



# Background

International  
Companion Animal  
Management Coalition

## AIM OF THE GUIDANCE

The International Companion Animal Management (ICAM) Coalition was formed in 2006 to support the development and use of humane and effective companion animal population management worldwide<sup>1</sup>. Through our work to achieve this mission, we realised that effectiveness, or an answer to the question “are we making a difference?”, was often a subjective assessment of how well an intervention had worked and was not commonly based on objective scientific measurement. However there were notable exceptions to this and some excellent innovations in monitoring (regular data collection to measure important indicators) and evaluation (thoughtful assessment of what the data shows regarding targeted impacts) occurring around the world that could form a foundation for guidance.

Previously published guidance on DPM had outlined the importance of monitoring and evaluation. Our own guidance on humane DPM (ICAM Coalition 2007) included a short chapter on ‘implementation, monitoring and evaluation’. The OIE (World Organisation for Animal Health) included an article on monitoring and evaluation (article 7.7.7) in their global standards for Stray Dog Population Control (OIE 2014). The WHO (World Health Organisation) describes the importance of ‘operational research for dog rabies control’ in their most recent report from an expert consultation for rabies control (WHO 2013). However, although these publications provide compelling arguments for including monitoring and evaluation and important guiding principles for its implementation, they do not provide advice on practical application.

This guidance therefore aims to build on the previously established need for monitoring and evaluation. By providing detailed recommendations on valid, reliable, practical, and feasible way of assessing the impact of domestic dog population interventions; impact assessment is another term for the learning that can be achieved through monitoring and evaluation. We hope that this will support academics, practitioners and funders to track progress, learn and subsequently improve their DPM impact through the use of measurable indicators. The focus is on applying scientific solutions to real world problems and encouraging an increase in scientific research on DPM. Our scope is international, with a particular interest in simple, repeatable methods and meaningful indicators for communities searching for cost-effective impact assessment.

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<sup>1</sup> Current members include the International Fund for Animal Welfare (IFAW), World Animal Protection, Humane Society International (HSI), Royal Society for the Prevention of Cruelty to Animals (RSPCA) International, World Small Animal Veterinary Association (WSAVA) and Global Alliance for Rabies Control (GARC).

### PROCESS OF DEVELOPING THE GUIDANCE

The process of developing this guidance included an initial literature review, interviews with experts and practitioners in the field, testing of some of the novel methods of measurement and indicators, and extensive reviews and consultations with all the ICAM Coalition members and project collaborating partners.

### HOW TO USE THIS DOCUMENT

The following sections include an overview of the process of monitoring and evaluation, accompanied by explanation and introduction to the key terms used throughout the document. The main benefits of monitoring and evaluation to dog population management are also outlined here. They also present an important first step to monitoring and evaluation; identification of the impacts which we hope to see change. In other words “the difference we are trying to make through our intervention”. Once the targeted impacts of the intervention have been identified, navigating through the rest of the document becomes simple and bespoke to your intervention. Not all interventions will be targeting the same impacts. Select those that are most relevant to your intervention and turn to the related section(s) of the guidance document. Select the indicators that are most suitable for you to evaluate the impact in your specific situation. We recommend that you choose more than one indicator to allow the change in the impact to be explored, and potentially validated, by more than one method; also known as ‘triangulation’. Once selected, follow the guidance under each indicator to the method of measurement that is most practical and feasible for your particular dog population. In most cases, additional information on how to implement the method of measurement is given in a subsequent section. See figure 1 for a flow diagram that shows this process.

Which impacts would you like to achieve through your intervention?

