
The Multiplier Effect of the Health Education-Risk Reduction Program in 28 States and 1 Territory

MARSHALL W. KREUTER, PhD
GREGORY M. CHRISTENSEN, PhD
ANGELA DIVINCENZO, MS



CHRONIC DISEASES AND ACCIDENTS have replaced communicable diseases as the primary contributors to mortality, morbidity, years of life lost, and the spiraling costs of medical expenses; consequently, efforts to promote health and prevent chronic conditions are being scrutinized (1,2). The hope is, of course, that there is measurable truth in Ben Franklin's intuitive logic that "an ounce of prevention is worth a pound of cure."

The Health Education-Risk Reduction (HE-RR) Grants Program of the Public Health Service has constituted an unprecedented Federal effort to demonstrate the validity of Franklin's aphorism. Under the authority of Public Law 94-317, The Health Information and Health Promotion Act of 1976, the HE-RR grants program was conceived to provide economic support to States and Territories for establishing an organized approach to health education.

Funds for the HE-RR grants were made available through two distinct funding programs. Initially, a limited amount of money was made available through the Centers for Disease Control (CDC) to establish State-Level Risk Reduction Programs. The State level program would function as the primary unit in formulating an organized approach to health education,

health promotion, and risk reduction programs within the individual States and Territories.

The intent of CDC funding for State level programs was to give States needed economic support and technical assistance to increase the likelihood of eventually successful interventions. From the outset it was clear that these Federal funds were designed to help the 50 States and 4 Territories establish a sound foundation for health promotion efforts; monies would eventually be withdrawn or greatly reduced. It was assumed that by establishing an organized approach at the State level, support for health promotion programs would continue through the coordinated efforts of public, private business, and nonprofit groups. It was further assumed that such a strategy would not only generate spinoff health promotion programs for communities but also would reduce duplication of services; such a coordinated plan was likely to result in a more efficient use of increasingly scarce financial resources. Followup evaluation measuring the validity of these assumptions is now underway.

Within the framework of this approach to risk reduction, a second set of grants was made available to local communities for special intervention projects. Proposals sought under this solicitation for Federal funds were to focus on creative interventions designed to reduce behavioral risk factors; primary emphasis was placed on efforts that addressed tobacco use and alcohol abuse among youth. It should be noted that awards for the local level intervention projects were made on the basis of merit after a formal technical review. Projects were not prorated to States and Territories; however, States were encouraged to solicit proposals

At the time of the study, Dr. Kreuter was chairman, Department of Health Education, College of Health, University of Utah, Salt Lake City. He is now a Visiting Scientist with the Center for Health Promotion and Education, Centers for Disease Control, Atlanta, Ga. 30333. Tearsheet requests to Dr. Kreuter.

The other authors were with the Department of Health Education at the University of Utah; Dr. Christensen is an assistant professor of health education and Ms. DiVincenzo is a doctoral candidate.

from interested agencies throughout their State. Therefore, from the State level viewpoint, securing funding for local intervention projects would be one measure of success in the promotion of health.

The requirements of the local intervention grants were concise and grounded in sound planning principles. Grantees were required to submit proposals that (a) documented State or Territorial health needs and priorities, (b) revealed detailed plans for the development of a health promotion-disease prevention network, and (c) included evidence of either the existence or development of a statewide surveillance mechanism to provide and maintain a data base for monitoring the prevalence of selected risk factors. Each intervention project had to be a part of an organized approach within its community. Concurrently, State level programs were required to articulate with relevant university faculties so that technical assistance for program development and evaluation could be rendered as needed for local level intervention projects.

The intent of the State level dimension of the HE-RR Grants Program may be summed up as follows: A modest amount of money is available and will be awarded to States and Territories provided they are willing to take an organized, planned approach to the prevention effort with a commitment to avoid unnecessary duplication, maximize the use of existing local resources, target on specific problems, and document results.

