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Introduction to Working in the Field

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1.1 Overview

Veterinary outreach and field medicine projects are expanding across international boundaries at a rapid pace. Projects span from small, local initiatives to robust country-wide programs operated by international animal welfare charities. Both small- and large-scale disaster relief efforts involving animals are also becoming increasingly common. Although the majority of larger animal welfare organizations have operating manuals, guidance documents, and participant guidelines to follow, smaller groups often have few to no protocols or resources to use, other than a passion to help make a difference for the animals in a community. A Field Manual for Small Animal Medicine was born out of the editors’ passion for providing a resource for those working in this exciting and challenging field.

This manual is intended to assist veterinarians, veterinary technicians, veterinary students, and those involved in animal welfare projects with improving the health and welfare of animals in remote, rural, and international contexts. The contributing authors recognize the challenges faced when executing field surgical clinics, disaster response, and treatment of free-roaming dogs and cats in the face of limited resources. Like many other textbooks, some gold-standard recommendations are provided; however, this manual strives to also provide practical and cost-effective recommendations where the ideal solution may not be available. Readers will encounter highlighted tips and tricks that suggest innovative ways to best allocate resources to provide the best animal care possible.

Practicing veterinary medicine in limited-resourced environments requires a multitude of skills and training in a variety of subjects ranging from soft tissue surgery to emergency medicine. The topics chosen for inclusion in this manual were those deemed most critical for small animal practitioners, spay/neuter surgeons, shelter administrators and program managers. On an individual animal level, treatment protocols for commonly observed canine and feline diseases, euthanasia considerations, emergency medicine, and diagnostic techniques are discussed. As fieldwork often consists of high-volume spay/neuter activities, information pertaining to humane handling and capture techniques for free-roaming animals, surgical asepsis, high-volume surgical techniques, and cost-effective anesthetic and pain management is included.

On a programmatic level, the editors also felt that it was necessary to include material on dog population management, methods of measuring programmatic success, and community engagement. Those working in limited-resourced shelters might find information on sanitation, wellness and preventive care, and emergency sheltering useful to their operations.

Although much has been published on these topics in the past decade in various journals, textbooks, and organizational manuals, the information remains scattered. The editors attempted to centralize such
information in a readily accessible format. Although the majority of material included is derived from peer-reviewed sources, readers should be aware that some recommendations may be anecdotal and based on practical experience, particularly when published literature is lacking. Easy-to-read tables, charts, tips, and practical advice are included that can be quickly referenced in a field environment.

A total of 32 authors from around the world with extensive in-the-field experience contributed to the manual under the editorial guidance of Drs. Katherine Polak and Tess Kommedal. It is the editors’ hope that it will ultimately improve the lives of animals worldwide by serving as a resource for practicing medicine in the face of limited resources. Readers should be compelled to not only take up the challenge of working in the field but also contribute to advancing and improving traditional medical and surgical standards and practices. It is likely that field veterinary medicine will continue to evolve into its own veterinary specialty one day.

1.2 Scope of This Manual

Although the editors appreciate that practical resources are needed for all animals, the focus of this manual is on dogs and cats. Large animals, pocket pets, and exotic animals are outside of the scope of this text. Readers may note a bias toward dogs in several of the chapters pertaining to humane animal capture and population management. In the editors’ experience, most international projects tend to focus on dogs more so than cats due to the public health threat of rabies attributable to free-roaming dog populations.

1.3 What Constitutes “in the Field”?  

Poverty and geographic isolation often make routine veterinary care inaccessible or unavailable due to a lack of resources; limitations may include medications, surgical supplies, staffing, local infrastructure, and even expertise. The expansion of veterinary medicine into rural and international settings has given rise to complex dilemmas on how to provide adequate medical care with minimal resource investment. Veterinarians may find themselves deciding how to best utilize limited resources to improve the health and welfare of as many animals as possible. When faced with such limitations, staff must be creative and adaptive.

For the purpose of this book, the term “in the field” will refer to any under-resourced environment that challenges the ability of workers to meet the standards of care that would otherwise be achieved in a traditional clinical or shelter setting. As veterinary professionals are increasingly involved in a variety of such settings, this manual is widely applicable to different environments including service-learning international projects, rabies control programs, spay/neuter clinics in low-income communities, rural and remote areas with limited veterinary resources, and disaster and emergency settings.

1.4 Who Is This Manual Written for?

Field-based projects tend to attract and recruit staff with a variety of skill sets and professional backgrounds. Therefore, although veterinarians and veterinary technicians are the primary intended audience, this manual is useful to a variety of readers:

- Veterinarians
- Veterinary students
- Veterinary technicians
- Emergency responders
- Animal care staff
- Animal welfare program directors
- Lay persons/volunteers participating in veterinary service projects

1.5 Benefits, Opportunities, and Challenges of Working in the Field

The opportunity to make an immediate and meaningful difference in the lives of animals in need is what draws most people to field medicine. Animals living in underserved communities often suffer from a lack of preventive health care, treatment, and spay/neuter services. For some, the motivating factor is the degree of animal suffering in some communities. For others, motivation may not stem from first-hand experience but rather indirectly, through exposure to the increasing media attention
of international companion animal welfare issues. Most recently, these have included the inhumane culling of dogs following a rabies outbreak in Penang, Malaysia, annual Yulin Dog Meat Festival in China, and the systematic slaughter of dogs in Sochi, Russia, before the 2014 Winter Olympic Games, to name a few [1–3].

