Proof of Concept Implementation Plan — NZHEB + TPO

Objective

To demonstrate the feasibility and impact of the New Zealand Health Event Bus (NZHEB) combined with the Target & Productivity Orchestrator (TPO), proving that real-time interoperability leads to measurable productivity, equity, and transparency gains in the healthcare system.

Phase 1: Foundation (0–2 months)

Actions:
- Establish governance board with Ministry of Health, Te Whatu Ora, Maori and Pacific health representatives.
- Define 10–12 critical health events (e.g., LabResultReady, ReferralRegistered, ImmunisationUpdated, EDStatusChanged).
- Confirm legal compliance (Privacy Act, Health Information Privacy Code, Maori Data Sovereignty principles).
- Secure access to de-identified datasets from existing Te Whatu Ora and Stats NZ sources.

Effort: 2 FTE architects, 1 PM
Cost Estimate: NZ$150k

Phase 2: Core Event Bus Prototype (2–6 months)

Actions:
- Design and implement NZHEB using cloud-native event streaming (e.g., Apache Kafka or Azure Event Grid).
- Develop 3 sample producers (mock ED system, immunisation registry, lab system).
- Develop 3 consumers (analytics dashboard, TPO data feed, equity reporting module).
- Conduct penetration testing and compliance validation (Zero PHI data handling).
- Implement data governance workflow for event publishing and subscription.

Effort: 5–6 engineers, 1 tester, 1 PO
Cost Estimate: NZ$450k

Phase 3: TPO Layer & ROI Calculator (6–9 months)

Actions:
- Build TPO layer to translate event streams into measurable KPIs (lab turnaround time, immunisation rates, oncology wait times).
- Implement ROI calculator: estimate productivity gains using Stats NZ workforce and wage datasets.
- Develop Equity Module: compare Maori, Pacific, rural vs national averages across KPIs.
- Build dashboards with transparency features (show formulas, dataset anchors).
- Train data analysts and health economists on using TPO outputs.

Effort: 4 engineers, 2 data scientists, 1 health economist
Cost Estimate: NZ$500k

Phase 4: Pilot & Evaluation (9–12 months)

Actions:
- Deploy PoC in one DHB region (e.g., Wellington or Canterbury).
- Train clinicians, PHOs, and administrators on using the system.
- Gather structured feedback on usability and clinical workflow impact.
- Conduct independent evaluation of productivity, ROI, and equity outcomes.
- Deliver scalability assessment and roadmap for national rollout.

Effort: 3–4 engineers, 1 evaluator, 1 health economist
Cost Estimate: NZ$300k

Timeline Summary (12 months)

Months 0–2	Governance & design, event set definition, compliance review
Months 2–6	Event Bus MVP with producers/consumers, compliance validation
Months 6–9	TPO, ROI calculator, equity module, dashboards
Months 9–12	Regional pilot, feedback, evaluation, scalability study

Total Estimated Effort & Cost

Effort: ~15–18 FTE spread across roles (engineers, architects, PM, economists, evaluators).
Cost: ~NZ$1.4M (12-month PoC, excluding nationwide rollout).

Value Proposition for Government

- Productivity: Quantifiable savings (faster diagnosis → fewer sick days → $X M/year GDP impact).
- Equity: Transparent reporting of Maori, Pacific, rural outcomes.
- Trust: Open, verifiable metrics tied to official datasets.
- Scalability: PoC forms the basis for national health interoperability fabric.