Unwanted horses: The role of nonprofit equine rescue and sanctuary organizations

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Unwanted horses: The role of nonprofit equine rescue and sanctuary organizations[1]

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ABSTRACT: Closure of US equine slaughter facilities in 2007 along with the concomitant economic recession have contributed to a sharp increase in the number of unwanted horses throughout the United States, with estimates totaling 100,000 horses per year. The objective of the study was to obtain comprehensive data regarding nonprofit organizations caring for unwanted horses, along with the characteristics and outcome of horses relinquished to these organizations. Nonprofit organizations that accept relinquished equines were contacted to participate in a 90-question survey. Responding organizations (144 of 326 eligible) in 37 states provided information on 280 cases representative of the 7,990 horses relinquished between 2007 and 2009. Data collected characterized these organizations as being in existence for 6 yr, financially supported through donations and personal funds, dedicated to the care of only 10 to 20 horses on a property of just over 30 acres, and reliant on volunteers for help. Funding was the greatest challenge to continued operation of nonprofit equine organizations, with maintenance costs for the care of a relinquished horse averaging $3,648 per year. Financial hardship, physical inability, or lack of time to care for the horses by owners were the most common reasons for relinquishment, followed by seizure through law enforcement agencies for alleged neglect or abuse. Relinquished horses consisted of mostly light horse breeds (79.3%), with Thoroughbreds and Quarter Horses as the most represented breeds. The age of relinquished horses ranged from 3 d to 42 yr old (12.4 ± 0.5 yr). About one-half of the horses entered in the survey were considered unhealthy due to illness, injury, lameness, or poor body condition. For every 4 horses relinquished to a nonprofit organization, only 3 horses were adopted or sold between 2006 and 2009, and many organizations had refused to accept additional horses for lack of resources. The estimated maximum capacity for the 326 eligible registered nonprofit equine rescue facilities of 13,400 is well below the widely published estimate of 100,000 horses that become unwanted in the United States every year. Nonprofit equine rescue and sanctuary facilities have historically played an important role in safeguarding the welfare of horses in society, but funding and capacity are limiting factors to their potential expansion in continuing to care for the current population of unwanted and neglected horses in the United States.

Key words: animal welfare, health, horse, nonprofit organization, unwanted horse, well-being

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INTRODUCTION

Unwanted horses are equines that are no longer useful to their owners due either to characteristics of the individual horse, such as illness, injury, age, misbehavior, and unmarketable qualities, or owner situations such as physical or financial inability to provide care for that animal, a need to decrease herd size, or a loss of interest in horse care and associated activities (Unwanted Horses Coalition, 2009). Closure of the last US equine slaughter facilities in 2007 and the economic recession that began in 2008 are 2 factors believed to have precipitated the increasing number of unwanted, potentially neglected, and abused horses in the United States (Ahern et al., 2006; Lenz, 2009).

Receiving attention for their potential to care for unwanted horses are equine rescue and sanctuary facilities (Cross, 2008; Hazard, 2008; Messer, 2008). Similar to dog and cat shelters, equine rescue facilities accept unwanted equines and may provide temporary or permanent housing and care. Some organizations may offer adoption programs, provide rehabilitation or training services, or maintain horses in a permanent sanctuary.

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Unlike the municipal dog and cat shelters funded by local governments, equine rescue facilities are independent, and many are registered with the US Internal Revenue Service (**IRS**) as 501(c)(3) organizations with nonprofit status. If these organizations are to play a major role in solving the unwanted horse issue in the United States, much more needs to be known about their capacity, activities, and challenges. The goal of this study was to obtain data on the demographics, multiple causes, economic impacts, and potential solutions to the unwanted horse problem in the United States. The objective was to obtain comprehensive data about the nonprofit organizations and the characteristics and outcome of the unwanted horses relinquished to these organizations.

MATERIALS AND METHODS

Approval to administer the survey to human subjects was obtained from the university's Investigational Review Board.

