

# Animal Shelter, Vaccination and Welfare

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## ABSTRACT

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This analysis shows stray or ownerless, free-roaming animals, and particularly, cats, still be a social group challenge. Additionally, to vital health and welfare issues of the animals themselves, there square measure public health and safety issues with free-roaming animals, and key environmental issues, as well as wild and animate being predation by ferine dogs and cats, and potential attraction of predators, like coyotes, into community and concrete areas by the prepared provide of ferine cats as food. There are not any correct total numbers for ferine, stray, or abandoned dogs and cats, solely a proportion of that enter animal shelters or pounds annually, however informal estimates for ownerless, stray animals square measure way more than that further because the protection of animals has been allotted for hundreds of years and is usually accepted because the most efficient and property methodology of dominant infectious veterinary diseases.

Keywords : Pet, Stray Animals, Shelter, Vaccination, Adoption, Social worker, Food, Dogs, Cats

## I. INTRODUCTION

The best practices in animal sheltering and welfare are constantly evolving—the forgoing review provides only a summary of recommendations at one point in time. Indeed, it was not so long ago that there were no professional organizations for animal care officers or shelter managers and hence, no professional standards for shelter practices and procedures. Historical analyses point to the rise of urban animal control from the 1800s, with

anticruelty statutes becoming common in the 1860s (Brady, 2012; Huss, 2007). Prior to this, conceptions of a “chain of being” focused regulations on “useful” animals such as horses and cattle, and to an extent dogs; cats had no legal status and were viewed as vermin (Brisbin & Hunter, 2016). Early regulations emphasized concerns over rabies, particularly in the summer months, bounties placed on the capture of dogs, conditions at local pounds (or the prison for dogs), and euthanasia practices (Brady, 2012). Indeed, the concerns about rabies were so great that disposal

of unclaimed stray dogs was seen as a public health issue and many shelters or “pounds” (including Detroit Animal Control) were constructed near rivers so that dogs could be killed in drowning tanks. Conflict over the role of animals in the city and the entities responsible for regulating urban animals were evident in the media in the early years of the country with the New York Times arguing that the law, not dogs, was the problem, while Harper’s Bazaar suggested that the dogs taken to the pound were “mere worthless mongrels” (Brady, 2012, p. 14). Media coverage of the social problem of dogs in the city shaped and reflected larger social and intellectual changes in attitudes about the role and value of animals, a growing middle class with Victorian morality regarding the admirable qualities of dogs, a shift in attitudes about patronage to a more public regarding ethos, and the institutionalization of nonprofit or voluntary organizations in the provision of public services (Brady, 2012; Huss, 2007; Wang, 2012). Largely, however, the history of animal welfare and control is one of “ad hoc responses” and little effort to develop systematic legislative or programmatic efforts (Huss, 2007; Zawistowski, Morris, & Salman, 1998). Vaccination is still the only way to prevent death or debilitating disease from a range of viral diseases. Concerns about over vaccination and an increase in the number of CPV cases in adolescent dogs have resulted in close scrutiny of long accepted policies. As a result, current recommendations concentrate efforts on core antigens, extend the vaccination course in puppies and kittens, and emphasise the importance of booster vaccinations at 12 months of age. New data from challenge studies in dogs suggest that core antigen vaccination frequency in adult dogs may be decreased with confidence. Serology may be used to further tailor vaccination protocols for individuals. There is less information on DOI and antibody responses in cats, so recommendations should be reassessed periodically as more information becomes available.

