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Ride Safe: A Child Passenger Safety Program for American Indian/Alaska Native Children

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Abstract *Background* In American Indian/Alaska Native (AI/AN) communities, child safety seat (CSS) use rates are much lower than in non-native communities. To reduce this disparity, Indian Health Service (IHS) staff developed, pilot-tested, and implemented Ride Safe, which provided education, training, and child safety seats for children aged 3–5 participating in Tribal Head Start Centers. *Methods* Focus groups, key informant interviews, and technical review guided program development and implementation. Progress reports and child safety seat use observations, conducted at the beginning and end of three program years (Fall 2003 to Spring 2006), assessed program reach and impact. To examine CSS use, we used three multiple logistic regressions, including a conservative intent to treat analysis. *Results* Ride Safe reached approximately 3,500 children and their families at 14 sites in six states, providing over 1,700 parents/family members with educational activities, 2,916 child safety seats, and child passenger safety (CPS) technician certification training for 78 Tribal staff. Children were 2.5 times (OR = 2.55, $p < .01$) as likely to be observed in child safety seats comparing Rounds 1 and 2 data, with the most conservative model showing that the odds of being observed restrained were 74% higher (OR = 1.74, $p = <.01$) after implementation of the program. *Conclusions* The Ride Safe Program effectively increased child safety seat use in AI/AN communities, however, observed use rates ranging from 30% to 71% remain well below the 2006 all US rate of 93%. Results from CSS educational and distribution/installation programs such as Ride Safe should be considered in light of the need to increase distribution programs and enhance enforcement activities in AI/AN communities, thereby reducing the disparity in AI/AN motor vehicle injuries and death.

Keywords Child passenger safety · American Indian/Alaska Native · Health disparities · Program development · Implementation and evaluation

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Introduction

Nation-wide efforts to increase child safety seat (CSS) use and thereby prevent motor vehicle injuries have met with success [1]. A 2006 National Highway Traffic Safety Administration (NHTSA) assessment of child restraint use in the United States found that 98% of infants, 89% of children aged 1–3, and 78% of children aged 4–7 were restrained [2]. However, observed child restraint use rates

for American Indian/Alaska Native (AI/AN) communities have remained low [3, 4]. We describe the Ride Safe Program initiated by Indian Health Service (IHS) staff to increase CSS use among Tribal Head Start children aged 3–5 and their families. We describe the initial and subsequent success in increasing child safety seat use, as well as contextual factors associated with a field program implementation and evaluation project, including our attempt to develop local-level data collection capacity.

Background

American Indian/Alaska Native children aged 0–19 have a motor vehicle-related death rate 2.3 times higher than the overall US rate [5]. From 1999 to 2004, the MV death rate for AI/AN children aged 3–5 was 7.3, compared to the All-Race US rate of 3.8 [6]. In 2002, the National Highway Traffic Safety Administration (NHTSA) published data indicating that nearly 40% of children under five who died that year in motor vehicle crashes ($n = 459$) were unrestrained [7]. In general, minority and low-income children, as well as children in rural areas, experience lower rates of child restraint use than the population overall [8, 9]. Published research documenting AI/AN specific child safety seat use rates is limited. However, in a 2002 study of three Tribes in the Northwest, restraint use for children aged 1–4 years ranged from 5% to 14% [4] and in a 2005 study of AI children at six Tribes in Idaho, Oregon, and Washington, child restraint use ranged from 11% to 63% among children eligible to be in booster and infant seats, respectively [3].

The Indian Health Service Injury Prevention Program provides a multifaceted approach to developing the capacity of AI/AN Tribes/Tribal Organizations to address their injury problems through implementation of evidence-based injury prevention interventions [10–12]. IHS staff developed the Ride Safe Program in 2002, building on the success of an AI/AN fire-safety program called Sleep Safe, implemented in Tribal Head Start Centers across the United States [13]. Common contextual issues in AI communities, including Tribal sovereignty (i.e., Tribes follow their own occupant restraint laws which are often less stringent than state/federal laws) and law enforcement limitations [14, 15], required that the Ride Safe Program focus primarily on education and the distribution/installation of child safety seats. The Ride Safe Program did not emphasize law enforcement-related intervention activities.

