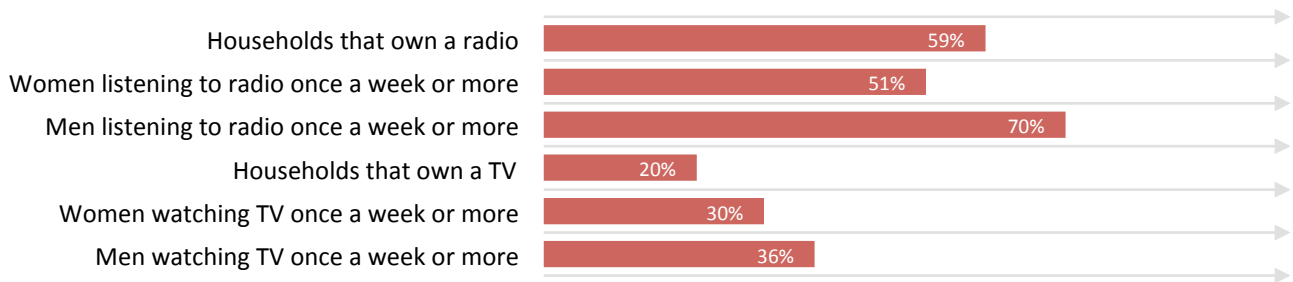


## THE NEED | WHY IS BEHAVIOUR CHANGE NEEDED TO REDUCE MATERNAL AND CHILD MORTALITY?

Two in three of the 7 million children who die every year before their fifth birthday can be saved by increasing the coverage rates of simple, existing interventions. These include exclusive breastfeeding of children under six months, reducing the risk of malaria by sleeping under treated bednets, giving children antibiotics when they have pneumonia, or giving them oral rehydration salts (ORS) for diarrhoea. However, coverage rates for these interventions in sub-Saharan Africa remain low. Many children die simply because their parents do not take these simple steps. For example, only one in three children are exclusively breastfed for the first six months.

## THE TECHNOLOGY | WHY IS MASS MEDIA THE BEST CHANNEL FOR CHANGING BEHAVIOURS?

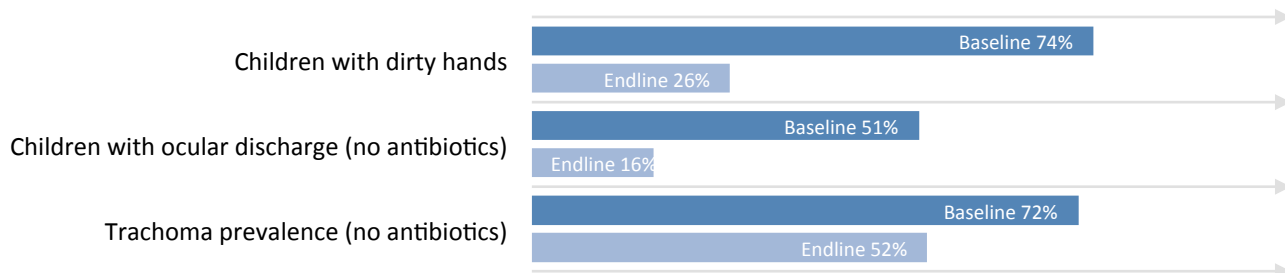
Mobile phones are now common in Africa (49% of people own one; 20% more can access one). But radio and TV audiences are also growing fast. Radio and TV sets continue to drop in price, and the relaxation of media laws has led to a boom in non-state channels (the number of community radio stations in Africa increased by 1,386% from 2000 to 2006). Radio dominates in rural, off-grid areas. As a result, radio is the main source of information for rural audiences in Africa, while television is increasingly popular in towns and cities. This graph below shows radio and TV ownership and consumption patterns among women and men in sub-Saharan Africa (source: DHS).



