A Community-Based Collaboration to Assess and Improve Medical Insurance Status and Access to Health Care of Latino Children

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SYNOPSIS

Objectives. Despite eligibility for subsidized insurance, low-income Latino children are at high risk of being medically uninsured. The authors sought to understand and improve access to medical insurance for Latino children living in a California community of predominantly low-income immigrant families.

Methods. During the summer of 1999, trained women from the community conducted interviews in Spanish with 252 randomly selected mothers of 464 children younger than age 19. Mothers provided information about family demographics, children's medical insurance, health care access, and experiences obtaining and maintaining children's insurance.

Results. Most children (83.3%) were eligible for subsidized medical insurance (48.4% Medi-Cal eligible; 35.0% Healthy Families eligible). Twenty-eight percent of eligible children were not enrolled. Non-enrolled eligible children were older (median age 7) than enrolled children (median age 4) and more likely to be born outside the U.S. (22.2%) than enrolled children (4.8%). Among children ages 3–18, those not enrolled were less likely to have visited a doctor in the past 12 months (58% compared to 78.7%) and less likely to have a usual source of care (96.3% compared to 99.5%). Mothers of non-enrolled children were more likely than mothers of enrolled children to have less than seven years of education (47.8% compared to 36.4%). Families with non-enrolled children were more likely to report out-of-pocket medical expenses (84.1% compared to 53%). Families with non-enrolled children were more likely to report barriers to the enrollment process, such as problems providing required documents (39.7% compared to 15.1%), problems understanding Spanish forms (19.4% compared to 8.9%), and confusing paperwork (39.7% compared to 24.7%). Most mothers (75.9%) reported that community organizations provided very useful help with children's insurance enrollment. Almost half (48.6%) preferred to receive enrollment assistance from community organizations. Only 43.3% of mothers had heard of the Healthy Families program.

Conclusions. To reach the majority of uninsured Latino children, community-based outreach and insurance application assistance are crucial. Most important, the process of applying for and maintaining coverage in Medi-Cal or Healthy Families must be simplified.

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From a public health perspective, promoting and insuring access to primary health care for low-income children is an essential and effective investment. Many immigrant and other low-income families have limited access to health care, a limited knowledge of child health risks or prevention strategies, and difficulty accessing subsidized medical insurance programs.[1–3] In California, Latino children are at particularly high risk for being medically uninsured, despite widespread eligibility for Medicaid or other subsidized medical insurance programs.[4,5] A recent statewide survey found that at least 28% of Latino children were uninsured and that the large majority of uninsured children were eligible for subsidized coverage.[5] The resolution of disparities in insurance coverage would improve primary care access and health outcomes for Latino children.

California offers two options for medically insuring children who are not covered through parents' employment and whose families cannot afford private insurance: Medi-Cal (California's Medicaid program) and the Healthy Families Program (Children's Health Insurance Program). In general, only U.S. citizens and legal residents are eligible for Medi-Cal. A child's age, family income, and family size are used to determine eligibility for no-share-of-cost Medi-Cal. Income limits are defined as percentages of the federal poverty level and vary depending on the age of the child. Children are eligible for the Healthy Families Program if family income exceeds the Medi-Cal limit but does not exceed 250% of the federal poverty level. Enrollment in Healthy Families began in 1998 and requires monthly premium co-payments of $4–$9 per child, with a cap of $27 per family.

Few community-based research efforts have addressed the insurance status and health care access of low-income children. None has specifically investigated the barriers that keep some parents from accessing subsidized medical insurance programs or the facilitating factors that help other parents navigate the systems and obtain insurance and health care for their children. In a California community of interest to our research group, the Canal neighborhood of San Rafael, we sought to understand and improve access to medical insurance for low-income Latino children.

The Canal neighborhood is home to a population with an average income level dramatically lower than in the surrounding areas of Marin County. The neighborhood is the most densely populated area in the county; about 12,000 residents live in 2.5 square miles. The neighborhood's boundaries are defined by Interstate 580, Highway 101, the San Rafael Canal, and the San Francisco Bay. Most residences are in multiple-unit apartment buildings interspersed among light industrial and other businesses. The Canal area is home to mainly low-income, immigrant, working families with diverse ethnic backgrounds.

