Control of Stress and Violent Behavior: Mid-course Review of the 1990 Health Objectives

MORTON M. SILVERMAN, MD
THOMAS L. LALLEY, MA
MARK L. ROSENBERG, MD, MPP
JACK C. SMITH, MS
DELORES PARRON, PhD
JOAN JACOBS, MPH

Dr. Silverman was Associate Administrator for Prevention in the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) when this report was prepared. He is now Director, Student Mental Health Service, University of Chicago. Mr. Lalley was Deputy Chief of the Antisocial and Violent Behavior Branch in the National Institute of Mental Health (NIMH); he is now Chief of the Institute's Biometric and Clinical Applications Branch. Dr. Rosenberg was Chief, Violence Epidemiology Branch, Centers for Disease Control (CDC), when this material was compiled; he is now Assistant Director for Science, Division of Injury Epidemiology and Control, Center for Environmental Health, CDC. Mr. Smith is Chief, Research and Statistics Branch, Center for Health Promotion and Education, CDC. Dr. Parron is Associate Director for Special Populations, NIMH. Ms. Jacobs was a Program Analyst in the Office of Prevention, ADAMHA, when the report was prepared; she is now with the Extramural Associates Program, Office of Extramural Research, National Institutes of Health.

Tearsheet requests to Morton M. Silverman, MD, 5743 S. Drexel Ave., Chicago, IL 60637.

Synopsis

Control of stress and violent behavior is 1 of the 15 priority areas addressed in the 1990 health objectives for the nation. For control of stress, improved awareness of appropriate community service agencies and increased scientific knowledge of stress effects are the main objectives. For control of violent behavior, the objectives focus on three major problems: (a) deaths from homicide among young black males, (b) adolescent suicide, and (c) child abuse.

Since the last progress report, published in 1984, more than 200 research projects directly related to these objectives have been funded, and a variety of implementation actions have been undertaken. During this period, baseline data on such critical concerns as homicides among blacks and Hispanics, suicide, family violence, and perceived stress have been obtained, thereby encouraging further study and facilitating achievement of the objectives.

The mid-decade status report and recommendations that are presented in this article were initiated in a September 1985 review, by the Acting Assistant Secretary for Health, of progress toward achieving the 10 stress and violent behavior objectives selected for Federal implementation by the year 1990. The most recent available data have been used to update information on these 10 priority objectives.

THE FEDERAL ROLE in setting a national agenda to control stress and violent behavior has evolved through three stages since the late 1970s. Each stage is marked by a major policy-clarifying publication. In the first (*1*), the Surgeon General emphasized the need to minimize the destructive consequences of stress by preventing its occurrence or reducing its severity and by improving the coping skills of persons under stress. Subsequently, the Department of Health and Human Services (DHHS) (*2*) broadened the area of concern to include violent behavior. Fourteen national targets were identified to be attained by the year 1990. In 1983, 10 of these were designated as Federal priorities for national implementation (*3*). More than 70 implementation steps were developed to be pursued by Federal agencies working to control stress and violent behavior in the U.S. population.

The Federal implementation plans called for DHHS to support activities in both the Federal and non-Federal sectors consistent with the classic Federal roles of leading, catalyzing, and providing strategic support. Partnerships with State, local, and private organizations were formed to supplement this effort. Much of the Federal role was to assist these entities in identifying synonymous needs and priorities and suggesting methods to accomplish mutual goals.

Lead responsibility for achieving the 1990 objectives based on control of stress and violent

behavior was assigned to the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), which delegated specific responsibility to a component agency, the National Institute of Mental Health (NIMH). NIMH carries out collaborative activities with other agencies in supporting research, disseminating information on research, providing technical assistance, and mobilizing community resources in cooperation with the private sector.

Other participating agencies within DHHS are the Centers for Disease Control (CDC); the Office of Human Development Services (OHDS)—including the National Center on Child Abuse and Neglect (NCCAN), the Administration on Children, Youth, and Families (ACYF), and the Administration on Aging (AOA); the Health Resources and Services Administration (HRSA); and the Office of the Assistant Secretary for Health (OASH)—including the National Center for Health Statistics (NCHS) and the Office of Disease Prevention and Health Promotion (ODPHP).

Status Report

The 10 specific priority objectives selected for Federal implementation are directed at improving the health status of certain populations, increasing awareness of the physical and mental health hazards associated with stress and violence, improving services and protection for individuals needing help, and improving the means of surveillance and evaluation (*3*).

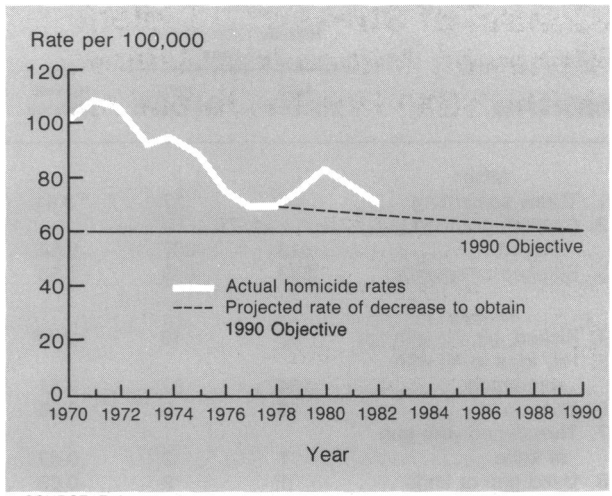
Monitoring activities, indicators of progress (when available), and major accomplishments are summarized under each objective. As a rule, examples and recommendations have been selected from findings developed since the last Assistant Secretary for Health progress report, which was published in 1984 (*4*). Four additional objectives (*2*) are also reviewed briefly. Current priorities are stated, and some comments on possible mid-course modifications in the implementation plans are offered in the concluding section.

