For a primary prevention program to succeed, it should: (1) address a significant individual or social problem; (2) be designed for, and delivered to, the individuals or groups most likely to be at-risk of experiencing the problem; (3) provide the kind of information or service desired by this target audience; (4) be sufficiently cost-effective and practical so that it can be delivered to a fairly large audience; and, most importantly, (5) achieve its objectives with a significant proportion of those to whom it is delivered. The programs discussed in this paper appear to meet these criteria. Described in terms of their purpose and scope are two researched, prevention-by-mail programs designed to determine the effects of age-paced parent education booklets on those who read them. The first study considered is a survey of parents in 10 states who received a series of booklets designed to help parents enhance their parenting skills and improve their knowledge of infant development. The second study is an evaluation of a California age-paced parent education series, "Parent Express," designed for teenage and low-income parents. In the conclusion, implications for social work are briefly discussed. (RH)
PARENT EDUCATION BY MAIL: A COST EFFECTIVE WAY TO HELP PARENTS AT RISK
Dorothea Cudaback, D.S.W
Nancy Dickinson, Ph.D.

PRIMARY PREVENTION BY MAIL
Pursuing a Methodology

Ever since the birth of social work as a profession some within our ranks have urged us to devote more of our efforts to prevention. (see for example Bloom, 1981; Briar 1980; Hollister, 1977). For many reasons, some good and some not so good, we continue to spend almost all of our energy, time, resources, and research effort on treatment of those who are already experiencing problems - very little on preventing these problems from occurring. Primary prevention services are often difficult to construct and their effectiveness even more difficult to measure. Locating those who are at risk of serious problems may require predictive skill we simply do not have; serving this target population may demand methods that are poorly developed.

For a primary prevention program to succeed, it must meet a number of conditions. It needs to address a significant individual or social problem; it must be designed for, and delivered to those individuals or groups most likely to be at risk of experiencing the problem; it must provide the

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kind of information or service desired by this target audience; it must be sufficiently cost effective and practical that it can be delivered to a fairly large audience, and finally, most importantly, it must achieve its objectives with a significant proportion of those to whom it is delivered.

The programs discussed in this paper appear to meet these criteria. I will describe these programs, their purpose and scope and discuss two studies which evaluate their impact on the target audience.

Prevention by Mail

The age-paced parent education booklets which are the subject of this paper are designed to help readers make a successful transition to parenthood and provide their new babies with the kind of care and stimulation well-developing children need. I will focus specifically on the impact of these programs on parents shown to be at risk on having parenting problems: teenage parents (Baldwin and Cain, 1980; Bolton, 1986; Broman, 1981; Kinard and Reinherz, 1984), single parents (Krein, 1986), and low-income parents (Ramey and Finkelstein, 1981). Children of these parents are more likely than children born of older more affluent married parents to experience abuse and neglect or to have delayed social or intellectual development.

There is ample evidence that the way parents nurture and guide their babies during their crucial first years of life profoundly affects these babies' future intellectual, social, and psychological development (Belsky, 1981; Blehar, 1980; Clarke-Stewart, 1977; White, 1985). During these early years, the babies need to grow physically, to learn about their world, and to begin developing the confidence and competence they need to achieve academically and to relate effectively with others. Stevens (1984) found the
following kinds of knowledge particularly predictive of good parenting: the power of play in helping children learn, the value of parental teaching, the importance of monitoring infants' health, and parenting practices which promote language development. Parents of successful babies respond sensitively to their babies' needs to be held, loved, comforted, and played with. These parents talk to their babies in ways that promote verbal competence and give their babies opportunities to explore and learn by touch, sight, and smell (Bradley and Caldwell, 1980; Clarke-Stewart, 1977; Gordon, 1979).

Most parents handle their early parenting responsibilities well. Others beset with serious personal and environmental problems may need intensive personal or situational help if they are to rear their children effectively. Somewhere between these two groups are individuals whose problems are less severe but who need information or help to fulfill their parenting responsibilities successfully. They want help and they can benefit from it. It is to these parents that our prevention focused, parent education programs are directed.