The HE-RR program was planned as a 5-year federally funded endeavor. After 3 years, however, a shift in Federal funding policies removed the program from its categorical status and placed it into a State block grant mechanism. This mechanism was a reflection of the philosophy of President Reagan's Administration that States should assume greater responsibility for how Federal dollars are being spent. Groups of categorical grant programs were pulled together to form a single block. The HE-RR program was placed in the Federal prevention block, which consolidated eight existing categorical programs—emergency medical services, health incentive grants, hypertension control, rodent control, community- and school-based fluoridation, health education-risk reduction, home health services, and rape prevention and services (3). The money assigned to the 1982-83 blocks was generally equal to the sum of the 1981-82 appropriations for the programs in the block less 25 percent. The funding limitation meant that the several programs in the block must compete for levels of funding; some prospered, some were cut, and some were discontinued. In any case, the advent of block grants created financial

instability and left unresolved the question of program efficacy.

Evaluators faced with the task of assessing the worth of programs like the HE-RR effort, especially given the funding dilemma just mentioned, often find themselves between a rock and a soft place—the “rock” being the scientific and political pressure to provide solid quantitative evidence that the desired effect has been caused by the program and the “soft place” manifested by the complex phenomenological nature of health promotion and disease prevention. Consider some of those criteria that stand as hallmarks for good public health education evaluation: a plan for individual needs, use of multiple educational methods with a group or a single subject, and rejection of paternalistic manipulation in favor of voluntary participation. Paradoxically, these are the variables that researchers abhor because their very existence and interaction are likely to influence the study results. Like other observers (4-6), we believe that pure research paradigms are sometimes insufficient and often inappropriate for making judgments about the merits of a program like the one we are examining, especially its unique State level component.

Method

In seeking an alternative approach to evaluation, we re-examined the purpose of the HE-RR program. It seemed to us that the intent of the program was at least in part congruent with the definition of health promotion we have discussed elsewhere (7).

The process of advocating health in order to enhance the probability that personal (individual, family and community), private (professional and business), and public (federal, state and local government) support of positive health practices will become a societal norm.

We interpreted the intent to establish an organized approach to health promotion in the States and Territories as an effort to advocate healthful behavior by making educational resources and services readily available and accessible to more citizens. If that interpretation has validity, then one measure of success for the HE-RR endeavor might be reflected in the evidence that the program inspired or otherwise influenced the emergence of new health promotion efforts and outputs expressed in terms of the costs of those efforts and outputs. For the purpose of this evaluation, we have termed this multiplier effect the “new activity rate” (NAR), and we wanted to determine if such an effect indeed existed and could be measured. It should be emphasized here that we are not implying that the NAR is a reflection of health status or even of risk factor prevalence; the intent is to measure new health

promotion activity linked to the HE-RR program, not the outcomes of those activities.

The Conference of State and Territorial Directors of Health Education (CSTDHE) volunteered to send an open-ended questionnaire to the directors of health education in each of the 50 States and 4 Territorial health departments. The questionnaire, accompanied by a cover letter from the CSTDHE president, asked respondents to:

1. Identify and document new health promotion programs or activities which have come about as a direct result of your State-level program.

2. Provide the same information for the local intervention projects funded in your State or Territory.

3. Estimate the dollar costs to maintain these additional programs or projects for 1 year. Those surveyed were given instructions and guidelines for making cost estimates. Professional staff and program costs were based on existing budgets. Rates for volunteers' time were estimated at \$7.50 per hour based on an annual salary of \$15,250 for an entry level health educator.

To confirm the accuracy of the data collected, followup telephone interviews were conducted with a random sample of 30 percent of respondents. The interviews provided insight into the methodological problems in reporting. First, some believed that, had they been alerted to keep records on potential spinoffs at the outset, their responses would have been more accurate. As it was, all agreed that they probably underreported the number of spinoff programs; they included only those endeavors with which they had firsthand experience and knowledge. A second problem, related to the first, was that a few respondents had considerable difficulty in estimating program costs. The difficulty was attributed to the fact that not all respondents had a recordkeeping system. As a result, estimates of program costs may have varied according to the respondents' familiarity with a given program; this circumstance suggests that the figures reported were most likely underestimates.