Improved Health Status

1. By 1990, the death rate from homicide among black males ages 15 to 24 years should be reduced to below 60 per 100,000. Baseline: the 1978 homicide rate for this age group was 70.7 per 100,000.

Homicide is the leading cause of death for black males in this age range. Since 1970, homicide

Figure 1. Homicide rates for black males 15-24 years, United States, 1970-82



SOURCE: Reference *6*.

deaths among young black males have decreased by 33.5 percent, but homicide victimization rates for black males 15 through 24 years of age are still six times as high as rates for white males in the same age range. Virtually no reduction has occurred in the homicide rate for black males in this age range since the 1990 objectives were first announced (fig. 1). Although there has been a significant decline from a recent peak in 1980, the overall rate has not kept pace with the projected rate of decrease to obtain the 1990 health objective. Older black men also face a very high risk for death from homicide. In 1981, the homicide rate for black men in the 25 through 34 age range was 136.9 per 100,000 as against 17.6 for white men in the same age group.

In FY 1984, NIMH and CDC joined forces to improve baseline and monitoring data on homicide deaths among young black men. CDC established a new surveillance system in 1985 that combines data from the Supplementary Homicide Reports file of the Federal Bureau of Investigation with data from the National Vital Statistics System. This new system provides better surveillance and more refined reporting for minority population subgroups (*5*). The availability of these data provided the first detailed examination of homicide among blacks and Hispanics (*6*). The report, issued in 1986, included an analysis of FBI and national vital statistics data as well as data on Hispanic homicides in five southwestern States and found that "For each race category, homicide rates were highest in the West. In the Southwest, Hispanics were at intermediate homicide risk, with

Table 1. Comparison of rates of parent-to-child violence in two-caretaker households in 1975 and 1985

Type of violence	Rate per 1,000 children 3–17 years [1] 1975 (N = 1,146 [2])	1985 (N = 1,428 [3])	t for 1975–85 difference
Minor			
1. Threw something	54	27	[4] 3.41
2. Pushed, grabbed, shoved	318	307	0.54
3. Slapped or spanked	582	549	1.68
Severe			
4. Kicked, bit, hit with fist	32	13	[5] 3.17
5. Hit, tried to hit with something	134	97	1.41
6. Beat up	13	6	0.26
7. Threatened with gun or knife	1	2	0.69
8. Used gun or knife	1	2	0.69
Violence indexes			
Overall violence (1–8)	630	620	0.52
Severe violence (4–8)	140	107	[5] 2.56
Very severe violence (4,6,8) "child abuse" for this article	36	19	[4] 4.25

[1] At least 1 child 3–17 years at home.
[2] A few respondents were omitted because of missing data on some items, but the *N* is never less than 1,140.
[3] A few respondents were omitted because of missing data on some items, but the *N* is never less than 1,418.
[4] $P < .01$.
[5] $P < .001$ (2-tailed tests).
SOURCE: Reference *12*.

lower rates than those of blacks, but almost three times the rate of non-Hispanic whites (Anglos) in the region. Certain patterns of homicide mortality in the United States were common to all race and ethnic groups. Specifically, homicide rates were highest among males and among young adults; at least half of all victims were killed with firearms, most of which were handguns; most homicides occurred during the course of an argument or other nonfelony circumstance; and most victims knew their assailants. While identifying high-risk racial and ethnic groups helps to target resources and programs for homicide research and prevention, these common patterns suggest that preventive interventions may be applicable to the entire population."

CDC collaborated with the University of California at Los Angeles in a study of approximately 5,000 homicides in the City of Los Angeles between 1970 and 1979. This study revealed important differences in homicide victimization patterns among blacks and Hispanics during a period when the Los Angeles homicide rate increased by 84 percent (*7*). "Three groups had a particularly high risk of homicide victimization: black males age 15 or older, black females 15–44 years of age; and Hispanic males age 15 and older. Among black victims, homicides were generally committed in a home, with a handgun, and were precipitated by verbal arguments. For black males, the offender was most often a friend or an acquaintance; for black females, the offender was most often the woman's husband. Among Hispanic males, homicides were generally precipitated by verbal arguments, physical fights, criminal activity, or gang warfare; offenders were usually friends, acquaintances, or strangers, not family members or intimates. Homicides were most likely to occur in the street, by means of handguns or cutting instruments."

A recent Subcommittee report of the Secretary's Task Force on Black and Minority Health (*8*), focusing on problems of black and Hispanic homicide, noted that many—if not most—homicide victims have previously been involved in serious nonfatal violence (for example, family violence or aggravated assault). Because such nonfatal violence often comes to the attention of hospital personnel and other health care providers, the health care system holds a significant potential for improving identification of, and intervention with, individuals at elevated risk for homicide.