The age-paced parent education booklets discussed in this paper are series of three to eight page booklet on child development and parenting. They are designed for expectant parents and parents of infants ages 0 to 12 months. The booklets are keyed to the babies' birth months so that the parents receive information each month about the development and care of babies exactly as old as theirs. The booklets contain research-based information that is understandable, practical, supportive and nicely packaged. Such booklet series have enjoyed widespread use since Pierre the Pelican was written by Lloyd W. Rowland about forty years ago.

This method of program delivery seems to have distinct educational
and practical advantages. Because information is keyed to the babies' birth months, it reaches parents when they are most ready to use it. Since parents receive information in written form, they can read the booklets at their convenience, share them with others and save them for future reference. Finally this kind of program is a relatively inexpensive way to provide educational information to a large number of parents.

There is evidence that people making the transition to parenthood may be especially open to receiving and using parenting help and information (Aslanian and Brickwell, 1980; Zitner and Miller, 1980). Many of these parents look for this help from printed materials. Sparling (1980) found that although teen-age parents preferred to receive their parenting information through interpersonal channels, reading for most was an acceptable second choice. Unfortunately the many teen and other parents who are poor readers may have difficulty finding parent education materials they can easily understand. Abram and Dowling (1979) used the Flesch Reading Ease Formula to classify the fifty most popular parenting books by reading level. None of the books could be classified as "easy" (sixth grade reading level) or "very easy" (less than sixth grade reading level), and only six were classified as "fairly easy" (seventh grade reading level).

**Study Designs**

I will be reporting here on two studies designed to determine the effects of age-paced parent education booklets on their readers. The first study was a survey of parents in 10 states who had received a series of these booklets. The participating states were Arizona, California, Delaware, Florida, Georgia, Iowa, Nevada, North Carolina, South Carolina and Washington. The booklets were developed by Family Life and Child Development specialists in these states' University Cooperative Extension programs. Although the series differed slightly from state to state, content analysis indicated that
All were remarkably similar in purpose and content. All were designed to help parents enhance their parenting skills and improve their knowledge of infant development. All contained the same kind of information on baby development, baby care, and parental concerns. Each series was mailed monthly without charge to parents who requested it. Each series was available to all parents, however the Washington series was designed specifically for teenage parents and the California series was designed specifically for teenage and low income parents.

The effectiveness of the 10 programs studied was assessed by a common evaluation questionnaire sent to a random sample of parents when they received the last booklet in the series, at their baby's first birthday. The questionnaire was designed to determine the extent to which respondents read the series, the helpfulness to respondents of specific topics, the degree to which respondents' parenting practices and attitudes were influenced by reading the series, and the respondents' judgment of the series' overall usefulness.

Those directing the evaluation in each state sent the questionnaire to all participating parents as they completed the series. To maximize questionnaire returns, a standard procedure for sending follow-up postcards and letters was used in all but one participating state.

In all, 2,263 usable questionnaires were returned, a 58 percent return rate. The number of returns from each state ranged from 142 to 365. The 2,263 returned questionnaires represent 4 percent of the total number of parents (51,370) estimated to have received the series in the 10 participating states during the study year, 1984.

The second study I'll discuss here was an evaluation of the California age-paced parent education series, Parent Express. This study
was conducted between 1984 and 1986. Parent Express, developed by the social work staff of the University of California Cooperative Extension Human Relations program, was specifically designed for teenage and low income parents. Teenage parents advised on reading level, content, format and artwork. The purpose of this study was to measure the impact of Parent Express on the parenting attitudes and practices of teenage mothers.

For this teen parent study we interviewed 118 pregnant teenagers from the San Francisco Bay Area to gather information about their sources of parenting information and their parenting knowledge. Interviewees agreed to receive Parent Express booklets monthly until their babies were one year old and to participate in a follow-up interview. Eleven to eighteen months after their babies were born, 70 of the study group mothers were interviewed again by telephone; the remaining 48 could not be relocated. A comparison of teens who could not be relocated with the study group shows that the two groups at the time of the first interview were similar in age, education, race, living arrangements, and employment.