Fifty-six percent of the States (28) and 1 of 4 Territories responded to the survey questionnaire. The inhabitants in these States represent slightly less than 50 percent of the total estimated U.S. population.

Findings

The table presents the CDC allocations to the States and Territories for both State level and local intervention projects; the table also provides the spinoff figures expressed in dollar estimates as generated by the survey. The sums in column A, the total funds allocated to individual respondent State level programs

for 1979, 1980, and 1981, serve as the denominator for calculating NARs. We used the 3-year sum for Federal allocations as the denominator for calculating NARs because we are trying to maintain conservative rate estimates. That is, time and effort spent in program startup activities tend to delay the opportunity to identify the outcomes that might result from a program effort of this kind.

Column B denotes the dollar estimate of State level program spinoff projects reported by each respondent and Column C, the total Federal allocation to individual respondents for their intervention projects for 1980 and 1981. The intervention grants were not prorated to States but were awarded in accordance with the project's technical merit; therefore, it was appropriate that individual States and Territories (in part due to their role as initiator) consider the intervention awards as part of their State level spinoffs.

Column D lists the dollar estimate for spinoffs from local intervention projects, and column E is simply the sum of columns B, C, and D for each survey respondent. It is important to note that spinoff projects were those new health promotion efforts judged by the respondents to have been influenced by the HE-RR program but funded by alternative sources. Survey results revealed a variety of program innovations and diverse funding sources including large and small businesses, insurance companies, schools, hospitals, volunteer agencies, State agencies, private foundations, and mass communications media.

For example, in Georgia, the State level HE-RR program stimulated the development and dissemination of a PTA school health curriculum in 11 school systems within the State over a 2-year period at a cost of \$106,000. North Dakota's State level program triggered the showing of a "Here's To Your Health" television series on Prairie Public Broadcasting; the operational cost of the series was \$38,000. In Utah, a supermarket chain invested more than \$50,000 in personnel, advertising, and capital outlay as the primary sponsor of a 3-day health fair in Salt Lake City. The fair provided educational programs, screening, and counseling and referral services to more than 50,000 Utahans. Also in Utah, the State level program was given \$20,000 by another State agency, the Highway Safety Department, to support a project in which infant safety restrainers were loaned to families participating in maternal and child health programs. The project was implemented in five local health departments.

The Maine HE-RR State level program developed an effective model for safe wood heating education, and the University of Maine Cooperative Extension Service disseminated the model statewide at a cost of

Federal allocations to State and local programs for health education-risk reduction programs and the spinoff effects in 28 States and 1 Territory

State	State level programs		Local intervention projects		Total spinoffs E (B+C+D)	Total estimates based on survey responses	
	Federal funds 1979-81	Spinoffs	Federal funds 1980-81	Spinoffs		Federal new activity rate F-NAR B÷A	State new activity rate S-NAR E÷A
	A	B	C	D			
Alabama	\$ 187,316	\$ 71,084	\$ 382,691	0	\$ 453,775	.38	2.42
Alaska	245,900	16,800	392,305	\$ 63,150	472,255	.07	1.92
Arizona	420,289	19,200	1,369,666	0	1,388,866	.05	3.30
Arkansas	201,105	11,000	0	0	11,000	.05	.05
Colorado	244,670	91,000	278,782	6,000	375,782	.37	1.54
Georgia	230,928	169,500	157,750	3,500	330,750	.73	1.43
Hawaii	191,656	45,490	534,356	21,487	601,333	.24	3.14
Illinois	163,858	27,200	176,941	67,050	271,191	.17	1.66
Indiana	211,892	27,035	240,992	2,000	270,027	.13	1.27
Kansas	281,554	135,230	620,897	0	756,127	.48	2.69
Kentucky	249,773	5,487	653,189	0	658,676	.02	2.64
Louisiana	147,968	64,800	0	0	64,800	.44	.44
Maine	241,078	128,100	69,181	0	197,281	.53	.82
Massachusetts	304,316	155,300	677,900	0	833,200	.51	2.74
Minnesota	297,853	442,550	350,103	0	792,653	1.49	2.66
Montana	201,714	81,250	0	0	81,250	.40	.40
Nebraska	200,259	7,800	65,303	42,804	115,907	.04	.58
North Carolina	290,618	55,500	593,473	0	648,973	.19	2.23
North Dakota	203,490	123,500	0	0	123,500	.61	.61
Ohio	677,402	55,000	2,052,569	255,000	2,362,569	.08	3.49
Oklahoma	173,225	102,000	68,511	0	170,511	.59	.98
Oregon	98,754	34,000	0	0	34,000	.34	.34
Pennsylvania	246,177	49,000	649,198	0	698,198	.20	2.84
Rhode Island	287,517	169,660	446,725	4,900	621,285	.59	2.16
South Carolina	209,499	29,600	206,659	7,335	243,594	.14	1.16
Utah	326,221	147,800	457,808	43,500	649,108	.45	1.99
Vermont	230,837	2,100	0	0	2,100	.01	.01
Virginia	256,182	12,663	678,571	5,600	696,834	.05	2.72
Virgin Islands	123,339	4,300	0	0	4,300	.03	.03
Total	\$7,145,390	\$2,283,949	\$11,123,570	\$522,326	\$13,929,845	.31	1.95