Ride Safe Program Description

Ride Safe is a child passenger safety (CPS) program designed to increase CSS use and thereby reduce motor vehicle crash injuries among children aged 3–5 years who are enrolled in AI/AN Head Start Programs, funded by the Administration for Children and Families, Head Start Bureau, United States Department of Health and Human Services. The IHS Head Start Program, supported through an intra-agency agreement with the Head Start Bureau, provides preventive health support services for AI/AN Head Start grantees, including funding for the Ride Safe Program. During the four school years between 2002 and 2006, implementation of Ride Safe occurred at 14 unique Tribal Head Start Centers in six states (AZ, MI, MN, NM, NV, WI). The primary impetus for the program's development was IHS staff recognition of the limited success of a multi-year clinic-based child safety seat distribution program at one American Indian Tribe, where locally observed CSS use ranged from 0% to 12%.

The Ride Safe Program seeks to increase knowledge and skills of Head Start staff and parents about the use of child safety seats and child safety seat use among Tribal Head Start families. Ride Safe addresses three national Head Start Performance Standards for injury prevention (1304.22d.1.2), family partnerships (1304.40) and community partnerships (1304.41). It does so by: ensuring that staff and volunteers can demonstrate child passenger safety skills properly; fostering safety awareness among children and childcare providers; and engaging in a collaborative partnership with other government and non-government groups to conduct child passenger safety activities [16].

The Ride Safe Program includes four components: (1) a CPS curriculum tailored for use by Tribal Head Start teachers, health coordinators, and other staff; (2) funding for CPS Technician certification training; (3) child safety seats (CSS); and (4) guidelines for evaluation activities including progress reporting, follow-up home visits, and observations of CSS use (Table 1). At each participating Tribal Head Start Center, at least one staff person is designated the Ride Safe Program Coordinator. This person is primarily responsible for completing program activities, including data collection for evaluation purposes. The Ride Safe Program curriculum includes eight guides, six related to program implementation in Tribal Head Start Centers and two focused on gaining support for the program outside Tribal Head Start Centers.

Tribal Head Start Center staff, particularly those designated Ride Safe Coordinators, are encouraged to use funding to obtain CPS certification training, especially if a Tribal Head Start Center is unable to identify or partner with a local CPS Technician to provide support at Ride Safe CSS installation events. Ride Safe Coordinators request child safety seats (e.g., convertible, combination, high-back booster, low-back boosters) based on Head Start

Table 1 Ride Safe Program components

I. Ride Safe Program Curriculum (n = 8 guides)

A. Program implementation guides (n = 6)

Outlines key responsibilities and activities of the Ride Safe Program

1. *Site preparation guide*: outlines three primary activities coordinators should complete prior to the school year: (a) conduct a Head Start CPS resource assessment; (b) develop a budget; and (c) meet with potential CPS Partners

2. *Coordinator's guide*: describes overall coordinator roles, responsibilities, and suggestions for implementing, reporting about, and evaluating main program aspects

3. *Child safety seat distribution guide*: provides practical considerations and instructions for the distribution and installation of child safety seats

4. *Staff and childcare provider's guide*: outlines activities to provide CPS education to Head Start Center staff, parents, and childcare providers

5. *Child passenger safety seat use observation guide*: provides instructions and tools for conducting child safety seat use observational surveys

6. *Resource guide*: outlines CPS resources to enhance program activities

B. Program support guides (n = 2)

Provides resources for non-Head Start Center staff to assist with program implementation, as well as suggestions for Coordinators to conduct community-wide CPS activities

7. *Program support staff guide*: provides information for local IHS Environmental Health Officers and/or Injury Prevention Specialists to support and monitor Ride Safe Program activities

8. *Tribal partnerships guide*: provides ideas and tools for expanding CPS safety activities to the larger community through partnership activities

II. Funding for CPS certification training

A. Tribal Head Start Center staff (4 day technician training that culminates in national certification by the Safe Kids Worldwide organization (www.safekids.org), or 2 day child passenger safety assistant training, offered by some state health programs (e.g., Minnesota)

