
Survey of Exposure to Violence Among the Children of Migrant and Seasonal Farm Workers

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Synopsis

Numerous children of migrant and seasonal farm workers live in rural areas of our country. The lifestyles and living conditions of farm workers place the children of these families at high risk for many health problems. However, few studies have focused on the emotional and behavioral well-being of these children.

This study extends past research by examining the emotional and behavioral health of the children of farm workers in relation to a potentially risky

environmental exposure, namely, exposure to violence. In this descriptive study, the extent of violence exposure, including being a witness to and a victim of violence, is examined among 8-11-year-old children of migrant and seasonal farm workers. Potential relationships between sociodemographic factors and violence exposure are examined, and associations between violence exposure and children's emotional and behavioral problems, and weapon carrying behavior are investigated.

The results show that more than half of the study children had been exposed to violence, with 46 percent having witnessed violence among others and 19 percent having been the direct victims of violence. There was a fair degree of overlap between having witnessed violence and having been a victim of violence; 13 percent of all study children both witnessed and had been victims of violence, 33 percent only had witnessed violence, and 6 percent only had been victims of violence.

Violence exposure was positively related to children's emotional problems, behavioral problems, and weapon carrying behavior. Compared to nonexposed children, violence exposed children were eight times more likely to evidence internalizing problems, were six times more likely to evidence externalizing problems, and were four times more likely to carry weapons (specifically, knives or guns).

These findings suggest that there is a need for further research on this high-risk population, as well as the need to develop and implement innovative public health interventions for rural children.

EACH YEAR, MORE THAN 179,000 agricultural laborers, including both migrant farm workers (that is, laborers who migrate to obtain temporary agricultural employment) and seasonal farm workers (that is, laborers who are seasonally employed in agriculture within one local area), plant and harvest the farms of North Carolina. Despite the difference in residential stability between these two groups, the groups are relatively comparable in terms of their extremely low income levels, their rural lifestyles, and their patterns

of intermittent employment. These agricultural laborers have more than 317,000 dependents, with a vast proportion of these dependents being children (1).

Although there have been few studies concerning the children of agricultural laborers, anecdotal and research reports suggest that the lifestyles and living conditions of these families place the children at high risk for numerous health problems. For example, the families often live in poverty, with the average

annual income for a family of five being approximately \$5,500 (2). Families reside in work camps, trailers, and houses which are in clear violation of housing codes (3), often with unsanitary drinking water (4). Agricultural laborer families often are exposed to high levels of pesticides that have been associated with a variety of poor health outcomes (5). Anecdotal reports suggest that many of the men of these families use high levels of alcohol and illegal drugs (6). Due to the extreme poverty in which these farm worker families live, many of their children have very few possessions including appropriate clothing and toys (7). For all of these reasons, it is not surprising that the children of agricultural laborers have been shown to have higher rates of chronic illness and hospitalization than other children in the United States (8,9). In addition, high rates of iron deficiency (10,11), tuberculosis (12), and parasitic diseases (13) have been found among migrant children.

Fewer studies have focused on the emotional and behavioral well-being of children of agricultural laborers. In a case study of 10 migrant farm worker families, the young children had high levels of psychosomatic disorders, and the adolescents evidenced high levels of antisocial behavior, depression, and phobia (14). Low academic achievement test scores, scholastic self-confidence, and overall self-concept also have been documented among migrant children (15,16). Children of migrant and seasonal farm worker families have been found to have relatively high levels of emotional and behavioral problems, yet seldom do they receive professional treatment for these problems. This lack may be due to both structural barriers (including language difficulties, great distances to health care services, and lack of transportation to access services) and psychological barriers (including self-consciousness about mental health issues and fear or dislike of health care professionals) which block the families' access to appropriate mental health services (17).

This study extends the past research concerning the children of agricultural laborers by examining the emotional and behavioral health of these children in relation to yet another potentially risky environmental exposure, namely, exposure to violence. Children may be exposed to violence in at least two ways: (a) they may be the direct victims of violence (for example, they may be the victims of child abuse and other forms of assault) and (b) they may observe violent behavior directed at others (for example, they may observe violent acts of their parents, neighbors, and others). Studies of other populations of children, typically low-income urban children, suggest that

violence exposure may be an important risk factor for children's mental health problems.