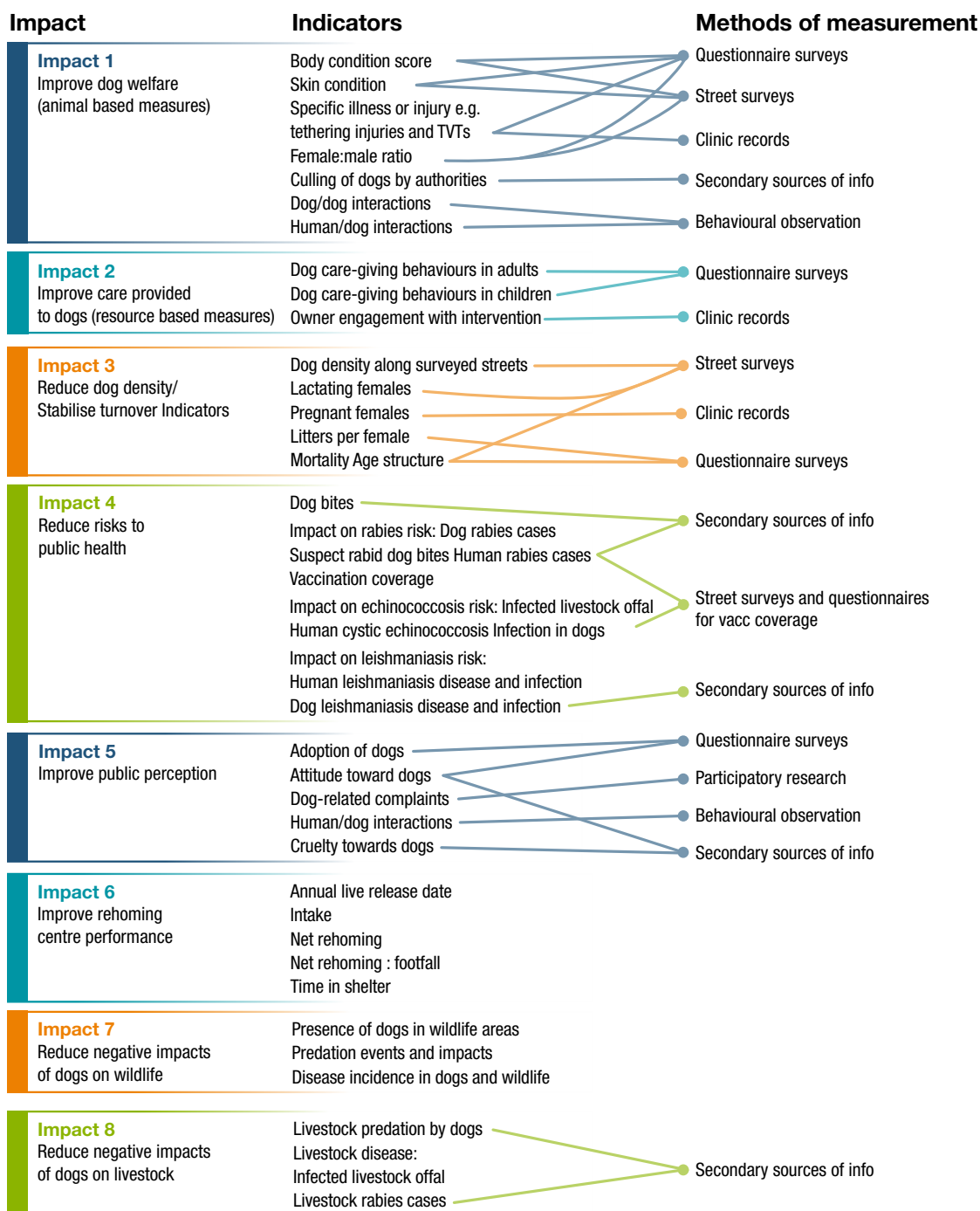


Figure 1

In the final two Sections ‘Making your impact assessment robust’ and ‘Using your results’, the guidance covers key ways of ensuring best possible data collection, the basics of analysis and interpretation, and how to use the results to improve your intervention or communicate your successes and reasons why your intervention needed to be altered. We strongly encourage communicating necessary changes to interventions as well as successes, learning what doesn’t work and needs to be changed is as important as knowing what does work.

## WHAT IS MONITORING AND EVALUATION?

An **intervention** is a set of activities that aims to make a targeted change or **impact** to a set of people, animals or environment.

Example: an **intervention** that catches, neuters and returns a number of stray dogs every month in an Asian city. The desired **impact** of this intervention is to reduce the density of dogs and to improve the welfare of the stray dogs.

**Monitoring** requires systematic and routine data collection. Monitoring an intervention includes measuring the progress of the intervention itself; the intervention **effort**. Monitoring also includes regular measurement of **indicators** that reflect changes in the targeted impacts, as well as relevant factors in the environment that may also influence the same impacts as the intervention. **Indicators** (also known as **metrics**) are measurable signs of impacts; they are the things we would see or hear if our desired impact was occurring.

**Methods of measurement** describe how data relating to the indicators was collected.

In our Asian city example, for the **impact** of reducing dog density a suitable **indicator** may be the number of dogs seen on a set of standard routes along public roads.