The problem of homicide among blacks is being explored further in meetings and workshops with persons in the health sector. NIMH sponsored a December 1984 workshop in Philadelphia that brought together researchers who, by using hospital emergency room data rather than relying exclusively on police records, were developing new insights into serious nonfatal violence. The Surgeon General convened a national workshop on violence and public health at Leesburg, VA, in October 1985 which, for the first time, focused the attention of the public health community on violence as a priority problem. During the same month, the New York Academy of Medicine held a 2-day symposium, "Homicide: The Public Health Perspective," which served to extend the ideas and energy generated at the Leesburg meeting to the broader medical community.

The connection between homicide and alcohol use is also of concern. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has estimated that at least one-half of all U.S. homicides involve alcohol use (*9*). CDC staff reviewed the homicides that occurred in Los Angeles between 1970 and 1979 in collaboration with the Department of Justice and with the University of

California Neuropsychiatric Institute and found that alcohol had been detected in the blood of 46 percent of the 4,092 victims tested (*10*). In 30 percent of those tested, the blood alcohol level was greater than 100 mg per 100 ml., the legal level for intoxication in most States. Blood alcohol levels were present most frequently in victims who were male, young, and Hispanic. Alcohol was also detected with high frequency in victims who were killed on weekends, in bars or restaurants, in physical fights or verbal arguments, by friends or acquaintances, or by being stabbed.

High homicide rates also are related to psychological factors, environmental determinants, and physiological variables. The relationships among homicide, handgun availability, and alcohol or drug use need further study to determine the extent that these risk factors are subject to reduction through concerted efforts of health care providers and others.

2. By 1990, injuries and deaths of children inflicted by abusing parents should be reduced by at least 25 percent. Baseline: reliable data not available; estimates vary from 200,000 to 4 million cases of child abuse occurring each year in this country.

3. By 1990, the reliability of data on the incidence and prevalence of child abuse and other forms of family violence should be greatly increased.

Action to prevent and reduce child abuse and other forms of family violence has been hampered by the lack of recent national data on the incidence and prevalence of these problems. Two major studies, now under way, should serve to remedy this situation. Shortly after the objective was crafted, the National Study of the Incidence and Severity of Child Abuse and Neglect of 1980 reported an estimated incidence rate of 10.5 cases of child abuse and neglect for each 1,000 children in the population between birth and 18 years (*11*).

In September 1985, the National Center on Child Abuse and Neglect funded a followup study of the national incidence of child abuse and neglect that is surveying representative samples of the following groups: child protective services agencies; professionals located in schools, hospitals, juvenile courts, and other settings; and the general public. When available in 1988, data from this NCCAN survey will provide an additional yardstick for measuring the effectiveness of efforts to detect, prevent, and reduce child abuse.

Between 1980 and 1984, official reports of child abuse and neglect rose from 1,154,000 to 1,727,000, according to NCCAN. It should be remembered that abuse is substantiated in approximately 40 percent of the cases reported. In the 1980 national study of child abuse and neglect only one in three cases observed by professionals in communities was actually included in official reports to child protective service agencies. The current NCCAN study is an attempt to determine how reporting practices have improved.

Results of a new NIMH-supported national survey of family violence (*12*) suggest a contradictory finding, namely that progress has been made toward reducing family violence and associated injuries. A nationally representative sample of 3,520 households and oversamples of black and Hispanic persons were interviewed, for the following purposes:

- to obtain current data on the incidence of intrafamily physical violence, including abuse of children, spouses, parents, and siblings, and
- to obtain information on the immediate and long-term consequences of family violence, including physical injury, use of health and criminal justice services, and mental health problems.

This household survey used self-reported data to ascertain the extent of violence toward children and spouses. It excluded single-parent families or children under 3 years. When data from this survey were compared with national data collected 10 years earlier (*13*), the following results emerged:

- Although overall levels of parent-to-child violence remained stable between 1975 and 1985, the rate of very severe parental violence against children between 3 and 17 years in two-parent households declined by 47 percent (table 1).
- The rate of severe husband-against-wife violence in married or cohabiting couples decreased by nearly 27 percent during the same time period (table 2).
- Violence by wives against husbands remained relatively stable between 1975 and 1985.

(The initial national survey of family violence, conducted in 1975, was limited to currently married or cohabiting persons and did not collect data on children under age 3. Hence, although data on single parent-families and children under 3 years was obtained in the 1985 survey no comparison of these data can be made with the data collected 10 years earlier.)

The researchers who conducted both surveys believe that their findings reflect the increasing

Table 2. Comparison of rates of marital violence in 1975 and 1985

Violence index	Rate per 1,000 couples [1] 1975 (N = 2,143)	1985 (N = 3,520)	t for 1975–85 difference
Husband-to-wife:			
Overall violence (1–6).	121	113	0.91
Severe violence (4–8) ("wife beating")	38	30	1.60
Wife-to-husband:			
Overall violence (1–6).	116	121	0.57
Severe violence (4–8).	46	44	0.35
Couple:			
Overall violence (1–6).	160	158	0.20
Severe violence (4–8).	61	58	0.46

[1] A few respondents were omitted because of missing data on some items, but the *N* is never decreased by more than 10.
NOTE: See table 1 for definitions of types of violence (Nos. 1–8).
SOURCE: Reference *12*.

availability and impact of programs for the prevention and treatment of child abuse and wife beating in the United States (*12*). They caution, however, that these results also may reflect a decrease in willingness to report abusive behaviors, but they note that such reluctance could reflect progress in creating attitudes that oppose abusive behaviors as unacceptable. These researchers note that, despite encouraging trends, the minimum national estimate of the annual number of abused 3- to 17-year-olds in two-parent households is still more than 1 million, and more than 1.5 million wives are beaten each year in the United States.