Study Design

An online database (Guidestar, USA, http://www.guidestar.com) consisting of all the US nonprofit organizations registered with the IRS as 501(c)(3) organizations was used to identify 408 potentially eligible organizations to participate in the survey. A keyword search on April 18, 2009, using the words equine, horse(s), large animal(s), hoofed, rescue, and most major horse breeds (e.g., Quarter Horse, Thoroughbred, Arabian, Belgian, Shetland, Standardbred) retrieved contact information for equine rescue and sanctuary nonprofit organizations throughout the United States. Organizations that were currently operating and capable of accepting equines were eligible to participate in the survey. A postcard was mailed to each nonprofit organization in early August 2009, inviting them to complete the online survey (http://www.SurveyMonkey.com). If the postcards were returned as undeliverable by the US Postal Service, a current address was sought via the Internet or phone. Follow-up mailings were sent at approximately 4-wk intervals to organizations that had not responded. The final mailing included a printed copy of the survey with a postage-paid return envelope to facilitate completion by groups that may have lacked internet capability. The online survey was open between August 8, 2009, and January 8, 2010. After the completion of the survey, financial data including income and expense information from available US IRS records for 2006, 2007, and 2008 were downloaded for eligible organizations from the online database.

Survey

A 90-question survey was developed and pilot-tested. In the survey, organizational information was requested to gather data on the funding, activities, and capacity of the nonprofit organizations. Respondents were then asked to select cases involving an equine (e.g., horse, donkey, or mule) relinquished to their facility since January 2008 that would be representative of cases accepted and provided care by the organization, and for which the respondent had some specific knowledge. Respondents were asked about the characteristics of the relinquished horses including health, training, and behavior, the factors contributing to transitioning of the horse to the nonprofit organization, and outcome of the horse such as rehabilitation needs, costs, and re-homing procedures. Respondents were encouraged to enter data for up to 15 different equine cases.

Statistical Analysis

Temporal data were analyzed using the Friedman test as a 1-way repeated measures ANOVA for nonparametric data (StatXact-8, Cytel Software Corp., Cambridge, MA). Descriptive statistics were calculated using Microsoft Excel 2007 (Redmond, WA). Odds ratios were calculated to compare variables of horses that were adopted vs. those that had not been adopted (LogXact-8, Cytel Software Corp., Cambridge, MA). Significance was defined as $P < 0.05$. The median and range are reported for nonparametric data. Where means are reported, the SD is also provided. Monetary values are reported in US dollars. Survey participants did not always respond to all questions, and some survey questions included a response of unknown. Unless otherwise noted, the denominator used in calculations was the total number of responses for which information was known.

RESULTS

From the database of registered nonprofit [501(c)(3)] organizations, 408 equine rescue and sanctuary organizations were retrieved from 47 states; no organizations were retrieved from states of Hawaii, North Dakota, or South Dakota. Of the original 408 nonprofit organizations that were retrieved from the database, 84 were identified as ineligible because the organization did not accept relinquished equines (n = 33), was no longer operating (n = 13), or the mailings were returned with an undeliverable address (n = 36). Thus, a total of 326 nonprofit organizations in the United States were eligible for the survey. Forty-four percent (n = 144) of the eligible organizations in 37 states entered information into the survey on a total of 280 horse cases. Table 1 presents the 10 states with the largest number of eligible and responding organizations.

Organization Information

The activity of the organizations (n = 144) varied primarily by the number of different animal species

Table 1. The top 10 states with the greatest number of eligible nonprofit organizations to participate in the survey, the number of organizations in the state that responded to the survey, and the rank of horse population by state (American Horse Council, 2005)

State	Eligible organizations	Responding organizations	State rank of horse population
California	39	17	2
Pennsylvania	24	10	9
New York	23	10	16
Texas	21	5	1
Florida	17	6	3
Virginia	16	10	12
Arizona	15	8	23
Colorado	15	6	10
Maryland	10	4	28
Ohio	8	5	6

served and whether adoptive homes were sought for the relinquished equines. Organizations operating a rescue facility providing temporary care and adoptions exclusively for equines accounted for 62.5% of responses; an additional 11.1% operated sanctuaries or retirement facilities with permanent housing and care of equines; and 7.6% provided both temporary and permanent care facilities for equines. Other categories were large animal shelters accepting multiple species (6.3%), small animal shelters that occasionally accept equines (6.3%), and shelters that accept animals of any size (4.9%). The median time in operation of the nonprofit organizations was 6 yr, ranging from 1.5 to 122 yr; the distribution was greatly skewed as 78.5% of the organizations fell at or below the mean of 10.7 yr (±17.3).