## II. ANIMAL CARE

A daily cleaning routine is included in both the HSUS and ASPCA guidelines with the latter breaking out activities by morning, afternoon, and closing duties (2009). It is recommended that animals should be separated from the cleaning, preferably in a different part of the kennel or, less ideally, moved to a different kennel or cage. Indoor/outdoor access is ideal for both cats and dogs. Toys, litter boxes, bedding and dishes should be disinfected although animals staying in the same enclosure with the same toys may require less frequent disinfection. Animals should never be tethered in lieu of being in a “primary” enclosure. To minimize the transmission of disease the order of cleaning should be: healthy puppies, kittens and nursing mothers, healthy adult animals, sick animals. Fresh water should be available at all times with containers cleaned regularly. Cats should have constant access to dry food; HSUS guidelines ([www.hsi.org/assets/pdfs/eng\\_guidelines\\_operation\\_shelter.pdf](http://www.hsi.org/assets/pdfs/eng_guidelines_operation_shelter.pdf)) also include specific suggestions for diet and feeding schedules using stainless steel bowls to minimize disease and storage in air-tight plastic containers so that food does not spoil or become a target for rodents. The ASPCA standard operating procedures ([www.aspcapro.org/sites/pro/files/generic-sopmanual\\_0\\_0.doc](http://www.aspcapro.org/sites/pro/files/generic-sopmanual_0_0.doc)) include specific recommendations for animal handling safety for cats, dogs, and all animals. These include removing a cat from a kennel, holding the cat, and how to address fear issues. Dog recommendations include removing the dog from the kennel, proper leashing techniques, recognizing and reacting to signs of fear, and how to ensure that dogs do not interact with each other (except during supervised play groups).

## III. VOLUNTEER PRACTICES

Most formal shelter best practice guidelines are noticeably silent on the use of volunteers.

Particularly with staff and resource constraints, volunteers are a critical part of shelter care and success. The ASPCA has developed two webinars on use of volunteers (<http://aspcapro.org/resource/best-ideasattractkeep-and-grow-volunteers>). They include how volunteers can contribute to the mission of the organization via fund raising, sharing the work load, and enhancing awareness in the community. They also make clear that recruiting, training, and supervising volunteers is a challenging activity that requires strong staff support and likely a dedicated staff person, at least on a part time basis. Recommended elements of a volunteer program include an agreement or volunteer contract including a liability waiver; identification of tasks; general and specific training for different tasks; termination and discipline policies; a tracking and record keeping system for volunteer training, activity, and hours; methods for recognition and appreciation; and safety procedures. The HSUS also provides guides for recruiting, managing and training volunteers, including the development of a junior volunteer program ([www.animalsheltering.org/search/site/volunteers](http://www.animalsheltering.org/search/site/volunteers)). One of the most critical parts of the development and implementation of a volunteer program is to define the roles that they will fulfill. The specific mix will depend on the needs of the shelter and staffing levels; ideally staffing would include a dedicated volunteer coordinator. That position could be filled by a volunteer which is, however, less than ideal because of the need for tight connections between shelter staff and the volunteer program. Recommended volunteer roles include: dog walking; dog training; kennel assistance (cleaning, watering, dishes, laundry); cat comforting/interaction (petting, playing with toys); office administration; greeting of public; adoption assistance and counseling; outreach and events support; assistance with managing the volunteer program; transport team; vet clinic assistance; fund raising; animal photography; foster care; community outreach and humane

education; and grounds maintenance (HSUS) ([www.animalsheltering.org/page/bringingvolunteers-board](http://www.animalsheltering.org/page/bringingvolunteers-board)). It should be noted that not all professional associations recommend that volunteers participate in kennel and other cleaning tasks since specific protocols are needed to ensure that animals are protected from disease and thus cleaning is an activity that should be left to staff unless absolutely necessary due to resource constraints. Finally, it is important to assess the experiences of volunteers regularly to allow them to have input to the shelter and also identify any areas where changes to training and use of volunteers are needed or whether the relationships between volunteers and staff need attention; a sample survey of volunteers is available from the SAWA (2017).

#### IV. GENERAL FACTORS OF CONCERN

1. Nutrition – factors that involve the animal's access to sufficient, balanced, varied, and clean food and water.
2. Environment – factors that enable comfort through temperature, substrate, space, air, odor, noise, and predictability.
3. Health – factors that enable good health through the absence of disease, injury, impairment with a good fitness level.
4. Behavior – factors that provide varied, novel, and engaging environmental challenges through sensory inputs, exploration, foraging, bonding, playing, retreating, and others.