Other activities undertaken in support of attaining these objectives include multi-site research funded by NCCAN to identify children's deaths inflicted by parents and other caretakers. This research aims to determine whether, when reports of child abuse have preceded such deaths, different responses to such reports by medical, social service, and child protection agencies might have prevented the child fatalities.

The NIMH Antisocial and Violent Behavior Branch currently supports research aimed at providing cross-validation of a screening instrument known as the Child Abuse Potential Inventory (CAPI). The CAPI can be used by child protective service workers, social service personnel, and health and mental health personnel to identify parents and caretakers who are at high risk of child abuse. NIMH also initiated a Child and Adolescent Service System Program (CASSP) in Fiscal Year 1984 to foster the development of improved statewide systems of mental health care for young people who, in many cases, are victims of child abuse and neglect.

HRSA has supported services and education programs to promote early identification and screening for child abuse and neglect, counseling services, and community support networks for abused children. In 1985, HRSA published and distributed to health departments in all States and Territories a technical information bulletin on child sexual abuse. HRSA, in cooperation with NCCAN, also revised "Child Abuse/Neglect/Sexual Abuse: A Guide for the Prevention, Detection, Treatment and Follow-up in BCHDA Programs and Projects" and distributed it to health departments in all States and Territories.

4. By 1990, the rate of suicide among people 15 to 24 years old should be below 11 per 100,000 population. Baseline: the 1978 suicide rate for this group was 12.4 per 100,000.

Suicide of young people is a major public health problem. Although youth suicide rates have been fairly stable since the baseline year of 1978, for young Americans 15 through 24 years, suicide rates increased markedly for all age and race groups between 1950 and 1980 (fig. 2), and quite dramatically between 1970 and 1980 (fig. 3). Although the current suicide rate has been at a relative plateau since 1978, this rate is almost three-fold higher than the 1950 level. Suicides among persons 15 to 24 years rose from being the third leading cause of death in 1983 to be the second leading cause in 1984. Currently, there is no empirical basis for a belief that the suicide rate for this age group will fall below 11.0 by 1990.

Males are far more likely to commit suicide than females, and the sex differential has widened. Between 1970 and 1980, 72.8 percent of all youth suicides were committed by males (*14*). In 1980 (table 3), the age-adjusted suicide rate for males of all ages—18.0 per 100,000—was more than three times the rate for females—5.4 per 100,000.

The age-adjusted suicide rate for whites (12.1 per 100,000) is nearly twice the rate for blacks and other nonwhite groups (table 3). In absolute numbers, 70 percent of 1980 suicides in the United States were committed by white males, 22 percent by white females, 6 percent by nonwhite males, and 2 percent by nonwhite females (*15*). A recent study of five States in the Southwest showed Hispanic males at less risk for suicide than white males, but at higher risk than black males (*16*).

Statistics compiled by HRSA highlight the

Table 3. Age-adjusted suicide rates[1] by race, sex, and year, United States, 1970–80

Year	White			Black and other			All races			Unadjusted rate
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
1970	18.2	7.2	12.4	10.3	3.3	6.5	17.3	6.8	11.8	11.6
1971	18.0	7.4	12.4	10.1	3.8	6.7	17.2	7.0	11.8	11.6
1972	18.4	7.3	12.6	11.8	3.6	7.4	17.8	6.9	12.1	11.9
1973	18.6	7.0	12.5	11.5	3.3	7.1	17.8	6.6	11.9	11.9
1974	18.9	7.0	12.7	11.6	3.2	7.1	18.1	6.6	12.1	12.0
1975	19.6	7.3	13.2	11.9	3.5	7.4	18.8	6.8	12.5	12.6
1976	19.0	7.0	12.7	12.1	3.4	7.4	18.3	6.6	12.1	12.3
1977	20.3	7.1	13.5	12.2	3.6	7.6	19.4	6.7	12.8	13.1
1978	19.0	6.6	12.5	11.9	3.2	7.2	18.2	6.1	11.9	12.3
1979	18.6	6.3	12.2	12.7	3.3	7.7	17.9	5.9	11.7	12.1
1980	18.9	5.7	12.1	11.3	2.8	6.7	18.0	5.4	11.4	11.9