The median property size was 32.5 acres (range 0.5 to 2,000 acres). Thirty-three organizations use more than 1 property site for their activities. Although information was not requested about ownership of property, voluntary write-in comments indicated that, in addition to land owned by some organizations, horses were housed in a range of facilities including foster homes, leased property, and boarding stables. The total population of equines cared for by responding organizations (n = 142) was 5,207 horses, with a median of 20 horses per organization (range 0 to 1,230). Whereas approximately 70% of the organizations had a maximum capacity of 30 or fewer horses, the most common capacity was 11 to 20 horses in 30.3% of the facilities, and only 4.2% had capacity in their facilities for more than 100 horses.

Funding was identified as the greatest challenge for 74.8% of organizations, followed by having adequate housing (11.8%), promotional activities (2.4%), personnel to care for horses (0.8%), and other (10.2%). Responses listed for "other" included combinations of funding with the other factors as well as "finding good homes." None of the organizations indicated that legal issues were a challenge. The major funding sources identified by 50.4 and 38.8% of organizations were individual donations and personal funds, respectively. Federal, state, and local grants were not considered a major source of funding in 95% of the organizations. Most organizations also received funding from several different sources including fundraising, private foundations, corporate sponsorship, sale of miscellaneous items, and adoption fees.

The IRS tax records were available from the online database in all 3 yr (2006, 2007, 2008) for 112 of the 326 eligible organizations. Total income; charitable contributions and grants received, which are subcategories of total income; expenses; and assets (anything of value owned by the organization) as reported on IRS form 990 were recorded. Nonprofit groups with a total income of less than $25,000 are not required to file tax forms. As shown in Table 2, there were significant increases ($P < 0.05$) from 2006 to 2008 in income, expenses, and contributions, both for nonprofit organizations that accept equine cases only and those that handle multiple species including horses. Total assets for the multiple species organizations did not show an increase ($P > 0.05$) over the 3-yr period, but there was an increase ($P < 0.0001$) in total assets for the equine-only organizations. Eight organizations reported receipt of grants ranging from $750 to $1,082,000 in 2006 (median $2,500); 9 groups reported grants ranging from $1,108 to $1,047,496 in 2007 (median $41,829), and 7 reported grants ranging from $1,419 to $743,675 (median $104,849). The boards of directors consisted of an average of 5.8 ± 0.2 members (n = 202 organizations). Just 28.4% of the organizations (56/197) maintained full-time employees, 19% had part-time employees (37/195), whereas 85.6% (160/187) relied on volunteers as documented from the online database records.

The number of requests received by organizations to accept horses since January 2008 had increased for 83.9% of respondents, decreased for 5.6%, or showed no change for 10.5%. The total numbers of horses actually accepted by all organizations (n = 144) in 2007 and 2008 were 2,602 and 2,801, respectively. The total number of horses accepted for 2009 was 2,587; however, data were entered between August and December 2009 and an accurate 12-mo total could not be calculated. An intake rate of horses per month was computed in-

Table 2. Financial data for the eligible nonprofit organizations for which the 2006, 2007, and 2008 financial data were available from the Guidestar online database (http://www.guidestar.com), comparing those that care only for equines with those that care for multiple species including equines (median × $1,000; range in parentheses)

Financial data	2006	2007	2008	*P*-value
Income				
Equines only (n = 90)	84.7 (0.6 to 2,543)	94.7 (0 to 2,626)	109 (0 to 2,584)	<0.0001
Equines and other animals (n = 22)	122 (15 to 4,883)	147 (27 to 5,666)	184 (38.8 to 8,102)	0.0024
Expenses				
Equines only (n = 90)	78.2 (0.9 to 3,144)	140 (0.15 to 3,091)	91.2 (0.24 to 3,016)	<0.0001
Equines and other animals (n = 22)	95.2 (14.5 to 3,775)	140 (15.3 to 4,348)	143 (21.3 to 4,517)	0.0049
Charitable contributions				
Equines only (n = 87)	60.2 (0 to 1,944)	85.3 (0 to 1,963)	88.6 (0 to 2,316)	<0.0001
Equines and other animals (n = 22)	93.9 (1.4 to 3,454)	112 (2.5 to 3,883)	173 (26.7 to 6,928)	0.0024
Assets				
Equines only (n = 89)	24.4 (−59.5 to 9,797)	27.2 (−3.6 to 9,799)	36.9 (−3.2 to 8,212)	<0.0001
Equines and other animals (n = 22)	96.6 (0.35 to 17,710)	59.1 (2.1 to 18,670)	128 (−130 to 21,250)	0.1699

