

OBJECTIVES

To evaluate the impact a prison-based peer health education project has on knowledge, attitudes, behavior intention and self-efficacy.

BACKGROUND

Prisoners have high rates of communicable diseases and substance use. They have a nine to tenfold greater prevalence of hepatitis C, a fivefold greater prevalence of HIV, and a fourfold greater prevalence of active tuberculosis than the general population (RAND Research Brief, 2003). A 2010 report from the National Center on Addiction and Substance reported that 65% of U.S. prison inmates meet the Diagnostic and Statistical Manual - 4 medical criteria for alcohol or other drug abuse and addiction. In addition, prisons are extremely high-risk environments for the transmission of bloodborne viruses such as hepatitis C, hepatitis B, and HIV.

Most prisoners are incarcerated for relatively short periods. In 2008, 56% of sentenced offenders released from state prison had served 1 year or less and 76% had served 2 years or less (US Department of Justice: Office of Justice Programs, Bureau of Justice Statistics, 2010). Ninety-five percent of people in the criminal justice system will be released back into their communities (Beck & Mumola, 1999). Prisoners are being released back into the community in large numbers with untreated communicable diseases and ongoing addiction. Prisons provide a unique opportunity to reach a disenfranchised, at-risk, underserved population and improve public health.

Prisoner Health is Community Health: The New Mexico Peer Education Project (NMPEP) is a program through Project ECHO® (Extension for Community Health Outcomes) at the University of New Mexico Health Sciences Center. The first pilot group was completed in June 2009, with the goal to prevent the transmission of communicable disease in the incarcerated population.

METHODS

Peer educators were trained in seven New Mexico state and private facilities in the lower security levels (levels I, II and III). NMPEP liaisons from each facility were provided with criteria to select individuals. Inclusion criteria were:

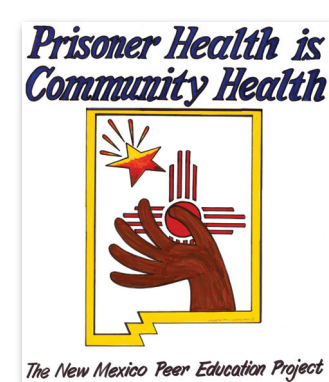
- An eighth grade literacy level
- Final cohort diversity of age and ethnicity/race
- At least one year left of their prison sentence
- Demonstration of positive leadership and role modeling

Initial training was conducted over 40-hours in a classroom, face-to-face setting utilizing adult learning theory and popular education techniques to engage participants.

Once trained, each peer educator group collectively facilitated 10-hour workshops for their peers in general population, at their facility, focusing on the diseases above. Questionnaires were collected for both peer educators and their students prior to training and post training. The peer educator questionnaire included 46 total items to assess knowledge, behavior intention, attitudes and self-efficacy. The peer educators' student questionnaire included 25 total items to assess knowledge and behavior intention. All participation was voluntary.

Post-training follow-up included monthly site visits which incorporated training observation and feedback for peer educators and continuing education. In addition to the site visits, a monthly teleconference occurred with all peer educators groups across the state to continue education on a variety of topics including building communication and facilitation skills, health and social/reentry related topics.

Double blind entry of pre and post-test data was completed to ensure accuracy of data entry for all peer educator and student data. Data analysis was completed using IBM SPSS Statistics 22 (SPSS). Paired t-tests were conducted to analyze means, difference of means, standard deviation and Cohen's D effect size. Analysis of variance of race, age, gender and level of education were performed to assess for disparity of baseline health literacy among peer educators.



RESULTS

Table #1 Demographics: Peer Educators, N=167

	Frequency	Percent
Gender, Peer Educators (N=167)		
Male	148	88.6%
Female	19	11.4%
Age Groups, Peer Educators (N=167)		
<25	16	9.6%
26 – 35	63	37.7%
36 – 45	49	29.3%
46 – 55	32	19.2%
55 and old	7	4.2%
Race, Peer Educators (N=167)		
American Indian	22	13.2%
Asian	3	1.8%
Black	23	13.8%
Native Hawaiian or Pacific Islander	1	0.6%
Ethnicity (N= 118)		
Non-Hispanic, White	45	26.9%
Hispanic, White	73	43.7%
Level of Education, Peer Educators (N=167)		
No Schooling Completed	3	1.8%
Grades 1 – 11 Completed	21	12.6%
HS Diploma	19	11.4%
GED	39	23.4%
Some College, No Degree	64	38.3%
Associate Degree	14	8.4%
Bachelor's Degree	3	1.8%
Graduate Degree or Beyond	4	2.4%

