DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service
Centers for Disease Control
and Prevention (CDC)

Memorandum

Date: March 23, 2001

From: Roy M. Fleming, Sc.D., Director, Research Grants Program RMF
Office of Extramural Programs, NIOSH, D30

Subject: Final Report Submitted for Entry into NTIS for Grant 1 R01 CC514315-01.

To: William D. Bennett
Data Systems Team, Information Resources Branch, EID, NIOSH, P03/C18

The attached final report has been received from the principal investigator on the subject NIOSH grant. If this document is forwarded to the National Technical Information Service, please let us know when a document number is known so that we can inform anyone who inquires about this final report.

Any publications that are included with this report are highlighted on the list below.

Attachment
cc: Sherri Diana, EID, P03/C13

List of Publications
None

Title: Health and Safety Risks to Children of Migrant Farmworkers
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Award Number: 1 R01 CC514315-01
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Abstract:
This research investigated the occurrence of injuries among children of migrant farm workers in Wisconsin in 1998, using four sets of methods:

Focus groups. The information gleaned from these conversations with mothers was rich in details; broad in the range of discussion, and very helpful in understanding the situation of migrant families trying to raise children and yet depending upon migrant agricultural work as their major or only sources of income. We also profited from one mother's experiences reminding others about various incidents and experiences that they had. Thus, although the focus groups were not a scientific sampling of migrant farm worker mothers, the groups together produced a broad array of helpful information about child injuries and difficult situations in which they find themselves.

Interviews with mothers. The scientific random sampling and the standardized interview schedule provided essential information that can be used to estimate the likelihood of various health and illness conditions occurring to children in these families. Thus, we did not obtain a lot of information about child injuries or pesticide exposure because these are fairly uncommon events. However, we did gather a great deal of information about the health and medical utilization patterns of the children, as well as of the mother and her history of pregnancies and births. This provides a context germane to understanding the environment in which the child lives. We know how many family members traveled with the child; whether he or she attended Head Start of Migrant Education classes; whether the child worked in agriculture or food processing; what the housing conditions was like, etc.

Interviews with children. This effort was exploratory. We didn't know how the children would react to the questions, and what they might tell a nurse who was examining them at the time. It turned out almost all of the children responded to and answered the questions. They told of various illnesses and accidents they had had; about their work for pay and what they did; and they rated their own health status. It no doubt was advantageous that the interviews took place at the migrant education schools -- a neutral place to ask a child questions (rather than in crowded living quarters in the work camps). There was no one around who might influence or affect the answers. On the whole, these interviews enlarged our understanding of what migrant life was like for the children, including the role of work.

Review of clinic records. This effort was blocked by the Director of the Migrant Health Clinic. Our initial intention was to interview the adult who accompanied the child to the clinic at the time of the intake. We prepared a specific "Clinic Intake Form" to make sure that information about circumstances surrounding the injury was given, including where the injury took place; who was with the child at the time; if there was supervision; the age of the supervisor; how many other children the supervisor was watching; what implements or machines or equipment were involved. When we learned that we could not impose on the time of the staff to fill in the form, and we had no money to hire someone to perform that task, we settled for a review of the records of all of the child injuries and illnesses that occurred. These records provided no circumstantial information surrounding the injury or illness and much less information about the supervision at the time it occurred. Therefore, our effort was thwarted. We recommend, in future research, that a specific individual paid by the research effort should be employed to perform the interviews with the accompanying adult when a child is brought in to an outpatient clinic. This could also include a visit to the site of the injury, if necessary.

Data from these varied sources indicate that migrant children get fairly satisfactory preventive care relative to immunization, physical examinations, and dental visits.

On the other hand, children experience a variety of injuries and minor illnesses. Some injuries are work related (e.g., trimming Christmas trees with a machete), others occur while helping in household (e.g., getting burned with hot oil while cooking), and some happen while playing (e.g., breaking an arm in a playground). Overall, injuries were of two types -- those that predictably occur during childhood years and others associated with work, including household duties, by immature and inexperienced children.

We note that children enrolled in well-supervised settings (Head Start, etc.) are less likely to sustain injuries than children not enrolled.

Because surveillance of injuries and pesticide exposures of the children of migrant farm workers is lacking, further research is sorely needed to answer basic questions: What injuries, illnesses, and exposures occur? What are the environing circumstances? What measures are taken following the incidents that occur?

Publications
No publications to date.

Health and Safety Risks to Children of Migrant Farm Workers

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Health and Safety Risks to Children of Migrant Farm Workers

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FINAL REPORT

to the National Institute of Occupational Safety and Health

Grant # CCR514315

1999

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SIGNIFICANT FINDINGS

Injuries sustained by migrant children. Injuries experienced by children of migrant farm workers are of two types. One refers to mishaps that could and do occur during childhood years -- bee stings, tripping, falling, playground play. The other is associated with work-related behavior conducted by immature or inexperienced children, some of whom are no older than 8 years of age.

Gendering of injuries. Males were much more likely than females to have suffered one injury, and even more likely than females to have experienced multiple injuries (two or more). Both findings are consistent with the 1988 National Health Interview Survey, which examined nonfatal injuries in a national sample of U.S. children and adolescents (Scheidt, et al., 1995:932-938). Also, females were more likely than males to suffer burns (in kitchens), while males were more apt to have mishaps in play, "rough" interaction, and in work situations.

Preventive health. The children in almost two-thirds of migrant families have been immunized against the array of childhood diseases. This high rate of immunization is primarily due to immunization programs instituted in Head Start and Migrant Education programs. Also, based on mothers' reports, nearly 90 percent of their children have had physical examinations within the past 15 months, and 80 percent had a dental visit within the past two years.

First-aid training. Well over a third of migrant respondents expressed a need for first-aid training. Since migrant workers and their children find themselves in areas where immediate professional medical help is unavailable, migrant workers trained in first-aid procedures could provide primary assistance to injured children.

Supervision and child care. Another important preventive element involved the Head Start, pre-school and school programs -- migrant children enrolled in these well-supervised settings sustained fewer injuries than children not enrolled.

Pesticide exposure. Mothers report that some of their children have been exposed to pesticides in the course of their working, living, or playing in or adjacent to areas of agricultural production.

Lack of surveillance. No effective procedures are in place to provide reliable knowledge of any of the following: the type of injuries that befall migrant children; when, where, under what circumstances they occur; and what, if any, measures are taken following incidents of injury or exposure. As a result, there is no way as yet to formulate realistic recommendations designed to prevent or control the health hazards faced by migrant children.

USEFULNESS OF FINDINGS

Supervision and child care. The adequacy of supervision affects the likelihood of childhood injuries in work sites, at school, and in living areas. As noted, fewer injuries occurred among children enrolled in Head Start, pre-school and school -- each a well-supervised setting -- than among migrant children not enrolled.

The utility of this finding leads us to take a searching look at educational programs for migrant youngsters.

We start by noting that migrant children are treated differently depending on whether they are under 6 years of age, 7 to 11 years, or 12 years and older.

For the youngest, children up to 6 years of age (now including even babies of a few weeks of age), Migrant Head Start programs are in place and are operated for most of the summer. Children at the upper age level -- 12 and older -- may legally work in the fields, and some of them do. However, children 7-11 are poorly accommodated. Since the Migrant Education program which serves them operates for only four summer weeks, these children are often left to fend for themselves.

The several Migrant Education programs play dual roles. That is, beyond their educational value, they provide supervised settings that, as our findings show, help reduce the possibility of childhood accidents. This suggests that extending the reach of educational programs to children in the 7-11 age group, and to those over 12, should also entail accident-prevention benefits.

First-aid training. The finding that over a third of the migrant workers expressed a need for first-aid training should be followed up. Given the usual unavailability of professional medical help at work sites, migrant workers trained in first-aid procedures could provide primary assistance to injured children.

Preventable injuries. We found some injuries that occur in childhood may not be preventable -- children trip, fall, get bee stings, play, and the like. Other injuries were work-related and require preventive inputs. Employers and parents should be urged to make certain that children (1) are not assigned tasks that entail risks for immature and/or inexperienced youngsters and (2) are properly trained for their assigned tasks.

Methods utilized. This research used different approaches to gathering information on child health and safety. They were (1) focus groups with migrant mothers; (2) interviews with mothers about their children; (3) interviews with migrant children; and (4) examination of clinic records. Each method had its strong points and weaknesses.

(1) Focus groups. The information gleaned from these conversations with mothers was rich in details; broad in the range of discussion, and very helpful in understanding the situation of migrant families trying to raise children and yet depending upon migrant agricultural work as their major or only source of income. We also profited from one mother's experiences reminding others about various incidents and experiences that

they had had. Thus, although the focus groups were not a scientific sampling of migrant farmworker mothers, the groups together produced a broad array of helpful information about child injuries and difficult situations in which they find themselves.

(2) Interviews with mothers. The scientific random sampling and the standardized interview schedule provided essential information that can be used to estimate the likelihood of various health and illness conditions occurring to children in these families. Thus, we did not obtain a lot of information about child injuries or pesticide exposure because these are fairly uncommon events. However, we did gather a great deal of information about the health and medical utilization patterns of the children, as well as of the mother and her history of pregnancies and births. This provides a context germane to understanding the environment in which the child lives. We know how many family members traveled with the child; whether he/she attended Head Start of Migrant Education classes; whether the child worked in agriculture or food processing; what the housing conditions were like, etc.

(3) Interviews with children. This effort was exploratory. We didn't know how the children would react to the questions, and what they might tell a nurse who was examining them at the time. It turned out almost all of the children responded to and answered the questions. They told of various illnesses and accidents they had had; about their work for pay and what they did; and they rated their own health status. It no doubt was advantageous that the interviews took place at the migrant education schools -- a neutral place to ask a child questions (rather than in crowded living quarters in the work camps). There was no one around who might influence or affect the answers. On the whole, these interviews enlarged our understanding of what migrant life was like for the children, including the role of work.

(4) Review of clinic records. This effort was blocked by the Director of the Migrant Health Clinic. Our initial intention was to interview the adult who accompanied the child to the clinic at the time of the intake. We prepared a specific "Clinic Intake Form" to make sure that information about circumstances surrounding the injury was given, including where the injury took place; who was with the child at the time; if there was supervision; the age of the supervisor; how many other children the supervisor was watching; what implements or machines or equipment were involved. When we learned that we could not impose on the time of the staff to fill in the form, and we had no money to hire someone to perform that task, we settled for a review of the records of all of the child injuries and illnesses that occurred. These records provided no circumstantial information surrounding the injury or illness and much less information about the supervision at the time it occurred. Therefore, our effort was thwarted. We recommend, in future research, that a specific individual paid by the research effort should be employed to perform the interviews with the accompanying adult when a child is brought in to an outpatient clinic. This could also include a visit to the site of the injury, if necessary.

ABSTRACT

This research investigated the occurrence of injuries among children of migrant farmworkers in Wisconsin in 1998.

Four sets of methods were employed: feedback from focus groups of migrant mothers; interviews with a random sample of migrant mothers working in Wisconsin; examination of Migrant Health Clinic records of children who presented with injuries or pesticide exposure; and short questions administered by nurse practitioners to migrant children aged 6-12.

Data from these varied sources indicate that migrant children get fairly satisfactory preventive care relative to immunization, physical examinations, and dental visits.

On the other hand, children experience a variety of injuries and minor illnesses. Some injuries are work related (e.g., trimming Christmas trees with a machete), others occur while helping in household (e.g., getting burned with hot oil while cooking), and some happen while playing (e.g., breaking an arm in a playground). Overall, injuries were of two types -- those that predictably occur during childhood years and others associated with work, including household duties, by immature and inexperienced children.

We note that children enrolled in well-supervised settings (Head Start, etc.) are less likely to sustain injuries than children not enrolled.

Because surveillance of injuries and pesticide exposures of the children of migrant farm workers is lacking, further research is sorely needed to answer basic questions: What injuries, illnesses, and exposures occur? What are the environing circumstances? What measures are taken following the incidents that occur?

Health and Safety Risks to Children of Migrant Farm Workers

Report

I. INTRODUCTION

BACKGROUND

Migrant workers, the vast majority of whom are members of racial and ethnic minority populations, are among the most impoverished of working Americans. Migrant work also brings a measure of social dislocation, with workers having very little time, energy or money to become integrated into local communities or to utilize local services such as health care. As a result of this combination of social and economic circumstances, migrant agricultural workers are among the most underserved, disadvantaged, and "invisible" populations in the U.S. today. Very little research has been directed toward understanding and meeting their particular needs. Moreover, children who accompany their migrant-laboring parents are an even less visible part of the migrant worker population. This report centers on those children, with a specific focus on their health and injury experiences.

SPECIFIC AIMS

The three goals of this research were (1) to gather information on social, demographic, and economic factors that influence health and safety of children of migrant farmworkers; (2) to obtain histories of all incidents defined as "injuries" to migrant children, including the relevant environmental context; and (3) to evaluate the foregoing data, with the aim of developing "intervention strategies" to prevent such incidents.

