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***Cost-Effectiveness of Regional
HIV and AIDS Behaviour
Change Communication (BCC)
Programme***

**DFID SOUTH AFRICA
Final Report**

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1. Introduction

This report sets out an assessment, so far as data allow, of the Regional HIV and AIDS Behaviour Change Communication (BCC) programme which supports three civil society organisations (CSOs) and their projects to:

- Reduce the spread of HIV in South Africa through health education and “edutainment” (health education provided through entertainment media);
- Increase knowledge and shift beliefs and behaviours towards behaviour likely to reduce the spread of HIV/AIDS;
- Improve compliance with treatment with Anti-Retroviral Therapy (ART) through increased education of those on medication, community support for sufferers and other interventions.

More detail is provided on each programme/project in later sections of this report.

1.1 Resources for this Evaluation

This evaluation was carried out as part of a commitment to support evaluation for several projects funded by the Department for International Development (DFID) in South Africa. This evaluation document was prepared using three days of consultant time and follows two days spent on an inception report and a four-day familiarisation visit to South Africa for meetings with DFID and key local programme suppliers.

The depth of this evaluation reflects the level of inputs provided by the consultant and the availability of data. It is accepted that not every detail or nuance of current activities may be accurately described but we remain confident that the key issues for evaluation of the programmes involved have been satisfactorily assessed. Comments from key stakeholders have also been taken into account in preparing this final draft. Further recommendations on how DFID might strengthen similar analyses in future are set out.

1.2 Scope of this Evaluation

In this evaluation document we focus on three main programmes:

- Soul City, which we use as shorthand for a range of programmes developed by, and through, the Soul City Institute for Health and Development Communication, to provide a range of broadcast and written media to improve health and provide health education and behavioural change to reduce the HIV epidemic in Southern Africa;
- Programmes developed by Community Media Trust, including TV programmes to spread information on HIV and treatment literacy, and other media;
- Programmes developed by the Southern Africa HIV and AIDS Information Dissemination Service (SAfAIDS) to develop a range of information and support for those with HIV and AIDS.

No direct primary data has been collected in this short appraisal. Cost and evaluation data was requested and received from the three CSOs developing and providing services for DFID South Africa. It is noted here that a range of errors and omissions may be found in this report by those with more detailed knowledge of the programmes and their evaluations locally. This is inevitable when the scale of the evaluation project

is so limited. We are happy to incorporate further information and amendments into a revised draft if this is felt to be appropriate and if the time required is compatible with the overall commitment agreed with DFID and HLSP for the evaluation of several projects.

1.3 Focus of this Evaluation

We are aware of the guidance from DFID on the conduct of economic evaluations though we have only been able to access the summary guidance, (DFID, A Strengthened Approach to Economic Appraisals, How to Note, (HTN) February 2009). However, for this study, we note two important constraints, the resources committed (in consultant days) and the data available. Both of these have limited the evaluation to an outline evaluation which does not attempt to assess a number of aspects of the costs and benefits that might be included ideally, e.g. costs to third parties and costs of volunteers, fiscal or other indirect costs or benefits. However, our view is that given the data available and the lack of a large volume of evaluations of similar services, over-elaboration of some elements of the evaluation would risk extrapolating the limited data too far.

A key issue for an evaluation of this kind is the existence of any benchmark, that is, a cost per Quality Adjusted Life Year (QALY) or Disability Adjusted Life Year (DALY) that might be used to compare outcomes from the programmes examined here with other potential uses of the same funding. In the UK, this typically takes the form of a threshold for cost-effectiveness that is accepted by the National Institute for Health and Clinical Excellence (NICE), which evaluates new and existing therapies in the National Health Service (NHS). As far as we are aware, DFID does not have such benchmarks at present. However, given the constraints on the funding of therapies such as Anti-Retroviral Therapy (ART) in Africa, the benefits from ART per unit cost could be seen as one potential comparator for other projects tackling HIV and AIDS. We have included this for comparative purposes in this report.

It should be noted that this evaluation has been carried out after the funding for these projects has been approved and have been running for some time with DFID funding. Ideally, the projects would be evaluated against a counter-factual – that is, the set of conditions and outcomes that would have occurred without the project. Ideally, this should be specified before the programme starts to provide a clear baseline for evaluation of the additional outcomes achieved by the projects. No information has been received on alternative projects that may have been considered before these projects were funded and so no comparison of options, beyond a limited baseline comparison with other possible investments, is included here.

In Section 2 of this report we examine a range of issues that affect the evaluation of BCC programmes and projects.

In subsequent sections of this report we examine each of the three sets of programmes/projects collectively identified as BCC projects in DFID's funding to reduce the impact of HIV and AIDS. These sections are set out in line with the HTN but some sections cannot be completed due to a lack of information. In some sections on the evaluation of individual programmes, (Soul City, SAfAIDS and CMT) some text is repeated on areas which we cannot or have not addressed from the HTN.

Our conclusions and suggestions for future evaluation are set out in Section 6.

2. Evaluating BCC Interventions

This section presents some background on the issues raised by an this? evaluation of BCC interventions. It draws extensively on material from our inception report, but is included for readers who have not received that report.

Behavioural Change Communication (BCC) is seen as a major component of the response to ill health in many countries and has been a key focus of interventions in countries with high levels of prevalence of HIV infection. BCC is particularly important where diseases are not readily preventable by simple medical interventions (e.g. vaccination) or direct curative treatment (e.g. antibiotics for bacterial diseases). For HIV, where treatment is now available (but must be taken for life and has high costs), and where death rates remain high in Southern Africa, BCC offers a number of advantages as one method to reduce future infections and mortality:

- BCC approaches have the capacity to reach large numbers of people, sometimes very large numbers, at a relatively low marginal cost per person reached. This is particularly true for broadcast media where the costs of a programme are relatively fixed, but the audience is potentially very large with no marginal cost per viewer/listener;
- Compared to treatment or direct medical advice, which requires materials and staff time per individual contact, BCC materials can be used in many different ways and by less highly trained (and therefore less costly) types of worker. One aspect of the use of volunteer workers that is important for an economic evaluation is that this transfers costs outside the formal health system. However, even volunteers' time should ideally be costed as it has an opportunity cost in the potential to do other valuable things in the community. Peer-to-peer transmission of BCC materials and messages may also take place with no cost to those funding the interventions;
- Given the low costs per person reached, BCC interventions may appear to have a greater potential to be cost-effective.

However, the fact that a programme has a low cost per person reached does not in and of itself provide evidence that it is cost-effective. For example, for a low cost-per-person intervention, the average number of years of life extension or healthy life extension achieved, through a reduction in risky sexual behaviour, may only need to be small, relative to the population reached, to achieve a pre-specified threshold for cost effectiveness per Quality Adjusted Life Year (QALY) or Disability Adjusted Life Year (DALY). However, it is important that, as far as possible, an attempt is made to assess whether and under what conditions such a change in behaviour might occur. Otherwise, there is a risk that all BCC projects are simply "rubber-stamped" as cost-effective, on the grounds of low cost per person. This does not guarantee an effect of the required size to make the investment cost-effective. A simple acceptance of the view that such projects are cost-effective could, for example, be used to justify doubling or trebling the expenditure and range of such BCC interventions. Some BCC interventions may not be cost-effective at all. Some may be cost effective at one size or scale of population coverage but not at another, larger scale., (e.g. providing BCC messages daily instead of weekly or monthly) or over time (e.g. reinforcing the same essential message for many years).

In view of the importance of understanding the effective reach of a BCC programme, ideally such programmes should be evaluated with both before and after data collection, covering both groups exposed to the intervention and those who, for whatever reasons, are not exposed to it. Of course, not watching a TV programme could indicate something about the individual's characteristics that also contributes to

their knowledge, beliefs, attitudes and behaviour (KBAB) about HIV/AIDS. However, since a fully controlled trial is not possible, this kind of pre- and post-intervention data collection may be as far as it is possible to go to establish the impact of BCC on KBAB. We stress several times in this report the importance of also measuring marginal impact, the additional reach and effect of further rounds of BCC in an environment where multiple sources of information exist and where many exposed to BCC programmes may have had previous exposure. Regular surveys would also highlight the extent to which any changes in KBAB among those exposed to the material were sustained or short-lived. In view of the importance of evaluating the impact of BCC programmes, we have reviewed this more fully in the next section.

We have focused on BCC projects where information is relatively widely disseminated to the public at large though some projects involved more targeted dissemination. Clearly, where information is provided to targeted individuals in one-to-one sessions, there is more scope for establishing a control group of those not receiving the intervention. Even in this situation there is scope for leakage of any effects from the intervention group into the wider community. However, the difficulties of evaluation are much greater when the new information is more generally disseminated, to the public at large. Ideally, evaluation with appropriate market research and other data collection should be built into all initial project designs.

2.1 Assessing the Impact of BCC Interventions on HIV and AIDS

The ideal chain of data collection for the evaluation of a BCC project would be:

- Identify KBAB among the target population before the intervention;
- Identify sources of information, formal and informal, to which the target population has been exposed before the intervention;
- Where feasible, (e.g. where an intervention is restricted to one geographical area) establish a control group and monitor their KBAB and, ideally, their health;
- Alternatively, identify levels of exposure, including zero exposure, in pre- and post-programme data collection;
- Assess direct and specific knowledge of the intervention materials and KBAB of those in the intervention area and, where relevant, in any control group after the intervention and, at intervals if a delayed or gradual effect is expected;
- Assuming that direct identification of those receiving the BCC information is not feasible, use the changes in KBAB, particularly reported behaviour, to predict the extent of change in risky sexual behaviour;
- Use the estimates of changes in behaviour to estimate the potential gains in health and life years from the BCC intervention;
- Carry out a sensitivity analysis to test the effects of variation in key variables above or below the estimated level, to allow for any mis-estimation.