At the post-program interview, we again asked the study group mothers about their sources of parenting information and about their attitudes and beliefs about parenthood. We also asked these mothers to evaluate the impact of Parent Express on their parenting attitudes and practices. For the Parent Express evaluation, we used the same question: we had used in the ten state study described above. At this interview we gave the study group mothers the Home Screening Questionnaire (HSQ) (Coons, Gay, Fanda, Ker, and Frankenberg, 1981) to assess parenting effectiveness. Based on the Home Observation for Measurement of the Environment (HOME) Inventory (Caldwell and Bradley, 1979), the HSQ is a well-regarded standardized screening instrument which identifies parents with infants and young children who may at risk of delayed intellectual development due to inadequate parental and environmental
influences.

During the time of the post-program interviews with the study group mothers, we also interviewed a control group of 85 mothers of eleven to eighteen month old children. These mothers, like the study group mothers, were from the San Francisco Bay Area and had become pregnant while teenagers. The control group mothers had not been previously interviewed by us and had not read _Parent Express_. We asked the control group mothers the same questions we were asking the study group mothers and also gave the control group the HSQ.

**RESULTS OF 10 STATE STUDY**

**Respondents.**

A fairly small proportion of the 2,186 respondents from the ten state study had a personal characteristic usually associated with parents at risk of having parenting problems. Most respondents were at least 25 years old (70%), married (85%), and had some post high school education-- either vocational training or college (66%). Fifty-five percent reported a gross family income of $20,000 or more a year. A fair number of respondents however, might be classified as at-risk: 142 (7%) were under 20 when their babies were a year old; 335 (15%) were unmarried, and 205 (9%) had family incomes of under $5,000. Two hundred and thirty six (11%) had not graduated from high school. Most respondents were White non-hispanic. Nine percent identified themselves as Black, 3 percent as Hispanic, 1 percent as Asian and 1 percent as American Indian.
Reading Patterns.

Each series was well read. Eighty-four percent of the respondents reported reading all articles in all issues; 12 percent reported reading most items in most issues; 11 percent gave the booklets to someone else, and 66 percent kept them for future reference. Of those who kept their booklets, 92 percent referred to back issues. Seventy-three percent of the parents reported that someone else besides themselves read the booklets, most frequently their spouse or their baby's grandparent.

Usefulness of Information.

A great majority of respondents reported that all major subjects included in the series were "some..." or "very" helpful. "Very helpful" ratings were given for the following kinds of information: baby's emotional growth (74%), baby's intellectual development (73%), baby's health (70%), baby's physical growth (67%), games for baby (61%), and fathering (47%). Sixty-four percent of the respondents rated their series overall as very useful, 38 percent rated it moderately useful, and 2 percent as not useful.

Impact on Parenting Attitudes and Practices.

The major purpose of all ten home learning programs was to help parents feel more self-confident, worry less about their babies, and increase certain parenting practices associated with successful infant development: providing a variety of things for their babies to feel, look at, listen to, smell, and taste; playing with their babies in ways that promote development; talking to their babies; showing their babies affection through smiling, kissing, and hugging; and being more responsive to their babies' cries. For the great
majority of respondents, one or more of these goals was realized. Ninety-three percent said that reading the booklets helped them feel more self-confident as parents (33 percent "a little more" confident, 35 percent "moderately more" confident, and 25 percent "much more" confident). Fifty-one percent said that because they read the series, they worried less about their baby. Forty-three percent of respondents said that reading the leaflets helped their relationship with their baby's other parent.

