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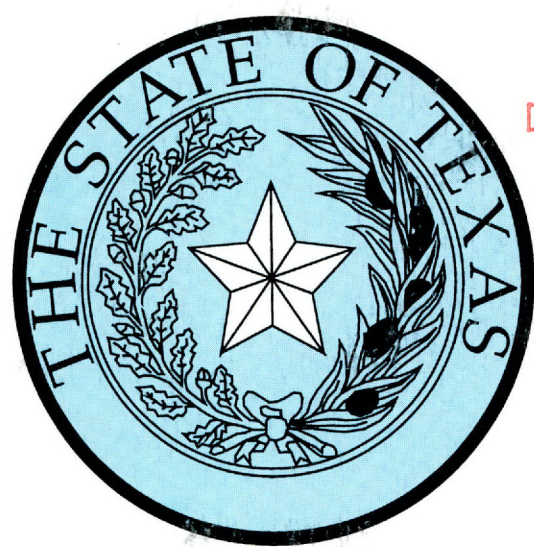
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STATE OF TEXAS
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AUSTIN, TEXAS 78711

ANN W. RICHARDS
GOVERNOR

December 15, 1992

A. Bryan Spires, Jr., M.D., Chair
Statewide Health Coordinating Council
1100 West 49th Street
Austin, Texas 78756

Dear Doctor Spires:

By this letter I am approving the 1993-94 Texas State Health Plan as adopted by the Statewide Health Coordinating Council on October 6, 1992. The plan represents a cooperative effort among state, regional and local levels of health planning. It should assist in developing realistic solutions to the issues we face in planning for the health needs of our citizens.

I am glad to see that you have focused this plan on access to primary and preventive health care services, and that you have worked with the Health Policy Task Force in developing a plan that can be implemented by maximizing existing resources. I encourage you to continue to work with the Health and Human Services Commission to adjust the health plan to our changing needs.

Sincerely,

A handwritten signature in cursive script that reads "Ann W. Richards".

ANN W. RICHARDS
Governor

AWR/nmo



NO882094 002

Texas Statewide Health Coordinating Council

1100 West 49th Street
Austin, Texas 78756
(512) 458-7261

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October 15, 1992

The Honorable Ann W. Richards
Governor of Texas
State Capitol
Austin, Texas 78711

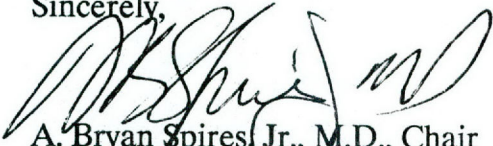
Dear Governor Richards:

On behalf of the members of the Statewide Health Coordinating Council, I am pleased to forward to you the 1993-94 Texas State Health Plan. Your approval of this plan will culminate many months of work by the Council in identifying key issues in Texas health policy and proposing actions to bring about needed changes.

Every effort has been made by the Council to produce a plan that fosters a positive, concise approach to primary and preventive health care services and one that has the potential for implementation during the next biennium. As you know, state law requires the relevant Texas state agencies to address the plan's recommendations in their general revenue appropriations request. The challenge, as seen by the Council, has been to develop workable yet cost-effective recommendations for legislators and health policy-makers.

So that implementation efforts may commence, we respectfully request your approval of this plan at your earliest convenience.

Sincerely,



A. Bryan Spires, Jr., M.D., Chair
Statewide Health Coordinating Council

Enclosure

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**1993-94
TEXAS
STATE HEALTH PLAN**

TEXAS STATEWIDE HEALTH COORDINATING COUNCIL

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1993-94 TEXAS STATE HEALTH PLAN

TEXAS STATEWIDE HEALTH COORDINATING COUNCIL

STATEMENT OF THE CHAIR

Sixteen years ago the Texas Statewide Health Coordinating Council produced the first Texas State Health Plan. In reviewing this first plan published in 1979, it is interesting to note the similarities and the differences in the health status of Texans then and now. Problems such as lack of access to health care, rising costs, minority health problems, teenage pregnancy, drug and alcohol abuse, access to prenatal care, and infant mortality were all identified as issues in 1979.

These concerns still exist today, but in addition AIDS has been identified as the tenth leading cause of death in Texas. Tuberculosis has come back with a vengeance, bringing deadlier, drug-resistant strains, and declining immunization of children has led to killing measles epidemics. Increasing numbers of Texas children are subjected to child abuse, and death from firearms now is the leading cause of deaths due to injury.

At a time when the demands for health care services are increasing rapidly, our public and private systems for providing these services are under great stress. More Texans are without health insurance than residents of any other state. The Governor's Health Policy Task Force is preparing proposals for organizing and financing essential health services for all Texans. Also in progress is a major reorganization of Texas' health and human services agencies - aimed at coordinating and consolidating services across the state.

Probably the most striking theme in 1993-94 State Health Plan is the recommendation that prevention be the number one priority in the ongoing struggle against health problems. Also, we strongly advocate that primary care be stressed as we restructure our health care system. The time has come to change the incentives from *treating* health problems to *preventing* them. We have the knowledge and the ability to prevent much disease, disability and unnecessary death. Focusing on prevention and primary care will yield great benefits for all Texans in improved health and well-being and in containing the rapidly escalating financial and social costs of health-related problems. Meeting Texas' current and future health challenges requires this change.



A. Bryan Spires, Jr., M.D., Chair
Texas Statewide Health Coordinating Council
1100 West 49th Street
Austin, Texas 78756

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1993-94 TEXAS STATE HEALTH PLAN

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1993-94 TEXAS STATE HEALTH PLAN

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INTRODUCTION

FOCUS OF THE 1993-94 STATE HEALTH PLAN

The Texas State Health Plan is developed biennially by the Texas Statewide Health Coordinating Council (SHCC) as a guide to help Texas decision-makers formulate cost-effective health policies and programs and determine the resources needed to conduct those programs. The plan represents a large-scale cooperative effort to provide direction for refining and implementing essential health programs in Texas. It identifies major statewide health concerns, recommends strategies to resolve these concerns, and analyzes the need for various types of health facilities and services. The overarching goal is to assure equitable access to needed health care services -- at affordable prices -- for all Texas residents.

The focus of the 1993-94 Texas State Health Plan is the individual. There are many complex national and state issues to be addressed in reforming health care, issues ranging from spiraling costs to alcohol and chemical dependency. Fortunately, there are tools to address many if not all of these critical areas of concern. Preventive and primary care have proven to be effective means of improving and maintaining health throughout the stages of an individual's life. This state health plan follows five stages of the life cycle, perinatal/infant, pediatric, adolescent, adult, and elderly; at each stage the plan looks at ways that preventive and primary care services could be used to improve the health of individuals. In addition, attention is given to the special health concerns of minority populations, residents of border and rural communities, and people with disabling health conditions.

This state health plan provides more than one hundred recommendations for actions to improve Texans' health. Implementing the plan will require efforts by the legislature, state agencies, and public and private sector providers. There is a role for business and for health insurance companies. One "economy" found in the plan is that the same recommendation or series of recommendations can apply to more than one stage of the life cycle or health care concern. In many cases the cost of the recommendations is minimal, and some of them can be accomplished through a redirection of existing resources. As

with any planning effort, the state health plan is only as good as its implementation. The challenge with this plan will be to take a fresh look at the most effective ways of spending the state's health care dollars and to be willing to invest in methods that will "pay off" in preventing or ameliorating more serious and costly health conditions.

HEALTH PLANNING IN TEXAS

Statewide Health Coordinating Council (SHCC)

The Texas Health Planning and Development Act, now Chapter 104, Health and Safety Code, established the health planning process for the state in 1975. Originally based on federal law, the Act was amended in 1985 to provide a health planning process specifically for Texas. The SHCC is composed of 21 members who are appointed by the governor from across the state. The federal health planning legislation originally required that statewide health coordinating councils be comprised of consumer majorities, and Texas' governors have continued to follow this precedent even after repeal of the federal health planning law.

Council members are appointed for staggered two-year terms, providing for a change in one-half of the SHCC membership during each planning cycle. The SHCC is responsible for developing policy recommendations, guiding the development of the plan, adopting the plan for presentation to the governor for approval and overseeing the plan's implementation.

The state has maintained a commitment to health planning, and the SHCC has continued to foster the efforts to plan for an efficient health care service delivery system. In 1991 the 72nd Texas Legislature passed two bills, House Bills (HB) 7 and 2009, both of which made strategic planning a mandated activity in Texas. This action is seen by the SHCC as another opportunity to fulfill its coordinative responsibilities, in that the SHCC is the only statewide health planning group comprised of a majority of consumer and citizen members.

The Texas Department of Health (Bureau of State Health Data and Policy Analysis) serves as the

(SHPDA) as specified in the Act. Bureau staff are responsible for conducting research and developing plan issues and recommendations to be considered by the SHCC. Following a period of public comment and a review by the Texas Health and Human Services Commission, the plan, as adopted by the SHCC, is forwarded to the governor for approval.

State agencies affected by recommendations in the plan are required to determine the costs of implementing these recommendations and to report whether these costs are included in the agencies' biennial appropriations request. The SHPDA is required to provide the Legislative Budget Board and the Governor's Office of Budget and Planning a summary of these cost reports by November 1 of even-numbered years.

The SHCC continues to coordinate the development and implementation of the State Health Plan with other health and health-related agencies, boards, associations, advocacy groups and individuals. This is done by assuring that these groups are notified of and encouraged to attend all meetings of the SHCC, to include SHCC members in their planning activities as appropriate, and by reviewing the plans of groups such as the Texas Cancer Council and the Diabetes Council.

The Texas Health Policy Task Force

A national consensus on the need to reform America's health care system is growing, and the issue achieved prominence in the 1992 presidential campaign. Given the federal government's major role in health care financing, many contend that a federal solution will ultimately be required to resolve the crisis in access to and costs of health care. In the absence of such action, some states have forged ahead with proposals and experiments ranging from Oregon's plan to greatly expand Medicaid eligibility while rationing services, to Massachusetts' plan to tax businesses which do not provide health insurance ("pay or play" approach). Already in 1992, three states have passed major health care reform legislation designed to provide basic health services to all residents, including the establishment of a state-operated "Health Right" insurance plan in Minnesota.

The growing crisis in health care financing and access prompted Texas' governor to appoint an interim Texas Health Policy Task Force to

"develop a plan designed to make excellent affordable health care available to all Texans." The Task Force Report, developed contemporaneously with this plan and scheduled to be delivered to the governor at the same time (October 1992), was charged to address the issues of health care financing, cost containment, access to care and the availability of essential health care services. In order to coordinate planning efforts, the SHCC has chosen to focus on the need for and importance of primary and preventive health care services as an integral part of any proposal to improve health care financing and service delivery in Texas.

PUBLIC INVOLVEMENT IN DEVELOPING THE STATE HEALTH PLAN

The SHCC historically has sought and received regional input into its plans during the public review and comment period, climaxed by a statewide public hearing. For the 1993-94 plan, the SHCC modified this approach by asking consumers and providers from across the state to participate in issues development for the state health plan. With SHCC members as moderators, 11 regional "focus meetings" were conducted throughout the state to solicit community input on local health problems and recommended corrective solutions. About 400 persons attended the meetings and presented verbal comments on site, or submitted written comments during the ensuing weeks.

Although the overall theme of the focus group meetings was preventive and primary health care, issues ranged from health insurance to medical transportation. The results of these discussions were invaluable in developing health issues and recommendations. The following sections provide summaries of the discussions at the focus meetings.

ARLINGTON January 21, 1992

Discussions at the Arlington focus meeting centered on health insurance, problems of the health care delivery system, and health care providers. Medical insurance issues included lack of coverage for more than three million Texans,

high costs, lack of small business coverage, costs of liability coverage, and Medicaid reimbursement. Problems of the delivery system addressed were the need for "one stop services," lack of transportation, cost of medicines, and referrals between rural and urban counties. Shortages of primary health care providers and training of additional personnel, fear of litigation for providing care to the uninsured, and refusal of physicians to accept new Medicaid patients were addressed. Major recommendations from the meeting included expansion of the roles of the school nurse, physician assistant, and nurse practitioner; development of additional primary care residency slots in medical schools; and establishment of medical teams traveling in mobile vans to provide care to underserved areas.

KILGORE January 23, 1992

The Kilgore focus meeting exhibited a strong rural concentration. Medicaid issues discussed included reimbursement rates and refusal of physicians to accept new Medicaid patients; care for individuals and families slightly above the eligibility standard; and gaps in coverage such as sight, hearing and dental examinations and devices, and durable medical equipment. The problem of teenage pregnancies led to recommendations for increased time for teacher counseling concerning health behaviors, sex education in the schools, and a legislative mandate to require sex education in the schools. The need for immunization of pre-school children led to recommendations that free vaccines be provided physicians and reducing fees at public clinics. Problems of the health delivery system addressed included the need for referral sources for children and teenagers, access to clinics for preschool and day care children, additional trained midwives, transportation services and in-home services. The problem of recruitment and retention of primary care physicians in rural areas led to recommendations for increased primary care residency slots, third year medical school rotation to rural primary care, student loan repayment programs, and recruitment of rural area residents to medical school.

EL PASO January 28, 1992

El Paso attendees were particularly concerned about border health issues and the cost of providing treatment to an impoverished region. In addition because El Paso is so remote, transportation for patients to primary as well as tertiary care was a major concern. Finally, El Paso sees so many children with special health care needs that this issue was also noted.

HOUSTON January 30, 1992

There was a strong emphasis on the lack of a comprehensive-coordinated system of primary care and the growing number of area residents (estimated at 700,000) without insurance or other financial resources for health care. Overcrowding in emergency rooms and lack of referral resources, confusion caused by multiple agencies and varying eligibility policies and the difficulty in applying for and receiving social security disability status were mentioned as serious problems affecting access to care. It was noted that the goal of the eligibility screening process has become that of finding someone else to pay for health care. Also cited was the difficulty women face in maintaining health insurance due to maternity leave, death of spouse and divorce and the lack of research on women's health issues. The lack of meaningful comprehensive health education in schools, attributable in part to administrators' fears, was seen as an important problem. It was suggested that prevention efforts must recognize the importance of individual responsibility and basic cultural values in building support for healthful living and reducing the need for health services. Also mentioned was the need for funding to support regional "umbrella" health planning, and the lack of adequate outcomes data for employers and other health care payors to evaluate health interventions.