stead to compare years, resulting in a median rate of 0.54 (0 to 26.4), 0.67 (0 to 24.4), and 0.75 (0 to 31.7) horses per month for the years 2007, 2008, and 2009, respectively. The mean rate of intake per month successively increased each year between 2007 and 2009, and was close to being significantly different ($P = 0.075$).

The total numbers of horses that were re-homed for organizations that had adoptions or sales in 2007 and 2008 were 2,273 and 2,375 horses, respectively. The total number re-homed in 2009 was 2022, but again, a 12-mo total cannot be calculated for 2009 due to varying survey completion dates. The monthly median number of horses re-homed from the organizations (n = 104) was 0.5 (0 to 25.8), 0.5 (0 to 23.9), and 0.67 (0 to 43.1) for 2007, 2008 and 2009, respectively. This represents an increase over the 3-yr period ($P = 0.04$). The monthly rate of re-homing (number of horses adopted or sold/number accepted) showed no changes from 2007 to 2009, with a median of 0.73 (0 to 4.4), 0.71 (0 to 6.8), and 0.67 (0 to 2.6) in the 3 consecutive years ($P = 0.58$, n = 96 organizations and excludes those that do not try to find new homes). The greatest single obstacle to re-homing a horse was its level of training according to 26.9% of responding organizations. This factor was followed in order by age (20.8%), lameness (19.2%), health (11.5%), behavior (9.2%), financial issues (6.2%), finding qualified owners (4.6%), and finally by the type or breed of horse (1.5%).

Factors in Transfer of Horses to Nonprofit Organizations

The majority of horses (60.6% of 279) were voluntarily relinquished or donated to the nonprofit facility. Horses seized by law enforcement agencies and impounded at the facility accounted for 15.1%. Horses also were transferred by private purchase or through auctions and other market channels (6.5%), acquired from another rescue or rehabilitation facility (5.0%), found abandoned or feral (7.5%), or referred by a veterinarian (1.8%).

Owner-related issues were more likely to contribute to the relinquishment of a horse to a nonprofit organization than horse-related characteristics or unknown factors (Table 3). Within owner-related relinquishment factors, financial hardship, and the physical condition of the owner to care for the horse were the most common, including the death of the owner in 5 cases. Within the horse-related factors contributing to relinquishment, health problems accounted for almost one-half, followed by horses that were unsuited for the purpose of the owner and those relinquished for behavioral issues. Of the 23 horses relinquished for behavioral reasons, all but 1 exhibited multiple undesirable behaviors including injuring people (n = 5), showing aggression toward people (n = 10) or other horses (n = 7), difficulty in handling (n = 15), or riding or training or both (n = 14), and 3 horses exhibited undesirable stereotypic behavior such as cribbing or weaving.

Characteristics of Equids Entered into Survey

Light horse breeds accounted for 79.3% (222/280) of the equids entered in the survey as relinquished to organizations, followed by draft horses (7.1%), ponies (6.8%), donkeys or burros (2.9%), miniature horses (2.5%), and mules (1.4%). More than a dozen light horse breeds were identified, with Thoroughbreds (21.6%) and Quarter Horses (18.9%) as the most represented

Table 3. Owner and horse-related factors contributing to the relinquishment of horse to nonprofit facilities (n = 280)

Item	%
Owner-related factors[1] (n = 124)	44.4
Economic or financial hardship	52.4
Physical condition, illness, or death of the owner	27.4
Lack of time for horse	16.1
Owner legal situation	11.3
Owner lost interest in horse	10.5
Owner had too many horses or other animals	8.1
Moved from residence and did not take horse, or abandoned	6.5
Divorce forced relinquishment	5.6
Other	1.6
Horse-related factors[1] (n = 84)	31.1
Unusable due to health issue	54.0
Unsuitable for desired purpose	27.6
Behavior	27.6
Age[2]	11.5
Conformation (poor quality for breeding or competitive purpose)	4.6
Other	2.3
Unknown factors (n = 69)	24.7

