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Are the Potential Benefits of a Community-Based Participatory Approach to Public Health Research Worth the Potential Costs?

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Much of public health research is conducted in a community setting or is designed to target particular population groups. Community-based participatory research (CBPR) is gaining recognition as good practice in studies of this type (Flicker et al. 2007). Its merit is based on the inclusion of the community as active participants at all stages of the research process (Goodman 2006). The focus on justice and equity in this approach is seen to contribute to a range of additional potential research benefits including increased relevance and sustainability of interventions arising from the research (Blumenthal 2004; Wallestein 2006) However, it is widely acknowledged that adoption of a consciously CBPR approach requires additional expertise, time and resources from researchers and from communities (Tanjasiri et al. 2002; Massaro & Claiborne 2001; Israel et al. 1998). Adoption of CBPR is also limited by existing infrastructures which are supportive of more traditional models of research. Changes to professional development programs, funding guidelines and criteria, grant review processes and ethics requirements are needed to support increased application of this approach (Israel et al. 2001). As all research resources are limited, the potential additional benefits offered by CBPR over and above a more traditional research approach need to be weighed against the potential additional costs involved. Changes to research infrastructure are unlikely to occur until the costs and benefits of a consciously CBPR approach as compared to a more traditional research approach can be demonstrated.

This is an exploratory paper that summarises the arguments put forward to date in relation to CBPR. A research case study and an evaluation framework are then used for a conceptual analysis of differences in the potential costs and benefits of the two approaches. Firstly, the paper describes the differences between traditional and consciously CBPR approaches. The reported benefits of CBPR are then outlined, followed by a discussion of the potential costs. Finally, the potential costs are compared to the potential benefits of using a CBPR approach, using a case study of existing research.

Differences between traditional research processes and a CBPR approach

In this paper, traditional research approaches are described as those which are driven by the researcher as ‘expert’ conducting research on the community as ‘research subjects’. The researcher is responsible for decision-making and the research methodology and intervention design are predetermined by the research requirements rather than being customised to the expressed needs of the community or setting. The researcher takes responsibility for interpreting the data and typically the main outcome of the research is to inform the evidence-base (Ansley & Gaventa 1997).

Community-based participatory research changes the status of the community such that they become partners in the research process, contributing to decision-making and mutual knowledge exchange at all stages of the research process including; problem definition, research design, selection and recruitment of sample, data collection and analysis, and dissemination of findings (Israel et al. 1998). This active partnership between the researcher and the community ensures that the research methodology and intervention design are customised to the community setting to ensure they are feasible and acceptable and maximise engagement and participation. This approach also provides a means for the community partners to guide researcher understanding of the data from the perspective of the lived experiences of the community members. The main outcome of the research is to inform policy or practice change with direct and immediate benefits for the community involved (RTI International - North Carolina 2004). Determination of who should participate and to what extent will depend on the nature and context of the study (Green and Mercer 2001; RTI International - North Carolina 2004).

Method

Using a research case study we compare a traditional model of research and CBPR to examine potential costs and potential benefits. The case study being profiled is ‘Teeth Tales’, a study being conducted in an inner-urban area of Melbourne, Australia, exploring social and cultural determinants of child oral health in refugee and
migrant communities. This study is using a CBPR approach but is still in progress and will be used only as a model for this exercise.

It is recognised that traditional and CBPR approaches are probably best represented on a continuum of research practice rather than a dichotomy, with researchers drawing on the different models to varying extents. However, research funding bodies and journal reviewers are often operating under a traditional paradigm that does not reflect research in practice. For the purposes of exploring the difference in potential costs and potential benefits between the two approaches, a precise distinction between the two approaches will be described. It is also noted that although there is collective agreement in the literature about the potential benefits of CBPR, these benefits have not been evaluated as differentiated outcomes. For the purposes of this paper it will be assumed that these reported benefits are valid but it is recognised as a limitation in this assessment of the potential benefits and potential costs of CBPR in public health research.