In 1996, academic researchers from the Kaiser Permanente Division of Research built a collaborative partnership with the Canal Community Alliance (CCA), a neighborhood social service and advocacy organization. CCA provides economic and community development opportunities, advocacy, and support services. CCA was founded in 1981 and annually responds to approximately 25,000 requests for services. It serves diverse emergency needs of Canal area residents and provides case management for children, youth, and families. CCA staff members reflect the racial and ethnic diversity of the agency's constituents; the staff includes individuals fluent in Spanish, Vietnamese, and English.

The goal of the collaboration was to build relationships and an infrastructure to conduct community-based public health investigations, with an ultimate aim of developing subsequent interventions. The first project—a survey conducted in Spanish, English, and Vietnamese—focused on women's health. The Women's Health Services group of the Marin County Department of Health and Human Services was included in that collaboration. The study enjoyed overwhelming community support, perhaps in part because neighborhood residents served as survey interviewers. Local publication of the results[6] spurred responses not only from county health administrators and providers, but also from local organizations including the American Cancer Society. In addition, the report's basic demographic data helped justify additional grant and major donor support to community organizations in the Canal neighborhood.

The present survey was developed when representatives from the CCA and other community organizations, the Marin County Department of Health and Human Services, the San Rafael schools, and the Marin Community Clinic partnered in 1997 with academic researchers to formulate a second public health project. There was immediate consensus that access to health care for children was the most pressing issue for study at the community level and that the research should focus on Latinos. Insurance eligibility, enrollment, and maintenance were defined as key data, especially with the upcoming introduction of California's Healthy Families insurance program. The survey was designed with input from the same diverse, but united, interests.

The Marin Community Clinic, a nonprofit primary health care agency located about four miles from the Canal community, serves as a crucial primary care pro-

vider to the majority of Canal area children.[6] This project was compelled in part by the knowledge that the Clinic's scarce resources were being drained by eligible but uninsured clients and by the diversion of staff time to assist clients with Medi-Cal paperwork. Thus, a project that would increase insurance coverage of children might also help to channel more efficiently the limited community health resources.

Using community-based methods and infrastructure developed in the initial project,[6] we conducted a survey of Canal area Latina mothers to obtain information about their children's medical insurance status and health care access and the families' experiences in obtaining and maintaining children's health insurance.

METHODS

Study population

The population-based sampling strategy was designed to achieve an accurate representation of the mothers of Latino children in the Canal community. We used a database containing 3,070 residential addresses in the district, including single-family houses and apartment units. Addresses on streets within the middle-class developments of Spinnaker Point, Bay Point Lagoon, and Bay Vista were excluded because they were not a part of our target group and represented their own isolated community.

About 18% of households in the study area are composed of men only.[6] Of the remaining households, approximately 70% are Spanish-speaking and more than 75% include at least one child.[6] We randomly selected 750 addresses with a goal of obtaining 250 interviews with Spanish-speaking women with at least one child at home younger than age 19. Two hundred fifty-two mothers were interviewed, who provided information about 464 of their children ages 0–18. The study was reviewed and approved by the Institutional Review Board of Kaiser Foundation Research Institute, Oakland, California.

Survey instrument

The survey collected family- and individual child–level information. In addition to basic demographic information about the mothers, fathers/guardians of the children, and the children, the survey probed the women's experiences and opinions regarding medical insurance and health care for their children. On the child level, the survey collected information about medical insurance history and recent interactions with the health care system (including medical, dental, optical, and mental health).

The survey was written in English and then professionally translated into Spanish. It was then back-translated into English by two bilingual CCA staff members. Discussions with the back-translators and other CCA staff led us to revise inconsistencies and confusing wording. Pilot testing was conducted within the interviewer training process, which led to further refinement, including the addition of codes for unforeseen answers. The survey instrument is available from the first author on request.

Door-to-door surveys

Interviewers were Spanish-speaking women from the Canal community. They were trained in classrooms, in mock interviews, and in respondents' homes. Interviewers were responsible for identifying and recruiting eligible women, administering the questionnaires, recording the data on survey forms, and keeping precise tracking logs with information about households visited.

From June through September 1999, each randomly selected address was visited up to five times at different times during the day and the week. Spanish-speaking women with at least one child younger than age 19 living in the home were asked to participate in the survey. If more than one eligible women was identified at a single address, the first available woman was interviewed. Women were offered a $10 gift certificate to a local supermarket for their participation. If women could not complete the interview at the time of recruitment, an appointment was made for a convenient time.