We have taken four paths to investigate this topic. Each used a different methodology, a different focus and perspective, and provided different information. The four methods were:

1. Feedback from Focus Groups. We conducted three focus groups of migrant farmworker mothers with children under 18. This was to get at the parameters of what mothers consider to be the health/injury risks to their children in the course of the migrant experience. This information was subsequently utilized in the interview schedule administered to a sample of migrant mothers.

2. Interviewing Migrant Mothers. We interviewed migrant mothers during Wisconsin's 1998 work season to obtain data on their children's health, work, experience, injuries, and possible pesticide exposures.

3. Interviewing Migrant Children. Interviews with a sample of migrant children were conducted by nurse practitioners in the course of their nursing assessments of children enrolled in Wisconsin's Migrant Education program.

4. Reviewing Migrant Health Clinic Records. We developed an Outpatient Intake Form to provide information on migrant youngsters who presented at the Migrant Health Clinic in Wautoma, Wisconsin during the migrant work season. We were unable to have it used at two nearby hospitals with emergency rooms.

II. FOCUS GROUPS WITH MIGRANT MOTHERS

The first specific aim, to conduct focus groups, was designed to ascertain the right questions to ask in a random sample survey of Wisconsin migrant mothers. Meeting with groups of migrant mothers, the informal give-and-take discussions focused on encouraging the women to air what they perceived as the health/injury risks to which their children are exposed in the course of migrant work and travel.

Three focus groups of migrant farmworker women -- all Hispanic, all mothers -- met on March 9-11, 1998, in a modest restaurant in Edinburg, Texas, on the Texas-Mexico border. This general area is home to many farm workers who migrate in the Midwest stream. Each meeting lasted about two hours and was followed by a family-style dinner.

In all, 24 mothers attended, about 8 at each session. Also attending were Dr. Slesinger, the Principal Investigator, and a bilingual facilitator, Ms. Julia Salomón. Since the mothers had free choice of language use, conversations flowed in Spanish, English, and a mixture of both.

The three group discussions elicited many instances of accidents and injuries that befell children. Women also aired their feelings and ideas as to how the migrant experience could be rendered less hazardous for youngsters. Below, we cite mothers' reports of mishaps suffered by children as well as their suggestions for improving the situation. From the conversations that occurred, we were able to identify six areas about which the women expressed particular concern: pesticide/chemical exposure; child care while parents are working; poor housing and environmental conditions; problems with children's education; dangers while traveling long distances; and lack of access to health care in emergencies. Each section starts with a few verbatim quotes, followed by incidents mentioned by the group.

SIX AREAS OF CONCERN

1. Pesticide and/or Chemical Exposure.

> ***"I've been a migrant for 30 years. I'd be worried when my kids worked in the fields. Sometimes they had allergies. At first we didn't know why. Many years later we realized it was because of the chemicals."***

> ***"These days they tell you about pesticides, but parents don't really understand, and the kids certainly don't. And you never know what kind of pesticide it is and whether it will harm you."***

- Don't know what's in the cleaning supplies in canneries, e.g., chlorine, you can see and smell. Others have no smell.
- In the fields, when it's misty, the powder gets on skin.
- Only recently have employers posted fields. Some still don't inform workers.
- Don't know if it's an allergy or pesticide; don't know the consequences later in life.

- Boys eat fruit from tree without washing.
- Have to give you 24 hours after spraying, but you live there. House is located in middle of blueberry trees (Michigan).
- Hard to get kids to stay away from cans of pesticides. Little children put everything in mouth.
- No communication between sprayers [who speak English] and workers [who speak Spanish].

2. Child Care While Parents are Working.

> ***"I remember my mother had to take my sister and me to the fields. I was 5, and she was just a baby. She would have us sit under an umbrella all the time she was working."***

> ***"I was working with a friend who left her 2 year old kid with a baby sitter. The baby sitter was looking after 12 kids. When my friend went to get her child, the kid had drowned in a nearby pond."***

- Need 'peace of mind' when leave children.
- In the past, many hardships. Had to take children to field. Today, if no day care is available, have to take children to work. It often happened that a child (5 yrs.) had to watch the baby (1 month old).

3. Housing and Environmental Conditions.

> ***"We have lived in camps without water and the toilets were outside. The houses aren't suitable to live in, and the mattresses are awful. We've been in camps where the screens are broken and the flies are all over us."***

> ***"Some camps have no phone. And some growers won't let you put in a phone. If there is an accident or an emergency you have to go looking for a grower or go into town."***

> ***"They charge a lot for rent and utilities. But where we stayed, there was no wall between us and the kids. We had no privacy."***

- Hygiene poor; garbage not collected. No one in charge. Need person responsible for that.
- Housing often in poor condition, e.g., mattresses (one child got scabies), refrigerators.
- Wanted a safety light outside for protection. When we requested it, the boss asked us to leave camp, which we did.
- Well water in Michigan often yellow and rusty. *Patron* (boss) wouldn't let inspectors in. Must boil or buy drinking water.

4. Children's Education

> ***"One year the school just put together all the children from the migrant families because they didn't want them with the Anglos."***

> ***"When we go to register the children [in May], they ask us, 'Why are you bringing them? There's only a few week left of school.'"***

> ***"Even the principal tells them they are just tomato pickers, so the kids don't want to go to school because of that."***

- Lack of school for children. If not accepted in school, have to be left alone [when parents work].
- Kids are often overworked, then at night they may have to go to school.
- When children in school, teachers don't report illnesses to parents.

5. Dangers While Traveling

> ***"We don't speak good English. Two years ago I was with my baby, and the trip took 3 days because the truck broke down. We had no money, and spent 3 days on the road without food."***

> ***"If you don't have much money, you have to spend the nights in the parks. You often get scabies and you also risk your life and the children's too."***

- Language barriers -- when traveling and need help, especially help for children.
- Prescriptions: Child may be on antibiotics; treatment suspended while traveling. Will use whatever prescriptions they have with them (medicine from doctor) if child gets sick.
- May travel 24 hours without stopping. No place to rest. Little money when going north. Little food. If child gets sick, don't stop until at destination.
- Medicaid not good in all states.
- Cars: Know people at each end who can fix car, but are taken advantage of during trip.
- Because we have many belongings in car, there is no room for everyone to wear seat belts.
- Need resources along way. Don't carry much money, need place to rest.
- Housing a problem while traveling. Sleep in car. Kids piled together. No place to wash.
- *Promotoras* (health aides) have "manuals" about destination states, but nothing along the way.
- Traveled with newborn. Car broke. Had to spend money to get car fixed. Thus had no money for food.
- Traveling hundreds of miles. Accidents on road. When stop, try to keep track of kids. Hard on kids, they miss bed, home.

- Trip takes two days. What happens if have accident? Lonely. What happens if you need to find clinic, [especially] at night? Sometimes [a child's] cough is pretty bad.
- Daughter (2 years) in rest area locked herself in room. She panicked; she had epilepsy. We dislocated her shoulder getting her out, but we had to keep traveling and drove to Texas before got help.

6. Lack of, or Access to Health Services

> ***"La Clinica is very nice. But it's the only clinica around. When you go there you have to wait a long, long time because they have so many people."***

> ***"This one clinic gave me an appointment, but I couldn't get off work to keep the appointment."***

- Language barrier in getting health services.
- Don't know where clinics are. A friend's baby (11 months) got dehydrated and died.
- Translators needed.
- Often prefer drug store over doctor/clinic. *Promotoras* (health aides) often don't have a choice and must use drug store (drug store vs. clinic).
- When children are sick on trip don't know where to go.
- While migrating, daughter broke foot; [we] don't know where to go.

MOTHERS' REPORTS OF ACCIDENTS AND INJURIES

In the course of focus group discussions, many mothers told of accidents and injuries that their children or those of other migrant workers had suffered. Most of the recounted mishaps were due either to children doing potentially hazardous work or to the lack of reliable child supervision.

> ***"My 14 year old daughter was shearing pine trees and cut her leg with a machete. Sure, they told her how, but she was just a kid and did it wrong."***

> ***"We tell the boss to keep us and the kids working together, but they often put them elsewhere. If they're not with us, we can't look after them and they get hurt."***

Other comments included the following:

- Truck backed up over 4 year old child, broke her arm.
- Child drowned in pond. The baby sitter had too many kids to watch.
- Child played with matches near pine trees; fire started.
- Kid was working in plant nursery and should have been given boots. His feet got wet, he got rashes. Maybe pesticide in the water.

- Boy was picking asparagus and got "red eye" infection from the dirt.
- While Mom was picking cukes, a dog bit her 5 year old.
- Boy got cut from sharp metal on boxes. We told the boss to fix the metal. Should have been paid by Worker's Compensation, but the family got the hospital bills.
- Girl, 12 years old, alone in house, was cooking for family. Old stove exploded, burned her face.
- Boy cut leg with machete. Needed 5 stitches.
- My 15 year old had fingers cut off with machete.
- Picking apples; spike on ladder went into the boy's toes.
- Girl wasn't told how to use planting machine; injured her hand.
- Two teen-age boys were told to cover melons before the frost. They worked in the rain till 2:00 a.m.
- Packing house in Michigan, 16 year old girl's hair caught in machine and some torn out.
- Girl, 7, caught arm in laundry washer-wringer in work camp in Ohio.
- Two year-old child was run over when playing where truck was picking up camp garbage.
- A man driving tractor; his 9 year old son fell off and was killed.
- Two boys shaping Christmas trees with machetes. One boy cut off some toes, the other cut his arm.
- A 12 year-old girl babysitting two infants. One fell off bed and had broken limbs.
- Child fell asleep in pickle barrel. Nobody noticed. They filled barrel with vinegar and child died.
- Parents working, kids playing hide-and-seek. One kid hid in refrigerator, closed the door. Luckily, another kid saw him go in.

MOTHERS' SUGGESTIONS FOR REDUCING HAZARDS

The following were among the many suggestions women made to make migrant life less hazardous for children:

- Workers should be informed about the pesticides and should inform themselves. Kids should be trained as well. And pregnant women must be informed.
- Warn kids to wash fruit from trees before eating.
- Pesticide-spraying notices should be in both English and Spanish.
- Reliable child care needed, and longer hours, because parents work different shifts.
- Real garbage-collection is needed.
- Restrooms should be kept clean and showers fungus-free.
- More privacy is needed; thin partitions between men's and women's section aren't enough.
- Need outside safety lights for protection.
- A telephone line must be available.
- Vermin-free mattresses and decent refrigerators.
- Limit the number of people in a housing unit so kids aren't left with persons you don't know.

- OUR PAY IS TOO LOW! WE NEED HIGHER PAY!
- Bosses must realize better houses make better workers.
- Need to meet with employers; improve communication. *"We help them get rich, and they should treat us better."*
- Need more accessible clinic, less waiting with sick kids. Even with appointment, we can't get off work.
- Should have a Camp Health Aide in every camp.
- What can be done about discrimination? Too much discrimination against us -- in the camps, the clinics, stores, all over.

SUMMARY

The mothers identified six main areas of concern:

- Risks from pesticides
- Supervision of children when parents are working
- Housing and environmental conditions
- Children's education
- Dangers while traveling
- Access to health care

They offered very practical suggestions as to what to do for each of these areas, as well as urging better communication between the workers and their employers.

The information gleaned from these conversations with mothers was rich in details, broad in the range of discussion, and very helpful in understanding the situation of migrant families trying to raise children and yet dependent upon migrant agricultural work as their major or only source of income. We also profited from one mother's experiences reminding others about various incidents and experiences that they had had. Thus, although the focus groups were not a scientific sampling of migrant farmworker mothers, the groups together produced a broad array of helpful information about child injuries and difficult situations in which they find themselves.

The women's comments, concerns and suggestions were incorporated into a 3' x 6' color poster, displayed at two conferences in 19989 and a seminar in 1999. A black and white copy is reproduced as Exhibit 1. The information was the basis of questions in the Interview Schedule (appended). See, for example, Q66-75, Q99.

III. INTERVIEWS WITH MIGRANT MOTHERS ABOUT THEIR CHILDREN

HISTORY OF MIGRANT FARMWORKERS IN WISCONSIN

Migrant farmworkers first appeared in Wisconsin around the turn of the century. At that time, sugar beet and vegetable production expanded, leading to the recruitment of European workers from low-income areas in several Midwestern cities, including Sheboygan, Milwaukee, Chicago, St. Louis, and Kansas City. Most early migrant farmworkers were Belgian; they were later replaced by Germans and Russians. Many of these migrants eventually bought their own farms, settled in the community, and became permanent residents of the state.

In the 1920s and 1930s, the number of migrant Hispanic workers increased. Sugar beet companies actively recruited workers from the Southwest and along both sides of the U.W.-Mexican border.