International and rural veterinary outreach programs help bring medical services to animals that would otherwise likely never receive it. Such programs may focus on providing care to the individual animal, or work on a population-level through mass spay/neuter and vaccination activities. Fieldwork can undoubtedly also have direct effects on human health. One Health initiatives are becoming more widely advocated for by the public health and medical communities to control zoonotic diseases and promote both human and animal health. Canine rabies is a perfect example of a disease in which One Health initiatives have been successful in eradication efforts. Around the world, mass dog vaccination programs underpin the success of rabies eradication programs. In light of the fact that up to 99% of human rabies cases worldwide are the result of dog bites, in theory rabies should be an easily preventable disease through vaccination programs and education [4]. Unfortunately, as the World Health Organizations (WHO) explains, the cost of rabies post-exposure prophylaxis can be catastrophically expensive for those living in developing nations, costing approximately $40 in Africa and $49 in Asia per person [5]. There are therefore few opportunities in veterinary medicine that have a greater impact on both animal welfare and public health.

Many field-based programs focus on the spaying and neutering of free-roaming animals in an effort to reduce overpopulation. When the number of free-roaming animals is larger than a community can care for, animals frequently suffer from infectious disease, malnutrition, vehicular trauma, and inhumane culling. Although many factors contribute to animal welfare in a community, evidence suggests that targeted and sustainable spay/neuter programs are one of the more effective and humane methods for managing free-roaming dog and cat populations. In addition to improving the health of the individual animal, spay/neuter programs can also promote responsible pet ownership and community acceptance of sterilized and vaccinated free-roaming animals. As a result, the number of spay/neuter-based programs is increasing and such programs are receiving increasing attention within the veterinary community. Spay/neuter clinics are often fast-paced, challenging, and bring together diverse groups of people from around the world.

In addition to helping animals in need, those working in the field enjoy the change of pace of working in an environment other than their daily clinical practice. Scrubbing in to perform a castration under a tent in Latin America may appeal to the small animal practitioner in Kansas. Many veterinarians will use their vacation time to donate their spay/neuter services. Veterinary students may participate in service-based projects during their holiday breaks. Others may determine that such work fulfills their personal and professional goals and dedicate their careers to such pursuits.

Working in non-traditional field settings also allows veterinarians the opportunity to manage a diverse and robust caseload of medical conditions not commonly seen in private practice. Transmissible venereal tumors, canine brucellosis, canine distemper virus, and tick-borne disease are just a few conditions commonly seen in free-roaming dogs in many under-served communities.

Although field medicine offers many exciting opportunities, it also has its fair share of challenges and disadvantages. Field clinics often have limited diagnostic and therapeutic modalities and are frequently understaffed. Due to their temporary nature, such clinics rarely have a traditional clinic building to work out of; many must make do with a tent or municipal building. Staff must get creative in their approach to maximize limited resources to provide care for as many animals as possible. This requires both a special professional and personal skill set. Field clinics can be mentally as well as physically challenging. The work is hard and the hours are often long. Clinic staff must be able to work well together, quickly adjust to change, and exercise sound judgment. Clinics may be in remote areas with limited basic amenities such as running water and electricity. Potential participants of field projects should ask themselves if they could live for prolonged periods without the comfort of a fan or air-conditioning, eat an unfamiliar diet, and tolerate extreme weather and insects.

Fieldwork can also be emotionally tolling, particularly during disaster relief. The severity of animal suffering can be great, and it is not uncommon for
responders to have strong emotional reactions. Even in non-emergency situations, dogs and cats in rural and international environments frequently lack basic veterinary services leading to malnutrition and untreated chronic conditions. When working in a field environment, animals commonly present as victims of poisoning, vehicular trauma, abuse, and neglect or starvation. Responders may also be confronted with animal hoarding, which frequently results in neglect, illness and death.

There is also an increased public health risk for those involved in field projects as dogs and cats can serve as competent vectors of zoonotic diseases. Depending on the location, many animals in field environments will be unvaccinated and have a high parasite burden. Rabies is an important consideration as well when working in the field, and all staff in contact with animals should be up-to-date on their rabies vaccinations. Traditional methods of handling animals are also often more challenging than in private practice settings. Patients are often fractious and difficult to handle due to limited socialization or prior mistreatment by humans. Furthermore, many veterinarians in local communities have little experience with handling free-roaming dogs. All staff should receive adequate training and wear appropriate personal protective equipment. Safe and humane handling and capture techniques as described in this book are crucial for ensuring animal and human safety.

Finally, a major drawback of this type of work is that it typically pays significantly less than a traditional veterinary position in a clinic. Most people working in the field full-time work for non-profit organizations. These organizations historically offer lower salaries than jobs in the private, corporate, or government sector. Therefore, one must consider a lower pay grade than what would be considered normal back in their home country when deciding whether or not to get involved. Even U.S.-registered, non-profit organizations often compensate international staff using local salary scales in the project country.

