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Public Awareness and Telephone Contact with the Mid-Plains Poison Control Center

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**Public Awareness and Telephone
Contact with the
Mid-Plains Poison Control Center**

Prepared for the Mid-Plains Poison Control Center

by



Center for Applied Urban Research
College of Public Affairs and Community Service
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January 1987

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PUBLIC AWARENESS AND TELEPHONE CONTACT WITH THE MID-PLAINS POISON CONTROL CENTER

EXECUTIVE SUMMARY

- This report presents information on public awareness of poisoning services available to Nebraskans by the Mid-Plains Poison Control Center (MPCC).
- Two surveys--one focusing on 210 mothers with young children who had recently called MPCC in response to a poisoning incident involving one or more of their children, and another focusing on a statewide sample of 424 mothers with children under 19 years of age--were conducted:
 - To determine the incidence of pediatric poisoning in Nebraska;
 - To identify how MPCC callers learned of the center and its services;
 - To examine general public awareness of the MPCC; and
 - To identify how the public does or would respond to a poisoning incident.
- The survey of mothers who had recently called MPCC indicated that:
 - Most (79.3 percent) called MPCC as a first response, with the rate being even higher in less densely populated portions of Nebraska;
 - The primary sources of information about MPCC and its services were the telephone directory, the medical community in the local area, and brochures, although sources of information varied by geographic area and income level (eastern Nebraskans rely more on the medical community, and lower income Nebraskans rely more on the telephone directory as a source of information;
 - Most had the telephone number of MPCC posted on or near their telephone, with the Panhandle and northern counties of Nebraska having the highest frequency of posting; and
 - An overwhelming majority of callers indicated they were very satisfied with the advice they received from the MPCC.
- Interviews conducted through the statewide survey of mothers found:
 - A poisoning incidence of 2.1 percent of the population under 19 years of age, indicating that between 10,000 and 31,000 Nebraska children are affected by a poisoning incident each year;

- When the midpoint of the two estimates of the incidence of child poisoning is taken as a reasonable guesstimate, the call records of MPCC indicate that the center is probably reaching a high proportion of its total potential audience (approximately 19,000 child poisoning calls are received by MPCC each year);
 - Awareness of MPCC on the part of mothers with children across the state is quite high, with 63.2 percent saying they knew about the center;
 - Mothers statewide learned about MPCC through the same sources as did recent callers to MPCC; and
 - About 32 percent of the statewide sample indicated they had the telephone number of MPCC posted on or near their telephones.
- Based upon these survey findings, the study indicates that MPCC is reaching a large part of the population in need of poison control services and that users are highly satisfied with MPCC advice.
 - The findings indicate that MPCC:
 - Should focus more attention on poison prevention programs, given the relatively high levels of awareness and the high penetration of the center's potential audience;
 - Should continue to promote its services through the medical community and the schools (relying on brochures and telephone stickers); and
 - Should focus on marketing its services to lower income families through local health care clinics, social services offices, churches, and community groups.

INTRODUCTION

The Center for Applied Urban Research (CAUR) conducted an evaluation of public awareness of poison control services available to Nebraskans by the Mid-Plains Poison Control Center (MPCC) in November and December 1986. This report presents the results of that analysis.

The primary foci of the project, as identified by MPCC in its initial contact with CAUR, were as follows:

- To determine the incidence of pediatric poisoning in Nebraska;
- To identify how MPCC callers learned of the center and its services;
- To examine general public awareness of the MPCC; and
- To identify how the public does or would respond to a poisoning incident.

Questionnaires were structured to determine the overall effectiveness of the Mid-Plains Poison Control Center and its services. Ultimately, the findings from these telephone surveys will assist the MPCC in focusing its efforts on refining or expanding services.

RESEARCH DESIGN

Two surveys were conducted for this project. One involved interviewing 210 mothers of children who were aged 6 or younger and who had called the MPCC; the second survey included interviews with 424 mothers with children under the age of 19 who live in Nebraska. The questionnaires for the two samples were designed much like the survey instrument used in a Massachusetts study of pediatric poisoning. Questions addressed a variety of issues pertinent to pediatric poisoning. Procedures for the two samples varied slightly for both the sample and the questionnaire. Basic design features of each survey are discussed below.

Survey of MPCC Callers

Survey questions for MPCC callers focused on issues pertaining to first responses in light of actual poisoning incidences. After consultation with MPCC staff and a review of previous studies, it was decided that only mothers with children who are 6 or younger would be considered as eligible respondents to the survey. Researchers believed that mothers would have greater knowledge of what had happened recently to their children.

Potential respondents were systematically sampled from a list of over 27,000 calls made to the MPCC during the July 1, 1985-June 30, 1986 period. The 210 interviews yield a sample with a sampling error of 7 percent at the 95-percent confidence level. For any question, then, we can be confident that the response is

within +/- 7 percent in 95 out of 100 cases if the entire population of recent MPCC callers were to be interviewed.

Questions addressed a variety of issues pertinent to pediatric poisoning. In particular, the interviewer inquired about the first actions of the mother upon discovering the poisoning incident. The questionnaire also collected information on how she learned about the services of the Mid-Plains Poison Control Center, whether a telephone number for the MPCC was posted on the family's telephone, whether there was access to a vehicle at the time of the poisoning incident, and how satisfied she was with the advice provided over the telephone.

To identify how MPCC might better promote its services, interview responses were analyzed by important factors, such as the number of children in the family, family income, education of the mother, and geographic area of residence. The analysis provided information relevant to several important issues, including whether respondents from different subareas of Nebraska and respondents with varying family sizes, income levels, and educational levels vary in their responses to a poisoning emergency. These variations in response can provide information to the MPCC, including the identification of communication channels used by particular groups of people so that MPCC can effectively market and promote its services.

A second issue concerns the provision of emergency services to poisoning victims. It was hypothesized that if a family does not have access to a vehicle, the advice of MPCC would be less useful if referral to emergency medical services were indicated. MPCC services, after all, are those of information and referral. In the case of a poisoning incident, MPCC's services must be offered in tandem with those of a service provider. If the caller is helpless to act, then the MPCC is less able to help the caller.

Another issue addressed in the analysis was the satisfaction of callers with the advice of MPCC. In order to gauge satisfaction, respondents were asked to rate their level of satisfaction. In the event the respondent was not satisfied, she was asked about the source of dissatisfaction. A copy of the complete survey instrument is included as Appendix A.

Statewide Survey

The second survey involved interviews with a statewide sample. This survey attempted to determine the incidence of pediatric poisoning within the preceding 12-month period and the subsequent first responses to these incidences. Additionally, questions were included to determine what a family's first response would be if a poisoning incident occurred.

A systematic random sample of telephone numbers was drawn from all residential telephone listings in Nebraska, utilizing telephone directories covering every exchange in the state. Only mothers with children under the age of 19 were considered to be eligible respondents. Altogether, interviews were completed with 424 mothers with children under the age of 19 and living at home. This sample size produces a sampling error of 4.5 percent at the 95-percent confidence level.

This section reports the results of the statewide survey of 424 mothers with children under the age of 19. As discussed previously, the statewide survey was utilized to identify both actual and hypothetical reactions to a child poisoning incident by a mother of children under the age of 19. If the family had experienced a poisoning incident in the last 12 months, the mother was asked to indicate the age of the poisoned child (or children), whether the child had experienced a previous incident, and what the mother's first action was. If that action was to contact the MPCC, she was asked about her level of satisfaction with the advice of the MPCC.

If the family had not experienced a poisoning incident, respondents were asked, "If any of your children WERE to swallow or breathe something poisonous or harmful, what is the first thing you would do?" The survey also obtained information on whether the respondent had heard of the MPCC, which other midwestern poison control center the respondent would call in the event of a poisoning incident, and if the respondent had the telephone number of any poison control center posted on or near the telephone. For those who were aware of the MPCC, a question obtained information about where they learned about the MPCC. A copy of the complete survey instrument is contained as Appendix B.

FINDINGS

The following are the major findings of our survey analyses.

Survey of MPCC Callers

Because records of calls to MPCC are not automated, it is impossible to characterize the overall demographics of all recent MPCC callers who are mothers. Therefore, it is impossible to specify how representative the 210 sample callers are of all recent callers. However, because the sample was randomly drawn and because of the absence of interview refusals, there is no reason to expect that the survey respondents are significantly different from the population of recent MPCC callers.