The first distinction between traditional and consciously CBPR research approaches is the development of the research question. In traditional approaches it is often determined by the researcher based on previous experience, the gaps in the literature, or the priority of the health issue. In CBPR the research question is more likely to be developed in consultation with the community and informed by both the literature and community priorities. This may lead to quite different research agendas which would be difficult to compare. Therefore, for the purposes of comparing processes, potential benefits and resource expenditure, this comparative example will assume both research approaches are addressing the same research question, ie what are the social and cultural determinants of child oral health in refugee and migrant communities. A representation of generic versus culturally competent research has been used as a reference for this exercise (Gibbs et al in press).

Reported Benefits of CBPR

A range of perceived additional benefits are reported in the CBPR literature (Israel et al 1998). These include improvements to process, enhanced research experience and increased research outcomes. As already stated, these reported benefits have not been rigorously evaluated as additional outcomes. Some of the key examples of the reported potential benefits are noted below.

Improved Research Process

• Engagement for meaningful outcomes. Engaging community members as partners in all stages of the research provides an opportunity to gain valuable insights into their cultural beliefs and practices and how these may impact on the research process (Israel et al 1998; Williams et al 2006). In particular, a number of studies have highlighted the advantage of involving the community of interest at the earliest stage possible as a means of generating richer and more in-depth appreciation for an issue within its cultural and community context. This allows the research to be more appropriate and targeted from its inception (Bluthenthal et al 2006; Kalra et al 2004; Massaro and Claiborne 2001). This is likely to result in the development of more culturally appropriate measurements and interventions, thus increasing the likelihood of interventions being more meaningful and relevant to the community of interest (Blumenthal 2004; Viswanathan 2004). Diversity within communities contributes added complexity to a CBPR approach. Research and collaborative processes should allow for the fact that communities are rarely, if ever, homogenous, by incorporating strategies to accommodate diverse views and experiences (Gibbs et al 2007; Waters et al in press 2008).

• Collaboration to improve participation and knowledge translation. Identifying, establishing and maintaining collaborative partnerships within the community provides ready access to data sources, including research participants, and to appropriate avenues for sharing of information and dissemination of findings. This is often achieved through trusted community leaders and conducted in community settings that are familiar and comfortable environments for the research participants.

• Maximising resource utilisation and community ownership. CBPR allows identification of the existing strengths and assets within a community and builds on these to achieve the research outcomes and contribute to improved health (Wallestein 2006). The establishment of collaborative partnerships with the community of interest promotes a sense of collective responsibility around an issue, while also being an effective means of maximising the utilisation of the resources of all research partners (Viswanathan 2004; Meyer et al 2003a).

• Faster transition from data collection to sustainable action. One of the distinguishing characteristics of the CBPR approach from other more traditional types of research is that action on the issue under study is inherent in the process (Wallestein 2006). That is, the knowledge generated through the collaborative data collection process is applied immediately to inform interventions, policy or service changes for improved health. The CBPR approach prioritises partnerships with community organisations to enhance the potential flow-on to changes in service delivery following research. Such collaboration is argued to be necessary in ensuring sustainable action and increased impact of research knowledge beyond the research period (Chiu 2004; Viswanathan 2004).

Enhanced research experience

• Reciprocal learning – ‘translation and exchange’. The reciprocal education and learning processes which take place
between the researcher and the community throughout the CBPR research has been emphasised in a number of studies as a significant benefit of this type of methodology (Chung et al 2006; Tanjasiri et al 2002; Rhodes et al 2006). The collaborative partnerships encourage the exchange of skills and experiences, which in turn facilitate more informed practice and improved efficacy in addressing the identified issue (Viswanathan 2004). As noted above, researchers have the opportunity to learn from community members about their cultural beliefs and practices, while community members have the opportunity to acquire new skills and knowledge in undertaking research (Israel et al 1998). The increased skills and knowledge contribute to increased community capacity to participate actively and equally in identifying issues and taking action to address these (Bluthenthal et al 2006). The co-learning that occurs through mutual knowledge exchange also contributes to the increased research and program development capacity of the researchers.