Ideally, we would evaluate every strand of every intervention but in practice where several messages are provided to a population group in an overlapping way, it is difficult to disentangle individual elements that might have a bigger or smaller effect on behaviour. We have treated each programme as, broadly, a single programme rather than a composite of different components and approaches. Without a complex research strategy and some scope for delivering different components to different groups, it will always be very difficult to assess the impact of individual components (e.g. an episode of a TV show compared to reading an associated printed document).

Evaluation is also made more difficult because, ideally, we would like information on every step from exposure to changes in KBAB to the outcomes of changes in

behaviour. In practice, much of the data collection on projects of this kind tends to focus on exposure or audience and changes in knowledge rather than behaviour and outcomes.

One particular issue of concern in this process is the extent of the pre-intervention data collection and the sources of information used before the introduction of the BCC intervention that is to be evaluated. We assume that in South Africa, there are a large number of sources of information on HIV transmission (though we also understand that these may not always be as well-developed as might be expected in a geographical area of high HIV prevalence - see, for example, the summary available at www.avert.org). A key issue for the evaluation of BCC interventions is whether they are making a difference, given that other sources of information already exist and are in turn having an influence on KBAB. The different sources of information are likely to confound the assessment of any single intervention using BCC methods. Furthermore, the greater the range of other sources of information and the wider their reach to the target audience, the potentially lower the return from an additional BCC intervention at the margin.

In a recent study, Noar et al. (Noar SW et al, A ten year systematic review of HIV/AIDS mass communication campaigns: Have we made progress? *Journal of Health Communication*, 2009;14:15-42) reviewed studies from 34 campaigns of the impact of HIV and AIDS mass communication in a range of countries. 17 studies from Africa are included in the review. (The review deliberately focused on articles published since a review by other authors in 2000. We have not included details from that earlier review here.) Noar et al. report that evaluation is limited in many of these studies, with use of pre-test, post-test (that is, before and after the BCC intervention) one group population samples (that is, not continuing panels of respondents) in only 38 per cent of studies and use of post-test samples only in a further 31 per cent. Overall, almost 70 per cent of the 34 studies used methods that are regarded, by Noar et al., as weaker in their validity. 21 per cent (seven studies) did use control groups and pre- and post-test designs, while others have used time-series data to provide some comparisons of the before- and after-intervention state of behaviour. Therefore, based on experience elsewhere, it was anticipated at the start of this project that data for the evaluation of outcomes might be limited.

It is also possible that the future impact of BCC interventions in South Africa will change as a result of revitalised approaches to HIV and AIDS. That is, future KBAB studies may show an increased level of knowledge due to increased health education in schools and society at large, now that, we understand, HIV and AIDS is more firmly on the political agenda in South Africa than under past ministers of health. This may be less the case in other Southern African countries where education is more or less well developed than in South Africa itself though some comments on our draft report suggested that the performance of the education system in South Africa remains weaker than might be expected, given its relative income compared to other parts of Africa.

One key area of potential interest is the link between changes in reported future actions and changes in risk. Due to the way in which the risk of infection increases with the number of risky sexual contacts, the gains from reducing the number of contacts by, say, ten are greater at lower levels of risky contacts. Depending on the risk of infection per contact, the differences in impact at different levels of contact vary. The higher the risk of infection in a single contact, the greater the difference between the impact of a reduction of ten contacts at higher or lower numbers of risky contacts per year. **Put more simply, individuals at high risk of infection who only**

moderate their behaviour by a limited amount will remain at relatively high risk while individuals at low risk, who moderate their behaviour by the same amount, will reduce their risk by a greater amount. (Taking one bullet out of a six shot revolver will make little difference to the outcome of Russian Roulette when five bullets remain but is a very effective risk reduction strategy when the number of bullets is reduced from 1 to zero.) It is therefore important that, as far as possible, estimates of changes in reported actions are linked to the baseline level of risky behaviour, to identify the potential changes in risk that may occur as a result of more or less limited changes in behaviour. However, the available data may not always allow this detailed analysis in a relatively short study.

In summary, an evaluation of impact would ideally allow the generation of estimates of changes in KBAB and consequent changes in risky behaviour such as use of condoms and multi-concurrent partners (MCP). These could, in turn, be used in a suitable model to estimate changes in the growth of the epidemic of HIV and AIDS in Southern Africa. Where programmes of BCC continue for a number of years, the research on KBAB should be repeated to test the cumulative effects of additional BCC programmes and the marginal effect of the current or most recent programme. Cumulative changes in behaviour may not always be a reliable indicator of the most recent changes and total reach or audience may not be a reliable indicator of the new audience reached.

We proposed in our inception report to make an attempt to link changes in KBAB to changes in risk of infection, using published research or a range of assumptions, to test the likely effects on health. Given an assessment of behavioural change following BCC interventions, it is possible to extrapolate the impact on HIV transmission and health. This can be done using models such as AVERT, which use parameters on behaviour to generate estimates of the growth of the epidemic. While these estimates are proxy measures of health gain, the models on which they are based are broadly accepted, in our view. Where difficulties arise is in the estimation of key variables and the definition of the relevant populations. For example, in high-risk groups, a change in behaviour by only a sub-set of those involved in high-risk behaviour will have only a small effect on the growth of the epidemic in that risk group. Assumptions about the underlying rates as well as the change in behaviour are therefore crucial to the final estimated outcomes.

We do not suggest that this linking of KBAB changes to risk is easy or that it can be done readily in order to estimate ultimate health gains. However, in our view it should be scoped, to some extent at least, to begin to obtain an estimate of the potential impact on health.

2.2 Assessing the Impact of Treatment Literacy

Programmes to improve treatment literacy (TL), that is, an individual's understanding of ART and why they should keep to the treatment regime, may produce an effect on health that is potentially more direct than those to change KBAB and risky behaviour. This is because treatment is directly available, in many parts of Southern Africa and, if taken, can be effective in prolonging life and maintaining health. Treatment is currently complicated by the number of tablets to be taken per day and compliance is affected by side-effects of therapy. Equally, it is well known in pharmacy research that relief from symptoms and a feeling of relatively good health can also reduce compliance, as wellness suggests to a disease sufferer that they might no longer need their therapy. Increasing treatment literacy, including an understanding of treatment regimes, an

understanding of side-effects and an understanding of compliance can all potentially contribute to improved treatment effectiveness.

Again we see the value in pre- and post-programme surveys to identify KBAB. The face-to-face characteristic of some TL programmes also makes it more feasible to set up control groups without access to the material, e.g. in a different geographical area.

2.3 Assessing the Impact of Peer Support

Improved peer support for HIV and AIDS may make it more acceptable for those with HIV and AIDS to come forward for treatment and make HIV testing more acceptable. It may also contribute to treatment literacy and improved treatment compliance. We have identified some research that sheds light on the effectiveness of peer support. Where peer support involves extensive face-to-face contact, this aspect can again be evaluated using pre- and post-programme methods and control groups of those not involved in the programme, e.g. in another geographical area. However, if a wider mix of methods is used, it is more difficult to disentangle the real results

2.4 Assessing the Cost of Programmes

Cost estimation, for direct costs of services funded by DFID South Africa, is relatively straightforward in this evaluation report. We have used cost and funding information provided by the different agencies developing and delivering the programmes. Where further information is available, following review of this draft report, it can be added to a final version of the report and, if appropriate, any estimates of cost-effectiveness can be revised to take account of it. There may be a range of non-monetary or indirect costs in some programmes (e.g. user travel, volunteer time) but we have not identified any data on these.

It appears that a range of the programmes considered in this document have been audited by appropriate formal processes and so we are happy to take the financial figures provided to us at face value.

It should be noted that some projects make use of community volunteers who are not paid. Their time is a scarce resource and should ideally be included in costings as, if suitably motivated, their time could be committed to other projects if the present projects were shown to be less cost-effective. There may also be other benefits to volunteers, e.g. improved prospects for progression in the labour market, which would ideally be measured. However, aside from noting the importance of this element, we have not attempted to generate direct shadow prices, costs or other benefits from the input of volunteers' time.

2.5 Assessing the BCC Programmes in this Study

In this study we have received some data on the dissemination of the messages from the different BCC providers, though not entirely consistent with the ideal required data set out earlier. We also have good data on DFID expenditure and some data on other sources of expenditure.

There are two major gaps in the development of an evaluation here. The first is the **lack of detailed data on marginal reach and marginal impact**, that is, the extent of changes in reach and associated changes in KBAB, as a result of the latest rounds of BCC in these programmes. (Marginal reach refers here to the number of extra people receiving information which they did not previously have, that is, those who might be

influenced by receiving additional information. Marginal impact would include both the effects on this group and any effect of reinforcement of messages on health for those who already have received similar information but who may have put it to the back of their mind.) Total reach may or may not be a good proxy for marginal reach or impact. The second gap is a **lack of detailed research on similar projects** so that, by assumption, we can link what happens in these projects to estimates of final outcomes from the research literature. We have found some examples and used these, but there remains considerable uncertainty about the final effects of BCC on the spread of HIV infections.

3. An Evaluation of the Soul City BCC Programmes

Soul City is the lead provider on a range of programmes which operate, through partner organizations, in several countries across Southern Africa.

NB. This section of our report follows broadly the guidance in the DFID HTN on economic appraisal.

3.1 Rationale for the Intervention

HIV and AIDS is at relatively high levels in South Africa, and Southern Africa more generally. Now that treatment is available, HIV and AIDS is more likely to have the most serious impacts on low income groups who may not be able to pay for treatment if it is not made available from other sources. Therefore, programmes to reduce the spread of HIV or improve the health of those infected will contribute to reducing inequality.

The HTN notes that market failure may be a further cause for intervention. Insofar as there is a formal or informal market for sexual services, lack of knowledge of the infection status of a sexual partner could be seen as a market failure that leads to further infections. Prevention, testing and treatment all contribute to alleviating this market failure. We note, however, that this may not be seen as a market failure of the conventional kind and so would stress the potential effect on low income groups as the key rationale within those put forward in the HTN.