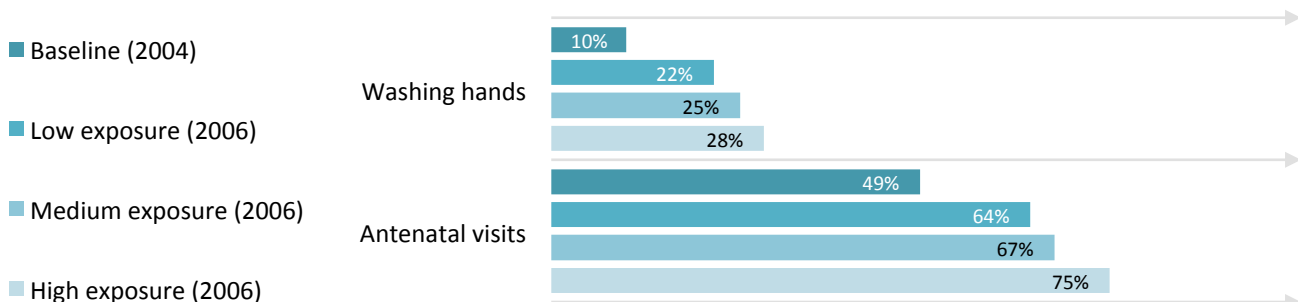
## THE TRACK RECORD | WHAT EVIDENCE IS THERE THAT MASS MEDIA CAN CHANGE BEHAVIOURS?

Campaigns run by DMI staff have demonstrated dramatic increases in healthy behaviours and uptake of health services, and corresponding decreases in disease prevalence. Here are some examples of behaviour change impacts:

### Pre/post evidence of behaviour change and health impact | BBC World Service Trust | Ethiopia | Trachoma | 2001-3



### Dose-response evidence of behaviour change | BBC World Service Trust | Cambodia | MNCH / HIV-AIDS | 2004-6



## THE RESULTS | HOW DO WE MEASURE THE IMPACT OF MASS MEDIA CAMPAIGNS ON MORTALITY?

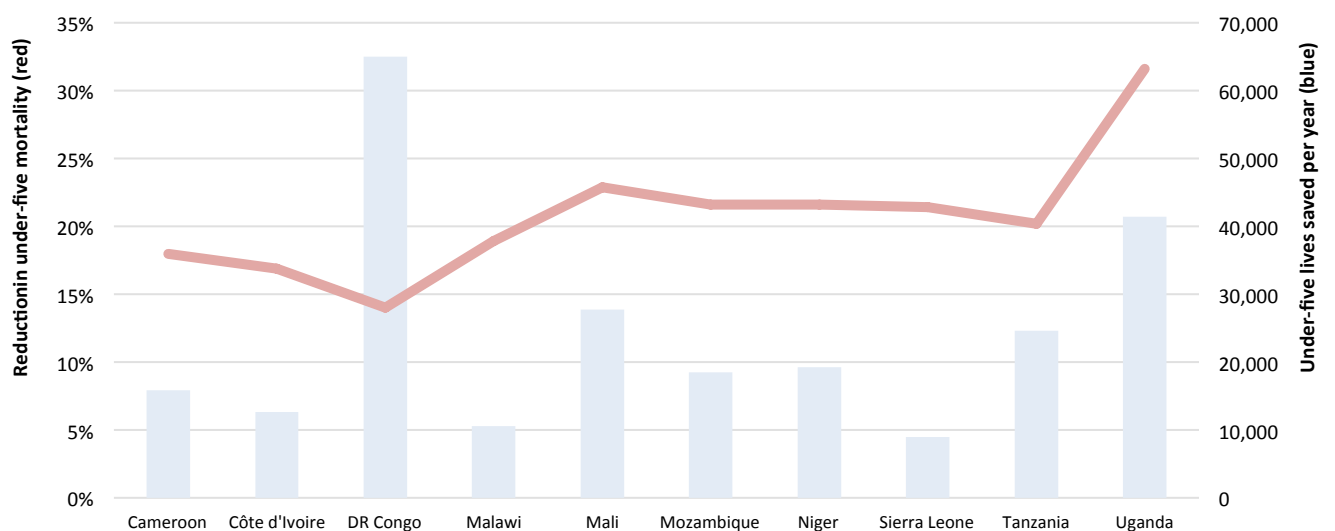
The impact of well-designed media campaigns on attitudes and behaviour has been conclusively demonstrated. But there has never been any attempt to measure or even to model the impact of campaigns on mortality. Historically this has been because the impact on all-cause mortality would be very hard to identify statistically due to the many possible causes of deaths and the limited impact of any single campaign.

We have worked with epidemiologists at the [London School of Hygiene & Tropical Medicine](#) to develop a mathematical model that predicts and measures how many lives can be saved by mass media campaigns.

The model combines the [Lancet Child Survival Series](#) data on intervention coverage and the impact of increasing interventions in each country (updated with the [Lives Saved Tool](#)) with DMI's evidence base for the impact of behaviour change campaigns (as outlined above). It has been peer-reviewed by the [Wellcome Trust](#).