### 1.6 A Closer Look at the Book’s Content

Although veterinary professionals perform a wide range of activities from medical treatment to surgery, the editors attempted to limit the scope of the book to topics most relevant to field-based work. Therefore, only the most practical of information was included to manage the challenges met in the field. A compilation of forms, checklists, and other helpful material that can be used and adapted by the reader are included as appendices.

#### 1.6.1 Stray Dog Population Management

Free-roaming dogs may suffer from a wide range of welfare issues including disease, injury, malnutrition, and abusive treatment. Misguided attempts to control free-roaming animal populations often involve cruel methods of handling, inhumane methods of killing, and poor animal shelter management. Although most field service projects focus on providing spay/neuter services to reduce the population size over time, there is no single intervention that will work for all situations. The most effective strategies are multifactorial involving public education, legislative initiatives, waste management, and spay/neuter services. This chapter provides case studies to reflect on what we are learning about global dog populations and opportunities for humane dog management programs.

#### 1.6.2 Community Engagement

Community engagement is crucial for ensuring long-term sustainable solutions for animal welfare issues. Dog and cat welfare issues are complex and intertwined with community beliefs and practices. This chapter discusses methods of engagement and empowerment of community members and provides case studies of effective community engagement.

#### 1.6.3 Humane Canine Handling, Capture, and Transportation

The capture, handling, and transportation of free-roaming dogs is typically required for providing medical and surgical services in the field. The World Organization for Animal Health mandates that handling, capture, and transport be conducted humanely and safely [6]. This chapter discusses effective capture techniques and transportation considerations. It also includes descriptions of how to use catching equipment and photographs for quick reference.
1.6.4 Operating a Spay/Neuter Clinic

Spay/neuter programs have received increased attention over the last decade in the effort to improve animal welfare by curbing the overpopulation of free-roaming cats and dogs. This chapter provides guidance on all aspects of running a spay/neuter clinic in the field from clinic setup to patient discharge. It outlines the basic standard of care that should be upheld in any field clinic, with special attention to animal identification techniques, record keeping, and clinic animal flow-through. It provides practical tips on how to increase clinic efficiency and effectiveness on a limited budget.

1.6.5 General Anesthesia and Analgesia

The field environment presents unique challenges when implementing safe and balanced anesthetic protocols. Animals typically present with unknown medical histories, drug availability and staffing may be limited, patients may be fractious, and field clinics often involve large numbers of animals requiring anesthesia. No matter the setting, however, a balanced anesthetic and analgesic protocol is a must. This chapter discusses effective and economical anesthetic and pain management protocols that have proved successful in the field.

1.6.6 Regional Anesthesia and Local Blocks

Local anesthesia can be used to reduce pain and distress during and after a surgical procedure. Techniques involving local and regional anesthesia are used quite extensively in large animals for a variety of minor and major surgical procedures, but much less so in small animal medicine. For many of our small animal patients, a combination of general and local anesthesia techniques will provide the optimal level of anesthesia during the procedure as well as improve postoperative analgesia. In this chapter, easy-to-use local and regional anesthesia techniques are described.

1.6.7 Non-surgical Fertility Control

Over the last decade, there has been tremendous growth in the field of non-surgical fertility control as an alternative to traditional spay/neuter surgical procedures. Many communities lack the resources necessary to provide surgical spay/neuter services, while some may resist surgical spay/neuter practices due to cultural aversion. Non-surgical fertility control methods have the potential of being easier, faster, and less expensive than surgery. This chapter provides an overview of non-surgical techniques and case studies of how they are being used in free-roaming dog population management programs around the world.

1.6.8 Surgical Techniques: Spay/Neuter

Although there are many surgical techniques for performing spay/neuter procedures described in the literature, this chapter shares tried and tested techniques used by the authors. The information presented is not designed to be an all-inclusive surgery course, and it is expected that veterinarians will already have basic knowledge of surgical anatomy and technique. This chapter provides recommendations regarding instrument and suture selection, surgical knots, and time-saving techniques. Special attention is devoted to the flank approach for ovariohysterectomies. Common surgical mistakes and ways to avoid them are also discussed.

1.6.9 Surgical Techniques: Ancillary Procedures

Veterinarians working in the field are frequently confronted with free-roaming dogs and cats requiring amputations and enucleations due to trauma. This chapter is designed to provide practitioners with easy-to-follow descriptions of forelimb, hindlimb, and digit amputations, as well as enucleations.

1.6.10 Sanitation and Surgical Asepsis

Infectious disease control is challenging in most hospital settings and even more so in field clinics. Many of the patients served are unvaccinated, arrive in poor health, may be malnourished, and are highly stressed. Some will be shedding harmful pathogens, with or without any clinical signs of disease. This necessitates a plan to guard against infections and disease spread. Aseptic technique, sterile surgical instruments, and prevention of postoperative infections also need to be addressed. This chapter discusses commonly used disinfectants, how to set up a practical sanitation protocol for a facility, animal handling equipment, and surgical instruments.
1.6.11 Treatment Protocols

Many charitable organizations attempt to provide medical care to free-roaming dogs and cats, often with limited medical knowledge and resources. Free-roaming animals can serve as competent reservoir hosts of several zoonotic pathogens and a multitude of infectious diseases due to a lack of preventive veterinary care. Gastrointestinal parasites, dermatopathies, ectoparasites, tick-borne diseases, heartworm disease, and transmissible venereal disease (TVT) are some of the more commonly observed conditions in field patients. Effective treatment protocols for field patients must take into account the need for a condensed treatment timeline, ease of drug administration, and cost. Such protocols are especially important when rescue groups engage in international adoptions. This chapter provides practical treatment protocols and strategies for managing commonly observed diseases in free-roaming animals, while recognizing that the gold-standard treatment is often unavailable.