In the time available, we have not developed a detailed picture of the extent of the epidemic of HIV and AIDS in Southern Africa. Details can be found on the website of AVERT, (www.avert.org). We take it as essentially well-established in DFID that HIV and AIDS in Southern Africa is a major public health problem with major consequences, particularly for low income groups.

The counterfactual in this case is not to invest in BCC projects to reduce HIV. One potential counterfactual, which we draw on in later discussion, is an investment of a similar sum in ART delivery. ART has the potential to prevent premature death for those with HIV though its wider effects on the epidemic, due to the behaviour of those remaining alive with HIV, may be more difficult to assess. However, as this is an evaluation after investment in a project, it is difficult to develop the counter-factual (apart from the Do-Nothing scenario) in any detail since no alternative programmes have been put forward and no data on alternatives provided to us. Indeed, it is not clear to us what if any alternatives were considered when the BCC projects were funded. We use ART simply as a potential alternative investment with the capability of reducing premature deaths and loss of life years due to HIV.

3.2 Options for Intervention

The HTN suggests that there should be at least two options, the programme and a “Do Nothing” option. We have essentially compared outputs from the programmes with Do Nothing in the sense that the outputs either are generated or not. However, we have not been able to obtain data on the extent to which information dissemination and changes in KBAB have taken place aside from the BCC programmes examined here. We expect that, following various political changes in South Africa, information on HIV and AIDS is now being provided to a much greater extent by government. We are less clear on the position in other countries. In view of this, it is very difficult to assess the

true Do Nothing position for a study of this kind. There is clearly a risk that changes in KBAB due to changes in information provided by government are attributed to other BCC programmes.

We have included investment in ART as an alternative investment for DFID but used only a limited amount of data from published research. In the time available, we have not attempted to generate new local data on ART in South Africa or Southern Africa. We note, however, that ART is by no means a panacea, as quality of healthy life is likely to be lower for those infected on ART than for those not infected, and drop-out rates from ART are significant, weakening its impact.

3.3 Intervention Logic and Evidence

Since HIV cannot be cured, only treated, the logic of a BCC intervention or peer support and related methods is that prevention is better than cure. Clearly this will depend on how effective prevention can be, but, in principle, prevention offers a potentially good return to investment, compared to treatment, when treatment costs per person are high. There are many examples where this is the case for mass interventions such as vaccinations for other diseases rather than HIV. However, **as BCC only works through changes in KBAB by individuals, it is less likely to be as effective as vaccinations, which work through broadly consistent biological mechanisms in everyone vaccinated.** That is, vaccinations typically work in all, or almost all, those vaccinated whereas BCC may not change behaviour in all those exposed to its messages.

As we have noted in Section 2, there is evidence that BCC works in changing KBAB, but the evidence is limited by the extent of evaluation data collection. We include some data on BCC effectiveness in our assessments of programme benefits.

3.4 Project Incremental Costs

In this section we have set out financial information on the cost of Soul City programmes, provided to us by Soul City and DFID. We assume that this covers all or most of the relevant expenditure except where information about other activities or other donors is specifically noted. Our understanding is that economic pressures have, if anything, reduced the number of different countries contributing to Soul City work through their aid budgets.

Our understanding is that this data is for current project activities and is therefore incremental in the sense that it refers to the current round of investment in Soul City BCC programmes.

Information below is drawn from a spreadsheet provided to us, 'DFID SC Intervention components Final 16.04.2010(1).xls' which sets out activities in different countries, their anticipated reach and their costs in pounds Sterling. Programmes described cover the period 2008-10. Key information from the spreadsheet is set out in Table 3.1.

Table 3.1: Summary of SC Intervention Components 2008 - 2010

Country	Activities	Focus	Reach	Cost
Botswana	TV Untold and Love Stories	MCP	Youth 112,620 Adults 120,428	£61,605
Lesotho	TV, Radio and print	MCP, Youth Life Skills, TB and HIV	Youth 222,702 Adults 308,690	£414,804
Malawi	TV, Radio and print	MCP, Culture	Youth 3.34 m Adults 7.24 m	£713,945
Mozambique	TV, Radio and print	MCP, Relationships and Communication	Youth 4.35 m Adults 5.85 m	£1,145,414
Namibia	TV, Radio and print	MCP, TB and HIV	Youth 345,840 Adults 731,234	£313,224
S Africa	TV, Radio, print, training, OneLove campaign, Soul Buddyz Club	MCP, Alcohol reduction related to HIV and violence prevention	Children 8-15 5.69 m, Youth and adults 16 – 55 17.36 m	£8,493,615
Swaziland	TV, Radio and print	MCP. Gender	Youth 274,387 Adults 596,499	£306,029
Zambia	TV, Radio and print	MCP, Gender	Youth 2.5 m Adults 2.9 m	£683,690
Zimbabwe	TV, Radio and print	MCP, TB and HIV	Youth 1.48 m Adults 1.19m	£347,974
Tanzania	TV	MCP	Youth 2.48m Adults 1.20m	£47,283

Source: DFID SC Intervention components Final 16.04.2010(1).xls

Notes: We assumed that costs for Botswana and Tanzania are either under-stated or are part of a contribution where other sources/donors are bearing the bulk of the costs. Alternatively, material may be being provided at marginal costs because of the feasibility of direct use of existing materials in further countries.

The nature of the programmes is such that there is little if any long-term expenditure. We have assumed that funding will be used up in the period of about three years covered by the programmes and so issues of discounting of costs are relatively unimportant for our purposes.

Given the apparent precision of the reported estimates of reach (which we understand is an estimate of those exposed to the various materials produced) we assume that these have been derived by a calculation starting from the country's population as a whole and applying a proportion from a survey. That is, for each country, some proportion of the population is assumed to be reached by the material. We have received a further detailed document on reach by country, but this appears to be the source of the reach information in Table 3.1 and so is not a separate estimate or from a separate source. Other reach information for specific years or countries is noted below.

Table 3.2 sets out the costs per person reached, implied by the data in the project summary spreadsheet.

Table 3.2: Calculated Cost per Person Reached in Projects in Table 3.1

Country	Cost per Person Reached
Botswana	£0.26
Lesotho	£0.78
Malawi	£0.07
Mozambique	£0.11
Namibia	£0.29
S Africa	£0.37
Swaziland	£0.35
Zambia	£0.13
Zimbabwe	£0.13
Tanzania	£0.01

It should be noted that we have been provided with several different sets of financial figures for these projects, reflecting obvious differences such as those between pre-project budgets and in-project spending. The data from other sources, e.g. details of partner spending by Soul City partners, does not show major differences from that reported here and so, for simplicity, we have used budget figures here as in Table 3.1. It is possible that some additional funding from other donors should be added to financial data here to generate a more accurate cost per person reached. If available, this could be added to a revised draft.

Clearly, the cost per person reached is relatively low in these projects, below £1 per person in all cases and very much smaller than this in some cases (though we assume that other donors may be involved in these low cost projects so that costs here are not necessarily full costs). If there are other costs then omitting them will tend to over-estimate the extent to which a programme is cost-effective.

We have used this range of costs to calculate potential cost-effectiveness in the sections that follow. We then review this information, particularly estimates of reach, to assess the sensitivity of any estimates of cost-effectiveness to the estimate of reach in Table 3.1.

3.5 Incremental Benefits

The benefits of these BCC programmes will depend on how many people are exposed to the materials produced and what changes in KBAB occur for what numbers of people and which people (as some will have greater impact than others preaching to the converted). We have, however, attempted to calculate the number of cases of HIV and AIDS prevented by these programmes.

We have been provided with a range of reports evaluating the impact of Soul City programmes and projects. These include the following:

- DFID Southern Africa BCC Programme: Impact, (Draft 17/03/2010) (which we understand is the output of a recent workshop on BCC evaluation);
- Soul City Institute, Regional Programme, 2002 – 2007 Impact Evaluation Summary;
- Soul City Reach in poor communities (figures and tables);
- Soul City Reach by socioeconomic status 2009;
- Economically Evaluating the 4th Soul City Series, Muirhead D et al;
- Evaluation, Soul City Series 6, 2005;
- Evaluation Report, Soul City Series 7, 2007;
- Summary of Estimated Reach;
- Comparison statistics 2004-2006 (for which supplementary information has been requested);

We review or note some key issues, findings and data from these reports but do not attempt to summarize them all in the time available for preparation of this report.

The most recent document provided is the summary of discussions on 17 March 2010, **DFID Southern Africa BCC Programme: Impact**. The summary of this document begins with the following statement:

*A review of the available evidence (see Annex C) concluded that it is **not possible to directly attribute changes in incidence or prevalence in the SADC region to the BCC programme or to put an estimate on the 'number of lives saved' as a result of the programme. HIV prevention activities are under-evaluated and what research is available hasn't been able to show a clear link between HIV prevention programmes and reductions in HIV incidence.***

This view indicates the problem facing any evaluation of the BCC programmes developed by Soul City. While we broadly support this conclusion, it is nonetheless feasible to pose some "What If" questions about potential outcomes to assess whether particular interventions appear plausibly cost-effective, in the absence of detailed assessments of outcomes.

The 17 March 2010 document discusses some aspects of impact and reach and also some proposals for future evaluations of these aspects of outcome. However, we note here that it does not raise, so far as we have identified, the key issue of **marginal** impact versus total or cumulative impact of BCC material development and dissemination.