By 1942, Wisconsin growers increased farm production to support the war effort but experienced severe labor shortages. This led to the establishment of the National Emergency Farm Labor Program (1943-47) which permitted the importation of foreign workers. In Wisconsin, male workers were imported from Jamaica, the Bahamas, British Honduras, and Mexico. German and Italian prisoners of war were also used. In 1945, the number of foreign agricultural workers peaked at 6,700.

Following World War II, many Wisconsin farmers abandoned agriculture for higher-paying jobs in the city. Wisconsin's production of crops requiring a large seasonal labor force did not decrease, but growers recruited more domestic migrant farmworkers and fewer foreigners. About 85 percent of the migrant farmworkers in Wisconsin during the postwar period were Texas-Mexicans. The remainder were recruited from neighboring states, from the South (mostly from Louisiana and Mississippi), and from the Chippewa, Oneida, and Menominee Indian tribes in northern Wisconsin. Wisconsin also received some foreign workers from 1951 to 1964, mainly from Mexico, under the federal "Bracero Program," which was aimed at alleviating agricultural labor shortages.

Since 1955, the number of migrant farmworkers in the state has declined due to the mechanization of planting, picking, and sorting crops, and the use of herbicides in agriculture. These changes lowered labor requirements for the production of many commodities. Since the late 1980s, however, increased production of highly perishable crops -- primarily vegetables for processing -- created more jobs for migrant workers in the food processing sector. These countervailing forces can be seen in Table 1, which shows the trend in employment of migrant farmworkers in Wisconsin from 1978 to the present.[1]

Given that many workers also travel with family members who do not work, Table 1 and Figure 1 also indicate the numbers of dependents who came with migrant workers to Wisconsin since 1978. The proportion of dependents to total migrants has declined over the last twenty years from 27 percent in 1978 to 10 percent in 1998. Most

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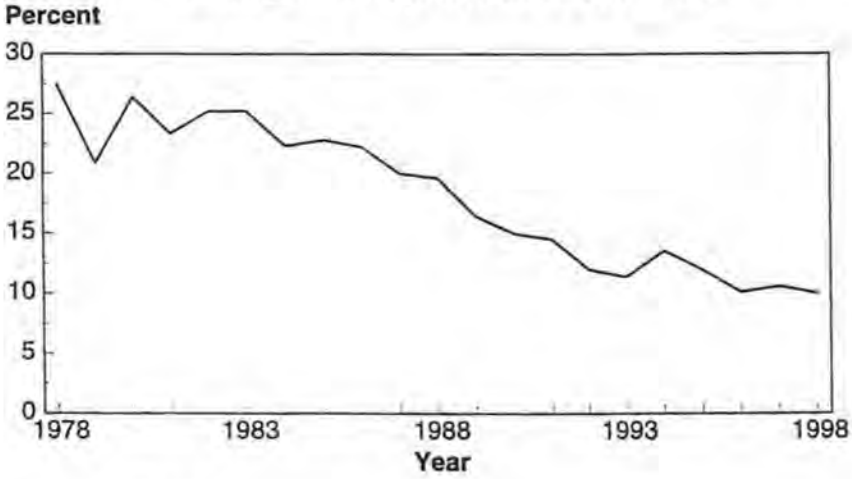
[1] See Slesinger and Muirragui, 1981, for further details of the history of migrant farmworkers in Wisconsin.

dependents or non-workers are children. However, some elders also used to travel with the families in order to help with child care, cooking, and maintaining the household. The fact that families working in fields tend to bring their children with them, whereas workers in food processing do not, helps to explain the long term trend illustrated in Figure 1.

Figure 1. Percent of Dependents in Migrant Population, 1978-1998



Source: Table 14.

Table 1. Migrant Farmworker Population, 1978-1998

Year	Workers			Dependents		Total Migrant Population
	Field	Cannery	Total	Number	Percent	
1978	3,075	1,797	4,872	1,843	27.5	6,715
1979	2,823	1,941	4,764	1,253	20.8	6,017
1980	3,109	1,931	5,040	1,805	26.4	6,845
1981	2,310	1,102	3,412	1,037	23.3	4,449
1982	1,858	885	2,743	923	25.2	3,666
1983	1,708	706	2,414	814	25.2	3,228
1984	1,881	731	2,611	750	22.3	3,361
1985	2,035	750	2,785	822	22.8	3,607
1986	1,959	602	2,561	730	22.2	3,291
1987	1,813	721	2,534	633	20.0	3,167
1988	2,006	937	2,943	718	19.6	3,661
1989	2,297	1,616	3,913	769	16.4	4,682
1990	2,534	2,202	4,736	834	15.0	5,570
1991	2,530	2,082	4,612	783	14.5	5,395
1992	2,717	2,544	5,261	718	12.0	5,979
1993	2,285	2,217	4,502	578	11.4	5,080
1994	2,070	2,945	5,015	785	13.5	5,800
1995	2,159	3,113	5,272	717	12.0	5,989
1996	1,845	3,284	5,129	579	10.1	5,708
1997	1,900	3,091	4,991	591	10.6	5,582
1998	1,962	3,155	5,117	566	10.0	5,683

Source: Wisconsin Department of Industry, Labor and Human Relations (1945-1995), Wisconsin Department of Workforce Development, Bureau of Migrant Services (1996-1998).

Wisconsin's migrant workers are currently employed both in food processing (i.e., canneries) and in agriculture. In agriculture, they perform various activities such as preparing the soil, planting, cultivating, harvesting crops, sorting and packing various products (i.e., field work). The products include not only various fruits and vegetables such as apples, corn, green beans, cucumbers, onions, carrots, cabbage, and cherries, but also trimming and packing Christmas trees and working in sod farms, peppermint fields, and plant and tree nurseries.

PURPOSE OF SURVEY

Because little current information is known about migrant workers and their family members who work in the agricultural industry in Wisconsin, the purpose of this survey is to provide current demographic, economic, environmental and health information about migrant farmworkers and their children. Slesinger conducted similar surveys of Wisconsin migrants in 1978 (Slesinger and Cautley, 1979) and in 1989 (Slesinger and Ofstead, 1993).

METHODOLOGY

Sampling Procedure

In 1998, a random sample of migrant farmworkers was selected from payroll lists of all employers with ten or more workers registered with the Bureau of Migrant Services. [2] The sampling ratio was one in ten workers in field work (10%) and one in twenty (5%) in food processing. Two different ratios were used because there were almost twice as many workers in canneries as in field work. Since research funds were limited, we wanted to be sure to have sufficient numbers in field work.[3] We contacted 146 employers who had workers at 158 sites,[4] first sending them a letter explaining the purpose of the survey. We followed this by a telephone call to the employer to get the number of migrants each planned to employ and arranged to get a copy of the payroll list during their "peak" period of employment. Eventually we ended up with 35 employers at 50 sites. Of the 146 employers contacted, 54 employed fewer than ten workers; another 40 employers were not employing migrants that season; three said they were out of business; and no information was obtained from 14 employers after repeated calls (all of whom had few migrants). Of the 50 sites, we interviewed workers at 33 sites, located in 16 counties. Managers at six sites refused to participate. The remaining 11 sites had ended their employment of migrants before or during the time we sampled, or weren't going to employ migrants until late fall, after we had completed

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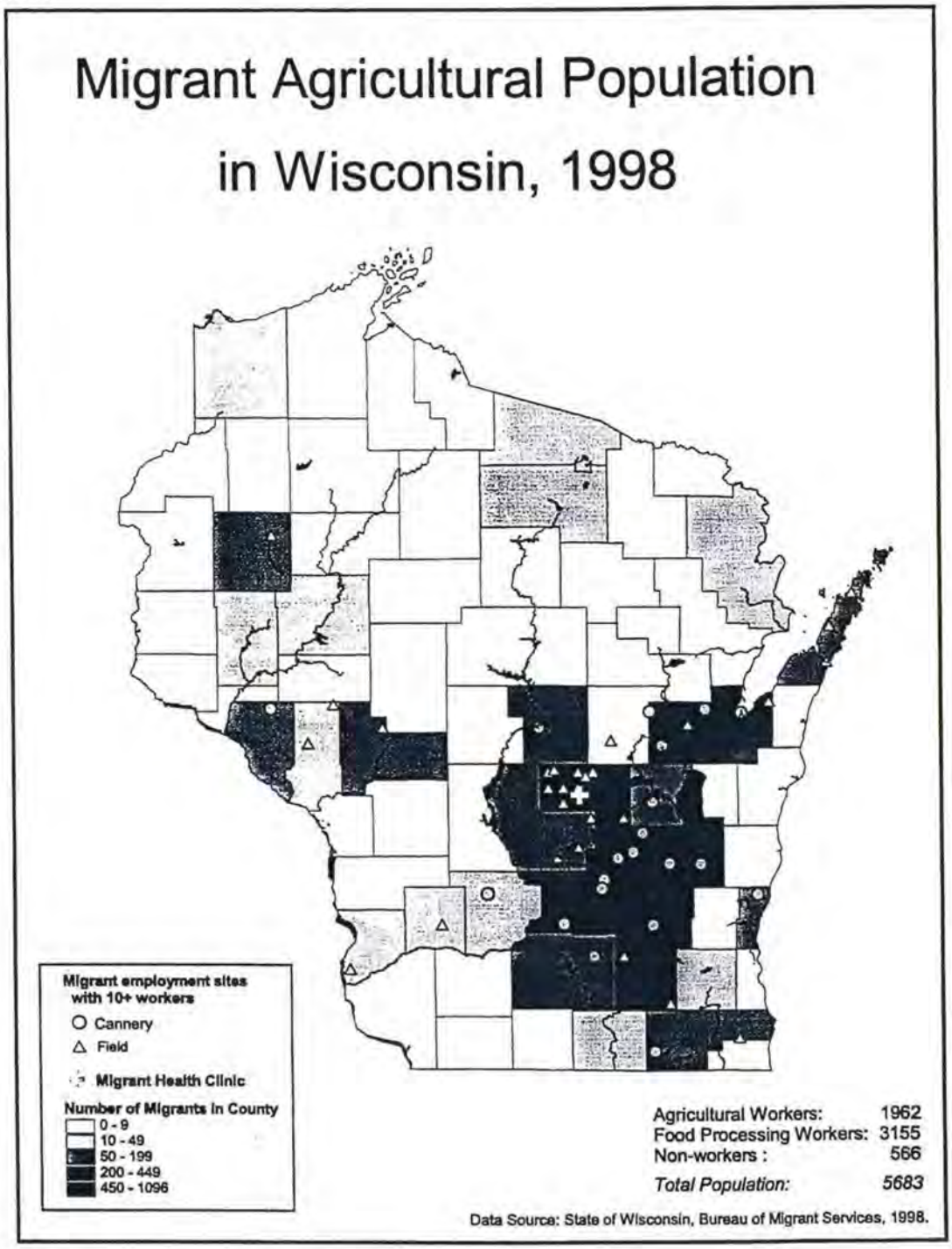
[2] The Department of Workforce Development, Bureau of Migrant Services, is mandated to enforce the Wisconsin 1977 Migrant Labor Law (Chapter 17, amended 1985 Act 191). The Bureau must ensure that (1) every employer of migrant farmworkers is registered with the Bureau, (2) workers are given contracts that specify working regulations, such as length of employment and rate of pay, and, (3) housing meets minimum standards of code, if housing is supplied as part of the contract. Thus, the information collected on an annual basis is limited to the number, name and location of employers who hire migrant farmworkers, and, if housing is supplied, the number of units that have been approved for occupancy.

[3] In actuality, we sampled 20 percent of the field work lists and 10 percent of the cannery lists, so that we would have ample names for replacements when workers had already left the area, or were unable to be located.

[4] Five employers in food processing had 28 multiple plants or sites in the state. Because each plant had a manager who was or was not willing to cooperate, the following information is classified by sites, not employers.

the interviewing. Thus, we estimate that there were somewhat over 5,000 workers in Wisconsin in 1998. This is similar to the Bureau of Migrant Services' estimate of 5,117.[5]

Map 1 displays the geographic distribution of the migrant agricultural population in Wisconsin.



[5]The difference between our estimate and the Bureau of Migrant Services is that we missed the workers who came and left Wisconsin before we began interviewing (late June) and who were employed after we stopped interviewing (mid-September). We also occasionally missed the peak period of employment.

Interviewers and the Interview Schedule

Six individuals were trained to conduct the interviews with migrant workers whose names were randomly chosen from recent payroll lists of employers. It was the interviewers' responsibility to locate the individuals and arrange to conduct the interview in person at the convenience of the respondent.

Five interviewers were bi-lingual (English and Spanish). The sixth person was only moderately fluent in Spanish but had been an administrator of a migrant health clinic for a number of years and thus knew about migrants' lifestyle and environment. All but one of the interviewers were women.