\$25,000. In Colorado, the Red Cross took the lead responsibility to produce a statewide directory of health promotion services; the total cost for producing 100,000 copies was \$28,000.

Applying the "organized approach," Minnesota's State level program coordinated an effort which generated \$31,000 to support the implementation of the school health curriculum project in Duluth's school system. Funds were contributed as follows: \$12,000 from the Minnesota State Interagency Volunteer Council, \$7,000 from the Minnesota Office of the American Heart Association, \$7,000 in Federal Title 4C funds from the State Office of Education, and \$5,000 from the Nutrition Education Training Program of the State Office of Education.

New activity rates were calculated at both the Federal and individual State level. To calculate a NAR stimulated by Federal support (F-NAR), which constituted the spinoffs generated by the State level allo-

cation, excluding awards for local level interventions, the following formula was used: column B divided by column A.

To calculate a State-level new activity rate (S-NAR), we added the 1980 and 1981 awards for local-level interventions to the numerator and applied this formula: column E divided by column A.

Conclusions

In this study it is assumed that an important, but often unmeasured, outcome of health promotion activities is the extent to which they are catalysts in generating new health promotion programs. Findings from the present survey strongly suggest that the HE-RR Grants Program did result in a multiplier effect, as evidenced by investments from the private, volunteer, and public sectors in the form of health promotion programs in the respondent States. Further, it was demonstrated that those effects could be quantified and measured;

therefore, we offer a means for calculating what we have termed a new activity rate, the NAR.

The calculated F-NAR for each respondent ranged from .01 to 1.49. Summing all State and intervention spinoff dollars and dividing that sum by the total CDC allocation to State level programs for all respondents, the average F-NAR was .31. Based on the responses obtained, the F-NAR of 31 percent constitutes a crude national estimate of new health promotion activities generated above and beyond the initial Federal investment. Of the 28 respondents, 9 States (33 percent) reported spinoff project dollars in excess of 50 percent of their total CDC State level allocations. All respondents reported at least some spinoff dollars.

State level new activity rates (S-NAR) were computed differently. In addition to the State level and intervention spinoff dollars, the monies obtained from the CDC intervention grants were added to the numerator. Using this method, S-NARs for respondents ranged from .01 to 3.48; the average S-NAR for all respondents was 1.95, nearly a 200 percent increase. Seventeen respondents (62 percent) matched or exceeded in spinoff dollars their total 1979-81 Federal-State-level investment. Eleven States (40 percent) showed gains that more than doubled their CDC State level investment.