1. Survey Respondents. Among the respondents, 21.4 percent had 1 child in the family, 45.2 percent had two children, and 33.3 percent had three or more children. Just over 94 percent (94.1%) of the respondents were white, and 5.9 percent were non-white. In regard to total family income, 4.4 percent reported an income of less than \$10,000; 28.6 percent indicated their total family income was between \$10,000 and \$19,000; 35.5 percent reported income of over \$20,000 but less than \$30,000; and 31.5 percent indicated they had family incomes of \$30,000 or more. Over one-third of the respondents indicated they had only a high school diploma or had not completed high school (36.1%); 37.5 percent reported they had technical, trade, or business school training or some college; and almost one-fourth (24.1%) reported they had a college degree or advanced study (see Appendix C for univariate frequencies for respondent characteristics and all other questions asked of recent MPCC callers). Therefore, respondents as a group were predominantly white, fairly well-educated, and evenly distributed by income with most having more than one child.

2. **First Responses to Poisoning Incidents.** Information about first reaction to an incident can indicate whether the respondent already knew of the MPCC or was advised to call the MPCC by some other person or organization. All of the 210 mothers who were interviewed indicated they had responded to a poisoning incident. The average age of the child involved in the poisoning incident was 4 years.

Table 1 presents information on respondents' first responses to a poisoning incident and table 2 shows the health planning subarea where the respondents resided. Most recent MPCC callers reported that their first response was to call the Mid-Plains Poison Control Center. Almost 80 percent (79.3%) indicated that their first action was to call MPCC, while an additional 9.6 percent reported calling another poison control center. Altogether, 88.9 percent of the respondents reported calling a poison control center as their first reaction to a poisoning incident.

Table 1
First Response of Recent Callers
to the Mid-Plains Poison Control Center, 1986

First Response	Number	Percent
Called friend/relative	3	1.4
Called a pharmacist	1	.5
Called a doctor/nurse	10	4.8
Called a hospital	7	3.4
Called an ambulance	1	.5
Called the MPCC	165	79.3
Called another poison control center	20	9.6
Had child take syrup ipecac	1	.5
Total	208	100.0

Figure 1--Health Planning Subareas in Nebraska

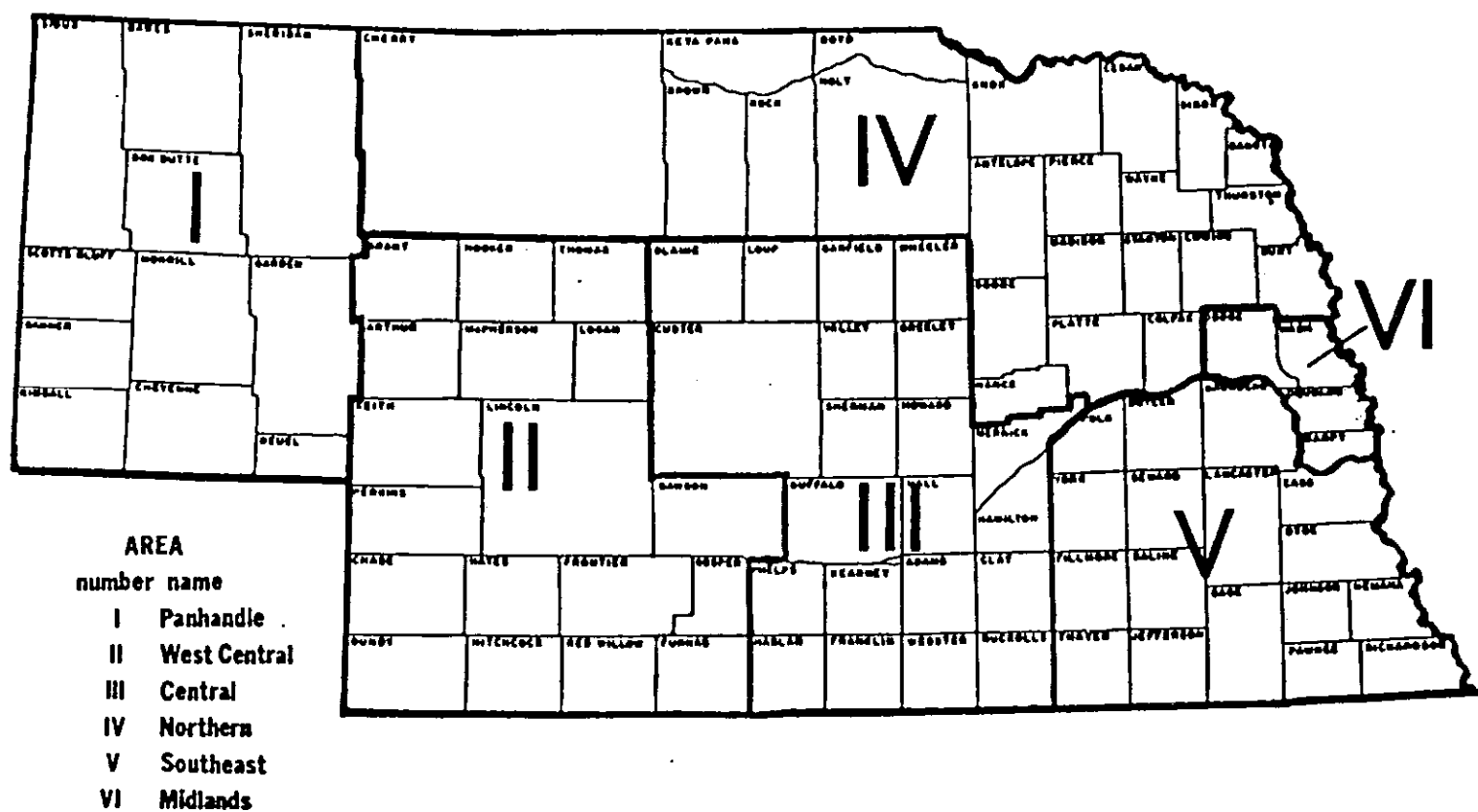


Table 2
First Response of Recent Callers to the Mid-Plains
Poison Control Center, by Nebraska Health Planning Subarea, 1986

First Response	Health Planning Subarea*					
	I**	II	III	IV	V	VI
Medical provider	0 (0%)	0 (0%)	5 (20.8%)	0 (.0%)	6 (11.5%)	8 (9.3%)
Poison control	10 (100%)	11 (100%)	19 (79.2%)	24 (100%)	43 (82.7%)	78 (89.5%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (5.8%)	1 (1.2%)
Total	10 (100%)	11 (100%)	24 (100%)	24 (100%)	52 (100%)	87 (100%)

*See figure 1 for geographic boundaries of health planning subareas.

**Top figure in each column reflects number of respondents, bottom figure represents the percentage of respondents selecting response.

Table 2 provides first response information by Nebraska health planning subareas (see figure 1 for boundaries of subareas). Unlike table 1 where the full range of first responses are shown, table 2 aggregates the responses into three categories: Medical Provider (Call/go to pharmacist, doctor, hospital, or ambulance), Poison Control (MPCC or another center), and Other (Call friend/relative, give ipecac).

Some differences in first responses are reported among the six subareas. In subareas I, II, and IV, regions with large areas of low population density, the only first response reported by the surveyed mothers was to call the MPCC or another poison control center. In more densely populated subareas, a wider range of first responses is indicated. Of greatest interest is the relatively heavier reliance of Omaha and Lincoln residents (subareas V and VI respectively) upon medical providers (particularly hospitals) and others (particularly friends/relatives). Also of interest is the reliance of subarea III respondents, the area around Grand Island/Kearney, upon physicians.

Examination of first responses to a poisoning incident did not indicate differences among respondent characteristics. The proportion of respondents reporting first response calls to MPCC was roughly the same for families making

less than and more than \$20,000 a year. Likewise, first response patterns did not differ by race or education.

3. **Sources of Information.** Callers were also asked where they learned about the services of MPCC. Table 3 lists respondents' sources of information. Among all callers, the most frequently mentioned sources of information about the MPCC were as follows: a doctor or nurse (21.6%), the telephone directory (20.0%), a hospital (17.4%), and a brochure/flier (12.1%). These four information sources were mentioned by almost three-fourths of the respondents.

Table 3
Sources of Information about the Mid-Plains
Poison Control Center among Recent Callers, 1986

Source of Information	Number	Percent
Friend/relative	15	7.9
Pharmacist	8	4.2
Doctor/nurse	41	21.6
Hospital	33	17.4
Pediatrician's office	6	3.2
Telephone directory	38	20.0
Brochure/flier	23	12.1
Newsletter	1	.5
Newspaper	1	.5
Community club/organization	3	1.6
Child's school	9	4.7
Child's meeting	1	.5
Parent's group	3	1.6
TV/radio	6	3.2
Police station	2	1.1
Total	190	100.0

Table 4 lists major sources of information by health planning subarea. The sources of information have been aggregated into three basic categories: medical sources (pharmacist, doctor/nurse, hospital, pediatrician); media/public information (telephone directory, brochure, newsletter, TV/radio); and community-based sources (community club, child's school, child's meeting, parent's conference, police, sheriff, friends/relatives).