[1]Multiple responses were allowed for factors; thus, percentages do not total 100.
[2]All horses relinquished for age were considered to be too old.

breeds. The sex distribution of equids entered was as follows: geldings, 50.9%; colts or stallions, 7.5%; fillies or open mares, 37.3%; pregnant mares, 2.2%; mares with foals, 1.8%; and spayed mares, 0.4%. Age ranged from 3 d to 42 yr old (mean 12.4 y ± 0.5), with 1 organization that specialized in rescuing the very young foals born to "nurse" mares. The median height of relinquished horses was 155 cm or 15.1 hands, with a range from 61 to 193 cm (8 to 19 hands).

Permanent identification was not provided to the rescue facility for 56.1% (157/280) of horses entered into the survey. Identification that was provided included registration papers (20.7% of horses), tattoo (16.8%), freeze brand (15.4%), hot iron brand (6.5%), microchip (8.9%), a halter or collar with name or number (7.3%), and some other form of identification such as identifying scars (6.5%). Thirty-four horses presented with more than 1 form of permanent identification. Microchip scanners were owned by only 17.6% of the rescue facilities.

When horses arrived at the nonprofit facilities, 53.2% (149/280) did not appear healthy due to conditions including illness, lameness, injury, or poor body condition. Fifty-six horses (20%) were characterized as having an illness, including skin disease (n = 19), laminitis/founder (n = 16), respiratory disease (n = 9), liver or kidney problems (n = 2), colic (n = 2), neurologic problems (n = 2), and cancer (n = 1). The response for 5 horses was "other," for which further specification included Cushing's syndrome, thyroid, and heart conditions.

No lameness was present in 70.4% of horses (197/280). Lameness that limited the ability of the horse to bear weight on 1 or more legs or caused complete inability to move was seen in 6.8% of horses, and lameness that was obvious at a walk was observed in 12.1% of the horses. Lameness not obvious at a walk but consistently observable at a trot was documented in 3.9% of horses; lameness that was present but difficult to observe and inconsistent occurred in 6.8% of horses. Injuries requiring treatment by a veterinarian were present in 11.4% of horses; injuries treated by the staff of the organization were present in 16.8%; injuries not requiring treatment were seen in 11.4% of horses; and no injury was present in the remaining 60.4% of all horses entered. Six horses were blind in both eyes, and 4 horses were blind in 1 eye.

Using the Henneke BCS system (Henneke, 1985), 28.6% of horses (80/280) had a BCS of 1 to less than 3 (emaciated, very thin, poor); 35.7% had a BCS of 3 to less than 5 (thin, moderately thin); 33.2% had a BCS of 5 to less than 7 (moderate, moderately fleshy); and 2.5% had a BCS of 7 to 9 (fleshy, fat, very fat).

Outcome of Relinquished Horse

At the time of survey, 68.8% of horses (192/280) still resided at the facility of the organization, whereas 26.2% had been re-homed, and 5% had been euthanized. Of 73 horses that went to new homes, the length of time spent at the nonprofit facility was less than 30 d for 13.7%, 31 to 59 d for 5.5%, 2 to 6 mo in 43.8% of cases, 7 mo to 1 yr for 17.8%, and greater than 1 yr for 19.2% of horses. Logistic regression statistics were utilized to identify common characteristics that might predict successful adoption from nonprofit organizations. Interestingly, no significant differences were found between horses that had been re-homed and those that had not been re-homed for any of the variables analyzed in-

cluding breed, age, sex, color, previous use, health and lameness, training, or behavior.

Thirty-three percent of re-homed horses (n = 73) were adopted at no cost. The adoption fee for 17.8% was under $200, 35.6% was between $200 and $1,000, and the fee for 8.2% was between $1,001 and $5,000. The re-homing of 2 horses was considered a purchase, both for less than $200. Two other horses were leased to their new owners. Other costs paid by new owners included health or soundness exams ($135 ± 54, n = 12), health certificates ($37 ± 7, n = 3), Coggins tests ($41 ± 5.9, n = 9), other veterinary fees ($192 ± 40, n = 13), and nonveterinary costs ($349 ± 68, n = 32). Type of nonveterinary costs varied widely, including membership to the organization, adoption fees, feed costs, and farrier services. The organizations were queried by the survey whether they would accept returned horses if the adoption or re-homing failed. All responded (n = 73) that they would accept these horses, including several that maintain ownership of re-homed horses through lifetime leases and others that stipulate mandatory return in case of a match failure.