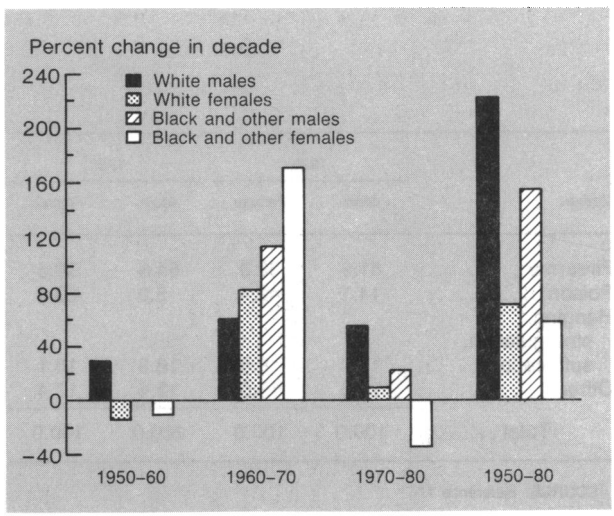
[1] Age-adjusted rates per 100,000 population were computed by the direct method of standardization, using the total population for 1940 as the standard population.
SOURCE: Reference *15*.

extraordinarily high suicide rates in American Indian and Alaska Native Reservation populations ages 15–24 years. In 1970, the suicide rates per 100,000 in this population were 26.6 for those 15 through 19, 41.0 for those 20 through 24, and 32.6 for the 15 through 24 age groups. The corresponding 1980 rates were 23.6, 38.1, and 30.3. It is encouraging that suicide rates in this population have dropped steadily since 1970, especially in recent years; in 1982, the corresponding figures were 20.1, 37.0, and 27.9.

Suicide methods vary by sex. Firearms provide the chief method among all males 15–24 years of age, accounting for 64.3 percent in 1980 (table 4) (*17*). For males, firearms as a means of suicide is more than three times more prevalent than hanging, strangulation, and suffocation combined, and more than 12 times more common than poisoning by gas, solids, or liquids combined. By 1980, firearms had also become the method most frequently used by females; poisoning by solids or liquids had previously been their leading method.

The most striking aspects of the change in suicide rates between 1970 and 1980 were (*a*) the large increase among males 15 through 34 years and (*b*) the consistent decrease in rates for women older than 24 years. During this 10-year period, suicides by males 15 through 24 increased by 50 percent, while the rate for females in the same age range increased only slightly. When compared with the 1950 data, the 1980 suicide rates reveal a new peak rate for males ages 15 to 34, which was never present before. Although not as dramatic, a similar trend is evident for young females as well (ages 15–34) (fig. 4). Suicide rates for all persons are almost 60 percent higher for those 20 through

Figure 2. Percentage change in suicide rates for persons 15-24 years by race, sex, and decade, United States, 1950-80



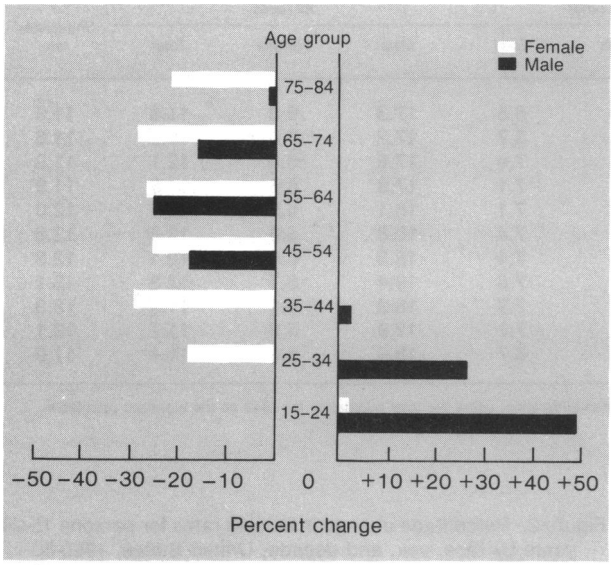
SOURCE: Reference *14*.

24 (14.8 per 100,000) than for those 15 through 19 years (8.7 per 100,000).

Suicide statistics are based on death certificates and are therefore generally considered to understate the true magnitude of the problem. Reasons for this include inadequate information as to the actual cause of death and certifier error or bias. To improve the accuracy of suicide data, CDC and NCHS have established a working group whose task is to devise a set of operational criteria for the classification of suicide.

Much more research is needed on factors that contribute to suicide, especially among youth. NIMH is supporting approximately 20 extramural research projects on this subject. These include investigations of epidemiologic, biological, psycho-

Figure 3. Percent change in suicide rates by age group and sex, United States, between 1970 and 1980



SOURCE: Reference *15*.

Method	1970		1980	
	Male	Female	Male	Female
Firearms	51.9	32.3	64.3	52.5
Poison	14.1	42.4	5.0	20.0
Hanging, strangulation, suffocation	17.0	8.8	18.3	10.1
Other	17.0	16.5	13.4	17.4
Total	100.0	100.0	100.0	100.0

SOURCE: Reference *17*.

logical, and behavioral aspects. In addition, with support from the U.S. Army, intramural NIMH research is looking at the brain chemistry of persons with temperament disorders associated with suicide and other violent acts. The roles of alcohol and other drugs are also being studied. Another set of studies is examining "suicide clusters" in the 15 through 19 age range for possible "contagion" effects of adolescent suicide.

Yet another area of potential suicide research, the psychobiology of suicidal behavior, was the subject of a September 1985 conference cosponsored by NIMH and the New York Academy of Sciences. This conference stimulated researchers from many disciplines to address systematically the interface between psychosocial and biological factors in suicidal behavior.

