Social Science & Medicine 63 (2006) 1661–1670

SOCIAL SCIENCE & MEDICINE

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Investigating the sustainability of outcomes in a chronic disease treatment programme

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Abstract

This study examines trends in chronic disease outcomes from initiation of a specialised chronic disease treatment programme through to incorporation of programme activities into routine service delivery. We reviewed clinical records of 98 participants with confirmed renal disease or hypertension in a remote indigenous community health centre in Northern Australia. For each participant the review period spanned an initial three years while participating in a specialised cardiovascular and renal disease treatment programme and a subsequent three years following withdrawal of the treatment programme. Responsibility for care was incorporated into the comprehensive primary care service which had been recently redeveloped to implement best practice care plans. The time series analysis included at least six measures prior to handover of the specialised programme and six following handover. Main outcome measures were trends in blood pressure (BP) control, and systolic and diastolic BP. We found an improvement in BP control in the first 6–12 months of the programme, followed by a steady declining trend. There was no significant difference in this trend between the pre- compared to the post-programme withdrawal period. This finding was consistent for control at levels below 130/80 and 140/90, and for trends in mean systolic and diastolic BP. Investigation of the sustainability of programme outcomes presents major challenges for research design. Sustained success in the management of chronic disease through primary care services requires better understanding of the causal mechanisms related to clinical intervention, the basis upon which they can be 'institutionalised' in a given context, and the extent to which they require regular revitalisation to maintain their effect.

Keywords: Australia; Chronic disease; Treatment; Quality of care; Sustainability; Indigenous health; Outcomes; Best practice

Introduction

The challenges of delivering effective and sustained chronic illness care are widely recognised (Wagner, 1998; Wagner, Austin et al., 2001; World Health Organisation, 2001). These challenges are especially acute in indigenous Australian communities which, like many other indigenous populations that have been subject to colonisation and rapid modernisation, suffer a disproportionate and increasing burden of chronic disease simultaneously with persisting high mortality due to other causes (Powles, 1992). Many of those worst-affected in

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doi:10.1016/j.socscimed.2006.04.010

Australia live in remote regions with under-developed health services. Over the past decade there has been increased attention to developing strategies for primary and secondary prevention. These have included whole-of-community, population-level interventions (Robinson et al., 2001, 2003) and interventions targeting specific conditions or groups of conditions.

The sustainability or maintenance of health benefits after the 'research' phase of intervention is over and special purpose funding is withdrawn is an important, yet under-researched subject (Batterham et al., 2001; Beaglehole & Yach, 2003; Bossert, 1990; Greenhalg et al., 2004; Lee et al., 1995; Mak & Straton, 1997). This paper reports a retrospective follow-up study which aimed to assess the sustainability of outcomes achieved through a specialised and research-oriented cardiovascular and renal treatment programme from initiation through to handover to the local community health care organisation.

Methods

Study setting

Until recently, Tiwi Islanders had the highest reported age-adjusted incidence of End Stage Renal Disease (ESRD) in Australia. A community wide screening program in the early nineties identified a high prevalence of risk factors for chronic diseases. This led to the introduction of an intervention programme in the mid- to late nineties (1995–1999) (Buynder et al., 1993; Hoy, 1996). The cardiovascular and renal disease prevention programme (the Renal Treatment Program (RTP)) was based on best practice guidelines, and aimed to reduce the incidence of ESRD by controlling blood pressure using angiotensin converting enzyme inhibitors (ACEi) as the mainstay of treatment (Hoy et al., 2000). The RTP was managed by a specialist physician. Follow-up and treatment were carried out at the community health centres by a specialised team of trained nurses assisted by indigenous community health workers. The team's sole focus was the specific treatment activity of the programme.

It is not clear to what extent the potential withdrawal of funding had been planned for at the commencement of the RTP. However, when RTP funding came to an end in late 1999, the management approach of the program was taken on by the then recently established Tiwi Health Board (THB) which sought to integrate treatment of the RTP's participants into the routine delivery of care in the community health centres. The withdrawal of the RTP occurred within the general timeframe (late 1998–1999) of a broader health reform initiative known as the Coordinated Care Trials (CCTs) which had commenced in 1998 with the formation of the THB. Key elements of these trials, in which the health centres hosting the RTP were participants, were the implementation of 'care coordination' based on best practice guidelines for the prevention and management of a range of common chronic conditions (including renal disease) and an electronic information system designed to support these guidelines (Robinson et al., 2001, 2003).

The THB expressed concern that it was not sufficiently funded to sustain the RTP at the same level as had been possible with the specialised resources previously available. Some time after the handover, the Director of the RTP drew attention to declining levels of BP control among clients of the programme. In response, the Board supported an investigation of trends in chronic disease outcomes. Findings of the evaluation of the CCT had indicated that the translation of best practice care plans into effective and sustainable improvements in health care delivery, and in turn into measurable health gains is not a straightforward process (Robinson et al., 2001, 2002). This investigation of trends in chronic disease outcomes was based on the assumption that changes in organisational structures and systems might have impacted on health benefit for clients with high levels of need within the service framework provided by the CCT.

As managed by the Board, participant follow-up was done by health centre staff responsible for general health care, including the high demands of acute care to participants of all ages, with one chronic disease nurse who worked with AHWs to promote active follow-up of cases in three community health centres. Advice on medical management decisions and monitoring of outcomes and performance were largely left to two resident GPs. Although advice was provided by personnel of the RTP during a transition period, there was no systematic redesign of work practice protocols for the Health Board's personnel. Numerous models for designating responsibilities were tried by the Board and abandoned or modified in the months after handover. There was some resistance among staff to adoption of the specific responsibilities for the