MIDLAND January 31, 1992

In Midland the main concerns were about the lack of primary care physicians and dental care to serve the rural communities. Other concerns

included the lack of school nurses in some school districts, the prohibitive cost of well child care for indigent families, the waste of prescription medicines due to restrictive regulations, and the suggestion that the TDH Primary Care Program be allowed to expand and go forward.

LUBBOCK February 3, 1992

Lubbock focus meeting attendees were concerned with Medicaid, health care providers in rural counties, teenage pregnancies, and problems of the delivery system. Medicaid issues addressed lag time in reimbursement to physicians, excessive paperwork and inadequate reimbursement of rural physicians. The availability of physicians and other allied health care providers, hospitals, and clinics in rural areas elicited comments concerning fear of liability and refusal of physicians to accept new Medicaid patients. Teenage pregnancies and sex education in the schools were emphasized. The failure of the delivery system to provide follow-up treatment for rural patients treated in emergency rooms, under-utilization of nurses and nurse practitioners, and lack of home health services due to greater distances between provider and rural patient were pointed out. It was recommended that funding be provided by the legislature to establish the Texas Tech School of Pharmacy.

SAN ANTONIO February 4, 1992

In San Antonio, the increase in trauma due to gang violence was cited along with large numbers of uninsured (330,000) as major factors overwhelming the city's emergency rooms and public health system. There was particular concern for the problems of medically fragile children; it was predicted that increasing numbers of HIV positive children will overwhelm the already inadequate system for caring for these children. The fact that dental decay is still prevalent in San Antonio was noted along with the lack of fluoridation for the city's water supply. The lack of pediatricians willing to treat Medicaid children due to reimbursement problems, burdensome rules and paperwork, perceived

liability problems and other factors was seen as an immediate problem of utmost concern. The number of physician's going without health insurance due to costs and to discourage lawsuits was mentioned to illustrate the need for tort reform. Major gaps in services were cited including the fact that virtually no follow-up is done on teen mothers sent home with newborns and the need for better tracking of high-risk infants. The great need for post-partum care and education about how to take care of babies and children was stressed.

MCALLEN February 5, 1992

McAllen attendees were also concerned about border health issues. Because this region is sitting on the border of a third world country, it has medical costs that should be shared with the federal government. The water and sanitation conditions in the *colonias* are unsafe and create significant health problems that other regions do not have. Only 58 percent of the pregnant women in Cameron County receive first trimester prenatal care, and there is a lack of adequate immunization in the area. Anencephaly was noted to be the most common birth defect in perinatal deaths in the Rio Grande Valley. Furthermore, tuberculosis and diabetes are worsening in this area.

BELTON February 6, 1992

Major health issues presented at the Belton focus meeting included lack of health care providers and facilities in rural areas, lack of access to health care for school aged children and affordability, destruction and redistribution of prescription drugs. Other key issues discussed at the focus meeting included inadequate income guidelines for the County Indigent Health Care Program, sex and HIV education in public schools and the shortage of school nurses and limitations placed on school nurses.

AUSTIN February 10, 1992

The statewide meeting differed somewhat from the regional meetings in that most of the participants

presented testimony and papers describing their respective programs underway to address many of the health concerns brought up at the regional meetings as previously listed.

BIG SPRING April 7, 1992

More than 80 area residents turned out for the only regional meeting held in the evening. Although those planning the meeting estimated it would last about two hours, it lasted about twice that long. Attendees included many consumers, but the majority were from professional areas.

One of the observations made was that health care is becoming so complicated that those responsible for its implementation and disbursement of funds need to understand the changes. In many areas, this has resulted in gaps in the health care system. Some attendees pointed out that Medicare and Medicaid, while serving different populations through different agencies, are duplicative of programs in some respects. One commentor said there are few differences in the two programs, and in the "real world" doctors are having the same problems with both programs. It was pointed out that physicians are discouraged from accepting patients due to the volumes of regulations, as well as decreasing payments allowed by the Health Care Financing Administration (HCFA). Instead of incentives, beginning physicians are penalized in lower payments during their first years in practice. While Medicaid and Medicare patients may increase as the population ages and the recession increases, doctors will be confronted with more patients on government-sponsored programs.

Another issue which surfaced at the meeting was fraud. It was the view of several attendees that fraud exists in the health insurance industry. Several situations considered malfeasance on the part of some insurance companies were cited by attendees. Some examples related to individual policy holders, as well as employers.

Another concern that was voiced was on redistricting. A Snyder resident said with the relocation of its health department further away in another city, patients lose their rapport and communication with the unit. It was stated that there is a need for better communication between state, regional, and county health departments. And, as with many of the other meetings, immunization was an issue under discussion. One attendee stated that although most people in the Big Spring area tend to get immunized, there are some areas where the failure to get immunizations has caused major problems. An example cited was the measles outbreak in south Texas in the spring of 1992. It was stated that immunization should be received by infants and adults alike.

A summary of the recommendations generated from the focus group meetings is found in the Appendix. These were made by attendees at the meetings and are not necessarily endorsed by the SHCC, although many have been consolidated into the overall plan recommendations.

**1993-94 STATE HEALTH PLAN
EXECUTIVE SUMMARY OF RECOMMENDATIONS**

**TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS**

TOPIC and SECTION	RECOMMENDATION
<p align="center">Part I</p> <p><u>A Health Policy for Texas: Focus on Primary and Preventive Health Care</u></p> <p align="center"><i>Chapter 3</i></p> <p align="center"><i>Developing a Comprehensive/Coordinated System of Health Care in Texas</i></p> <p>Financing and Utilization of Preventive Care Services</p> <p>Availability of Primary Care Professionals</p>	<p><u>Recommendations: Strategies for improving access to and utilization of primary and preventive health care in Texas</u></p> <ol style="list-style-type: none"> 1. The legislature should improve preventive care practices in the Medicaid program and other publicly funded programs in Texas that provide primary care services by: <ul style="list-style-type: none"> ● Requiring that all publicly funded programs offering primary care services provide, at a minimum, the screening, counseling and immunization services recommended by the U.S. Preventive Services Task Force, with particular emphasis on patient education and counseling services. ● Expanding Medicaid to cover all federally allowable optional preventive care services. ● Monitoring the provision of preventive services in public programs and providing feedback on clinical preventive services to Medicaid and other public providers. ● Improving outreach and follow-up in Medicaid's EPSDT program to assure maximum coverage of children's preventive health care needs. ● Testing and implementing alternative community-based delivery systems for Medicaid and other publicly funded health programs, such as HMOs and COPC programs, which emphasize primary and preventive care. 2. Texas medical schools, the Texas Board of Medical Examiners, and professional associations should encourage physicians to increase emphasis on prevention in clinical settings by: <ul style="list-style-type: none"> ● Conducting awareness campaigns among physicians about the importance and effectiveness of prevention. ● Encouraging increased emphasis on clinical prevention strategies, effectiveness and techniques in continuing education curricula for physicians and disseminating information on preventive services guidelines. ● Disseminating information on techniques such as patient flow charts and computer reminder systems designed to encourage physicians to perform preventive services. 3. The legislature should expand insurance coverage of preventive services by mandating coverage in regulated health insurance policies of basic preventive services determined effective by existing guidelines (e.g., U.S. Preventive Services Task Force). 4. Texas medical schools and the legislature should expand the supply of primary care physicians by: <ul style="list-style-type: none"> ● Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during training. ● Refocusing undergraduate medical education on primary care. ● Expanding the physician loan repayment program for medical students who commit to working in primary care. ● Encouraging medical students to fill existing primary care residency slots. 5. Texas medical schools and the legislature should increase the number of primary care physicians practicing in rural and other underserved areas by: <ul style="list-style-type: none"> ● Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during the training. ● Using performance-based audit factors, such as the number of graduates placed in rural practice, as a measure for further funding of medical schools. ● Promoting professional educational activities and continuing education that includes clinical prevention protocols to improve physician participation in clinical preventive services. ● Examining initiation of a state-level health service corps modeled after the National Health Service Corps for primary care physicians who agree to serve in underserved areas, and examining the revision of the NHSC matching process. ● Recruiting more minority medical school students and persons from rural areas, especially bilingual persons.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

**Availability of Primary Care
Facilities and
Services**

6. Texas schools of nursing and allied health professions should educate more non-physician primary care providers and increase their availability in underserved areas by:
 - Increasing funding for nurse education.
 - Expanding programs for training nurses, nurse practitioners, physician assistants and other allied health professionals, with an emphasis on education for practice in community and rural settings.
 - Developing weekend and evening educational programs to accommodate working students.
 - Establishing loan programs and loan forgiveness for those serving in designated medically underserved areas.
 - Providing incentives (loan repayment, etc.,) for nurses, nurse practitioners, and other mid-level primary care professionals to work in community settings and underserved areas.
 - Encouraging bilingual individuals to enter allied health care professions.
 - Recruiting students from medically underserved areas.
 - Assisting communities in locating and recruiting primary care health professionals.

7. The legislature should improve incentives to providers to participate in Medicaid and other public programs by:
 - Continuing to improve Medicaid reimbursement for primary care services.
 - Considering additional means of assisting providers in rural and underserved areas such as supplemental payments.
 - Reducing Medicaid paperwork, regulatory burden, and reimbursement delays.
 - Encouraging voluntary and community service.

8. The development of comprehensive community-based primary and preventive care services in Texas should be fostered in the following ways:
 - The legislature and state health and human service agencies should encourage the development of a health care infrastructure to provide primary and preventive health care services to high-risk, underserved communities by:
 - expanding the role of all local health departments to include primary care by increasing funding for TDH's primary care grant program.
 - assisting rural areas in establishing rural health clinics.
 - continuing efforts to identify and implement coordinated funding mechanisms which maximize the use of federal, state, and local funds.
 - adjusting the hours of community and public health clinics to include evening and weekend hours.

 - The legislature, health and human service agencies, and the Texas Education Agency should encourage school districts to provide comprehensive primary and preventive health care services by:
 - assisting communities in medically underserved areas to establish school-based clinics.
 - promoting the provision of the Medicaid Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services in all school districts, to serve all eligible children age 0-20.
 - expanding the utilization of the school nurse by permitting the school nurse, through protocols, to provide free neonatal vitamins, refer pregnant students to physicians, give immunizations, and provide counseling.
 - providing vaccines at state rate to private physicians in order to increase immunization levels.
 - coordinating with community resources to make immunizations available at school sites and other convenient locations.

 - The legislature should designate a state health and human services agency to provide technical assistance to communities in establishing comprehensive community-based health and human service delivery systems including:
 - building community coalitions to focus on primary and preventive health services.
 - establishing a community health data base.
 - training community residents in primary and preventive care.
 - designing health promotion campaigns.
 - setting standards to maintain program quality.
 - conducting program evaluations.

**TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS**

	<ul style="list-style-type: none"> ● The legislature should designate a state agency to disseminate research results on model primary and preventive care programs and cost-effectiveness studies. <p>9. The legislature and state health and human service agencies should reduce barriers that hinder Texans' access to primary and preventive health care services by:</p> <ul style="list-style-type: none"> ● Developing partnerships with physicians in private practice and publicly funded health delivery systems. ● Ensuring that all publicly funded programs that provide primary care offer case management services to ensure that transportation, nutritional, financial and educational needs are met. ● Encouraging and implementing collaboration and coordination of health and human services programs and services. ● Seeking public and private grant funds to increase and improve primary and preventive health services. ● Maximizing the use of existing health care resources by using new and existing approaches which combine, coordinate, and strengthen the establishment of system linkages between public and private providers. ● Increasing the number of local health and human service agencies using the "Integrated Eligibility" process and the "One-Stop Shopping" concept by co-locating health and human services offices and clinics. ● Expanding the use of non-traditional sites for providing primary care services, such as mobile units, shopping centers, churches, and schools. ● Providing health and human services that are culturally sensitive and designed to meet the community's needs and concerns. ● Expanding community-based outreach programs that focus on health promotion, primary and preventive health care education, violence and abusive behavior support groups, and family planning.
<p align="center">Part II <u>Prevention Through the</u> <u>Life Cycles</u> Chapter 1 <i>Perinatal/ Infant</i></p>	<p>1. Improve birth outcomes by assuring all pregnant women access to an appropriate level of prenatal care by:</p> <ul style="list-style-type: none"> ● Regionalizing perinatal services with the coordination of private and public resources to assure referral of high-risk pregnant women to an appropriate level of care. ● Maintaining and coordinating all state and federal programs delivering Aid to Families with Dependent Children (AFDC) and perinatal care services to pregnant women and infants and other state programs designed to assist the uninsured and underinsured. <p>2. Increase participation of pregnant women and mothers of infants in primary and preventive health care by:</p> <ul style="list-style-type: none"> ● Intensifying public school education emphasizing family planning, birth control including abstinence, health behavior of females prior to conception, need for prenatal care, parenting, and well-baby care. ● Maintaining and increasing outreach efforts of Women, Infants, and Children (WIC), Early Periodic Screening, Diagnosis, and Treatment (EPSDT), and AFDC. ● Increasing availability of community-based comprehensive primary care services (note recommendations of Part I). <p>3. Increase information concerning prevalence and causes of birth defects, stillbirths, low birth weights, and other handicapping conditions by establishing a Texas Statewide Birth Defects and Disabled Children's Registry.</p> <p>4. Accomplish age appropriate immunization of all infants and children birth through two years of age by:</p> <ul style="list-style-type: none"> ● Assessing the immunization status of persons enrolled in the Women, Infants, and Children, Medicaid, and other programs providing children's services and immunizing unprotected children and referring them to public health clinics for necessary immunizations. ● Including childhood immunization as a part of the package of basic benefits of all health insurers and health maintenance organizations. ● Providing vaccines at state rate to physicians.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

Chapter 2
Children/ Pediatrics

1. Eliminate barriers, fragmentation, duplication and gaps in the current child health delivery system by:
 - Simplifying the Medicaid application process.
 - Continuing to work on initiatives to improve access and referrals for Medicaid and EPSDT.
 - Improving coordination of services between health and human service agencies.
 - Expanding the number of eligible children in the EPSDT and CIDC integrated child health data base computer system.
 - Encouraging families to seek a medical home (permanent primary care provider) which maintains family medical records and enables the family to access appropriate care at all hours.
 - Continuing the development and implementation of the maternal and child health case management model to include all maternal and child health patients.