In May 1985, the DHHS Secretary's Task Force on Youth Suicide was created to bring the full resources of the Department to bear on this problem. Three working groups were established to study risk factors, prevention and interventions, and strategies for the future. Papers on various aspects of youth suicide were commissioned for presentation at national conferences. A final summary report prepared by the Task Force is due to be distributed in Fiscal Year 1988.

Increased Public, Professional Awareness

5. By 1990, the proportion of the population over age 15 years which can identify an appropriate community agency to assist in coping with a stressful situation should be greater than 50 percent. Baseline data not available.

Currently available evidence suggests that this objective will probably be attained by 1990. Although information on persons 15 through 17 years was not available, the 1985 National Stress Survey (*18*) showed that a majority of Americans older than 17 years could identify the following community agencies as able to assist them in a stressful situation:

- community mental health agencies (58 percent of respondents),
- child abuse services (52 percent of respondents), and
- crisis hotlines or help centers (43 percent of respondents).

Further progress toward accomplishing this objective will require sustained efforts to facilitate appropriate individual awareness of community resources where help is available.

6. By 1990, the proportion of young people ages 15 to 24 who can identify an accessible suicide prevention "hotline" should be greater than 60 percent. Baseline data not available.

Proxy data obtained from the first National Stress Survey (*18*) show that 43 percent of all respondents over 17 years knew of a suicide prevention hotline in their community. In the 18 through 29 age group, 41 percent could identify this service as being available. However, young people 15 through 17 years old were not in this data set, and we lack data for those who are 18 through 24 years old.

Because the toll from suicide among the 15-24 age group is so great, and because so little is known about the effectiveness of specific preventive interventions, additional research on this group and on the effectiveness of suicide prevention hotlines is needed.

7. By 1990, the proportion of the primary care physicians who take a careful history related to personal stress and psychological coping skills should be greater than 60 percent. Baseline data unavailable.

No national data are yet available to measure progress toward attaining this objective. In a survey of primary care physicians in Massachusetts (*19*), 50 percent of the respondents said they asked their patients about stress, only 29 percent said they felt "very prepared" to discuss the subject, and nearly 50 percent wanted to become better educated regarding stress.

NIMH has been working to improve the ability of primary care physicians to detect vulnerability to illness, including acute and chronic stress, and to make appropriate diagnoses for patients manifesting mental disorders. Medical schools and residency programs have been encouraged to develop model curriculums to teach physicians how to recognize and deal with stress-related problems of their patients. Departments of psychiatry have been encouraged to expand medical school curriculums to include stress recognition and management skills.

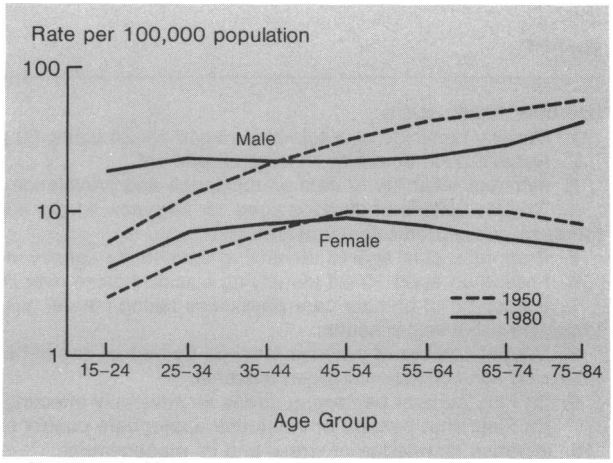
A major NIMH scientific information campaign, "Project D/ART" (Depression: Awareness, Recognition, and Treatment), focusing on depression, will be launched nationally in Fiscal Year 1988. The purpose of this national effort is to improve the clinical skills of all primary care and mental health professionals in recognizing and treating depression and related stress disorders of their clients.

Improved Services and Protection

8. By 1990, to reduce the gap in mental health services, the number of persons reached by mutual support or self-help groups should double from 1978 baseline figures. Baseline: In 1978, estimates ranged from 2.5 to 5 million Americans reached, depending on the definition of the groups.

Since the 1978 estimate was published (*2*), participation in such groups has grown rapidly and now exceeds the 1990 objectives goal. Current data suggest that between 12 and 14 million Americans

Figure 4. U.S. suicide rates by age group and sex for selected years



SOURCE: Reference *14*.

are involved in mutual support and self-help groups.

Groups of this kind are thought to be useful because they enable persons with similar experiences or problems to share social and emotional support and their knowledge of coping techniques. For most people, these groups may be the only available source of long-term intensive support, because they are voluntary or cost significantly less than standard fee-for-service treatments.

NIMH has been working with States and localities to stimulate formation of self-help groups and to publicize their availability. Consultation and technical assistance have been provided to coalitions and clearinghouses as well as to voluntary and professional mental health organizations. Changes in cultural norms toward favoring participation in such self-help groups as Alcoholics Anonymous and Al-Anon appear to have played a key role in achieving this objective.

More research is needed on the efficacy of self-help and mutual support groups. In May 1985, NIMH issued an announcement inviting proposals for research on the effectiveness of mutual-help groups in preventing or alleviating problems associated with bereavement. Studies on high-risk groups, such as bereaved children, poor and nonwhite families, and survivors of a family suicide, were especially encouraged.