Interviewers wore visible CCA photo identification badges and introduced themselves as CCA staff from the children's health project. The confidentiality of responses was stressed. Completed survey forms contained no information to link them to an address or to a respondent. No data were collected regarding nonparticipants.

Data coding and entry

Completed surveys were reviewed by study staff. This included substantial coding of unanticipated responses. A contract data entry service converted the data to an electronic format.

Data analysis

The electronic survey data were reviewed and coded a second time as necessary. The SAS Statistical Package, Version 6.12, was used to analyze the data.[7] The Chi-square test of independence was used to examine categorical variables, and the Wilcoxon rank sum test to examine non–normally distributed continuous variables.

Measures

Eligibility. Each child's eligibility for Medi-Cal or Healthy Families was based on reported family income, family size, and child's age. Total annual family income consisted of the mother's income from employment, official child support, and the father's income from employment, if he lived at home. The 1999 Health and Human Services Poverty Guidelines were used to determine the federal poverty level for each family.[8] Eligibility per child was then determined by comparing the child's age and the annual family income as a percent of the poverty level to the 1999 guidelines for Medi-Cal and Healthy Families eligibility.[5] Children were classified as eligible for Medi-Cal as follows: for infants < age 1, family income could not exceed 200% of the poverty level; for children ages 1–5, family income could not exceed 133% of the poverty level; and for children ages 6–18, family income could not exceed 100% of the poverty level. Children were classified as eligible for Healthy Families if their family income exceeded the Medi-Cal income eligibility level but did not exceed 250% of the federal poverty level. We were unable to classify nine of 464 children due to incomplete information on family income.

In addition to determining the Medi-Cal/Healthy Families eligibility for each child, we created a summary variable to describe the family-level eligibility for these subsidized medical insurance programs. If a family had at least one child who was found to be eligible for Medi-Cal or Healthy Families, that family was classified as "eligible." If all children in a particular family were found to be ineligible for Medi-Cal or Healthy Families, due either to too much income or to their immigration status, that family was classified as "ineligible." Our analyses focused on the 220 eligible families constituting 87% of all interviewed women (220/252). Four of 252 families could not be classified because of incomplete information about family income.

Enrollment. For each child found to be eligible for either Medi-Cal or Healthy Families, information reported by the mother was used to determine whether the child was enrolled in either program. In addition to determining the current Medi-Cal/Healthy Families enrollment status for each eligible child, a summary variable was created to describe the family-level enrollment status for each eligible family.

If all the eligible children in a family were enrolled in Medi-Cal or Healthy Families, the family was classified as "fully enrolled." If some or none of the eligible children in a family were enrolled in Medi-Cal or Healthy Families, the family was classified as "nonenrolled." The family enrollment variable was dichotomized by grouping families who had enrolled only some of their eligible children ("mixed enrollment") with families who had enrolled none of their eligible children. This was done because the number of families with "mixed enrollment" was small (n = 8), and the data suggested that "mixed enrollment" families were more similar to families who had enrolled none of their eligible children than they were to families who had enrolled all of their children.

RESULTS

Participating mothers

Interviewers visited 737 randomly selected residential addresses and made contact with a resident at 677. An eligible Spanish-speaking woman with at least one child age 0–18 living at home was identified in 300 of the 677. Only 21 (7%) of the eligible women declined to participate. Two hundred fifty-two (84%) completed the interview. Twenty-seven who had agreed to participate were unable to schedule an interview within the study period.

The mean age of participants was 30 years (range 18 to 55). Most (98%) were born outside of the United States; 40.5% had six years or less of education; 73.4% had lived in the United States for at least five years; 58.3% had lived in the Canal neighborhood for at least five years.

The majority of women (62.5%) reported family incomes that were calculated as less than 133% of federal poverty level. Most (64.3%) were employed; 7.5% were looking for work; 26.6% were not working; only 1.6% reported welfare or public assistance. Most (80.6%) were living with a husband or partner. The family incomes ranged from $0 to $87,600 (median $18,000). Ninety-six percent (96.0%) reported that the mother or father, or both, were working.