We are in no doubt that Soul City is a well-known and highly disseminated programme and that its name and its materials are well known in South Africa and partner countries. However, the key for any evaluation of recent investment by DFID and, critically, future investment, is the marginal impact of Soul City as well as its total

impact. (We stress that the term “marginal” relates to the effects of the latest or last separable component of a project. This could be large or small and no suggestion is made here that the impact is marginal in the sense that it is small or negligible.) If, for example, a very large proportion of the population know about Soul City and its key messages on HIV and AIDS, then further rounds of the programme may be less cost-effective, because they may be preaching to the converted and not gaining new “converts” to safer sexual behaviour, except among those not previously exposed to Soul City materials. On the other hand, some repetition may serve to reinforce safer behaviour and so maintain the size of the group “converted” to the BCC messages.

A further complication, put to us in comments on the draft report, is that a programme such as Soul City, over time, may shift the focus of its messages to new areas of behaviour change which contribute to the HIV epidemic, e.g. attitudes to male violence and sexual violence. Such changes may have both a direct effect and some leverage effect on the impact of earlier materials communicated to the audience. This complication is not addressed in this report but it again highlights the complexity of assessing BCC programmes over time with a shifting focus in a shifting environment of communication of risk-related information.

The 17 March DFID document notes an extensive review and attempted evaluation carried out by Johns Hopkins Health and Education in South Africa (National AIDS Communication Programmes, HIV Prevention Behaviour and HIV Infections Averted in South Africa, 2005, DL Kincaid and W Parker). This uses data from a 2005 HSRC/NMF survey.

The Johns Hopkins Study addressed two key research questions:

- Do national level mass media AIDS communication programmes increase the practice of HIV prevention behaviours?
- Do HIV prevention behaviours increase the probability of being HIV negative?

The report notes the survey finding that those reporting themselves to be at low risk of HIV had a prevalence of HIV of 12.8 per cent, 10.3 percentage points below the level of those who reported themselves to be at high risk of HIV in the survey (23.1 per cent). This difference has been used by the Johns Hopkins team as the core of their assessment of the impact from risk prevention behaviour. Their report also notes that the effects of BCC may be cumulative on the population reached (in line with our earlier point that marginal impact may differ from total impact but may be positive due to reinforcement, even when the same audience is being reached over again).

The report includes detailed statistical analysis and findings on the impact of exposure to prevention communication programmes:

*The logistic regression analysis of risk prevention behaviour (Model 2b) shows a **positive statistically significant effect of the awareness of AIDS communication programmes on HIV prevention behaviour**. The odds ratio is 1.03, indicating that for every increase of one additional communication programme, the likelihood of practicing one or more of the reported HIV prevention behaviours increases by 3% (Johns Hopkins Report p11).*

The report also concludes, from further statistical analysis, that **the effect of prevention behaviour was to increase the proportion of people uninfected by 4.2 percentage points**. While this effect might appear relatively small, it translates into about 700,000 cases in South Africa over the lifetime of the BCC programmes considered here, given their wide population coverage.

We have interpreted these results as indicating that exposure to a single programme would raise prevention behaviour frequency by 3 per cent and that a change in prevention behaviour would reduce the probability of being infected with HIV by 4.2 percentage points for some period after exposure. Combining these two estimates would suggest that a single influencing programme (which we have interpreted to mean “programme” of published material and not merely TV or radio broadcasts) would potentially reduce the probability of infection by about 0.126 per cent of the population reached, while the effect lasts. (Those avoiding infections might in turn avoid transmitting HIV to other contacts but, given the uncertainty over other factors, such as the duration of the effect of any given edutainment programme, we have not attempted to add in any secondary case prevention. In our view, while this could be important, it would be stretching limited data too far to attempt to estimate secondary case prevention in any detail.)

Potentially there are differences between the impact of BCC in different age groups and the Johns Hopkins report does not include (so far as we have identified) separate assessments for children, teenagers and adults. However, since we are using the estimates here as proxy measures of final impact, they may be sufficient for the current purpose, since we could reduce the impact assessment, by assumption, for younger age groups. It has also been pointed out, in comments on our draft report, that the analysis from Johns Hopkins relates to South Africa. The levels of other information on HIV and the number of different programmes attempting to change behaviour may vary considerably across the different countries involved in the BCC programmes considered here but no additional research has been identified to resolve this issue. Therefore, the Johns Hopkins estimates have been retained.

As a comparator, we have looked at AVERT, a well-known model of the spread of HIV infections. AVERT is a model of the risk of HIV transmission to an individual, based on condom use, prevalence of HIV in partners, number of partners and frequency of contact. There is also an element in the prevalence of STIs, linked to the different reported transmission rates of HIV dependent on the STI status of those in contact. (AVERT is specified at <http://fhi.org/en/hiv/aids/pub/archive/evalchap/evalchap15.htm>)

We have inserted plausible values for key variables into AVERT and then adjusted the variables (e.g. extent of condom use) to examine the effect on the risk of infection. While we have identified levels of the key variables that would give results similar to those above from the Johns Hopkins research, this is less typically the case for high risk groups. In high risk groups, only relatively large changes in behaviour following BCC have a major impact on the risk of contracting HIV. Using the scale of change of behaviour noted here, changes in risk are smaller for this group. On the other hand, high risk groups are the minority and so the values from the Johns Hopkins research offer, in our view, a plausible and legitimate basis for estimating the cost-effectiveness of BCC in Southern Africa, in the absence of extensive further data collection linking infections, behaviour and exposure to BCC.

There are also, of course, questions about the extent to which impact estimates from a society such as South Africa can be applied in other countries in Southern Africa, which might differ on key variables influencing behaviour, such as education, literacy and income.

3.6 Balance of Costs and Benefits

For simplicity, we have looked here at the programmes with the highest reported cost per person reached and also the largest programme that is South Africa. If the programme appears to be cost-effective in the highest cost country, then it is almost certainly cost-effective in other countries.

We have also initially assumed that each programme is counted only as a single intervention, rather than as a set of many interventions that could have a greater combined effect. This could reduce the estimate of outcomes and therefore reduce the extent to which a programme appears to be cost-effective.

Applying the estimate of impact above, the potential reduction in HIV cases brought about by the BCC programmes included here are:

- Lesotho – adults only, 389 infections averted at a cost of £1,066 (\$1,625) per case or up to 670 infections averted at a cost of £620 (\$945) per case if young people are included;
- South Africa – (excluding children) 21,873 infections averted at a cost of £388 (\$591) per case.

(Currency conversions were confirmed using an internet currency converter on 29 April 2010 and a rate of £1 = \$1.5242.)

The Johns Hopkins reports quotes 2006 research indicating a cost per year of ART of about US\$400 per year. (We test this using a higher cost estimate below.) Clearly, if the cost-effectiveness calculation we have carried out is seen as a fair reflection of the impact of the BCC programmes, then so long as the averted infection effect is sustained for several years, (four years in the case of the costs used here for Lesotho) the interventions are cost-effective relative to ART, using the assumptions so far. In addition, avoiding HIV can be assumed to lead to a higher state of health than being infected but on ART. It will also reduce the future rate of infections more than infection followed by ART and so a year on ART is potentially an inferior outcome to a year of averted infection.

Another issue, noted in further comments on the draft of our report, is that the cost of ART includes both the costs of medicines and the costs of administration, case management and other services that play an important part in maintaining compliance. We have identified a number of references which suggest that the costs of ART medicines in low income countries may be below even the lower figure used in our calculations but we have not been able to identify clear local estimates of the costs of ART administration etc. Therefore, we have retained the estimates here on the grounds that the range of figures used potentially covers the range of likely costs for the countries covered by the BCC programmes of interest here.

For South Africa (and for the other countries, where costs are generally similar to the cost per person reached in South Africa) a patient avoiding the need to take ART for less than one year would offer a saving greater than the cost of achieving this outcome through BCC. This is dependent on both the Johns Hopkins methods for estimating averted infections and the cost for ART of US\$400 per year. We consider other possible outcomes later in this section.

The costs of preventing one case of HIV appear to be similar in order of magnitude to the costs of preventing a death from malaria in a recent study of the cost-effectiveness of bed nets (Yukich JO et al. Costs and cost-effectiveness of vector control in Eritrea

using insecticide treated bed nets, Malar. J. 2009 March 30: 8: 31.) Clearly, DFID will have access to a range of other reports of cost-effectiveness which could be used as benchmarks to test whether this initial estimate for BCC is within the range it wishes to fund and whether alternative investments offer, both a more cost-effective outcome and the capacity to absorb further funding and expansion of outcomes.

We have also examined cost-effectiveness using a higher estimate of the costs of ART.

We have identified a range of other cost estimates for the cost of a year of ART in South Africa, including several from the website of JourAids, which we understand is an academic-linked website providing reliable research and other HIV-related data for journalists,

(http://www.journaids.org/index.php/factsheets/hivaids_treatment/the_cost_of_treatment_in_south_africa/).

This source puts the cost of ART at around US\$1,500 per year and includes not only the cost of medication, but programme costs associated with testing, support, etc. The direct medication costs from this source are compatible with the Johns Hopkins cost estimate above. We have identified a similar cost, from an earlier year (and therefore potentially subject to lower costs due to changes in medication prices but higher costs due to general inflation) from another country in Africa (PHR Plus, The costs of ART in Zambia, 2003). This cost is the cost for second-line therapy and monitoring, which clearly offers some explanation of why it is higher than first-line therapy costs.

If this higher figure of US\$1,500 per year is used as a benchmark cost of ART, then on the assumptions used at this stage of our report, BCC looks relatively more cost-effective than ART. That is, the cost per case averted by BCC from Soul City in Lesotho, the highest cost example, has a **cost similar to only one year of ART**. In South Africa and other countries, the cost per case averted is substantially lower than the cost of one year of ART.

Using the information above, it appears likely that if the figures of reach are accepted as an indication of marginal reach and marginal impact, then the programmes are likely to be cost-effective relative to those which extend ART to broader populations or regions. Clearly, if behavioural change is sustained for a very long period of time, then the health gains from BCC are likely to be greater.