Subareas II, III, and IV, all in the central part of the state, depart most from the statewide reliance upon medical sources. In those three areas the modal source of information was media/public information, with the telephone directory and

brochures mentioned most frequently. Whether these differences are a function of actual differences in the orientation of individuals in different areas of Nebraska, or whether they reflect past marketing and promotion efforts of MPCC is not clear from the survey.

Apart from these broad differences in sources of information, certain other patterns are of interest. Although data are not shown, in subarea I (the Panhandle) 30 percent of callers learned of MPCC services from a pharmacist. In subarea II (the southwest section of the state) one-third of the callers learned about MPCC from a brochure. In the Grand Island and Kearney areas (subarea III) physicians and telephone directories served as information sources for 54.5 percent of respondents. In subareas IV, V, and VI no single source of information was dominant.

Table 4
Sources of Information about Mid-Plains
Poison Control Center, by Nebraska Health Planning Subarea, 1986

Information Source	Health Planning Subarea					
	I	II	III	IV	V	VI
Medical	5 (50.0%)	2 (22.2%)	9 (40.9%)	7 (31.8%)	30 (57.7%)	36 (48.9%)
Media/public information	2 (20.0%)	4 (44.4%)	9 (40.9%)	9 (40.9%)	18 (34.6%)	26 (34.2%)
Community-based sources	3 (30.0%)	3 (33.3%)	4 (18.2%)	6 (27.3%)	4 (7.7%)	13 (17.1%)
Total	10 (100%)	9 (100%)	22 (100%)	22 (100%)	52 (100%)	75 (100%)

Information about where respondents learned about the services of MPCC varies somewhat with family income level (see table 5). For respondents with family incomes under \$20,000 per year, the modal source of information was media/public information which includes sources such as the telephone directory, brochures, newsletters, newspapers, and TV/radio. Most frequently mentioned within this category were telephone directories and brochures (21 of 25 respondents or 84%). It should be noted, however, that medical sources of information constituted a major source of information for this group as well. Among these lower income individuals, hospitals were mentioned most frequently (58.3%) as the source of information.

Medical sources constituted the modal source of information for respondents with family incomes of \$20,000 or greater each year. Physicians were the primary source within this group (55.7%).

Table 5
Sources of Information about the Mid-Plains
Poison Control Center, by Income, 1986

Information Source	Total Family Income			
	<u>Below \$20,000</u>		<u>\$20,000 and Above</u>	
	Number	Percent	Number	Percent
Medical	24	39.3	61	49.6
Media/public information	25	41.0	42	34.1
Community-based	12	19.7	20	16.3
Total	61	100.0	123	100.0

The relationship between the number of children in a family and sources of information about the Mid-Plains Poison Control Center was examined. No significant differences were found to exist among family size categories. Though previous experiences with children may yield more information, the sources of information are probably more a function of local outreach and marketing activities, local culture, and family income than they are a function of family size.

4. **Telephone Number of Poison Control Center Posted?** The survey of recent MPCC callers asked respondents if they currently had the telephone number of a poison control center posted on or near their telephone. Table 6 shows that just over 57 percent (57.4%) of the mothers said they had a number posted. A sizable proportion, 42.6 percent, indicated they had no telephone number posted. This is consistent with the fact that almost one-fourth of the respondents who called the MPCC as their first response learned of the center through the telephone directory for their area.

Table 6

Recent MPCC Callers with a Poison Control Center Telephone Number
Posted on or Near the Telephone, 1986

Telephone Number Posted	Number	Percent
Yes	112	57.4
No	83	42.6
Total	195	100.0

Table 7 provides this same information for the six Nebraska health planning subareas. In two of the less densely populated areas, subarea I (in the Panhandle) and subarea IV (in the northern counties), much higher than average proportions of respondents reported posting a poison control center telephone number. In these areas, calling a poison control center was the first response of the majority of the callers following a poisoning incident. The Omaha area (subarea VI) had one of the lowest proportions of respondents with a telephone number posted. Both physical proximity and the likely higher level of awareness of the MPCC on the part of local organizations and persons probably account for the fact that almost 90 percent of Omaha-area respondents said their first response was to call a poison control center, in spite of the low level of posting.

Table 7

Recent MPCC Callers with a Poison Control Center
Telephone Number Posted on or Near the Telephone,
by Nebraska Health Planning Subarea, 1986

Telephone Number Posted	Health Planning Subarea					
	I	II	III	IV	V	VI
Yes	7 (77.8%)	4 (44.4%)	13 (54.2%)	16 (76.2%)	32 (62.7%)	40 (49.4%)
No	2 (22.2%)	5 (55.6%)	11 (45.8%)	5 (23.8%)	19 (37.3%)	41 (50.6%)
Total	9 (100%)	9 (100%)	24 (100%)	21 (100%)	51 (100%)	81 (100%)

No differences were found among income groups in regard to having a telephone number posted. Likewise, no consistent trend was seen when the level of education of mothers was considered in relation to whether or not a poison control telephone number was posted. Families with more children were much more likely to report having a poison control center telephone number posted, however. Just over 46 percent (46.5%) of families with one child reported having a number posted, while 59.4 percent of families with three or more children reported that a telephone number was posted for reference.

5. Access to an Automobile. Access to an automobile at the time of the poisoning incident was also addressed in the survey. Over 94.7 percent of all callers reported having access to a car at the time of the poisoning incident.

6. Satisfaction with the Poison Control Center. An important part of the survey was the reported satisfaction level of the respondents regarding the advice of the Mid-Plains Poison Control Center. Each respondent was asked, "Were you very satisfied, moderately satisfied, or not satisfied with the advice of the Mid-Plains Poison Control Center, or are you unsure?" Of the 210 mothers interviewed, 92.4 percent responded "very satisfied," 7.1 percent indicated they were "moderately satisfied," and only one person (0.5%) indicated she had been "not satisfied." Overall, this is a high level of satisfaction. Whether it reflects the quality and nature of MPCC's services or whether the high level of satisfaction is a function of the life-threatening nature of the incident is not clear from the survey.

Although statements of why the respondents were "very satisfied" were not solicited as a part of the interview, several respondents volunteered reasons why they had been very satisfied and offered impressionistic guidance. Four respondents were particularly appreciative of the follow-up "call-backs" by the MPCC. Two mothers observed that the reassurance provided by the MPCC was helpful. A number of respondents referred to the MPCC by indicating "they were very concerned," "they were calm and easy to talk to," and "they were very helpful."

Although most of those who were only "moderately satisfied" did not volunteer information explaining why they were not "very satisfied," a few did make comments. One complained that she "had to call my doctor for a follow-up." Another said, "number was hard to find." A third mother said the MPCC only told her what she already knew. The one respondent who was not satisfied with the advice provided by the MPCC commented, "I was reprimanded for having poisonous substances in reach of a child before I was given information on what to do for the child."

Statewide Survey

This survey involved interviewing 424 mothers with children under the age of 19 and living at home. The survey identified actual and hypothetical reactions to a child poisoning incident. The survey also obtained information on whether the respondent had heard of the MPCC, which other midwestern poison control center the respondent would call in the event of a poisoning incident, and if the respondent had the telephone number of any poison control center posted on or near the telephone.

1. **Demographics of the Statewide Sample.** All of the 424 persons interviewed as a part of the statewide survey were mothers with children under the age of 19. Table 8 provides summary information about the respondents. In regard to race, 95.5 percent of the mothers said they were of "European" heritage, while 4.6 percent said they were of "Black African," "Hispanic," "American Indian," or "Asian" heritage. Almost half of the mothers were age 30-39, and the other half was divided about equally between the 20-29 and 40-49-year-old age groups.

Table 8

Summary Characteristics of Statewide MPCC Survey Respondents

	Number	Percent
<u>Heritage:</u>		
Black African	7	1.7
European	400	95.5
Hispanic	5	1.2
American Indian	4	1.0
Asian	3	.7
Total	419	100.0
<u>Age:</u>		
15-19	2	.5
20-29	92	21.9
30-39	208	49.4
40-49	96	22.8
50+	23	5.4
Total	421	100.0
<u>Family Income:</u>		
Less than \$20,000	136	33.6
\$20,000 and over	269	66.4
Total	405	100.0
<u>Education Level:</u>		
Less than high school	28	6.7
High school graduate	175	41.8
Some college	115	27.5
College graduate or more	101	24.1
Total	419	100.1

Just over 66 percent (66.4%) of the mothers reported family incomes above \$20,000 per year. Among these individuals, 52.5 percent (N=136) indicated their family income was over \$30,000 a year. About one-third of the respondents said their total family income was less than \$20,000 per year. Among this group, 34 percent (N=48) indicated that their family income was less than \$10,000 per year.