B. Rely on certified technicians if staff cannot be trained

III. Child safety seats

A. Convertible, combination, high-back booster, low-back booster

B. Based on Tribal Head Start Enrollment/age figures

IV. Guidelines for evaluation

A. Progress reporting

B. Knowledge-attitude-skill surveys

C. Follow-up home visits

D. Child safety seat use observational surveys

enrollment/age figures. They are encouraged to conduct follow-up home visits 2–3 months after child safety seats are provided to a family. At that time, coordinators review installation information with parents, determine whether the CSS is present and correctly installed in the vehicle, provide additional training as needed, and reinforce child safety seat use by providing positive feedback to parents. To assess the utility of the program, Coordinators are provided guidelines, tools, and methods for conducting evaluation activities. During the pilot year and three subsequent years of Ride Safe implementation, faculty and staff from the University of North Carolina (UNC) School of Public Health provided on-going external evaluation assistance to Ride Safe Program managers. UNC consultants provided feedback on program curriculum and guidance for planning and completing evaluation activities, particularly progress reporting and conducting child safety seat use observational surveys.

Methods

During planning for Ride Safe, program developers conducted one focus group with community members and Head Start Center staff to assess reasons why parents do not require their children to use child safety seats, identify ways of marketing CSS use in the community, and determine a reliable point-of-contact for distributing/installing child safety seats. Near the end of the pilot year (Spring 2003), program developers conducted a second focus group with six Head Start, injury prevention, and IHS staff involved with Ride Safe to discuss program components and identify ways to improve the program curriculum. During initial program development and at the end of each program year, UNC consultants provided feedback on the appropriateness of program content, program implementation feasibility, and evaluation activities. The Ride Safe Program manager also annually conducted end-of-year semi-structured

interviews (in-person or by email/telephone) with each Ride Safe Coordinator (n = 14 over 3 years) to identify challenges to program implementation and collect suggestions to streamline educational and/or evaluation activities. Ride Safe site coordinators also submitted semi-annual progress reports to document key Ride Safe Program implementation variables (e.g., distribution of child safety seats, completion of home visits, CPS technician training activities, and staff/parent training sessions).

To assess changes in child safety seat use among Head Start Center families, the program provided standardized guidelines to Ride Safe Coordinators who were responsible for conducting child safety seat use observational surveys at the start and the end of the academic year. To ensure ease-of-use and understanding for conducting surveys, step-by-step instructions were provided. Survey methods outlined the following: *how often to conduct surveys* (twice per program year; once at both the start and end of the school year); *how many people should conduct surveys* (two—a spotter and a recorder); *where to conduct surveys* (at a minimum of three Head Start and/or community locations at which they would be likely to observe local/Tribal children who are Head Start aged traveling in vehicles where traffic slows or comes to a stop and where the observer can clearly see into the vehicles); *who to observe* (toddlers aged 3–5); *when to conduct observations* (at times of day where they would be most likely to observe Head Start-aged children traveling in vehicles); *how long to conduct observations* (at least 40 min per observation location); *what observation form to use and how to properly complete it*; and *how to submit data* (sending completed forms with semi-annual progress reports to the Ride Safe Program manager). Because of the difficulties in implementing more complex sampling strategies, and time constraints faced by program staff assigned to collect data, we relied upon the knowledge of Ride Safe Coordinators to identify and use the observation locations at which they would be more likely to observe Tribal, Head Start-aged children. Coordinators collected CSS use observations at both Head Start and community locations because many children were brought to the centers by bus. This allowed us to measure the impact of the Ride Safe intervention more broadly than we could have by observing only those toddlers who actually attended the Head Start program.

We analyzed three program years (2003–2004, 2004–2005, 2005–2006) of CSS use data using the Survey Logistic procedure in SAS/STAT software, Version 9.1 of the SAS System for Windows.[1] In total, six rounds of data collection occurred, with one round at the beginning and end of each of three program years. While child safety seat use data were collected at sites participating in the first (pilot) year of the program (2002–2003), a delay in program start-up for many sites allowed for data collection at only one point in time and thus those data are excluded from our regression analyses. To examine child safety seat use, we applied three multiple logistic regression models. SAS Survey Logistic uses a Taylor Expansion approximation method to calculate standard errors and confidence intervals for clustered data [17]. We also calculated use rates by site for each round.