Much of the research concerning how violence exposure affects children's development has focused on children who have been the direct victims of family violence, specifically, children who have been physically abused by family members. Children with a history of physical abuse are more likely than other children to evidence depressive symptomatology and depressive disorders (18-20). Abused children also often have a wide range of problems, including physical aggression, social competence, attachment, and behavioral problems (21-25). Since research has shown that children's vulnerability to developmental problems increases with increasing numbers of stressors (26) and that many abused children have experienced a wide variety of stressors such as poverty in addition to physical abuse (27), these additional stressors may be responsible, at least in part, for some of the differences in functioning seen between abused and nonabused children (28-30). However, several studies that have tried to control for the impact of at least some of these other stressors also have found differences in functioning between abused and nonabused children (31,32).

Other research has examined how children's witnessing of violence between adult members of the family affects children's well-being (33). Children from homes characterized by high levels of violence between adults have been found to exhibit high levels of depressive symptomatology, psychological distress, and other emotional problems (25,34,35). Children who have witnessed parental violence also have been found to have high levels of behavioral problems and low levels of social competence (36-41). Further, national surveys have found that children who have witnessed violence between their parents are at increased risk of being physically abused themselves (42). Therefore, in studies that have focused solely on children's witnessing parental violence, without investigating the possible direct physical abuse of the children, it is possible that some of the adverse developmental consequences attributed to observing violence between adult family members may be due, at least in part, to the children themselves being victims of violence (that is, experiencing physical abuse).

Several studies have examined the combined impact of being a witness to parental violence, as well as a victim of parental violence. The findings from these studies are mixed. Some researchers find that being a victim of, as well as a witness to family violence simultaneously, confers greater risk of psychological dysfunction on children than being only

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one or the other exclusively (43–45). Other researchers find that children who witness family violence are at the same level of risk of evidencing adjustment problems as are children who are both witnesses to, and victims of, family violence (46).

Researchers also have turned their attention to how community violence impacts on children's emotional and behavioral health. Witnessing community violence and being a victim of community violence have been found to be positively associated with children's high levels of emotional distress, depressive symptomatology, and weapon carrying behavior (47,48). Other research has found that, although witnessing and being the victim of community violence are both risk factors for children's emotional distress, witnessing and being a victim of family violence are stronger risk factors for children's dysfunction than are community violence exposures (49).

This study extends the past research concerning the impact of violence exposure on children's emotional and behavioral health by examining a group of high-risk children who have received little attention in the scientific literature, namely, the children of migrant and seasonal farm workers. The following research questions are addressed in this descriptive pilot study:

1. What proportion of children of agricultural laborers are exposed to violence by either witnessing violence, being a victim of violence, or both?
2. What sociodemographic and other types of factors are associated with violence exposure among these children?
3. Are there associations between children's exposure to violence and their emotional and behavioral problems (specifically, internalizing and externalizing problems) and children's weapon carrying behavior?

Methods

Sample recruitment. This study was part of a larger investigation concerning the emotional and behavioral health of children of migrant and seasonal farm workers (7,17). Eight to 11-year-old children of farm worker families who resided in four counties of rural North Carolina during the summer of 1992 were eligible for study. The research team contacted all local agencies that served farm worker families in the study counties including the school systems, the federally supported Migrant Education Programs within the schools, the migrant health center, the churches, and the agricultural employment centers. These agencies assisted in the identification of farm worker families who were eligible for study.

Most eligible families were located with assistance from outreach workers employed by the Migrant Education Programs. The outreach workers are local residents who are paid to locate and recruit school age migrant and seasonal farm worker children into the Migrant Education Program. The outreach workers often escorted members of the research team to the migrant labor camps, trailers, and farm houses that were the homes of the eligible families. This help was very important since many rural residences have no street addresses and are impossible to locate using standard maps.

Through this recruitment process, a total of 97 eligible families were located and contacted within the study year. Eighty-nine (92 percent) of these 97 families consented to participate in the study; however, study interviews were conducted with only 61 (63 percent) of the 97 eligible families because some consenting families were not at home at the time scheduled for the interview, and others moved out of the study area before the interview could take place.