About four of every ten mothers (41.5%) had completed high school study, and 21.5 percent had completed some college work. Just over 18 percent had a college degree (see table 1).

2. Statewide Incidence of Child Poisoning. One of the objectives of the statewide survey was to provide an estimate of the incidence of child poisoning in Nebraska--the audience of the Mid-Plains Poison Control Center. Based upon the results of the statewide survey of 424 mothers with children under the age of 19 and living at home, 2.1 percent reported that one or more of their children had breathed or swallowed something that was poisonous or harmful during the past 12 months.

In 1980, Nebraska had a population of about 478,000 persons aged 18 and under. If roughly 2.1 percent of this population group are affected by poisoning incidents in a 12-month period, then about 10,000 children would be exposed to poisons each year in Nebraska. With a margin of error of about 4.5 percent, however, the actual incidence among the entire population of families with children under age 19 could be somewhat higher.

The incidence level of 10,000 a year is quite a bit lower than the estimate of 19,000-22,000 poisonings made by the Mid-Plains Poison Control Center. In fact, MPCC receives about 19,000 calls each year involving pediatric poisonings alone. If the maximum error rate associated with the statewide survey were added to the indicated incidence of 2.1 percent, the incidence would be 6.6 percent. This would indicate that about 31,000 child poisoning incidents take place each year in the state.

The actual number of poisonings affecting children in Nebraska probably lies somewhere between the level found in the statewide survey and the maximum level indicated by the potential error associated with the sample. Discussions with MPCC staff indicate that "repeat" calls are not distinguished from "first-time" calls. While MPCC staff know that a good proportion of their 19,000 calls are "repeat" calls, they are unable to identify the exact proportion.

While the incidence data yielded by the survey do not coincide with the estimates of MPCC, it is highly likely that the center is being used by a very high proportion of all families with children experiencing a poisoning incident, particularly if the actual number of poisonings lies between 10,000 and 31,000. Even if the 31,000 level were correct, the MPCC is probably being used by over 50 percent of those in need. The primary problem for MPCC is probably not that of penetrating its audience to a greater degree but in preventing poisoning incidents through educational programs.

Two aspects of poisoning incidents were indicated as being of particular interest to MPCC staff. One was the frequency of repeated poisonings, and the other was the frequency of incidents involving more than one child. Two of the nine families (22.2%) reporting poisoning incidents during the preceding 12-months indicated that the child had a previous poisoning incident. Only one respondent (11.1%) indicated that more than one child had been affected in the poisoning incident. These figures must be treated with the utmost of caution, given the small number of families reporting poisoning incidents.

3. First Responses to Poisoning Incidents. The Mid-Plains Poison Control Center was interested in the first response of mothers in the statewide sample who actually had a poisoning incident occur during the preceding year. Those experiencing a poisoning were asked about the first thing they did when the event was discovered. Mothers not reporting a poisoning incident were asked what they would do if any of their children were to swallow or breathe something harmful or poisonous. The results for each of these groups are reported separately below.

- a. **First Response: Mothers Reporting Poisoning Incident.** Seventy-one percent of the mothers (N=9) who indicated they had one or more children involved in a poisoning incident during the past 12 months said their first response had been to call the Mid-Plains Poison Control Center. Because of the small number of individuals in this category, no detailed analysis of characteristics or circumstances is possible. It is interesting to note, however, that the percentage of mothers recently calling MPCC who reported calling a poison control center as a first response (79.3%) was roughly similar to the proportion in the statewide survey who said they called MPCC first.
- b. **First Response: Mothers Who Had Not Experienced a Poisoning Incident during the Previous 12 Months.** Table 9 provides information on the likely response of mothers whose children had not experienced a poisoning incident. As can be seen, over half of the respondents said they would call a poison control center if a child were to experience a poisoning incident. Just over 34 percent (34.2%) said they would "call a poison control center." Among this group of 130 mothers, most responded that they were "unsure" (75.2%, N=97) of which poison control center they would contact.

The next most frequent first response was to "call Mid-Plains Poison Control Center." Almost 18 percent (17.6%) of the mothers indicated they would call MPCC. When the 20 mothers responding "Omaha" are included in the MPCC total, the proportion of mothers indicating calling MPCC as their first response rises to just over 20 percent.

As can be seen in table 9, "call a doctor/nurse" is the most frequent response after "call a poison control center" or "call MPCC." Sixty (15.8 percent) of those responding to the question indicated their first response would be to call a doctor or nurse if one of their children were to be involved in a poisoning incident.

Table 9
Mothers' Most Likely First Response to a
Possible Poisoning Incident, Nebraska Survey, 1986

Most Likely First Response	Number	Percent
Call friend/relative	2	0.5
Call a poison control center	130	34.2
Call MPCC	67	17.6
Call a pharmacist	2	.5
Call a doctor/nurse	60	15.8
Call a hospital	27	7.1
Call an ambulance	14	3.7
Go to hospital	8	2.1
Make child vomit	19	5.0
Give child syrup ipecac	12	3.2
Other (check substance, call 911)	39	10.3
Total	380	100.0

Table 10 presents the information on likely first response for each of the six Nebraska health planning subareas. Three categories are used to display the information. "Poison control center" encompasses "call a poison control center" and "call MPCC." The second category, "Medical treatment," includes likely first responses such as "call a pharmacist, doctor/nurse, hospital, and ambulance," and "go to hospital." The third category, "Home treatment," encompasses "call a friend/relative," "make child vomit," "give child syrup ipecac," and the "other" category which primarily involved checking to see what the substance was.

Mothers were more likely to report that they would most likely call a poison control center, including MPCC, in subareas II, IV, and VI. It is important to point out, however, that in all six subareas the modal response was the poison control center response. Only in subarea I does another response (medical treatment) come close to the poison control center response.

In addition to looking at differences in first responses by geographic area, an examination was made of the relationship between first response and respondent's education level, size of family, and family income. While response and family size were not related, first response patterns did vary with level of income and education.

Table 10
Likely First Response of Mothers to a
Possible Poisoning Incident,
by Nebraska Health Planning Subarea, 1986

Likely First Response	Health Planning Subarea					
	I	II	III	IV	V	VI
Poison control center	17 (45.9%)	19 (59.4%)	21 (47.7%)	27 (57.4%)	43 (47.8%)	68 (53.5%)
Medical treatment	16 (43.3%)	10 (31.3%)	16 (36.4%)	11 (23.4%)	28 (31.1%)	30 (23.6%)
Home treatment	4 (10.8%)	3 (9.3%)	7 (15.9%)	9 (19.1%)	19 (21.1%)	29 (23.0%)
Total	37 (100%)	32 (100%)	44 (100%)	47 (100%)	90 (100%)	127 (100%)

Table 11 provides information on likely first response and the respondent's education level. As can be seen, the higher the mother's education level, the more likely she is to say that calling a poison control center would be her most likely first response. Almost 60 percent of mothers with more than a high school education said they would call a poison control center (58.9%), while only 29.6 percent of those with less than a high school education gave a poison control center response. Note also the higher proportion of relatively better educated mothers who indicated a "home treatment" response, which included giving syrup ipecac, making the child vomit, and checking the substance.

Table 11

**Mothers' Most Likely First Response to a Possible Poisoning
Incident, by Respondent's Education Level, 1986**

Most Likely Response	Education Level					
	Less than High School		High School Graduate		Above High School	
	Number	Percent	Number	Percent	Number	Percent
Poison control center	8	29.6	76	48.1	113	58.9
Medical treatment	5	55.6	53	33.5	43	22.4
Home treatment	4	14.8	29	18.4	36	18.8
Total	27	100.0	158	100.0	192	100.0

As might be expected, first response is also related to family income level (see table 12). Mothers in families with incomes of \$20,000 and above were much more likely to call a poison control center (57.1% for \$20,000 and above, 42.5% for those below \$20,000). Still, the modal response for mothers with family incomes below \$20,000 a year was to call the poison control center.

4. **Statewide Awareness of the Mid-Plains Poison Control Center.** The preceding section profiled likely first responses and provided some information on "awareness" of the MPCC. As will be recalled, when those mothers first mentioning MPCC as a first response and those mothers indicating MPCC as a follow-up to their indication that they would call "a poison control center" are added together, about 25 percent of the mothers said they would call MPCC if they faced a poisoning incident.