The first model analyzed CSS use data from six sites that collected Rounds 1 and 2 data to determine initial success. The second regression model used an intent to treat analysis [18] with data from 11 sites collecting data for at least Round 1. Our intent to treat analysis considers the change in use rates between Rounds 1 and 2, which represents data collected prior to and after program implementation, respectively. For the five sites providing only Round 1 data, our intent to treat analysis conservatively assumed that sites lost to follow-up between a Round 1 and Round 2 would have shown no change in CSS use. The third model assessed child safety seat use rates over time, using three sites' data for three program years (i.e., six rounds of data) by comparing use rates for Round 1 to use rates found in Rounds 2, 3, 4, 5 and 6 for these sites.

Results

Focus groups conducted prior to program implementation with key stakeholders such as Head Start parents and Head Start Center staff yielded nine reasons why Tribal parents did not use child safety seats with their children (Table 2).

To modify and enhance the Ride Safe curriculum, program staff used results from one focus group conducted at

Table 2 Reasons why parents do not use safety seats for their children

1. Occupant restraint (child safety seat and/or seatbelt use) is not mandated by state and/or tribal law or regularly enforced authorities
2. Adult family members don't use vehicle restraints
3. Families cannot afford child safety seats
4. Children are resistant to being placed in a child safety seat
5. Child safety seats are hard to install
6. Vehicle size/space limitations prevent use of child safety seats
7. Parents believe holding a child in the event of a crash is safer than a child safety seat
8. Short trips are not perceived as being hazardous
9. Some older vehicle restraint systems (lap belt) are incompatible with booster seats

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the end of the pilot year (Spring 2003), annual end-of-year interviews with Ride Safe Coordinators, and annual technical review of the curriculum. Changes made focused primarily on: providing additional details, examples, and instructions; modifying program evaluation activities and procedures; and developing program marketing materials.

A total of 14 unique Tribal Head Start sites in six states implemented Ride Safe over four school years (2002–2006). During this time, a total of 2,916 child safety seats were provided for installation, 78 Tribal Head Start staff obtained child passenger safety seat certification training, and over 1,700 parents and 350 Tribal Head Start staff attended child safety educational sessions. Table 3 highlights program implementation indicators obtained for the Ride Safe Program's reach, child safety seat distribution, education/training activities, and the extent to which sites reported observational CSS use data.

Table 4 summarizes data from the six sites with *both* Rounds 1 and 2 data in Year II. We included site *F*s data in this analysis because the intervention for this site began at Round 3, making this site's Rounds 3 and 4 data similar to other sites' Rounds 1 and 2 data. During the first year that these sites implemented Ride Safe, children were 2.55 times as likely to be observed restrained at Round 2

Table 3 2002–2005 Ride Safe Program implementation indicators

Program implementation indicators		Pilot year 2002–2003	Program year II 2003–2004	Program year III 2004–2005	Program year IV 2005–2006	Total
Program reach						
Number of new Ride Safe sites participating		5	7	1	1	14
Number of total Ride Safe sites participating		5	13	9	7	34
Head Start center enrollment		655	1,080	819	936	3,490
Child safety seat information						
Child safety seats provided by Ride Safe program		730	963	770	453	2,916
Total costs of child safety seats ($55/seat)		$40,150	$52,965	$42,350	$25,000	$160,465
Child safety seats distributed/installed[a]		427	270	336	474	1,507
Education and training						
HS Staff educational sessions		6	19	12	3	40
HS staff participation in educational sessions		43	165	92	58	358
Parent/Family educational sessions		25	42	28	23	118
Parent/Family participation in educational sessions		702	242	236	564	1,744
Follow-up home visits		125	45	181	204	555
CPS technician certification[b]		–	–	–	37	78[b]
Data collection						
At the *start* of school year	Number of sites collecting data	–	10	7	6	23
	Total number of child safety seat use observations conducted	–	316	214	106	636
	Average number of child safety seat use observations conducted	–	~32	~31	~18	~28
At the *end* of school year	Number of sites collecting data	–	6	5	6	17
	Total number of child safety seat use observations conducted	–	163	224	235	622
	Average number of child safety seat use observations conducted	–	~27	~45	~39	~37
At *start and end* of school year	Number of sites collecting data.	–	5	4	5	14
	Total number of child safety seat use observations conducted.	–	479	438	341	1,258
	Average number of child safety seat use observations conducted.	–	~96	~110	~68	~90