1.6.12 Diagnostic Techniques

Diagnostic testing is often underutilized in the field because of limited availability and expense. This chapter is divided into three sections, each chosen due to their clinical application in the field: point-of-care testing, microscopy, and neurological examination.

1.6.12.1 Point-of-care Testing

Point-of-care tests are designed to diagnose diseases or patient immunity “bench-side” or “patient-side” with a limited investment of resources. This allows the user to save both money, time, and animal lives by rapidly identifying an infectious disease or medical condition. The focus of this section is on inexpensive and practical methods for diagnosing commonly seen diseases such as canine parvovirus and fecal parasites.

1.6.12.2 Microscopy

With the assistance of a microscope, those working in the field with limited resources can practice high-quality medicine by making the best use of diagnostic specimens. This chapter outlines practical techniques for diagnostic testing in the field, focusing on the analysis of cytological samples to derive accurate diagnostic and prognostic information. Practical interpretation of skin cytology, ear cytology, blood smears, dry-mount fecal cytology, and vaginal cytology will be described to diagnose various pathological processes in dogs and cats.

1.6.12.3 Neurological Examination

In the field, veterinarians tend to struggle with performing a good neurological examination, and interpreting its findings. As it is a part of the overall patient examination, it is the most portable and cost-effective diagnostic techniques we have – one that can be performed almost anywhere. A neurological examination should not be considered a “specialist procedure” but rather one that can be performed by any veterinarian as described in this section.

1.6.13 Emergency Medicine

Managing emergency situations in the field will tax a clinician’s knowledge, experience, and judgment. Although most field clinics are designed to provide spay/neuter services, it is very likely that emergency cases will also be seen. This chapter provides an overview on how to evaluate, resuscitate, and stabilize the critical patient, as well as instructions on how to perform various lifesaving procedures including thoracocentesis, CPR, and blood transfusions.

1.6.14 Wellness and Preventive Care

The prevention of animal physical and emotional disease is an efficient, cost-effective, and humane approach to animal care. Wellness and preventive care should be integrated into all field spay/neuter clinics, rabies control programs, and animal shelters. For many animals, the treatment provided during field clinics may be the only veterinary care they ever receive. In this chapter, proper husbandry, vaccination, parasite prevention, nutrition, and elective sterilization are discussed.

1.6.15 Prevention Considerations for Common Zoonotic Diseases

A range of pathogens including viruses, bacteria, fungi, and parasites can cause zoonotic diseases. Around 60% of all human infections and 75% of all emerging infectious diseases are reported to be zoonoses [7]. For personnel handling and treating dogs and cats with unknown vaccination histories and
health statuses, the risk of contracting a zoonotic disease is increased. Therefore, it is important to know how to recognize suspect animals and how to be prepared and protected should the suspicion arise. This chapter discusses some of the more common and potentially dangerous zoonotic diseases that should be considered when working in the field, with an emphasis on prevention.

1.6.16 Euthanasia

When working in the field, every practitioner will be faced at some point with making the difficult decision of how to handle suffering animals. When suffering cannot be appropriately addressed or when an animal presents a significant risk to human health or the safety of other animals, ending the life in a humane manner may be required. This chapter discusses euthanasia considerations in the field, provides an algorithm for guiding euthanasia decisions, and discusses recommended and unacceptable euthanasia methods.

1.6.17 Emergency Sheltering

Responding to large-scale cruelty cases or natural disasters often requires the sheltering of hundreds of animals with little to no notice. The many components of a temporary animal shelter are discussed including design, setup, staffing, daily operations, and demobilization. Photographs and a schematic of a temporary shelter are included.

1.6.18 Program Monitoring and Evaluation

Programmatic monitoring requires systematic and routine data collection. This chapter provides valid, practical, and reliable ways of assessing the impact of population management interventions both on the population and individual animal. Evaluation then uses the data collected through monitoring to answer the fundamental question, “Is this program making a difference?” The use of cost-effective measurable indicators is discussed to improve program planning and performance.

1.6.19 Formulary

An alphabetical formulary is included for quick-reference. A brief description of commonly used drugs, dosages, side effects, and considerations important for the clinician are included. The information included here is compiled from both the clinical experience of the editors, authors, and other textbooks as referenced in the chapter. Handy reference charts and compounding recipes are included.