Informed consent for the study interviews was gained from both the participating mothers and their children. Mothers were paid \$25 for being in the study, and children were provided with a small gift valued at around \$5 (toys, pencils, pads of paper, or books). Complete information on selected analysis variables was available on 54 (89 percent) of the 61 interviewed families; therefore, the remainder of this paper will focus on the 54 families with complete information.

Assessment. In-depth interviews were conducted with the children and their mothers in the language of their choice (English or Spanish). Mothers were interviewed in their homes, and children were interviewed at home or school. All interviewers were well trained

concerning the administration of the assessment battery. The children's exposures to various types of violence were assessed using an instrument adapted from Richters and Martinez (50). Due to interview time constraints (the entire interview battery could take 2 hours), a shortened version of the instrument was used. Both the children and their mothers were asked (a) whether the children had ever been direct victims of violence (specifically, had the children ever been beat up or shot at) and (b) whether the children had ever witnessed violence directed at others (specifically, had the children ever seen another person being beat up, shot at, or murdered).

Comparison of the mothers' and children's responses to each violence exposure item showed that the pairs of mothers and children were likely to agree on whether the child had been a direct victim of violence (agreement ranging from 89 to 96 percent); however, the pairs were less likely to agree on items concerning the children's witnessing of violence directed at others (agreement ranging from 63 to 96 percent). Mothers generally were less likely than their children to report that the children had been a witness to violence.

Although the underlying reasons for these disagreements in reporting are unknown, the discrepancies in mother-child reports may have occurred for a number of reasons. For example, since many mothers worked in the fields during the day, they may not have known about the violent events that their children observed in their absence. Alternatively, it may be that mothers were more hesitant than children to report to the study interviewers that their children had witnessed such socially undesirable events. However, since past research suggests that both mother reports and child reports are important sources of information, despite disagreements between the observers (51), for analysis purposes in this study, a child was classified as having been exposed to violence if either he or she or the mother reported that they had experienced the violent event in question.

The children's emotional and behavioral health was assessed by administering the Child Behavior Checklist to the study mothers. This well-validated and reliable instrument was designed so that it could be self-administered by persons with at least a fifth grade reading level (52). Since many mothers in this study had very little education, the instrument items were read to them by the study interviewers, thus assuring that study mothers fully understood each item.

The instrument is a listing of 112 specific emotional and behavioral childhood problems. The mother rates her child on each item using a scale

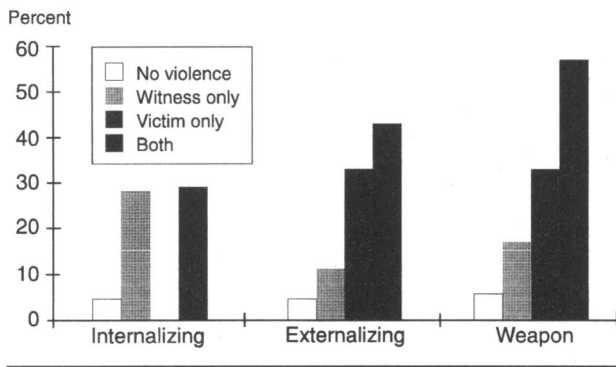
from 0 to 2, with 0 indicating that the item is "not true" of her child, 1 indicating that the item is "sometimes true" of her child, and 2 indicating that the item is "often true" of her child. Ratings from specific items may be summed to create two major syndrome grouping scores—(a) an Internalizing Score (with higher scores in this area suggesting that the child has emotional or personality problems such as anxiety and depression) and (b) an Externalizing Score (with higher scores in this area suggesting that the child has behavioral or conduct problems such as delinquent behavior and aggressive behavior). Children who score above an empirically derived cutpoint (specifically, t-scores of 64 or greater using the 1991 norms) evidence clinical levels of symptomatology. Therefore, for analysis purposes, children whose Internalizing Score was above this cutpoint were classified as having internalizing problems, while children whose Externalizing Score was above the cutpoint were classified as having externalizing problems.

The children's weapon carrying behavior was assessed by asking both the mothers and the children whether the child ever carried a knife or gun. Socio-demographic information (that is, information concerning family structure and the child's sex, age, and ethnicity), information concerning residential mobility (that is, the migrant or seasonal status of the family), information concerning child care practices (specifically, who was the child's primary caretaker and whether the child often stayed alone), and information concerning the language spoken at home (in particular, English or Spanish) were collected via the mother's interview.

