Positive Income Shocks and Accidental Deaths among Cherokee Indians: A Natural Experiment

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ABSTRACT

The literature finds that receipt of a large portion of income may increase risk-taking behavior. This work implies that persons with an unexpected gain in income will exhibit an elevated risk of accidental death. We test this hypothesis by capitalizing on a natural experiment in which Cherokee Indians received discrete lump sum payments from a new casino. We applied Poisson regression to the monthly count of accidental deaths among Cherokee Indians over 204 months spanning 1990 to 2006. Fixed-effects methods controlled for temporal patterns in accidental deaths (e.g., seasonality, trend) as well as changes in population size. Results support the hypothesis in that the risk of accidental death rises above expected levels during months of the large casino payments (relative risk = 2.95; 95% confidence interval = 1.06 – 8.25). Further analyses of ethnographic interviews and behavioral surveys support that increased vehicular travel and consumption of health-damaging goods may account for the almost three-fold rise in accident proneness. Our work expands on the scant literature that researches natural experiments to identify causal economic antecedents of health.

INTRODUCTION

Accidental death ranks as the fifth leading cause of mortality in the United States (Xu et al., 2010). Unintentional motor vehicle crashes, poisoning, and falls account for eighty percent of these deaths. Also referred to as mortality from unintentional injury, accidental death has gained increasing attention as its incidence has remained relatively stable despite the secular decline in age-adjusted mortality (Jemal et al., 2005; Xu et al., 2010). The literature finds that both ecological and individual-level factors affect the incidence of accidental injury and death (Carpenter & Stehr, 2008; Bruckner, 2008; Catalano, 1979; Berg et al., 2000).

Several studies in low-income populations, including a randomized, large scale conditional cash transfer experiment (Fernald, Gertler, & Hou, 2008), report the somewhat counterintuitive finding that positive income shocks adversely affect adult health (Samet, 2001; Phillips, Christenfeld, & Ryan, 1999). This literature typically assumes that receipt of a large portion of annual income increases, in the short term, risk-taking behavior and/or the consumption of health-damaging goods (Dobkin & Puller, 2007). State-level analyses, moreover, support that years of economic expansion coincide with a per capita increase in vehicle miles traveled, alcohol consumption, and motor vehicle fatalities (Evans & Graham, 1988; Ruhm, 1995; Ruhm, 2000; Svensson, 2010). This work implies a "full-wallet" hypothesis in which persons with an unexpected gain in income may alter behaviors which, in turn, increase the acute risk of accidental death. We know of no literature that directly tests this hypothesis.

In the late 1990s, the Eastern Band of Cherokee Indians in rural North Carolina underwent a natural experiment by way of the introduction of a casino on their lands. Under the terms of an agreement with the Cherokee, the casino allocated a percentage of profits in acute lump sums to all enrolled Cherokee Tribal members. Gaming proved profitable; since 1996, per capita payments to Cherokee have averaged $5,655 per year. We note that the opening of the gaming casino was neither truly exogenous nor effectively randomly assigned by nature (such as an earthquake) and therefore does not adhere to the strict definition of a natural experiment. However, we use this term to be consistent with previous literature on this population.

Per capita disbursements raised income levels of an entire community that previously exhibited a high rate of poverty. Between the years of 1995 and 2000, the percent of Cherokee families below the poverty line fell from almost 60% to less than 25%, while the percent of non-Indian families in surrounding areas below poverty hovered at approximately 20% during the same time span (Costello et al., 2003). In addition, Harrah's, the company that operates the casino, contributes a certain percentage of gaming profits to Tribal infrastructure every year. For example, in 2003, Harrah's directed 9% of gaming profits to Tribal health and medical services (Ha & Ullmer, 2007). Previous studies indicate a long-term cumulative salutary impact of per capita checks on Cherokee mental health and substance use behavior (Costello et al., 2003; Costello et al., 2010).