Table 12

**Mothers' Most Likely First Response
to a Possible Poisoning Incident,
by Respondent's Family Income Level, 1986**

Most Likely Response	Family Income			
	<u>Less than \$20,000</u>		<u>\$20,000 and above</u>	
	Number	Percent	Number	Percent
Poison control center	54	42.5	135	57.1
Medical treatment	51	40.2	56	23.5
Home treatment	22	17.3	46	19.3
Total	127	100.0	238	99.9

Mothers who did not indicate calling a poison control center as their first response were asked, "Have you ever read or heard of the Mid-Plains Poison Control Center?" Almost half (47.6%) of the responding mothers said "yes." When these respondents are combined with the mothers who indicated they would call MPCC, 63.2 percent of the statewide sample can be considered to be "aware" of MPCC. This is consistent with the discussion of the incidence of poisoning in Nebraska and the Mid-Plains Poison Control Center's penetration of its potential audience.

5. **Sources of Information about MPCC.** Table 13 presents information about where respondent's who were aware of the Mid-Plains Poison Control Center indicated they had learned of the center and its services. Generally, the sources identified were more diverse than was the case with recent MPCC callers. Commonalities exist, however, with "doctor/nurse," "hospital," "brochure," and "child's school" among the leading sources. In fact, these four sources served as the source of information for 56.1 percent of the respondents. Although no firm data are available, it is highly likely that the primary source of information was a brochure or telephone number sticker provided through a doctor's office, hospital, or school.

Sources of information were assessed among the health planning subareas, as well as for different respondent characteristics, such as education level, family income, and family size. No significant variations in information sources were found among these variables.

6. **Poison Control Center Telephone Number Posted?** When asked the question, "Do you have a poison control center telephone number on your telephone or posted

where you can read it right now?" 31.8 percent of the mothers replied, "yes." No significant differences were found among geographic area or respondent demographic characteristics. The proportion of mothers having a number posted was smaller than that reported in the survey of recent MPCC callers.

Table 13
Sources of Information about the Mid-Plains
Poison Control Center, 1986

Sources of Information	Number	Percent
Friend/relative	14	9.0
Pharmacist	2	1.3
Doctor/nurse	18	11.6
Hospital	23	14.8
Pediatrician's office	4	2.6
Telephone directory	14	9.0
Brochure/flier	26	16.8
Newsletter	1	.6
Newspaper	12	7.7
Community club/ organizations	2	1.3
Child's school	20	12.9
Nursery/day care	2	1.3
TV/radio	15	9.7
Store	2	1.3
Total	155	99.9

CONCLUSIONS AND RECOMMENDATIONS

The results of two separate surveys have been presented in the preceding pages of this report. The two surveys were designed and administered:

- To determine the incidence of pediatric poisoning in Nebraska;
- To identify how MPCC callers learned of the center and its services;
- To examine general public awareness of the MPCC; and
- To identify how the public does or would respond to a poisoning incident.

Generally, the two respondent groups (a sample of mothers who had recently called the MPCC about a poisoning incident and a statewide sample of mothers with children under the age of 19) show similar patterns of first response to a poisoning incident, awareness of MPCC, and sources of information about MPCC (among those aware of the center).

Overall, a majority of the mothers in both samples indicated that their first response was/would be to call either the MPCC or another poison control center. Most mothers in both samples were also aware of the MPCC. Finally, among those mothers indicating they were aware of the MPCC, major sources of information varied little among the two samples.

Given these general findings and the more specific findings and variations pertaining to geographic areas of Nebraska and respondent groups which are presented throughout the report, the following recommendations seem warranted. First, mothers with more than one child were slightly more likely to call or say they would call the MPCC, and they were more aware of the center. Whether this is a function of greater susceptibility to poisoning incidents among this group or whether the mother was just more likely to receive information through her children is not clear from the survey. It appears that focusing on new mothers might provide one means for reaching families with one child. Childbirth preparation classes, well baby check-ups, hospital newborn kits, and public nurse contacts might be particularly useful mechanisms for reaching new mothers.

Second, mothers with lower incomes and lower levels of education tended to be less likely to report or say they would call MPCC. This group of mothers also tended to be less aware of MPCC and its services. Given this information, it appears that it would be useful to target low-income and low-socioeconomic areas with high concentrations of such mothers. Likewise, information about the MPCC should probably be available through agencies and groups that work extensively with low-socioeconomic status mothers and individuals.

While the tendency to call MPCC and awareness of MPCC was high throughout Nebraska, the tendency was somewhat more pronounced in areas of the state with lower population density. Whether people in these areas have fewer facilities and medical professionals to rely on for referral, whether the people are generally more self-reliant (and better prepared because of this), or whether the MPCC has used more effective marketing approaches and tools in these areas is not clear. Additional attention should be given to this issue. If marketing mechanisms are being used in these areas and not in others, then consideration should be given to their use in areas of relatively lower awareness and response.

Three sources of information were cited frequently in both surveys by respondents who said they were aware of MPCC. These were the local telephone directory, the medical community in the local area, and brochures. While it is not clear from the survey data, it is highly likely that brochures were picked up at many doctors' offices and hospitals/clinics. Although a relatively small proportion of all mothers said they learned about MPCC through their children's school, a sizable proportion of mothers with more than one child indicated the schools as their source

of information about the center. It is recommended that these sources continue to be exploited but tailored and focused in a way that is consistent with local custom, culture, and health care reliance.

Data on the incidence of child poisoning gathered through the statewide survey indicate that the MPCC is probably reaching most families in need of its advice. While information and marketing will have to continue, it appears that focusing on lower socioeconomic status families and areas and new mothers through informational materials at physicians' offices, clinics, hospitals, and parent preparation classes will have the greatest payoff. Working with local schools to distribute brochures and telephone and poison stickers will also payoff in reaching mothers with more than one child.

Finally, it is recommended that MPCC consider focusing more attention on poison prevention programs, given the generally high levels of awareness and the relatively high penetration of potential audiences.

APPENDICES

APPENDIX A
Questionnaire for Survey of Recent MPCC Callers

POISON CONTROL SURVEY - SHORT FORM

SAY

"Hello, my name is _____ and I'm with the University of Nebraska. We're conducting a short survey for the Mid-Plains Poison Control Center. May I speak with:

Mrs. _____?

ASK TO CONFIRM

1. "Are you the mother of children under 6 years of age?"

A. () YES → IF "YES" GO TO QUESTION 2

B. () NO → IF "NO" BUT THEY WILL GET HER, REPEAT THE INTRODUCTORY STATEMENT, AND GO TO QUESTION 2

IF "NO, SHE IS NOT HOME"
ASK

↓
"What time will she return home?"

RECORD TIME _____

ASK TO VERIFY

2. "Did you call the Mid-Plains Poison Control Center in the past 12 months?"

A. () YES → IF "YES" GO TO QUESTION 3

B. () NO → IF "NO" SAY

"Thank you for your cooperation," → AND HANG UP

C. () UNSURE

3. "How many children currently live in your household?"

_____ NUMBER OF CHILDREN

SAY

4. "Please tell me the age of each child in your household?"

_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS

5. "Which child or children experienced a poisoning incident, or what you thought was a poisoning incident?"

PLACE AN "*" ABOVE THE AGE

6. "What was the first thing you did when you found out that your child or children might have swallowed or breathed something poisonous or harmful?"

(WRITE OUT RESPONSE)

- | | |
|--------|--|
| A. () | CALLLED A FRIEND/RELATIVE |
| B. () | [CALLED A PHARMACIST
CALLED A DOCTOR/NURSE
CALLED A HOSPITAL
CALLED AN AMBULANCE |
| C. () | |
| D. () | |
| E. () | |
| F. () | [CALLED THE MID-PLAINS POISON CONTROL CENTER
CALLED ANOTHER POISON CONTROL CENTER |
| G. () | |
| H. () | [WENT TO THE DOCTOR
WENT TO THE HOSPITAL/CLINIC |
| I. () | |
| J. () | [HAD CHILD VOMIT
HAD CHILD TAKE SYRUP IPACAC |
| K. () | |

ASK

7. "Where did you learn about the Mid-Plains Poison Control Center?"

(WRITE OUT RESPONSE)

- | | |
|--------|-----------------------------|
| A. () | FRIEND/RELATIVE |
| B. () | PHARMACIST |
| C. () | DOCTOR/NURSE |
| D. () | HOSPITAL |
| E. () | PEDIATRICIAN'S OFFICE |
| F. () | TELEPHONE DIRECTORY |
| G. () | BROCHURE/FLYER |
| H. () | NEWSLETTER |
| I. () | NEWSPAPER |
| J. () | COMMUNITY CLUB/ORGANIZATION |
| K. () | CHILD'S SCHOOL |
| L. () | CHILD'S MEETING |
| M. () | PARENTS' GROUP |
| N. () | NURSERY/DAY CARE |
| O. () | LIBRARY |
| P. () | HOME VISITOR |
| Q. () | TV/RADIO |
| R. () | STORE |
| S. () | SHERIFF'S OFFICE |
| T. () | POLICE STATION |

ASK

8. "Were you very satisfied, moderately satisfied, or not satisfied with the advice of the Mid-Plains Poison Control Center, or are you unsure?"