3.7 Risk and Uncertainty

We do not address risk issues in any detail here. We regard these as applying to project delivery and, since these projects are up and running, there are no obvious risks of failure or lack of completion. Of course, as we will see for other projects, BCC involving broadcasting is at risk of changes in broadcaster attitudes so that, for example, a shift of broadcasting slot in the weekly timetable could pose risks to the spread of broadcast BCC. We have no information on whether this is a risk for Soul City programmes.

We have therefore concentrated here on uncertainty around the benefits of BCC and the marginal reach and impact of Soul City material.

Clearly, the results above are sensitive to the assumptions made about what constitutes a programme and what impact is achieved by BCC programmes. There is considerable uncertainty, in our view, about the size of the marginal reach and impact of the programmes and therefore the estimates of impact and benefits. We have approached the first issue by considering two contrasting positions:

- Separate elements of Soul City programmes could be viewed as separate programmes with multiplicative effects, increasing the overall benefits from the programmes; and
- Reach could be redefined to take account of cumulative reach and marginal reach i.e. those ever reached by a programme and those reached in the recent past by a programme, as well as any reinforcement effects from repeated information.

If each separate component of Soul City programmes is viewed as a single programme, with its own impact on risk reduction behaviour, then we are dealing in some countries (e.g. South Africa) with up to five interventions. Clearly, if each of these had a similar effect to that was found in the Johns Hopkins study, then the cost per case of HIV infection averted would fall in proportion, to as little as 20 per cent of the initial estimates above. This would make the programmes cost-effective at lower thresholds. In other words, compared to other investments of DFID funds, the return on BCC would be greater than if programme components are treated as having only a single, combined effect equivalent to one programme of the kind assessed by Johns Hopkins. However, to draw firm conclusions on the impact of separate components would require much more detailed research on KBAB linked to individual components. It has been put to us in comments on the draft report that the multiplicative effect of overlapping and reinforcing HIV-related health messages is a key to the overall effectiveness of BCC and we accept that this is highly plausible. We simply note here the difficulty of disentangling the marginal reach and marginal impact of each strand of a multi-strand programme of BCC. Assumption of a single impact from a single, combined programme, simply provides a convenient start for evaluation, not the final answer.

Changes in the definition of reach, of course, can have the opposite effect on cost-effectiveness, if we focus on marginal reach and impact rather than total reach, since the reach of the BCC material is the primary driver of the estimates of benefits. Reach may be measured based on relatively low levels of exposure to a programme or publication, e.g. in the 2007 Series 7 evaluation report of Soul City, reach is based, in some estimates, on viewing of at least one episode of the TV show. The Series 6 evaluation in 2005 reports about a quarter of viewers as having seen only 1 - 4 episodes. Clearly, there may be limits on the effectiveness of lower level viewing in achieving an impact on behaviour. Without detailed knowledge of the impact of exposure to BCC on groups with higher or lower pre-exposure levels of knowledge and behaviours, it is difficult to assess whether the higher cost of reaching "harder to reach" groups with less access to BCC (e.g. low income groups without television, groups with low literacy) is greater or less than the cost effectiveness of BCC for the easy-to-reach groups.

A programme like Soul City, particularly where it has run for many years in a country, may face diminishing returns in the transfer of information to continuing viewers, listeners and readers, though this may be offset by reinforcement effects and also introduction of new, related material, e.g. on violence. The series 6 evaluation notes in the summary that Soul City reached about nine million adults and two million children. For Series 7, an estimated 17 million people had watched at least one episode and 11 million people had read the associated booklet, which also highlights the difference

between those responding more or less actively to the material, given the greater response needed to read a booklet compared to watching TV.

(We acknowledge that Soul City has developed its work to address a range of other health problems and that these may also be generating cost-effective outcomes but we have not been able to include any such benefits here. Our focus here is on HIV and AIDS where there is more scope for evaluating an effect. Other effects should be considered, however, particularly if the estimated outcomes for HIV and AIDS are seen as putting some programmes close to the point where they are not demonstrably cost-effective. These could include effects on social conditions such as stigma.)

These figures clearly suggest a significant increase in reach through Series 7, but the evaluation of Series 4, as part of a cost-effectiveness study with a focus on violence against women, (D Muirhead et al. Economically evaluating the 4th Soul City series, (undated) reports a reach of about 17.8 million people for any Soul City material and 5.3 million for exposure to all media types.

If we adopt an assumption at the low end of marginal reach and impact, by assuming that only 10 per cent of those reached were in fact ever likely to be influenced by the latest rounds of Soul City material, our earlier estimates of cost per case averted would clearly increase by an order of magnitude, to £3,880 (\$5,914) for South Africa and to even higher levels for Lesotho. This is very much larger than the estimates of US\$400 - US\$1,500 per year for ART treatment. If ART was expected to be taken for more than three years, which seems plausible, or, at the lower cost per year, close to 15 years in South Africa and most of the other countries included, then BCC remains potentially cost-effective, but less so than when much higher levels of reach and impact are assumed. (It should be noted that our earlier estimates do not assume that 100 per cent of people are influenced, only that the influence of BCC is sufficient to produce the changes in behaviour and outcomes identified from other research. Here, we are assuming that the initial exposed group is much smaller with a corresponding reduction in outcomes.) This is because any particular BCC programme may not be able to achieve an effect on infection rates for more than a few years, if the effects tend to wear off without reinforcement. (If the higher Lesotho costs are used, then BCC is potentially even less cost-effective than ART in Lesotho, but we have noted already our concerns about the Lesotho costs here.)

The comparison with ART costs should not of course be taken to imply that in some sense it is acceptable to allow individuals to contract HIV and then treat it, rather than preventing it. Rather, it indicates that health gains could be larger, under the present assumptions, if additional expenditure focused on ensuring all those infected received treatment rather than investing in BCC, if the ART cost is relatively low compared to the cost of averting a case of HIV by BCC. Again we stress that this result is dependent on what may be a very pessimistic estimate of marginal reach and impact.

We have received some comparative information for Soul City for the years 2004 – 2006 (Comparison 2004-2006) in a document which is formatted only as a table (that is, it is not part of a formal report but appears to be an extract from work in progress). This shows fluctuating responses to key questions in the surveys of reach and KBAB. This could suggest that some impact is lost over time as the initial message from Soul City that made an impact “wears off”. This could reduce the impact over time but, conversely, could increase the potential impact of subsequent rounds of reinforcement, if they reach those who were wavering in their consistency of low risk behaviour, a key part of marginal impact. That is, individuals may change their behaviour for longer or

shorter periods. If more people get the message and stick to it, then later rounds of BCC will be less cost-effective. If fewer people get the message initially, or change KBAB for a shorter time, then repeated rounds of BCC may be more cost-effective. In view of the potential importance of marginal effects on estimated reach and impact, we have requested more information on the comparative data, which we understand was drawn from panel samples of the same respondents over several years. If this becomes available it could be included in a revised draft of this report.

In summary, if current reach is seen as an indicator of effective reach, the starting point for estimating the benefits, then BCC programmes from Soul City potentially offer outcomes at a cost that is broadly within an acceptable range for cost-effectiveness. If much lower estimates of marginal reach and impact are used (for which we do not currently have any empirical support) then BCC may be less cost-effective than other interventions or only be cost-effective if the effects were long-lasting and prevented the need for equally long term ART.

3.8 Incidence of Costs and Benefits

We do not have a great deal of data to assess the incidence of costs and benefits in detail. We note, however, that the audience for Soul City material is higher among more educated and urban populations and lower among less educated and rural populations. Therefore, for these programmes, some aspects of incidence of benefits may be less pro-poor than might be seen as desirable. However, given the nature of the media, including written material that must therefore be read and broadcast material that requires access to TV and radio, this is not something that can easily be avoided in programmes of this kind.

3.9 Competition Assessment

We have not identified significant competition issues associated with these projects. It is possible that competing media companies may feel that Soul City is being subsidised to compete with them, but we have no information on this and would not regard it as a serious distortion of economic competition.

3.10 Macroeconomic Impact

We have not attempted to carry out any macroeconomic impact assessment. We note that while in some countries, ill health may not constrain the economy, the scale of loss of healthy years of life among productive age groups potentially means that HIV is having a substantial effect on the economies of Southern Africa.

3.11 Fiscal Impact

We have not attempted to carry out any fiscal assessment. We note however that effective prevention will typically have a lower fiscal cost than continuing treatment on ART.

3.12 Financial Sustainability

Our understanding is that these programmes are highly dependent on DFID funding. It is possible that Soul City as a brand has some commercial potential and that it could continue as a soap opera with less or no aid funding, but we have not attempted in the time available any assessment of its potential to develop in this way.

3.13 Attribution to DFID

We have assumed that as the sole or major donor for these programmes, DFID is largely responsible for current benefits. For some countries with low costs, however, it is possible that some other donors are also involved on a significant scale.

3.14 Summary and Recommendations

Our assessment is that effective BCC interventions are likely to be cost-effective, relative to other investments such as extended ART programmes. However, the assessment of benefits depends heavily on other research on programme impact and, crucially, on the assessment of marginal reach and impact.

We have not seen sufficient data in this study to allow us to assess the marginal reach and impact of the programmes. However, we anticipate that it is potentially much lower than the total reach and therefore that estimates of potential benefits should be based on lower levels of reach. This makes the programmes much less cost-effective than when the total audience is used to assess reach, but they remain potentially cost-effective compared to extended ART. The results depend on assumptions about marginal reach and reinforcement effects and the duration of effect of BCC, as well as the use of research findings on the impact of BCC on final levels of infection from HIV. We do not have the data to resolve questions of marginal reach or duration of effect and so, while it is plausible that these projects are cost-effective relative to ART, we do not have the data to demonstrate this conclusively.

4. An Evaluation of SAfAIDS Programmes

In this section we have set out our evaluation of the SAfAIDS programmes. NB. In some sections where we have little information to put forward, we have reproduced the text from Section 3 for those mainly interested only in SAfAIDS programmes.

