

Reuss, Vicki A. (CDC/NIOSH/EID)

From: Hendricks, Kitty J. (CDC/NIOSH/DSR)
Sent: Tuesday, June 12, 2007 3:32 PM
To: NIOSH Docket Office (CDC)
Subject: FW: Opacich_submission-NIOSH_Docket_104[2]

Attachments: Opacich_submission-NIOSH_Docket_104[2].doc



Opacich_submission
-NIOSH_Docke...

The attachment should be added to NIOSH Docket 104. Please let me know if you have any questions.

Thank you,
Kitty Hendricks
Research Epidemiologist
Division of Safety Research

-----Original Message-----

From: Karin Opacich [mailto:kopacich@uic.edu]
Sent: Tuesday, June 12, 2007 2:33 PM
To: Hendricks, Kitty J. (CDC/NIOSH/DSR)
Subject: Opacich_submission-NIOSH_Docket_104 [2]

Kitty,

Attached you will find a summary of my research in progress. Please note that it pertains primarily to backstretch workers, and it has been conducted in Illinois. If you have any questions or comments, I'd be happy to respond. We're beginning to write articles pertaining to the research, and that will probably continue through the next 6 mos. or so. Looking for more funding...

Regards,
KjO

PS Are the materials and proceedings from the meeting been posted yet? I have been unable to locate them on the NIOSH website under dockets.

Karin J. Opacich, Ph.D., MHPE, OTR/L, FAOTA Project EXPORT Director Assistant Director,
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Summary of Research in Progress
Determining Health Status and Health Disparities for an Embedded Rural Workforce*

Principal Investigator: Karin J. Opacich, PhD, MHPE, OTR/L, FAOTA

Co-Investigator: Shannon Lizer, DNSc, APN-CS

and

Oral Health Status and Disparities for an Embedded Rural Workforce

Principal Investigator: Linda Kaste, DVM, MS, PhD

Co-Investigator: Karin J. Opacich, PhD, MHPE, OTR/L, FAOTA

Background: This two year pilot project was funded through a grant competition of the EXPORT Center for Excellence in Rural Health at the University of Illinois-Rockford. EXPORT Centers are the major funding initiative of the National Center for Minority Health and Health Disparities within the National Institutes of Health. This research project represents a partnership of three communities of interest: academic (Export Center for Excellence in Rural Health/National Center for Rural Health Professions, 2003), the horse racing industry (two major racetracks in Illinois), and health care providers serving the workforce in Illinois (Racing Industry Charitable Foundation, Inc.) The study was initiated to explore the health related needs and vulnerabilities of a workforce representative of populations known to be at risk for health disparities, especially those considered *backstretch workers*. While the perspectives of the partners are different, collaboration is the ideal way to benefit this special population of high risk, low paid workers who live in "embedded rural communities" associated with the horseracing industry in Illinois and across the United States.

These encapsulated communities can most accurately be described as rural in lifestyle, engaging in typically rural occupations, but geographically situated in urban and suburban locations accessible to horse racing patrons. Analogous to other rural workers, backstretch workers embrace an independent lifestyle with a strong work ethic. According to Illinois 2006 licensure data, it would appear that backstretch workers perform over 68% of the hands on work with the horses. They tend to work from youth to old age and infirmity. The workforce, by virtue of low socioeconomic status, limited education, immigration status, race and ethnicity, and poor access to social resources, mirrors those deemed to be most vulnerable to disparities in health and access to health care.¹

While the scientific literature discretely addresses issues associated with agricultural workers and safety, unique needs of migrant and seasonal workers, and perils of horse related activity, there is little available that addresses the combined impact of these to inform the industry about the unique health needs of its workforce. Most health related services available

* This is a two year pilot study funded through the EXPORT Center for Excellence in Rural Health, University of Illinois, 9/01/05-8/31/07., and supported by Grant Number (5 P20 MD000524-04) from the National Center of Minority Health and Health Disparities, National Institutes of Health. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of National Institutes of Health.

¹ Because they are considered independently contracting agricultural workers, they are exempt from minimum wage requirements and not entitled to social security benefits. They generally cannot afford private health insurance for themselves or their families. Trainers in some state are required to purchase worker compensation coverage, but most avoid filing claims. Access to health care may be affected by economic resources, work schedules, transportation, and immigration status.

to the population have been initiated and supported through philanthropy, but these vary widely from racetrack to racetrack. Backstretch workers are a subset of an even larger and more elusive group of equine industry workers who live on or near the farms where horses are bred, raised, and trained for racing.