2. Improve the EPSDT program by eliminating barriers to patients and providers by:
 - Establishing a single age criterion for all members within a family unit so that if one child is eligible all the children in the family are eligible.
 - Making services more accessible by increasing the number of Medicaid and EPSDT providers.
 - Increasing reimbursement rates.
 - Continuing to educate patients, providers, and other health and human service agencies about the Medicaid and EPSDT program and services.
 - Determining whether liability concerns are barriers to immunizations and other preventive services in medically underserved areas.

3. Provide equitable access to quality primary and preventive health care services by:
 - Increasing the number of children receiving health screens through EPSDT.
 - Increasing child health services in Texas to ensure that children can access health care.
 - Assisting communities in medically underserved areas to establish clinics at school sites.
 - Extending the clinic hours of all publicly funded clinics to include culturally sensitive selective evening and Saturday hours according to community needs.
 - Using community-based locations and non-traditional methods of providing services such as mobile units, community centers, churches, volunteers, and schools.

4. Expand the number of public and private providers accepting Medicaid-eligible children by:
 - Providing financial incentives to providers who accept Medicaid patients.
 - Expanding recruitment efforts of Medicaid providers.
 - Implementing loan repayment programs for Medicaid providers.
 - Increasing awareness of using Medicaid when available.

5. Expand the use of school-based clinics in the delivery of child health services by:
 - Establishing an adequate ratio of school nurses to students for all school districts.
 - Expanding the utilization of the school nurse by permitting the school nurse, through protocols, to provide free neonatal vitamins, refer pregnant students to physicians, give immunizations, and provide counseling.
 - Encouraging school districts to participate, to the extent possible, in the Medicaid and EPSDT program.

6. Promote the use of community-based outreach programs in reducing violence and abusive and neglectful behavior toward children by:
 - Promoting school-based violence prevention and gun safety programs that are a part of the curriculum on a yearly and age appropriate basis.
 - Developing family-centered outreach programs for abused children.
 - Promoting and encouraging parenthood education classes.
 - Promoting home health visitor programs for new and high-risk parents such as the "Parents As Teachers" program and "Healthy Start" program.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

	<p>7. Reduce the incidence of childhood preventable morbidity and mortality by:</p> <ul style="list-style-type: none"> ● Expanding the availability of free immunizations and health screening to Texas children at age-appropriate times. ● Continuing efforts to adjust the fluoride content of community water systems to optimum fluoride levels. ● Increasing the number of school districts in Texas using the most current and widely used school-based oral health education curriculum (i.e., Tattle Tooth, A New Generation). ● Supporting the passage of the Childhood Lead Poisoning Prevention Act in Texas. ● Encouraging health care organizations to work with community organizations to plan and implement ongoing health promotion and injury prevention programs. ● Recognizing firearm injuries as a public health problem and establishing the regulatory authority for promulgating safety standards for firearms, addressing the problems of trigger locks, muzzle velocity, and visible indication as to whether the gun is loaded.
<p style="text-align: center;"><i>Chapter 3</i> <i>Adolescents</i></p>	<ol style="list-style-type: none"> 1. Enact legislation requiring an adequate ratio of school nurses to students in the middle and secondary schools and prescribing their minimum duties and responsibilities. 2. Encourage local school districts to participate in age-appropriate programs of education for self-responsibility which include drug and alcohol abuse, prevention of AIDS and other sexually transmitted diseases, pregnancy prevention and family planning, use of safety helmets with motorcycles and bicycles, use of car safety belts, nutrition, and suicide prevention. 3. Fund additional health screening programs and increase use of schools and other alternative sites as health care settings. 4. Increase the use of schools and other alternative sites as health care settings. 5. Institute controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns. 6. Reduce the incidence of HIV infection, communication of sexually transmitted diseases, and unwanted pregnancies among adolescents by encouraging health clinics to make condoms available for sexually active teenagers and to provide explicit advice on the options available, including abortion and adoption, for pregnant teenagers. 7. Reduce the number of adolescents who smoke by: <ul style="list-style-type: none"> ● Making all school campuses and functions tobacco-free. ● Strengthening the enforcement of penalties against individuals and businesses that sell tobacco products to minors. ● Removing all tobacco products from vending machines that are accessible to minors. ● Increasing the tobacco excise tax. 8. Reduce Texans' exposure to carcinogenic second-hand smoke by enacting laws restricting smoking in public buildings and common areas, including all state office buildings. 9. Reduce the number of teenagers becoming pregnant by funding and encouraging the use of new and innovative pregnancy prevention programs, such as, parent-child talk groups, teen-to-teen talk sessions, and mentoring programs. 10. Develop programs to prevent child abuse which are based on the co-operative efforts of parents, schools, and communities. 11. The Texas Legislature should establish a mechanism for coordinating development and implementation of standard dietary guidelines for public food distribution programs.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

<p style="text-align: center;"><i>Chapter 4</i> <i>Adult</i></p>	<ol style="list-style-type: none"> 1. Develop a strategic plan for a statewide trauma system that will provide a mechanism for coordinated trauma-related services. 2. Reduce the incidence of HIV infection by developing and distributing more explicit anti-AIDS materials for public service, print and electronic media. 3. Develop incentives for private and public employers to provide employee wellness programs that encourage instruction and facilities for exercise, nutrition, safety, substance abuse elimination, smoking cessation, and stress reduction programs. 4. Reduce the number of motor vehicle fatalities and injuries by enacting an administrative license revocation law in Texas that requires immediate surrender of the driver's license of any driver who fails or refuses to take a sobriety test. 5. Fund additional research on women's health issues and diseases. 6. Increase the tobacco excise tax. 7. Reduce Texans exposure to carcinogenic second-hand smoke by enacting laws restricting smoking in public buildings and common areas, including all state office buildings. 8. Reduce the rate of firearm deaths in Texas by instituting controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns. 9. Improve preventive care services by requiring reimbursement by private insurance carriers and publicly funded health programs for regular screenings, e.g., chest x-rays, cholesterol and blood pressure checks, Pap smears, and breast cancer exams; examinations, including eye and dental; counseling; and immunization services as recommended by the U.S. Preventive Services Task Force. 10. Support education regarding, and compliance with, the 1992 U.S. Occupational Safety and Health Administration (OSHA) guidelines on workers' safety.
<p style="text-align: center;"><i>Chapter 5</i> <i>Elderly</i></p>	<ol style="list-style-type: none"> 1. Prevent avoidable disease, injury, and death of the elderly by: <ul style="list-style-type: none"> ● Developing outreach services to enlist all Texas elderly into a primary care program emphasizing preventive care. ● Encouraging individuals to identify a single primary care provider, provider organization, or a system of care which would coordinate their health care needs. ● Stressing an interdisciplinary "team concept" approach in primary health care provider education and health care delivery. ● Modifying Medicaid regulations to provide all qualified beneficiaries over 65 with unlimited required medications. ● Supporting and funding public health promotion to educate the elderly concerning good eating habits, exercise and abstinence from alcohol, drugs and tobacco. ● Ensuring that dental care is included as a part of primary health care. 2. Maintain personal independence and preserve functional capacity of the elderly by providing an array of services as alternatives to nursing facility care by: <ul style="list-style-type: none"> ● Funding programs that assist the rural elderly maintain independent living. ● Providing Supplemental Security Income (SSI) coverage in an amount equal to the average cost of residing in a personal care home, plus an appropriate personal needs allowance, provided the recipient resides in a facility licensed or regulated by the state. ● Exploring the development of a 1915(c) Medicaid waiver to provide Medicaid funds to operate a personal care home program. ● Expanding the Medicaid nursing facility waiver and frail elderly programs under the Texas Department of Human Services to provide a comprehensive array of health and support services to persons in their own homes, provided the services are a cost-effective option to institutionalization.

**TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS**

	<ol style="list-style-type: none"> 3. Assure the quality of home and community health care services provided the elderly by: <ul style="list-style-type: none"> ● Coordinating service delivery and regulation among all state agencies that fund long term care services. ● Enforcing licensing requirements for personal care homes once sufficient funding has been made available through SSI supplement and/or a Medicaid waiver program. ● Exploring the creation of a quality consultation program to provide professional help for marginal facilities to improve their quality of care. ● Developing multi-language client materials to assist health care providers obtain information needed to properly deliver care. ● Providing continuing education concerning health care of the elderly for providers. ● Requiring and supporting state-funded medical, nursing, and allied health schools to include gerontological training and education. ● Providing educational loan repayment incentives for providers delivering primary and preventive health care to the elderly. ● Exploring methods for providing competitive wages and benefits packages to attract and retain long-term care nursing professionals. 4. Improve access to health care services for the elderly by: <ul style="list-style-type: none"> ● Developing a long-range automated information and referral system with an automated data base and a dedicated 800 number. The system should include data on both public and private providers and programs to provide the elderly, their guardians, their providers, and agencies with eligibility requirements, entry locations, and services. ● Supporting the Texas Department on Aging's development of a statewide database on all services for the elderly. ● Publicizing funding of the statewide toll-free elderly services 800 number of the Texas Department on Aging and ultimately combining all 800 elderly services numbers into a single number. 5. Reduce the cost of health care services provided the elderly by: <ul style="list-style-type: none"> ● Requiring all hospitals to provide a three-day supply of medications for a patient transferred directly to a nursing facility to reduce waste and destruction of unused medications. ● Supporting the revision of federal drug destruction requirements to afford protection in the drug delivery process, to afford substantial cost savings. ● Instructing the Texas Department of Human Services to determine the financial impact of changing the methodology for collecting the patient share of the cost of nursing home care as a true up front deductible, rather than on a pro-rated basis, as an additional method for funding long-term care programs. ● Allowing nursing homes to select drug suppliers and adopt labelling and dispensing methods to improve patient care and reduce waste. 6. Reduce pain and suffering of terminally ill elderly by requiring all health care providers to council elderly individuals concerning advanced directives.
<p style="text-align: center;"><i>Chapter 6</i> <i>Special Populations</i> <i>Minority Health</i></p>	<ol style="list-style-type: none"> 1. Increase the number of minorities receiving services in the health care system by: <ul style="list-style-type: none"> ● Establishing a comprehensive, community-based social family services program using a cross-cultural approach. ● Expanding the number of counties, local health departments, hospital districts, and public clinics using the Community Oriented Primary Care (COPC) model. ● Creatively developing and implementing methods of taking primary and preventive health care services into minority and underserved communities. ● Increasing the minority populations' knowledge and use of publicly funded health and human services programs. 2. Reduce the incidence of preventable morbidity and mortality in minority populations and underserved areas by: <ul style="list-style-type: none"> ● Developing and implementing culturally sensitive and reading level appropriate educational campaigns about prevention, screening services, and lifestyle. ● Identifying and investigating disparities in health status among ethnic/minority populations and refugees. ● Developing and distributing more explicit anti-AIDS materials for public service, print and electronic media.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

3. Increase the availability and accessibility of primary and preventive health care services for minority populations by:
 - Placing primary and preventive health care clinics and providers in minority communities.
 - Establishing clinic hours that are flexible and convenient for employed members of minority communities.
4. Improving birth outcomes by assuring all pregnant women access to an appropriate level of prenatal care by:
 - Regionalizing perinatal services with the coordination of private and public resources to assure referral of high-risk pregnant women to an appropriate level of care.
 - Maintaining and coordinating all state and federal programs delivering family assistance (AFDC) and perinatal care services to pregnant women and infants and other state programs designed to assist the uninsured and underinsured.
5. Reduce the number of teenagers becoming pregnant by funding and encouraging the use of new and innovative pregnancy prevention programs including:
 - Parent-child talk groups;
 - Teen-to-teen talk sessions and mentoring.
6. Expand the role and duties of nurse practitioners, midwives, school nurses, and Early Periodic Screening Diagnosis and Treatment (EPSDT) program providers by:
 - Providing nurse practitioners patient referral privileges.
 - Encouraging nurse midwives to provide services in underserved areas.
 - Permitting school nurses to give immunizations, and provide primary and preventive health care services through appropriate protocols.
7. Promote the use of community-based outreach programs in reducing violence, abusive, and neglectful behavior in minority and underserved communities by:
 - Promoting school-based violence prevention and gun safety programs that are a part of the curriculum on a yearly and age appropriate basis.
 - Developing family-centered outreach programs for abused children.
 - Promoting and encouraging parenthood education classes.
 - Promoting home health visitor programs for new and high-risk parents.
 - Recognizing firearm injuries as a public health problem and establishing the regulatory authority for promulgating safety standards for firearms, addressing the problem of trigger locks, muzzle velocity, and visible indication as to whether the gun is loaded.
 - Instituting controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns.
8. Improve the current health care system to reflect increased comprehensiveness, in primary and preventive health care services, cultural sensitivity, and continuity of care by:
 - Ensuring that screening programs provide follow-up for those with abnormal findings.
 - Providing cultural sensitivity and language training to health care providers, care givers, and health and human services employees, particularly those involved in direct service delivery.
9. Increase the number of minorities in health care professions by:
 - Providing incentives to minority health and allied professionals to provide services in minority communities.
 - Encouraging medical schools to increase their recruitment efforts in minority and underserved communities.
 - Developing and implementing special allied health programs for high school students in minority and underserved communities.
10. Increase the involvement of minorities in the development of health care systems, programs, and policies by:
 - Building statewide networks and community coalitions to focus on primary and preventive health services.
 - Encouraging public facilities in minority communities to sponsor health related programs and outreach services.
 - Encouraging increased minority participation on health and human services task forces.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