Knowledge

Table #2 Mean Score and Percent Score Overall, Peer Educators: Tests for Significance

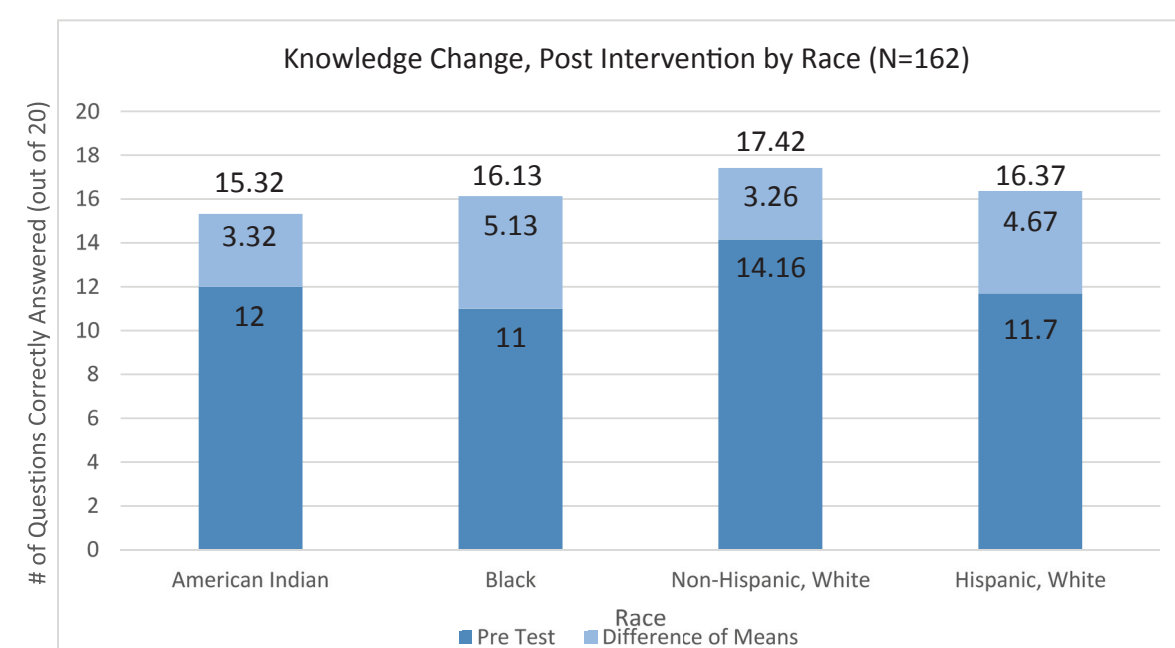
Measure	Pre Mean	Post Mean	Difference					
			Mean	SD	% Change	Student's t	P-value	Effects Size(d)*
Knowledge (20 points possible)	12.34	16.37	4.03	2.97	32.58%	17.555	<0.01	1.37
Percent Score (20 points possible)	61.7%	81.8%	20.1%	14.83%				

*Cohen's D classification of effect size is: 0.2 = small, 0.5 = medium and 0.8 = large. (Cohen, 1988)

Racial Disparity

A one-way Analysis of Variance (ANOVA) analysis showed that Blacks had the lowest baseline mean for knowledge, with a mean difference of 3.16 points less than the racial group with the highest baseline mean of knowledge (Non-Hispanic, White, mean = 14.16), (3, 159) = 7.905 (p <0.01). Blacks also had the greatest difference of mean of 5.13 points growth.

Figure 1 Difference of Means Pre to Post Intervention by Race (N=162)



*Asian (N=3) participants and Native Hawaiians (N=1) were not included due to small sample size.



Attitudes and Behavior Intention

Both attitudes and behavior intention had statistically significant (p<0.001) results with growth in mean difference.