Of the 190 horses that had not been re-homed or euthanized, 42% were permanent residents of the nonprofit facility, 49% were temporarily housed at the nonprofit facility, and 9% were located at foster homes. The mean monthly cost for feed was $199 ± 13 (n = 180), for training was $107 ± 28 (n = 54), for veterinary and farrier care was $66 ± 6 (n = 172), and for "other" was $104 ± 30 (n = 36); the total average monthly maintenance cost was $304 ± 24 (n = 187).

Fourteen horses were euthanized, 11 for poor health or body condition and 3 for behavior. All euthanasia was carried out by barbiturate injection at a median cost of $87.5 (range $25 to $300). Carcass disposal methods were burial (n = 5), rendering (n = 3), and composting (n = 5). "Unsure, vet clinic took care of it," was listed for 1 horse. Median cost of disposal was $25 ($0 to $325). The median total cost (euthanasia and disposal) to any 1 facility was $153 ($25 to $500). No horses were entered into the survey that died (not euthanized) at the facility of the organization.

DISCUSSION

Between 1997 and 2006, approximately 68,000 horses per year were slaughtered in the United States (National Agricultural Statistics Service, 2009) to be processed as meat for human consumption and sold mainly in European markets. Similar to livestock production, processing plants for horses paid a price per pound of BW; thus, a residual market value was established for the horse industry. However, horses have been increasingly perceived by the public as recreation and companion animals and not livestock or meat animals. Public pressure and the subsequent passing of state and federal legislation played a role in the closure of US equine slaughter facilities in 2007 with the concomitant elimination of opportunities to dispose of thousands of unwanted horses (Lenz, 2009).

The crash of the US economy in 2008, with loss of jobs and homes, has taken a toll on the ability of some owners to provide care for these horses. The cost to maintain a horse on the property of an owner is estimated to average $1,825 per year, not including routine farrier and veterinary care (Kentucky Horse Council, 2008); the figure increases to $2,426 when those and other costs are included (Cooperative Extension System, 2008). Breeders, trainers, and owners seeking to sell horses have been struggling to find buyers. The total population is affected both by the increased lifespan of horses, resulting from major advances in health care and nutrition, with horses now commonly living to 30 years and beyond, as well as by breeding more horses than the market can absorb (Persechino, 2008). The supply of horses exceeds demand in the industry and the number of anecdotal reports of horses found neglected or abandoned has risen in the public media (Horse Welfare Committee, 2009). Export to Canada and Mexico for slaughter is currently an option for unwanted US horses, although it is not without controversy (Lenz, 2009). In most states in the United States, abandoned or neglected horses are reportable to local animal control officers and may be seized and temporarily held by those agencies if facilities are available.

Equine rescue and sanctuary organizations throughout the United States can trace their history to Henry Bergh, who championed humane treatment for animals, founded the American Society for the Prevention of Cruelty to Animals (**ASPCA**) in 1866, and established farms where old horses could be retired (Loeper, 1991). Current organizations are expected to play an integral role in absorbing and re-homing unwanted horses (Cross, 2008), and those that were registered as nonprofit organizations with the IRS were the target population for administering the survey. Searching an inclusive database of US nonprofit organizations to identify equine rescue and sanctuary organizations minimized self-selection bias inherent in open, online surveys and enabled access to publicly available tax records. The authors recognize that other equine rescue and sanctuary groups exist in the United States that are not registered as 501(c)(3) organizations, such as those sponsored by private, local community, or corporate entities. However, there currently is no collective database or even a validated estimate of the total number of equine organizations in the United States available to care for unwanted horses.

This was the first study to comprehensively address the present and potential role that nonprofit equine rescue facilities contribute to the care, rehabilitation, and re-homing of unwanted horses in the United States. These results provide a basis for understanding the capabilities, capacities, and challenges of these organizations, including economic issues and equine characteristics, needs, and outcomes. However, the results of the

study may be limited by unknown differences between the invited organizations that chose to respond to the survey compared with organizations that failed to respond. Also, the equine cases entered into the survey may have been selected by the respondents for particular reasons such as a compelling or memorable history.