Description of the Research: This pilot study seeks to establish baseline data pertaining to health and health status and to confirm or refute the presence of disparities in health as compared to the general population. Specific aims of the research are:

- 1) **Establish baseline data of health status.**
- 2) **Determine the existence of disparities in health and access to health care.**
- 3) **Map the social geography of this special population of workers and their families.**
- 4) **Ascertain self-perceived needs and quality of life.**
- 5) **Establish model for investigation in other racing venues.**
- 6) **Develop surveillance strategies and direction for focused studies.**

The research has occurred in two phases. It includes both quantitative and qualitative strategies to ascertain a broad understanding of health of the racing industry workforce and especially the cohort of backstretch workers.

Phase I entailed a health fair strategy to collect basic demographic information and multiple health indicators, (e.g. body mass index, glucose and lipid levels, respiration, heart rate, blood pressure, oral health status, TB exposure), which yielded data for comparison to large national samples and determination of disparities. Fifteen different agencies and approximately 75 volunteers collaborated to screen, provide health related information, and direct participants to resources to meet any identified needs. Over 400 licensed horsemen and their dependents participated in the Horsemen's Health Fair held on June 5 & 6, 2006 yielding 324 complete sets of data and representing about 25% of the backstretch cohort. Of the participants, 90.9% identified themselves as Hispanic or Latino/a (69.2% born in Mexico), and over 89% of the participants resided in migrant and seasonal housing on the racetrack².

Phase II, still in progress, entails semi-structured interviews of backstretch workers age 18 and over recruited to the study to query migratory patterns, health beliefs, self-assessed health, perceived community health issues, and health related needs. Health literacy is queried using the questions from the National Health Index Survey pertaining to tuberculosis, a relevant problem for the population. Self-perceived quality of life is queried using the SF-36. Nearly 75 data sets have been collected to date, and interviewing/surveying will continue until 100 datasets have been collected. Interviews were recorded and will be translated and transcribed for narrative analysis.

Initial Findings: Results of Phase I are depicted in Tables I- X. As a crude measure of comparison, abnormal screening findings are compared to prevalence of the most similar condition included on the Behavioral Risk Factor Surveillance System (BRFSS), the National

² Subsequent to a lawsuit and court decision several years ago, children are permitted to live on the racetrack with their parents in Illinois. Illinois is the only racing state to allow children to reside on the racetrack.

Health and Nutrition Education Survey (NHANES), or the National Health Index Survey (NHIS). Results from Phase I are as follows:

- 9% of participants reported using some form of tobacco.
- 20% admitted to drinking alcohol.
- 37 of 296 (12.5%) people manifested abnormal glucose screening.
[sample prevalence rate 12.5 per 100]
- 35/291 (12.0%) people screened for total cholesterol manifested abnormal findings.
[sample prevalence rate=12.0 per 100]
- 58 people (18.5%) representing 11.1% of men and 7.3% of women screened manifested blood pressure higher than normal range.
[sample prevalence rate=18.5 per 100]
- BMI for 237 adults indicated that 55(17.0%) were obese (BMI>30) and that 114 (35.2%) were overweight
[sample prevalence for obesity 17.0 per 100]
- Of the 84 children screened, 36 (42.9%) were found to be overweight (BMI>30) with another 15 (17.9%) at risk of being overweight. (BM25-29) [sample prevalence rate=42.9 per 100 for overweight]
- 9 of 67 (13.4%) children screened manifested peak flow below Expectation (\geq 1SD below the norm) for height, age, and gender.
[sample prevalence rate=13.4 per 100]
- 26 of 229 (11.3%) of adults screened manifested peak flow below expectation for height, age, and gender
[sample prevalence rate=11.3 per 100]
- Of 255 people screened for TB, 159 (62.3%) returned to have their skin tests read. Of those, 82 (51.6%) manifested positive skin tests and were scheduled for interferon tests. Of the 56 people tested subsequently, 19 (11.9% of 159) were found to have dormant TB.
- 10 women 40+ years of age were screened for breast cancer and all were negative. (Another 10-12 women will be selected for the next visit of the mobile mammogram unit.)
- Of 333 adults participating in oral screening, 154 (46.2%) manifested untreated carious lesions, 55 (16.5%) with soft tissue lesions, and 92 (27.6%) with periodontal disease.
[sample prevalence rates] : caries-46.2 per 100
soft tissue lesions-16.5 per 100
periodontal disease-27.6 per 100
- Of 84 children screened for oral health, 51 (60.7%) manifested untreated caries, 2 (2.4%) had soft tissue lesions, and 19 (22.6%) manifested malocclusion.
[sample prevalence rates]: caries-60.7 per 100
soft tissue lesion- 2.4 per 100
malocclusion-22.6 per 100
- Of 123 participants completing the agricultural safety survey, 30 (26.5%) reported having been injured 1-10+ times in the last 12 months. These injuries occurred while engaged in everything from grooming to galloping the horses and

included broken bones, sprains, soft tissue injuries, head trauma, etc., requiring an array of treatment from ambulatory care to surgical intervention.
[sample prevalence rate =26.5 per 100]

Several health themes are emerging from the interviews and surveys completed in Phase II. To date, themes in order of perceived community impact are: alcohol abuse, domestic violence, work related injuries, drug abuse, unwanted pregnancy, depression, asthma, and diabetes. Most backstretch workers assess their own health as good or excellent. Health literacy as probed by questions pertaining to tuberculosis reveals very little understanding of the disease, its transmission, and its treatment.