Improved Surveillance and Evaluation Systems

9. By 1985, surveys should show what percentage of the U.S. population perceives stress as adversely affecting their health and what proportion of these are trying to use appropriate stress-control techniques.

Table 5. Status of the 10 priority 1990 objectives for the control of stress and violent behavior

Objectives	Likelihood of achievement by 1990		
	Certain	Probable	Unknown
Improved health status:			
1. Reduce homicide of black males aged 15–24 below 60 per 100,000			X
2. Reduce child abuse by at least 25 percent			X
3. Increase reliability of data on incidence and prevalence of child abuse	X		
4. Reduce suicide of persons aged 15–24 below 11 per 100,000			X
Increase public/professional awareness:			
5. Proportion over age 15 identifying community agency in stressful situation over 50 percent		X	
6. Proportion aged 15–24 identifying suicide hotline over 60 percent			X
7. Proportion of primary care physicians taking careful history of coping skills over 60 percent		X	
Improved services/protection:			
8. Double number of persons reached by mutual or self-help groups	X		
Improved surveillance/evaluation systems:			
9. (a) Find percent perceiving stress as adversely affecting health	X		
(b) Find what percent of these use appropriate control behavior		X	
10. Increase knowledge of stress and its management	X		

SOURCE: Office of Prevention, Alcohol, Drug Abuse, and Mental Health Administration.

Progress to date shows that the first part of this objective has been met and that the second part should be achieved by the end of this decade.

Experts from NIMH, CDC, the National Institutes of Health, ODPHP, and NCHS participated in an ad hoc panel to develop an instrument used in the first national survey of perceived stress among Americans (*18*). More than 2,300 telephone interviews were conducted with a representative national sample of adults during January and February of 1984. The response rate was 70 percent. The survey findings suggest the following:

- Stress is widespread, not restricted to a single socioeconomic group.
- Better-educated, higher-income professionals are more likely than other people to report that they are under stress.
- Low-income, less-educated people seem to exhibit more symptoms associated with stress, although they do not usually refer to the related experience as stress.
- More than 86 percent of the respondents believed that psychological stress exists, and 70 percent reported having personally experienced stress.

It is noteworthy that approximately one-third of those respondents who said they had experienced stress felt that it had a positive effect on their lives, another one-third felt that the effect was negative, and yet another third felt that it had no effect. Of the entire sample, 17 percent reported having had a health problem in the previous year that they felt had been caused by stress.

The limitations of this particular survey must be considered. It was a correlational study conducted at only one point in time. No definition of stress was used in the interviewing; instead, the respondents used their own interpretations of the term. Because this study was not longitudinal, having been conducted with a 2-month timeframe, no causal inferences can be made from the findings. Clearly, then, further research is needed to test the validity of these initial findings.

No definitive answers to the second part of this objective were provided by the stress survey. NIMH moved to close this gap by including questions on the use of stress-control techniques in the health promotion-disease prevention supplement of the 1985 National Health Interview Survey. Results of this survey indicate that of the 17 percent of the entire study sample who had thought about seeking help for their personal or emotional problems, 69 percent actually did seek help from family, friends, professionals, or self-help groups (*20*).

10. By 1990, the existing knowledge base through scientific inquiry about stress effects and stress management should be greatly enlarged.

Although this objective is not quantifiable, it clearly is being achieved. NIMH has initiated a number of activities designed to improve stress research and to increase scientific knowledge about the stress process. In 1982, NIMH provided funds to the National Academy of Sciences to prepare two reports outlining the research agenda to study the relationship between health and psychological

stress (*21,22*). These reports helped shape the NIMH research portfolio. In the past 2.5 years, the NIMH extramural research program has awarded more than 150 grants in the areas of stress and coping, covering a broad range of investigations. Included are epidemiologic studies, research on basic processes, and studies of the relation of stress to physical illness. Research on interventions and coping skills, designed to discover ways to prevent negative consequences of stress, is also being pursued. NIMH intramural researchers are investigating the biochemistry and neurophysiology of anxiety and fear, which are regarded as basic responses involving stress.

NIMH has published a number of prevention research monographs related to psychological stress and its effects (*23–26*). In May 1985, NIMH sponsored a scientific debate on how to define and research stress. This debate brought together 15 internationally known experts who prepared statements regarding the definition of stress and the conceptual frameworks used in research on psychological stress. Although no consensus was reached, the resulting report has served to clarify the evolving research questions and methodologies (*27*).

Further expansion of the knowledge base will depend on developing, testing, and refining a coherent conceptual foundation for conducting sophisticated research on stress. Still lacking is sufficient knowledge about assessment of stressful life events, the circumstances under which stress precipitates or enhances disorders, and the processes through which external stress becomes internalized. Longitudinal studies, in particular, are needed to measure both the health consequences of stress and the relative effectiveness of various stress-control techniques.

Additional Objectives

Four 1990 objectives in the areas of stress and violent behavior are not in the high priority group. Progress to date on achieving these is summarized subsequently.

By 1990, stress identification and control should become integral components of the continuum of health services offered by organized health programs.

To date, implementation efforts in this area have focused on primary care providers and on achievement of the objective regarding careful history taking by physicians (see objective 7 mentioned previously).

By 1990, of the 500 largest U.S. firms, the proportion offering work-based stress-reduction programs should be greater than 30 percent.