The survey instrument was written in both languages, and respondents chose the one they preferred. About 80 percent of the interviews were conducted in Spanish. An "informed consent" form was read to each prospective respondent, which included information about confidentiality, reasons for the study, and the respondents' option to stop the interview at any time. Verbal consent to continue constituted informed consent. Respondents received a small first aid kit or plastic water bottle as a token remuneration at the end of the interview. An offer to send a summary of the survey results was extended, and many respondents filled in a card with name and address to get the results.

MATERNAL RESPONDENTS

This report is based on interviews with 68 women in 152 sampled worker households. The 68 included 34 women who were randomly sampled as workers with children under 18, and an additional 34 women of childbearing age with children under 18 in the sampled workers' households. This resulted in a total of 68 women from whom we obtained data about their children.

The 68 women, ages 18 through 49 years, reported having 218 children (Mean = 3.2 children), ages 4 months to 26 years, and four women were currently pregnant. There were 168 children under the age of 18.

Characteristics of the Mothers

Table 2 gives demographic and other background information about the 68 mothers. Just under half the women had only an elementary school education; one-third had some high school, and 18 percent had a high school diploma or more schooling.

Eighty-seven percent of the women were married; 4 percent were divorced; and 9 percent said that they had never married. Almost 90 percent said that Spanish was the language they spoke most often, although about 47 percent of all mothers spoke both English and Spanish.

When interviewed, 44 percent were employed in field work, 53 percent in canneries, and 3 percent were not working. The number of years in migrant work varied greatly; some were in their first year, others reported that they had been working as migrants for as long as 32 years -- or almost an entire lifetime.

Table 2. Demographic Characteristics of Mothers With Children Under 18

Characteristic	Percent
Number	68
Age	
18-24	14.7
25-29	20.6
30-34	29.4
35-39	10.3
4-49	25.0
Total	100.0
Mean age	33.4 years
Education	
Less than 8 years	48.5
9-11	33.8
12 or more	17.7
Total	100.0
Marital Status	
Married	86.8
Divorced	4.4
Never married	8.8
Total	100.0
Preferred Spoken Language	
Spanish only	52.9
Spanish (also speaks English)	36.8
English (also speaks Spanish)	10.3
Total	100.0
Work Place	
Field Work	44.1
Cannery	53.0
Not Working	2.9
Total	100.0
Years Worked As Migrant	
1-4	29.4
5-9	33.8
10-19	23.6
20-32	13.2
Total	100.0
Mean years	9.4 years

Families and Households

The number of persons per household ranged from 2 to 11, with an average of 5.4 persons. All but a few children lived with both parents. Table 3 shows the distribution of household types at the time of the interview. Two-thirds of the children lived in a unit with only their parents. Another 20 percent had an added relative in the household. Few families came with only one parent (9 percent).

Table 3. Type of Households

Type of Household	Percent
Parents and child(ren)	64.7
Parents, child(ren) and relatives	20.6
Parents, child(ren) and non-relatives	4.4
Parents, child(ren), relatives and non-relatives	1.5
One parent, child(ren)	2.9
One parent, child(ren), relatives	2.9
One parent, child(ren), non-relatives	2.9
Total (%)	100.0
(N)	68

Economic Situation

The economic situation of these migrant families is precarious. Table 4 shows the distribution of family income, and the proportion in poverty as determined by federal guidelines, and based on the number of persons living on the reported income. As an example, for a family of four persons in 1997, an income of $16,050 was needed to live above the poverty level (U.S. Department of Health and Human Services, 1997). None of the families reached 200 percent of the poverty level, which is currently considered an adequate income.

Table 4. 1997 Family Income and Poverty Status of the Families with Children

Characteristic	Percent
Family Income	
Less than $5,000	10.4
$5,000-6,999	3.0
$7,000-10,999	23.9
$11,000-14,999	23.9
$15,000-19,999	11.9
$20,000-24,999	10.4
$25,000 or more	16.4
Total (%)	100.0
(N)	67
Poverty Status	
Below 100%	62.7
100-150%	14.9
150-199%	22.4
200% or above	00.0
Total (%)	100.0
(N)	67

Payment of Children's Medical Bills

Fifty of the 68 mothers had medical bills in Wisconsin for at least one child in the past year. Table 5 shows how bills were paid by these 50 families. Two-thirds of the mothers used Medicaid funds; one-fifth of the mothers utilized migrant health funds.

Table 5. Source of Funds to Pay Child's Medical Bills in Wisconsin in the Past Year

Source of Funds	Percent Based on 50 Mothers
Medicaid	64%
Migrant health funds	20
Private insurance	16
Purchased by self	12
Purchased by employer	2
Cost shared by self and employer	2
Out of pocket*	22

* Many respondents paid out of pocket in addition to other funds.

Health Status of Mothers

Table 6 presents mothers' self-assessments of health, health conditions that bother them, and some information about smoking, alcohol, and exposure to pesticides.

About one-third of the migrant mothers rate their own health as "fair" or "poor". This compares to only one-tenth of U.S. women (National Center for Health Statistics, 1998). Twenty-eight percent said that they had some illness or accident that prevented normal activity for two or more days in the past year. Among the problems that bothered over 40 percent of the mothers were headaches, eye problems and backaches.

About 20 percent of the mothers said that they had some chronic condition or illness. Mentioned were high blood pressure, diabetes, and arthritis, various heart problems and thyroid conditions. About 80 percent of these women had seen a doctor about the condition in the past year.

Three-fourths of the women said that they never drink alcoholic beverages; however, over 80 percent said that they thought alcohol was a problem among migrant groups.

Nearly 40 percent of the households included a tobacco user.

Finally, in response to a question about anyone in the family experiencing some health problem due to pesticide exposure, 13 percent of women answered in the affirmative. Mothers described specific incidents that affected 12 children. These occurred when the children were picking produce, painting Christmas trees, in the fields, playing, and from a plane overspray on to a migrant housing camp. Further details can be found in Krauska, 1999:37-43.

Table 6. Health Condition of Mothers

Characteristic	Percent
Number	68
Self- Assessment of Health	
Excellent	20.6
Good	45.6
Fair	26.5
Poor	7.3
Total	100.0
Illness/Accident Prevented Normal Activity for at Least 2 Days in Past Year	
Yes	27.9
No	72.1
Total	100.0
Conditions that Bother Mother "Very Much" or "Some"'	
Headaches	50.0
Eye Problems	48.5
Backache	42.6
Tooth or Gum Trouble	27.9
Shortness of Breath	23.5
Nervousness	20.6
Stomach Pains	20.6
Swollen Legs and Feet	20.6
Total	100.0
Presence of Chronic Illness, Disability or Health Problem	
Yes	20.6
No	79.4
Total	100.0
Alcohol Consumption	
Drinks Occasionally	7.4
Drinks Seldom	19.1
Never Drinks	73.5
Total	100.0
Believes Alcohol is a Problem Among Migrants	
Yes	80.9
No	13.2
Don't Know	5.9
Total	100.0
Use of Tobacco Products in Household	
Cigarettes	30.9
Cigars	5.9
More than one type	1.5
No	61.8
Total	100.0
Mention of Health Problem Due to Pesticides	
9 Families	13.2% of all families
12 Children	7.4% of all children

MIGRANT CHILDREN

Birth Information

Mothers were asked to provide some information about each child they gave birth to, including some information about their infancy period.

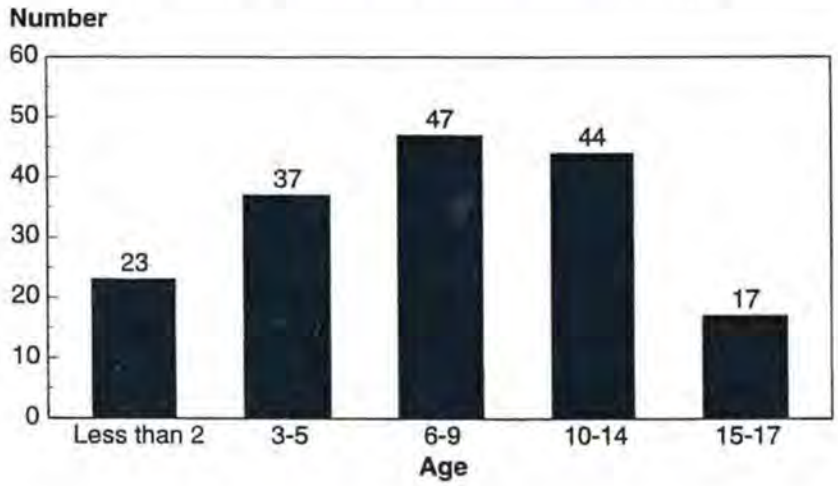
- 5 (3.0%) were low birth weight
- 7 (4.2%) were not born in a hospital.

About half of the babies were breast-fed for periods ranging from less than one month to four years. Three women were currently breast-feeding babies. Mothers breast-fed an average of 7.6 months.

Age

Sixty-eight mothers were interviewed and provided information about 168 children under age 18. Figure 2 displays the ages of the children under 18 who traveled with their parents. Half the children were under age 7 and half were 7 or older.

Figure 2. Number of Children by Age



Immunizations

Mothers take advantage of immunization clinics. Seventy-five percent said that they had used an immunization clinic in the past 12 months. Each mother was asked whether or not each child under age 18 had been immunized for seven specific diseases: Diphtheria, Tetanus, Pertussis (DPT); Polio; Red measles, Mumps, Rubella (MMR); Hepatitis B (Hep B); Haemophilus influenza b (Hib); Tetanus; and Chickenpox. Table 7 displays the proportion immunized for each disease, by three age groups of children: less than 2 years, 2-5 years; and 6-17 years.

Table 7. Proportion of Children Immunized, by Age

	Years		
Disease	Less than 2	2-5	6-17
DPT	86.7	97.9	93.0
Polio	86.7	97.9	93.0
MMR	80.0	97.9	93.0
Hib	73.3	97.9	88.7
Influenza	53.3	42.6	51.0
Tetanus	73.3	97.9	91.3
Chickenpox*	42.9	87.2	78.2

*One child in each age group had experienced a case of Chickenpox and therefore didn't get the immunization.

The reader should note that these are mothers' reports of the child's immunization record. No proof was solicited. Many of the rates are very high; this often is due to the fact that children are examined and their immunization records reviewed by nurses when they enter Head Start or Migrant Education programs. Parents are requested to sign a permission slip upon registration that permits the nurses to bring their immunizations up-to-date. Sometimes the parents have health records to show past immunizations; some times they do not. But the result seems to be that the children are often well-immunized for the basic childhood illnesses. It is possible, of course, that some children get "over-immunized."

Medical Conditions and Diseases

Mothers were read a list of health conditions, and were asked to tell us if any of their children experienced this condition in the past 12 months. Table 8 lists the conditions, in order of frequency. The most frequent were: ear infections, eye problems, diarrhea, tonsilitis, lice, allergies. Others included asthma, parasites/worms, colds, and chickenpox. No child had experienced tuberculosis, mononucleosis, diabetes, or HIV/AIDS.

Table 8. Health Conditions Experienced by Child in the Past 12 Months

Condition	Number	Percent
Otitis Media	42	25.1
Tonsilitis	19	11.4
Diarrhea	18	10.8
Lice	18	10.8
Allergies	15	9.0
Upper Respiratory Infection	13	7.8
Parasites/Worms	13	7.9
Asthma	13	7.8
Chickenpox	12	7.2
Urinary Tract Infection	5	3.0
Pneumonia	3	1.8
Heart Disease	3	1.8

Visits to Emergency Room

Twenty six children (15.6%) visited an emergency room in the past year. And 38 children (23.0%) had some illness or injury that prevented them from doing their usual activity for 2 or more days in the past year.

Most of the emergency room visits were also the reason why a child was ill for two or more days.

These were:

- broke bone in foot, arm, ankle
- hurt foot
- eye injury
- nose injury
- cut required stitches (2)
- emergency appendectomy
- ear infection (4)
- bronchitis (2) throat infection
- asthma attack (2)
- allergies, couldn't breathe, bee sting
- high fever
- diarrhea
- stomach pains (2)
- vomiting, flu

Additional conditions that kept children sick for 2 or more days, but did not involve an emergency room visit, were:

- flu
- heart surgery
- flu, runny nose, fever
- hepatitis A
- surgery on knee
- chicken pox
- surgery: vaginal/genital wart
- tonsilitis

General Physical Checkup

Table 9. Date of Last Physical Checkup for Migrant Children

	Number	Percent
Date of Last Checkup		
Never	5	3.1
Before June 1996	10	6.1
June '96 - May '97	4	2.4
June '97 - May '98	80	49.1
June '98 - August '98	64	39.3
Total	163	100.0
Don't Know	5	
Month of Last Checkup		
January	7	4.4
February	4	2.5
March	13	8.2
April	7	4.4
May	21	13.3
June	31	19.6
July	32	20.3
August	29	18.4
September	5	3.2
October	2	1.3
November	6	3.8
December	1	0.6
Total	158	100.0

The migrant children appeared to have good records of preventive care; almost 90 percent of the children had had a physical exam within the past 15 months of the interview. By reviewing the month of the interview, it appears that most of the children received their examination from May through August, suggesting that the Wisconsin health care system has provided these preventive checks.

