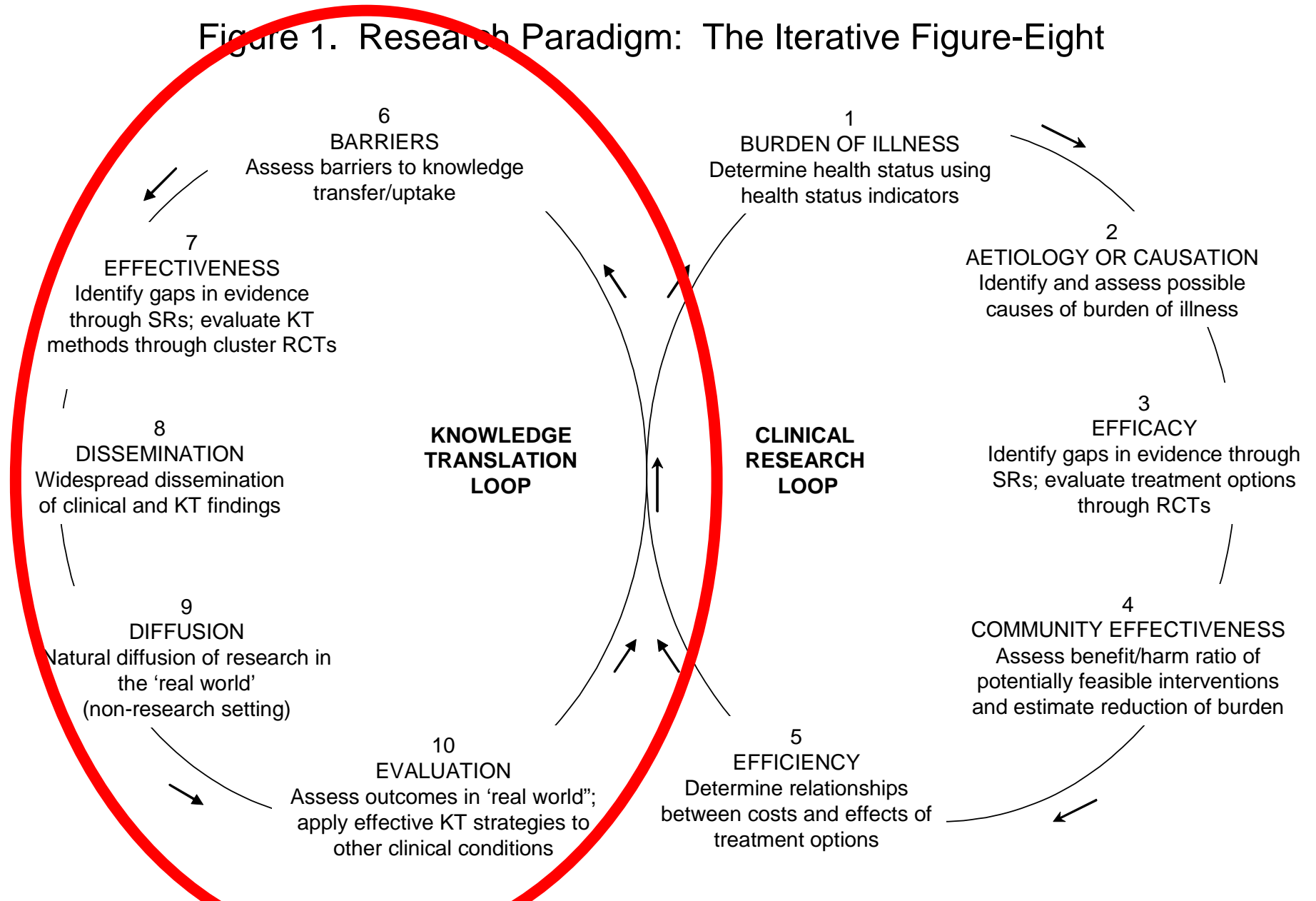
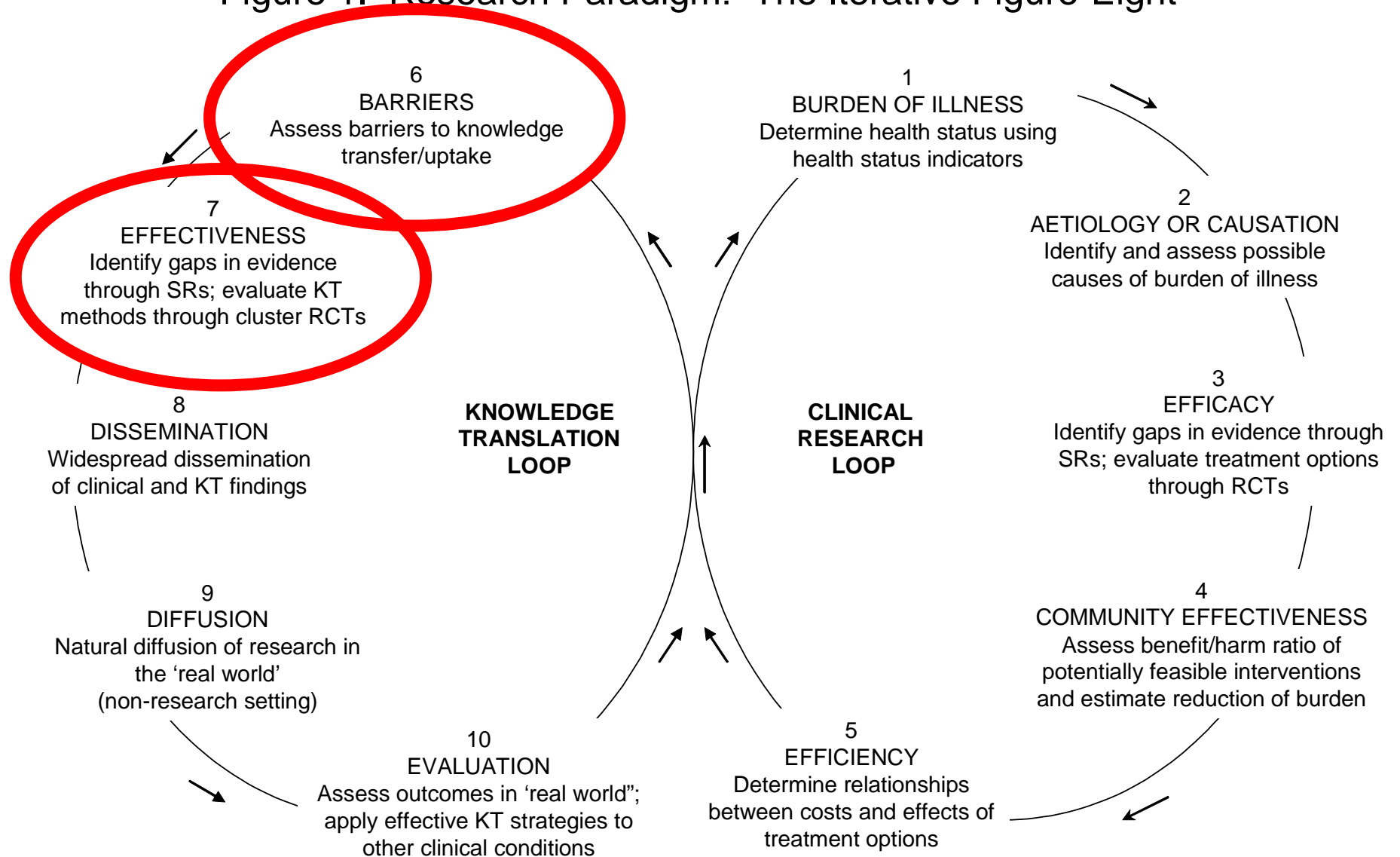




