There is a growing body of evidence on the effectiveness of modern continuous quality improvement (CQI) approaches in a variety of industries. The development of CQI theory has been paralleled by an increasing recognition of the value of ecological approaches to health promotion and community interventions. In this paper we propose a long term ecological and quality improvement approach to maximise the impact of housing programs on Indigenous health, and discuss how some current key initiatives could be developed to support such an approach. State and Commonwealth data systems on Indigenous housing are patchy and inconsistent. From an ecological perspective, there are three important gaps in information, which include a lack of indicators relating to a) hygiene promotion; b) workforce development; and c) information systems development. Factors that will be important in improving health through an ecological approach to housing-related interventions can be described in three categories: infrastructure factors; behavioural factors; and factors in the policy environment. Efforts to improve health through housing interventions should adequately target all three areas of influence concurrently. A CQI approach could provide a way for community and other organisations to be effectively engaged in housing initiatives.

Key words: Continuous Quality Improvement; Housing; Indigenous Health; Ecological Approach; National Reporting Framework; Indicators

Indigenous housing is a national issue requiring priority action, as recognised by the government housing ministers’ statement on new directions for Indigenous housing, Building a Better Future: Indigenous Housing to 2010 (HMACSCIH 2001). This recognition of the importance of housing conditions is in large part due to their significance as a major underlying determinant of the poor health status of Indigenous people. In this paper, we propose a long term ecological and quality improvement approach to maximise the impact of housing programs on Indigenous health, and discuss how some current key initiatives could be developed to support such an approach.

The Continuous Quality Improvement Approach

There is a growing body of evidence on the effectiveness of modern continuous quality improvement (CQI) approaches in the manufacturing (Adam et al. 1997; Samson & Terziovski 1999), service (Prajogo 2006) and health care industries (Blumenthal & Kilo 1998; Shortell et al. 1998). In general, the CQI approach aims to facilitate ongoing improvement by using objective data to analyse and improve processes (Graham 1995). Emphasis is placed on efficient and effective functioning of organisational systems. At the heart of quality improvement theory is the Plan-Do-Study-Act cycle; an ongoing cycle of gathering data to understand how well organisational
systems are functioning, and developing and implementing plans for improvement.

An essential starting point for quality improvement is the systematic and objective assessment of performance and of the systems in place to support good performance (McLaughlin & Kaluzny 1994). This requires producing good quality information to inform goal setting and the development of strategies to achieve improvements in identified areas.

Key features of modern CQI approaches make them well suited to the Indigenous Australian setting. The participatory approach and ‘customer focus’ of CQI fits with the requirement to take account of the principles and values of Aboriginal and Torres Strait Islander people, as expressed in recent national statements on research (National Health and Medical Research Council (NHMRC) 2003) and cultural respect (Australian Health Ministers’ Advisory Council [AHMAC] 2004). The emphasis given to addressing underlying causes, capacity building (including community capacity to interact with data) and improving outcomes are also central to CQI (Blumenthal & Kilo 1998; Shortell et al. 1998) as is the development of positive models and a culture of self-evaluation rather than blame (Siddiqi & Newell 2005).

The Ecological Approach

The development of CQI theory has been paralleled by an increasing recognition of the value of ecological approaches to health promotion and community interventions (see for example Green & Kreuter 1999; McLeroy et al. 1988). Based on international work on hygiene improvement (EHP et al. 2004), the factors that will be important in improving health through an ecological approach to housing-related interventions are infrastructure factors; behavioural factors; and factors in the policy environment (Figure 1). Our ‘Housing and Health Improvement’ model (Wayte et al. 2005) suggests that efforts to improve health through housing interventions should adequately target all three areas of influence. Priorities in terms of access to hardware should be an adequate and safe water supply and sanitation facilities. Other hardware priorities might include those required to support healthy living practices, including whitegoods and furniture. Priorities for hygiene promotion include effective strategies for community participation, communication of risk and appropriate hygiene practices, social mobilisation/marketing strategies, and health education and health promotion strategies that reach key groups in the population. Important issues in the policy environment include general support for development of a culture of continuous quality improvement, and more specifically for development of information systems, for building partnerships and capacity of community organisations, and constructive regulatory, financing and cost-recovery policies.