Participants' children

Through interviews with 252 mothers, information was obtained for 464 children who were 18 years old or younger. Most of the children were ages 3–12, and most (77.4%) were born in the U.S. (Table 1). The mothers reported continuous (since birth) medical insurance coverage for 250 (53.9%) of the children and that 307 (66.2%) were currently enrolled in some type of insurance plan. The Marin Community Clinic was reported as the usual source of care for most (61.9%) of the children.

Reported family income was used to determine whether a child was eligible for either of the subsidized medical insurance programs, Medi-Cal or

Healthy Families. Most children appeared to be eligible for either Medi-Cal (48.4%) or Healthy Families (34.9%). Only 11 children were ineligible because of income, while 65 were ineligible because of immigration status. Nine children could not be classified due to missing information.

Of the 220 children eligible for Medi-Cal, 163 (74.1%) were enrolled. Of the 159 children eligible for Healthy Families, 108 (67.9%) were enrolled. Overall, 28.5% of eligible children were not enrolled in a subsidized insurance program. Of the 379 children who were calculated to be eligible for either program, the mothers correctly characterized 336 (88.7%) as eligible for either Medi-Cal or Healthy Families. Only 43.3% of all mothers interviewed reported that they had heard of the Healthy Families insurance program.

Table 1. Demographic characteristics of children (*n* = 464), as reported by mothers

Characteristic	*Number of children*	*Percent*
Age (years)		
0–2	124	26.7
3–12	280	60.3
13–18	60	12.9
U.S. born	359	77.4
Eligibility[a] for public medical insurance (*n* = 455)		
Medi-Cal	220	48.4
Healthy Families	159	34.9
Ineligible/income too high	11	2.4
Ineligible/immigration status	65	14.3
Currently enrolled in any medical insurance program	307	66.2
Continuously enrolled throughout child's life	250	53.9
Enrolled in Medi-Cal if eligible (*n* = 220)	163	74.1
Enrolled in Healthy Families if eligible (*n* = 159)	108	67.9
Usual source of medical care		
Marin Community Clinic	287	61.9
Private doctor	96	20.7
Kaiser Permanente[b]	54	11.6
Other	9	1.9
None	18	3.9

[a]Eligibility based on family income as a percent of the federal poverty level and child's age; nine children not classified due to missing data on family income.

[b]A health maintenance organization

Families eligible for subsidized insurance

Families were then classified in terms of eligibility and enrollment. The 220 eligible families were defined as having at least one child eligible for subsidized insurance. Families were further characterized as to whether eligible children were enrolled. Most eligible families (151) had all eligible children enrolled; 61 had no eligible children enrolled; eight had a mixture of enrolled and non-enrolled eligible children.

Table 2 shows the characteristics of mothers of fully enrolled eligible families ($n = 151$) compared to mothers of families with non-enrolled eligible children ($n = 69$). Mothers with non-enrolled children appeared to have less formal education ($p = 0.109$) and to be more likely to report childcare or other domestic work than to report employment in other areas ($p = 0.047$). Years lived in the U.S., years lived in the Canal neighborhood, being a single mother, speaking English proficiently, number of children, mother's work status, and income were not associated with enrollment status of the family. The median age of the mothers of the fully enrolled families was 29 years, compared with 31 years for the non-enrolled. Although this difference was statistically significant ($p = 0.021$), we did not consider it of epidemiologic importance.

We assessed out-of-pocket medical expenses by asking whether the family had paid more than $10 in the past year for a child's clinic visits, hospital visits, medications, or other medical costs. Non-enrolled families were more likely (84.0%) than enrolled families (53.0%) to have at least one such expense ($p = 0.001$). We asked whether lack of insurance or money had ever kept the mother from seeking medical, dental, vision, or mental health care for a child. Mothers of non-enrolled families were significantly more likely to report an unmet dental health need for a child (27.5%) than mothers of enrolled families (15.2%; $p = 0.031$). There was little difference in likelihood of having unmet medical care needs between non-enrolled (18.8%) and fully enrolled families (13.3%; $p = 0.281$).

Enrolled compared to non-enrolled eligible children

Table 3 compares the characteristics of enrolled and non-enrolled eligible children. The median age of enrolled children was 4, while that of non-enrolled children was 7 ($p = 0.004$). Enrolled children were more likely to be born in the U.S. ($p = 0.001$). Non-enrolled children older than age 2 were less likely to have a usual source of care or to have seen a doctor in the past 12 months.