Table #3 Difference Pre to Post, Attitudes, Peer Educators (N=167)

Measure	Pre Mean	Post Mean	Difference					
			Mean	SD	% Change	Student's t	P-value	Effects Size(d)*
Attitudes (25 points possible)	20.36	20.89	0.53	2.64	2.6%	2.57	<0.001	0.16
Behavior (25 points possible)	22.15	22.87	0.72	2.35	3.3%	3.92	<0.001	0.29

*Cohen's D classification of effect size is: 0.2 = small, 0.5 = medium and 0.8 = large. (Cohen, 1988)

Self-efficacy

Table #4 Difference Pre to Post, Self-efficacy, Peer Educators (N=167)

Measure	Pre Mean	Post Mean	Difference						
			Mean	SD	% Change	Student's t	P-value	Effects Size(d)*	
Self-efficacy (35 points possible)	27.86	30.65	2.79	5.88	20.33%	6.15	<0.001	0.51	
Results by Question									
Q1	4.59	6.12	1.67	1.53	1.94	10.06	<0.001	2.78	
Q2	5.09	5.99	0.90	1.67	0.9	1.81	6.40	<0.001	0.62
Q3	5.95	6.16	0.21	1.28	0.28	20.8	<0.05	0.14	
Q4	6.19	6.37	0.18	1.13	2.07	2.07	0.05	0.13	
Q5	6.23	6.42	0.19	1.28	1.88	1.88	0.06	0.13	

*Cohen's D classification of effect size is: 0.2 = small, 0.5 = medium and 0.8 = large. (Cohen, 1988)

- Question 1:** How confident are you that you have the information you need to be a peer educator?
Question 2: How confident are you that you have the teaching skills to be a peer educator?
Question 3: How confident are you in your ability to be a peer educator?
Question 4: How confident are you that you can set aside your own feelings about lifestyles that are different from your own interactions with your peers?
Question 5: How confident are you in your ability to talk with people about sensitive topics, such as safer sex and clean needles, to help them reduce their risk of getting or spreading HCV?

Peer Educators' Students' Results

There were 1,113 students who completed a 10-hour class taught by peer educators who completed the pre-test and 949 students who completed the posttest.

