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# EVALUATING PHYSICAL ACTIVITY

BY KIARA LEWIS

The desire to find out 'what works' is intrinsically linked with the tightening of resources available from both local government and the NHS and a need to focus money on what is deemed most cost effective.

This is a very different scenario from when I started my career as a Physical Activity Development Officer (PADO) in the mid 90s. Success was judged by how many physical activity projects were set up and how many people attended each week. One of the most successful projects was a Phase IV cardiac rehabilitation project. We monitored how many people turned up each week, gave out certificates for attending 10 sessions and a T-shirt for 25 (much to the delight of the participants many of whom were grandparents and delighted in pinning their certificates up next to those of their grandchildren). We also listened to the participants enthuse about how much better they felt. I now work in higher education and have been involved in evaluating a variety of physical activity schemes from exercise referral, to worksite health programmes and school-based projects. What is required now is a much more sophisticated evaluation, where evidence of the impact of the scheme can be demonstrated, alongside value for money and participant satisfaction.

## EVALUATION DESIGNS

### Randomised controlled trials

These trials are considered the gold standard of evaluation used traditionally in the medical world. Whether an intervention does 'more good than

Physical activity as a public health intervention is still a relatively new concept and although the health benefits of activity are widely acknowledged (1) there is still no consensus as to the most effective way of getting people to become more active. This has led to calls for 'properly designed' evaluation studies (2) and has elevated the importance of finding out what works. This article examines evaluation methods and looks at the dilemmas and some of the successful approaches experienced by the author.

harm', and is therefore worth investing in, is judged on the basis of systematic reviews of randomised control trials (RCT). These trials are conducted by researchers independent of the intervention and, it has been argued, work well when testing new drugs.

However when applied to physical activity this approach raises a number of issues. It is not a medicine that can be standardised to a particular prescription. Initiating PA is a complex lifestyle behaviour change. It has infinite combinations of frequency, intensity, duration and mode.

In combination with the interaction of the individual's unique physiological and psychological make-up, the influence of families and peers and the

role of the physical activity leader, make it almost impossible to standardise.

This type of research often requires working with independent bodies that can collect and analyse data. It also requires money. A RCT will only be funded when working with a clinical trials unit (found in some but not all universities). The cost for a large scale RCT could be in tens of thousands. It has been argued that RCTs are in fact not the best way to demonstrate effectiveness, as well as the complexities stated above they often rely on research volunteers (who may be different from the people you are trying to target), and they only show the outcomes and not the process (or why it worked). What is needed is a

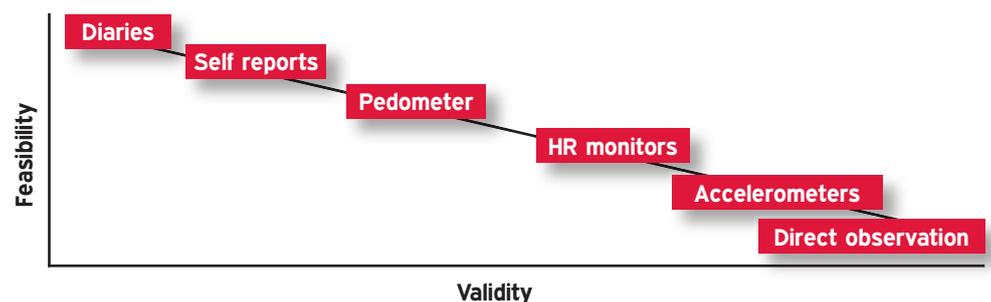


Figure 1: The feasibility and validity of a range of commonly used measures of physical activity

range of evidence bases from which to draw conclusions as to what works, when and with whom (3).

### Case study approach

It has been argued that a case study approach is more effective than a RCT as a means of evaluating health-promoting activity (4). A case study approach involves taking the project as a whole and collecting as much data from as many sources as possible to find out not only what works but why. This means not only finding out information from the participants, but also their friends, families, schools, if relevant, and those working on the scheme and recommending it. This gives a bigger picture.

### An example

An example of this is an evaluation of a scheme for overweight and obese children and young people I was involved in with a local authority physical activity development department in collaboration with the Nationwide Research Centre (5). This case study approach followed the four stages of evaluation recommended by Dugdill, Stratton and Watson (6):

Stage 1	Planning
Stage 2	Measurement
Stage 3	Data analysis
Stage 4	Dissemination

### How it was evaluated?

At the beginning, a steering group for the evaluation was established to decide what resources were available, what the evaluation was to achieve, and the most effective methods of finding out. This steering group included all those who would be collecting data so they could advise on any problems/difficulties with data collection. Setting out the timescales was also important to establish what could realistically be achieved in the time available in this study - two years. Table 1 sets out what was measured, when and by whom.

### How were results disseminated?

The results after two years of data collection were presented as a report to the fund holders but also in a presentation to all the stakeholders. At this event, the young people spoke of their own experiences and its impact, which was far more effective than any

**TABLE 1: WHAT WAS MEASURED, WHEN AND BY WHOM**

Type of data	How it will be measured/analysed?	Who will be measured?	Responsibility for measuring/collecting information	When measured?
Demographic data	Questionnaire Statistical Package for the Social Sciences (SPSS)	All children recommended onto the schemes	Recommending agents	First point of contact
Physical activity behaviour	Questionnaire	All children recommended onto the schemes	PA leaders	First appointment, and all follow up appointments
Physiological measurements	BMI/SPSS	All participating children	PA leaders	First appointment, and all follow up appointments
Psychological measurements	Self esteem and attitude questionnaires – analysed and inputted into SPSS	All participating children	PA leaders	First appointment, and all follow up appointments
Perceived benefits and difficulties	Interviews and focus groups – content analysis	Children, parents, PA leaders and managers, recommending agents	Researchers	Post intervention

graph can be. The results were also presented to the young people.