[a] Several sites did not submit complete progress reports to document this information (particularly in 2003–2004). IHS Ride Safe Program managers had reason to believe that the number of child safety seats distributed/installed was higher than data summarized in Ride Safe Coordinator progress reports

[b] During the pilot year and the first two program years, 41 people working with the Ride Safe Program obtained CPS technician certification. Information by program year was only available for year IV

Table 4 Adjusted odds ratios for toddler use of child safety seats at six Ride Safe sites and intent to treat analysis for 11 sites collecting Rounds 1 and 2 data[a,b,c]

Model (Variables)	Logistic regression analysis for six sites with Rounds 1 and 2 data		Intent to treat analysis for 11 sites using Rounds 1 and 2 data (actual and imputed)	
	Round 2 vs. Round 1[a] OR (95% CI) ($n = 369$)	p-Value	Round 2 vs. Round 1[b] OR (95% CI) ($n = 713$)	p-Value
Round 1	1.00	–	–	–
Round 2	2.55 (1.58, 4.12)	<0.01	1.74 (1.22, 2.47)	<0.01
Community	1.00	–	1.00	–
Head Start	1.33 (0.87, 2.04)	0.18	0.69 (0.37, 1.30)	0.25

[a] Six sites (A, B, C, D, E, F) participating (refer to Table 6)

[b] Eleven sites (A, B, C, D, E, F, G, H, I, J, K) included in intent to treat analysis (refer to Table 6)

[c] Site *F*s Rounds 3 and 4 data were included in this analysis because the intervention for this site began during these rounds, making this site similar to other sites participating in Rounds 1 and 2

compared to Round 1. The higher use rate observed at Head Start Centers compared to community locations was not statistically significant. Table 4 also summarizes the more conservative Intent to Treat analysis, using data for 11 sites, showing that the odds of being observed restrained at the end of the first year in the program were 74% higher (OR = 1.74, $p = <.01$).

The logistic regression results for the three sites that participated in Ride Safe for 3 years and collected six rounds of CSS observational survey data indicated substantial improvements in restraint use between Rounds 1 and 2, with children being three times (OR = 3.03) as likely to be observed in child safety seats (Table 5). The increase was not fully sustained in subsequent years.

Table 6 shows child safety seat use data for the 14 Ride Safe sites participating in the three program years (excludes pilot year). The table lists child safety seat use rates for the six rounds of data collection by location of observations (e.g., Head Start and Community). Among the sites submitting data during these three program years, the overall child safety seat use rate ranged from 30% to 71%, and individual site child safety seat use rates ranged from 0% to 100%. The overall CSS use rate for observations at all sites/rounds (n = 1,258) was 47.5% (CI: 33.8–61.1).

Discussion

The Indian Health Service developed the Ride Safe Program to increase child safety seat use among AI/AN children and thereby reduce AI/AN child injury morbidity and mortality from motor vehicle crashes. Our analysis revealed that the Ride Safe Program obtained strong initial success in increasing child safety seat use (ORs = 2.55; 1.74 with most conservative estimate). We do not know why this increase was not sustained in subsequent years, however a decrease in intervention intensity over time may have contributed. Our conservative approach to analysis guarded against a biased, potentially more positive conclusion that the program was successful based on three sites (Table 5) or six sites (Table 4) providing more complete data. Rather than attrition disproportionately affecting

Table 5 Adjusted odds ratios for toddler use of child safety seats at three Ride Safe sites with complete data for three program years (Rounds 1–6)[a]