Nonprofit equine rescue facilities are a subset of the US horse industry but exhibit some differences from the average equine business. Small operations of 5 to 9 horses predominate (66%) in the US equine industry (National Animal Health Monitoring System, 2006), whereas only 19% of nonprofit organizations care for 10 or fewer horses, with the most common (30.3%) having an optimum population of 10 to 20 horses. The typical nonprofit equine rescue organization responding to this survey can be characterized as an organization in existence for 6 yr, financially supported through donations and personal funds, dedicated to the care of only 10 to 20 horses on a property of just over 30 acres, and reliant on volunteers for help. The overall distribution of type of equids (e.g., light horses, ponies, burros) was comparable with the general population of horses in the United States. However, the breed of horse entered in the survey as Thoroughbreds outnumbered Quarter Horses, a reversal in the relative number of horses in each breed registry (American Horse Council Foundation, 2005). The nonprofit horse populations were composed of slightly more male horses including geldings, stallions, and colts (58.4%) than females. As might be expected for a population of unwanted horses, a larger percentage of horses (26.7%) over the age of 20 yr resided at nonprofit facilities than in the national horse population (7.6%; NAHMS, 2006).

One objective for this study was to determine the capacity of nonprofit equine organizations in the United States to accept a portion of the estimated 100,000 unwanted horses per year (Bump, 2008; Messer, 2008) and to approximate the cost to maintain those horses managed by nonprofit organizations. The total population capacity in the 144 nonprofit organizations that responded to this survey was approximately 6,000 horses. Applying the population capacity distribution of responding organizations to the 326 valid, eligible nonprofit organizations contacted for this survey, the potential maximum capacity of those organizations is approximately 13,700 horses nationwide. This is greater than an American Association of Equine Practitioners estimate that existing equine rescue groups have the capacity to care for 6,000 to 10,000 horses (Lenz, 2008), yet it is well below the expected need of an estimated 100,000 unwanted horses per year (Bump, 2008; Messer, 2008). Even if one assumes there is an equal number of equine rescue groups that are not registered as nonprofit 501(c)(3) organizations, the capacity does not currently exist to care for 100,000 horses or absorb additional unwanted horses every year. Furthermore, maintenance costs for the care of relinquished horses averaged $3,648 per year including veterinary and farrier care, which was greater than the reported national average of $2,426 (Cooperative Extension System, 2008). This difference may reflect the notable need for medical and nutritional rehabilitation for many of the relinquished horses. Extrapolating maintenance costs for the estimated maximum capacity of 13,700 horses at equine nonprofit organizations in the United States using the average cost from the survey responses results in a figure of $50 million annually.

Supporting the result that funding is the greatest challenge for these organizations, voluntary write-in survey responses commonly cited greater feed and fuel costs, a large decline in donations, reduction in the number of horses accepted by the facilities, need for better advertising and fundraising, and the reduction in the number of paid employees. Publicly available tax data showed significant increases from 2006 to 2008 in income and contributions as well as in expenses and compensation to directors. However, nonprofit organizations with an income of $25,000 or less were not required to file with the IRS, so the 120 organizations for which we obtained tax data from all 3 yr were not likely to be representative of all 326 eligible organizations. Even so, the data show a large magnitude difference between funding available to nonprofit groups that cared for equines only as compared with groups that accepted horses and other animals.

About one-half (53%) of horses entered into this survey were considered unhealthy, which strengthens anecdotal claims that horses become unwanted in many cases due to medical problems (Bump, 2008; Lenz, 2008). Yet 47% of the horses were healthy, supporting statements by the nonprofit organizations that many unwanted horses are healthy or can be rehabilitated and are simply in need of good homes (Cross, 2008). Compared with the general US equine population (NAHMS, 2006), relinquished horses had a greater incidence of injuries or wounds (22 vs. 5% general population), lameness (17 vs. 3%), skin problems (11 vs. 1%), and chronic BW loss (3 vs. 0.2%). More relinquished horses (41%) than reported for the overall US horse population (27%), had evidence of a recent Coggins test, a blood test that screens for antibodies to the sometimes fatal viral disease equine infectious anemia (NAHMS, 2006). A negative Coggins test is required in many states for interstate transport, and this may indicate that some of the horses relinquished to nonprofit organizations originated from other states or that the organizations themselves impose this as a requirement for acceptance.