Dental Care

Information about the last dental visit was obtained for children ages 2 to 17 (N= 159). Table 10 shows that 8 percent had never been to a dentist, and another 12 percent had not been in the past two years. However, 80 percent of the children ages 2 to 17 had had a dental visit within the past two years. Because dental services for children are available at the Migrant Health Clinic in Wisconsin, we provide the month of the last dental visit. As is again evident, most of the children get dental care from May through August.

Table 10. Dental Care for Migrant Children, Ages 2-17

	Number	Percent
Date of Last Dental Visit		
Never	12	8.2
Before June 1996	13	8.8
June '96 - May '97	5	3.4
June '97 - May '98	85	57.8
June '98 - August '98	32	21.8
Total	147	100.0
Don't Know	12	
Month of Last Checkup		
January	18	13.6
February	6	4.5
March	10	7.6
April	14	10.6
May	28	21.2
June	22	16.7
July	13	9.8
August	20	15.2
September	1	0.8
October	0	0.0
November	0	0.0
December	0	0.0
Total	132	100.0

Eye Problems

Mothers were asked if any of their children have eye problems for which the child should see an eye doctor. Mothers mentioned 30 children (18%) with eye problems.

Emotional Problems

When asked whether any child had emotional problems, mothers mentioned five children, three of whom received care.

Do Children Work?

Mothers were asked whether any child, age 6 through 17, was working at the time of the interview. No children under 12 years were reported working by their mothers. Of the remaining 53 children ages 12-17, 34 (64%) were working. Table 11 displays the age and gender of the children who worked.

Table 11. Current Work Experience of Children Aged 12-17, by Gender

	Percent Working			
Age	Male	Female	Total (%)	Total (N)
12-14	73.7	30.0	58.6	29
15-17	81.8	61.5	70.8	24
Total	76.7	47.8	64.2	53

Children often work alongside of their parents in the fields. Food processors, however, do not hire children until they are 16 years old. The three children working in canneries were all age 17.

Child Care

The need is great for someone to supervise the children while the parents are working. We asked three different questions concerning arrangements for child care.

First, for children under 6, we asked if they were attending a Head Start or preschool program. Of the 60 children under 6 years, 58 percent were in Head Start or preschool program; but 42 percent were not.

We then asked about the arrangements when the parents were working -- both in the daytime and in the nighttime.

Day Work

Table 12 lists how the children are supervised during the day time when the mothers are working. The majority of the children attend daycare, Head Start or migrant education school programs (87 of the 168 children). Family members watch over an additional 25 children and other friends or paid babysitters round out child supervisors.

A number of children work (N=21) and some families don't have a child care problem because the mother isn't working or doesn't go to work when there is no child care. In a few families, the mother and father have different shifts, so one parent is always home (although he or she may be sleeping).

Table 12. Supervision of Child When Mother Works During the Day

	Number
School	
UMOS/Daycare/Head Start	57
Summer School/Girl's Club	30
Family	
Grandma, Grandpa	20
Sister, Niece	5
Friend	3
Boyfriend	2
Paid babysitter	5
Leave Child alone	4
Mother takes child to work	7
Mother doesn't go to work when no care	2
Mother doesn't work	4
Mother and Father work different shifts	4
Child works	21
No response	4
Total	168

A few mothers leave their child home alone if they have no child care.

Night Work

Of the 68 families, 23 mothers said that they never do night work and 7 did not answer the question. Table 13 shows the caregivers for the remaining 38 families. One notes that relatives, especially older ones, play important child care roles.

Table 13. Caregivers When Mother Works at Night

	Number
Father of the child	7
Grandmother/Mother-in-law	7
Older sister, Other family member	10
Sister-in-law, cousin	8
Mother takes child to work	4
A paid babysitter	2
Total	38

CHILD INJURIES AND PESTICIDE EXPOSURE

Summary Analysis of Supplemental Information

Michelle L. Krauska prepared a master's thesis based on her analysis of a portion of the data Slesinger gathered in the summer 1998 interviews with migrant farmworker mothers. The thesis, titled "A Descriptive Analysis of Injuries and Pesticide Exposure to Children of Migrant Farmworkers in Wisconsin," was submitted to the Graduate Faculty at the University of Wisconsin-La Crosse in May 1999.

Krauska's aims were to ascertain when, where, and under what circumstances migrant children sustained injuries and pesticide exposures; to learn what if any care or measures were taken following incidents of injury or exposure; and to formulate recommendations designed to prevent or control the health hazards faced by migrant children.

Each mother was asked, "For each child, please tell me any or all injuries or accidents the child has experienced, which was severed enough to warrant treatment from a health provider in the last 12 months." Mothers reported 12 accidents, most occurring to children under 5 years of age, and most injuries of the type that could and do happen to children -- a bee sting, tripping, falling while playing. Most injured children were taken to the Emergency Room of a local hospital. Unable to determine the reason(s) for the possible over-use of the ER, Krauska speculates that alternative health care sites may not have been available or, if available, migrant workers might be unfamiliar with their location or availability. Most injuries occurred in the migrants' housing areas, which vary greatly in age and condition and include trailers, dormitories, barracks, duplex structures, and other housing types.

Interviews also elicited an additional 12 reports of children who, the mothers believed, had been exposed to pesticides. All 12 were directly linked to working, living, or playing in or adjacent to an agricultural production area. At the time, six were working in a field, four were near a plane overspray, and two were playing near a field. Much migrant housing is located not far from fields were pesticides are applied; thus, housing areas are not immune to exposure. Most of the exposed children were between 12 and 17 years of age.

Krauska's study is essentially exploratory, and she urges further research. In order to gather timely and in-depth information on injuries and pesticide exposures, she recommends that such data be collected at Emergency Rooms (ER), at the Migrant Health Clinic or local clinics, and at the housing camps. In order to collect such data, she recommends the employment of a bilingual research coordinator during the migrant working season to assemble such data, enlist the cooperation of local ER personnel, and interview affected children and their parents. She recommends also that programs of parental education and training be instituted. For example, Slesinger's survey found that many migrant workers expressed a need for first-aid training; such training could result not only in better self care by migrants but also reduce inappropriate use of ERs. Krauska observes that very few children who were enrolled in Head Start, pre-school, or school turn up among the injured; these well-supervised children, she notes, are less exposed to injury than those not enrolled in such programs.

SUMMARY

Of the 5,100 migrant farmworkers in Wisconsin in 1998, about 25 percent were women with children under age 18. Information was obtained from a random sample of 34 women workers, plus an additional 34 women in sampled workers' households. We combined these two groups of women to obtain information about their children under 18 years.

The 68 women, ages 18 through 49 years, reported having 218 children (mean of 3.2 children), 168 of whom were under age 18 years. Half the children were under the age of 7. Ninety percent of the women migrated with their husbands, some with other relatives as well. Two-thirds of these families earned income in 1997 that placed them below the poverty line. For those who had medical bills in Wisconsin for their children, 64 percent paid them with Medicaid funds, 20 percent with Migrant Health funds, 16 percent had some sort of private health insurance, and 22 percent paid some or all of the bill out of their own pockets.

Mothers provided information about their children -- about their preventive care, illnesses, injuries, pesticide exposures and other matters, as we summarize below.

Preventive care. Immunization rates were high for DPT, Polio, MMR, Tetanus (about 90%). Children who attend Head Start and Migrant Education programs are usually screened for up-to-date immunization records. Almost 90 percent of the children had a general physical examination within the past 15 months. Eighty percent of children ages 2 through 17 received dental care within the past two years, although 8 percent had never seen a dentist and 12 percent had seen a dentist over two years ago. Mothers noted that 30 children (18%) had some sort of eye trouble that needed attention.

Illnesses. The major medical conditions experienced by the children in the past year were otitis media (25%), tonsilitis (11%), diarrhea (11%), and lice (11%). Sixteen percent (N=26) visited an emergency room in the past year. Most problems were broken bones, various injuries, flu, fever, diarrhea, ear infections and one case of an emergency appendectomy.

Accidents and injuries. Twelve mothers reported accidents to their children that were severe enough to require being seen by a health provider. Most of these mishaps were to children under 5 years, and occurred in the housing sites.

Pesticide exposure. In addition, mothers reported 12 incidents of pesticide exposure, all directly linked to working, living or playing near agricultural production areas. Six of the children were working at the time of the exposure, four were near a field that was being sprayed by a plane, and two were playing by their housing unit.

Work activity. About two out of three children ages 12 through 17 were working, with boys outnumbering girls two to one. Seventy percent were working in field agriculture; 30 percent were working in canneries.

Child care. Of all children under 6 years of age, most were in Head Start or in other preschool programs, and were carefully supervised. Children ages 6-17 could work, attend Migrant Education programs, or "hang out" at the labor camps. Less than half of these older children were in Migrant Education programs. For day time supervision, mothers used family members or friends. A few used paid babysitters. About 60 percent of the mothers had to work at night from time to time. They relied mainly on the father of the child or older relatives like grandparents or older siblings.

The scientific random sampling and the standardized interview schedule provided essential information that can be used to estimate the likelihood of various health and illness conditions occurring to children in these families. Thus, we did not obtain a lot of information about child injuries or pesticide exposure because these are fairly uncommon events. However, we did gather a great deal of information about the health and medical utilization patterns of the children, as well as of the mother and her history of pregnancies and births. This provides a context of the environment in which the child lives. We know how many family members traveled with the child; whether he/she attended Head Start or Migrant Education classes; whether the child worked in agriculture or food processing; what the housing conditions were like, etc.

IV. INTERVIEWS WITH MIGRANT CHILDREN

METHODOLOGY

The third aim was to interview a sample of migrant children during the 1998 work season. In order to gather an adequate sample of migrant children during the summer work season we contacted the Migrant Education Program, administered by Wisconsin's Department of Public Instruction (DPI). Children in the program receive a nursing assessment by nurse practitioners, supervised by Pat Trunk, of the School of Nursing faculty, University of Wisconsin-Oshkosh. Only children whose parents or guardians have given written consent are examined. Assessment includes eye, hearing, and physical examinations, review of the child's immunization record, and the provision of needed immunizations. Ms. Trunk agreed to have her nurses ask the children additional questions about their experience with accidents or injuries in the past year.

A form for the additional questions, prepared by Doris Slesinger and Michelle Krauska in May 1998, was pre-tested on a number of elementary school children. The form provided information directly from the children on their accidents, illnesses, broken bones, stitches, health problems, medical and dental visits and the like in the past year. The nurses were also requested to obtain the circumstances surrounding the accident/injury, e.g., location, supervision, machinery or equipment involved, etc., by using such probes as: Were you working at the time of the accident/injury? Helping your family while working? Just playing? In school? In the house? Did the accident/injury happen while you were in your home state (e.g., Texas), while traveling in the car, or migrating away from home (e.g., Wisconsin)? Did you receive treatment? If so, was it at home, clinic, from mother, etc. A copy of the Children's Questionnaire is appended.

In June-August, 1998, the nurses were instructed to ask children ages 8 and older the series of questions on our Children's Questionnaire. They visited ten sites and interviewed children at nine of them. The tenth site, visited during the last week of school, had 8 eligible children, but time did not allow the nurses to interview the children.

In all, 87 questionnaires were received by the Research Office. Of these, six children were under 8 years of age, and one questionnaire was totally blank, which left 80 usable questionnaires. Ms. Trunk was surprised that so few children were examined in the migrant education programs. She also noted that no children were over 16 years of age. Her speculation, confirmed by the Bureau of Migrant Services of the Wisconsin Department of Workforce Development, was that the migrant workforce this year consisted of many fewer families with children, and many more "single" workers who had been hired as crews and traveled without family members.

The official report of the Department of Public Instruction (DPI) indicates that they paid for 199 health checks of migrant children in the 1998 season. This includes 13 sites and all children under 18 years. We and personnel from DPI believe that the discrepancy between our 80 and their 199 children given health checks was largely due to the DPI's beginning with newborns, while our youngest age was 8 years.

RESULTS

Age and Sex of Children

Among the 80 children for whom we have information, the distribution of ages is skewed toward the younger ages. Table 14 shows the distribution by age and sex of the 80 respondents. Note that three-fourths of the children are age 10 or younger.