#### V. DATA MANAGEMENT

Clearly defined procedures to identify animals and maintain records are necessary. Animal records should include: a unique identifying number, description, microchip number if present, source of animal, dates of entry and departure, outcome, species, age, gender, and medical and behavioral information ideally including notes from the owner if relinquished. Photographs of incoming animals are

particularly important as they help owners find lost pets but also aid in adoption (ASPCA, 2009). All medical care provided should be documented for each animal and the record should allow for the inclusion of notes and the results of behavior testing to identify any issues and assess adoptability. While keeping records is facilitated by the use of computers and software programs designed for use in shelters (such as Chameleon or Pet Point), even shelters lacking computer equipment can maintain complete records of their animals. There are a variety of sources of free inventory management software.

## VI. POPULATION MANAGEMENT

It is strongly recommended that “each holding facility evaluate and determine its capacity and manage the population through safe adoption, transfer, foster or euthanasia in order to maintain a humane, healthy, and safe population” (NACA, 2014, p. 6). While this implies that euthanization may be necessary to avoid operation beyond capacity, alternatives such as transfer programs and foster care are strongly recommended solutions to overcrowding and potential spatial mismatches between supply and demand (such as the high number of puppies in southern shelters and the demand for puppies among potential adopters in the north). Transfer of dogs and cats from shelters to rescue organizations has been shown to increase adoptions and thus reduce euthanizations (Morris & Gies, 2014). When transfer programs are used, guidelines suggest careful isolation and medical assessment processes to avoid the spread of disease (ASV, 2010). Ensuring that transfer partners (particularly those that pull from shelters) are licensed or registered 501 c3s is an important part of the transfer program. When euthanasia cannot be avoided, it should be done via lethal injection of sodium pentobarbital by trained personnel, either a veterinarian or certified euthanasia technician ([www.petfinder.com/pro-forshelters/general-statement-euthanasia/](http://www.petfinder.com/pro-forshelters/general-statement-euthanasia/);

[www.nacenet.org/?page=5](http://www.nacenet.org/?page=5) Euthanasia). Local animal control policies can also have an impact on population management. Best practice guidelines for local animal control ordinances include recommendations that cats as well as dogs be licensed and microchipped to control stray and feral populations. For shelters, Trap Neuter and Return (TNR) programs have also been recommended as a method of controlling or at least managing stray and feral cat populations. Research on cat TNR programs has found that they reduce shelter intake of cats and kittens and hence the potential of their getting euthanized, stabilize and ultimately reduce feral cat populations, lessen behaviors likely to lead to citizen complaints such as spraying and fighting, and protect human health through reduction in rabies (Levy, Isaza, & Scott, 2014; Moldave & Rhodes, 2013; Natoli et al., 2006; Weiss et al., 2015). Spaying/neutering of all animals prior to leaving the shelter is recommended (ASV, 2010). Research in Hawaii has indicated that companion animal overpopulation, and hence intakes at shelters, can be reduced by low cost sterilization and microchipping, and that dog leash laws and cat identification programs can reduce intakes and facilitate adoptions from shelters (McDowell, Burns, & Lepczyk, 2011). The implementation of a robust transfer program would benefit from the leadership of a staff member but could be organized by a volunteer under conditions of scarce resources. TNR programs typically require the purchase (or donation) of appropriate traps but are run and implemented by volunteers at many shelters.

## VII. REVIEW

Corrado et al (2007) in this paper is to present a review of the current scientific viewpoints about the concept and definition of animal welfare. The need of interaction among different disciplines is stressed, as well as the need to scientifically assess welfare, using

valid indicators. The role of applied ethology in animal welfare science is applied. The paper provides an overview of the historical steps in the development of the concept and presents scientific viewpoints, briefly discussing their theoretical foundation. The possibility of defining welfare on a scientific basis is explained, identifying the main problems according to the scientific, cultural and social background. Another aspect considered is the relationship between welfare and ethics, evidencing the meaning of such an interaction and its possible evolution. [1].