1.7 Veterinary Oath

International veterinary oaths vary by geographic region and country. Depending on where a veterinarian graduates, many take an oath to practice veterinary medicine ethically and conscientiously for the benefit of both animals and humans. Furthermore, veterinarians swear to maintain professional standards, promote animal and public health, and relieve animal suffering. In 2010, the American Veterinary Medical Association revised the Veterinarian’s Oath to emphasize the importance of animal welfare [8]. Veterinarians have a responsibility to not only protect animal health but also welfare; to not only relieve animal suffering but also prevent it.

The veterinary oath should be central to everything we do as medical professionals, guiding our decisions, and ensuring that we act in the best interests of our patients at all times. Yet many countries do not have an oath or other professional affirmation of their role in the community. In some countries with an oath, most fail to recognize the concept of animal welfare, focusing purely on the importance of relieving suffering. In 2014, the World Small Animal Veterinary Association’s (WSAVA) animal welfare and wellness committee developed an international oath to highlight the importance of animal welfare and that is relevant to all veterinary practitioners:

“As a global veterinarian, I will use my knowledge and skills for the benefit of our society through the protection of animal welfare and health, the prevention and relief of animal suffering, and the promotion of One Health.¹

I will practice my profession with dignity in a

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¹ One Health is a worldwide approach to obtain optimum human, animal, and environmental health through interdisciplinary collaboration and communication between physicians, veterinarians, and other scientific-health-related personnel.
correct and ethical manner, which includes lifelong learning to improve my professional competence” [9].

At a minimum, veterinarians must “do no harm.” The best interest of the individual patient should be the first consideration in any decision on care. The health of animals, people, and the environment are inextricably connected.

In the field, dogs and cats are more likely to be free-roaming and semi-owned by multiple members of a community rather than owned by a single person. While ownership patterns may vary from that in more traditional settings, we should always strive to provide the highest level of individual animal care possible, just as if the animal was a pet living in a home.

1.8 Minimally Acceptable Standards of Care

Before engaging in any veterinary activity, one must have an understanding of ideal or “gold-standard” practices as well as minimum requirements. This applies to everything from equipment, facilities, staffing, medication selection, and surgical procedures. Although we can often find alternative and compromised methods to continue working in challenging situations, it is essential to know what the minimum requirements are. This will help those involved to recognize when to stop, preventing unacceptable situations for the animals and people involved.

Any attempts to provide medical care or perform surgical operations in remote areas require special attention to minimally acceptable standards to safely operate. If a program cannot maintain minimal requirements for each patient, we must re-evaluate the approach.

This manual is not meant to define the exact minimum standards of care but rather provide resources for achieving better standards of care. There are currently no universally accepted, international standards of veterinary care, but we have several guiding documents that can be applied. These include the Association of Shelter Veterinarians Veterinary Medical Care Guidelines for Spay–Neuter Programs [10] and International Spay–Neuter Clinic Guidelines published by the Humane Society Veterinary Medical Association–Rural Area Veterinary Services [11]. This manual provides guidelines based on published evidence and expert opinion that can be adapted to varying circumstances. Throughout the text, practices deemed unacceptable by guidance documents are also noted.

1.9 Ways to Get Involved

Opportunities abound for veterinarians, veterinary technicians, students, and animal welfare enthusiasts to work in the field, effectively combining travel and veterinary service projects. For veterinary students, many veterinary colleges offer structured international externships. Several colleges such as the Ohio State University have formal institutional arrangements with foreign veterinary colleges to facilitate student externships. Student certificate programs in International Veterinary Medicine are offered by a handful of colleges, such as the University of Georgia, in an effort to familiarize students with issues and opportunities in this field. Most students, however, can find opportunities through their college’s student chapter of the International Veterinary Student Association (IVSA).

For veterinarians, there are short- and long-term volunteer projects, as well as paid permanent positions. Unfortunately, there is no single centralized database for advertising international work and most projects are posted on various organizational websites. The American Veterinary Medical Association (AVMA) website offers some information on jobs, externships, and exchange opportunities at www.avma.org.

Although most involved in fieldwork tend to participate in short-term or temporary projects involving spay/neuter activities, some may decide that fieldwork is better suited to their career aspirations and choose to pursue such work on a full-time basis. For those interested in permanent work, there are positions available ranging in degree of responsibility, expertise, and job duty. Some prefer hands-on clinical work abroad or in low-income environments locally, whereas others may choose to impact the strategic direction of a nongovernmental organization at a managerial level. International positions for veterinarians, however, may be difficult to find as the U.S. lags behind other countries in the advertising of such opportunities.
Potential applicants of both volunteer and paid positions should be warned of the frequent requirement for prior international experience. This can be frustrating particularly for new graduates eager to gain experience. The reason for this requirement is usually to weed out applicants that may not adapt well to the challenges of working in the field.

For those who are not able to provide on-the-ground support, organizations are frequently in need of donations. Money, medical supplies, and expertise are always appreciated and can go a long way in limited-resourced environments. Project V.E. T.S., based out of Boulder, Colorado, accepts donated veterinary equipment and supplies and redistributes them to charities in need around the world.