The lump sum and relatively large amount of the per capita payment to the Cherokee provides a unique opportunity to test whether deaths due to unintentional injury rise above expected values in months of the positive income gain. We test this hypothesis using monthly mortality data on American Indians, a population that exhibits the highest incidence of accidental deaths of any race/ethnicity in the US (Xu et al., 2010; Centers for Disease Control and Prevention, 2005). Our study aims to identify antecedents of accidental deaths and to expand the scant literature that analyzes the potentially causal relation between income shocks and health (Lindahl, 2002; Evans & Moore, 2009; Kawachi, Adler, & Dow, 2010).

METHOD

Variables and Data

In 1995, the Eastern Band of Cherokee Indians opened a casino on the Qualla Boundary land trust. In 1997, they entered into an agreement with Harrah's to manage the casino. The Qualla Boundary lands span between Jackson and Swain counties, and the vast majority of Cherokee Indians live either in these counties or in non-contiguous lands known as Snowbird, primarily located in Graham County. We therefore focused our analysis on these three counties, which have a total population estimated at 57,000.

We acquired monthly incidence data for accidental deaths in these three counties from North Carolina Vital Statistics mortality file (NCVS) for 204 months spanning from 1990 to 2006 (longest series of mortality data at the time of our tests) (North Carolina State Center for Health Statistics, 2008). The reporting of deaths are believed to be nearly 100 percent complete (North Carolina State Center for Health Statistics, 2010). Beginning in 1999, North Carolina moved from reporting cause of death using International Classification of Disease, 9th

Revision (ICD-9) codes to the ICD-10 codes. As a result, we used the ICD-9 codes for the years 1990 through 1998 and the ICD-10 codes for 1999 through 2006.

We used as the outcome variable the monthly count of American Indian deaths that, consistent with the U.S. Division of Vital Statistics, comprise mortality due to unintentional injury (Xu et al., 2010). This selection strategy necessarily excluded deaths due to intentional injury (e.g., homicide). Table 1 lists the ICD codes used to classify accidental deaths.

We examined American Indian deaths in Jackson, Swain, and Graham counties as a proxy for Cherokee deaths. No other federally recognized, state recognized, or unrecognized Tribes exist in the western North Carolina area, and the Cherokee have historically been the only Tribe in this region of western North Carolina. Previous studies have used the census indicator of American Indian or Alaska Native as a proxy for Cherokee in this region (Costello, et al., 2003). We restricted our analysis to persons less than 55 years of age to focus on the population whose accident proneness appears responsive to income gains (Catalano et al, 2000; Evans & Moore, 2009; Fernald, Gertler, & Hou 2008).

We defined the independent variable as a binary indicator coded “1” in the months in which Cherokee received the per capita disbursement and “0” for all other months. The disbursement of per capita checks occurs on June 1 and December 1; checks began in December of 1995 and continue to this day (Ha & Ullmer, 2007). Unlike other income transfer programs in which recipients obtain monthly checks, the Cherokee received their payout either as an annual or bi-annual lump sum. From 1995 to 1998, all Cherokee 18 years or older received an annual lump sum in December, after which they received payment twice a year in June and December. Cherokee less than 18 years of age received the funds in a trust account that would accumulate until they turned 18 (or 21 if they had not obtained a high school degree or GED) and could gain access.

Design and Analysis

Our test turns on whether the observed value of accidental deaths among the Cherokee rises above expected values during months in which the Cherokee receive the per capita payment. Literature that examines the temporal distribution of accidents typically assumes that the expected value of the outcome follows a Poisson probability distribution (Kaplan & Prato, 2007; Bruckner, 2008). We began the analysis with this assumption. To ensure that the probability of accidental death in a particular month was proportional to the size of the population at risk, we used as an offset variable the estimated monthly Cherokee population size less than or equal to 55 years of age in Jackson, Swain, and Graham counties (US Census Bureau, 2009).

Accidental deaths may exhibit temporal patterns such as trend or seasonality (Muller, 1989). This circumstance could confound our test if, for example, many accidental deaths predictably occurred in Decembers and coincided with the timing of per capita disbursement. To control for such confounding by time, we included fixed-effect indicator variables both for year and calendar month.