### VIII. VACCINATION IN ANIMALS

Vaccinations are an effective method of preventing a wide range of animal diseases. The field of vaccinology has yielded several effective vaccines that have significantly reduced the impact of some important diseases in both companion animals and livestock. Today, the vast majority of licensed veterinary vaccines are in the form of live attenuated, killed/inactivated microorganisms, cell membrane. Several diseases have yet to be successfully treated with an efficient vaccine entails there is a need for better and safer vaccines that can prevent, control or eradicate animal diseases (Dunham, 2002; Redding & Weiner, 2009). Recombinant vaccines represent an attractive strategy by which the limitations of conventional vaccines can be overcome, and a number of rationally designed and sub-unit vaccines have already reached the veterinary market. Efforts to develop more effective vaccines against a large number of diseases using recombinant DNA technology are in progress around the world. Recombinant vaccines are developed based on rationally designed recombinant highly purified antigens through structure-based design, epitopes focusing or genomic-based screening (Correia et al., 2014; Dellagostin et al., 2011). In addition to enhancing understanding of the genes responsible for virulence and facilitating the identification of the

determinants of protective immune responses, these molecular approaches have provided new methods of developing novel vaccines against infectious, parasitic or metabolic diseases. However, the inherent immunogenicity of recombinant antigens is often low in comparison to the more traditional vaccines, and there is a need for potent and safe vaccine adjuvants to ensure that recombinant vaccines can succeed. The low immunogenicity frequently observed in recombinant antigens occurs due to a lack of exogenous immune activating components. Recombinant antigens can be offered in different adjuvants, and the immunomodulatory effects are dependent upon the particular adjuvant used in conjunction with specific antigens.

#### A. Live-attenuated veterinary vaccines

Live attenuated vaccines are created by passage of viruses or bacteria in an unnatural host or cell. After multiple passages of the virus or bacterial strain in various media, the strain is administered to the natural host in the hope that random mutation has delivered a non-virulent and replicative infectious agent (Meeusen et al., 2007).

#### B. Inactivated veterinary vaccines

Inactivated vaccines currently consist of bacterins of one or more bacterial species or serotypes, or killed viral strains formulated most often in an oil or aluminum hydroxide adjuvant (Meeusen et al., 2007). Inactivated vaccines are stable in field conditions and less expensive to produce than live vaccines.

#### C. Toxoids

The vaccines that are currently commercially produced consist of inactivated native toxins (toxoids) combined with conventional adjuvants, which, although efficient, present some production limitations. For example, the amount of toxin produced in vitro is unpredictable, and some of the toxins are potent biological toxins that require

high levels of biosafety (Arimitsu et al., 2004). The use of recombinant vaccines can overcome these limitations, since they can be produced efficiently in large amounts and usually present low reactogenicity and toxicity.

#### D. Vectored Vaccines

The use of antigen/gene delivery systems has facilitated the development of novel prophylactic and therapeutic vaccine candidates. Vector vaccine technology uses a vector to deliver protective protein(s) to the immune system of the vaccinated host. These vectors are usually immunogenic and can display multiple antigens.

#### E. Recombinant subunit

Subunit vaccines contain short, specific proteins of a pathogen that are noninfectious because they lack the ability to replicate in the host. Protective antigens allow recombinant vaccines to be administered as safe, non-replicating vaccines. There is currently a large amount of scientific interest in the identification of immunogenic and protective antigens for animal pathogens.

### IX. REASON BEHIND VACCINATION

VACCINES play a significant role in dominant and preventing infectious diseases in little animals. Vaccination is a longtime idea for preventive health care and a vital supply of financial gain for many veterinary practices. though most veterinary surgeons administer vaccines daily, it's become such a routine a part of the operating day that few stop to contemplate the science behind this side of medical specialty. within the late Nineteen Nineties, potential aspect effects of vaccination were highlighted by each the medical and veterinary communities, and ideal vaccination protocols are heatedly debated ever since. this text outlines the present recommendations for vaccination in dogs and cats, explains the principle behind them and discusses a number of the

newer developments during this field. Pets are typically brought certain vaccination by house owners WHO suppose that:

- it'll stop death from 'horrible diseases';
- it'll stop illness;
- it's a demand for travel (eg, rabies) or kenneling (eg, Bordetella species);
- it's the done issue – that's, merely that one 'should'. The fact that some vaccines cannot stop infection and aim to ameliorate signs (eg, feline calicivirus [FCV]) is usually forgotten, as are the explanations for rules.