• **Addressing inequalities.** CBPR is suggested to be an empowering process as it seeks to actively involve marginalised and disadvantaged communities in understanding and addressing issues which have an impact on their health and well-being (Israel et al 1998). The active participation of the community of interest in the research process is considered critical in promoting a sense of ownership and shared responsibility of an issue (Meyer et al 2003a). It is acknowledged within the research that constant vigilance is required of the researcher to ensure equity and power imbalances do not develop as they could lead to a compounding of inequities already present in the community. Addressing these inequalities and power imbalances requires constant emphasis being placed on sharing knowledge, decision making, resources and support among all research partners (Darrow et al 2004; Williams et al 2006).

**Potential Costs of CBPR**

**Investment of Resources by Researchers**

The potential additional costs of CBPR compared to a more traditional research approach are concentrated around additional research resource requirements. Of these, the most likely additional costs in real terms relate to:

1. increased researcher time required, particularly in developing networks and establishing partnerships; (Meyer et al 2003b)

2. increased level and extent of consultation at each stage of the research process involved in CBPR (Karantzas 2003; Kim et al 2004) and:

3. increased research resources associated with additional activities (venue hire, additional use of interpreters, transport, refreshments, training, reimbursement and child care).

There is a limited literature on costs and benefits within CBPR. However, where available it has focussed on the influence of costs and benefits to the individual on decisions to join and/or continue to participate in coalitions (Israel et al 1998; Butterfloss et al 1993). The evidence here demonstrates that participation requires benefits to the individual to outweigh costs involved.

CBPR requires significant input of time and resources from community partners (see below). Therefore, there needs to be consideration of financial compensation both as a sign of respect and recognition of the resources invested by partners in CBPR and as an evidence-based practice to optimise participation. Compensation may include direct payment to participating individuals and/or organisations; provision of refreshments, training, reimbursement and child care.)
of in-kind support such as technical assistance and training; and resources invested in public recognition of partner contributions such as public events, letters of commendation and media coverage (Israel et al 1998)

**Investment of Resources by Partner Organisations**

If partners are more involved in CBPR than in a more traditional research approach, the investment of their own resources (of time, effort, space and equipment) will be higher. It is important that an informed commitment relating to this investment is made by communities from the start of the project. This is an additional cost from the societal perspective, although from the perspective of the research funder it may be seen as a research benefit that each dollar of research funds invested draws in a higher dollar investment from the community under CBPR than under a more traditional research approach.

**Cost Savings**

Many of the potential benefits of CBPR over a more traditional research approach will have associated cost savings. Some of these savings will be achieved within the term of the research funding and will accrue directly to research budgets, for example, increased ease of recruitment means fewer research resources are required for recruitment of any given research sample. Improved sustainability will reduce the need for medium-term repeat funding of the same or related program activities and this should be included as a cost saving to the original and related funding bodies. However, most of the cost savings associated with potential additional benefits of CBPR will flow over the longer term and will accrue to a broader range of recipients.

Any improvement in the health and well-being of a population will be associated with reduced need for health and welfare services and an associated reduction in service use and costs. This should be considered as a cost saving associated with any such demonstrated outcomes of CBPR, although such savings are unlikely to be financially realised (as the reduced service use of this population will in practice be replaced by increased service provision to another group in need).

The efficiency improvements put forward as an additional benefit of CBPR may alternatively be experienced as a cost saving. Increased efficiency of public health practice and successful capacity building of community partners means each of these groups will in the future be able to produce the same level of outcome from fewer resources, reflected in a reduced investment required from funding bodies. However, efficiency improvements are more likely experienced as increased outcomes from a similar level of investment and therefore efficiency claims of CBPR should be counted on the benefits side of the equation rather than as a future cost saving. This concept also applies to the potential multiplier benefits of CBPR operating through improved theory and the resulting in improved effectiveness and efficiency of future research.

**Comparison of the Potential Costs and Benefits of Using a CBPR Approach**

As detailed above, the additional potential benefits of a consciously CBPR approach are claimed to be improved research processes, enhanced research experience for both community members and researchers, and improved research outcomes. Currently, the available valuation techniques (Mitchell & Carson 1989; Louviere et al 2000) are yet to be applied to the types of benefit raised here. Therefore, the comparison of potential costs and potential benefits will require researchers and research funding bodies to weigh up the dollar costs of additional resource requirements against the potential additional benefits on offer expressed in natural terms (‘increased sustainability’, ‘increased efficiency of public health practice’, etc). We have conducted a sample comparison using a case study of an existing research study, Teeth Tales, being conducted by the authors in an inner-urban area of Melbourne, Australia (see Case Study below).