	<p>11. Expand and improve the Refugee Health Screening Program by:</p> <ul style="list-style-type: none"> ● Increasing the amount of information gathered on refugees arriving at non-contract areas. ● Developing tracking mechanisms to track individuals from initial skin testing through to completion of therapy for tuberculosis infection. ● Improving methods and systems of getting TB infected refugees evaluated and placed in preventive therapy.
<p>Border Health</p>	<p>1. Increase coordination and collaboration between the U.S. and Mexico health-related agencies by:</p> <ul style="list-style-type: none"> ● Developing a five-year strategic plan to guide Texas and Mexico in establishing priorities, designing interventions, and allocating resources relative to border health issues. ● Exploring mechanisms to facilitate bi-national health professions exchange programs. ● Encouraging the U.S. Congress to create a permanent U.S.-Mexico Health and Environmental Commission. <p>2. Design and implement programs that would increase the number of primary care physicians, dentists, nurses and allied health professionals along the Texas/Mexico border by:</p> <ul style="list-style-type: none"> ● Recruiting at the high school level and providing incentives for staying in the border area after education is completed. ● Providing low costs loans, stipends, or grants with repayment possible by working in underserved border areas after graduation. ● Encouraging the legislature to provide state funding to supplement federal funding of Health Education Training Center and Area Health Education Center. ● Encouraging the legislature to subsidize the development of nurse practitioner training programs in the Lower Rio Grande Valley. ● Encouraging the legislature to create family practice, internal medicine, pediatric, and gerontology residency programs on the Texas-Mexico border. ● Encouraging the legislature and the Texas Higher Education Coordinating Board to create and subsidize masters degree programs in nursing along the border. ● Developing a disproportionate share formula which deals with reimbursement for physicians, nurses, clinics, and primary care providers on the border. <p>3. Expand the availability of primary and preventive health care services along the Texas/Mexico border by:</p> <ul style="list-style-type: none"> ● Encouraging learning opportunities and rewards for medical students who choose to become family practice physicians. ● Removing the limitations and expanding the roles of nurse practitioners, midwives, school nurses and EPSDT providers. ● Expanding the utilization of Medicaid and other health-related programs to ensure the maximum number of border residents receiving entitlements. ● Developing public transportation networks in areas not adequately served by mass transit programs. ● Expanding education and health care delivery through telecommunications. <p>4. Improve epidemiological data to better define the health profile of the population living on the Texas/Mexico border by:</p> <ul style="list-style-type: none"> ● Developing an information clearinghouse. ● Treating sister communities along the border as single epidemiological unit in terms of collecting and analyzing data. <p>5. Improve the environmental health status of the Texas-Mexico border by:</p> <ul style="list-style-type: none"> ● Developing exchange programs for training and skills development between Texas and Mexico personnel in environmental, sanitation, and water utility agencies. ● Encouraging the legislature to pass legislation concerning illegal dumping along the Texas-Mexico border, especially in the colonias. ● Encouraging border counties to develop and enforce protective zoning laws in watershed areas and high-risk illegal dump sites. ● Encouraging the legislature to prioritize international agreements with Mexico to deal with environmental problems.

TABLE 1
EXECUTIVE SUMMARY OF RECOMMENDATIONS

Rural Health	<ol style="list-style-type: none"> 1. Design and implement programs that would increase the number of primary care providers and allied health professionals by: <ul style="list-style-type: none"> ● Encouraging physicians, nurses, and allied health professionals to practice in rural areas and facilities by enacting loan repayment programs and supporting rural education programs. ● Continuing to adequately fund expansion of primary care and rotation programs, medical school clerkship programs and state scholarship and loan repayment programs. ● Expanding the exposure of physicians in residency to rural practice by funding demonstration projects and additional off-site rotations. ● Supporting and expanding the development of a coordinated state and local emergency medical services system and network. 2. Expand the availability of primary and preventive health care services in rural Texas by: <ul style="list-style-type: none"> ● Encouraging the legislature to create a new program to provide state funds to match local community funds used to pay for physician relocation and startup costs. ● Considering additional means of assisting providers in rural and underserved areas such as supplemental payments. ● Assisting rural areas in establishing rural health clinics. ● Adjusting the hours of community and public health clinics to include evening and weekend hours. ● Encouraging the legislature to restructure the County Indigent Health Care Program to maximize the use funds available to counties and increase services provided. ● Encouraging the legislature to give communities the authority to create local health districts with taxing authority to support health facilities and services. 3. Texas medical schools and the legislature should increase the number of primary care physicians practicing in rural and other underserved areas by: <ul style="list-style-type: none"> ● Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during training. ● Using performance-based audit factors, such as the number of graduates placed in rural practice, as a basis for further funding of medical schools. ● Promoting professional educational activities and continuing education that includes clinical prevention protocols to improve physician participation in clinical preventive services. ● Examining initiation of a state-level health service corps modeled after the National Health Service Corps for primary care physicians who agree to serve in underserved areas, and examining the revision of the NHSC matching process. ● Recruiting more minority medical school students and persons from rural areas, especially bilingual persons. 4. Texas schools of nursing and allied health professions should educate more non-physician primary care providers and increase their availability in underserved areas by: <ul style="list-style-type: none"> ● Increasing funding for nurse education. ● Expanding programs for training nurses, nurse practitioners, physician assistants and other allied health professionals, with an emphasis on education for practice in community and rural settings. ● Establishing loan program and loan forgiveness for those serving medically underserved areas; ● Providing incentives (loan repayments, etc.) for nurses, nurse practitioners, and other mid-level primary care professionals to work in community settings and underserved areas. ● Encouraging bilingual individuals to enter allied health care professions. ● Recruiting students from medically underserved regions and communities. ● Assisting communities in locating and recruiting primary care health professionals.
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PART I
A HEALTH POLICY FOR TEXAS:
FOCUS ON PRIMARY AND PREVENTIVE HEALTH CARE

PART I

A HEALTH POLICY FOR TEXAS: FOCUS ON PRIMARY AND PREVENTIVE HEALTH CARE

INTRODUCTION

The health and prosperity of Texas depends on the health of its people. Today, Texans are bearing a tremendous burden of illness and injury prevention and by providing timely and comprehensive primary care services. This burden of unnecessary death and illness takes its toll in human suffering as well as in the rapidly escalating costs of health care borne by individuals, business, and government.

The burden of illness in Texas, as in the nation, has shifted to chronic diseases, injuries and sexually transmitted diseases, and falls disproportionately on the poorest and most disadvantaged. Responding to these health care problems requires increased attention to disease prevention and health promotion and to assuring the provision of preventive and primary health services to all Texans. Ultimately it requires encouraging people to change individual behaviors and lifestyle, such as use of tobacco and alcohol, violent and abusive behavior, lack of physical activity, and improper diet that increase the risk of unnecessary death, disease and disability. The value of prevention in improving health and minimizing health care costs is widely recognized. Improving access to primary and preventive health services is an investment in the future health, well-being and economic security of all Texans; an investment whose time has come.

What is Primary Care?

Primary health care refers to the first level of health care, starting with a patient's initial contact with the health care system; it may continue for as long as the patient is in the system. It includes a comprehensive range of preventive health services and diagnostic, treatment and rehabilitative medical and dental services for either acute (short term) or chronic (long-term) illnesses. Prevention of health problems is an integral part of primary care services. The goal of these services is to prevent premature death and disability, preserve functional capacity, and enhance overall quality of life.

Primary care physicians are trained to diagnose and treat the widest range of health problems, and usually specialize in the care of the whole person. Responsibilities of primary care practitioners include referring patients, when necessary, to appropriate specialists and to other resources, and guidance of the patient through the health care system. Primary care physicians include general practitioners, family practitioners, general pediatricians, general internists, and obstetricians-gynecologists. Other health professionals who assist clients/patients with their primary health care needs include nurse midwives, physician assistants, nurse practitioners, dentists, optometrists, chiropractors, pharmacists, podiatrists, and allied health professionals.

What is Preventive Care?

Preventive care includes health care activities that block initiation of illness or injury, or that minimize the morbidity and mortality associated with illness and injury. Primary prevention is the reduction or control of causative factors for disease or injury, and includes reducing risk factors. Examples include immunization, injury prevention, and smoking cessation programs.

Secondary prevention measures alter the impact of a disease after its onset, but before there are recognizable symptoms. This includes early detection and treatment, such as newborn phenylketoneuria (PKU) testing, mammography for breast cancer and contact tracing for sexually transmitted disease. Tertiary prevention limits the disability and suffering associated with chronic illness. It involves preventing secondary complications and providing supportive and rehabilitative services to minimize morbidity and maximize the quality of life. Examples include preventing shoulder overuse syndrome among wheelchair users, and preventing bedsores among the bedridden.

Preventive services delivered in a clinical or primary care setting typically follow the traditional medical model's reliance on one-on-one, provider-to-patient interaction. Clinical preventive services include screening, vaccination,

and diagnosis and early treatment programs. Behavioral prevention strategies rely on the public health model of health promotion which encourages behavior and lifestyle changes, such as smoking cessation, healthful diets and appropriate exercise. Environmental prevention strategies (health protection) are interventions designed to protect entire populations with little or no effort required by the individual. Examples of these strategies include water fluoridation, water safety, lead abatement, public smoking regulation and automatic seat belts.

CHAPTER 1

THE HEALTH STATUS OF TEXANS: THE NEED FOR PREVENTION

Health status refers to the presence or absence of disease or impairment and the sense of well-being. It is traditionally measured by rates of death and disease (mortality and morbidity rates). Examination of the leading causes of death in the U.S. and Texas provides an initial assessment of the health status of Texans, and indicates major trends in public health (See Tables 2-3).

Another way of looking at death rates is to use the concept of Years of Potential Life Lost (YPLL) before age 65 (See Tables 4-5). This measure was developed to indicate premature and preventable mortality and emphasizes causes of death among younger persons, many of which may be prevented by known interventions. Other indicators of a community's health include measurements of the population's risk factors for disease and injury, such as immunization levels, adequacy of prenatal care, teenage pregnancy rates, seat belt use, use of alcohol and tobacco, obesity and access to health care services.

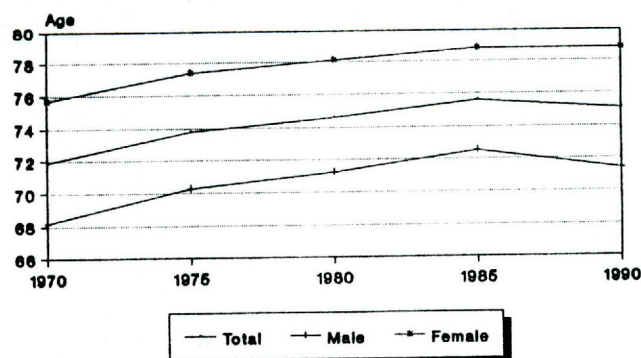
Reducing risk factors for disease and injury is the basis for the federal and state public health prevention efforts known as *Healthy People 2000: The National Health Promotion and Disease Prevention Objectives* and *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000*.

Over the past two decades significant gains have been made in improving the health of Texans - gains which are substantially attributable to preventive health efforts. For the population as a whole, there has been an improvement in overall life expectancy of almost four years and declines in death rates due to coronary heart disease, strokes and injuries.¹ At the same time the overall infant mortality rate in Texas declined by about 50 percent to an all-time low of just eight deaths per 1000 live births in 1990. Between 1989 and 1990, years of potential life lost before age 65 decreased in the U.S. for several causes of death, including premature births (14 percent), pneumonia and influenza (10.2 percent), chronic liver disease and cirrhosis (8.9 percent) and unintentional injuries (3.9 percent).²

These improvements, however, do not portray the whole picture. It is apparent from international and population group comparisons that Texas has

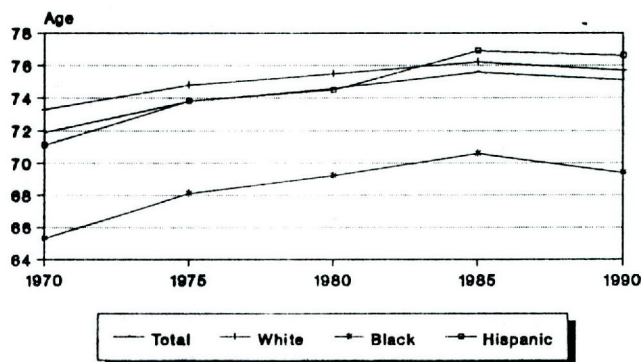
far to go in ensuring the health and well-being of its citizens. Large disparities exist in the health status of Texans based on ethnic groups. Large numbers of preschool children are not receiving immunizations at recommended times, leading to measles epidemics. For the first time in 1990, firearm related injuries surpassed motor vehicle accidents as the leading cause of death from injuries. Beginning in the mid 1980s, there has been a leveling off in the gains in life expectancy in Texas (See Figures 1-2). Finally, and possibly most importantly, the two most rapidly growing causes of death in the nation in terms of percentage increases in years of potential life lost before age 65 are HIV infections (9.9 percent increase from 1989-1990) and intentional injuries (8.4 percent increase from 1989-1990).³

FIGURE 1
LIFE EXPECTANCY AT BIRTH
BY SEX, TEXAS



Source: TDH, Bureau of Vital Statistics

FIGURE 2
LIFE EXPECTANCY AT BIRTH
BY ETHNIC GROUP, TEXAS



Source: TDH, Bureau of Vital Statistics

TABLE 2
LEADING CAUSES OF DEATH TEXAS - 1990
(Rates per 100,000 population)

RANK	CAUSE OF DEATH	NUMBER OF DEATHS	DEATH RATE	% OF TOTAL DEATHS
	ALL CAUSES	125,019	736.0	100.0
1	Diseases of the heart	39,443	232.2	31.5
2	Malignant neoplasms	28,483	167.7	22.8
3	Cerebrovascular diseases	8,388	49.4	6.7
4	Accidents and adverse effects	8,255	36.6	5.0
5	Chronic obstructive pulmonary diseases and allied conditions	4,857	28.6	3.9
6	Pneumonia and influenza	4,267	25.1	3.4
7	Diabetes mellitus	3,458	20.4	2.8
8	Homicide	2,391	14.1	1.9
9	Suicide	2,156	12.7	1.7
10	Human Immunodeficiency Virus infection	1,836	10.8	1.5
	All Other Causes	23,515	138.4	18.8

Source: Texas Department of Health, *Texas Vital Statistics 1990 Annual Report*.