4.1 Rationale for the Intervention

HIV and AIDS is at relatively high levels in South Africa and Southern Africa more generally. Now that treatment is available, HIV and AIDS is more likely to have the most serious impacts on low income groups who may not be able to pay for treatment if it is not made available from other sources. Therefore, programmes to reduce the spread of HIV or improve the health of those infected will contribute to reducing inequality.

The HTN notes that market failure may be a further cause for intervention. Insofar as there is a formal or informal market for sexual services, lack of knowledge of the infection status of a sexual partner could be seen as a market failure that leads to further infections. Prevention, testing and treatment all contribute to alleviating this market failure. We note, however, that this may not be seen as a market failure of the conventional kind and so would stress the potential effect on low income groups as the key rationale within those put forward in the HTN.

In the time available, we have not developed a detailed picture of the extent of the epidemic of HIV and AIDS in Southern Africa. Details can be found on the website of AVERT, (www.avert.org). We take it as essentially well established in DFID that HIV and AIDS in Southern Africa is a major public health problem with major consequences, particularly for low income groups.

The counterfactual in this case is not to invest in projects to develop knowledge, support and other aspects of improving the response to HIV and AIDS. One potential counterfactual, which we draw on in later discussion, is an investment of a similar sum in ART delivery. However, as this is an evaluation after investment in a project, it is difficult to develop the counter-factual (apart from the Do-Nothing scenario) in any detail since no alternative programmes have been put forward and no data on alternatives provided to us. Indeed, it is not clear to us what if any alternatives were considered when the SAfAIDS projects were funded.

4.2 Options for Intervention

The HTN suggests that there should be at least two options, the programme and a Do Nothing option. We have essentially compared outputs from the programmes with Do Nothing in the sense that the outputs either are generated or not. However, we have not been able to obtain data on the extent to which other initiatives might be carrying out similar activities and achieving similar effects. Changes in KBAB may have taken place aside from through the SAfAIDS programmes examined here. We expect that, following various political changes in South Africa, that information on HIV and AIDS is now being provided to a much greater extent by government. We are less clear on the position in other countries. In view of this, it is very difficult to assess the true Do Nothing position for a study of this kind.

We have included investment in ART as an alternative investment for DFID but used only a limited amount of data from published research. In the time available, we have

not attempted to generate new local data on ART in South Africa or Southern Africa. We note, however, that ART is by no means a panacea as quality of healthy life is likely to be lower for those infected on ART than for those not infected and drop-out rates from ART are significant, weakening its impact.

4.3 Intervention Logic and Evidence

SAfAIDS is engaged in a range of activities which increase awareness and disseminate information about HIV and AIDS through social networks. They work with partner organisations to increase their local effectiveness in tackling HIV. Specific aspects of their programmes include development of community volunteers and local dissemination of materials to inform about HIV and treatment, and encourage testing through reducing the stigma of HIV.

The logic of these interventions is that while mass communication may have an effect, local communication reinforced by volunteers offers additional means of increasing the impact of information and provides scope for a more direct form of reinforcement than can be offered by mainly broadcast materials.

4.4 Incremental Costs

SAfAIDS received about £1.5 million in funding from DFID over the period 2007 – 2010. Figures on other donor support are shown in Table 4.1.

Table 4.1: SAfAIDS Funding

TOTAL INCOME	2007	2008	2009
Income by Source			
Income from DFID	170,410	350,000	1,000,000
Income from Other Donors			
HIVOS		70,556	108,836
SIDA		465,586	609,033
Irish Aid	448,526	330,377	411,848
TOTAL	618,936	1,216,519	2,129,717

Source: Data supplied by SAfAIDS

Expenditure data shows spending on programmes in ten countries in Southern Africa. We note that spending data provided with the income data above amounts to a larger total figure. We are unsure if this is because of other sources of income not listed above.

4.5 Incremental Benefits

In an evaluation summary of SAfAIDS, by PACT South Africa, 2009, the focus of SAfAIDS is set out as follows:

- *The Southern Africa HIV and AIDS Information Dissemination Service (SAfAIDS) is a regional non-profit organization, with a broad goal of utilizing information to promote dialogue and mobilize social action to scale-up the regional HIV and AIDS response.*
- *SAfAIDS core activities include HIV and AIDS knowledge management (organizing, analyzing, repackaging and disseminating information), capacity development, research, policy analysis and advocacy.*
- *In addition, SAfAIDS promotes dialogue, offers technical expertise and provides regional leadership on cutting-edge issues related to the diverse facets of HIV and AIDS in the southern African region.*

SAfAIDS' core activities include capacity development for other HIV and AIDS Intermediary Organisations (IOs), information production, collection and dissemination, networking and building partnerships and leadership in promoting dialogue on cutting-edge issues related to HIV and AIDS. (SAfAIDS website, www.saf aids.net)

SAfAIDS activities have a wide reach, though less so than Soul City, we understand (from a report BCC_-_Report_to_DFIG_Southern_Africa_-_March_2010.doc, authored by A Clarkson):

By the first quarter of 2010, SAfAIDS had distributed over 380,000 communications materials and trained over 9,000 community based volunteers to mobilise and disseminate information, reaching an estimated 3.8m community members.

SAfAIDS is particularly in the business of developing training for Community-Based Volunteers (CBVs) who then provide a range of advice and support for individuals with HIV and without, as well as group sessions and other forms of dissemination of information on infection, transmission, prevention and treatment.

We understand that SAfAIDS also disseminates material from Soul City in the course of its work in several countries, which means that some further benefits may be generated by the Soul City programmes. It works in ten countries with extensive use of local partner organizations.

Community-based Volunteers (CBVs) in this programme are not generally paid but in some countries there are incentives to encourage making contact to provide advice and support. A local worker is seen as potentially valuable in establishing trust as a basis for sensitive communication. A key element is to reduce the stigma associated with HIV in order to encourage testing, preventive behaviours and treatment.

In some countries, bicycles may be provided to volunteers. CBVs are seen as a key local resource, particularly in rural areas where the distance to the local health centre may limit regular contact and communication. The absence of payment may be contributing to the lack of engagement of men, with 90 per cent of CBVs being female (interview discussion with SAfAIDS).

DFID is a major contributor to the work of SAfAIDS and its relative share has increased due to some changes in funding by donor countries dealing with the current economic recession. Costs are, in principle, low once the programme is set up, because of the voluntary nature of the work. (From an economic perspective, if there were valuable alternatives that CBVs could be carrying out, their time would nonetheless have an economic cost to their community.) While there are advantages in a local community model, it should be noted that one CBV may, as a result, have only a limited number of people to interact with in a small community. This may mean that to be effective, a

large number of CBVs need to be trained, to increase local accessibility to advice and support.

According to the report by Clarkson, March 2010, by the first quarter of 2010, SAfAIDS had **distributed over 380,000 communications materials and trained over 9,000 community based volunteers to mobilise and disseminate information, reaching an estimated 3.8 million community members.** We understand that DFID funding for SAfAIDS commenced in 2009 so we are unsure if this total refers to all their past activities or their most recent, DFID-funded projects. (Information on timing of funding to be confirmed with DFID.)

4.6 The Balance of Costs and Benefits

We have not found it easy to evaluate the range of activities supported by SAfAIDS. We have identified some research on the impact of community volunteers and buddies on outcomes from ART. Wouters et al. (Wouters E et al. Public-sector ART in the Free State Province, South Africa: Community support as an important determinant of outcome, *Social Science and Medicine* 2009; 69: 1175-1185) have reported the impact of community support on the proportions of people staying compliant with their ART. We accept that there may be other benefits from SAfAIDS projects that we have not been able to measure here.

Our current interpretation of the impact of community support in this study is that those with one of several forms of community support had a probability of ART success, measured by virological and immunological standards, – in lay terms, that the “treatment was working” - that was between 11 per cent and 18 per cent higher, (depending on whether we focus on the initial period or two subsequent periods of 6 months). This could provide a basis for evaluating the programme by SAfAIDS as support of various kinds for the population reached by its community activities could be interpreted as making ART effective and, therefore, being equivalent to “saving” the cost of ART for those whose treatment is ineffective. This remains a proxy approach but at least provides a starting point for a short evaluation such as the one being carried out in this report.

We noted earlier an estimate of 3.8 million people receiving information from SAfAIDS. However, much of this is through publications (we assume) as 9,000 CBVs would be unlikely to reach this many people by direct contact. As an approximation, we assume that each CBV meets 20 people.

9,000 CBVs providing contact and support for 180,000 would potentially increase the effectiveness of ART by the equivalent of between 19,800 and 32,400 people, if all those in contact had HIV and AIDS and were receiving ART. (There may be other benefits from CBVs but we have not identified data on which to evaluate these.) If it is assumed that a lower level of contacts takes place or is influenced by volunteers, or that the infected group is smaller, then the number of cases with improved compliance with ART would clearly fall in proportion to the reduced reach or the proportion on treatment.

The cost of ART for this group adhering to treatment due to volunteer contact, at a cost per person of US\$400 per year would be between US\$7.9 million and US\$13 million (£5.2 million and £8.5 million) and this is the investment which is being made effective by community support, on the assumptions used so far. The cost range reflects use of the lower estimate of ART cost and impact or the higher estimates of both variables.

In addition, the BCC components of dissemination of materials by SAfAIDS may have an effect similar to that estimated for Soul City.