Table 14. Age and Sex of Children

Age	Male	Female	Total (N)	Cumulative (%)
8	11	11	22	27.5
9	12	6	18	50.0
10	8	12	20	75.0
11	1	5	6	82.5
12	4	4	8	92.5
13	1	1	2	95.0
14	0	2	2	97.5
15	1	0	1	98.8
16	1	0	1	100.0
Total	39	41	80	
Mean age (years)	9.7	9.9	9.8	

Reports of Accidents

To begin the questioning, the nurses said, "I would like to ask you a few questions about your health during the past year -- like from last (June/July) until now." The first question was, "Did you have any accidents?" Of the 8 children (10%) who said "Yes," four were boys and four were girls.

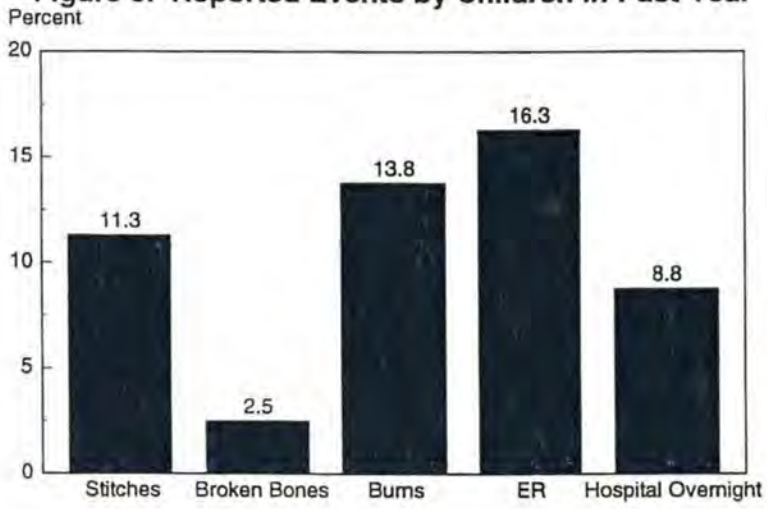
We then followed with more detailed questions asking about specific events. Table 15 lists the numbers of children by sex that responded positively to these questions.

Table 15. Number of Children Who Had Experienced Various Events, by Sex

	Number of children who said "Yes"			
			Total	
	Male	Female	N	%
Did you have any stitches?	6	3	9	11.3
Did you break any bones?	1	1	2	2.5
Did you get any burns?	4	7	11	13.8
Did you go to an emergency room?	6	7	13	16.3
Did you stay in the hospital overnight?	6	1	7	8.8

Boys tended to have more stitches and hospital stays, whereas girls appeared likely to report having more burns. Combining boys and girls (See Figure 3), we see that one out of six children (16.3%) reported going to an emergency room, and one out of eight children (13.8%) said they received a burn.

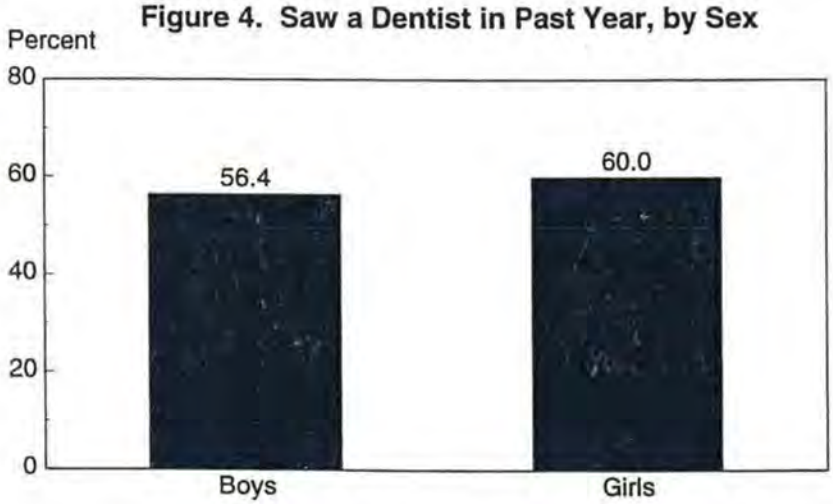
Figure 3. Reported Events by Children in Past Year



Dental Care

The children were also asked if they visited a dentist in the past year. Here, 46 children said "Yes" (58.2%) [22 boys and 24 girls] and 33 said "No"; one gave no answer (see Figure 4).

Figure 4. Saw a Dentist in Past Year, by Sex



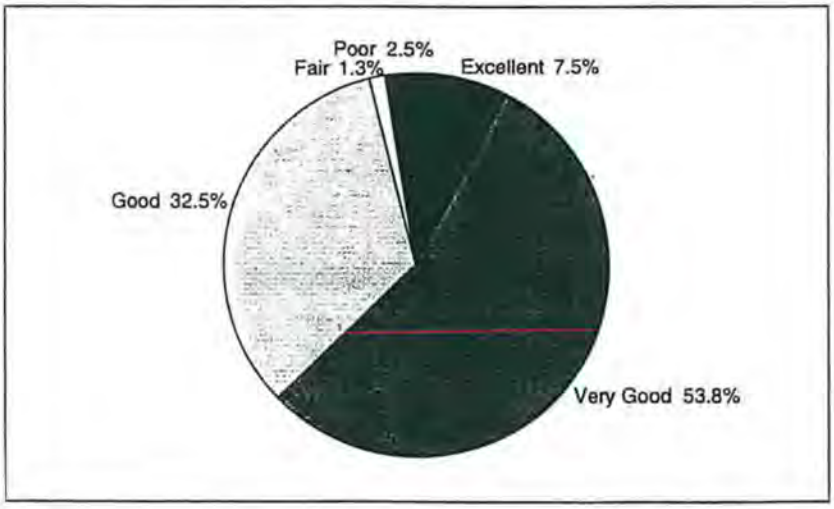
General Health

Although we were uncertain whether the children could deal with a global health status question that health researchers often ask of adults, we decided to try it out. The final health question was, "In general, would you say your health is excellent, very good, good, fair or poor." The response was interesting (see Table 16 and Figure 5). The majority of both boys and girls said "Very Good" followed by "Good." Only a few said excellent; even fewer said fair or poor. In only a few cases did the nurses write that the child didn't seem to understand the question. There was no significant difference between the ratings of the boys and girls.

Table 16. Self-Reported General Health Status of Children

	Male	Female	Total N	Total %
Excellent	1	5	6	7.5
Very Good	23	20	43	53.8
Good	12	14	26	32.5
Fair	1		1	1.3
Poor	1	1	2	2.5
No Answer			2	2.5
Total	38	40		
Mean Score	2.42	2.30		
St. Dev.	.72	.79		

Figure 5. Self-Reported Health Status



However, when we look at the mean scores (Excellent = 1 and Poor = 5) by age (Table 17), older children evaluated their health as better than the younger children.

Table 17. Mean Self-Reported General Health Score by Age

Age in Years	Mean	St.Dev.	Number
8	2.43	.81	21
9	2.41	.62	17
10	2.25	.55	20
11	2.33	.52	6
12	3.00	1.07	8
13	2.00	.00	2
14	1.00	.00	2
15	1.00	.00	1
16	2.00	.00	2

The Medical Expenditure Panel Survey (MEPS) provides comparable information on U.S. children. The authors note that 52 percent of all children 18 years and younger were in excellent health. This compares to only 7.5 percent of this group of migrant children. When Hispanic, Black, Asian/Pacific Islanders and White children were compared, the Hispanic children were less likely than all other children to be in excellent health (42.9% compared to 52.0%) (Weigers, et al., 1998:24-25).[6]

The children were also asked, "Were you really sick some time?" Eleven (13.8%) children responded "Yes," but only two of them had stayed in the hospital overnight. All but one of the children who said they were "really sick some time" were boys.

[6] The migrant children self-assessed their health. In MEPS, the respondents assessed their child's health (Banthin and Cohen, 1999:16).

Number of Separate Incidents Per Child

Because some reports were of the same incident (e.g., got a cut, got stitches, and went to an emergency room), we counted the total number reported of separate incidents of accidents and injuries. Figure 6 and Table18 present the number of separate incidents reported by each child, by sex. Note, first, that about half of the children mentioned no incidents. However, a higher proportion of incidents was reported by boys compared to girls, although as Table 19 shows, the younger children report more accidents than older children.

Figure 6. Number of Separate Incidents Reported by Each Child, by Sex

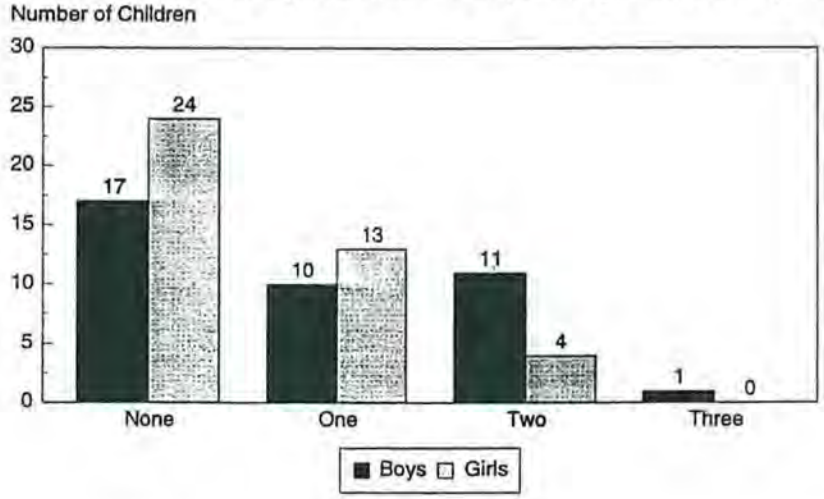


Table 18. Number of Separate Incidents Reported, by Sex of Child

Sex	Number of Incidents None	One	Two	Three	Total	Mean Number	Percent with Accidents
Male	17	10	11	1	39	0.90	56.4
Female	24	13	4	0	41	0.51	43.9
Total (N)	41	23	15	1	80		
(%)	51.2	28.8	18.7	1.3	100.0		

Table 19. Total Number of Separate Incidents Reported by Age of Child

Age in Years	None	One	Two	Three	Total
8	9	8	5		22
9	6	6	5	1	18
10	15	3	2		20
11	3	3			6
12	5	1	2		8
13	2				2
14	1	1			2
15		1			1
16			1		1
Total (N)	41	23	15	1	80
(%)	51.2	28.8	18.7	1.3	100.0

Types of Incidents

Children who have had at least one injury or accident are interesting to examine in detail. Figure 7 displays the types of accidents and injuries the children experienced and Table 20 give this information by sex of the child. More boys reported fevers and flu, and more girls reported burns. Both sexes reported falling off bikes, beds and playground equipment.

Figure 7. Type of Accidents/Illnesses Reported by Children

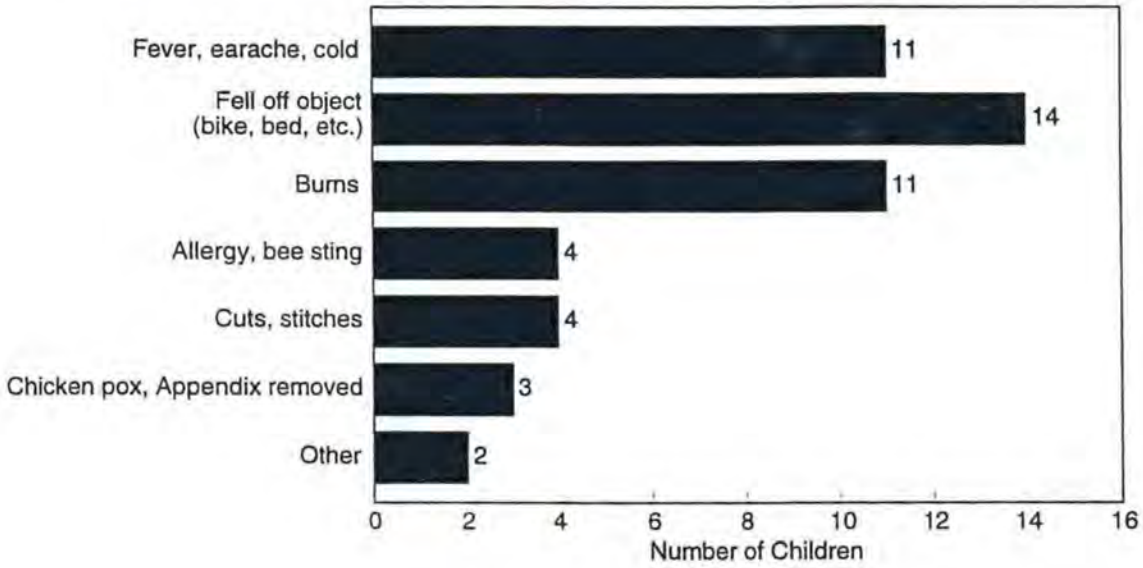


Table 20. Types of Incidents Reported by Children, by Sex

	Male	Female	Total
Fever, earache, cold, flu	8	3	11
Fell off object (bike, bed, etc.)	8	6	14
Burns	4	7	11
Allergy, bee sting	3	1	4
Cut, stitches	2	2	4
Chickenpox, appendix removed	1	2	3
Other	1	1	2

Table 21 lists the detailed descriptive statements made by boys and girls. These statements show that boys tended to get hurt while playing, as well as reporting a lot of flu symptoms. Girls also experienced injuries from playing -- but also received a lot of burns in the house.