TABLE 3
LEADING CAUSES OF DEATH UNITED STATES - 1990
(Rates per 100,000 population)

RANK	CAUSE OF DEATH	NUMBER DEATHS	DEATH RATE	% OF TOTAL DEATHS
	ALL CAUSES	2,162,000	861.9	100.0
1	Diseases of the heart	725,010	289.0	33.5
2	Malignant neoplasms	506,000	201.7	23.4
3	Cerebrovascular diseases	145,340	57.9	6.7
4	Accidents and adverse effects	93,550	37.3	4.3
5	Chronic obstructive pulmonary diseases and allied conditions	88,980	35.5	4.1
6	Pneumonia and influenza	78,640	31.3	3.6
7	Diabetes mellitus	48,840	19.5	2.3
8	Suicide	30,780	12.3	1.4
9	Homicide and legal intervention	25,700	10.2	1.2
10	Chronic liver disease and cirrhosis	25,600	10.2	1.2
11	Human immunodeficiency virus infection	24,120	9.6	1.1
12	Nephritis, nephrotic syndrome, and nephrosis	20,860	8.3	1.0
13	Septicemia	19,750	7.9	0.9
14	Certain conditions originating in the perinatal period	17,520	7.0	0.8
15	Atherosclerosis	16,490	6.6	0.8
	All other causes	295,100	117.6	13.6

Source: Centers for Disease Control, *Monthly Vital Statistics Report, Annual Summary of Births, Marriages, Divorces and Deaths: United States, 1990*, Vol. 39, No. 13, August 28, 1991.

TABLE 4
YEARS OF POTENTIAL LIFE LOST (YPLL)
BEFORE AGE 65 BY CAUSE OF DEATH 1990 - TEXAS

TEXAS

RANK	CAUSE OF DEATH	YPLL FOR PERSONS DYING IN 1990	% OF ALL YPLL
	All Causes	850,364	—
1	Accidents	161,373	18.97
2	Malignant Neoplasms	113,588	13.35
3	Heart Disease	87,496	10.28
4	Homicide	77,145	9.07
5	Certain Conditions in Perinatal Period	67,358	7.92
6	Congenital Anomalies	53,602	6.30
7	Human Immunodeficiency Virus Infection	50,414	5.92
8	Suicide	49,594	5.83
9	Cerebrovascular Diseases	16,737	10.96
10	Chronic Liver Disease and Cirrhosis	13,323	1.56
11	Pneumonia and Influenza	13,083	1.53
12	Diabetes Mellitus	10,132	1.19
13	Chronic Obstructive Pulmonary Diseases	6,848	.80
14	ALL OTHER	129,671	15.24

Source: Texas Department of Health, *Texas Vital Statistics 1990 Annual Report*.

TABLE 5
YEARS OF POTENTIAL LIFE LOST (YPLL)
BEFORE AGE 65 BY CAUSE OF DEATH - 1990, UNITED STATES

UNITED STATES

RANK	CAUSE OF DEATH	YPLL FOR PERSONS DYING IN 1990	% OF ALL YPLL
	All Causes (TOTAL)	12,083,228	—
1	Unintentional injuries	2,147,094	17.76
2	Malignant neoplasms	1,839,900	15.22
3	Suicide/Homicide	1,520,780	12.58
4	Diseases of the heart	1,349,027	11.16
5	Congenital anomalies	644,651	5.33
6	Human immunodeficiency virus	644,245	5.33
7	Prematurity	415,638	3.43
8	Sudden infant death syndrome	347,713	2.87
9	Cerebrovascular disease	244,366	2.02
10	Chronic liver disease & cirrhosis	212,707	1.76
11	Pneumonia/Influenza	165,534	1.36
12	Diabetes mellitus	143,250	1.18
13	Chronic obstructive pulmonary disease	127,464	1.05
14	ALL OTHER CAUSES	2,280,859	18.87

Source: Centers for Disease Control, *MMWR*, May 8, 1992, Vol. 41, No. 18.

Given current knowledge of the effectiveness of preventive and primary health care, it is apparent that Texas is falling far short of the potential for preventing needless and premature death, disease and disability among its residents. What follows is a broad overview of the health status of Texans, including an examination of the leading causes of death and major related risk factors, or precursors, of disease. The health status of specific age and population sub-groups is addressed more comprehensively in Part Two of the plan: Prevention Through the Life Cycle.

Heart Disease and Stroke

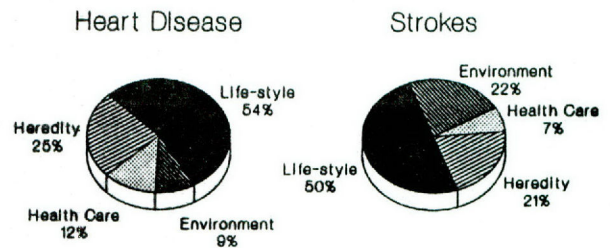
In Texas, as in the nation, heart disease is the leading cause of death, and cerebrovascular disease, or stroke, is the third leading cause. Over the past 20 years the nation has made significant progress in reducing deaths due to heart disease and stroke. The national death rate for coronary heart disease dropped about 43 percent, and deaths due to stroke declined by 54 percent between 1970 and 1989.³ In Texas the overall heart disease death rate per 100,000 population decreased from 287.2 in 1970 to 232.2 in 1990 and deaths due to stroke declined from 92.1 per 100,000 population in 1970 to 49.4 in 1990.⁴

Substantial potential remains, however, for further reductions in premature death and disability due to these two killers. The Centers for Disease Control (CDC) estimates that 54 percent of heart disease and 50 percent of strokes are attributable to lifestyle factors, such as diet, physical activity and use of tobacco.⁵ Indeed, lifestyle factors are considered the largest contributor, ahead of heredity, health care and environmental factors, to these two causes of death (See Figure 3). The major known modifiable risk factors for heart disease and stroke include hypertension, elevated cholesterol, smoking, physical inactivity and obesity. Additional risk factors for stroke are diabetes and renal disease.

Cancer

Cancer is the second leading cause of death in Texas, accounting for 21 percent of all deaths, and also second in terms of years of potential life lost. Overall, cancer mortality in Texas increased from 141.1 deaths per 100,000 people in 1970 to 167.7 in 1990, an increase of about 19 percent.⁶ By the year 2000, cancer is expected to be the leading cause of death in the United States.⁷ It

FIGURE 3
RELATIVE CONTRIBUTION OF LIFE-STYLE, ENVIRONMENT, HEREDITY, AND HEALTH CARE



Sources: Texas Medical Association, April, from a presentation by J. Michael McGinnis, M.D., on February 19, 1992.

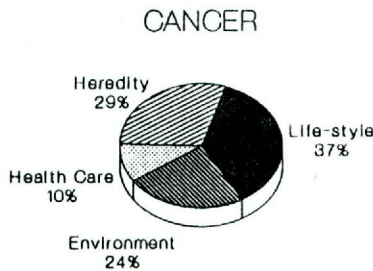
is estimated that about 30 percent of Texans will develop cancer over their lifetime. Lung cancer is the leading cause of cancer deaths for both men and women. In 1982, lung cancer surpassed breast cancer as the leading cause of cancer death among Texas women. Breast, cervical, colorectal and lung cancer together account for almost half of all cancer deaths in Texas. Among women in the U.S., breast cancer is the most commonly diagnosed cancer and the second leading cause of death from cancer. Although the prevalence of breast cancer is higher for white women in the U.S. (999.3 cases per 100,000) than black women (800.8 cases per 100,000), black women die at a higher rate from the disease. The breast cancer mortality rate per 100,000 women in 1988 for Blacks was 34.8 compared with 31.0 for Whites.⁸

According to results of the National Cancer Institute's Surveillance, Epidemiology, and End Results studies, the increase in the incidence of cancer from 1973 to 1987 among Whites of both sexes, age 20 - 44, can be wholly accounted for by increases in four types: testis, melanoma, non-Hodgkin's lymphoma, and skin non-melanoma (including Kaposi's Sarcoma, a complication of AIDS). Among children and adolescents the incidence of cancers of the brain and central nervous system, lymphomas, and leukemia have increased over the same period. Testis cancer and melanoma rates have been increasing in the U.S. for four decades.

Cancer is a diverse and complicated disease, involving many different clinical and epidemiological entities. Risk factors and prevention strategies vary according to the type of cancer. The CDC estimates that approximately 37

percent of cancer is related to lifestyle (See Figure 4). It is estimated that smoking causes more than 86 percent of all lung cancer deaths.⁹ Passive smoking has also been associated with increased risk of lung cancer. Risk factors for testis cancer are unknown, while the risk of melanoma is directly related to cumulative, lifetime sun-exposure by fair-skinned people.¹⁰

FIGURE 4
RELATIVE CONTRIBUTION OF LIFE-STYLE,
ENVIRONMENT, HEREDITY, AND HEALTH CARE



Source: Texas Medical Association, April, from a presentation by J. Michael McGinnis, M.D., on February 19, 1992.

Risk factors for breast cancer include exposure to radiation, family history of breast cancer, early menarche and late menopause, nulliparity and late childbearing. Approaches to primary prevention for breast cancer are limited. Secondary prevention measures are clinical breast examination and mammography. Risk factors for cervical cancer include heterosexual contact (number of sex partners and age at first intercourse), non-use of barrier and spermicidal contraceptives, parity, socioeconomic status and cigarette smoking. In the last 40 years, cervical cancer death rates have decreased 70 percent largely due to early detection with the pap test. Nearly 32 percent of cervical cancer mortality is attributable to smoking, and 37 percent of cervical cancer deaths are due to never having had a pap test.¹¹

Unintentional Injuries

Accidents (or unintentional injuries) are the fourth leading cause of death in Texas and the nation, and account for the most potential years of life lost. The death rate due to all unintentional injuries declined in Texas by more than 31 percent

between 1979 and 1988. Risk factors for unintentional injury include age (under 5 and over 65), sex (males have 2.5 times the fatality rate of females), alcohol, residence, race, socioeconomic status and occupation.

Although the death rate due to motor vehicles accidents declined by 42 percent between 1970 and 1990, they remain the leading cause of accidental deaths in Texas (accounting for more than half of all deaths), followed by falls, drownings, poisoning, suffocation, fires, and firearms.¹² Alcohol is a contributing factor in approximately half of all fatal motor-vehicle crashes.

Accidents are, by their very definition, preventable; but, interventions to reduce accidental injuries and deaths can be very complicated. Injury prevention programs require consideration of the interaction of the person injured with the agent of injury (e.g., automobile, play equipment), and the environment (e.g., housing, and the availability of alcohol). Many of the most successful injury prevention interventions have involved environmental prevention strategies. These include engineering solutions, such as child safety caps and automatic seat belts; and legal requirements, such as ordinances requiring fencing around pools, the use of motorcycle helmets and restrictions on the sale of alcohol to minors.

Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease, which includes chronic bronchitis, emphysema, and chronic airway obstruction, is the fifth leading cause of death in Texas. The principal modifiable risk factor for this disease is smoking. It is estimated that approximately 81 percent of mortality due to chronic lung disease is attributable to smoking.¹³ Mortality rates for chronic lung disease increase with age and are 2.2 times higher for males. Death rates have been increasing, even though smoking has declined steadily. This is thought to be a reflection of the long latency period between smoking onset and death due to chronic lung disease. Death rates for chronic lung disease increased by almost 40 percent in Texas (from 20.5 to 28.6 deaths per 100,000 population) from 1980 to 1990.

Diabetes

Diabetes is Texas' seventh leading cause of death. It is estimated that 830,000 Texans have diabetes

and that almost half are unaware of their condition.¹⁴ Analyses of diabetes mortality rates on the basis of underlying cause of death alone greatly underestimate the contribution of diabetes to overall mortality in Texas. The underlying cause of death is defined as the disease or injury which initiated the train of morbid events leading directly to death. Contributing causes of death are also listed on death certificates. An analysis of Texas mortality data on both underlying and contributing causes of death revealed that almost 3.5 times more Texans died of diabetes when contributing causes were included, than when counting underlying causes alone.¹⁵ Studies have indicated that diabetes is not listed anywhere on the death certificates for about half of Type II, or non-insulin dependent diabetics. The CDC estimates that diabetes may be associated with eight times as many deaths as indicated by underlying cause alone.¹⁶ Diabetes also contributes to end-stage renal disease, amputations, blindness and other serious complications.

Modifiable risk factors for diabetes include smoking, hypertension and obesity. The fastest growing segment of the Texas population, Hispanics, develops diabetes two to three times more often than Whites, and Blacks are also at increased risk. About 90 percent of all diabetes cases are non-insulin-dependent, or Type II diabetes. Type II diabetes usually develops after age 40 and can frequently be controlled with diet, exercise and medications. Due to the aging of the population and increasing numbers of high-risk populations, the prevalence of diabetes is expected to increase significantly over the next ten years.

Homicide and Suicide

Homicide is the eighth and suicide the ninth leading causes of death in Texas. Homicide is the fourth and suicide the eighth leading causes of years of potential life lost in Texas. After reaching a low for the decade in 1987, deaths due to homicides increased in Texas for the following three years. The 1990 Texas homicide death rate was 3.5 times higher for Blacks than for the population as a whole.¹⁷ For Black males age 15 to 34 in Texas, homicide claimed more lives between 1983 and 1987 than any other cause of death. Deaths of children due to child abuse increased 39 percent in Texas between fiscal years 1988 (74 deaths) and 1991 (103 deaths).