Applications to Housing and Health Improvement

All states and territories have agreed on a National Reporting Framework (AIHW 2004) for reporting on implementation and outcomes for all Indigenous housing programs. Identified priorities are data on crowding and dwelling condition (AIHW 2005). While the State and Territory level systems for collecting the data required for the National Reporting Framework have proved to be patchy and inconsistent, the definition of outcomes (HMACSCRIH 2001), the definition of indicators (AIHW 2004), and the reporting of the completeness and quality of the data required for these indicators (AIHW 2005) are important advances.

Application of modern CQI theory to the proposed Housing Improvement Framework (Figure 1) would require information systems to report on indicators across all three areas: policy environment, infrastructure and home-management.
This would include indicators relating to systems development, processes and outcomes. However, the majority of the 38 indicators included in the National Reporting Framework relate to the condition and management of housing infrastructure, with four relating to the development of the Indigenous housing workforce, and one to the coordination between housing and other services that seek to improve the health and wellbeing of Indigenous people.

Three important gaps in the National Reporting Framework are the lack of indicators relating to a) hygiene promotion; b) general (including non-Indigenous) workforce development; and c) information systems development. One likely reason for the gaps in the National Reporting Framework is the lack of attention that these areas have received in policy and practice. They are often at the periphery of core business and tend to be insubstantial and under-resourced (Cairnduff & Guthridge 2001; Runcie & Bailie 2000). While Indigenous workforce development is a recognised priority, there is at least one example where lack of capacity in the general Indigenous housing related workforce has been a major impediment to the success of an initiative in this area (enHealth Council 2004).

In relation to information systems, published evaluations of initiatives for effective consultation and communication of housing information to community organisations and community residents have only recently emerged (Jardine-Orr et al. 2004; Wayte et al. 2005). Information has an important role in stimulating action and the lack of well developed processes for consultation and effective communication of housing information to Indigenous community organisations and community residents has led to recent proposals for improving practice in these areas (Jardine-Orr et al. 2004; Wayte et al. 2005). These continuing deficiencies in the development of Indigenous housing programs arise in part...
from the lack of a culture of evaluation and research (with some exceptions) relevant to the development, implementation and outcomes of Indigenous housing programs.

The development of system, process and outcome indicators relating to the identified gaps will require the definition of clear goals, strategies, and systems in each area. This will require drawing together local community expectations, knowledge and the best available research and evaluation evidence. Housing standards, and guidelines or strategies for improvement, should also be based on the best available evidence of effective interventions. While there has been substantial and important work in developing standards and strategies or models for intervention, the health-relevant evidence base on which these standards, guidelines and interventions are based is relatively undeveloped both in the international and local environment.

The development of effective strategies to expand the workforce and to provide training in an environmental and housing relevant CQI approach should be a priority. Adaptation of a recent World Health Organization (2005) framework for workforce development for chronic illness care might provide some useful guidance in the development of a competency based approach to workforce development. Following this approach, the key competencies would include community resident centred services; partnering; quality improvement; information and communication technology; and a public health perspective.

The development of organisational structures to support initiatives in Indigenous housing is at a turning point. The effectiveness of the new arrangements in supporting a systematic ecological evidence based approach will be critical to improving housing conditions. With the abolition of the Aboriginal and Torres Strait Islander Commission, the Department of Family and Community Services has taken over Commonwealth responsibility for Indigenous housing (Office of Indigenous Policy Coordination [OIPC] 2004). The new approach by the Commonwealth government is underpinned by concepts of 'shared responsibility' (or 'mutual obligation'), 'partnerships', 'whole-of-government', 'regional focus', 'flexibility' and 'outcomes'. Across Australia multi-agency Indigenous Coordination Centres have been established, which are managed by the Office of Indigenous Policy Coordination. It is intended that these Centres will work with regional networks of representative Indigenous organisations to ensure that local needs and priorities are understood (OIPC 2004). A CQI approach could provide a way for community and other organisations to be effectively engaged in housing initiatives.

Given the policy statements of Building a Better Future (HMACSCIH 2001), the achievement of measurable outcomes of improved housing will be a test of the political will and imagination of various levels of government. Modern CQI theory offers a promising framework to inform the development of a model for housing and health improvement. Implementation of key aspects of the CQI approach will require significant development of capacity at the level of local communities and regional offices that support these communities. It is important for the National Reporting Framework to be refined to include indicators that will reflect progress in this regard. Perhaps even more importantly, effective CQI approaches for housing and health improvement will require the development of a CQI culture at all levels of Indigenous housing organisation and management, and significant development of capacity to engage with organisations and residents at the community level.
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