Next, we added the binary variable indicating months in which Cherokee received the per capita disbursement to the model. We specified a concurrent relation at month 0 (i.e., accidental deaths rise in the same month of per capita payment) because we hypothesize a proximate response to the income receipt. This acute response, moreover, appears consistent with previous research on economic antecedents of accidental death (Bruckner, 2008).

The above steps yielded the following test model:

$$\text{Log}(\mu_{jt} \mid \text{S}_j, \text{M}_t, \text{percap}_{jt}) = \beta_0 + \sum_{j=1}^{16} \beta_j \text{S}_j + \sum_{z=1}^{11} \beta_t \text{M}_t + \beta_z \text{percap}_{jt} + \log(\text{N}_{jt})$$

Where:

$\text{Log}(\mu_{jt} \mid \text{S}_j, \text{M}_t, \text{percap}_{jt})$ is the log- mean count of Cherokee deaths due to unintentional injury in year *j* and calendar month *t*, conditional on a fixed set of covariates

β_0 is the overall intercept

β_j is the coefficient for year *j*

S_j is an indicator variable for year *j* (1991 to 2006; 1990 as referent year)

β_t is the coefficient for calendar month *t*

M_t is an indicator variable for calendar month *t* (February to December; January as referent month)

β_z is the coefficient for the per capita payment variable at lag 0

percap_{jt} is an indicator variable for the per capita payment in year *j* at month *t*, coded “1” for months of payment and “0” otherwise

N_{jt} is the estimated Cherokee population size ≤ 55 years of age in Jackson, Swain, and Graham counties in year *j* at month *t* (i.e., offset variable)

We also included a dispersion parameter that allows the variance of the outcome to be greater or less than its mean. If the dispersion parameter reached statistical significance, then the computational program (i.e., PROC GENMOD, LINK= NB command in SAS) assumed a negative binomial, rather than a Poisson, error structure. Consistent with the recommendation in the literature, we used a sandwich estimation procedure to yield robust standard errors (Zou, 2004).

A positive association between the per capita month variable and the log-count of accidental deaths would support the hypothesis. If a statistically significant coefficient was found, we performed two additional exploratory analyses to assess (1) whether behavioral and ethnographic data from the Cherokee would illuminate behaviors consistent with our initial hypothesis; and (2) whether the per capita payment indirectly raised the risk of accidental deaths for *non*-American Indians in Jackson, Swain, and Graham counties that share the economic base of the Cherokee community.

RESULTS

Table 2 describes the characteristics of accidental deaths to Cherokee Indians in Jackson, Swain, and Graham counties from 1990 to 2006.

Unintentional motor vehicle/transport injury accounted for the majority of the 75 deaths. Males comprised 76% of total accidental deaths, and persons with less than a high school education comprised 48% of the total.

Figure 1 plots the observed probability distribution of accidental deaths over the 204 months for the Cherokee as well as the discrete probabilities expected under the Poisson distribution. Inspection of these two plots indicates that accidental deaths follow a Poisson distribution. In 72 percent of all months analyzed, no (i.e., 0) accidental deaths occurred. The mean number of deaths was 0.37 per month. The risk of accidental deaths in the 23 months with per capita payments was 0.85 whereas the risk in the other 181 months was 0.34 (crude relative risk = 2.5).

Table 3 shows the results from the Poisson regression in which we included the per capita payment variable, population offset term, year fixed effects, and calendar month fixed effects (see Appendix for full model). The dispersion parameter (coefficient = -0.0996; 95% confidence interval [CI] = -0.25 to 0.24) indicates that the Poisson model offers a sufficient fit for the analysis. Results show increased accidental deaths in months of the per capita payment (relative risk= 2.95, 95% CI = 1.06 – 8.19).