Non-enrolled children were more likely than enrolled children to have been born in Guatemala or El Salvador (19.4% vs. 2.2%; $p = 0.001$). Of the 27

Table 2. Self-reported characteristics of mothers (*n* = 220)

	Fully enrolled families (n = 151)	*Non-enrolled families (n = 69)*	p-*value*[a]
Median age (years)	29	31	0.021
Six years or less education (%)	36.4	47.8	0.109
Number of children in family			
Median	2	2	0.614
Range	1–4	1–4	
Annual family income as percent of federal poverty level (%)			0.573
≤133%	66.2	62.3	
134%–250%	33.8	37.7	
>250%	0	0	
Median annual family income	$16,800	$19,200	0.192
Work status (%)			0.584
Currently employed	60.3	66.7	
Not employed	29.1	26.1	
Looking for work	8.6	7.3	
On public assistance	2.0	0	0.584
Domestic/child care work (*n* = 137 employed women) (%)	47.3	65.2	0.047
Speak and understand English well (%)	23.8	29.0	0.416
Single mother (%)	20.5	15.9	0.422
Have heard of Healthy Families (%)	45.7	47.8	0.769
Median number of years lived in U.S.	8	9	0.213
Median number of years lived in Canal area	6	7	0.427

[a]χ^2 test for categorical variables and Wilcoxon rank sum test for continuous variables

eligible children born in Guatemala or El Salvador, only six (22.2%) were enrolled. Since this group included no children younger than age 2, we restricted the comparison to children older than 2 (not shown in tables). Of the eligible children >2 born in any other country, 74.7% were enrolled ($p = 0.001$). Mothers born in these countries were more likely to have six or less years of formal education than mothers born elsewhere (52.3%, compared to 28.2%; $p = 0.001$). These mothers, however, were no more likely to hold a poor opinion of government insurance or to be fearful due to their immigration status.

Mothers' opinions and experiences with children's insurance and health care

The survey asked about experiences and preferences that the mothers had in obtaining and maintaining health insurance for their children. Table 4 lists the problems that were associated with the enrollment status of eligible families. Almost 40% of mothers with non-enrolled children reported having trouble providing the required documents (such as paycheck stubs), and 24.2% reported that the enrollment office hours were inconvenient. Other reported problems included difficult or confusing paperwork and trouble understanding the Spanish forms. Fewer than 7% of mothers of eligible families reported fear caused by the mother's immigration status as a large problem. Mothers of fully enrolled families and of non-enrolled families were equally likely to report believing that government insurance is inferior to private (24.6%), that medical insurance is important only when children are ill (19.6%), or that government insurance is embarrassing (6.9%).

Most mothers of eligible families (61.2%) cited the medical clinic or doctor's office as the place they had received the most useful information about children's medical insurance. When asked how useful specific organizations were in helping them complete insurance forms, 68.6% of the mothers reported a clinic or medical office as "very useful," and 75.9% reported "CCA or other neighborhood organizations"

Table 3. Characteristics of enrolled children compared with eligible non-enrolled children, as reported by mothers (*n* = 379)

	Enrolled children (n = 271)	*Eligible non-enrolled children (n = 108)*	
	Percent	*Percent*	p-value[a]
Age (years)			
0–2	32.5	25.0	0.001
3–12	60.9	55.6	
13–18	6.6	19.4	
Lives with two guardians	81.4	79.6	0.690
Country of birth			
United States	95.2	77.8	<0.001
Mexico	2.2	1.9	
El Salvador	2.2	10.2	
Guatemala	0.0	9.3	
Other Latin American	0.4	0.9	
Visited doctor in past 12 months			
Age 0–2 (*n* = 115)	98.9	96.3	0.416
Age 3–18 (*n* = 264)	78.7	58.0	0.001
Has a usual source of care			
Age 0–2 (*n* = 115)	98.9	96.3	0.416
Age 3–18 (*n* = 264)	99.5	96.3	0.087

[a]χ^2 test

as "very useful." When asked where they would most like to receive help with insurance enrollment in the future, 48.6% chose "CCA or other neighborhood organizations" and 32.7% chose a clinic or doctor's office.