A. () VERY SATISFIED

B. () MODERATELY SATISFIED

C. () NOT SATISFIED → **IF "NOT SATISFIED" ASK**

D. () UNSURE

8B. "With what were you not satisfied?"

(WRITE RESPONSE) _____

9. "Do you have a poison control center telephone number on your own telephone or posted where you can read it right now?"

A. () YES → **IF "YES" ASK**

"Would you please read that number to me?"

WRITE TELEPHONE NUMBER _____

B. () NO

10. "Did you have access to a car at the time of the poisoning incident?"

A. () YES

B. () NO

SAY

"Now I need to know a little about your household."

ASK

11. "Is your age?"
(READ CATEGORIES)

- A. () 15 - 19
- B. () 20 - 29
- C. () 30 - 39
- D. () 40 - 49
- E. () 50 OR OVER

12. "Is your family income more or less than \$20,000?"

() MORE

OR

() LESS

IF MORE → A. "Is your family income
more or less than
\$30,000?"

() MORE

() LESS

IF LESS → B. "Is your family income
more or less than
\$10,000?"

() MORE

() LESS

13. "What was the last grade you completed in school?"

DO NOT READ RESPONSES

WRITE RESPONSE _____

- A. () LESS THAN HIGH SCHOOL DIPLOMA
- B. () HIGH SCHOOL OR GED COMPLETED
- C. () TECHNICAL, TRADE OR BUSINESS SCHOOL BEYOND HIGH SCHOOL
- D. () SOME COLLEGE
- E. () FOUR-YEAR DEGREE COMPLETED
- F. () MASTER'S DEGREE COMPLETED
- G. () PH.D. COMPLETED
- H. () PROFESSIONAL DEGREE
- I. () DON'T KNOW/REFUSED

14. "Which of these best describes your heritage - Black African, European, Hispanic, American Indian, Asian, or something else"

WRITE RESPONSE _____

- A. () BLACK AFRICAN
 B. () EUROPEAN
 C. () HISPANIC
 D. () AMERICAN INDIAN
 E. () ASIAN
 F. () OTHER (SPECIFY) _____

15. "What county of Nebraska do you live in?"

WRITE NAME OF COUNTY _____
 ASK FOR SPELLING IF YOUR ARE UNSURE

16. "What city or town do you live in or near?"

WRITE NAME OF CITY OR TOWN _____
 ASK FOR SPELLING IF YOU ARE UNSURE

IF THEY DO "NOT" LIVE IN OR NEAR A CITY OR TOWN, ASK

17. "How far is it to the nearest town?"

DISTANCE IN MILES _____

DISTANCE IN TIME _____

SAY

"Thank you for your cooperation. The information you have provided will help to make poison control information available to more Nebraskans."

APPENDIX B
Questionnaire for Statewide Survey

POISON CONTROL SURVEY - LONG FORM

SAY

"Hello, my name is _____ and I'm with the University of Nebraska. We're conducting a short survey on children coming into contact with poisonous or harmful substances so that information on poison control services will be available to more people in Nebraska.

ASK

1. "May I speak with the mother of any children under 19 years of age in the family?"

A. () YES → IF "YES" GO TO Q. 2 BELOW

B. () NO → IF "NO, BUT WILL GET HER" REPEAT INTRODUCTORY STATEMENT WHEN SHE COMES TO THE PHONE, AND GO TO Q. 2 BELOW

() NO → IF "NO, NO CHILDREN" SAY

↓
"Thank you for your cooperation" → AND HANG UP

() NO → IF "NO, NOT HOME," ASK

↓
"What time will she return home?"

WRITE TIME _____

SAY "Thank you for your cooperation" → AND HANG UP

ASK

2. "How many children currently live in your household?"

WRITE NUMBER _____

SAY

3. "Please tell me the age of each child in the household."

_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS

SAY

"Now I would like to ask about your experience with accidental poisoning incidents, or situations you thought might have been poisoning incidents."

ASK

4. "Did any of your children breathe or swallow anything poisonous or harmful in the past 12 months."

A. () YES → IF "A" GO TO Q. 5 ON P. 3

B. () NO → IF "B" GO TO Q. 12 ON P. 6

ASK QUESTION, AND MARK RESPONSE FOR EACH CHILD

5. "What was the age of the child (children) who experienced the poisoning incident(s)?"

6. "Had the child had previous poisoning incidents?"

A. YES

B. NO

ASK

7. "What was the first thing you did when you found out that your child (children) had swallowed or breathed something which you thought was poisonous or harmful?"

WRITE OUT RESPONSE, THEN CHECK APPROPRIATE () FOR EACH CHILD

RESPONSE

A. CALLED FRIEND/RELATIVE

IF "A" GO TO
Q. 8 ON P. 4

B. CALLED A POISON CONTROL CENTER

IF "B" GO TO
Q. 9 ON P. 5

C. CALLED MID-PLAINS POISON CONTROL CENTER

IF "C" GO TO
Q. 10 ON P. 5

D. CALLED PHARMACIST

E. CALLED DOCTOR/NURSE

F. CALLED HOSPITAL

G. CALLED AMBULANCE

H. WENT TO HOSPITAL

I. MADE CHILD VOMIT

J. HAD CHILD TAKE SYRUP IPACAC

IF "D" THROUGH
"J" GO TO Q. 14
ON P. 8

CHILD
1

CHILD
2

CHILD
3

CHILD
4

YEARS

YEARS

YEARS

YEARS

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ASK

8. "What was the advice of the friend/relative?"

WRITE OUT RESPONSE, THEN CHECK APPROPRIATE ()
FOR EACH CHILD

RESPONSE

A. TO CALL A POISON CONTROL CENTER →

IF "A" GO TO
Q. 9 ON P. 5

B. TO CALL MID-PLAINS POISON
CONTROL CENTER →

IF "B" GO TO
Q. 10 ON P. 5

C. TO CALL PHARMACIST

D. TO CALL DOCTOR/NURSE

E. TO CALL HOSPITAL

F. TO CALL AMBULANCE

G. TO GO TO HOSPITAL

H. TO MAKE CHILD VOMIT

I. TO GIVE SYRUP IPACAC

IF "C" THROUGH
"J" GO TO
Q. 14 ON
P. 8

CHILD
1CHILD
2CHILD
3CHILD
4

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

ASK

9. "What poison control center did you call?"

WRITE OUT RESPONSE

RESPONSE

A. MID-PLAINS POISON
CONTROL CENTERIF "A" GO TO
Q. 10 BELOWB. ST LUKE'S
POISON CENTERC. MARIAN HEALTH
CENTERD. ROCKY MOUNTAIN
CENTERIF "B" THROUGH
"I" GO TO
Q. 14 ON P. 8E. MCKENNON
CENTER

F. UNIVERSITY OF IOWA

G. MID-AMERICA CENTER

H. CHILDREN'S HOSPITAL
IN KANSAS CITYI. ST LUKE'S HOSPITAL
IN ABERDEENCHILD
1CHILD
2CHILD
3CHILD
4

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

() () () ()

ASK

10. "Were you very satisfied, moderately satisfied, or not satisfied with the advice of the Mid-Plains Poison Control Center, or are you unsure?"

A. VERY SATISFIED

B. MODERATELY SATISFIED

IF "A" OR "B" GO
TO Q. 15 ON P. 8

C. NOT SATISFIED

IF "C" ASK Q.11

D. UNSURE

() () () ()

() () () ()

() () () ()

() () () ()

11. "With what were you not satisfied?"

WRITE RESPONSE

GO TO Q. 15 ON P. 8

ASK

12. "If any of your children "WERE" to swallow or breathe something poisonous or harmful, what is the first thing you would do?"

WRITE RESPONSE, THEN CHECK APPROPRIATE ()

- ↓
- | | | |
|--------|---|---------------------------------------|
| A. () | CALL A FRIEND/RELATIVE | → IF "A" GO TO Q.14 ON P. 8 |
| B. () | CALL A POISON CONTROL CENTER | → IF "B" GO TO Q.13 ON P. 7 |
| C. () | CALL THE MID-PLAINS POISON CONTROL CENTER | → IF "C" GO TO Q. 15 ON P. 8 |
| D. () | CALL A PHARMACIST | IF "D" THROUGH "J" GO TO Q.14 ON P. 8 |
| E. () | CALL A DOCTOR/NURSE | |
| F. () | CALL A HOSPITAL | |
| G. () | CALL AN AMBULANCE | |
| H. () | GO TO HOSPITAL | |
| I. () | MAKE CHILD VOMIT | |
| J. () | GIVE CHILD SYRUP IPACAC | |
| K. () | OTHER | |

ASK

13. "What poison control center would you call?"