Inclusion of fixed-effect parameters such as the 16 year and 11 calendar month indicator variables—if they are not confounders—may lead to a loss of precision given the relatively few accidental deaths that occurred over our test period. We employed a rule-based “change-in-estimate” strategy, routinely used in the epidemiologic literature (Maldonado & Greenland, 1993), to determine whether to include these potential confounders in the Poisson regression. This strategy includes the confounder only if adjusted and unadjusted estimates of the main coefficient of interest (i.e., casino payment) differ by at least 10%. We began with the unadjusted base model in which we included an intercept, the population size offset variable, and the casino payment coefficient. We specified in the base model a robust standard error estimation strategy which adjusts for clustering, or temporal patterning, in the monthly data. This base model shows a 2.62 fold increased risk of accidental death during months of the casino payment and a gain in precision relative to the fixed-effects model (95% CI = 1.54 – 4.47). Next, we compared the unadjusted casino coefficient in the base model to the adjusted coefficient in three separate models: (1) base model + year indicator variables; (2) base model + year (linear) time trend; and (3) base model + month indicator variables. Using the recommended "change-in-estimate" cutpoint of 10%, results indicate that none of the temporal covariates warrant inclusion (results available upon request). This rule-based strategy supports the more parsimonious, and more precise, base model.

Discovered support for our hypothesis led us to explore whether responses to behavioral surveys among the Cherokee could illuminate mechanisms connecting per capita payments to a rise in accidental deaths. For this analysis, we used two sources of data. The second author (Brown) conducted ethnographic research of randomly sampled persons in and around the Jackson, Swain, and Graham counties from 2002-2005 (Brown, Hruschka, & Worthman, 2009). Data collection included 70 life history interviews and 36 focus groups with youth aged 15-25 (n=162). All of the transcripts and interview notes with Cherokee participants (approximately half) were coded using Atlas.ti

(Atlas.ti, 2010) for any mention of per capita checks and spending patterns or plans**.** Cherokee youth discussed spending money on alcohol or drugs, vacations (mostly involving destinations within driving distance), paying off debts. However, they most frequently mentioned spending (or planning to spend) their per capita checks on motor vehicles. For example, a 20 year old Cherokee female explained,

> "Nice cars. - that's all you hear on the reservation, is nice cars. I have a friend - she went out and bought herself a nice little Honda Accord, with all the extras. She's got colored wires on the engine, tinted windows, everything. Just last week, she wrecked it. There goes all that money! I also know a lot of people, they went out and just talk about how they went somewhere on vacation and now all the money is gone!"

The second source of data comes from the Life Trajectory Interview for Youth (LTI-Y), whose survey properties are described elsewhere (Brown et al., 2006). The LTI-Y includes a supplemental questionnaire regarding spending patterns and plans for per capita checks. In all, 140 Cherokee aged 19-24 years completed the LTI-Y, of which 125 had received per capita checks (15 were below the age of 21 and had not yet received a high school degree or GED). A considerable proportion of these 125 Cherokee (68%) reported spending their per capita checks on motor vehicles, while 35% and 22% reported spending this money on travel or drugs and alcohol, respectively (Table 4).

Our second post-hoc test examined whether *non*-American Indians geographically and economically connected to the Cherokee may also exhibit elevated accidental deaths during months of the per capita payment. This circumstance could arise if, for example, Cherokee spending induced a "ripple effect" throughout the community that bolstered the economy in ways that encouraged vehicular travel or purchasing of goods (e.g., alcohol). These behavioral responses may, in turn, increase accident proneness. We repeated the Poisson analysis described above for all non-American Indian accidental deaths in Jackson, Swain, and Graham counties. From 1990 to 2006, NCVS recorded 199 accidental deaths for this population. Regression results show no relation between per capita payments and these deaths among non-American Indians (RR=0.70; 95% CI: 0.39 -1.26).

DISCUSSION

Analysis of Cherokee Indians in rural North Carolina indicates that the risk of accidental death rises above expected values in the months of a large per capita casino payment to all tribal members. We find an almost three-fold increased risk of accidental death in months of the per capita payment. Exploration of non-American Indians living in these counties, however, reveals no increase in accidental deaths among local residents not receiving the payment. These findings imply that positive income shocks to low-income Cherokee elevate the risk of accidental death.

