Applying the health ecosystem approach in the analysis of health care and support for first nations in the pacific

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Challenges related to the complexity of health service systems are particularly relevant in the analysis of healthcare delivery for First Nations people in Australia and other nations in the Western Pacific region. Gathering knowledge about what services are available - and how, to what extent, or even if, core precepts of Indigenous models of health and wellbeing are embedded in service systems - is extremely challenging. In Australia, for example, the Social and Emotional Wellbeing (SEWB) model is much broader in scope than that of the prevailing western healthcare system of delivery: focussed on domains of country, culture, spirituality, community, family and kinship, mind and emotions, and body,[1] and not just physical or mental health. Despite decades of policy acknowledging the need for culturally valid understandings of service provision, and the unsuitability of existing systems to the needs of Indigenous people, data is lacking, though urgently needed, on the effects of these policies on actual service provision.[2] Additionally, the extent to which community-based services can deliver SEWB care is partly determined by complex funding and delivery structures, leaving them to balance care congruent with community wellbeing need and also with the requirements of funding bodies based on an entirely different model of healthcare.[3]

In this highly complex context, a systems-based framework encompassing the whole system, and a healthcare ecosystem approach[4] is a critical requirement. Following the IPBES (Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services) model[5] developed in environmental sciences, Health Ecosystems Research is based on the use of observational and contextual data combined with expert knowledge and systems analytics to facilitate smart decision support making for policy and planning. The model includes evidence-based care planning. Instead of a unidimensional ranking of all scientific knowledge, as in the Cochrane pyramid, it includes six key domains of highly related but individually relevant columns of evidence-based and expertise-based knowledge such as experimental, observational, contextual, cultural, expert and experiential knowledge (Fig. 1). The relevance of cultural aspects is the key factor to understanding First Nations healthcare.[1,7] Health Ecosystems Research incorporates the system's drivers, the general context of care (natural, built and human environment); the main characteristics of health care linked to a target health condition (morbidity, mortality and burden); and the professionals, care teams and organisations providing care to this target population, as well as the existing connections among them. Contextual and cultural information and the description of the communities in which we live should be considered in the analysis of any complex interventions. This includes social and demographic characteristics, health behaviours and lifestyles, and healthcare provision at the different levels of the health system.[4] Reducing the level of uncertainty inherent in complex systems to more accurately predict the effect of planned interventions requires a corresponding increase in knowledge of the core elements of the system.

A health ecosystems research approach requires a systematic description of the local care provision using standardised tools that allow longitudinal and regional comparisons. Luis Salvador-Carulla and colleagues developed an international taxonomy and terminology of service classification and related tool (Description and Evaluation of Services and DirectoriEs – DESDE)[8] that facilitates the description of the whole system of care for a target population, including health, social, justice, housing, education and employment. This information should be gathered and interpreted in collaboration with local experts from their respective communities. The authors have developed several integrated atlases of health and social care in diverse geographic regions and communities, including the Kimberley region in Western Australia and the Aboriginal and Torres Strait Islander community of Yarrabah in far north Queensland.[7,9] These atlases have provided comprehensive information about the number and type of services available in these regions. Additionally, the DESDE system enables a comparison between the intended purpose of a service and the model of care that is actually being delivered according to funding body performance indicators, identifying incongruities.

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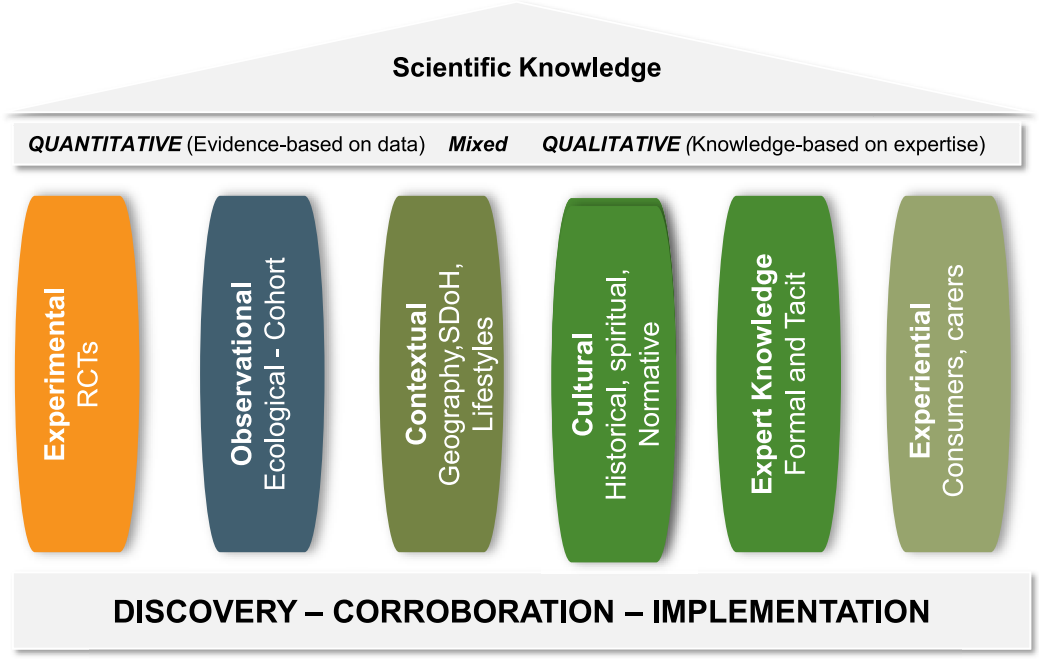

Fig. 1: The Greek Temple Model of scientific knowledge. RCTs: Randomised Control Trials. SDoH: Social Determinants of Health.[6]

Taken together, information about service availability and characteristics provides a body of comparative case studies generating system level information through their exploration of complex systems in real life settings across studies.[10] A case study approach offers an in-depth study of issues in real-life settings and can illuminate connections between interventions and effects where the pathways between them are nonlinear,[11] as is particularly the case in highly complex systems. While single cases may relate to a specific context, nevertheless they may reveal telling rather than typical insights into wider forces.[10] A collective case study design gathers insights across settings that have relevance at service decision-making level.[10] Its use in combination with a whole systems approach provides a heuristic model for the conceptualisation of complex issues[10]: this makes collective case study using a whole systems approach highly relevant to a study of Indigenous health and wellbeing systems across multiple settings.

Contributors
MF and LSC contributed equally to the authorship of this paper.

Declaration of interests
We declare no competing interests.

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