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A comprehensive health service evaluation and monitoring framework

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ABSTRACT

Objective: To develop a framework for evaluating and monitoring a primary health care service, integrating hospital and community services.
Method: A targeted literature review of primary health service evaluation frameworks was performed to inform the development of the framework specifically for remote communities. Key principles underlying primary health care evaluation were determined and sentinel indicators developed to operationalise the evaluation framework. This framework was then validated with key stakeholders.
Results: The framework includes Donabedian's three seminal domains of structure, process and outcomes to determine health service performance. These in turn are dependent on sustainability, quality of patient care and the determinants of health to provide a comprehensive health service evaluation framework. The principles underpinning primary health service evaluation were pertinent to health services in remote contexts. Sentinel indicators were developed to fit the demographic characteristics and health needs of the population. Consultation with key stakeholders confirmed that the evaluation framework was applicable.
Conclusion: Data collected routinely by health services can be used to operationalise the proposed health service evaluation framework. Use of an evaluation framework which links policy and health service performance to health outcomes will assist health services to improve performance as part of a continuous quality improvement cycle.

1. Introduction

Rural and remote communities in Australia are characterised by poorer health outcomes compared with urban areas, this is at least in part due to the large proportion of Aboriginal and Torres Strait Islander people living outside of urban areas (Australian Institute of Health and Welfare, 2012). Remote areas of Australia are disproportionately populated by Aboriginal and Torres Strait Islander people, Census data in 2011 showed that almost half (45%) of all people in very remote areas and 16% in remote areas were Aboriginal and Torres Strait Islander people compared with 3% Aboriginal and Torres Strait Islander people in the total population (ABS, 2013a). Rural and remote Aboriginal populations experience health inequities compared to the rest of Australians (AIHW, 2010). The gap in the health of Aboriginal and Torres Strait Islander people and non-Indigenous Australians is illustrated by differences in life expectancy. Life expectancy at birth for Aboriginal and Torres Strait Islander people in 2010–2012 was 73.7 years for females and 69.1 years for males, compared with 83.1 and 79.7 years for non-Indigenous females and males respectively (ABS, 2013b).The challenge of how to improve these health outcomes is considerable, particularly in remote Aboriginal communities with decreased access to services and socioeconomic disadvantage.

Integral to improving rural and remote health outcomes is the provision of appropriate, accessible and effective health care services relevant to the needs of communities. This requires a mechanism to monitor and evaluate the impact of health services on improving health outcomes for communities. However, there is a paucity of rigorous studies showing the relationship between models of health care in remote areas and health outcomes (Rowley, O'Dea, & Anderson, 2008). The literature on primary health service evaluation linkages to improvements in health outcomes in remote Aboriginal communities has been limited (Bailie, Si, O Donoghue, & Dowden 2007) until relatively recently when there have been important and insightful publications

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covering Quality Improvement (QI) work focussed on outputs and clinical outcomes addressing this gap (Panaretto et al., 2013; Gardner et al., 2011; Bailie, Matthews, Brands, & Schierhout, 2013). This paper goes a step further from traditional QI to link policy to comprehensive health service evaluation using a logic model that examines the system from all aspects; from policy, through to inputs, outputs and outcomes including clinical, health behavioural risk factors and population health. The use of a logic model analysis defines conceptually the links between inputs, preceding the outputs and the desired outcomes and includes the complex and interactive contextual relationships that are important in complex adaptive systems. The evaluation logic model describes how the actions might produce the immediate outcome of interest (Julnes & Rog, 2009) and is being increasingly used for case study evaluations (Yin, 2000) and in studying theories of change (Mulroy & Lauber, 2004). A companion paper (Reeve, Humphreys, Wakerman, Carter, et al., 2015) demonstrates that the application of this comprehensive systems approach has enabled the generation of primary health care systems performance data and provided empirical evidence of improvements, not only in quality of care indicators but also improvements in health outcomes as called for and described elegantly by Bailie et al. (2013).

This framework was developed because of the need for a rigorous, integrated health service evaluation tool able to link primary health care data collection with current hospital service data collection and connect them to national health performance indicators and national policy.

This paper describes the development of a comprehensive evaluation framework which takes into account the distinctive demographics and health needs of a population living in a remote area during the integration of the hospital and community based health services. The objective of this paper is to describe an evaluation and monitoring framework that enables changes in the model of service delivery to be tracked through changes in process indicators and the resultant health outcomes for the population. Using the key principles of primary health care evaluation, it describes how relevant sentinel indicators were developed and corroborated in a remote community in north-west Western Australia.