If we take reach at about 3.8 million people, with about 180,000 receiving direct support, the reach of the BCC material would be around 3.2 million people. Using the estimates in Section 3, particularly a reduction in infections of 1.26 per cent among the group reached by BCC, this would suggest that the SAfAIDS programmes are averting approximately 4,000 cases of HIV. If ART was provided to such a group at a cost of US\$400 per case, its cost would be US\$1.6 million (£1.05 million). On the assumptions used here, the potential return from averted infections is much lower than the potential return from direct interventions by volunteers. This is because the reach of SAfAIDS programmes is reported at a level that is much lower than that of Soul City, for example, relative to its costs. However, because of more face to face contact, SAfAIDS may have a greater impact, per contact, on behaviour. We have not calculated a cost per person reached by SAfAIDS material as we do not have detailed information on the relative size of the spend on developing and disseminating materials and developing community volunteers.

We have identified a range of other cost estimates for the cost of a year of ART in South Africa, including several from the website of JourAids, which we understand is an academic-linked website providing reliable research and other HIV-related data for journalists.

(http://www.journaids.org/index.php/factsheets/hivaids_treatment/the_cost_of_treatment_in_south_africa/).

This source puts the cost of ART at around US\$1,500 per year and includes not only the cost of medication but programme costs associated with testing, support, etc. The direct medication costs from this source are compatible with the Johns Hopkins cost estimate above. We have identified a similar cost, from an earlier year (and therefore potentially subject to lower costs due to changes in medication prices but higher costs due to general inflation) from another country in Africa (PHR Plus, The costs of ART in Zambia, 2003). This cost is the cost for second-line therapy and monitoring, which clearly offers some explanation of why it is higher than first-line therapy costs.

If this higher figure of US\$1,500 per year is used as a benchmark cost of ART, then on the assumptions used, activities by SAfAIDS look relatively even more cost-effective than ART. That is, the cost per case retained on therapy or the cost per case averted by BCC is low relative to the costs of ART for a similar group of people.

4.7 Risk and Uncertainty

This section follows section 3.7 closely.

We do not address risk issues in any detail here for SAfAIDS programmes. We regard these as applying to project delivery and, since these projects are up and running, there are no obvious risks of failure or lack of completion. So far as we know, programmes are proceeding on the ground.

We have therefore concentrated here on uncertainty around the benefits of volunteers and BCC and the marginal reach and impact of SAfAIDS material.

There is considerable uncertainty over the level of benefits achieved by SAfAIDS programmes. If, for example, each volunteer was maintaining on treatment a much

smaller group of infected individuals, then the benefits, relative to ART therapy, would fall in proportion to the number of individuals supported. Similarly, if the marginal reach and impact was reduced, to say 10 per cent of its current value, to reflect the possibility that many of those receiving the information already have a high level of HIV awareness, then the cost effectiveness of BCC by SAfAIDS would also fall very significantly. While it is possible to calculate what the marginal reach and impact would need to be, to justify a given level of spending relative to the cost of ART, in the absence of detailed data on marginal reach and impact, this is of limited value since, at assumed very low levels of programme reach, we are effectively assuming that the programme does not work, an assumption that we have no evidence to support. While we would expect marginal reach to be below total reach, the programme activities by SAfAIDS appear relatively cost-effective compared to ART and so the programme is likely to be cost-effective, in these terms, as long as marginal reach (plus reinforcement effects as part of the marginal impact) is not very low.

4.8 Incidence of Costs and Benefits

We do not have data to assess the incidence of costs and benefits in detail. We understand that the community volunteers have been established particularly in rural areas where access to clinics is more limited and so we assume that this element of the programme is more directed toward rural and, therefore, lower income groups. Otherwise, we have no data on this aspect of the programme. If required, further information on this can be sought from SAfAIDS.

4.9 Competition Assessment

We have not identified significant competition issues associated with SAfAIDS programmes.

4.10 Macroeconomic Impact

We have not attempted to carry out any macroeconomic impact assessment. We note that the scale of the HIV epidemic in Southern Africa is sufficiently large, among the working age population, to be reducing total output, compared to countries with higher levels of general health. Any reduction in the epidemic has the potential to achieve some macroeconomic impact.

4.11 Fiscal Impact

We have not attempted to carry out any fiscal assessment. Given that the project here is about improving adherence to ART, it could have positive or negative fiscal impacts, reducing waste or increasing costs due to increased adherence.

4.12 Financial Sustainability

Our understanding is that these programmes are highly dependent on DFID funding. It is possible that SAfAIDS could continue with other sources of funding but we do not see any mechanism for SAfAIDS to become self-funding, in the information provided to us.

4.13 Attribution to DFID

We have assumed that as the major donor for these programmes, DFID is largely responsible for current benefits.

4.14 Summary and Recommendations

The investment in this project does not appear to be seriously inefficient, but there remain question marks over its overall effectiveness because this is not being measured comprehensively from programme delivery through to final health effects.

Overall, our evaluation is again limited by the lack of clear benchmarks and the lack of clear data on the impact of community volunteers and BCC programmes run by SAfAIDS. Using plausible assumptions, the programmes appear to be potentially cost-effective. Cost-effectiveness is heavily dependent, however, on the reach of the volunteers and BCC material, on the impact on individual KBAB of volunteers and BCC material and on the costs of alternatives, in particular ART. It is also dependent on the length of time over which any effect is sustained.

Future evaluations should concentrate on more detailed data collection on those in contact with community volunteers and on those exposed to the BCC material. We cannot comment in any detail on the former, but we would expect that estimates of marginal reach and marginal impact, taking account both of past exposure and current exposure to materials from other sources, would tend to produce estimates significantly below the figures for total reach. However, we cannot speculate on whether the marginal reach and impact would be so low as to render interventions of this kind not cost-effective.

A key issue in our assessment is the extent to which we can assume similar levels of impact for BCC at a population level and more targeted, face to face, communication. If the latter is more likely to have an effect on KBAB, then SAfAIDS interventions may be more cost-effective than is suggested by the figures here.

5. An Evaluation of Community Media Trust (CMT) Programmes

In this section we have set out our evaluation of the CMT programmes included in our brief for this project. Some sections reproduce material from Sections 3 and 4.

5.1 Rationale for the Intervention

HIV and AIDS is at relatively high levels in South Africa and Southern Africa more generally. Now that treatment is available, HIV/AIDS is more likely to have the most serious impacts on low income groups who may not be able to pay for treatment if it is not made available from other sources. Therefore, programmes to reduce the spread of HIV or improve the health of those infected will contribute to reducing inequality.

The HTN notes that market failure may be a further cause for intervention. Insofar as there is a formal or informal market for sexual services, lack of knowledge of the infection status of a sexual partner could be seen as a market failure that leads to further infections. Prevention, testing and treatment all contribute to alleviating this market failure. We note, however, that this may not be seen as a market failure of the conventional kind and so would stress the potential effect on low income groups as the key rationale within those put forward in the HTN.

In the time available, we have not developed a detailed picture of the extent of the epidemic of HIV and AIDS in Southern Africa. Details can be found on the website of AVERT, (www.avert.org). We take it as essentially well established in DFID that HIV and AIDS in Southern Africa is a major public health problem with major consequences, particularly for low income groups.

The counterfactual in this case is not to invest in projects to develop knowledge, support and other aspects of improving the response to HIV/AIDS. One potential counterfactual, which we draw on in later discussion, is an investment of a similar sum in ART delivery. However, as this is an evaluation after investment in a project, it is difficult to develop the counter-factual (apart from the Do-Nothing scenario) in any detail since no alternative programmes have been put forward and no data on alternatives provided to us. Indeed, it is not clear to us what if any alternatives were considered when the CMT projects were funded.

5.2 Options for Intervention

The HTN suggests that there should be at least two options, the programme and a Do Nothing option. We have essentially compared outputs from the programmes with Do Nothing in the sense that the outputs either are generated or not. However, we have not been able to obtain data on the extent to which other initiatives might be carrying out similar activities and achieving similar effects. Changes in KBAB may have taken place aside from through the CMT programmes examined here. We expect that, following various political changes in South Africa, that information on HIV and AIDS is now being provided to a much greater extent by government. We are less clear on the position in other countries. In view of this, it is very difficult to assess the true Do Nothing position for a study of this kind.

We have included investment in ART as an alternative investment for DFID but used only a limited amount of data from published research. In the time available, we have

not attempted to generate new local data on ART in South Africa or Southern Africa. We note, however, that ART is by no means a panacea as quality of healthy life is likely to be lower for those infected on ART than for those not infected and drop-out rates from ART are significant, weakening its impact.

5.3 Intervention Logic and Evidence

CMT is engaged in a **range of activities which increase awareness and disseminate information about HIV and AIDS**. Specific aspects of their projects include **TV programmes and associated material, including material to increase treatment literacy and increase compliance with treatment**.

The logic of these interventions is that they may increase the effectiveness of programmes to prevent or reduce the spread of HIV and AIDS by increasing awareness and knowledge and changing KBABs about both sexual behaviour and treatment responsiveness.

5.4 Incremental Costs

CMT has reported to us that they received DFID funding of approximately R3,874,042 (£340,000) for 2009, which was spent in Lesotho, Malawi, Mozambique and South Africa. Total expenditure by CMT appears, from a financial document supplied to us, to amount to about R6.93 million (£613,000) (CMT TLRG-DFID CMT Expenditure Report for April 09 to March 10 – FINAL.pdf).

A further document reports projected expenditure for 2010 of R6.95 million (£609,674) and R5.7 million (£500,000) for 2011. This is linked to DFID in a spreadsheet file supplied by CMT (CMT_DFID 2009-2011_281108_Final_IDEAL_22-02-10.xlsx). It should be noted that the figure for 2009 in this spreadsheet does not tally with the earlier figure. Expenditure for 2009 in this spreadsheet is reported as R5.7 million (£500,000) which is significantly larger than the figure quoted above. (Further details of expenditure can be provided from this spreadsheet if required.)

We have received a detailed evaluation report on one component of CMT's work, Siyayingqoba Beat It (see Section 5.2 for further information). This component has a reported budget of R22 million (£1.93 million). Again we have not fully linked this with other financial information from CMT at this stage.