The mothers were also asked about their experiences in and opinions about obtaining health care and health education for their children. Most (52.1%) used public transportation to obtain children's health care, and 32.4% reported that this posed a problem. Many mothers (61.6%) reported long clinic waits. The large majority of mothers felt that a community center was a good place for their children to receive information about reproductive health (77.3%) and about drugs and alcohol (90%).

DISCUSSION

This survey of Latino families in San Rafael, California, found that a large proportion of children (83.3%) were eligible for subsidized medical insurance but that a substantial proportion (28.5%) were not enrolled. This is consistent with reports from previous studies.[4,5,9] Our analyses focused on families with children who were eligible for either Medi-Cal or the Healthy Families program. Correlates of non-enrollment included

Table 4. Opinions and experiences of mothers of fully enrolled families compared with non-enrolled families (*n* = 209 women who had tried to obtain medical insurance for their children in California)

	Fully enrolled families (n = 146)	*Non-enrolled families (n = 63)*	
	Percent	*Percent*	p-value[a]
Problems providing required documents	15.1	39.7	0.001
Problems understanding Spanish forms	8.9	19.4	0.034
Paperwork is difficult or confusing	24.7	39.7	0.028
Inconvenient enrollment hours	9.7	24.2	0.006

[a]χ^2 test

lower education level of the mother, older age of the child, and birthplace of the child outside of the U.S. As observed previously, length of time a family had resided in the US was not correlated with the children's insurance status.[1] Other potential measures of acculturation, such as the mother's English proficiency and family income, were similarly unrelated to children's insurance coverage.

Families with eligible but non-enrolled children reported more instances of out-of-pocket medical expenses than families with enrolled children. Non-enrolled families did not report unmet child health care needs substantially more than fully enrolled families, except in the area of dental care. The limited number of reported unmet medical care needs may reflect access to the Marin Community Clinic, which provides urgent care to uninsured children. For children older than 2, we found that non-enrolled children were less likely than enrolled children to have a usual source of care or to have seen a doctor in the past year. These consequences of non-enrollment, as well as the age specificity, have been reported previously.[10,11]

The survey results point to paperwork as the major obstacle to enrolling children in these subsidized insurance programs. Almost 40% of mothers with non-enrolled children reported that the application paperwork was confusing. An equal proportion had trouble providing the documents required to substantiate income. Nineteen percent said that the Spanish forms were hard to understand. Fear due to parents' immigration status or mistrust of government insurance did not appear to affect enrollment.

Previous studies found that language problems present major barriers to access to health care for Latino children.[9,12] In our study population, language problems were not commonly cited as barriers to obtaining children's medical care. Only 4% of eligible mothers reported this as a large problem. This may reflect the high Spanish language competence at clinics and in other services available to Canal area residents.

Most mothers, regardless of their children's enrollment status, believed that community organizations such as CCA provided "very useful" help with children's insurance enrollment and that they would prefer to receive help at a neighborhood organization in the future. This observation points to the need for community-based outreach and enrollment assistance to reach the uninsured children in the community. Many mothers reported they had received the "most useful" information about children's medical insurance from a medical clinic or doctor's office, suggesting that these trusted primary care providers are powerful resources for encouraging insurance enrollment and for referring parents to convenient community-based services.

We consider this study's results to be an accurate reflection of the experience of Latino families living in the Canal area. The study is truly population-based in design and methods. We visited households randomly selected from a complete list of neighborhood residential addresses; contact was made with a resident at 91% of the households. Only 7% of identified eligible women declined to participate, mostly due to time constraints. It is possible that this small proportion of women were home less frequently, perhaps working more, and perhaps had distinct profiles in terms of their children's health. However, we believe that their exclusion does not compromise the results. We believe our study sample is relatively unbiased and representative of Spanish-speaking mothers in the community.

The strength of this collaborative effort is evidenced by the fact that 93% of eligible women agreed to participate. We attribute much of the project's success to the skills of the neighborhood women who served as interviewers, to the community's trust and support of the CCA, and to the women's interest in participating in an activity that could help Canal children.