Brief Discussion: On some parameters, results for backstretch workers (adults) were considerably better than national comparison groups, e.g., blood pressure, cholesterol, body mass index (BMI). This is probably attributable to the physical demands of the work of caring for horses. Tobacco use is reported to be far lower than both the general population and the Hispanic population, and that could reflect the impact of an environment that is not conducive to smoking. Alcohol use is probably under-reported, especially when compared with responses during Phase II and with service data from the Racing Industry Charitable Foundation, Inc.

Other health indicators cause a good deal of concern. Hispanics are known to be at higher risk for diabetes than the general population, and the data pertaining to this parameter would support this disparity for both adults and children in the study. This risk suggests the need for screening, monitoring, and chronic disease self-management.

While markedly fewer adults were found to be obese than national data indicates, results for children were alarming with nearly 43% found to be obese and another nearly 18% overweight and at risk for obesity. This parameter begs further investigation, but the need for nutritional education is apparent. Environmental restrictions and ready availability of unhealthy foods are likely contributors. There is clearly a need for intervention to prevent the serious consequences of obesity on lifetime health.

Both adults and children manifested a higher rate of risk for asthma or other respiratory conditions affecting their ability to breathe. Again, environment is a likely explanation for the disparity. The racetrack environment is replete with particles and allergens that can exacerbate asthma. Consistent monitoring and management of medications can minimize the effects, but those at risk must have access to care, including appropriate medications.

Oral health findings are quite dismal with both adults and children manifesting even worse oral health than a comparison population of poor Mexican Americans. Results for children are particularly poor even in light of state policy that mandates oral health screening for school admission. These results in particular raise questions of access to dental care. Oral health is closely linked to nutrition and related to other health conditions such as diabetes.

A growing concern in the U.S., the research population manifested over 50% exposure to tuberculosis, a figure consistent with many immigrant groups and third world countries. While no active cases were identified, nineteen people were found to have latent infections for which they were treated on site for a year. Latent TB becomes a serious issue if people are immune compromised for any number of reasons. Tuberculosis is also a zoonotic infection, and given the right circumstances it can be transmitted to the horses. This finding can inform policy that safeguards the health of both the workforce and the industry commodity.

Workers are reluctant to reveal work related injuries, and minimization of injury is known to be common. Responses of those who completed the work related injury survey illustrate the gamut of injuries associated with agricultural endeavors and equine sports. There is no way to compare the data since, unlike most other industries, there is currently no consistent national injury and incident surveillance system in horse racing. The health and safety of workers has come under federal scrutiny as demonstrated by 2006 Congressional hearings related to jockey injuries and the recent hearing of the National Institute of Occupational Safety and Health of the Centers for Disease Control.

Use of the Research Data: Potentially, the data can provide information and direction for more focused studies and the pursuit of funding to support those studies. It will allow for comparison with workforce issues identified in other industries, especially those associated with agriculture. It can serve to inform the industry in its efforts and interventions to improve health and safety in the industry leading to practices, programs, and policy that benefit the humans with secondary benefits accruing to the horses.

Preliminary Recommendations:

1. **Improve access to health care.**
2. **Support industry appropriations for workforce health and safety.**
3. **Include the recipients of care and other stakeholders in planning relevant health and safety programs.**
4. **Offer periodic TB screening and establish policy that requires proof of status at the beginning of each racing meet.**
5. **Develop programs to increase health literacy for all those working in the horse racing industry.**
6. **Support the development of a national injury and incident surveillance system for both horses and humans in the horseracing industry.**

For questions or further information contact:

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Table I. Alcohol Use

Parameter	Database	Prevalence
Binge Drinking (IL)	BRFSS 1997-2003	
18+, age adjusted, all		17.7
male		25.9
female		9.8
18+, age adjusted, Hispanic		12.0
male		18.6
female		4.4
Drinks alcohol	ERW Study	
All participants		20.0