Eighty-nine percent of the parents reported that because of reading the series they had adopted or increased one or more key parenting behaviors promoted by the booklets: 77 percent provided more things for their baby to feel, look at, listen to, smell, and taste; 75 percent played with their baby more; and 67 percent talked to their baby more; 59 percent smiled, kissed, and hugged their baby more; 43 percent responded more quickly when their baby cried. We computed an influence score for each respondent based on the number of key parenting practices the person claimed to have adopted or increased as a result of reading the booklet series. Possible scores ranged from zero (no influence claimed) to five (positive change claimed for all five practices). The scale's reliability is quite high (Alpha = .727). More than 50 percent stated they had changed four or five of the recommended practices as a result of reading the booklets; less than 12 percent of the respondents reported that they had not changed any behaviors as a result of reading the leaflets. The mean influence score for all respondents was 3.17.

Analysis of variance tests were performed to determine whether influence scores varied significantly by recipients' race, education, marital status, and age. As shown in Table 1, influence scores were significantly higher for recipients who were racial/ethnic minorities, less educated, unmarried, younger, or had lower incomes. Parents who had higher influence scores were also more likely to report that reading the booklets caused them to worry less.
(\(X^2 = 189.01; 5 \text{ df}; \ p < .001\)), and to increase their confidence in their parenting abilities \((X^2 = 495.79; 15 \text{ df}; \ p < .001\)). These parents were also more likely to give the booklets higher overall usefulness ratings \((X^2 = 465.82; 10 \text{ df}; \ p < .001)\).

**RESULTS OF TEEN PARENT STUDY**

**Respondents**

At the time of pregnancy interviews the mean age of the study group mothers was 17 years, 90 percent were single, 16 percent lived with husband or partner, 57 percent with their parents, 49 percent were Black, 21 percent were Hispanic, 24 percent were White non-Hispanic.

**Reported Use and Impact of Parent Express**

The results of the end of the series evaluation of Parent Express were overwhelmingly positive. Almost all study group mothers (93%) indicated that they had read all or most of the booklets, more than half (57%) kept the booklets and referred back to them at least some of the time. A large majority of the young mothers (83%) shared the booklets with others, usually their own parents, others, and spouses, in that order. Eighty one percent indicated that reading Parent Express increased their confidence as parents; 93 percent rated the series as being "very useful" overall.

When respondents were asked about ways the booklets influenced their parenting practices, 95 percent reported they had increased at least one recommended practice as a result of reading Parent Express. They reported
that reading Parent Express influenced them to provide more things for their babies to feel, look at, and listen to (83%), to play with their babies in ways that promoted learning (79%), to show their babies more affectionate attention (73%), to talk to their babies more frequently (70%), and to respond more quickly when their babies cried (69%).

Study group mothers may have exaggerated the extent to which they were affected by reading Parent Express, particularly since most were interviewed over the telephone and may have been eager to please the interviewer. On the other hand, their spontaneous positive comments about the booklets and repeated requests for a continuation toddler series highlight the program's positive impact.

Parenting Information Sources.

The largest percentage of both study and control respondents reported relying most often on family and friends to provide them with parenting information during pregnancy and parenthood. Study group mothers, however, significantly increased their use of magazines and pamphlets from the first to the second interview ($t=-4.82; p<.001$). Also, at the post program interview significantly more study than control group mothers reported using books ($t=3.69; p<.001$) and magazines and pamphlets ($t=5.30; p<.001$) for their parenting information. The study mothers' increased use of books, magazines and pamphlets suggests that reading Parent Express might have promoted their use of printed parent education materials.

Parenting Information needs.

At the first interview, the largest percentage of pregnant teens reported needing information about baby health and safety, followed by baby nutrition, ways to teach baby, and managing the stress of motherhood, in that
order. At the follow-up interview, more of the study group than control mothers reported needing additional information on all topics, including baby development, ways to teach baby, managing stress, and games and toys for babies.

A summary need score, constructed for each respondent, reflected the total number of topics on which a mother reported needing more information. Each respondent's possible score on the scale ranged from zero (need no more information) to seven (need information on seven topics). The study group's perceived need for information increased significantly from pre- to post-program ($t = -5.28; p < .001$) and was significantly higher than the control group's perceived information needs at the follow-up interview ($t = 6.56; p < .001$).