2. Setting

The Fitzroy Valley is located in the Kimberley region of Western Australia and covers an area of around 30 000 km^2. There are 44 Aboriginal communities with a population of approximately 3500 people. Fitzroy Crossing is the largest community with a population of approximately 1500, 69% of whom identify as Aboriginal (Morphy, 2010). Services are provided to both Aboriginal (80%) and non-Aboriginal residents. The regional hospital is located in Broome 396 km away, while the tertiary referral hospital is in Perth 2567 km away making it one of the most remote and isolated regions in Australia (see Fig. 1).

Health services are provided by a formal partnership between Fitzroy Valley Health Service (both hospital and community services) and Nindilingarri Cultural Health Services (Reeve, Humphreys, Wakerman, Carroll, et al., 2015) have provided a detailed description of this health service model. The partnership model enables the provision of comprehensive primary health care, from health promotion and environmental health services provided by Nindilingarri Culture Health Services through to hospital inpatient and visiting specialists' services at the Fitzroy Valley Hospital. The physical hub for these health services is located in Fitzroy Crossing, where all health service partners are co-located, with outreach provided to outlying communities.

3. Methods

Mixed methods were used for the development of the framework. First, relevant literature around primary health care

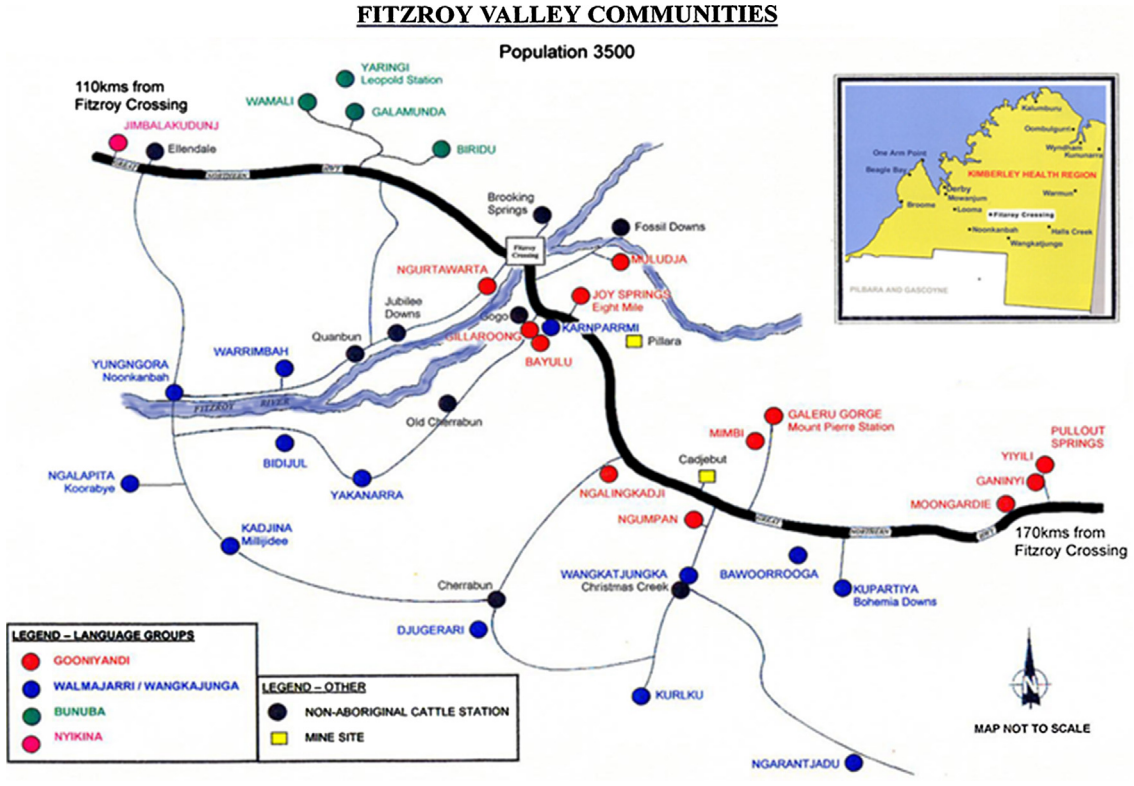

Fig. 1. Fitzroy valley communities.