Table 21. Detailed Incidents Reported by the Children, by Sex

Male	Female
Hit in nose by another kid	Tripped over a rock
Hit head on a post	Bee sting plus allergic reaction
Earaches	Stomach ache
Tubes in ears in hospital	Ant removed from ear
Bump on head, brother pushed me, really sick	Surgery on thumb
Brother hit me with a horseshoe and I had stitches in the back of my head	Car accident in Texas
Scratched by a pony: stitches	Dog bite: stitches
Fell off bike: ER/stitches	Fell off bike: ER/stitches
Asthma	Fell off bed while jumping: stitches in head
Car accident	Fell off hamper
Nosebleed plus asthma. Dr. said Dad smokes too much in house	Stomach flu
Hit hand working on building a house with hammer in Texas	Flu and vomiting
Pneumonia	Burns from:
Fever, cold, antibiotic	hot water
Burns from:	coffee pot
tortilla maker	iron
cooking an egg	hot oil when making bread
cooking food and burned my fingers	hot water when taking a bath
Appendix taken out	hot pan my Mom was carrying by accident
Broke thumb playing on monkey bars	Broke arm playing on monkey bars
Very sick with tonsils	Chickenpox
Nosebleeds	
Strep throat	
Really high fever. Went to ER	
I have been feeling bad because my cousin had a terrible accident and is very sick. It makes me feel very sad.	

Work Experience

We also wanted to learn about the child's work experience in the past year. Children were asked if they worked in the field or helped their family in the fields last year. Figure 8 and Table 22 show the responses by males and females. A larger proportion of boys than girls (51% to 13%) reported working in the fields ($p<.001$).

Figure 8. Children Who Worked in Fields Last Year, by Sex

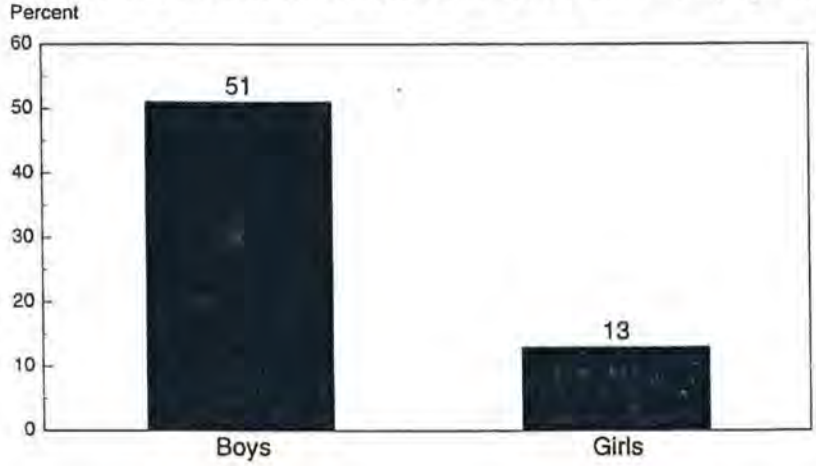


Table 22. Percent of Children Who Said "Yes" to "Last Year, Did You Work in the Fields or Help Your Family in the Fields?" by Sex and Age

	Male		Female		Total	
Age	No.	%	No.	%	No.	%
8	7	64	2	18	9	40.9
9	6	50	1	17	7	38.9
10	3	38	0	0	3	15.0
11	0	0	1	20	1	16.7
12	2	50	1	25	3	37.5
13	1	100	0	0	1	50.0
14	--	--	0	0	0	0.0
15	0	0	--	--	0	0.0
16	1	100	--	--	1	100.0
Total*	20	51	5	13	25	31.2

* $p < .001$ between males and females Chi-square = 13.245 df = 1.

Note: The percents are the number of children stating "yes" divided by the total number of children in that age and sex category (e.g., 7 out of 11 boys age 8 (64%) worked in the fields.) See Table 14 for age and sex of all children.

We also asked the broad question, "Did you do any work for pay last year?", which could include other types of work besides field work. Figure 9 and Table 23 summarize the responses. Once again, more boys than girls earned some money from working.

Figure 9. Children Who Worked For Pay Last Year, by Sex

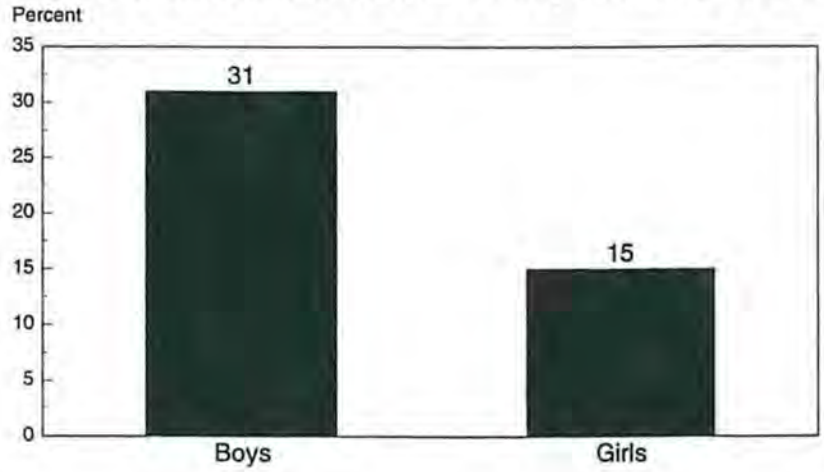


Table 23. Percent of Children Who Answered "Did You Do Any Work for Pay Last Year?", by Sex

	Male		Female		Total	
Age	No.	%	No.	%	No.	%
Yes	12	30.8	6	15.4	18	23.1
No	27	69.2	33	84.6	60	76.9
Total	39	100.0	39	100.0	78	100.0

Notes:
No information = 2.
*p = .10 Chi-square = 2.60 df = 1.

Table 24 lists the different jobs they performed for pay.

Table 24. Types of Jobs Children Performed for Pay, by Sex

Male	Female
Helped my Dad selling things - age 8	Picked pickles for $5.00 - age 8
Picked blueberries - age 9	I helped a boy and girl onto the bus - age 12
$5.50/hr. Leach farms - age 13	Babysit my brothers, 50 cents a day -age 8
$229 for 1 month - age 12	Paid for taking care of my little brothers,
$3.00 every day picked blueberries - age 9	$10/wk. - age 12
Work for mama in the houses - age 8	Allowance for helping my Mom at home,
Asparagus cutting - age 12	washing dishes and folding laundry - age 10
Worked in strawberry field - age 9	Helped clean apartments - age 8
I helped my family in the fields - age 8	
Helped my father in one of the camps in WI; - age 8	
I helped my family in the fields. I worked with watermelons - age 8	

SUMMARY

The sample of 80 children interviewed during the migrant education summer program was skewed toward the younger age group, that is, children under age 12. This is no doubt due to the fact that children age 12 and older are legally permitted to work in the fields, and thus may not be likely to attend school. Thus, our sample of boys and girls has a very young mean age: just under 10 years for both sexes.

How did the children regard their health in general? The majority said "very good." Few children said "excellent," and those children were older. Only 11 children said that over the past year they had been "very sick," and 8 children said that they had had an accident. However, when we asked more specific questions, 22 boys and 17 girls, or 49 percent of all of the children told us about accidents they had. Among the types of incidents mentioned most were burns, falls which often required stitches, flu, fever, and earaches.

We also obtained interesting information from the children about their work experience in the past year. Fifty-one percent of the boys and 13 percent of the girls reported working in the fields or helping their parents in the fields. One out of four children received some payment for working. Some of the jobs were in agriculture and some were for babysitting, cleaning, and doing laundry.

We have no information to compare these results with non-migrant children ages 8-16 years. However, our educated guess is that these children work more than non-migrant children in American households.

This effort was exploratory. We didn't know how the children would react to the questions, and what they might tell a nurse who was examining them at the time. It turned out almost all of the children responded to and answered the questions. They told of various illnesses and accidents they had had; about their work for pay and what they did; and they rated their own health status. It no doubt was advantageous that the interviews took place at the migrant education schools -- a neutral place to ask a child questions (rather than in crowded living quarters in the work camps). There was no one around who might influence or affect the answers. On the whole, these interviews enlarged out understanding of what migrant life was like for the children, including the role of work.

V. CLINIC INTAKE INFORMATION ON MIGRANT CHILD INJURIES

ORIGINAL PLAN

The original plan for obtaining information from clinic records included developing an "Outpatient Intake Form" to provide information on migrant children who are brought to the Migrant Health Clinic with an injury or condition that may have occurred at work. We anticipated that the nurse or outreach worker would fill in the form, getting the information from the parent or adult who brought the child to the clinic. In the original proposal, I hoped it would be possible to obtain information not only from the Migrant Clinic, but also from the various health clinics and emergency rooms that would provide evidence of the various types of injuries and accidents that may occur to migrant children.

DEVELOPMENT OF INTAKE FORM

With the assistance of my consultants, Dr. Barbara Marlenga and Dr. Dean Steuland of Marshfield Medical Center in Marshfield, WI, we developed a form to be used by staff intake workers at outpatient clinics when a migrant child was admitted to the clinic.

A copy of the Intake Form is included as Exhibit 2. The form's unique feature is that it asks for the surrounding circumstances/environment of the accident or injury. This involves Items 7, 8 and 9 on the Intake Form:

Item 7. Patient's activity when injured.
If working, what type of work the child was doing.

Item 8. Type of injury.
Trauma -- device that was involved.
Fall -- place or machine that was involved.
Exposure -- the agent.
Overuse injury -- the part of the body that was stressed.

Item 9. Confounding factors.
Environment (weather).
Supervision (inadequate, or inadequate training).
Medical conditions.
Physical condition (inadequate).

Once the form was developed, I visited the Migrant Health Clinic and asked the Director, Ted Kay, if one of the intake personnel might be able to fill out the form when an injured migrant child came into the clinic. The Director declined, and said that the staff was much too busy to include that additional assignment. However, he offered to permit me to examine the patient files, once the ICD numbers were coded into the computer for the outpatient visit.

CLINIC TESTING OF THE FORM

The clinic sent a computerized list of patients under age 18 for the months of June, July, and August 1998 -- the peak of use by migrant farmworkers. The list contained 104 children. The medical visits of 20 children fell into the ICD codes 800-999 and E (U.S. DHHS, 1994). The E codes (external cause of injury) summarize the specific circumstances of an injury episode. Three children were not migrant, but community children, leaving a total of 17 children with records to examine.

RESULTS

Of the 17 children, 12 were boys and 5 were girls (see Table 25). Of the six children ages 12-15 (5 males and 1 female), three were hurt while working. Two had lacerations on their fingers; one had a foot injury. One boy was cutting Christmas trees; one girl was sharpening a hoe at work. The foot injury was to a 14 year old boy who stepped on a rock, bruised his foot and heel, but returned to work for 8 hours after the injury. The same child made a re-visit to the clinic two weeks later for a painful heel.

Table 25. Age and Gender of Migrant Children with Injury Codes

Age of Children	Males	Females	Total
2-5 years	4	4	4
6-11 years	3	4	7
12-15 years	5	1	6
Total	12	5	17

Table 26. Length of Time From Injury to Clinic Presentation

Length of Time	Number of Children
Less than 2 hours	4
Less than 24 hours	5
Two days	2
3-6 days	5
1-2 weeks	1

The length of time between injury and presenting at the clinic varied; about half the children were brought to the clinic within 24 hours of the incident (See Table 26).

Information about the activity of the child or the surrounding circumstances was quite incomplete. The records provided limited information for the 14 children who were hurt while not working (see Table 27).

Table 27. "Cause" of Problems Presented at Clinic For Children Hurt While Not Working, by Age

Presenting Problem	Number	Ages (in years)
Insect and wasp bites	2	3,11
Falls (sprained arm; cut mouth)	2	2,10
Burn	1	8
Horseplay (finger sprains)	4	2,5,10,14
Swimming in pool	1	13
"Door" injuries	2	6,8
Rash (probably an allergic reaction)	1	5
Nail punctured foot	1	11
Total	14	

The disposition of most cases was ice packs, antibiotic soap, Tylenol, Advil, Benedryl, Betadine, Hydrocordisone, Bactrocin, Prednison. One child received sutures for a cut. The child who fell on her arm was referred to a hospital ER for a possible radial head fracture. Two sprains were given splints.