The lack of permanent identification and potential for horses to be stolen has been an ongoing concern (Facchiano, 1999). The majority of horses (56.1%) at equine rescue facilities arrived without identification, which was greater than the 37% recognized in the general US horse population (NAHMS, 2006). The use of microchips for identification has not been widely adopted in the US horse industry. Eleven (3.9%) of the relin-

quished horses were micro-chipped compared with 1.5% of horses nationally (NAHMS, 2006). Only 17.6% of participating organizations possessed a microchip scanner. Interestingly, a greater percentage of relinquished horses (16.3%) were tattooed than the national average of 4% (NAHMS, 2006), which may reflect the number of former racehorses relinquished to or rehabilitated at nonprofit organizations.

Although the majority (57%) of the horses were voluntarily relinquished or donated to the nonprofit facilities with a transfer of ownership, others were transitioned through seizure by law enforcement (12.9%) as well as under diverse circumstances including the following descriptions: "Horse in a ditch next to a busy highway tied with chain around neck with no food or water available," and "the horse was 600 pounds underweight and had a nylon halter embedded in her head that required 6 h of vet care to remove and bandage." The most common factor for relinquishment of horses was financial hardship.

Municipal and community pet shelters throughout the US commonly follow policies that limit the time a dog or cat may reside at the shelter before it is offered for adoption or euthanized. The holding periods vary depending upon the type of shelter (e.g., private or public), type of animal, and other circumstances, but a 2006 survey of state regulations showed a range of 3 to 14 d (ASPCA, 2006). In contrast, the majority of horses (68.8%) entered in this survey still resided at the nonprofit facilities awaiting adoption or were permanent residents. Only 5% were euthanized for reasons of severe poor health, poor body condition, or unsuitable behavior. Most of the horses that were eventually adopted resided at the nonprofit facility for over 2 mo. Some survey respondents commented that they are not in a hurry to find new homes but take the time required to rehabilitate each horse according to its needs.

A small adoption rate is reflected by the overall median re-homing rate (number of horses adopted/number accepted) of approximately 0.7 per month for 2007 through 2009. This indicates that for every 4 horses that entered a nonprofit facility, only 3 horses were adopted or sold between 2006 and 2009, an unsustainable trend as the nonprofit facilities reach maximum capacity. Lepper et al. (2002) found that specific factors of physical appearance, age, and reason for relinquishment were predictive for adoption of dogs and cats at a California shelter (Lepper et al., 2002). The lack of similar significant differences between horses that had been re-homed and those still residing at the nonprofit facilities may be a function of the relatively low number of horses in each group for this survey. Alternatively, the adoptability of a horse may be related to factors not assessed here or may be affected by a complex combination of horse and prospective owner attributes.

Many of the relinquished horses received some training at the nonprofit facility along with other rehabilitation services such as dental and hoof care, parasite control measures, dietary programs, and vaccinations. Adoption or purchase fees varied from $0 to over $1,000, and other costs involved with the transition of the horse to the new owners included veterinary and farrier services, membership into the organization, and feed costs. Thus, the adoption process and costs vary by horse or organization or both, may not be competitive within the local pleasure horse industry, and do not appear to recapture the cost to care for the horses while at the facility. Studies in progress related to unwanted horses will characterize and compare relinquishing and adoptive owners, and will examine the role of law enforcement and animal control officers in dealing with abused, neglected, and abandoned horses.

In conclusion, nonprofit equine rescue and sanctuary facilities appeared to be struggling with insufficient resources to meet increasing demand for accepting, caring, and providing sanctuary or finding new homes for unwanted horses in the United States. Most relinquishing owners were financially or physically unable to continue caring for the horses. The nonprofit organizations invested money and time rehabilitating horses to health and provided training to increase their marketability to potential adopters, but for every 4 horses that entered a nonprofit facility only 3 horses were adopted or sold. Without additional resources, the nonprofit equine organizations cannot predictably expand to provide quality care and rehabilitation for more than 13,700 horses, only a fraction of the estimated 100,000 unwanted horses in the United States.

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