Results

Study participants. A total of 54 mother-child pairs were included in this study, 24 (44 percent) being migrant farm worker families and 30 (56 percent) being seasonal farm worker families. Eight (15 percent) were African American and 46 (85 percent) were Hispanic. All of the African American families chose to be interviewed in English; however, only 20 percent of the Hispanic families chose to be interviewed in English. All of the families were living in poverty. Thirty-two mothers (59 percent) were married to and living with the biological father of the target child, 7 (13 percent) were married to someone else, 7 (13 percent) had never married, and 8 (15 percent) were separated, divorced, or widowed. Thirty-three mothers (61 percent) had less than an eighth grade education, as did 37 (69 percent) of the biological fathers. Twenty-three children (43 percent)

Weapons carrying and evidence of internalizing and externalizing problems according to the Child Behavior Checklist scores among 54 children of farm workers, by exposure to violence



were girls and 31 (57 percent) were boys. The children ranged from 8 to 11 years of age, with the mean age being 9.2 years (standard deviation [SD] = 1.2).

Extent of violence exposure. Exposure to violence was found to be quite common among the study children. Twenty-five children (46 percent) were witnesses to violence, with 21 (39 percent) having witnessed someone being beaten or mugged, 11 (20 percent) having witnessed someone being shot at, and 6 (11 percent) having witnessed someone being murdered. Ten children (19 percent) were victims of violence, with 8 (15 percent) having been beaten or mugged, and 2 (4 percent) having been shot at.

The following tabulation shows the overlap between witnessing violence and being a victim of violence for the 54 children.

Type of violence exposure	Percent
Witness only	33
Victim only	6
Witness and victim.....	13
Any violence exposure.....	52

Factors associated with violence. The table presents the percentages of children exposed to any type of violence stratified by particular sociodemographic and family related factors. Children who were not living with both of their biological parents were significantly more likely to be exposed to violence compared with children living in two biological-parent families (χ^2 [1 DF] = 6.48, P = .011). A significantly greater proportion of African American children had been exposed to violence compared with Hispanic children (Fisher's exact test P = .033). Neither sex (χ^2 [1 DF] = 1.125, P = .289), nor age (χ^2 [1 DF] = 0.260, P = .610), was significantly related to violence exposure. The distribution of violence exposure did not differ significantly between

the children of migrant and seasonal farm workers (χ^2 [1 DF] = 0.93, P = .761).

Violence exposure was much more common among English speakers compared with Spanish speakers, this difference being of borderline statistical significance (Fisher's exact test P = .099). When child care arrangements were examined, children who primarily were cared for by only one parent were more likely to have been exposed to violence compared with children who primarily were cared for by two parents, this difference being of borderline statistical significance (χ^2 [1 DF] = 3.489, P = .062). Interestingly, children who frequently stayed by themselves were not significantly more likely to have been exposed to violence compared with children who never or infrequently stayed by themselves (χ^2 [1 DF] = 0.385, P = .535).

Emotional and behavioral problems and weapon carrying. High proportions of study children evidenced emotional and behavioral problems. The Internalizing Scores on the Child Behavior Checklist ranged from 33 to 79, with a mean of 52 (SD = 10). A high level of internal consistency was found among the Internalizing Scale item responses, with Cronbach's coefficient alpha being .82. Eight children (15 percent) were classified as having internalizing problems (that is, scored in the clinical range on the Internalizing Scale).

The Externalizing Scores ranged from 30 to 75, with a mean of 48 (SD = 11). Examination of the Externalizing Scale items found a high level of internal consistency, with Cronbach's coefficient alpha being .88. Seven children (13 percent) were classified as having externalizing problems (that is, scored in the clinical range on the Externalizing Scale). Note that four children scored in the clinical range of both the Internalizing and Externalizing Scales. Ten of the study children (19 percent) had carried either a knife or a gun.

Twenty-five percent of the violence-exposed children evidenced internalizing problems on the Child Behavior Check List compared to 4 percent of the nonexposed children. Internalizing problems were significantly more likely, approximately eight times more likely, among the exposed group compared to the nonexposed group (odds ratio [OR] = 8.33; Fisher's exact test P = .033). The chart shows that the rates of internalizing problems were elevated among both the children in the witness-victim group and children in the witness only group, but were not elevated among the children in the victim only group.