The **method of measurement** for this indicator may be a street survey once every 6 months conducted following a consistent protocol (e.g. same routes, same time of day and same observation process) for observing dogs on public property. For the **impact** of improving dog welfare, we may select the **indicator** of proportion of the stray dog population that is emaciated. The **method of measurement** would again be the 6 monthly street survey including body condition scoring of all dogs observed.

**Monitoring** would also include recording the number and location of all dogs neutered and returned; this represents the intervention **effort**.

**Evaluation** of an intervention uses data collected through monitoring, sometimes combined with other data sourced infrequently and specifically for the evaluation, to answer questions about “what difference did this intervention make?”; in particular in relation to the targeted impacts, although unexpected impacts are also important. Evaluation explores the difference made by the intervention and compares it to what would have happened without the intervention, also known as the counterfactual (Svedoff et al., 2006).

In our dog population management example, an **evaluation** may look at the data relating to dog density in the city where the intervention took place and compare it to a limited number of routes used in another city where no intervention was used, over the same time frame. In this case, the question is “has dog density decreased over time in the city where the intervention took place?” and “how does this compare to the change in density in a city where no intervention was used?”

Evaluation may also ask whether the intervention could have been more efficient and cost effective overall, by comparing the cost of the intervention against any savings created through the impacts.

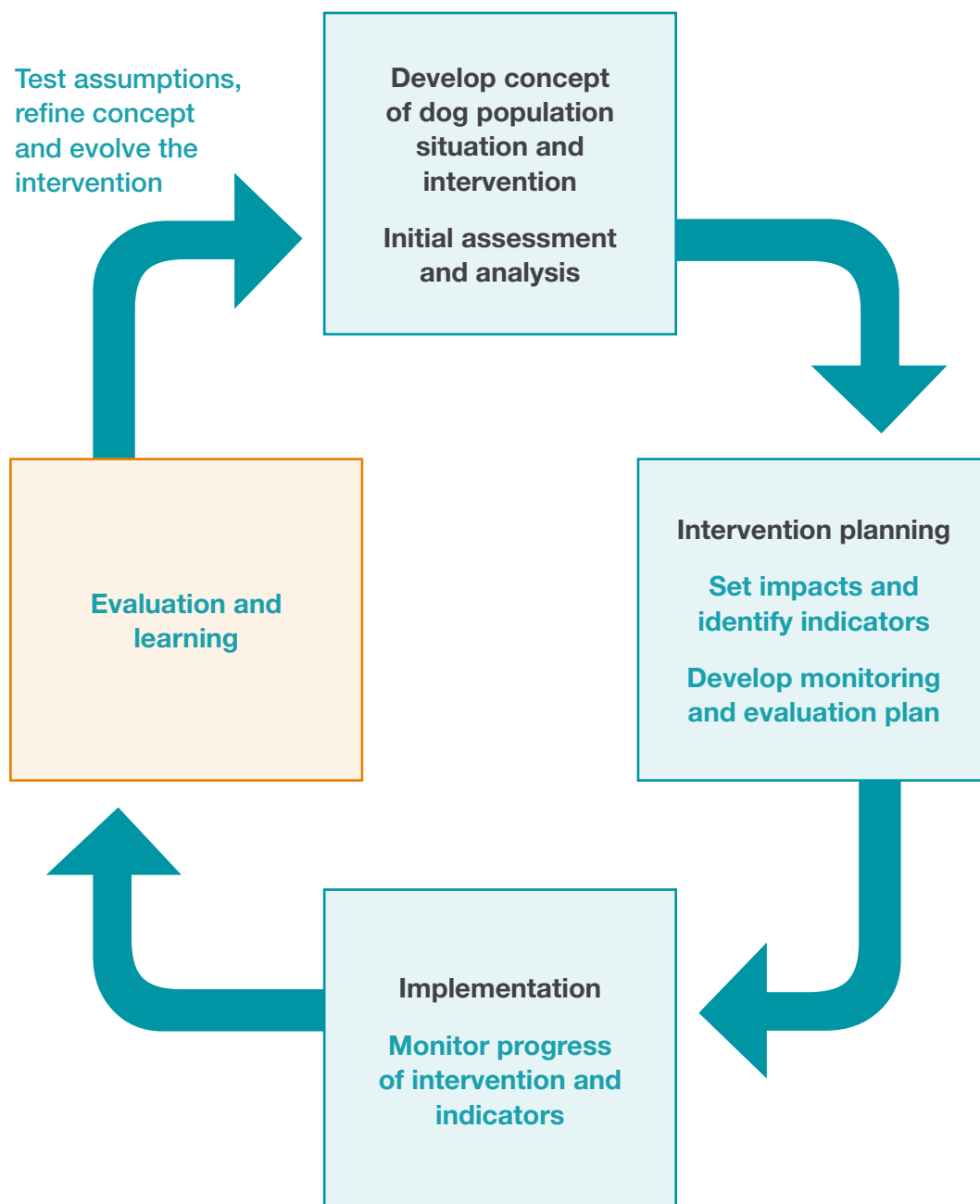
In summary:

Definition	DPM example 1	DPM example 2
An Intervention is a combined set of activities with specific changes or impacts in mind	Catch, neuter and release of roaming dogs in an Asian city	Annual rabies vaccination of dogs in a semi-rural region of sub-Saharan Africa
Impacts are the changes we hope to contribute towards through our interventions	<ul style="list-style-type: none"> <li>• Reduce dog density</li> <li>• Improve the welfare of roaming dogs</li> </ul>	Reduce rabies in dogs and therefore in people
Indicators are measurable signs of impacts (also known as metrics); they are the things we would see or hear if our desired impact was occurring	<ul style="list-style-type: none"> <li>• Number of dogs seen on a set of routes along public roads</li> <li>• The percentage of roaming dogs with emaciated body condition</li> <li>• People saying “puppies dying on the streets is a rare sight these days”</li> </ul>	Number of reported dog rabies cases, dog bites and human rabies deaths. People saying “I have not heard of a rabies case in my village for many years, it used to happen almost every year”
Methods of measurement are the techniques we use to measure our indicators	Observation of the number and body condition score of all roaming dogs observed during a six monthly ‘street’ survey	Quarterly meetings with Municipal Veterinary Department and General Hospital to access data on dog rabies cases, dog bites and human rabies deaths
Effort is the immediate result of your activities	The number of dogs caught, neutered and released	The number of dogs vaccinated, subsequent vaccination coverage (% of population vaccinated)
Input is the time and resources put into implementing the intervention	Financial costs per dog plus capital costs of intervention infrastructure	Financial costs per dog plus capital costs of intervention infrastructure

Before an intervention is launched it is necessary to measure the baseline of indicators selected to reflect the impacts; although note that some methods of measurement are part of the intervention itself (e.g. the collection of data relating to dogs that pass through the intervention clinic, see Section Clinic records) and so the baseline would be measured through the first phase of the intervention. By establishing a baseline for each indicator, the change in the indicators after the intervention was launched can be measured. Establishing a baseline may also allow you to state a target within a specific time span and define clear goals from the outset. For example, a potential target could be to reduce the percentage of dogs with emaciated body condition from 20% to below 10% within 3 years of the intervention starting.

## WHY INVEST IN MONITORING AND EVALUATION?

Monitoring and evaluation has many purposes: to inform donors of the impacts created through their funding; to inform the public of any impacts on them and/or their dogs as beneficiaries of the intervention; to provide evidence for lobbying to sustain or replicate an intervention; and to compare intervention and their relative impacts. But the most important purpose is for improvement of the current intervention and subsequent interventions via learning what is, and is not, successful and the dissemination of these findings to a wider audience. The potential for learning and subsequent improvement can be visualised in an **intervention or 'project' cycle** (blue text and boxes indicate monitoring and evaluation activities):



The importance of monitoring and evaluation to learning cannot be overstated. Many interventions begin with a very basic understanding of the system they are hoping to impact upon, relying on assumptions about the root causes of problems experienced by dogs, and the communities amongst which they live. By using monitoring and evaluation, these interventions can test their assumptions about how their activities affect dogs and people using objective data. This will provide them with evidence of what is working and what needs to be changed. It is therefore essential that intervention staff and donors remain flexible and open minded to the evidence produced through monitoring and evaluation, ready to implement changes when needed.