### Resources required

This approach to evaluation requires the use of independent researchers, these could be sourced from the local university, as the volume of data collected is too large for those working on the scheme to handle (or requires statistical software, and/or expertise in data collection and analysis not available within the organisation). There are still costs involved, if on a much lower scale (thousands of pounds) and in this case was only possible because of external funding for the scheme (from Sport England).

### Qualitative/participatory approach

When little is known about an intervention or its effects, such as a new approach or particularly innovative project, it can be useful for those involved with the project to collect information as they go along that can inform the direction of the intervention.

### An example

An example of this was the introduction of peer mentors to an exercise referral scheme. A student from the local



**Figure 2: REAIM fig wheel**

university, who had worked on the scheme on placement, continued in her final year to collect data for her dissertation. She interviewed those working on the scheme and the mentors, went through the training with the mentors and analysed questionnaire data from the participants (NHS ethical standards meant she was not able to collect data herself from the participants who are deemed as patients). The benefits of this approach are considerably less cost (tens of pounds), and a positive experience for the student under guidance from the university who completed her

## EVALUATION FRAMEWORK

In drawing from a variety of sources (the framework from REAIM, the advice given when conducting an RCT and my own experiences) I have drawn together a framework - assessing efficacy and effectiveness - as a guide when evaluating a small/middle sized PA programme with limited resources and outside support.



dissertation, for the local authority who received a report to present to fund holders, plus gaining qualitative data about the scheme. In a similar approach with another local community, a PhD student has been employed to conduct research – again a mutually beneficial arrangement between the university and the community.

### PHASES OF EVALUATION

According to Estabrooks and Gyurcsik (7) evaluation requires three phases:

1. EFFICACY – does the intervention work ie. if individuals take part do they become more active and as a result improve their health?
2. EFFECTIVENESS – does the intervention work in the real world?
3. DEMONSTRATION – does the intervention work when delivered to a whole system/setting (school, city, nation etc?)

One suggested way of standardising whether or not you are having a public health impact through

the introduction of physical activity, has led to the development of the REAIM framework ([www.reaim.org](http://www.reaim.org)). This attempts to show if the intervention works on an individual level, whom it is reaching, who adheres and who drops out and whether or not it has a lasting public health impact (see figure 2)?

### SO WHAT CAN PRACTITIONERS DO?

#### Design

It is most likely that a small team

working on a number of projects will be best placed to use a pre-test/post-test design, collecting data at baseline and after a suitable interval. The more varied data you can collect pre and post the better (triangulation of data), however the data collection should not interfere with the project delivery.

### Data collection and analysis

Deciding on what data to collect is one of the most difficult things to do. Large amounts of statistical data (age, gender etc) are best collated onto a database. Questionnaires are easy to administer and if using closed questions/scales, easy to analyse. Already validated questionnaires provide more valid data, there are many in existence, which measure everything from quality of life, to body image and social support. Physiological measures require equipment and expertise.

Qualitative data requires communication skills and skills in analysing data if the results are to be meaningful and can be very time consuming. Measuring behaviour change is one of the most difficult things to measure and most unreliable and will always be a trade off between feasibility and validity (see figure 1). The British Heart Foundation's National Centre for Physical activity has produced a toolkit for exercise referral schemes that has a useful chapter on evaluation. In particular it provides a number of psychological and physical activity questionnaires that may be relevant (8).

### WHEN NOT TO EVALUATE

There are times when evaluating what you are doing is not recommended (9). These include:

- Not enough time, skills or resources
- It has already be evaluated elsewhere (and reasons for success documented)
- The results are likely to be ignored
- You are not supported by management
- Resources invested in the project are too small to justify time spent on evaluating the impact.

### WHEN YOU DO DECIDE TO EVALUATE...

For it to be a worthwhile experience the following is worth remembering:

- Engage with stakeholders (all those who have a vested interest in the

scheme from participants, their families to fund holders and key workers)

- Value your participants' contribution to the process - they are the key
- Ask for help and expertise from those around - universities are there to serve their local community
- Learn from your evaluation and improve
- Understand why you are evaluating (you should have a personal aim)
- Assess what skills you already have within your team
- Triangulate, lots of data sources create a more detailed picture
- Enthuse - if you do not care about your evaluation neither will others!

### KEY MESSAGES

When there is limited time and resources the following are worth remembering:

- Agree upon and use a common system of data collection
- Make data collection part of the routine (eg. when someone new arrives have a set list of data to be collected)
- Link the data collected to outcomes you want to measure
- Agree a date when you are going to draw together data collected.

### CONCLUSION

Fund holders are increasingly demanding evaluations as a prerequisite for any financial support, so it is important to look for the techniques that suit the project or initiative. However, a meta-analysis of techniques to change physical activity behaviour (10) tells us that prompting the self-monitoring of behaviour change and setting and reviewing goals are among the most effective techniques in changing behaviour. Maybe we got it right in the 90s. Record when people turn up, reward them when they reach a milestone and listen to their chatter. Simple but effective evaluation that translates into measurable behaviour change - challenge your fund holders to reassess success!

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