Model (Variables)	Round 1 vs. Rounds 2–6 OR (95% CI) ($n = 709$)	Overall toddler CSS use rate		p-Value
		Number observed	Percent use	
Round 1	1.00	101	33.7	–
Round 2	3.03 (1.52, 6.04)	99	60.6	<0.01
Round 3	1.05 (0.65, 1.69)	95	39.0	0.85
Round 4	1.36 (0.83, 2.23)	186	40.9	0.22
Round 5	1.37 (0.68, 2.77)	66	40.9	0.39
Round 6	1.54 (0.70, 3.45)	182	44.0	0.29
Community	1.00	238	44.1	–
Head Start	0.99 (0.63, 1.53)	471	42.0	0.95

[a] Sites A, B, C participating (refer to Table 6)

Table 6 Number of toddlers observed and percent toddler child safety seat use rates by Ride Safe site (2003–2006)

Sample characteristics	Program year II 2003–2004				Program year III 2004–2005				Program year IV 2005–2006			
	Round 1 (Fall 2003)		Round 2 (Spring 2004)		Round 3 (Fall 2004)		Round 4 (Spring 2005)		Round 5 (Fall 2005)		Round 6 (Spring 2006)	
Ride Safe sites	*N* observed	Percent use	*N* observed	Percent use	*N* observed	Percent use	*N* observed	Percent use	*N* observed	Percent use	*N* observed	Percent use
A	39	41.0	41	73.2	20	55.0	3	66.7	9	77.8	27	70.4
B	53	26.4	35	57.1	57	38.6	59	47.5	42	38.1	62	62.9
C	9	44.4	23	43.5	18	22.2	124	37.1	15	26.7	93	23.7
D	4	50.0	2	100.0	0	0.0	3	66.7	7	71.4	5	80.0
E	42	52.4	45	64.4	46	69.6	0	0.0	–	–	–	–
F	-[a]	–	–	–	41	46.3	35	62.9	–	–	–	–
G	10	80.0	0[b]	0.0 [b]	25	80.0	0	0.0	26	88.5	38	92.1
H	21	14.3	0	0.0	–	–	–	–	–	–	–	–
I	21	4.7	0	0.0	–	–	–	–	–	–	–	–
J	74	0.0	0	0.0	–	–	–	–	–	–	–	–
K	43	55.8	0	0.0	–	–	–	–	–	–	–	–
L	0	0.0	17	76.5	7	57.1	0	0.0	7	71.4	0	0.0
M	0	0.0	0	0.0	–	–	–	–	–	–	–	–
N	–	–	–	–	–	–	–	–	0	0.00	10	80.0
Total sample	316	29.8	163	70.8	214	52.3	224	44.6	106	56.6	235	54.0
Site type												
Head Start [c]	239	32.2	60	68.3	113	49.6	152	43.4	77	59.7	147	50.3
Community [d]	77	22.1	103	61.2	81	55.6	72	47.2	29	48.3	88	60.2
Unknown[e]	0	0.0	0	0.0	20	55.0	0	0.00	0	0.00	0	0.00

[a] Did not participate in program year

[b] 0/0.0=data were not collected and/or reported by site

[c] Number of sites submitting Head Start site type data: Round 1 $n = 7$, Round 2 $n = 3$, Round 3 $n = 4$, Round 4 $n = 2$, Round 5 $n = 3$, and Round 6 $n = 4$

[d] Number of sites submitting community site type data: Round 1 $n = 6$, Round 2 $n = 5$, Round 3 $n = 5$, Round 4 $n = 4$, Round 5 $n = 4$, and Round 6 $n = 5$

[e] Number of sites submitting unknown site type data: Round 3 $n = 1$

sites not providing end-of-year data, our intent to treat analysis included data for 11 sites that provided at least initial data for their first year in the program.

Tribal Head Start Centers served as the Ride Safe Program's location for distributing/installing child safety seats and conducting child passenger safety education instead of a more traditional clinic-based child safety seat distribution-only program [19]. These centers are trusted information venues in many AI/AN communities and serve as central community locations where children and parents participate in educational sessions (e.g., in class, at parent meetings, and during home visits). The Ride Safe Program's curriculum (Table 1) recommended activities that were consistent with Tribal Head Start performance standards, thus increasing the likelihood of adoption of this program by Head Start staff/administrators. Through discussion with end-users, Ride Safe Program managers developed and subsequently revised program implementation activities. For some sites, however, program implementation was limited to distributing/installing child passenger safety seats along with hands-on skills training. The Ride Safe Program was able to reach approximately 3,500 children during it's first 4 years of implementation. Incomplete reporting about program implementation prevented program managers from confirming the actual number of seats distributed/installed by site and overall for the program.