WRITE RESPONSE, THEN CHECK APPROPRIATE ()
--

RESPONSE

- ↓
- A. () ST LUKE'S
POISON CENTER
 - B. () MARIAN HEALTH
CENTER
 - C. () ROCKY MOUNTAIN
CENTER
 - D. () MCKENNON
CENTER
 - E. () UNIVERSITY OF IOWA
 - F. () MID-AMERICA
CENTER
 - G. () CHILDREN'S
HOSPITAL IN
KANSAS CITY
 - H. () ST LUKE'S
HOSPITAL IN
ABEFDEEN

14. "Have you ever read or heard of the Mid-Plains Poison Control Center?"

- A. () YES → IF "YES" GO TO Q. 15 BELOW
- B. () NO → IF "NO" GO TO Q. 16 ON P. 9

15. "Where did you learn about the Mid-Plains Poison Control Center?"

WRITE OUT RESPONSE _____

- A. () FRIEND/RELATIVE
- B. () PHARMACIST
- C. () DOCTOR/NURSE
- D. () HOSPITAL
- E. () PEDIATRICIAN'S OFFICE
- F. () TELEPHONE DIRECTORY
- G. () BROCHURE/FLYER
- H. () NEWSLETTER
- I. () NEWSPAPER
- J. () COMMUNITY CLUB/ORGANIZATION
- K. () CHILD'S SCHOOL
- L. () CHILD'S MEETING
- M. () PARENTS' GROUP
- N. () NURSERY/DAY CARE
- O. () LIBRARY
- P. () HOME VISITOR
- Q. () TV/RADIO
- R. () STORE
- S. () SHERIFF'S OFFICE
- T. () POLICE STATION

16. "Do you have a poison control center telephone number on your own telephone or posted where you can read it right now?"

A. () YES → IF "YES" ASK

↓
"Would you please read that number to me?"

TELEPHONE NUMBER _____

B. () NO

SAY TO ALL RESPONDENTS

"Now I need to know a little about your household for statistical purposes"

ASK

17. "Is your age?"

A. () 15 - 19

B. () 20 - 29

C. () 30 - 39

D. () 40 - 49

E. () 50 OR OVER

18. "Is your family income more or less than \$20,000?"

() MORE

OR

() LESS

IF MORE, ASK A. → "Is your family income more or less than \$30,000?"

() MORE

() LESS

IF LESS, ASK B. → "Is your family income more or less than \$10,000?"

() MORE

() LESS

ASK

19. "What was the last grade you completed in school?"

RESPONSE

DO NOT READ RESPONSES

- A. () LESS THAN HIGH SCHOOL DIPLOMA
- B. () HIGH SCHOOL OR GED COMPLETED
- C. () TECHNICAL, TRADE OR BUSINESS SCHOOL BEYOND HIGH SCHOOL
- D. () SOME COLLEGE
- E. () FOUR-YEAR DEGREE COMPLETED
- F. () MASTER'S DEGREE COMPLETED
- G. () PH.D. COMPLETED
- H. () PROFESSIONAL DEGREE
- I. () DON'T KNOW/REFUSED

20. "Which of these best describe your heritage - Black African, European, Hispanic, American Indian, Asian, or something else?"

A. () BLACK AFRICAN

B. () EUROPEAN

C. () HISPANIC

D. () AMERICAN INDIAN

E. () ASIAN

F. () OTHER (SPECIFY) _____

21. "What county of Nebraska do you live in?"

WRITE NAME OF COUNTY _____

22. "What city or town do you live in or near?"

WRITE NAME OF CITY OR TOWN _____

IF THEY DO "NOT" LIVE IN OR NEAR A CITY OR TOWN, ASK

"How far is it to the nearest town?"

DISTANCE IN MILES _____

DISTANCE IN TIME _____

SAY

"Thank you for your cooperation. The information you have provided will help to make poison control information available to more Nebraskans."

IF THEY DID NOT CALL THE POISON CONTROL CENTER

SAY

"For your information, the telephone number of the Mid-Plains
Poison Control Center in Omaha is 390-5400 for local calls.
The toll free number for calls from outside Omaha is 1-800-642-9999.

APPENDIX C

Frequencies for "Survey of Recent MPCC Callers"

POISON CONTROL SURVEY - SHORT FORM

SAY

"Hello, my name is _____ and I'm with the University of Nebraska. We're conducting a short survey for the Mid-Plains Poison Control Center. May I speak with:

Mrs. _____ ?

ASK TO CONFIRM

1. "Are you the mother of children under 6 years of age?"

A. (209) YES → IF "YES" GO TO QUESTION 2

B. (1) NO → IF "NO" BUT THEY WILL GET HER, REPEAT THE INTRODUCTORY STATEMENT, AND GO TO QUESTION 2

IF "NO, SHE IS NOT HOME"
ASK

"What time will she return home?"

RECORD TIME _____

ASK TO VERIFY

2. "Did you call the Mid-Plains Poison Control Center in the past 12 months?"

A. (188) YES → IF "YES" GO TO QUESTION 3

B. (0) NO → IF "NO" SAY

"Thank you for your cooperation," → AND HANG UP

C. (22) UNSURE

3. "How many children currently live in your household?"

NUMBER OF CHILDREN

Value	Frequency
1	45
2	95
3	42
4	22
5	3
6	3

SAY

4. "Please tell me the age of each child in your household?"

_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS
_____ YEARS	_____ YEARS	_____ YEARS

5. "Which child or children experienced a poisoning incident, or what you thought was a poisoning incident?"

PLACE AN "*" ABOVE THE AGE

6. "What was the first thing you did when you found out that your child or children might have swallowed or breathed something poisonous or harmful?"

(WRITE OUT RESPONSE)

- | | |
|------------|--|
| A. (3) | CALLED A FRIEND/RELATIVE |
| B. (1) | [CALLED A PHARMACIST
CALLED A DOCTOR/NURSE
CALLED A HOSPITAL
CALLED AN AMBULANCE |
| C. (10) | |
| D. (7) | |
| E. (1) | |
| F. (165) | [CALLED THE MID-PLAINS POISON CONTROL CENTER
CALLED ANOTHER POISON CONTROL CENTER |
| G. (20) | |
| H. (0) | [WENT TO THE DOCTOR
WENT TO THE HOSPITAL/CLINIC |
| I. (0) | |
| J. (0) | [HAD CHILD VOMIT
HAD CHILD TAKE SYRUP IPACAC |
| K. (1) | |

ASK

7. "Where did you learn about the Mid-Plains Poison Control Center?"

(WRITE OUT RESPONSE)

-
- | | |
|----------|-----------------------------|
| A. (15) | FRIEND/RELATIVE |
| B. (8) | PHARMACIST |
| C. (41) | DOCTOR/NURSE |
| D. (33) | HOSPITAL |
| E. (6) | PEDIATRICIAN'S OFFICE |
| F. (38) | TELEPHONE DIRECTORY |
| G. (23) | BROCHURE/FLYER |
| H. (1) | NEWSLETTER |
| I. (1) | NEWSPAPER |
| J. (3) | COMMUNITY CLUB/ORGANIZATION |
| K. (9) | CHILD'S SCHOOL |
| L. (1) | CHILD'S MEETING |
| M. (3) | PARENTS' GROUP |
| N. (0) | NURSERY/DAY CARE |
| O. (0) | LIBRARY |
| P. (0) | HOME VISITOR |
| Q. (6) | TV/RADIO |
| R. (0) | STORE |
| S. (0) | SHERIFF'S OFFICE |
| T. (2) | POLICE STATION |

ASK

8. "Were you very satisfied, moderately satisfied, or not satisfied with the advice of the Mid-Plains Poison Control Center, or are you unsure?"

A. (194) VERY SATISFIED

B. (15) MODERATELY SATISFIED

C. (1) NOT SATISFIED → IF "NOT SATISFIED" ASK

D. (0) UNSURE

8B. "With what were you not satisfied?"

(WRITE RESPONSE) _____

9. "Do you have a poison control center telephone number on your own telephone or posted where you can read it right now?"

A. (112) YES → IF "YES" ASK

"Would you please read that number to me?"

(WRITE TELEPHONE NUMBER) _____

B. (83) NO

10. "Did you have access to a car at the time of the poisoning incident?"

A. (197) YES

B. (11) NO

SAY

"Now I need to know a little about your household."

ASK

11. "Is your age?"
(READ CATEGORIES)

- A. (1) 15 - 19
- B. (108) 20 - 29
- C. (96) 30 - 39
- D. (4) 40 - 49
- E. (1) 50 OR OVER

12. "Is your family income more or less than \$20,000?"