Table II. Tobacco Use

Parameter	Database	Prevalence
Smoking, IL	BRFSS 1997-2003	
18+, age adjusted, all		23.6
18+, age adjusted, Hispanic		19.1
male		
female		
Tobacco Use	ERW Study	
All participants		9.0
male		8.3
female		.7

Table III. Cholesterol

Parameter	Database	Prevalence
High Cholesterol, US Adults	NHANES 1999-2002	
20+, age adjusted, all		17.3
male		16.4
female		17.7
20+, age adjusted Mexican-American		15.4
males		16.7
females		10.4
Elevated Total Cholesterol	ERW Study	
All participants		12.0

Table IV. Diabetes

Parameter	Database	Prevalence
Diabetes Among US Adults	NHANES 1999-2002	
20+, age adjusted, all		9.4
male		10.6
female		8.3
20+, age adjusted Mexican-American		13.5
male		13.7
female		13.2
Diabetes Illinois residents	BRFSS 1997-2003	
18+, age adjusted, all		6.6
male		6.9
female		6.4
18+, age adjusted, Hispanic		12.7
male		11.8
female		13.7
Abnormal Glucose Screening	ERW Study	
All participants		12.5
18+, all		15.7
3.-18 yrs.		4.8

Table V. Hypertension

Parameter	Database	Prevalence
Hypertension	NHANES 1999-2002	
20+, age adjusted, all		29.9
males		28.8
females		30.5
20+, age adjusted, Mexican American, all		26.6
males		25.6
females		27.2
Hypertension (IL)	BRFSS 1997-2003	
all adults 18+, age adjusted		43.4
Hispanic adults 18+		45.9
Hypertension	ERW Study	
all adults 18+		18.5
males		
females		7.3

Table VI. Overweight and Obesity

Parameter	Database	Prevalence
Overweight (IL)	BRFSS 1997-2003	
20+, age adjusted, all		37.7
20+, age adjusted, Hispanic		41.4
Obese (IL)		
20+, age adjusted, all		22.5
20+, age adjusted, Hispanic		29.4
Overweight children (US)	NHANES	
all 2-5 yr. olds		10.3
all 6-19 yr. olds		16.0
Mexican-American 2-5 yr. olds		13.1
Mexican-American 6-19 yr. olds		22.2
Obese	ERW Study	
Participants 18+		22.0
all 3-18 year olds		42.9

Table VII. Respiratory Capacity

Parameter	Database	Prevalence
Current Diagnosis of Asthma	NHIS 2002-2004	
Midwest 18+, age adjusted, all		6.9
MW 18+, age adjusted, Hispanic		3.8
MW 18+, age adjusted, Mexican		1.6
MW, all 0-4 yr. olds		6.5
MW, all 5-17 yr. olds		10.3
Peak Flow \geq-1SD	ERW Study	
all adult participants 18+		11.2
all children 3-18		13.4

Table VIII. Oral Health

Parameter	Database	Prevalence
Untreated Caries, US by SES	NHANES 1999-2002	
age 2-5, all SES		19.4
age 6-19, all SES		22.2
20+, age adjusted, all SES		22.8
age 2-5 Mexican-American, all SES		31.4
age 6-19, Mexican-American, all SES		33.1
20+, Mexican-American, all SES		35.6
Untreated Caries-Poor		
age 2-5, all respondents		31.9
age 6-19, all respondents		31.5
20+ adjusted, all respondents		45.1
age 2-5 Mexican-American		39.1
20+, Mexican-American		45.1
Untreated Caries	ERW Study	
18+, all participants		46.2
3-18 yr. olds		60.7
Soft Tissue Lesions		
18+, all participants		16.5
3-18 yr. olds		2.4
Peridontal Disease		
18+, all participants		27.6
Malocclusion		
3-18 yr. olds		22.6

Table IX. Tuberculosis

Parameter	Database	Prevalence
TB Cases per 1996 CDC Definition	CDC Div. of TB Elimination, 2005	
TB per 100,00 U.S		4.8 per 100,000
Hispanics		9.5 per 100,000
Illinois residents	IL Dept. of PH Stats, 2003	5.0
TB Skin Test	ERW Study	N=255
Total Skin Tests Read		62.3% (159)
Positive Skin Tests		51.6 per 100 (82)
Positive Quantiferon	Identified case of latent B=19/56	34.5 per 100
Extrapolation: If 1200 are living on the backstretch, potentially 214 people with latent TB infections...		

Table X. Work Related Injuries

Parameter	Database	Prevalence
Work Related Injury	ERW Study	N=123
Broken bones, concussions, torn ligaments, contusions, lacerations		23.0 (28)
Required Medical Attention		11.5 (14)
Required Hospitalization		4.9 (6)
<i>At present there is no consistent accident and injury surveillance in the industry...</i>		