Explanations for the findings include that this population may respond acutely to a large per capita payment by consuming goods or changing behaviors in ways that increase accident proneness. Exploration of both ethnographic interviews and behavioral survey data support this claim. Cherokee young adults report spending per capita checks on motor vehicles (often fast or luxury vehicles), as well as vacations that involve long driving distances, and alcohol or drugs. A considerable number of Cherokee receive their “big check” of up to $30,000—a cumulative sum of per capita payments that have collected interest each year in childhood until they reach age 18—during the months of June and December. Similar to the behavior in which youth obtain their driver’s license immediately on their birthday, many Cherokee youth purchase a vehicle immediately upon receipt of their “big check.” Some of these youth use alcohol and drugs regularly, and the addition of a vehicle may create an increased risk of accidental death. An added risk may arise from the fact that many of these individuals become first-time vehicle owners with little prior driving experience. Furthermore, recreational vehicles such as motorcycles and All-Terrain Vehicles are common in the area. The intermittent biannual checks (roughly $3000) could cover the cost of a used motorcycle. Such vehicles involve a learning curve that creates a detectable accident hump in the first few months of ownership (Paulozzi, 2005; Rodgers & Adler, 2001). In addition, an increase in vehicular travel and consumption of alcohol or other substances — either in isolation or in combination — reportedly predisposes individuals to increased unintentional injury and death (Cherpitel et al., 2010; Richter et al., 2005; Voas & Tripetts, 1999). We remind the reader that data limitations on the death file did not permit confirmation of any of these mechanisms as definitive causes of accidental deaths in our population.

Strengths of our test include that the NCVS has almost complete enumeration of deaths. We also minimize potential bias due to confounding by time by specifying year and calendar month fixed effects in our equations. This adjustment precludes the possibility of spurious associations due to seasonality or annual changes in accidental deaths that coincide with the months of per capita payment. Results, moreover, cannot arise from fluctuations in residential population size because we included this variable as an offset term in our regression. In addition, knowledge of the timing of the per capita payment allows us to examine the acute mortality response, which appears consistent with induction periods in the literature (Bruckner, 2008; Evans & Moore, 2009).

A notable strength of this study is the ability to combine quantitative approaches to test our hypothesis with qualitative techniques to explore causal relations. As well as living and working in one of the focal North Carolina counties (Jackson County) for three years, the second author (Brown) collected extensive ethnographic and survey data from Cherokee youth. Even with small samples, qualitative and mixed methods data using random sampling (as was the case with Cherokee ethnographic and survey data) can yield reliable estimates of behavioral processes that can be scaled up to inform population level analyses (Duncan, 2008).

The welcomed infrequency of accidental deaths among the Cherokee in rural North Carolina (n=75 over 17 years) left us with insufficient statistical power to perform secondary analyses on particular age groups or specific causes of accidental death. The reader, therefore, should interpret our results as the population health response to per capita payments. We caution against making inference regarding individual-level responses to the per capita payment. In addition, data limitations did not allow for examination of non-fatal unintentional injuries, a circumstance that is 300 times more common than unintentional injury resulting in death (Centers for Disease Control and Prevention, 2010). Survey responses from Cherokee youth in LTI-Y lead us to speculate that non-fatal injuries may also rise above expected values in months of the per capita payment. Given that accidental deaths represent such a small fraction of overall unintentional injuries, we encourage further research on injury.

Previous studies of the impact of the casino on Cherokee health suggest a cumulative salutary benefit over the life course (Costello et al., 2003; Costello et al., 2010), although no attempts have been made to disaggregate salutary effects due to per capita disbursements versus the considerable investment in Cherokee Tribal infrastructure over the years (Ha & Ullmer, 2007). Regardless of the mechanism, it remains possible that the Cherokee experience a long-term aggregate improvement in health while also displaying acute “bumps” in risky behavior — and their attendant accidents — during months of the per capita disbursement (Evans & Topoleski, 2002). Furthermore, the salutary effects described by Costello and colleagues presumably arose via a “trickle down” effect in that young children whose parents received the payment fared better. Such a family-mediated effect may operate quite differently than money directly delivered to adults.