Figure 1. Research Paradigm: The Iterative Figure-Eight





- CIHR Team Grant Funded in 2006 for 7 individual projects + infrastructure
 - (5 projects KT related)
- **Based on the Figure of 8 Iterative Loop**



A Knowledge Translation ‘Laboratory’: The Development and Implementation of Clinical Pathways for Common Childhood Emergencies

- **GOAL: implement clinical pathways for asthma, croup, and bronchiolitis:**
- **Time series analysis to assess whether the interventions are effective;**
- **explore potential causal mechanisms for how these various interventions lead to behaviour change; (Theory of Planned Behaviour)**



Evaluation of an Active Strategy to Implement the Canadian Pediatric CT Head Rule

- **GOAL: evaluate the effectiveness of an active strategy (cluster RCT) to implement the Canadian Pediatric CT Head Rule into physicians practice in multiple EDs compared to a control strategy that relies upon passive measures.**
- **Assess both clinical impact and process evaluation**



Implementation of an Evidence-based Guideline for Bronchiolitis in Community Emergency Departments

GOAL: identify the costs and associated benefits of a KT strategy for a clinical practice guideline (CPG) for the ED management of bronchiolitis.

Variety of KT strategies tested in cRCT



**A Qualitative Study of Barriers and Supports to
Implementation of MDI/Spacer Use in Canadian
Emergency Departments**

**GOAL: understand the system,
organizational, and individual factors
that shape the implementation of
MDI/Spacer use in Canadian EDs.**

**Qualitative study of early and late
adopters**



Storytelling as a Communication Tool Aimed at Parents and Children Presenting to the Emergency Department with Common Disease Conditions

- **GOAL: To develop new knowledge on the potential effectiveness of storytelling as a KT intervention**
- **RCT of the impact of story booklets on parent anxiety and other outcomes**



Summary

- **The “iterative figure of 8 loop” is a model that situates KT research alongside clinical research**
- **It is a model that simultaneously encourages the development of KT strategies alongside the development of clinical treatments**
- **I should improve our impact on disease burden**