Discussion

While awaiting the outcomes of programs as ascertained from long-term evaluations, we undertook this study to determine whether a modest amount of seed money invested in health promotion activities would have a multiplier effect resulting in new health promotion events or programs. In spite of methodological limitations, several aspects of this study are extremely encouraging and lead us to believe that the F-NAR of 31 percent is a conservative estimate of what the HE-RR Grants Program has probably generated. Applying the F-NAR (31 percent) to the total Federal-State-level allocation, it is appropriate to conclude that the Federal investment of \$12 million realized a 31 percent increase in health promotion "profits." In other words, the CDC HE-RR program generated nearly \$4 million worth of new health promotion activity; most of it was funded by the private or volunteer sectors of society.

Historical trends aside, we speculate that several factors, including the requirements of the HE-RR Grants Program, may have contributed to the NAR reported in the survey.

First, as mentioned earlier, applicants were obligated to take an organized approach to risk reduction programming. Objectives had to be delineated on the basis

of documented need; intervention and evaluation plans had to be presented in accordance with the objectives. The organized approach was emphasized not only on the basis of what was obvious in terms of theory, but also because CDC officials found only limited evidence that such specificity was used in the field. The quarterly HE-RR progress reports to CDC offer substantial evidence that the organized approach had indeed been planned and put into operation in every State sampled.

A second element of the grants required that States either strengthen or establish contacts with agencies or groups in order to form a risk reduction network. The goal was to enhance communication among multiple groups in an effort to maximize resources and reduce unnecessary duplication. Even though the quarterly reports indicate a general increase in these networks at the State level, there appeared to be considerable variance in both the sophistication and use of these networks.

A third component of the grant program required States to consult with relevant faculty at local universities (within the State or in geographic proximity) to obtain technical assistance, especially for program evaluation for smoking and alcohol projects. Again, the quarterly reports document such consultation, but the efficacy of the exchange cannot be determined immediately. The three grant requirements just described were augmented by training workshops and consultations jointly organized by CDC and the several States and Territories. This training endeavor may have been a salient factor in activating spinoffs at the State and local levels.

Another contributing factor may have been the increase in State level health education personnel from 200 in 1979 to 600 in 1981, most of it attributable to HE-RR resources. This increase was documented in an unpublished survey conducted by CDC's Center for Health Promotion and Education. Further, the personal competencies of State and local level personnel and the degree of administrative support at the local level undoubtedly were important in these endeavors. Additional analysis is needed to determine which factors, either independently or in combination, account for most of the magnitude of the gain detected.

Finally, we would be remiss not to discuss briefly the potential usefulness of a concept like the new activity rate in the political arena. Health promotion advocates, like most helping professionals, are committed to their work and believe in the personal and social benefits attributed to it. Others are less sure of those benefits. Most often those others are the decision makers whose task it is to distribute resources for health

and welfare, and it takes more than belief and zeal to influence their views and actions.

By now decision makers have gotten the message that prevention efforts, especially those involving lifestyles, require time to yield detectable improvements in health status. The application of the NAR concept may prove useful as an indicator of substantial and real "profits," expressed in economic terms, to the citizens of a State or local community. The gain reflected by the NAR calculation may be interpreted as concrete evidence of the private sector's willingness to invest in health promotion activities. In this case it appears that such investment followed a well-planned model initiated by the government in the interest of public health. By bringing this economic perspective to budget meetings and finance subcommittee reviews, risk reduction workers and other health promotion advocates add a dimension to their case with which fiscally minded decision makers can identify.

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SYNOPSIS

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The multiplier effect of the Health Education-Risk Reduction (HE-RR) Grants Program funded by the Public

Health Service is examined to identify outcomes for the period 1979-81. Responses to a questionnaire from the directors of health education of 28 States and 1 Territory supplied the information concerning new health promotion activities generated by the program. The directors were asked to identify and give cost estimates of new activities that resulted from State-level and local intervention projects.

A method for calculating the extent to which the HE-RR program influenced new health promotion activities that were funded by alternate sources was devised. The calculation, termed the new activity rate, was applied to the survey data. Rates calculated for the HE-RR program revealed that it generated nearly \$4 million in new health promotion activities, most of them funded by the private and voluntary segments of society.