Twenty-one percent of the children exposed to violence evidenced externalizing problems on the

Child Behavior Checklist compared to 4 percent of the nonexposed children. Exposed children were more than six times as likely to demonstrate externalizing problems compared to nonexposed children, with this difference being of borderline statistical significance ($OR = 6.82$; Fisher's exact test $P = .062$). The chart shows that children in the witness-victim group were the most likely to have externalizing problems, followed by children in the victim only group, and children in the witness only group.

Twenty-nine percent of the violence-exposed children carried weapons, compared with only 8 percent of the nonexposed children. Exposed children were more than four times as likely to carry weapons as nonexposed children, the difference being of borderline statistical significance ($OR = 4.80$; Fisher's exact test $P = .050$). The chart shows that children in the witness-victim group were the most likely to carry weapons, followed by those in the victim only group, and then those in the witness only group.

Discussion

This study suggests that children of agricultural laborers may be viewed as a large group of rural children at risk for emotional and behavioral problems, not only because of the extreme poverty in which the children live, but also because of the extreme levels of violence to which they are exposed. Of all study children, 52 percent had experienced some type of violence exposure, with 46 percent having been witnesses to violence and 19 percent having been victims of violence. These rates are as high, or higher, than the rates of exposure found in poverty stricken, high-crime, urban areas (49,50).

The study children evidenced high levels of emotional and behavioral problems, with 15 percent scoring in the clinical range on the Internalizing Scale of the Child Behavior Checklist and 13 percent scoring in the clinical range on the Externalizing Scale. These rates of problems are much higher than those found in general population samples, in which less than 3 percent of the children score in the clinical range on the Internalizing and Externalizing Scales (52).

Similar to findings in past studies of other populations of children, in this study of the children of agricultural farm workers violence exposure increased the children's likelihood of having emotional and behavioral problems and carrying weapons. Compared with nonexposed children, those exposed were eight times more likely to evidence internalizing problems, six times more likely to evidence externalizing problems, and four times more likely to

Proportion of children exposed to violence, by sociodemographic and family related factors

Factor	Percent (N = 54)
Living arrangement:	
Two biological-parent family	38
Single-parent family	73
Race, ethnicity:	
African American	88
Hispanic	46
Sex:	
Boys	58
Girls	43
Age (years):	
8-9	55
10-11	48
Residential mobility:	
Migrant farm worker family	54
Seasonal farm worker family	50
Language:	
English	78
Spanish	48
Primary caretaker(s):	
Two parents	43
Other	71
Child stays home alone:	
Yes	57
No	48

carry weapons.

Descriptive analysis of the outcomes, stratified by whether the child was both a violence victim and witness, victim only, or witness only, showed some interesting patterns. For both externalizing problems and weapon carrying behavior, the children at greatest risk were the witness-victim group, followed by the victim only group, and finally the witness only group. This finding agrees with past research showing that being both a victim and a witness confers greater risk to a child than being only a witness or only a victim of violence (43-45).

A somewhat different pattern emerged when internalizing behavior was compared among children who were in the witness-victim group, the witness only group, and the victim only group. The proportion of children evidencing internalizing problems was similar in the witness-victim and the witness only groups, with no elevation of internalizing problems in the victim only group.

In this study, violence exposure was associated with particular characteristics of the families; however, these findings are probably best viewed as preliminary descriptive information because of the very small samples being compared. Nonetheless, it is interesting that children who were not living with both biological parents were found to be at greater risk of being exposed to violence than were children who were living with both biological parents.

'The symptomatology and weapon carrying behavior exhibited by the children exposed to violence may be viewed as emotional or behavioral problems, or as normal responses to abnormal events . . . it is unclear whether the long-term outcomes associated with these reactions may be abnormal social, emotional, and behavioral development.'

Similarly, compared with children whose primary caretakers included two parents, children primarily cared for by only one parent or someone else were more likely to have been exposed to violence. Compared with Hispanic children, African American children were more likely to be exposed to violence, and violence exposure was more common among English speaking families compared with Spanish speaking families.