We caution against the intuitive inference from these findings that all income transfers increase risk of accidental death or reduce health in general. We tested the effects of acute positive income gains, which differ from transfers received at regular intervals such as through labor market participation. Receipt of income at regular intervals may in fact raise overall income levels and promote investments in health.

The economics and public health literatures suggest two main alternatives to currently structured lump-sum cash disbursements. First, researchers recommend staggering payments over time to smooth out consumption behaviors (Dobkin & Puller, 2007). This process would, for example, divide annual lump-sum payments into four even quarter-year payments. Second, a particularly promising approach involves the conditional cash transfer in which income receipt occurs only after mandatory attendance of a financial management course, counseling session, and/or wellness seminars (Rawlings & Rubio, 2005; Fernald, Gertler, & Neufeld, 2009).

A recent literature review highlighted the scarcity of research on natural experiments which could help identify causal economic antecedents of health (Kawachi, Adler, & Dow, 2010). Our study of low-income American Indians on a gaming reservation exemplifies such a natural experiment. We find that positive income shocks from gaming Casino revenues coincide with an almost three-fold increase in the risk of accidental deaths. We encourage further investigation to determine both the external validity of our findings and the intervening mechanisms that may connect positive income shocks to fatal and non-fatal injuries.

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Table 1. ICD-9 and ICD-10 codes that comprise Accidental Deaths, 1990 to 2006

Description	ICD-9 Code	ICD-10 Code
Transport accidents	E800–E807, E810–E819, E820–E829, E831, E833–E845	V01–V99
Falls	E880–E886, E888	W00–W19
Accidental discharge of firearms	E922	W32–W34
Accidental drowning and submersion	E830, E832, E910	W65–W74
Accidental suffocation and strangulation	E911–E913	W75–W84
Accidents caused by exposure to smoke, fire and flames	E890–E899, E924	X00–X09
Accidental poisoning and exposure to noxious substances	E850–E869	X40–X49
Other and unspecified accidents	E846–E848, E887, E914–E915, E918, E921, E923, E925–E927, E928, E929	W20–W31, W35–W64, W85–W99, X10–X39, X50–X59

Table 2. Characteristics of Accidental Deaths among Cherokee Indians in Jackson, Swain, and Graham counties, 1990 - 2006

Characteristic	n= 75	(%)
Type of Death		
Transport/Motor Vehicle	42	(56.0)
Poisoning	13	(17.3)
Falls	4	(5.3)
Other	16	(21.3)
Age (in years)		
≤15	4	(5.3)
16 to 24	22	(29.3)
25 to 55	49	(65.3)
Gender		
Male	57	(76.0)
Female	18	(24.0)
Education		
< High school graduate	36	(48.0)
High school graduate	28	(37.3)
Some college	9	(12.0)
College graduate	2	(2.7)

Figure 1. Observed Probability and Expected Poisson Probability Distribution of Accidental Deaths among Cherokee Indians (n= 204 months, 1990 to 2006).