The overall number of suicides increased four percent from 1987 to 1990. Population groups showing a rise in suicides or suicide attempts include teenagers, White women age 25 to 35, Blacks, American Indians, and the elderly. Suicide rates are also consistently higher in rural areas. Alcohol abuse is a complicating factor in roughly half of all completed suicides, attempted suicides and homicides. In 1988, firearms were used in 64 percent of homicides and 69 percent of suicides in Texas.

Human Immunodeficiency Virus (HIV) Infection and AIDS

HIV is the virus that causes acquired immunodeficiency syndrome or AIDS. AIDS is the resultant disease that destroys the body's immune system making the individual susceptible to several deadly opportunistic diseases including pneumonia and cancer. While drugs have been developed which can delay the onset and progression of AIDS in the HIV infected individual, no cure or vaccine for HIV infection or AIDS has been discovered. HIV infection entered the top ten leading causes of death in Texas for the first time in 1990 and is the seventh overall in years of potential life lost. Beginning in 1987, state law required reporting of HIV infections. Through 1991, more than 15,000 cases of AIDS have been reported to the Texas Department of Health (TDH). Texas ranks fourth among all states in the number of AIDS cases, and in 1991 ranked eighth among all states in the rate of AIDS cases per 100,000 population. By the end of 1993, it is estimated that the cumulative number of AIDS cases will be 22,000¹⁸. TDH estimated in 1991 that as many as 102,000 Texans could be infected with HIV.

During the first ten years of the AIDS epidemic in Texas, the majority of cases (72 percent) were among persons 20-39 years of age; 96 percent were males and 70 percent were white. Most (73 percent) were infected through male-to-male sex. Since 1988 there have been increases in the number of AIDS cases among females, minorities, intravenous drug users and heterosexuals. The number of pediatric AIDS cases increased 122 percent between 1988 and 1989, with 65 percent becoming infected from their mothers before or during delivery. The percentage of AIDS cases among children is expected to grow as more women of childbearing age become infected with HIV through drug use and unprotected sex.

Since 1985, when widespread and effective testing of the blood supply began, the major modes of transmission of the HIV virus are male-to-male sex, IV-drug use, unprotected heterosexual sex and perinatal (mother-to-child). Preventing the transmission of HIV through these modes requires dealing with some of the most sensitive of human behaviors -- sexual activity and drug use. It is estimated that 25 percent of adults are at risk of becoming infected with HIV through sexual transmission, but only 10 percent recognize this risk.

Major Precursors or Causes of Premature Death

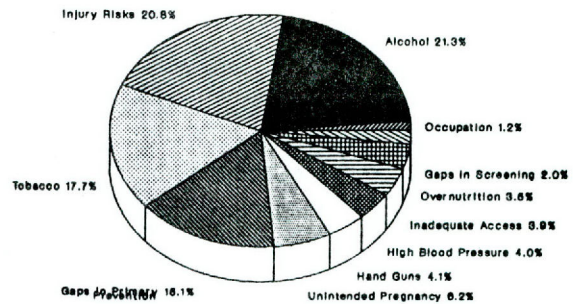
In the 1980s, the Carter Center at Emory University in Atlanta sponsored a five-year health project focused on the prevention of premature deaths and unnecessary disability. Part of this effort was the identification of major causes or precursors of premature death (See Table 6). The results of this study showed that approximately two-thirds of deaths in the U.S. are attributable to a preventable precursor, or cause, and are potentially unnecessary, or premature (See Table 7).¹⁹ Six precursors accounted for three-fourths of all years of potential life lost before age 65, and three-fourths of hospital days from preventable causes. These precursors, listed in order of importance, are tobacco, alcohol, injury risks, high blood pressure, over-nutrition, and gaps in primary prevention.

Tobacco was the leading precursor of premature death, accounting for 27 percent of all such deaths, followed by high blood pressure (24 percent), over-nutrition (23 percent), and alcohol (9 percent). Four precursors--injury risks, alcohol, tobacco and gaps in primary prevention---accounted for 75 percent of the years of potential life lost before age 65 in the U.S. (See Figure 5).

Year 2000 Health Objectives

The national and state health status objectives are detailed in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, and *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000*. These objectives present a realistic picture of health status improvements that can be achieved through preventive health and other interventions. The Texas objectives are modeled on the national objectives and focus on prevention of major chronic illnesses, injuries and infectious diseases.

FIGURE 5
YEARS OF POTENTIAL LIFE LOST BEFORE AGE 65 BY ATTRIBUTABLE RISK - U.S.



Source: *Closing the Gap: The Burden of Unnecessary Illness*, Table 2, p. 164.

The broad goals are to increase the span of healthy life for Texans, reduce health disparities and achieve access to preventive services for all Texans. More than 100 indicators of health status and health system improvement objectives are established to track progress toward meeting the state goals. Throughout the remainder of this plan, year 2000 goals and objectives are referenced with respect to the specific topic, life cycle or population group discussed.

In order to evaluate progress toward the national Year 2000 goals, a consensus set of 18 health status indicators was developed. Data for these indicators is obtained from birth and death Risk Factor Surveillance System. Figures 6 through 23 present the status of the Texas population with respect to 16 of these indicators.

Cost-Effectiveness of Prevention Services

As noted in *Healthy People 2000*, the effectiveness of prevention services in reducing morbidity and premature mortality is well documented. Preventing illness, premature death and disability holds substantial potential for constraining the rapidly escalating costs of health care in Texas. Successful prevention programs may also have spill-over effects in other sectors of the economy, such as reducing the costs of welfare and disability benefits and increasing the productivity of the work force. Some benefits of prevention programs can be short term like the avoidance of measles epidemics, while the benefits of others, such as reductions in heart and cardiovascular disease due to lifestyle changes, may not be seen for many years.

TABLE 6
SELECTED HEALTH PROBLEMS AND MAJOR PRECURSORS,
UNITED STATES, 1980

Studied Health Problems	Quantified Precursors	Other Identified Precursors
Cardiovascular diseases	Tobacco, high blood pressure, overnutrition, diabetes	Inadequate physical activity, socioeconomic level
Cancer	Tobacco, alcohol, occupation, gaps in screening, dietary fat, inadequate dietary fiber, gaps in primary prevention	Socioeconomic level
Alcohol dependency and abuse	Alcohol	Gaps in screening, gaps in primary prevention
Unintentional injury	Alcohol, injury risks, tobacco, handguns	Socioeconomic level
Diabetes mellitus	Overnutrition, tobacco, inadequate access to care	Socioeconomic level
Violence, homicide, domestic violence and suicide	Alcohol, handguns, gaps in primary prevention, gaps in screening, inadequate access to care	Socioeconomic level
Unintended pregnancy and infant mortality and morbidity	Tobacco, gaps in primary prevention, inadequate access to care	Alcohol, socioeconomic level
Infectious and parasitic diseases	Gaps in primary prevention, gaps in screening, inadequate access to care	Tobacco, alcohol, occupation
Respiratory diseases	Tobacco	Occupation, inadequate access to care
Dental diseases	Gaps in primary prevention, tobacco, inadequate access to care	Socioeconomic level

Source: Amler and Dull, *Closing the Gap*, The Burden of Unnecessary Illness, Oxford University Press, 1987, Table 1, p. 183.

TABLE 7

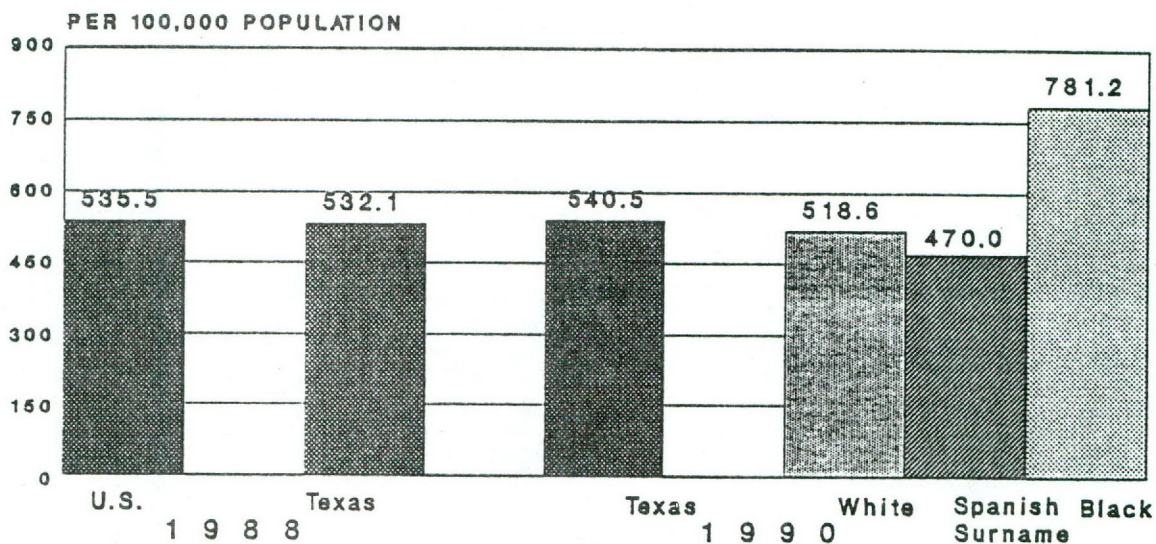
**MAJOR PRECURSORS OF PREMATURE DEATH, UNITED STATES, 1980:
ATTRIBUTABLE DEATHS AND POTENTIAL YEARS OF LIFE LOST
BEFORE AGE 65**

Precursor	Deaths	%	Potential years lost before age 65	%
Alcohol	99,247	7.8	1,795,458	21.3
Injury Risks	64,169	5.0	1,755,720	20.8
Tobacco	338,022	26.8	1,497,161	17.7
Gaps in Primary Prevention	54,027	4.3	1,273,631	15.1
Unintended Pregnancy	8,000	.1	520,000	6.2
Handguns	13,365	1.0	350,683	4.1
High Blood Pressure	297,162	23.6	340,752	4.0
Inadequate Access to Care	21,974	1.7	324,709	3.9
Overnutrition	289,502	22.9	292,960	3.5
Gaps in Screening	56,592	4.5	172,793	2.0
Occupation	16,807	1.3	102,065	1.2
Total Preventable	1,258,867		8,425,932	
Total (All Causes)	1,995,000		11,897,174	
Preventable Percentage	63.1		70.8	

Source: Amler and Dull, *Closing the Gap, The Burden of Unnecessary Illness*, Oxford University Press, 1987, Table 2, p. 184.

Figure 6

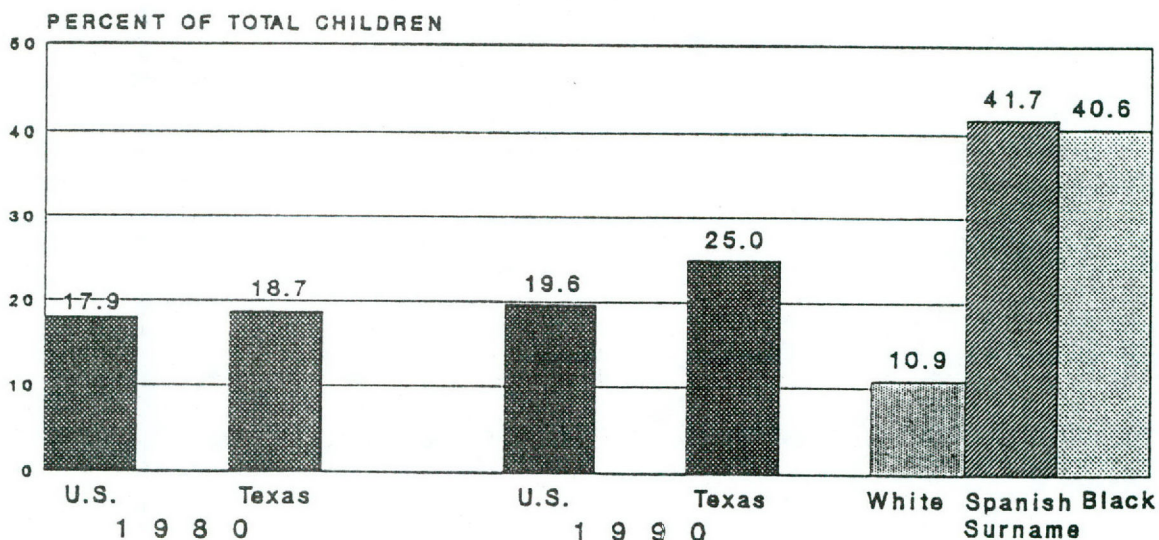
TOTAL DEATHS AGE-ADJUSTED DEATHS PER 100,000 POPULATION



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
 Source: Bureau of Vital Statistics, TDH, and
Healthy People 2000

Figure 7

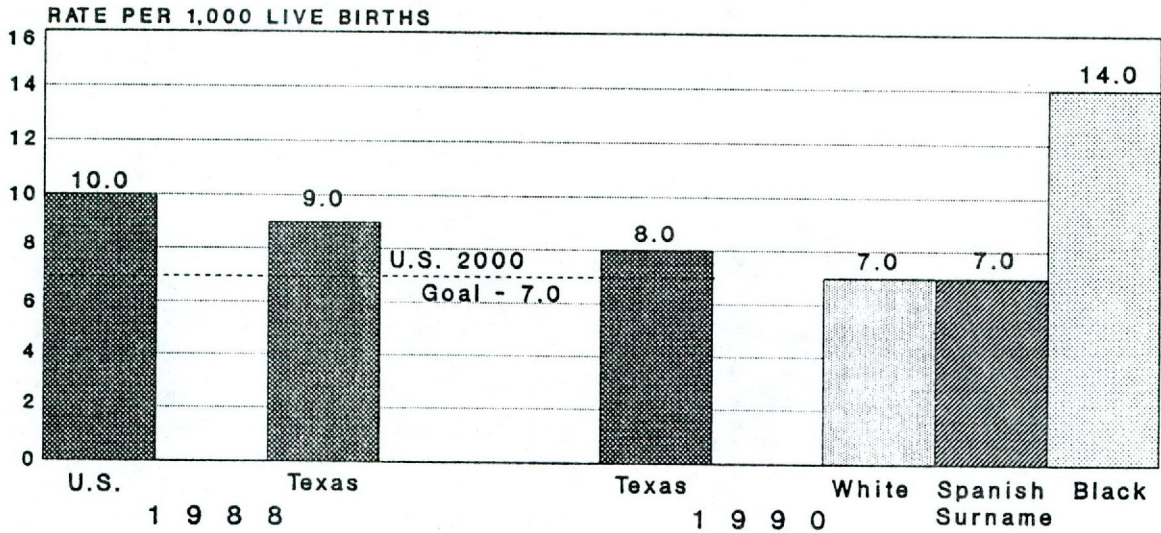
POVERTY PERCENT OF CHILDREN UNDER 18 YEARS OF AGE BELOW THE POVERTY LEVEL



Prepared by: Bureau of State Health Data and Policy Analysis
 Source: Special Texas Census - 1989; TDHS
 U.S. Census Bureau - 1980