Child safety seat use rates in AI/AN communities is limited and research has shown that direct observation of child restraint use can be difficult to conduct [20]. Opportunities to observe child safety seat use for AI/AN children were limited, even at the Head Start Center location, where many children were brought to the centers by bus. It was therefore useful to collect observation data at community as well as Head Start locations, which allowed us to measure the impact of the Ride Safe intervention

more broadly than we could have by observing only those who actually attended the Head Start program.

Ride Safe Program managers provided guidelines to Ride Safe Coordinators for collecting and reporting CSS use at the beginning and end of each program year. Despite doing so, Ride Safe Coordinators experienced challenges in conducting/reporting CSS use observational surveys. This type of data collection activity was new and unfamiliar to many of the Ride Safe Coordinators. The program was limited financially in its ability to ensure that Ride Safe Program coordinators completed data collection methods as outlined. Some coordinators did not: complete observations two times per year as instructed; observe a similar number of children during both rounds of data collection per year; complete surveys at the recommended three observation locations during each round of data collection per year; and/or collect data during the months recommended at the start (August/September) and end (May/June) of the school year. While there may be some inconsistencies in data collection both within and across participating sites, our attempts to evaluate the impact of the program through the collection of CSS use data relied upon the best available, low-cost approach using local-level staff, time, and resources. Failure to submit survey data does not necessarily represent a failure to implement the core component of the program (i.e., installation of child safety seats). Additionally, coordinators gained a better understanding of the need to collect observational data to evaluate their Ride Safe activities [21].

Education and child safety seat distribution/installation within a Tribal Head Start Center appears from our data to be a potentially viable way to increase child safety seat use. While the Ride Safe data should be considered preliminary regarding the effectiveness of the program, this is one of the few published articles that reports AI/AN-specific child safety seat use. The overall child safety seat use rate of 47.5% for the AI/AN communities participating in the Ride Safe Program remain far below US child safety seat use rates of 98% of infants, 89% of children aged 1–3, and 78% of children aged 4–7 [2]. The continuing disparity suggests the need to do more to understand how best to increase CSS use in American Indian/Alaska Native communities and to support more extensive implementation of child passenger safety interventions in these communities. For example, AI/AN children are often cared for by extended family members (e.g., grandparents), yet the Ride Safe Program currently provides only one seat per AI/AN Head Start Center family. Additional child safety seats installed in relatives' cars might improve use rates for child safety seat in AI/AN communities. However, the Ride Safe Program alone will not reduce the disparity in child safety seat use among American Indians/Alaska Natives living on tribal lands, but rather may need to be reinforced through enactment and enforcement of laws requiring child occupant restraints. Strategies to increase collaboration among community safety entities (e.g., Safe Kids organizations, injury prevention program staff, public safety personnel) are needed to develop, enhance and/or enforce existing child restraint use laws on Tribal reservations.

For reducing motor vehicle crash injuries, strong evidence exists for the effectiveness of combining equipment distribution and educational interventions with law enforcement activities (e.g., occupant restrain laws, primary enforcement laws, enhanced enforcement programs) [1, 19]. The Ride Safe Program Curriculum included guidelines for working with local law enforcement to develop, strengthen, and/or enforce existing CSS use laws, however, few sites were able to accomplish this multifaceted approach. Most sites did not have the time and/or resources to work with local law enforcement personnel. Difficulties in addressing child safety seat use enforcement were compounded by other factors in AI/AN communities, such as tribal sovereignty issues, adherence to state enforcement laws, tribal enforcement challenges. [14, 15]. Strategies for addressing these factors as part of a comprehensive child passenger safety program in AI/AN communities may further boost child passenger seat use rates for AI/AN children.

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