A possible explanation for the discrepancy between study and control mothers' felt needs for parenting information may have to do with teen parents' inability to realistically assess their need for parenting information. Some teens may simply not know what information they lack. By reading *Parent Express*, study group mothers may have come to realize how much there was to know and, therefore, become eager for more information. Control group mothers, on the other hand, may have continued to believe they had all the information they needed or that was available about parenting. Supporting this assertion is the finding that a large proportion of study group mothers reported wishing they had had further information about topics emphasized in *Parent Express*—ways to teach baby, games to play with baby, and toys for baby. These topics differ from the information-needed topics chosen by control group mothers at post-program interview and study group teens during pregnancy.
HSQ Results

The results of the Home Screening Questionnaire corroborate the self-reported impact of the Parent Express. Typically, when parents receive an HSQ score of 32 or less--termed a risk score--these parents need further assessment to determine whether their children may experience developmental delays due to adverse parenting and environmental influences. In this study there was a significant relationship between group membership and respondents' HSQ scores ($X^2=9.6; p<.01$). Significantly more respondents who had received Parent Express (40%) had no-risk scores when compared with control mothers (17%). The percentages of mothers receiving risk scores in both groups, however, were high--60 percent for the study group and 83 percent for the control group--so that reading Parent Express, quite understandably, was not sufficient to compensate for the difficulties of teen parenting.

Chi-square analyses showed no significant relationships between HSQ score levels and participants' race ($X^2=1.55$) or participation in a parent education program ($X^2=.496$). HSQ score levels were positively related to the mother's age (and to grade level and employment which are correlates of age). Regardless of age, however, those teenage mothers who read Parent Express had significantly higher (better) HSQ scores than those who did not read it ($F=10.3; p<.01$).

A shortcoming of this study is that control group mothers did not participate in the pre-program interviews before their babies were born. There is, therefore, no way of comparing with certainty the changes the two groups underwent between pregnancy and post-program interviews. Statistical efforts were made to control for obvious differences--particularly age and participation in parent education programs--between study and control group mothers. There may have been other important differences, however, of which we were not aware.
IMPLICATIONS FOR SOCIAL WORK

These two studies suggest that mailed, age-keyed parent education booklets may positively influence parenting attitudes, beliefs, and practices of teenage parents and others who may be at risk of providing their infants with inadequate care and guidance. If mailed materials can help these parents with their parenting responsibilities, is it not possible that such materials could enhance social workers' services to other kinds of clients? We know that many people look to printed materials for personal help. Self-help books proliferate. Advice columns, magazines, news features and pamphlets which deal with personal and interpersonal problems are read by millions. Social workers are especially qualified to design and deliver written, prevention-oriented materials. We know fairly well how to identify populations which may be at risk of experiencing problems. We have some understanding of the kind of information these people need and want and some knowledge of how to communicate it in a helpful way and deliver it in an appropriate and timely fashion. That age-paced parent education programs benefit at-risk parents—who are known to confront significant problems with few resources—is grounds for optimism about helping other at-risk groups of concern to social workers.

Age-paced parent education booklets are successful partly because they reach people who are experiencing a life transition and, therefore, not only need assistance but are ready and able to use it. During the course of a lifetime, people face many such transitions—family dislocation, job loss, divorce, bereavement, retirement—during which they could be helped by written materials which provide them with information about their distress, give them ideas on ways to cope, and suggest resources and services which could provide
further assistance.

Clearly, mailed written materials cannot substitute for direct social and clinical services. However, just as clearly, with our limited supply of social workers and inadequate social and health budgets, we cannot provide personal services for all who need our help. To serve all those who need our services we need to expand our repertoire of helping methods. We suggest that written materials can valuably supplement our existing personal service methods, enable us to reach those who may not have access to services and provide some vulnerable audiences that measure of help and information needed to prevent or reduce future problems.
REFERENCES


### Table 1

**Analysis of Variance: Parents' Summary Influence Scores by Race, Education, Income, Age, and Marital Status**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>Mean Influence Score</th>
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<tr>
<td><strong>Race</strong></td>
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<tr>
<td>Minority</td>
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<td><strong>Education</strong></td>
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*P < .001