**Conclusion**

CBPR is widely perceived to be a research methodology that achieves improved, sustainable research outcomes for the community, albeit at considerable additional research resources. However, concerns about increased time and costs may be unfounded from a research budgeting perspective. According to this conceptual costing exercise, using a current research study as a case study, most of the additional resources are borne by the community, and initial investments of time are offset by time savings as the study progresses. Further research is required to confirm the actual benefits of CBPR research and to do a full evaluation of differential costs for the two research approaches, to contribute to public health evaluation and assessment. However, these preliminary findings indicate that CBPR is a worthwhile approach provided the community is fully informed and in agreement with the investment required of them in terms of time and in-kind support over the course of the study. Therefore, CBPR needs to consider the use of financial compensation for the inputs of research partners, both as a sign of respect and recognition of the resources invested by partners in CBPR and as an evidence-based practice to optimise participation. Compensation may include direct payment to participating individuals and/or organisations; provision of in-kind support such as technical assistance and training; and resources invested in public recognition of partner contributions such as public events, letters of commendation and media coverage (Israel et al 1998).
Case study – Teeth Tales: Comparison of the potential additional costs and benefits of using CBPR instead of a more traditional research approach

Teeth Tales is a community research and intervention study exploring oral health practices, beliefs and service needs in culturally diverse families. A CBPR approach is being employed in the study. A conceptual analysis of the potential benefits and costs of using this approach over a more traditional research approach at each stage of the research process is represented in Table 1.

Method of analysis

For each changed aspect or research activity we have estimated the difference in resources required for this activity and the economic cost of this different level of resource use. This was calculated at 2007 Australian dollar values using existing standard rates for the value of each resource (for example, current University costs of researcher time, Australian average wage rates for community participant time, Moreland Community Health Service fee schedules for translation services etc.). Additional investments (and any savings associated with use of CBPR rather than a traditional approach) are split between those met from project research budgets and those met by the contribution of community partners. We have excluded the value of time that community members participating in the project contribute, although recognising this societal investment would add a further source of additional cost to the community from the use of a CBPR approach.

Results

The total additional cost of the CBPR approach in this case study is estimated to be around $57,200. The majority of this additional investment is required from community in-kind contributions; the additional investment required from research funds is $3,600 and from communities is $53,600. This uneven balance of additional costs is due to the accrual of research cost savings of the CBPR approach compared to the traditional approach due to reduced researcher time needed to identify data sources and target populations and to recruit participants. The additional research costs form only just over 1% of the total research budget of Teeth Tales ($300,000), however the additional burden on community partners is much greater and if all additional investment had to be made from research funds this would form almost 20% of the total research budget.

The process of calculating the differences in potential costs between traditional and CBPR approaches highlighted differences in time spent at each research stage. The CBPR approach required additional time at certain stages of the research process and less time at others.

The additional benefits of Teeth Tales that result from the use of CBPR instead of a more traditional research approach can also be estimated. The research team estimate that the additional benefits will involve: ongoing partnerships between the research partners; increased relevance and integrity of the findings; mutual appreciation, understanding and capacity for participation in future projects among both the community and the researchers; increased uptake of ongoing Moreland Community Health Service and Dental Health Services Victoria services; changed oral health practices leading to improved oral health among the families of the cultural groups involved. For Teeth Tales, these potential additional benefits are associated with an additional investment of $57,200.

Discussion

As benefits are expressed in terms not directly comparable to monetary investment, the balance of costs and benefits will be assessed differently by each reader. We believe that from a research perspective, the small net additional cost (of $3,600) will be well worth the predicted additional benefits that arise from taking a CBPR approach rather than a more traditional approach to Teeth Tales. However, the main additional costs arising from the CBPR approach are borne not by researchers but by the community partner organisations, and these partners must also perceive their investment to be worthwhile in terms of the benefits accruing to them and to their community members.

References