Figure 8

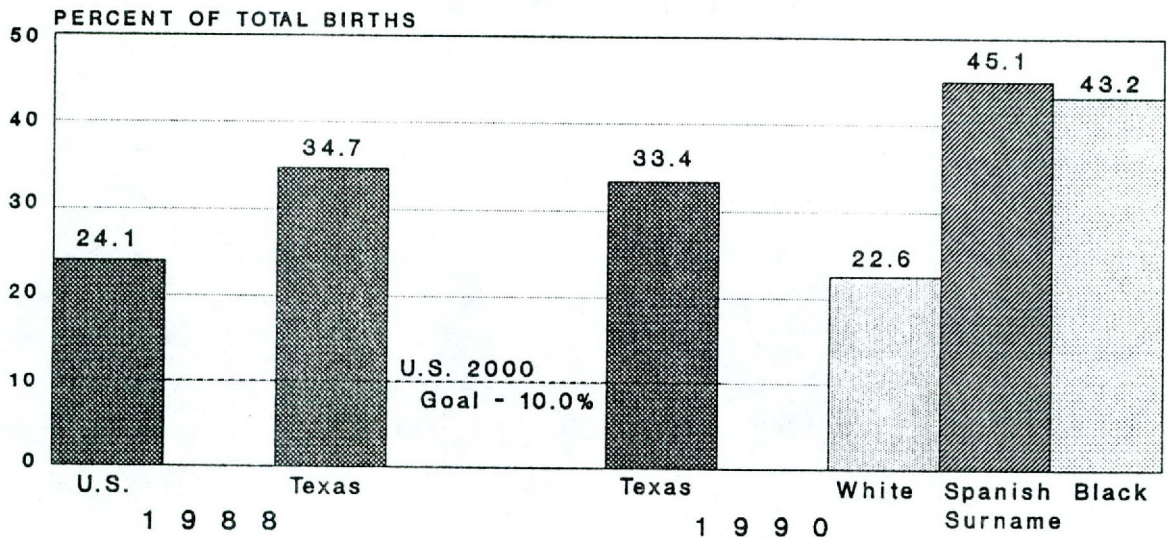
INFANT MORTALITY
DEATHS UNDER ONE YEAR OF AGE
PER 1,000 LIVE BIRTHS



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 9

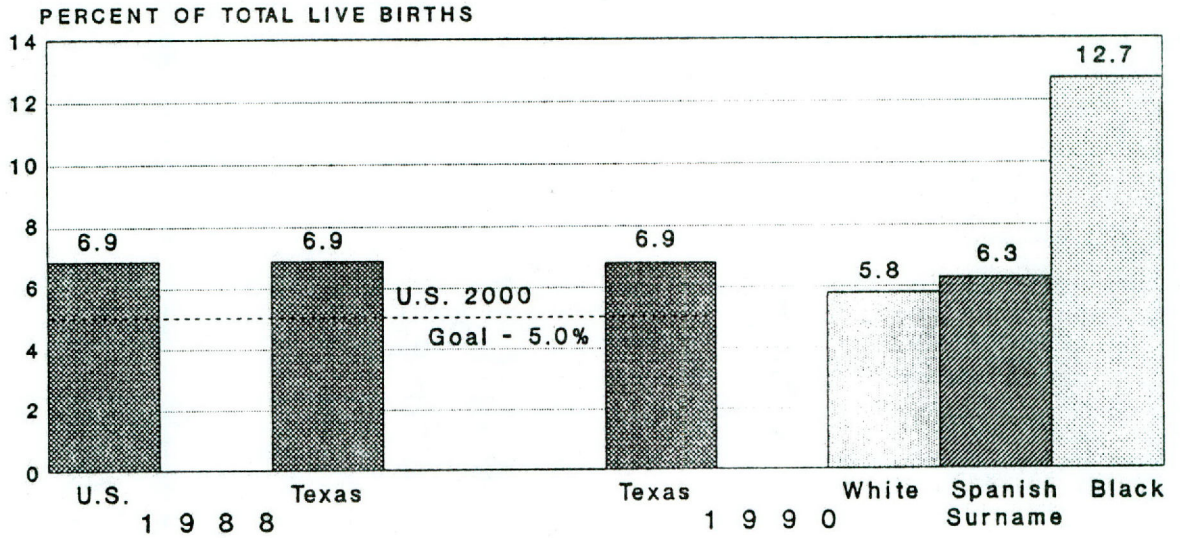
PRENATAL CARE
PERCENT OF TOTAL BIRTHS NOT RECEIVING CARE
DURING THE FIRST TRIMESTER



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 10

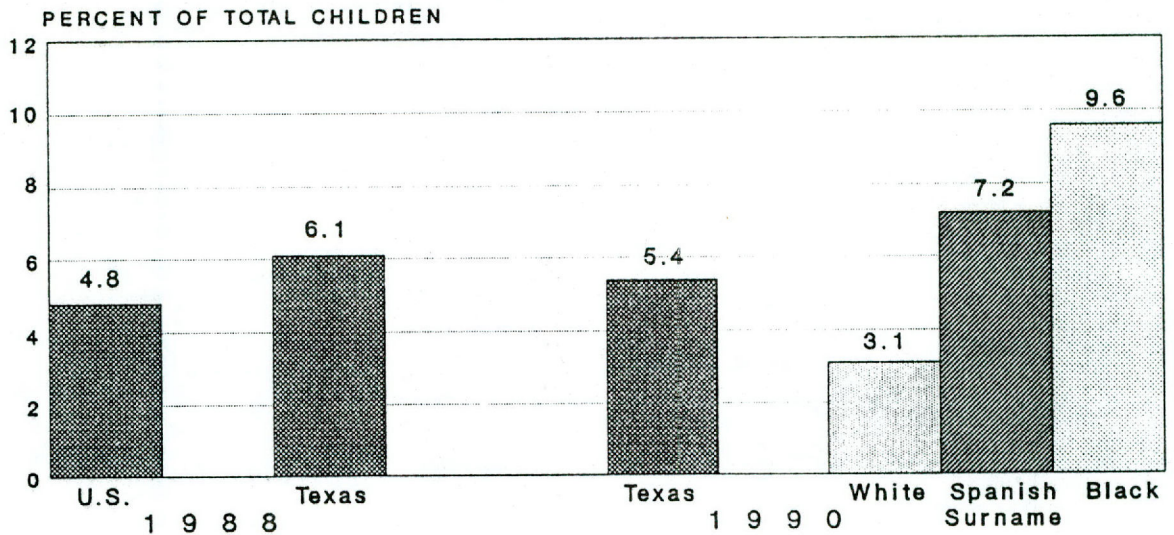
LOW BIRTH WEIGHT PERCENT OF TOTAL BIRTHS WEIGHING LESS THAN 5.5 POUNDS



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and
Healthy People 2000

Figure 11

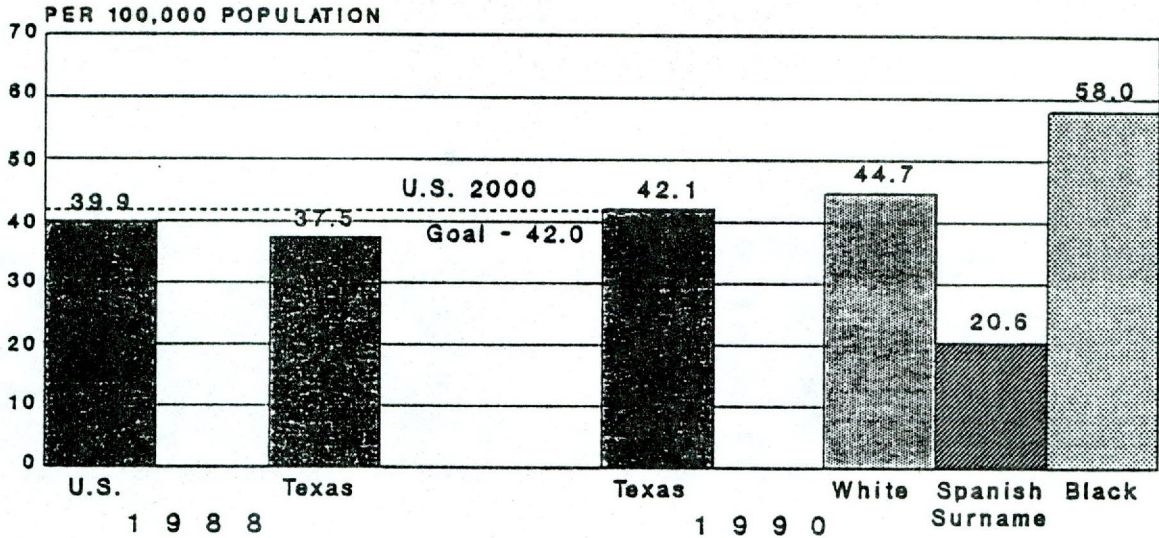
TEENAGE BIRTHS BIRTHS TO MOTHERS AGE 17 AND UNDER AS A PERCENT OF TOTAL LIVE BIRTHS



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and
Healthy People 2000

Figure 12

LUNG CANCER AGE-ADJUSTED DEATHS PER 100,000 POPULATION



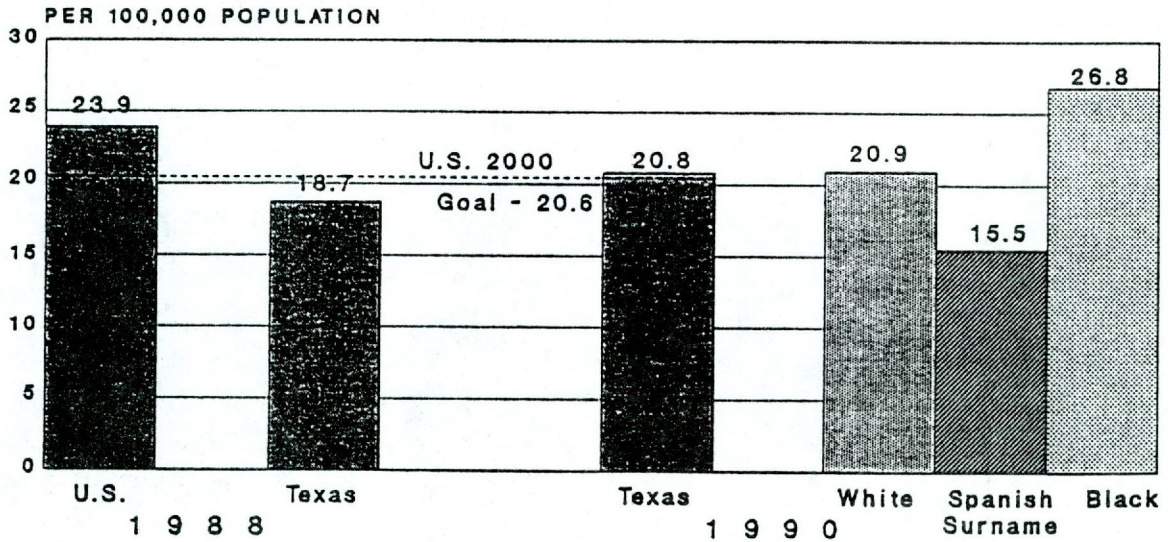
Note: The lung cancer death rate is rising. The U.S. 2000 Goal level incorporates this trend into the projected level for the year 2000.