SUMMARY

We identified 104 children ages 2 to 16 years using the Migrant Health Clinic in the months of June, July and August 1998. Among these children, 20 (19%) had presenting conditions that were classified in the ICD codes of 800-999 and E (external injury). Three children were year-round residents, not migrant children. Of the 17 remaining children, 3 were hurt while working in the fields. Two had lacerations on their fingers; one had a foot injury. One boy was cutting Christmas trees with a machete; one girl was sharpening a hoe at work. The foot injury was to a 14 year old boy who stepped on a rock and severely bruised his foot and heel. Very limited information was in the records about the injuries to the 14 children who were hurt while not working.

This experience demonstrated that by reading the clinic records we were not getting the needed circumstantial information, such as what the child was doing at the time of injury; who was supervising the child at that time; what possible risks were posed by the environment. Moreover, the clinic records contained mainly ex post facto medical information, but nothing that explained the circumstances of the injury in sufficient detail. Therefore, I did not contact the two hospitals originally mentioned in the Proposal. I decided that reading clinic files after the fact was not the way to obtain the information we were seeking.

Our initial intention was to interview the adult who accompanied the child to the clinic at the time of the intake. We prepared a specific "Clinic Intake Form" to make sure that information about circumstances surrounding the injury was given, including where the injury took place; who was with the child at the time; if there was supervision, the age of the supervisor; how many other children the supervisor was watching; what implements, machines or equipment were involved.

In order to gather the necessary circumstantial and environmental data, one would need a person to interview the parent or accompanying adult when the child was brought to the clinic My research budget could not afford paying a person to stay in the clinic during its open hours, since the clinic received so few such cases in a month.

Thus, this part of the research had both a positive and a negative outcome. I believe that the creation of the Intake Form is a useful contribution to the study of migrant child injuries. On the other hand, we found that the information required on the form cannot be obtained from ex post facto clinic records.

RECOMMENDATIONS FOR FUTURE RESEARCH

As noted above, to get necessary information about the circumstances surrounding the injury, one would need either to obtain the information from the adult who accompanied the child to the clinic or visit the home of the child and talk with a knowledgeable adult and the child about the injury. Krauska's master's thesis, A Descriptive Analysis of

Injuries and Pesticide Exposures to Children of Migrant Farmworkers in Wisconsin," recommends a way to solve this dilemma:

> "Childhood injuries or pesticide exposures can be examined at three different levels: Those that go to an ER, those that present at the migrant health center or other local clinics, or those that occur in the housing camps where home treatment is used. A recommended research method to capture information from all three levels is to have a research coordinator housed at the migrant health center in Wautoma full time in the busy summer months. The person could contact the four local hospital ERs to elicit cooperation with the project and to notify the researcher if a migrant family presented a childhood injury...The researcher could interview the patients who came to the migrant health center, and could get timely and in-depth information about the injury and peripheral circumstances. For those children with injuries who did not seek care at the center, lay health educators could be trained to conduct interviews in the camps and note the details of any injury. The researcher could then be notified to visit the camp and pursue follow-up questions or observe the actual site of the injury. With this information, appropriate strategies for prevention could be developed." (Krauska, 1999:52-53)

Also, it is necessary to conduct the same type of information-gathering for children who are presented at the Emergency Rooms of hospitals in the general areas where migrants work. From the types of injuries reported at the clinic, it appears that serious injuries and conditions probably go directly to emergency rooms, not outpatient clinics.

VI. CONCLUSIONS

PREVENTIVE HEALTH

We learned from mothers that most children had very good preventive care, with respect to immunizations and having a recent general physical exam. Four out of five children had received dental care within the past two years. However, mothers stated that some of their children had eye trouble that needed attention.

When we asked the children if they had been to a dentist in the past year, about 60 percent said "yes."

This very good record is due to health checks being administered to younger children who attend Head Start programs and the older children who attend Migrant Education programs.

SICKNESS AND INJURIES

Most illnesses among migrant children in the past year were similar to what children elsewhere might experience -- otitis media, tonsilitis, diarrhea, flu, stomach aches, and the like.

Injuries that the mothers told us about included broken bones, burns and various cuts and bruises. Most occurred around the housing sites.

The children in the Migrant Education program also told us about illnesses and injuries they experienced in the past year. They included burns, stitches, falls, flu, ear aches, and fever. We noted that boys tended to get hurt while playing rough and working, while girls seemed to be prone to burns and cuts from kitchen work. Clinic records confirmed the sprains, burns and cuts. We also learned that there were cases of insect bites and rashes. We also noted that fewer childhood injuries occurred when the children were adequately supervised.

WORK EXPERIENCE

There is no doubt that children work in the fields, many alongside their parents. Mothers reported that about two-thirds of their children age 12-17 years were working at the time of the interview. Three-fourths of the boys and half of the girls age 16 and 17 worked, almost all in the fields.

Of the children we interviewed in the Migrant Education program, half the boys and about one in eight of the girls told us they had worked in the fields in the past year.

METHODS OF STUDY

Methods involved gathering data from three sources: information from mothers about their children; interviews with children; and review of children's clinic records.

1. Migrant mothers were the primary sources of information and provided it in two contexts -- focus groups and individual interviews.

a. Focus groups. Inputs from the 24 migrant mothers in three focus groups exceeded our expectations. The women provided a wealth of anecdotal evidence concerning the mishaps that occurred to their own and other children. As one woman recounted an incident, it would remind others of other happenings affecting children. Moreover, the informal sessions contributed perspectives and insights that interviews with individual women could not have provided. They also generated specific topics which were subsequently incorporated as items in the standardized interviews with mothers.

b. Standardized interviews with 58 mothers. As a random sample, this provided some modest estimates of various illnesses and injuries among migrant children. The interviews also produced data on child care and supervision, immunizations, and other topics.

2. Interviewing children. Interviewing children during a session in the summer Migrant Education program turned out to be an excellent idea. Nurses, performing routine screening procedures with children enrolled in the Migrant Education program, simply added some of our questions to others in the screening. We had no need to get parental permission to ask the questions because parents had given prior permission for the screening. In this situation, children were able to provide responses uncolored by the presence of family members.

Due to changing employment patterns, fewer children accompanied parents than in former years. This resulted in only 80 children being interviewed. Few of them were 16 years or age or older; in fact, the modal age was 7.

Interviews with children indicate that youngsters remember more incidents in their lives than do parents when reporting on the children. While obtaining data about children from parental vantage points is the usual and very useful procedure, information from the child's perspective enriches our understanding.

3. Clinic Intake Form. This approach produced meager data, but did serve as a useful learning experience. Had the form we developed for clinic and emergency room personnel to employ with migrant children been used, it would have provided appropriate information both on the nature of the presenting condition and on the environing circumstances. The director of the Migrant Health Clinic decided that clinic personnel were too busy to complete both the regular clinic form and ours. We were permitted, however, to access clinic records, and we analyzed records of children whose visits were coded as an external injury or condition (the ICD-9 E-codes). This analysis provided data on the nature of the pathology and the injury's location on the body but none as to the circumstances (at work? play? at home? in a field? alone? in a group?). The experience taught us that there are more fruitful ways than post-hoc record review to obtain the needed data. These involve employing a research person during the migrant working season to collect data on child mishaps not only in nearby clinics and hospital ERs but also at migrant housing camps, where affected children and their parents would be interviewed.

NEEDED RESEARCH

Interviews with the children were very informative and should be repeated with a larger sample of migrant children. Also, it would be useful to ask the same questions of comparison groups of 8 to 16 year old non-migrant youngsters. Perhaps the latter group could consist of samples of children from public schools in a rural and urban community. Such comparisons would help us ascertain the extent to which the illness, injury, and work experiences of migrant children resemble or differ from those of other children.

Instead of relying on the review of Migrant Health Clinic records, a researcher should be employed to interview the accompanying adult when the child is presented at a clinic, outpatient clinic or emergency room of a hospital. This person should go to the location where the injury occurred, if necessary, in order to get circumstantial evidence. NIOSH's Fatality Assessment and Control Evaluation (FACE) program of investigating occupational fatalities could be a model for this type of data gathering. It involves a thorough, in-depth investigation of the fatality that usually requires a follow-up visit to the site of the event (National Research Council, 1998:106-107).

VII. LIST OF PRESENTATIONS/PUBLICATIONS

A. PRESENTATIONS TO PRESENT

Salomón J. "Health and Migrant Workers in Wisconsin." Luncheon presentation at University of Wisconsin Hospital and Clinics, Madison, Wisconsin, August 24, 1998.

Slesinger DP, Salomón J. "Migrant Farm Women Discuss Health and Safety Risks to their Children." 1998 Western Regional Conference for Agricultural Health and Safety (poster session), UC Agricultural Health and Safety Center, University of California-Davis, September 13-15, 1998.

Slesinger DP, Salomón J. "Migrant Farm Women Discuss Health and Safety Risks to their Children" (poster session). 8th Annual Midwest Farmworker Stream Forum, San Antonio, Texas, November 5-8, 1998.

Scheder J. "Health Needs of Adult Mexican-Heritage Migrant Farmworkers in Wisconsin." Second Annual Wisconsin Rural Health conference, Stevens Point, Wisconsin, April 30, 1999.

Slesinger DP. "Migrant Farmworkers in Wisconsin: A Twenty Year Restudy." Rural Sociological Society annual meetings, Chicago, IL, August 7, 1999.

Slesinger DP. "Migrant Farmworkers in Wisconsin: Changes over Twenty Years (1978-1998)." UMOS, Inc., Milwaukee, Wisconsin, September 15, 1999.

Slesinger DP. "Health Needs of Migrant Farmworkers in Wisconsin." Guest lecture, Nursing 600, Transcultural Nursing, School of Nursing, University of Wisconsin-Madison, September 20, 1999.

B. FORTHCOMING PRESENTATIONS

"Migrant Farmworkers in Wisconsin: An Overview." Guest lecture, Rural Sociology 578, Rural Minority Groups and Poverty in the United States, Department of Rural Sociology, University of Wisconsin-Madison, October 12, 1999.

C. PUBLICATIONS TO PRESENT

Slesinger DP, Wheatley T. Migrant Farmworkers in Wisconsin, 1998: A Demographic and Health Profile. Madison: Department of Rural Sociology, University of Wisconsin. June 1999.

Scheder J, Slesinger DP, Wheatley T, Wellin E. Migrant Farmworkers in Wisconsin, 1998: A Social and Health Needs Assessment. Madison: Department of Rural Sociology, University of Wisconsin. September 1999.

Slesinger DP. Trabajadores Migrantes en Wisconsin en 1998: Resumen de Resultados. Migrant Workers in Wisconsin in 1998: Summary of Results. October 1999.

D. FORTHCOMING PUBLICATIONS

Slesinger DP. Children of Migrant Farmworkers in Wisconsin, 1998. Madison: Department of Rural Sociology, University of Wisconsin.

Slesinger DP. Issues that Affect Health and Safety of Children of Migrant Farmworkers. To be submitted to Journal of Health of the Poor and Underserved.

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EXHIBIT 2

INTAKE FORM

Name of patient _____ ICD # _____
MHN _____
Camp Assignment: _____

1. Date of Visit: ___/___/___ Time of Visit (1 to 2400 hours): _____

2. Birthdate: ___/___/___

3. Date of Injury: ___/___/___

4. Sex: ☐ Male ☐ Female

5. Time of Injury (1 to 2400 hours): _____

6. Approximate time lapse from injury until treatment obtained
   ☐ Within 2 hours ☐ Within 1 week ☐ More than 2 weeks
   ☐ Within 24 hours ☐ One to two weeks

7. Patient's activity when injured
   ☐ Working - **go to 7B** ☐ Observing
   ☐ Playing ☐ Unknown
   ☐ Transport to work-site ☐ Transport for pleasure

7B. If working:
☐ Fieldwork ☐ Processing
☐ Harvesting ☐ Other _____

8. Types of injury (check all that apply)

Trauma (device)
☐ Combine
☐ Cutting device
☐ Harvesting machine
☐ Tractor
☐ Transport vehicle
☐ Other _____

Fall (location)
☐ Building
☐ Field
☐ Machine
☐ Machine
☐ Transport vehicle
☐ Other _____

Exposure (agent)
☐ Cleaning agent
☐ Cold/heat
☐ Fuels
☐ Insects
☐ Pesticides
☐ Plant
☐ Product name _____
☐ Other _____

Overuse Injury
☐ Arms
☐ Back
☐ Legs
☐ Neck
☐ Shoulder

9. Confounding factors:
   ☐ Fatigue ☐ Inadequate training ☐ Inadequate height/strength
   ☐ Weather ☐ Inadequate supervision ☐ Other _____
   ☐ Pre-existing conditions ☐ Chemical abuse _____

10. Disposition
    ☐ No further treatment ☐ Referred to hospital/specialty clinic
    ☐ Reevaluate in _____ days Instructions given to patient _____

(Return to Dr. D.P. Slesinger)