We recognize that we may have made some errors in deducing the insurance program eligibility of each child. Our family income information relied on each mother's ability to supply us her with own income estimate and, when applicable, that of the father. It is possible that the numbers we obtained do not exactly reflect what would be recorded as family income in the Medi-Cal/Health Families application processes. However, given the reported income levels of most families, it is unlikely that many children we considered as eligible were actually ineligible due to higher income. We also chose not to consider that the programs allow income deductions for child care and work expenses and that these may enable children with income levels that are above the cutoff to be considered eligible. However, survey results showed that a negligible number of children were in day care and it is unlikely that deductible work-related expenses were common or substantial enough to affect our results.

Response to findings

In response to results from the survey showing a large number of eligible but uninsured children and the surprising lack of knowledge about Healthy Families, the Marin County Department of Health and Human Services directed resources to the Canal area to increase coverage for children. Based on the preference

by families and the trust of CCA as an insurance enrollment site, the Department contracted with CCA to conduct outreach and provide Medi-Cal/Healthy Families enrollment assistance in the Canal neighborhood. Although no formal pre- and post-intervention assessment was conducted, we share a summary of this experience here.

In the pilot intervention project, conducted from July 2000 through June 2001, CCA staff took several approaches. They began by employing two neighborhood women as outreach workers and application assistants. One of the women had been an interviewer for the survey. The primary goal was to recruit eligible but non-enrolled families to use application assistance provided by CCA.

Information about Medi-Cal/Healthy Families was disseminated by various methods. In all cases, CCA was listed as the local contact for application information and assistance. Two issues of the widely distributed bimonthly newsletter *Canal Vision* carried major articles explaining in simple terms the options for children's subsidized insurance. Local Canal Radio, which airs twice weekly and reaches about 1,500 listeners, broadcast information in a public service announcement format. During a five-month period, informational flyers were included with more than 1,500 emergency food packages from CCA. Throughout the project year, outreach workers spoke to families with children and distributed information at the weekly neighborhood farmers' market. Information was also distributed at children's soccer league games and at the annual Canal Community Festival. In response to our report that children born in either El Salvador or Guatemala had low levels of enrollment, outreach was conducted through meetings and events held by the local Guatemalan organization, *Fraternidad Sijense,* and at soccer games of the men of the El Salvadoran community. These efforts in total brought at least 200 families to CCA for assistance during the year.

In a concurrent and overlapping effort, information about children's insurance programs was sent home with students at selected Marin County public schools. Interested parents returned the flyer to the school with their name, address, and phone number. Forms from families in the Canal area were forwarded to CCA. Through this mechanism, CCA assisted 95 additional families with applications for children's insurance. Follow-up with clients suggested that, through all of these approaches in total, the project met the contracted goal of enrolling at least 250 children.

The pilot intervention revealed that many eligible families had great difficulty assembling the documents they needed to verify income. In some cases, this led to the inability to submit an application. Many applicants, too, were overwhelmed with the complicated and time-consuming process of completing the forms. Indeed, three visits to CCA of at least one hour were necessary for some clients; multiple visits were driven by the need for clients to return with additional documents. These community-based application efforts were further frustrated by an increase in the complexity of the process for obtaining an Application Assistant Certificate, which is required of all who assist Medi-Cal/Healthy Families applicants. This change precluded the hiring and timely training of outreach workers and left too few staff to meet the growing need for enrollment assistance.

The study also shed light on community health care and health education needs. The survey showed that most families relied on public transportation to obtain medical care and that transportation often posed difficulties, suggesting that provision of health care *within* the neighborhood would be ideal. The majority of respondents expressed an interest in having reproductive health education and drug and alcohol education provided at a community center—again pointing to the need for more local resources. Survey results helped to compel a commitment and an investment to develop a satellite of Marin Community Clinic in the neighborhood. Space recently obtained for a chronic disease clinic includes an area that CCA will use to expand public health education programs for the community.

CONCLUSIONS

This project demonstrates the benefits of assessing health disparities and of collaborating with communities to create a more responsive health system. The general conclusions from our study and pilot intervention echo many of the recommendations from a recent statewide report.[5] To reach eligible but uninsured Latino children, community-based outreach and application assistance are crucial. But most importantly, the procedures and paperwork requirements to apply for and maintain coverage in Medi-Cal or Healthy Families must be simplified. To that end, the requirement for families to submit quarterly reports in order to continue children's Medi-Cal enrollment was eliminated in 2001. We urge the state of California and other dedicated public health agencies to continue efforts to improve and expand the Medi-Cal and Healthy Families programs to better serve the neediest children.

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