1.10 Choosing a Project to Work with

Many get involved in fieldwork following a search of programs recruiting volunteers. Programs can vary from small, local initiatives to large-scale spay/neuter and rabies vaccination campaigns. Unfortunately, the quality of programs can vary dramatically and potential participants should research programs before committing. In the editors’ opinion, the most effective programs collaborate with multiple local stakeholders including animal welfare groups, municipal agencies, non-governmental organizations, public health officials, and local veterinarians, rather than operate in a community independently. As dog and cat ecology is inextricably linked with human behavior, programs should not only focus on animals but also involve the public to have a long-lasting, positive impact on communities. Therefore, an integrated, comprehensive approach is ideal, rather than one focusing solely on the spaying and neutering of dogs and cats.

Successful programs should leave communities better equipped at dealing with their own animal populations than before. This can be achieved through collaboration with local veterinary schools, inviting local veterinarians to participate and train at the clinic site, and collaborating with local government. Such engagement helps enable communities to manage their own free-roaming animal population independently rather than relying on foreign intervention.

Participants should therefore be wary of programs focused solely on spaying and neutering animals with little engagement of the local community. Members of the local community are not only needed for long-term change but also for helping address practical, logistical issues during the clinic.

Word of mouth is often the most effective way to determine program quality. Program websites may provide a useful overview of the organizational mission and activities. Photos posted on program websites or social media can be good indicators of surgical quality and aseptic technique. Participants can also request clinic protocols ahead of time for review. Programs that are unable to provide protocols should likely be avoided. Table 1.1 lists reputable organizations that routinely invite volunteer veterinarians and technicians to participate in their international programs.

1.11 Cultural Considerations

There is growing recognition in the veterinary profession for improved cultural competency. Unfamiliar languages, cultural norms, and religions can challenge even the most seasoned of veterinarians. Working in the field typically involves rural and international settings that span across national, ethnic, and religious divides. Effective communication skills and cross-cultural sensitivity are essential for working in the field.

The most cited definition of cultural competency is, “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations” [12]. In a nutshell, cultural competency involves understanding the culture and beliefs of the clients in the community that will be served. Developing cultural competency does not happen overnight and requires experience, exposure, and education. For those interested in learning more, Georgetown University offers the National Center for Culture Competency and the U.S. Department of Human Health Services’ Office of Minority Health offers an online course in Cultural Competency Curriculum for Disaster Preparedness and Crisis Response [13].

It is imperative that those partaking in fieldwork be aware of cultural and religious differences, particularly as they pertain to animals. The human-animal bond and role cats and dogs play in the community can vary dramatically between cultures. Although in
most developed countries cats and dogs are viewed as pets and family members, in many countries these animals serve a very different purpose including guarding property, a status symbol for upper-income families, or even as food. According to some religions, dogs are ritually viewed as unclean and are often subject to culling.

In most developing countries, patterns of dog and cat ownership vary dramatically as well. Rather than having individual owners, most dogs and cats are allowed to roam outside of the house and are semi-owned by neighborhoods or groups of people. This collaborative ownership can lead to lapses in care when no one person takes sole responsibility for the animal. This perceived lack of responsible pet ownership and human–animal bond is often met with suspicion from veterinarians accustomed to working in traditional private practices where cats and dogs are cherished companions. It is therefore important that all project participants are briefed on the role dogs and cats play in the community where they will be working.

Cultural differences may also exist regarding permissible veterinary practices. Euthanasia in some cultures is denounced, and procedures including limb amputations, ear notching, and the termination

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Table 1.1 Organizations routinely accepting volunteers for field companion animal projects.

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<tr>
<th>Organization</th>
<th>Description</th>
<th>Website</th>
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<tr>
<td>Mission Rabies</td>
<td>Mission Rabies aims to eliminate rabies from the world by 2030 through the mass vaccination of dogs in rabies-endemic countries. Their primary working area is India.</td>
<td><a href="http://www.missionrabies.com">www.missionrabies.com</a></td>
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<tr>
<td>Animal Balance</td>
<td>Animal Balance works on island nations around the world to gradually reduce the population of community dogs and cats through mass sterilization.</td>
<td><a href="http://www.animalbalance.net">www.animalbalance.net</a></td>
</tr>
<tr>
<td>Worldwide Veterinary Service (WVS)</td>
<td>WVS veterinary teams work all over the world, providing a lifesaving resource to animal welfare charities and non-profit organizations. WVS also provides emergency response services and runs a veterinary training center in India.</td>
<td><a href="http://www.wvs.org.uk">www.wvs.org.uk</a></td>
</tr>
<tr>
<td>World Vets</td>
<td>World Vets develops, implements, and manages international veterinary and disaster relief programs. World Vets operates a veterinary field services program, disaster response program, training programs, civil–military humanitarian aid, and a veterinary supply donation program.</td>
<td><a href="http://www.worldvets.org">www.worldvets.org</a></td>
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<tr>
<td>International Veterinarians Dedicated to Animal Health (VIDAS)</td>
<td>VIDAS is a non-profit organization working in Mexico to combat dog and cat overpopulation through sterilization.</td>
<td><a href="http://www.vidas.org">www.vidas.org</a></td>
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<tr>
<td>The Humane Society Veterinary Medical Association Rural Area Veterinary Services (HSVMA-RAVS)</td>
<td>HSVMA-RAVS combines high-quality, direct care veterinary field clinics with clinical training for future veterinary professionals to improve the health of animals in remote rural communities. With a service-learning approach, veterinary students work directly with experienced professional mentors to provide care to animals in need.</td>
<td><a href="http://www.hsvama.org">www.hsvama.org</a></td>
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<td>The Esther Honey Foundation (EHF)</td>
<td>EHF established and continues to support the only veterinary clinic for the Cook Islands’ thousands of companion animals. Volunteer veterinarians and technicians have traveled to the South Pacific islands to treat more than 3000 patients annually.</td>
<td><a href="http://www.estherhoney.org">www.estherhoney.org</a></td>
</tr>
</tbody>
</table>
of pregnancy may be culturally inappropriate depending on the working area. Performing such procedures without appropriate consent may lead to animal abandonment or abuse.