Table #5 Sample Demographics: Students N=1113

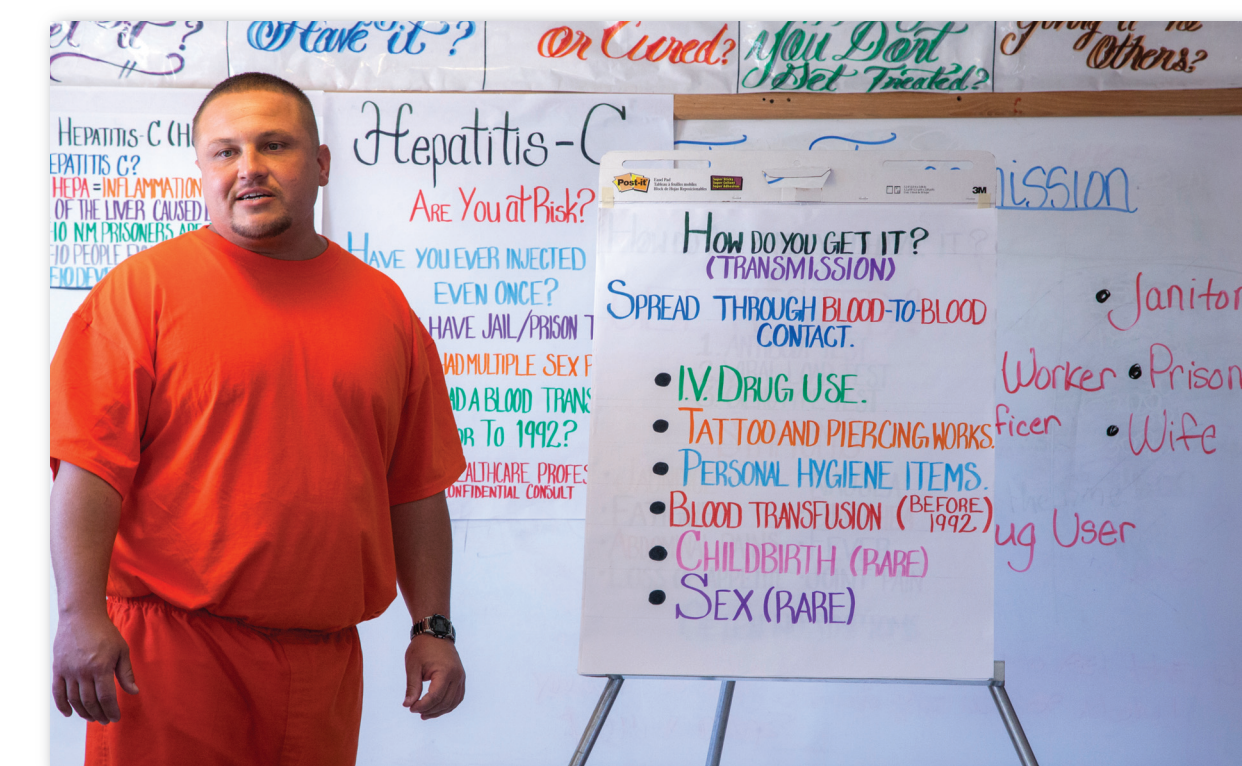
	Frequency	Percent
Gender, Students		
Male	564	50.7%
Female	549	49.3%
Age Groups, Students		
<25	156	14%
26 – 35	455	40.9%
36 – 45	284	25.5%
46 – 55	156	14%
55 and old	32	2.9%
Unknown	30	2.7%
Race, Students		
American Indian	190	17.1%
Asian	11	1%
Black	90	8.1%
Native Hawaiian or Pacific Islander	6	0.5%
Non-Hispanic, White	219	19.7%
Hispanic, White	583	52.4%
Unknown	14	1.3%
Level of Education, Students		
No Schooling Completed	61	5.4%
Grades 1 – 11 Completed	388	34.9%
HS Diploma	158	14.2%
GED	203	18.2%
Some College, No Degree	232	20.8%
Associate Degree	54	4.9%
Bachelor's Degree +	16	1.4%
Unknown	2	0.2%

Knowledge

Table #6 Knowledge, Students N = 1113 Pre-tests, 949 Post-tests

Measure	Pre Mean	Post Mean	Difference				
			Mean	SD	Student's t	p-value	Effects Size(d)
Knowledge (10 points possible)	5.00	7.13	2.13	0.09	23.03	<0.001	1.02
Percent Score (14)	50%	71.3%	21.3%	9%	23.03	<0.001	1.02

*Cohen's D classification of effect size is: 0.2 = small, 0.5 = medium and 0.8 = large. (Cohen, 1988)



Behavior Intention

The baseline mean of the behavior intention section for peer educators' students was 20.67 out of 25 preferred response points possible. Post training mean of the behavior intention section was 21.28 out of 25 points, indicating a change in behavior intent of 0.61 points with statistical significance (t(2060) = 3.093, p=0.002).

Table # Difference N = 1113 pretests, 949 post-tests

Measure	Pre Mean	Post Mean	Difference				
			Mean	SD	Student's t	P-value	Effects Size(d)*
Behavior (25 points possible)	20.67	21.28	0.61	0.66	3.093	0.002	0.14

*Cohen's D classification of effect size is: 0.2 = small, 0.5 = medium and 0.8 = large. (Cohen, 1988)

SUMMARY

The present study was conducted to evaluate the effectiveness of a prison-based peer-led harm reduction program on knowledge, behavior intent, attitudes and self-efficacy. Statistically significant results were seen across the board with positive changes in knowledge, attitudes, behavior intent and self-efficacy for peer educators (N=167). Students also had statistically significant, positive changes knowledge and behavior intention (N=949). Baseline disparities were found among minority populations, with a mean baseline difference of 3.16 points out of 20 (or 15.8%) from black individuals compared to Non-Hispanic Whites.

CONCLUSIONS

Prisons facilities are ideal settings to provide low-cost, peer-led health education interventions to increase knowledge and harm reduction techniques among incarcerated individuals prior to release back into New Mexico communities.

References

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