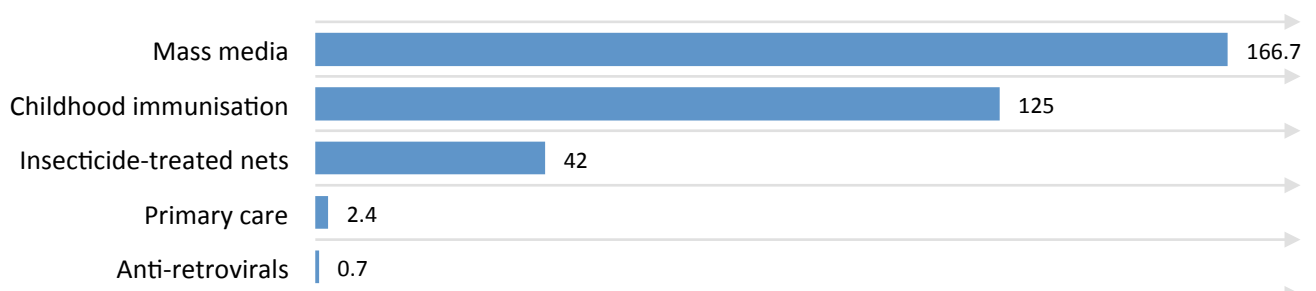
The model predicts that a multi-issue campaign in a typical sub-Saharan African country will reduce child deaths by 14-32%, neonatal deaths by 5-21% and maternal deaths by 2-20%, and that running campaigns in ten African countries for five years each will save a million lives. We can achieve much of this impact by increasing prevention and treatment of three key diseases (malaria, diarrhoea and pneumonia), by improving nutrition and hygiene, and by encouraging women to give birth in a health facility.

The graph below shows the predicted number of under-five lives that we can save every year in a range of African countries (in blue), and the percentage reductions in under-five mortality that these represent (in red).



The model also predicts that mass media campaigns are as cost-effective (at \$2-10 per [disability-adjusted life year](#), or DALY) as the cheapest health interventions that are available, including treated bednets (\$2-24 per DALY) and child vaccines (\$1-8 per DALY). This would suggest that in many African countries, mass media campaigns are one of the cheapest ways of saving lives.

The graph below shows the estimated number of years of healthy life that can be 'bought' for \$1,000 by an illustrative range of health interventions in developing countries (source: [Disease Control Priorities, 2<sup>nd</sup> Edition](#) / DMI modelling).



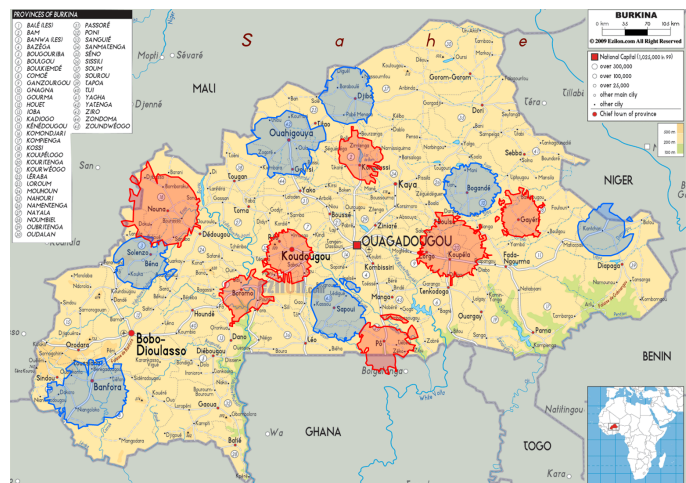
## THE PROOF | HOW CAN WE DEMONSTRATE THAT MASS MEDIA SAVES LIVES IN THE REAL WORLD?

We are running a five-year cluster-randomised controlled trial in Burkina Faso, funded by the [Wellcome Trust](#) and [Planet Wheeler Foundation](#), to test these predictions in a real-life setting. The trial uses radio broadcasts to change behaviours in order to improve child survival, covering a range of health issues, and is the largest, most rigorous evaluation ever conducted of a mass media intervention. It will generate a substantial body of further evidence for the impact of mass media campaigns on a range of behaviours, including those linked to demand for healthcare services, and on child mortality.