All of these research findings must be viewed in light of the study limitations. First, the study sample is extremely small, severely restricting the range of analytic possibilities. In particular, the small sample size does not allow for the control of potential confounding factors, specifically variables that may be risk factors for children's behavioral and emotional problems differentially distributed between the violence exposed and the nonexposed groups of children (for example, two biological parent family versus other type of family structure). These potentially confounding factors may be responsible, at least in part, for some of the differences in functioning seen between the violence exposed and nonexposed children. Therefore, this research may be viewed best as an exploratory, descriptive study; hopefully, the findings will generate hypotheses that may be tested in larger samples of this same population.

Second, all study assessments are based on reports of the children and their mothers and, as such, are subject to all of the biases associated with interview data. Although the assessment of violence exposure was based on two sources of information (mother and child informants), assessment of the children's emotional and behavioral health was based on solely the mothers' reports. Since past research suggests that adults may underestimate internalizing problems of children (51), it may be that the levels of internalizing problems reported in this study are underestimates

of their true extent. In addition, this study would have benefited from the inclusion of other informants (for example, the children's fathers, teachers, and peers). Unfortunately, this was not possible given the financial constraints of this pilot investigation; however, researchers in future studies of similar topics in this population are encouraged to adopt a strategy of data collection from multiple informants.

Third, the representativeness of the study sample is open to question. Although great efforts were made to locate and interview all eligible families in the study area, it is impossible to know if all eligible families were indeed contacted. The local Migrant Education staff had the most complete and up-to-date information concerning potentially eligible families in the study area, and they assisted the project research staff in contacting these families. However, the intensive work schedules of the eligible mothers and the transitory lifestyle of the migrant families made it impossible to interview all those who consented to participate in the study.

Fourth, the cross-sectional nature of these data does not allow the examination of whether the children's problem behaviors arose in response to the violent events they experienced, or whether the behaviors preceded their experiences of violence. Therefore, the direction of the effect is open to question.

Fifth, even though some of the study children carried knives and guns, we are unsure if the children intended to use these knives and guns as weapons or if they carried knives for whittling and guns for hunting, both common rural activities. Future investigations of this topic should clarify the purpose underlying the carrying of guns and knives.

Finally, from our assessments, it is impossible to tell if the children in our study were exposed to violence perpetrated by community members in general, or violence perpetrated by members of their own families. Some research suggests that although children's exposure to community violence and family violence are both positively correlated with children's emotional distress, exposure to family violence appears to be a stronger risk factor than exposure to community violence (49).

Caution also is urged in interpreting these findings since so little is known concerning children's responses to violence. The symptomatology and weapon carrying behavior exhibited by the children exposed to violence may be viewed as emotional or behavioral problems or as normal responses to abnormal events (48). Certain types of fear, anxiety, and vigilance may be adaptive in dangerous environments; however, it is unclear whether the long-term

outcomes associated with these reactions may be abnormal social, emotional, and behavioral development.

Given the methodological limitations of this pilot investigation, this study is best viewed as descriptive in nature. Nonetheless, the high rates of exposure to violence found in this study suggest the need for more comprehensive and larger scale investigations of this topic in this population of children.

Despite the extremely stressful living conditions experienced by children of agricultural laborers and the associated behavioral and emotional symptomatology, there are few rural mental health services easily accessible to these families. Migrant and seasonal farm workers tend to seek help for their children's mental health problems from general health care practitioners, pediatricians, and school professionals, rather than from mental health specialists such as psychologists and psychiatrists (7). Therefore, integration of specialized services for these types of problems into rural general health care clinics and rural school based clinics appears to be in order.

It is encouraging that the community health center serving the migrant and seasonal farm worker families of the North Carolina counties where this study was conducted has recently developed a family focused program—Family Youth Intervention project—in conjunction with other community agencies including the schools (personal communication from Joyce Ashley, Substance Abuse Outreach Educator, Tri County Community Health Center, Newton Grove, NC, Feb. 24, 1995). This program will provide a variety of services to high-risk rural children and their families such as tutoring, health education classes, parent training classes, recreational activities, and referrals to health care providers.

In addition, the program has been designed to serve parents and children who have problems with alcohol and drug use, as well as problems with the law such as juvenile delinquency. Although the program has extremely limited resources, it is a step in the right direction in helping high-risk rural families to deal successfully with their stressful life situations. Public health professionals are urged to respond to the many needs of this population by designing, implementing, and evaluating various models of innovative preventive and therapeutic health programs for these people at risk.

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