### IX. VACCINE EFFICIENCY RATE

Vaccine efficiency is not only determined by the product, but also by how it is handled. Modified live vaccines contain live organisms that need to multiply; therefore, allowing them to warm up for long periods or come into contact with alcohol may kill virus and so markedly decrease their ability to trigger protective immunity. An individual pet's response is determined by its genetic make-up (Greene and Schultz 2006, Kennedy and others 2007) as well as concurrent conditions, and rottweilers, dobermanns, German shepherd dogs and American Staffordshire bull terriers are said to respond poorly to vaccination when compared with other breeds (Greene and Schultz 2006). In addition, ill dogs may mount a suboptimal immune response. Studies have shown that the addition of antioxidants to the diet can increase mean antibody titres following vaccination. Conversely, it is likely that malnutrition will dampen the immune response although it is not clear whether these effects are clinically relevant. It has been shown that worm infections decrease antibody synthesis in response to vaccination in humans and it is likely that this occurs in dogs too. The amount of virus in the environment as well as its relationship with the vaccine strain will also affect how much



antibody is needed to protect an individual from showing clinical signs.



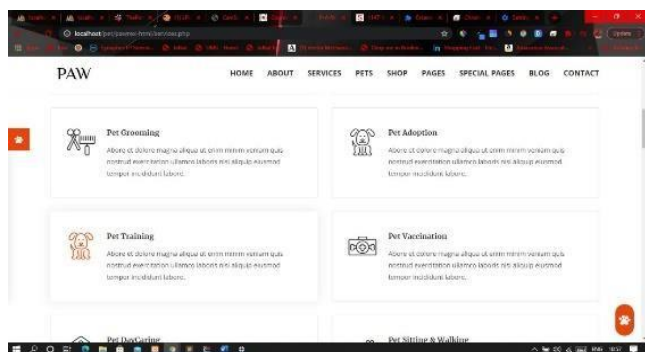
Fig. 1. Factors affecting vaccine efficiency

## X. IMPLEMENTATION

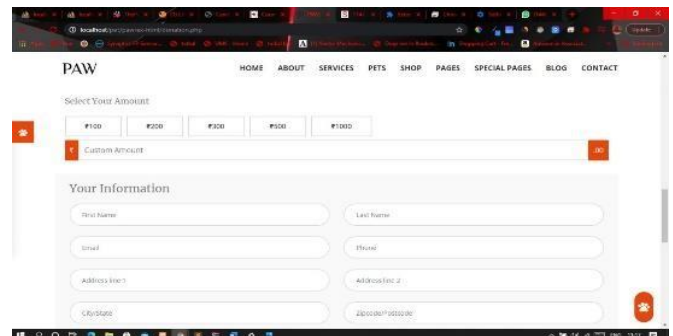
The website is designed in order to provide the support for abandoned and unclaimed animals and help in reaching to different professionals and veterinary doctors for regular assistance.



The website connects the user to different array of services for pet grooming, adoption, training and vaccination. The website also gives an idea about different types of vaccines required for different breed of animals.



A user can signup or login in the website to get all kinds of services for their pets. It also joins the different volunteers who want to look after the stray animals



## XI. CONCLUSION

The Animal Shelter and Vaccination is a boon in future animal care, research and growth. In its simplest form, animal welfare refers to the relationships people have with animals and the duty they have to assure that the animals under their care are treated humanely and responsibly. Maintaining high standards of animal welfare should be an integral part of a human's life and safety and vaccination programs should be at par with the growing population. The volunteers play a vital role in the care of these animals whereas the rising sensitivity among people leads to more adaption. The vaccination is a crucial step towards the growth and sustainability of animal's population, especially pets. To identify immunogen candidates in genomic sequences, a revolutionary approach was established that stems from the belief that antibodies square measure additional promptly ready to access surface and secreted than living substance proteins; intrinsically, they represent ideal immunogen candidates. The approach, which is referred to as reverse vaccinology, uses many bioinformatics algorithms to predict substance localization and it's been with success applied to immunize against several veterinary diseases. This review examines a number of the most topics that have emerged within

the veterinary immunogen field with the employment of recent biotechnology techniques.

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