Additional File 2. Context, mechanism and outcome configurations: a visual model

**Mechanisms (Resources & Reasoning)**
- Frontline healthcare providers felt “push” approach
- Senior leadership Lean training focus led by external consultancy
- Compulsory Lean training- Didn’t connect factory to patient care- feeling of disconnect for front staff
- Large amounts of Lean events- staff didn’t feel involved, didn’t understand the purpose

**Outcomes**
- Resistance from front line healthcare providers
- Leadership capacity and buy in to Lean “better equipped”
- Potential reason for staff retention issues
- Resistance from front line healthcare providers

**Contexts for early implementation**
- Mandated and funded implementation by Ministry
- External consultancy to lead implementation
- Negative media messaging
- Hierarchical organizational structures
- Rapidly changing contexts “innovation fatigue”

**Mechanisms (Resources & Reasoning)**
- Value congruency to some degree, training failed to show the connection between Lean and healthcare
- Lean language did not make sense and resonate with staff, staff felt monitored
- Created negative perceptions about Lean “cost cutting”
- A disconnect in the level of support & buy into Lean between senior leaders, unit managers and frontline staff

**Outcomes**
- Lack of fit between outside culture of lean and healthcare context
- Resistance from front line healthcare providers
- Lack of buy-in (frontline)
- Resistance from front line healthcare providers

**Process of customization to local context, External consultancy JBA contract ended**

*Ripple-effect: negative outcomes of implementation (e.g., resistance, lack of customization and negative perceptions), resources (e.g. poor training that did not connect the meaning of Lean to healthcare, external Lean consultants that were not from healthcare), and the scale of implementation (e.g., mandated top-down approach at macro level) shaped the contexts (resistance, lack of customization and negative perceptions and variation in Lean training and exposure) mechanisms (e.g., sense-making, staff engagement, awareness) and outcomes (e.g., degree of support, continuation and normalization) of Lean efforts.

**Mechanisms (Resources & Reasoning)**
- Process of moving from overt Lean language & principles to implicit Lean
- Perceived positive mindset shift (Facilitated by dropping of Lean language & external)
- Perception that Lean is gone & was a waste of time and money, a “fashion fad”
- Unit managers/leaders feel a lot of staff are not aware of what changes are as a result of Lean or not

**Outcomes**
- Continuation of Lean driven from senior leaders & unit managers
- Degree of support, continuation and normalization of Lean in practice
- Degree of support, continuation and normalization of Lean
- Frontline staff are unaware of what changes are as a result of Lean or not
- Frontline staff involved in Lean events and changes
- Staff more likely to support and buy-in to Lean efforts for

A model to depict the interconnecting CMO configurations and ripple-effects from early-stage implementation outcomes to contexts for sustainability and their influence on the normalization and support for the sustainability of Lean