5.5 Incremental Benefits

A key component (check budget if possible) of CMT activities in South Africa has been evaluated specifically in a 2009 survey (CMT Evaluation Report: A report on the impact of Siyayingqoba Beat It on HIV and AIDS, HDA, Johannesburg, South Africa, February 2010, CMT_NCS Report.pdf). This is the Sayayingqoba Beat It TV programme with its associated Outreach programme, a Treatment Literacy series and an archive of resources.

Among other issues, this report serves to highlight the question of marginal reach of programmes of this kind. The reach of the TV programme component of this project was smaller than in 2006, linked by the evaluation team to a reduction in TV time, that is, the programme was broadcast during working hours on a weekday and no longer repeated at weekends. There may of course be reinforcement effects of value even with a smaller total audience.

Those exposed to the programme appeared to have KBABs linked to lower risk of infection, e.g. 44 per cent of those exposed to the programme noted abstinence as a risk reducing strategy compared to 32 per cent of those not exposed to the programme. 89 per cent of those exposed to the programme knew that condoms are important in preventing HIV compared to 82 per cent without exposure to the programme. (This narrow difference of 7 per cent again reinforces our point about the marginal impact – that is, the extra impact year on year - of programmes of this kind, particularly if other sources of information in South Africa or Southern Africa change over time.) Some larger differences were reported, e.g. among the general population (rather than young people in particular) reported condom use at last sexual contact was 22 per cent higher in the high exposure group than in the low exposure group.

Other findings were:

- Treatment literacy was found to have increased since 2006 with a clear link reported between knowledge of ART and exposure to Siyayinqoba Beat It.
- A number of innovative communication methods are noted in the evaluation, including distinct wristbands and large matchboxes. Matchboxes for lighting stoves are found in many households in South Africa and so messages on a large matchbox could be seen by a number of family members, at least until the matches ran out.
- Programme reach ranged from 55.6 per cent in formal urban areas to 26.6 per cent in farming areas for all types of exposure with TV and radio having a combined reach that was close to these levels and print media having a lower reach.
- An estimated 10.58 million people could recognise the logo and an estimated 4.54 million people had watched at least one TV episode.
- A range of results suggest that those with high exposure had more knowledge of preventive behaviour but reach was also greater in more affluent areas.
- Treatment literacy was measured through a number of questions. Those with high exposure to Siyayinqoba Beat It had a rate of responding correctly to ART knowledge questions that was between 10 and 16 per cent above the corresponding rate for those with low exposure.

5.6 Balance of Costs and Benefits

If we again use the estimate of averted cases used in Section 3, we might anticipate that about 0.126 per cent of those reached by the programme might avoid infection. About 4.54 million people are estimated to have been reached by some element of the programme. This would suggest about 5,720 cases of HIV might be averted by a programme of this kind.

Using estimates of costs of ART, of about US\$400 per year indicates that the cost of treating HIV for 5,720 people would be about US\$2.3 million (£1.5 million). If we use the cost of ART as an approximate benchmark, then the cost of Siyayinqoba Beat It at £1.93 million is above the cost of ART for a similar number of people as the estimated number of prevented infections. As before, we note that those avoiding infection would be in better health, however, increasing the relative benefit per person from prevention. In addition, if they avoided infection for several years, then the programme would be more cost-effective than expenditure of a similar amount on ART.

If a higher cost per case for ART is used, for example, (US\$1,500 per year) then the estimated benefits from the main programme developed by CMT would look much more cost-effective, particularly if benefits were sustained for many years.

We also acknowledge that there will be other benefits and outcomes from the programme which may not readily fit into an evaluation, e.g. improved treatment literacy. Treatment literacy has the potential to increase compliance and improve outcomes from ART. However, we have not identified any data which will allow us to scope this potential outcome with any accuracy.

5.7 Risk and Uncertainty

This section follows section 3.7 closely.

We do not address risk issues in any detail here for CMT programmes. We regard these as applying to project delivery and, since these projects are up and running, there are no obvious risks of failure or lack of completion. So far as we know, programmes are proceeding on the ground.

As in earlier sections, we note that there is considerable uncertainty over the benefits of CMT activities. If a lower figure for marginal reach and impact is used, (e.g. assuming marginal reach of only 10 per cent of total reach) on the grounds that total reach is cumulative and marginal reach may be much lower, the programme appears to have a cost that is much higher than the equivalent cost of treating a similar number of cases. The outcomes of the programme would fall to only 572 averted cases and the cost of treatment with ART for this group would be in the range US\$230,000 - \$860,000 (£150,000 - £560,000) using our alternative estimates of the cost of ART.

The cost-effectiveness of this project is very sensitive to assumptions about marginal reach and the marginal impact overall, including reinforcement effects. It should be noted that the evaluation report suggests that reach fell for the last year in the evaluation and so it is possible to argue that marginal reach was in fact negative, though in practice we would expect some new users of the programme to be included, even in a lower total audience. However, this again highlights the importance of a full understanding of the programme's reach at the margin and any reinforcement effects.

5.8 Incidence of Costs and Benefits

We do not have data to assess the incidence of costs and benefits in detail.

Evaluation data show that the reach of the main programme, Siyayinqoba Beat It, is greater in urban areas, and so the incidence of benefits may be in favour of urban and therefore better off populations. On the other hand, since marginal reach depends on previous exposures and marginal impact depends partly on current knowledge, the impact of the programme may be greater in rural areas, per person reached. (Comments on a draft report suggested that this also may be the case in some very poor urban areas.)

5.9 Competition Assessment

We have not identified significant competition issues affecting the evaluation of the CMT programmes, though there may be some issues of competition in the media when a TV programme is subsidised.

5.10 Macroeconomic Impact

We have not attempted to carry out any macroeconomic impact assessment of CMT activities. We note again that the scale of the epidemic of HIV in Southern Africa among the population of working age is so large this is likely to be constraining the economy significantly. Any reduction in HIV therefore has the potential to have some macroeconomic impact.

5.11 Fiscal Impact

We have not attempted to carry out any fiscal assessment. We note that lasting prevention, as opposed to ART, could have a lower fiscal impact over time as continuing low risk behaviour has no fiscal costs while drug procurement does.

5.12 Financial Sustainability

Our understanding is that these programmes are highly dependent on DFID funding. It is possible that CMT could continue with other sources of funding or that its TV programme might have sufficient commercial value to stand without future subsidy, though we doubt this as it is not, so far as we understand, as popular as the Soul City programmes.

5.13 Attribution to DFID

We have assumed that as the major donor for these programmes, DFID is largely responsible for current benefits.

5.14 Summary and Recommendations

Under a range of assumptions, CMT activities appear to be cost-effective compared to the alternative of more funding for ART. However, the results are sensitive to the assumptions and use of a low marginal level of reach would tend to make the programmes much less cost-effective.

Once again we must emphasise the importance of obtaining detailed evidence on marginal reach and reinforcement effects in marginal impact, which can then be combined with other research to derive an estimate of the overall effects and outcomes of projects of this kind. The investment in this project does not appear to be seriously inefficient, but there remain question marks over its overall effectiveness because this is not being measured comprehensively from programme delivery through to final health effects.

6. Conclusions and Recommendations

6.1 Conclusions

Our broad conclusion is that, using assumptions and evidence from a number of sources, **it is quite likely that the programmes evaluated in this report are offering benefits that make the programmes cost-effective relative to further investment in ART.**

- **Benefits will be larger, the longer the period of sustained change in KBAB and associated reductions in risk of HIV infection.**
- **Benefits will be smaller, and projects potentially much less cost-effective, if the marginal reach of programmes, that is, the extra people exposed to the material in each round of material dissemination, (or the extent of reinforcement among those already influenced) and the marginal impact of any reinforcement of existing knowledge are much smaller than the total reach used to assess benefits.** In our view, this is a possibility and should be addressed in future project monitoring in more detail than at present (see Recommendations below). We accept that this report is rather repetitive on this topic, but see no alternative to improved estimates of marginal reach and marginal impact, including reinforcement, if projects of this kind are to be adequately evaluated in future.
- **Cost effectiveness of BCC is more likely, relative to ART, if a higher cost estimate for ART is used.**

NB. We are concerned that a detailed assessment of the potential benefits of the programmes was not carried out in advance, on the lines of a conventional option appraisal, so that we have had to assess outcomes in retrospect without detailed data collection to support our assumptions. It is essential that a clear counter-factual be established at the start, for subsequent comparative evaluation.

6.2 Recommendations

We recommend:

- That further investment in BCC and related activities is conditional on a clear evaluation strategy that addresses explicitly the marginal reach of each programme, as well as marginal reinforcement impacts, and takes full account of past and new knowledge and past and changed KBABs of those exposed to the programmes. For all media, this should include explicit questions about specific material in the most recent round of media. While we accept that much has been done by the different organisations involved to assess reach, in conditions which are probably much more difficult for social research than those that we tend to encounter in our work in developed countries, we feel that further work is needed on the key question of marginal reach and marginal impact on KBABs.
- If not already in place (and our understanding is that it is not in place) DFID should invest in further research to tackle the difficult question of connecting changes in KBABs to ultimate changes in HIV and AIDS and the rate of spread of the epidemic in Southern Africa. Without further research of this kind, any assessment of the impact of BCC is obliged to rest on a series of assumptions and limited impact assessments from a small number of research studies.

- DFID should consider establishing a clear set of benchmarks for cost-effectiveness, of the kind established (albeit without explicit endorsement) by NICE, the health technology appraisal agency in England, against which outcomes from other future health projects can be tested. This would help to make clear whether programmes were cost-effective though the key connection between changes in KBABs and changes in the epidemic remains a difficult nut to crack. It should also be noted that if the cost of ART is used as a benchmark, particularly at the higher costs used in this report, then a large number of possible interventions may be cost-effective. But this simply highlights the issue of spending on one intervention, ART, when others that are more cost-effective may be available.

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