**Textbox 1.1 Euthanasia in Thailand**

Most veterinarians generally accept euthanasia as a way to compassionately end an animal’s life when the suffering is so great that it cannot be relieved or managed appropriately. Not all cultures share this view, however. In predominantly Buddhist countries such as Thailand, most veterinarians are compelled to allow death to take its natural course, rather than hasten it through euthanasia. Traditional Buddhist beliefs imply that dying with full awareness of the process contributes to spiritual progress in future lives. When euthanasia is not an option, veterinarians should be prepared to implement pain management protocols to alleviate animal suffering to the best of his or her abilities, if confronted with such a situation.

1.12 Stay Positive

At the end of the day, even the most excellent technical skills will be wasted if a person is perceived as rude, condescending, or disrespectful. A positive attitude is perhaps the most important determining factor for success when working in the field. As discussed earlier, fieldwork often requires working within cultures foreign to the participant. This requires open and adaptive attitudes toward change and new environments.

At a minimum, volunteer veterinarians and staff must show respect for the people in the community in which they are working. They should remember that they are guests and behave accordingly. Also, as fieldwork is rarely performed individually, participants should have a “team-player” attitude and communicate effectively with others.

1.13 Before you Go

When it comes to having a successful trip, good travel is the result of good planning. Included is a checklist that can be used to prepare for a safe and effective trip. Although much of this information is designed for those traveling internationally, several suggestions are applicable to domestic travel as well.

Textbox 1.3 includes a packing list written by veterinarians and veterinary technicians experienced in packing for field service projects. Of course no two travelers are the same and every destination has unique packing needs; this list is designed to be a starting point when considering what to pack for a trip.

In general, it is recommended that belongings be packed in a traveler’s backpack rather than a suitcase, as smaller flights may have stricter baggage restrictions than others. The suggested packing list is designed for a 2-week trip and travelers should customize it to their needs.

**Disclaimer**

Throughout the manual, authors attempted to cover a wide range of topics by assimilating materials from a variety of sources to provide readers with a practical and robust resource. Although the editors believe the material to be up-to-date and accurate, veterinary medicine is constantly evolving and clinicians should determine and verify all treatments and surgical procedures before performing them.

The material presented here is not intended to be a substitute for formal training and education. Veterinarians and technicians should only perform medical procedures within their comfort zone and in accordance to their level of training. In regards to the surgical procedures described in this manual, the methods presented are not intended to serve as the only way to perform a specific procedure but rather are suggested methods or approaches.

As we recognize that those working with limited resources must be innovative and devise compromised treatment strategies, the authors have attempted to include a variety of treatment options for varying medical conditions dependent on the resources available. One should always attempt to provide the highest level of care given the situation. Although certain products such as animal-handling equipment are mentioned in the book, the authors, editors, and publisher do not endorse specific products.
### Textbox 1.2 Traveler’s checklist and tips to make travel easier

- **If you have an American passport, visit the U.S. Department of State website for information on visa requirements and travel warnings.** Travelers should enroll in the Smart Traveler Enrollment Program (STEP), which facilitates communication between the embassy or consulate and the traveler in the event of an emergency. There is an official State Department Smart Traveler iPhone app available for mobile access to up-to-date information.

- **Make sure that your passport is up to date.** Many countries require your passport to be valid for at least 3 months beyond the period of travel. The U.S. Department of State website has up-to-date passport information and assistance in finding your nearest passport facility. Some countries require that passports be valid for at least 3 or 12 months after your ticketed date of return. This means that even if your passport does not expire for a few months, you will still be denied entry into a country.

- **Check the visa requirements for your destination.** Arranging visas can be costly and time-consuming. Some countries participating in a visa waiver program do not require citizens of reciprocating countries to pre-arrange a visa, but others may require a visa stamp in the traveler’s passport beforehand.

- **Purchase travel insurance.** Most health insurance providers will not cover you while you are traveling abroad. Depending on your destination, you should consider purchasing a short-term policy including evacuation coverage in the unlikely event that something should happen. Frequently, travel insurance is intended to cover not only medical expenses but also trip cancellation, lost luggage, and other losses that might be incurred while traveling.

- **Determine driving requirements.** If you think you will be driving during your trip, you may need to obtain an International Driving Permit (IDP), which can be obtained through the American Automobile Association, Inc (AAA) or National Auto Club in the USA. Check with the embassy or consulate of the destination country to find out driver’s license and insurance requirements. You should also check to see what side of the road drivers use in the destination country.