Evaluating the impact of interventions and therefore ensuring our policies and intervention designs are based on the best available evidence is a concern for all organisations looking to make the world a better place. The human development movement has been striving for improvement in evaluating impact for decades. In the Centre for Global Development 2006 report 'When will we ever learn? Improving lives through impact evaluation' (Savedoff et al., 2006), Bill Gates is quoted as saying "Success depends on knowing what works" (pp iv). It is heartening to see that we are not alone in the struggle to evaluate impact and therefore develop evidence-based understanding about what works and what doesn't. However, human development-related impact evaluations are numerous, and systematic reviews involving many tens of evaluations can be conducted to rigorously assess the impact of a policy or intervention across a number of different contexts. Furthermore, the human development field is supported by a shared understanding of what indicators are important; for example, there are [60 official indicators](#) for the 10 Millennium Development Goals. However, systematic reviews of a wide body of impact assessments and internationally agreed and standardised indicators, are only an aspiration for the dog population management field at present. By developing a set of recommended and suggested indicators, and ways of measuring these for dog population management, we hope to provide a framework and inspiration for future evaluations that will further our understanding.

## IDENTIFYING DOG POPULATION IMPACTS

Monitoring and evaluation requires an understanding of what impacts the intervention is striving to achieve. If you don't know where you are going, how will you know when you get there?

In the project cycle described previously, the cycle begins with an intervention concept; the desire to intervene to reduce a threat (such as zoonotic disease) or improve the situation for a group of beneficiaries (such as the welfare of roaming dogs). This desire is turned into an intervention plan with clear impacts and associated indicators, as well as budgeted and timed activities suitable for the dog population dynamics and dog ownership pattern of the location. A critical stage of intervention concept and planning is initial assessment and analysis. This process explores and understands the root causes of the visible problems in the specific location, including the sources of dogs causing or experiencing these problems, in order to inform bespoke intervention planning. This stage is described in detail in the ICAM Coalition Guidance on Humane Dog Population Management (available at [www.icam-coalition.org](http://www.icam-coalition.org)). This includes in-depth consultation with all relevant stakeholders to establish an agreed, comprehensive understanding of the local dog population and a

realistic set of impacts for the intervention. Ensuring these impacts are realistic requires a further stage of establishing the logical steps describing how the intervention will achieve the desired impacts with your specific dog population and community in mind. This is also termed a 'theory of change' and is sometimes expressed as a 'logical framework' or 'logic model'<sup>2</sup>. This stage will help test whether your intervention is truly suited to achieving the desired impacts and will explicitly state the intervening objectives that should also be monitored to establish attribution and whether the intervention is going to plan.

The intervention itself may include a range of activities, selected to suit the problems and root causes of the location. The ICAM Coalition Guidance on Humane Dog Population Management describes several of these potential activities; education, legislation, registration and identification, sterilisation and contraception, holding facilities and rehoming centres, euthanasia, vaccination and parasite control and controlling access to resources. In this current guidance we have identified indicators suitable for reflecting change in eight of the most common impacts resulting from interventions that include one or more of these activities. Most interventions will have a subset of these impacts in mind as opposed to all eight; these impacts may be worded slightly differently but we hope similar enough that they can be matched against one of the impacts described here. Selection of indicators will depend both on what indicators appear most relevant for your local dog population and your intervention theory of change, and also on what methods of measurement you can practically perform with the resources available.

We appreciate that this section has described an ideal situation where clear root causes to problems have been established, building a strong foundation for planning an intervention with identifiable impacts and indicators. In many situations, interventions work with a range of assumptions about the impacts they will be able to influence. For example: interventions that include sterilisation of dogs may hope that this reduction in reproduction will improve dog welfare, thoughtfully designed monitoring and evaluation will provide the evidence required to test such assumptions; questions about the source of unowned dogs (is this population self-sustaining or maintained by recruitment from owned dog populations?) can also be explored by monitoring and evaluating how interventions impact on the density and stability of these different populations. Further, some interventions will experience unintended consequences and monitoring and evaluation will need to be conducted with receptiveness to such unplanned effects. In short, although a clear plan for the intervention and how to assess its impacts is ideal, in reality, monitoring and evaluation requires flexibility and an open mind to what we can learn.

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<sup>2</sup> Potential sources for further guidance on developing theories of change and/or logical frameworks include the definition, tools and resources available at [www.theoryofchange.org](http://www.theoryofchange.org), the Open Standards self-paced online tutorials from the Conservation Measures Partnership available at <http://cmp-openstandards.org/> and 'Sharpening the development process' book by INTRAC available from <http://www.intrac.org/resources.php?action=resource&id=345>