Preliminary data from the ODPHP National Survey of Worksite Health Promotion Programs are currently being analyzed. This information will provide an initial basis for measuring potential progress toward meeting this objective.

By 1985, a methodology should have been developed to rate the environmental stress loads of major categories of occupations.

A methodology is currently under development by the National Institute of Occupational Safety and Health. This objective is expected to be met by 1990.

By 1990, the number of handguns in private ownership should decline by 25 percent.

Progress toward meeting this objective cannot be measured at this time because the necessary tracking data are not available. Statistics collected by the Bureau of Alcohol, Tobacco and Firearms on manufacture and importation of handguns into the United States (approximately 2 million per year) indicate that the number of handguns in private ownership has increased since 1978. Public policies with respect to the manufacture, importation, sale, and ownership of handguns are established at Federal, State, and local levels and often do not incorporate a public health perspective. In the absence of major changes in existing policies, the number of firearms in private ownership is not likely to decrease.

Conclusion

By articulating the objectives for the control of stress and violent behavior, the Public Health Service initiated a process for coordinated efforts at various levels. Because the objectives are diverse, progress to date has been uneven. In some arenas, a scientific basis for measuring progress still needs to be developed. In others, the initiative has prompted the establishment of new national data that will provide information needed to determine the nature and extent of the problem and develop appropriate intervention strategies, as well as track progress toward resolution.

Table 5 outlines the likelihood of achieving each of the 10 priority objectives, as determined from progress to date. For the remainder of the 1980s,

ADAMHA is recommending that the highest priorities should be assigned to the following areas:

- expanding the knowledge base,
- validating and refining key baseline data,
- assessing the efficacy of preventive interventions,
- stimulating and expanding collaborative efforts to increase and sustain public and professional awareness.

A number of factors will influence implementation activities in the future. New research findings will improve knowledge of stress and violent behavior. Continued attention to stress and related health problems paid by health and mental health personnel will advance our understanding of the clinical relationship between health and behavior. Of real significance, too, will be forthcoming recommendations of the Secretary's Task Force on Youth Suicide and the increasing attention to minority health needs that has been stimulated by the Secretary's Task Force on Black and Minority Health.

Given the increasing cooperation among Federal, State, local, and community leaders in working to achieve the 1990 objectives, we can look forward to additional gains in the control of stress and violent behavior in the coming years.

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Measles Outbreaks in Religious Groups Exempt from Immunization Laws

THOMAS NOVOTNY, MD
CHARLES E. JENNINGS
MARY DORAN, MS
C. RALPH MARCH
RICHARD S. HOPKINS, MD
STEVEN G.F. WASSILAK, MD
LAURI E. MARKOWITZ, MD

Dr. Novotny is a Medical Epidemiologist with the Centers for Disease Control's Office on Smoking and Health. He was an Epidemic Intelligence Service Officer assigned to the Colorado Department of Health, Field Services Division, Epidemiology Program Office, CDC. Mr. Jennings and Mr. March are Public Health Coordinators, Illinois Department of Health. Ms. Doran and Dr. Hopkins were with the Colorado Department of Health's Disease Control and Epidemiology Division. Dr. Hopkins is now with the Ohio Department of Health. Dr. Wassilak and Dr. Markowitz are with CDC's Center for Prevention Services, Division of Immunization.

Nola Kramer of the Jersey County, IL, Health Department assisted in the investigation and control activities. Leo Goretkin, MD, of Centers for Disease Control, reviewed pathologic specimens.

Tearsheet requests to Dr. Thomas Novotny, Office on Smoking and Health, 1-10 Park Building, Rockville, MD 20857.

Synopsis

State immunization laws which exempt religious groups present difficult problems in disease control in measles epidemics. Two outbreaks are described, 136 cases in a college for Christian Scientists, and 51 cases associated with a camp attended by Christian Scientists.

Control measures at the college included immunization and quarantine. An alternative strategy at the camp consisted of dispersal of exposed persons from the camp and their being quarantined in their home States. Three deaths (case-fatality ratio = 2.2 percent) were reported at the college; no serious complications were reported from the camp-associated epidemic. No transmission into the general community occurred in either epidemic.

Public health officials are encouraged to be aware of the legal rights and obligations of religiously exempt groups so that outbreaks in these groups can be effectively controlled, even if standard immunization strategies are not possible. Early reporting and rapid case identification, investigation, and quarantine or vaccination procedures by public health workers are necessary for disease control in these settings.

BEFORE MEASLES VACCINE was licensed in 1963, about half a million cases of measles (rubeola) were reported annually in the United States, resulting in 400 to 500 measles-associated deaths (*1*). In 1978, the Centers for Disease Control (CDC) announced the goal of eliminating measles in this country.

Components of the Measles Elimination Program include attaining and maintaining high levels of immunity, careful surveillance of the disease, and aggressive control of outbreaks (*2*). The elimination program has resulted in a more than 70 percent decrease in the number of cases reported since 1978 and a 99 percent decrease from the number reported in the prevaccine era (*3*).

One of the major means of ensuring high immunization levels is the requirement for the immunization of school children. However, all States except West Virginia and Mississippi allow exemptions to this requirement based on religious beliefs (*4*). Because persons exempt for religious reasons may not be randomly distributed in the