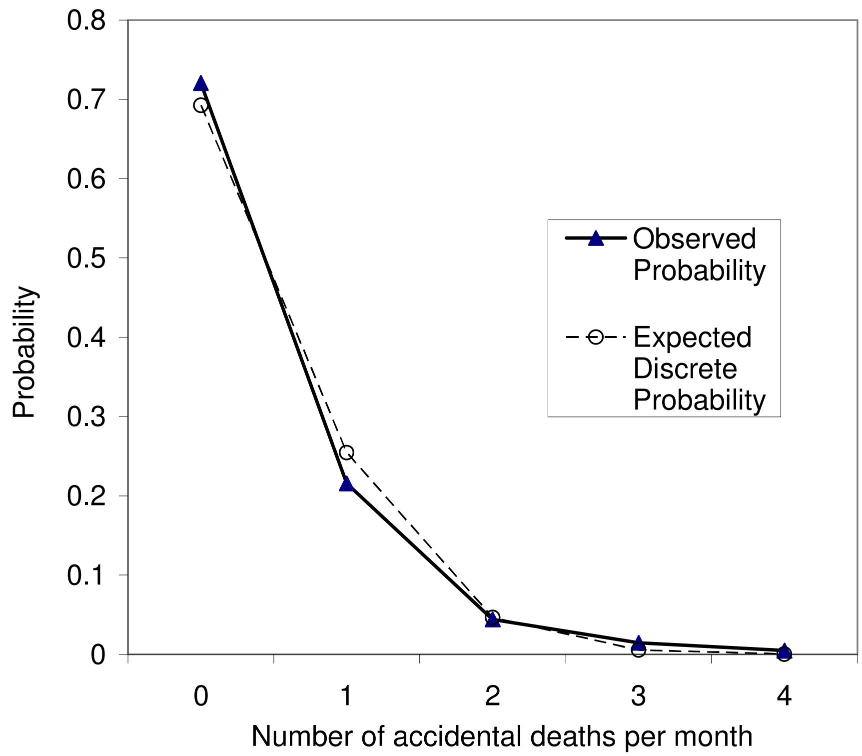

Table 3. Relative Risk of Accidental Deaths (robust 95% confidence interval) for Cherokee Indians in Jackson, Swain, and Graham counties, 1990-2006.

	Relative Risk (95% CI)
Month of Per Capita Payout	2.95 (1.06 – 8.25)
11 Month Indicator variables	Not shown
16 Year Indicator variables	Not shown
Population Offset Term	Yes
Dispersion Parameter	No
Quasi-likelihood Independence Criterion	610.44

Table 4. Frequency of reported spending of per capita payment among a random sample of Cherokee youth (N=140).

	N (%)		
Reported spending per capita payment on:	**All**	**Female**	**Male**
Vehicle (car, truck, or motorcycle)	85 (68.0)	44 (66.7)	41 (69.5)
Vacation/travel	35 (28.0)	16 (24.2)	19 (32.2)
Alcohol or drugs	22 (17.6)	6 (9.09)	16 (27.1)

Note: Percentage totals do not sum to 100% since (1) not all response categories are shown in the Table and (2) respondents may report spending in multiple categories.

Appendix. Relative Risk of Accidental Deaths (robust 95% confidence interval) for Cherokee Indians in Jackson, Swain, and Graham counties, 1990-2006.

Variable	Relative Risk (95% CI)	
Months of Per Capita Payout (referent: all other months	2.95	(1.06 – 8.19)
Years (referent: 1990)		
1991	0.59	(0.18 –1.95)
1992	0.58	(0.16 – 2.12)
1993	1.31	(0.36 – 4.75)
1994	0.73	(0.21 – 2.56)
1995	0.31	(0.08 – 1.20)
1996	0.46	(0.13 – 1.56)
1997	0.15	(0.02 – 1.31)
1998	0.50	(0.12 – 2.04)
1999	0.37	(0.07 – 2.10)
2000	0.25	(0.06 – 1.03)
2001	0.25	(0.06 – 1.06)
2002	1.40	(0.51 – 3.82)
2003	0.13	(0.02 – 0.87)
2004	1.01	(0.37 – 2.74)
2005	0.76	(0.29 – 1.98)
2006	1.25	(0.41 – 3.88)
Months (referent: January)		
February	1.33	(0.24 – 7.32)
March	2.00	(0.41 – 9.79)
April	1.00	(0.21 – 4.66)
May	2.33	(0.57 – 9.63)
June	1.90	(0.41 – 8.71)
July	3.00	(0.69 – 13.11)
August	0.66	(0.11 – 4.01)
September	1.67	(0.38 – 7.35)
October	1.33	(0.24 – 7.38)
November	3.33	(0.89 – 12.50)
December	1.47	(0.33 – 6.60)