The trial involves fourteen geographical areas that were randomised and equally divided into an intervention group and a control group. Messages are being broadcast for 2.5 years in the seven geographical areas of the intervention group, but not in the control group. We predict that in Burkina Faso, where 101,000 children under five die every year, we will reduce under-five mortality by 15.7% at a cost per DALY of \$8.49.

A controlled trial using radio would not normally work, due to the risk that people in 'control' areas would listen to radio stations broadcasting from 'intervention' areas. However, Burkina Faso has a very localised, radio-dominated media environment, so we can use local FM radio stations to broadcast our messages to intervention areas (blue) without 'leaking' into the control areas (red).

For 30 months we are broadcasting 60-second advertisements at least 10 times per day on seven radio stations (one in each intervention zone), in six languages. In addition, we are broadcasting two hours per night, five nights per week on each station. This represents a total of 70 hours per week of live radio.



This would be logistically almost impossible to do using a soap opera format, for example, given the six languages involved. We needed to devise a format that is cheap, that can be broadcast daily, that can be produced 'live' (which costs a fraction of pre-produced radio), and yet can be controlled centrally. We have created a system of self-contained drama modules that are written in French in the capital city, emailed to our partner radio stations, and improvised live by actors on location in their own language within their two-hour shows. This works well in a fragmented media environment, which is becoming the norm in most developing countries.

We are not paying airtime fees to our partner radio stations in Burkina Faso; instead, we provide on-the-job training and produce the live programmes together. The stations' incentive is that they thrive in a competitive media market.

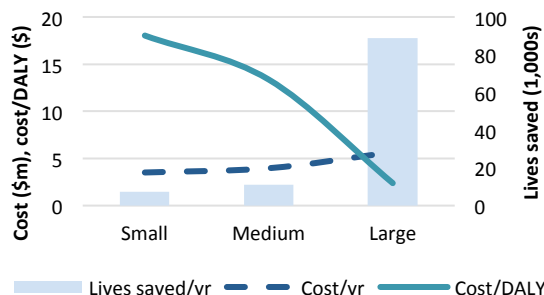
We implemented a system of grassroots recruitment, leafleting university campuses, meeting places and bars, inside and outside the capital. We invited interested people to public meetings and challenged them to write a script. We received over 600 scripts, interviewed 80 people and hired 13 as scriptwriters – who came from a diverse range of previous employment, ranging from teachers to a security guard. Every week we conduct creative training workshops for all staff. We have an in-house research team which conducts monthly formative, pretesting and feedback research, with one scriptwriter participating in every research trip.

The evaluation, led by LSHTM and Centre Muraz, includes a baseline mortality survey of 50,000 children under 5 years (with a two-year recall period), and a baseline behaviour survey of 5,000 households, before radio broadcasts began in March 2012. Broadcasts will stop in January 2015, and full results, based on an endline mortality survey of 100,000 children (with a one-year recall period), will be available in mid- to late-2015. We have recently published our midline results on behaviour change (based on a survey of 5,000 households). These are available on our website at [www.developmentmedia.net/burkina-faso-rct-preliminary-midline-results](http://www.developmentmedia.net/burkina-faso-rct-preliminary-midline-results).

In addition, an economic evaluation, led by Jo Borghi and Anne Mills at LSHTM, will assess whether the intervention represents 'value for money', measuring the cost per child death averted and per DALY averted. We will also model the likely cost-effectiveness of implementing the campaign at national scale in Burkina Faso and elsewhere in Africa.

**Investing in order to maximise returns**

DMI runs mass media campaigns that cost more than many other superficially similar campaigns. Typically, we spend \$1-3m per year to run a nationwide campaign, whereas other organisations often run behaviour change campaigns on annual budgets of \$0.5m or less. The graph to the right illustrates why we do this. It is taken from our options analysis for a radio campaign in DRC, and shows that, as the cost per year increases, the number of lives we can save increases at a much greater rate, and so the cost per DALY (year of healthy life added) reduces.



There are several reasons why we believe that a larger upfront investment is needed to yield good returns. Taken together, these make up our *Saturation+* approach: **saturation, science and stories.**

**Saturation**

*Broadcast media messages several times per day*

Many media campaigns broadcast one or two weekly outputs (often a radio/TV soap opera). This format may attract a loyal following, but many people will miss it, and even those that see or hear it are only infrequently exposed to messages. We use a ‘saturation’ approach that involves broadcasting ‘spots’ 6-10 times per day, over a prolonged period, and daily dramas if possible, to maximise audience exposure to our campaign.