- **Call your cell phone company to discuss international calling plans.** Different rates may be available for calling or texting. Pre-paid calling cards can also come in handy. Be sure to also determine the access code for the country you will be visiting beforehand.

- **Notify your bank to let them know where and when you will be traveling.** If companies see foreign charges without receiving prior notice, they may temporarily freeze the account.

- **Determine the electrical standards of the country you will be visiting.** Different countries have different size electrical plugs and voltage requiring a converter or plug adapter. Items that heat up such as hair dryers may not work correctly even with a converter.

- **Look up the international monetary exchange rate by searching online currency converters.** Be familiar with what the foreign currency equates to in your home currency.

- **Be prepared to always have local currency.** Many countries do not accept credit or debit cards. Most international airport have currency exchange kiosks.

- **Visit the Centers for Disease Control (CDC) and WHO travelers’ health pages for travel health advisories and immunization recommendations.** Immunizations against certain diseases may be required to enter some countries. Countries might also require travelers to carry an International Certificate of Vaccination (ICV), also known as a Carte Jaune or Yellow Card.

- **Copy key documents such as your passport and travel itinerary.** In the unfortunate event that such documents are lost or stolen, it is always a good idea to have copies of important documents that are stored separately from the originals. Such documents might include the passport photo page, visa, flight itinerary, hotel bookings, driver’s license, credit cards, and health insurance information.
**Textbox 1.3 Sample 2-week packing list**

<table>
<thead>
<tr>
<th>Clothing</th>
<th>Technical Gear</th>
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<tbody>
<tr>
<td>Pack clothing that is easy to wash and fast drying. As a general rule, bring modest clothing that respects local culture.</td>
<td>• Power converters and adapters</td>
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<tr>
<td>• Two pairs lightweight capris or long pants</td>
<td>• Camera with extra battery and memory card</td>
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<td>• Two long-sleeved shirts</td>
<td>• Laptop or tablet</td>
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<tr>
<td>• Two short-sleeved shirts</td>
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<tr>
<td>• Two tank tops or sleeveless shirts</td>
<td><strong>Other necessary items</strong></td>
</tr>
<tr>
<td>• Five pairs of underwear</td>
<td>• Passport and necessary visa</td>
</tr>
<tr>
<td>• Three pairs of socks</td>
<td>• Copies of important documents</td>
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<tr>
<td>• One windbreaker or waterproof jacket</td>
<td>• Sunglasses</td>
</tr>
<tr>
<td>• One bandana</td>
<td>• Quick-drying towel</td>
</tr>
<tr>
<td>• One hat</td>
<td>• Necessary maps, guidebooks, language guide</td>
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<tr>
<td></td>
<td>• Headlamp</td>
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<tr>
<td></td>
<td>• Notebook</td>
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<tr>
<td></td>
<td>• Headlamp</td>
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<td></td>
<td>• Luggage lock</td>
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<td></td>
<td>• Water bottle. Depending on the destination, travelers may also consider bringing a portable water purifier such as a SteriPEN® or LifeStraw®</td>
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<td></td>
<td>• Wet wipes</td>
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<tr>
<td></td>
<td>• Backpack</td>
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<tr>
<td></td>
<td>• Sleeping bag (if needed)</td>
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<td></td>
<td>• Ear plugs</td>
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<tr>
<td></td>
<td>• Fishing line. Extremely durable and can be used as a clothesline, etc.</td>
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<td></td>
<td>• Inflatable travel pillow</td>
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<td></td>
<td>• Eating utensils</td>
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<td></td>
<td>• All-purpose tool such as Swiss Army® knife or Leatherman® (Remember to not store in a carry-on bag)</td>
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<tr>
<td><strong>Personal Items</strong></td>
<td><strong>If There Is Still Room</strong></td>
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<tr>
<td>Unless you are packing a prescription product, most toiletries can be purchased at the destination. Remember to consider Transportation Security Administration (TSA) restrictions if you want to bring liquids and gels in a carry-on bag.</td>
<td>• Gifts for children. Curious local children will inevitably visit almost every mobile clinic site. Small gifts such as pencils or treats can help engage the local community.</td>
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<tr>
<td>• Shampoo</td>
<td>Remember: Never put valuables in checked luggage and empty your wallet of unnecessary items such as credit cards that you will not be using on the trip.</td>
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<td>• Soap</td>
<td></td>
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<td>• Toothbrush</td>
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<td>• Deodorant</td>
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<td>• Razor</td>
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<td>• Contact lenses and solution</td>
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<tr>
<td>• Necessary medications including motion sickness tablets, anti-diarrheals, and pain medication</td>
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<tr>
<td>• Hairbrush or comb</td>
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<td>• Hair ties/headband</td>
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<td>• Band aids</td>
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<td>• Mosquito repellent</td>
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<tr>
<td>• Sunblock</td>
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<tr>
<td>• Anti-malaria drugs (if recommended by a doctor)</td>
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</table>
With respect to the formulary, dosages are derived from a number of professional sources. Although authors attempted to utilize the most up-to-date information available, readers should refer to the approved labeling of drugs for further guidance.

References