(136) MORE

OR

(67) LESS

IF MORE → A. "Is your family income
 more or less than
 \$30,000?"

IF LESS → B. "Is your family income
 more or less than
 \$10,000?"

(64) MORE

(59) MORE

(68) LESS

(9) LESS

13. "What was the last grade you completed in school?"

DO NOT READ RESPONSES

WRITE RESPONSE

- A. (5) LESS THAN HIGH SCHOOL DIPLOMA
- B. (75) HIGH SCHOOL OR GED COMPLETED
- C. (9) TECHNICAL, TRADE OR BUSINESS SCHOOL BEYOND HIGH SCHOOL
- D. (69) SOME COLLEGE
- E. (43) FOUR-YEAR DEGREE COMPLETED
- F. (6) MASTER'S DEGREE COMPLETED
- G. (1) PH.D. COMPLETED
- H. (0) PROFESSIONAL DEGREE
- I. (2) DON'T KNOW/REFUSED

14. "Which of these best describes your heritage - Black African, European, Hispanic, American Indian, Asian, or something else"

WRITE RESPONSE _____

- A. (5) BLACK AFRICAN
 B. (193) EUROPEAN
 C. (1) HISPANIC
 D. (5) AMERICAN INDIAN
 E. (1) ASIAN
 F. (0) OTHER (SPECIFY) _____

15. "What county of Nebraska do you live in?"

WRITE NAME OF COUNTY _____
 ASK FOR SPELLING IF YOUR ARE UNSURE

16. "What city or town do you live in or near?"

WRITE NAME OF CITY OR TOWN _____
 ASK FOR SPELLING IF YOU ARE UNSURE

IF THEY DO "NOT" LIVE IN OR NEAR A CITY OR TOWN, ASK

17. "How far is it to the nearest town?"

DISTANCE IN MILES _____

DISTANCE IN TIME _____

SAY

"Thank you for your cooperation. The information you have provided will help to make poison control information available to more Nebraskans."

APPENDIX D
Frequencies for "Statewide Survey"

POISON CONTROL SURVEY - LONG FORM

SAY

3. '

SAY

"Hello, my name is _____ and I'm with the University of Nebraska. We're conducting a short survey on children coming into contact with poisonous or harmful substances so that information on poison control services will be available to more people in Nebraska.

ASK

1. "May I speak with the mother of any children under 19 years of age in the family?"

SAY

"
in

A. () YES → IF "YES" GO TO Q. 2 BELOW

B. () NO → IF "NO, BUT WILL GET HER" REPEAT INTRODUCTORY STATEMENT WHEN SHE COMES TO THE PHONE, AND GO TO Q. 2 BELOW

ASK

4. "I
in

() NO → IF "NO, NO CHILDREN" SAY

"Thank you for your cooperation" → AND HANG UP

A.

() NO → IF "NO, NOT HOME," ASK

B.

"What time will she return home?"

WRITE TIME _____

SAY "Thank you for your cooperation" → AND HANG UP

ASK

2. "How many children currently live in your household?"

WRITE NUMBER _____

ASK QUESTION, AND MARK RESPONSE FOR EACH CHILD

5. "What was the age of the child (children) who experienced the poisoning incident(s)?"

1 yrs = 2 3 yrs = 1 6 yrs = 1
2 yrs = 2 4 yrs = 1 14 yrs = 1

6. "Had the child had previous poisoning incidents?"

A. YES = 2

B. NO = 6

ASK

7. "What was the first thing you did when you found out that your child (children) had swallowed or breathed something which you thought was poisonous or harmful?"

WRITE OUT RESPONSE, THEN CHECK APPROPRIATE () FOR EACH CHILD

RESPONSE

A. CALLED FRIEND/RELATIVE

IF "A" GO TO Q. 8 ON P. 4

B. CALLED A POISON CONTROL CENTER

IF "B" GO TO Q. 9 ON P. 5

C. CALLED MID-PLAINS POISON CONTROL CENTER

IF "C" GO TO Q. 10 ON P. 5

D. CALLED PHARMACIST

E. CALLED DOCTOR/NURSE

F. CALLED HOSPITAL

G. CALLED AMBULANCE

H. WENT TO HOSPITAL

I. MADE CHILD VOMIT

J. HAD CHILD TAKE SYRUP IPACAC

K. NO RESPONSE

IF "D" THROUGH "J" GO TO Q. 14 ON P. 8

CHILD 1	CHILD 2	CHILD 3	CHILD 4
YEARS	YEARS	YEARS	YEARS
()	()	()	()
()	()	()	()
()	()	()	()
(3)	(1)	()	()
(3)	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
(1)			

ASK

8. "What was the advice of the friend/relative?"

ASK

9. "Wh

WRI

RES

WRITE OUT RESPONSE, THEN CHECK APPROPRIATE ()
FOR EACH CHILD

RESPONSE

A.

A. TO CALL A POISON CONTROL CENTER

IF "A" GO TO
Q. 9 ON P. 5

B.

B. TO CALL MID-PLAINS POISON
CONTROL CENTERIF "B" GO TO
Q. 10 ON P. 5

C.

C. TO CALL PHARMACIST

D.

D. TO CALL DOCTOR/NURSE

E.

E. TO CALL HOSPITAL

F.

F. TO CALL AMBULANCE

G.

G. TO GO TO HOSPITAL

H.

H. TO MAKE CHILD VOMIT

I.

I. TO GIVE SYRUP IPACAC

IF "C" THROUGH
"J" GO TO
Q. 14 ON
P. 8CHILD
1CHILD
2CHILD
3CHILD
4

()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()
()	()	()	()

ASK

10. "Wer
of t

A.

B. 1

C. 1

D. 1

11. "With

WRITE

ASK

12. "If any of your children "WERE" to swallow or breathe something poisonous or harmful, what is the first thing you would do?"

WRITE RESPONSE, THEN CHECK APPROPRIATE ()

- ↓
- | | | |
|------------|---|---------------------------------------|
| A. (2) | CALL A FRIEND/RELATIVE | → IF "A" GO TO Q.14 ON P. 8 |
| B. (130) | CALL A POISON CONTROL CENTER | → IF "B" GO TO Q.13 ON P. 7 |
| C. (67) | CALL THE MID-PLAINS POISON CONTROL CENTER | → IF "C" GO TO Q. 15 ON P. 8 |
| D. (2) | CALL A PHARMACIST | IF "D" THROUGH "J" GO TO Q.14 ON P. 8 |
| E. (60) | CALL A DOCTOR/NURSE | |
| F. (27) | CALL A HOSPITAL | |
| G. (14) | CALL AN AMBULANCE | |
| H. (8) | GO TO HOSPITAL | |
| I. (19) | MAKE CHILD VOMIT | |
| J. (12) | GIVE CHILD SYRUP IPACAC | |
| K. (39) | OTHER | |
| | Check Substance = 38 | |
| | Call 911 = 1 | |

14.

7

ASK

13. "What poison control center would you call?"

15. '

WRITE RESPONSE, THEN CHECK APPROPRIATE ()

RESPONSE

A

A. (2) ST LUKE'S
POISON CENTER

B

B. (2) MARIAN HEALTH
CENTER

C.

C. (1) ROCKY MOUNTAIN
CENTER

D.

E.

D. (0) MCKENNON
CENTER

F.

E. (0) UNIVERSITY OF IOWA

G.

F. (0) MID-AMERICA
CENTER

H.

I.

G. (0) CHILDREN'S
HOSPITAL IN
KANSAS CITY

J.

H. (1) ST LUKE'S
HOSPITAL IN
ABEFDEEN

K.

L.

I. (20) OMAHA

M.

J. (4) LOOK IN PHONE BOOK

N.

K. (2) LINCOLN

O.

L. (97) UNSURE

P.

Q.

R.

S.

T.

16. "Do you have a poison control center telephone number on your own telephone or posted where you can read it right now?"

A. (134) YES → IF "YES" ASK

↓
"Would you please read that number to me?"

TELEPHONE NUMBER _____

B. (215) NO

SAY TO ALL RESPONDENTS

"Now I need to know a little about your household for statistical purposes"

ASK

17. "Is your age?"

A. (2) 15 - 19

B. (92) 20 - 29

C. (208) 30 - 39

D. (96) 40 - 49

E. (23) 50 OR OVER

18. "Is your family income more or less than \$20,000?"

(269) MORE

OR

(136) LESS

IF MORE, ASK A. →

"Is your family income more or less than \$30,000?"

(136) MORE

(123) LESS

IF LESS, ASK B. →

"Is your family income more or less than \$10,000?"

(93) MORE

(48) LESS