

Transforming Doctoral Education through Industry-Embedded PhD Pathways in Primary Healthcare

Research Overview

Primary healthcare faces increasing demand, workforce constraints, and rapid policy reform, yet research translation remains slow. This presentation examines an industry-embedded PhD model in Australian primary care that co-creates knowledge across academia, industry, and policy, strengthening evidence-based practice, workforce capability, and system-level reform.

Purpose

Despite the central role of primary care in population health, research production in this setting has traditionally been external, episodic, and poorly aligned with operational realities. Universities are increasingly tasked with demonstrating real-world impact, while health services need evidence that supports sustainable reform, innovation, and workforce resilience. This presentation aims to explore how industry-embedded PhD pathways can bridge these institutional cultures by co-creating locally responsive and globally transferable knowledge.

Specifically, the presentation examines a collaborative private-public doctoral education model implemented through partnerships between a university, primary healthcare organisations, and clinical and managerial leaders. The purpose is threefold: (1) to describe how industry-embedded PhDs differ from traditional doctoral pathways; (2) to assess early outcomes for research productivity, workforce development, and service improvement; and (3) to identify enabling conditions for scalability and sustainability within complex health systems. In doing so, the study contributes to international debates on evidence-based reform, professional learning, and doctoral education as sites of system change.

Methods

This study adopts a descriptive, practice-based case study design grounded in implementation and learning health system principles. Data were drawn from a multi-year initiative that began with small, clinic-embedded seed research projects and evolved into formal industry-based PhD pathways. Projects were co-designed by academics, clinicians, practice managers, and organisational leaders to ensure alignment with service priorities, workforce needs, and policy reform agendas.

Industry-embedded PhD candidates were employed within primary care settings (0.5–1.0 FTE) and supported through joint supervision arrangements involving academic supervisors and industry leaders. Research activity was integrated into routine clinical workflows rather than conducted as an external or parallel process. Outputs included peer-reviewed publications, non-traditional research outputs (industry reports, practice

guidelines, workforce training resources), competitive funding applications, and documented service redesign initiatives.

Evaluation drew on programme documentation, output tracking (publications, presentations, funded projects), and reflective analysis by academic and industry partners to identify patterns in implementation, barriers, enablers, and perceived impact at individual, organisational, and system levels.

Results and Discussion

Findings demonstrate that industry-embedded PhD pathways can function as powerful mechanisms for bridging academic, industry, and policy cultures. What began as small, low-cost seed projects evolved into a sustainable research platform embedded within routine primary care operations. The initiative produced a growing body of scholarly and applied outputs while strengthening internal research capabilities and leadership among health professionals.

At a workforce level, industry-embedded PhDs supported mid and late career clinicians, managers, and allied health professionals to transition into clinician-researcher roles. Candidates and their supervisors developed advanced skills in systems thinking, data-driven decision making, and service redesign, enabling portfolio careers that integrate clinical practice, research, and leadership. This model reframes doctoral education as professional development rather than temporary withdrawal from practice.

At an organisational level, embedding researchers onsite increased research readiness, governance maturity, and confidence in using evidence for quality improvement. Clinics became active sites of knowledge production, capable of generating locally relevant data to inform service design, funding models, and workforce planning. Importantly, research outputs were produced alongside tangible operational improvements rather than as retrospective evaluations.

From a systems and policy perspective, the model enhanced translation speed and relevance. Evidence generated within real-world clinical contexts informed discussions on urgent care models, integrated care, digital health, and preventative approaches, demonstrating how local innovation can contribute to broader reform agendas. The combination of academic publications and clinician-focused outputs supported both policy influence and scholarly impact during the educational program.

However, the initiative also highlighted a critical need for enabling conditions. Effective co-creation required long-term relationship-building, shared financial and in-kind investment, alignment of research with operational workflows, and visible leadership commitment within both universities and healthcare organisations. Industry-embedded PhDs demanded resources beyond stipends, including supervision capacity,

infrastructure, and cultural change. Where these conditions were absent, implementation slowed, and outcomes were constrained.

Overall, the findings suggest that industry-embedded PhD pathways offer a viable and scalable approach to co-creating knowledge across health service sectors. By aligning doctoral education with evidence-based reform and professional learning, this model supports a sustainable transition toward research-active primary care systems. The approach provides transferable lessons for international contexts seeking to connect local innovation with global visions for impactful education and health system transformation.

Keywords

Work-integrated learning, professional learning pathways, clinician-researcher pathways, interdisciplinary supervision, practice-based education