*Use radio/TV networks that reach the target audience*

Audience figures for radio and TV networks at national level are weak in many African countries. Sophisticated modelling is needed to generate a best estimate of audience numbers by network, especially in rural areas. A strategy that includes community radio stations will ensure strong rural coverage, but other networks often generate higher returns on investment. We work with both national and local networks in many countries.

**Science**

*Use modelling to maximise health impacts*

Our mathematical model predicts the impact on child and maternal mortality of each media message in each country, by analysing current coverage, impact of previous media campaigns on this behaviour, and country-specific media and health system variables. The model enables us to predict lives saved by disease, by behaviour, by message and by province. By focusing on the behaviours that are easiest to change and that also have the greatest impact on lives saved, we can maximise health impacts.

*Measure outcomes and health impacts robustly*

We can translate behaviour change outcomes into health impacts using our model, but first we need to measure behaviour change outcomes reliably, and to attribute them to our activities. We have developed quasi-experimental evaluation techniques that are rigorous, but can be feasibly integrated into a complex media campaign. These include dose-response analysis, triangulation of survey data with external data sources, time-series analysis and non-randomised control areas.

**Stories**

*Understand the audience using qualitative research*

We need to understand the values and motivations of our target audience. We send teams of researchers to conduct formative research (identifying barriers to behaviour change), to pre-test outputs for clarity and appeal with focus groups, and to conduct detailed post-broadcast feedback research (asking whether, how and why people who heard our messages changed their behaviours).

*Generate content that changes behaviours effectively*

Content that really changes behaviours must be simple, funny, and engaging, rather than didactic. We use drama to maximise emotional impact. Short, realistic dramas (including spots) work well if repeated often. We hire the best local talent using open competitions, and we use a proven creative and editorial process to generate ideas and select the best for broadcast.

### Development Media International

Development Media International (DMI) runs mass media campaigns to change behaviours and save lives in Africa. We are the first organisation to use scientific modelling combined with mass media campaigns in order to save the greatest number of lives in the most cost-effective way.

Is DMI a media organisation? Not really. Our staff are experts in using media (largely radio and TV) to deliver behaviour change in developing countries, but we see media simply as a means of delivering behaviour change. We are, at heart, an organisation focused on human knowledge and behaviour. Our focus is on creating this knowledge, and using it to change behaviours, to produce improved health outcomes in countries where those outcomes are low. The most effective (and cost-effective) way to do this is using media – predominantly radio and television - in Africa.

Equally, we are not a health organisation. Instead we work in close partnership with the acknowledged experts in the field, including WHO, UNICEF and LSHTM (and we are funded by some of the world's most prestigious scientific organisations). Where we have developed an expertise, however, is in predicting and then measuring the impacts of our work, not just in terms of behaviour change, but in terms of direct health outcomes.

At present, our focus is on saving the lives of the 6.9 million children who die under the age of five every year, and on reducing the mortality rate among mothers. We therefore target the big causes of death among these groups, such as diarrhoea, malnutrition and malaria. But we also work across a range of related health issues, including sexual and reproductive health, nutrition, hygiene, environmental health and non-communicable diseases.

DMI has a proven track record of managing large-scale projects (500 to 8,000 broadcasts) on TV and radio. Funders of previous campaigns include DFID, PMNCH, WHO and USAID.

DMI is a social enterprise with both non-profit and for-profit arms. Development Media International Associates CIC is a Community Interest Company (No. 6069322) with non-profit status. Development Media International Ltd is a private limited company (No. 5411295) with for-profit status and a social mission.

### Media Million Lives

Media Million Lives is a new DMI fundraising initiative to create integrated radio, TV and mobile phone campaigns that will promote key maternal and child health behaviours in ten African countries for five years each, with the objective of saving a million lives. This will be one of the most ambitious behaviour change programmes yet run in Africa.

It will directly support the key global maternal and child health initiatives: *Every Woman, Every Child* (UN), *A Promise Renewed* (UNICEF), and the *Campaign on Accelerated Reduction of Maternal, Newborn & Child Mortality in Africa* (AU).

We are currently seeking partners to help us to scale up our programme globally in order to reach this target, and we welcome conversations with national Ministries of Health, public and private funders, and private sector and NGO partners. Please visit [www.mediamillionlives.org](http://www.mediamillionlives.org) for more information.



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