Prepared by: Bureau of State Health Data and Policy Analysis, TDH

Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 13

BREAST CANCER AGE-ADJUSTED DEATHS PER 100,000 POPULATION

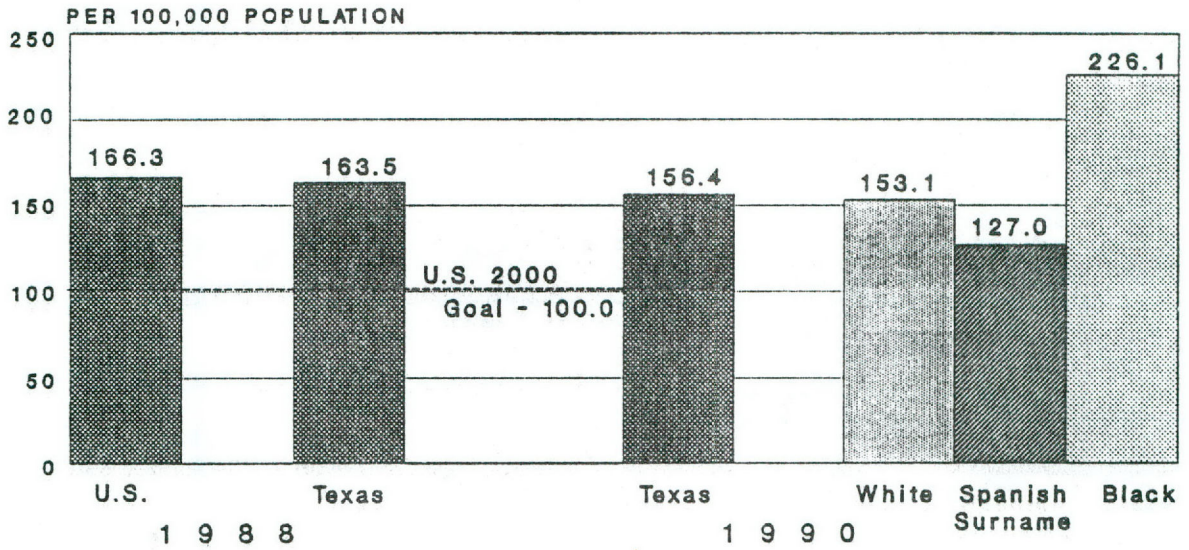


Prepared by: Bureau of State Health Data and Policy Analysis, TDH

Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 14

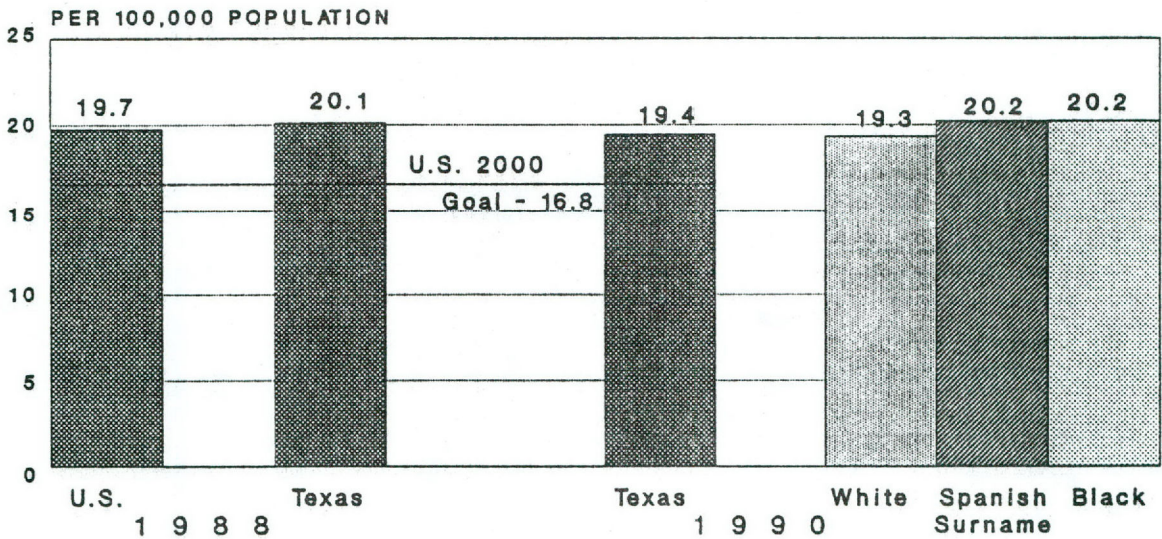
**DISEASES OF THE HEART
AGE-ADJUSTED DEATHS PER 100,000 POPULATION**



Note: U.S. 2000 Goal level excludes some ICD-9 codes included in Diseases of the Heart.
 Prepared by: Bureau of State Health Data and Policy Analysis, TDH
 Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 15

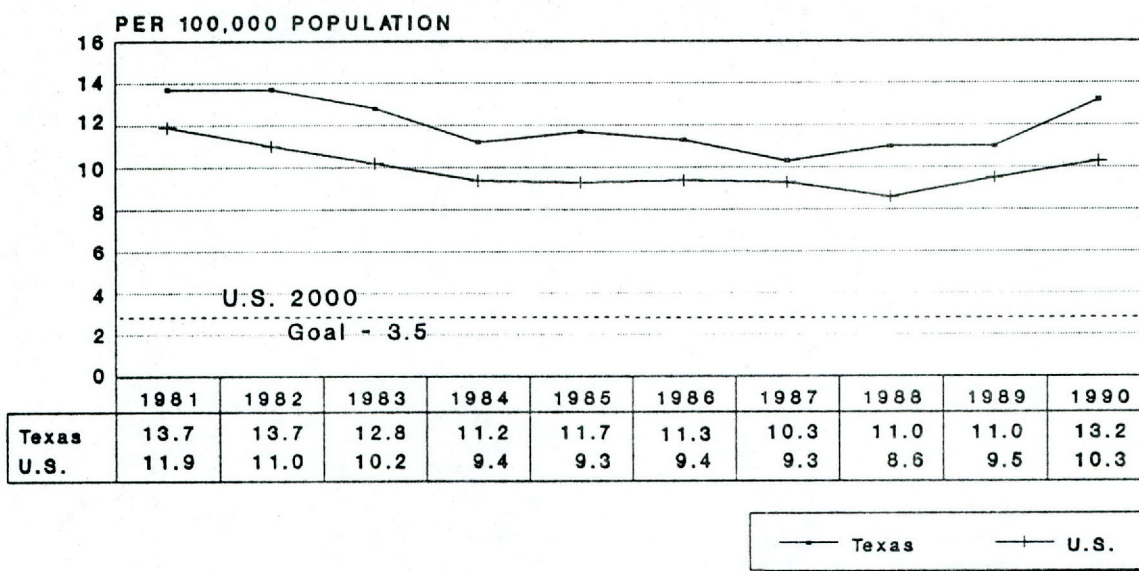
**MOTOR VEHICLE ACCIDENTS
AGE-ADJUSTED DEATHS PER 100,000 POPULATION**



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
 Source: Bureau of Vital Statistics, TDH, and Healthy People 2000

Figure 16

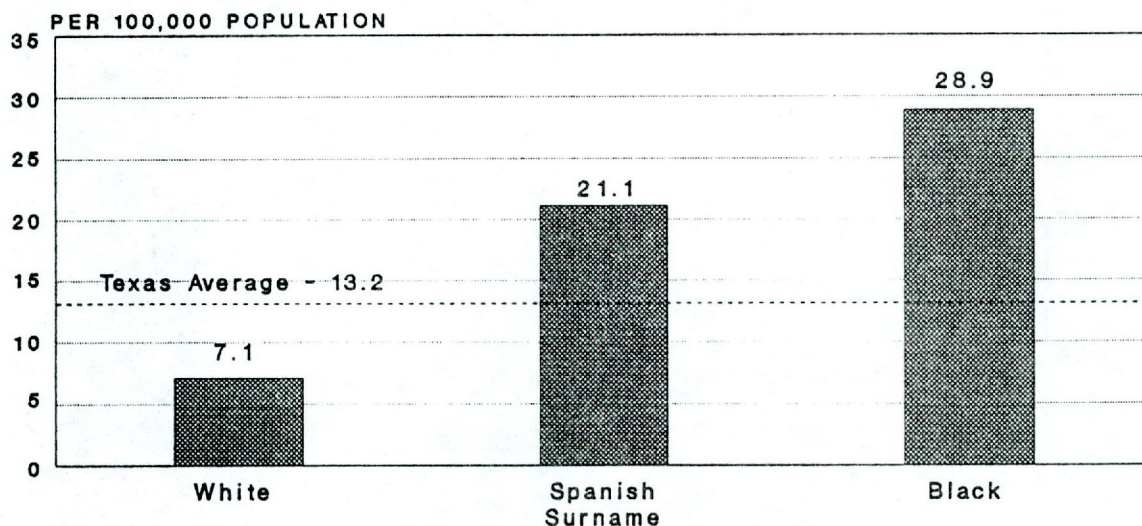
TUBERCULOSIS NUMBER OF REPORTED CASES PER 100,000 POPULATION FOR SELECTED YEARS, TEXAS AND U.S.



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Disease Control and Epidemiology, TDH

Figure 17

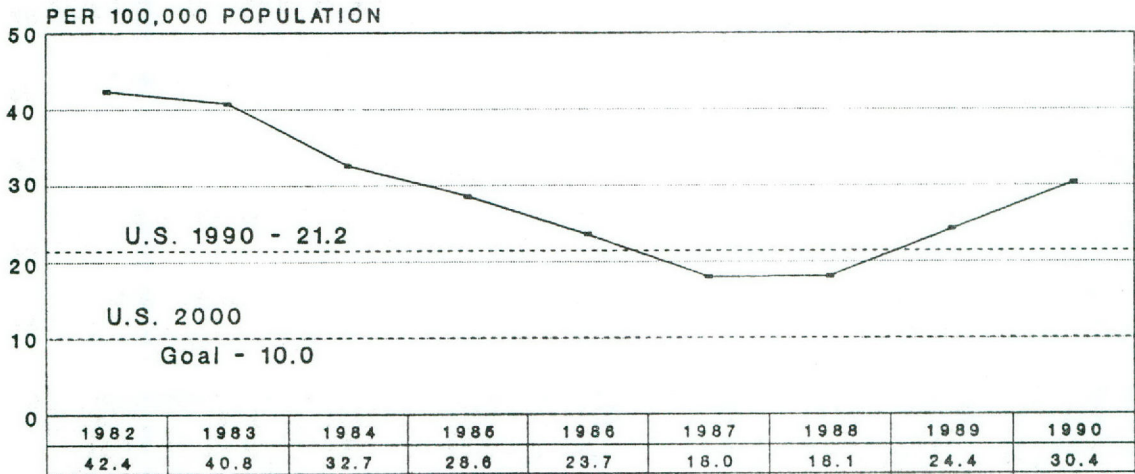
TUBERCULOSIS NUMBER OF REPORTED CASES PER 100,000 POPULATION BY RACE AND ETHNICITY - TEXAS 1990



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Disease Control and Epidemiology, TDH

Figure 18

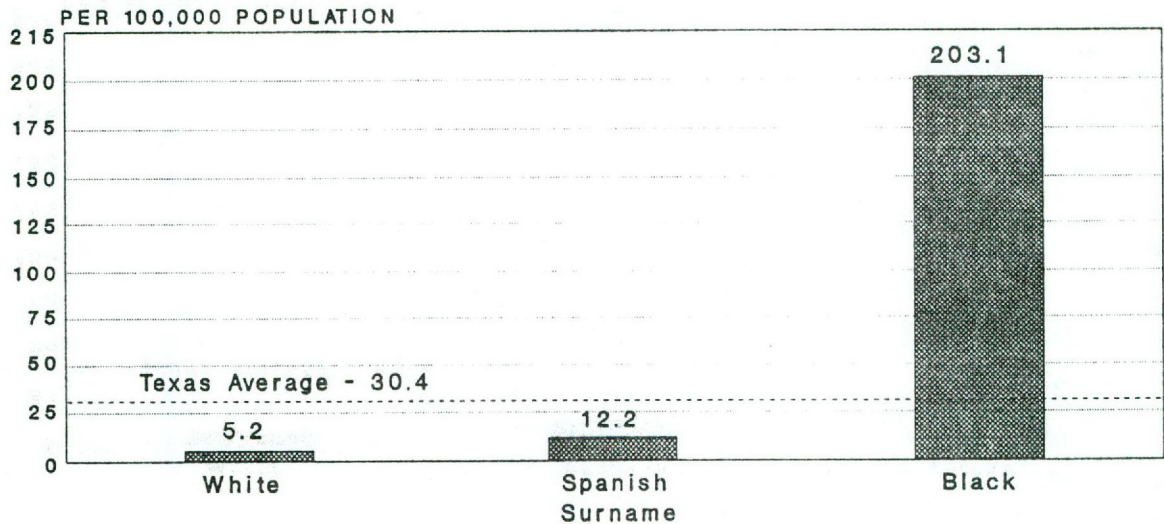
PRIMARY AND SECONDARY SYPHILIS
NUMBER OF REPORTED CASES PER 100,000 POPULATION
SELECTED YEARS, TEXAS AND U.S.



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Annual Report for 1990; STD Control Division, TDH
Healthy People 2000; DHHS

Figure 19

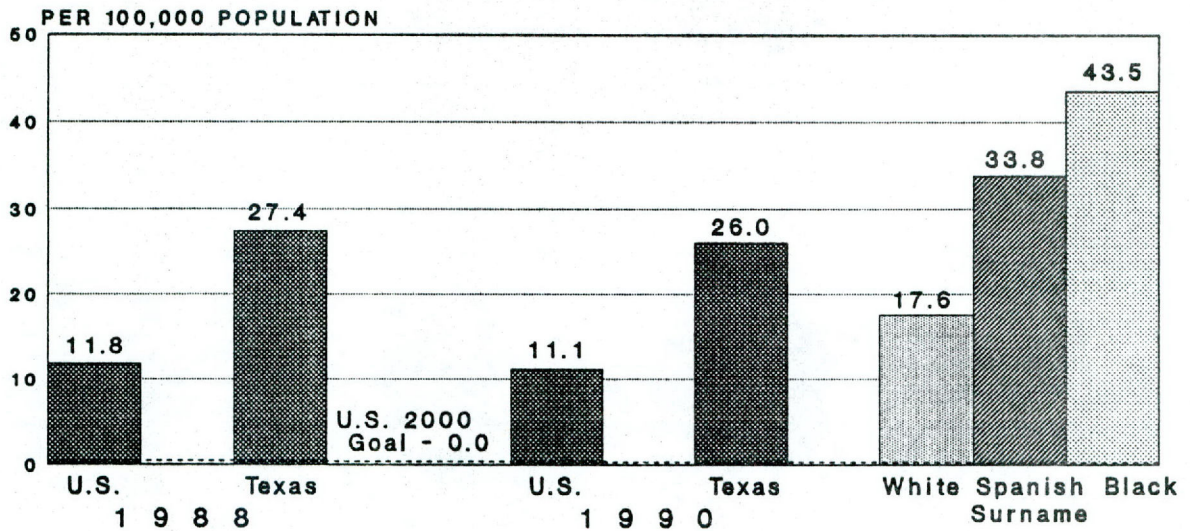
PRIMARY AND SECONDARY SYPHILIS
NUMBER OF REPORTED CASES PER 100,000 POPULATION
BY RACE AND ETHNICITY, TEXAS 1990



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Annual Report for 1990; STD Control Division, TDH
Healthy People 2000; DHHS

Figure 20

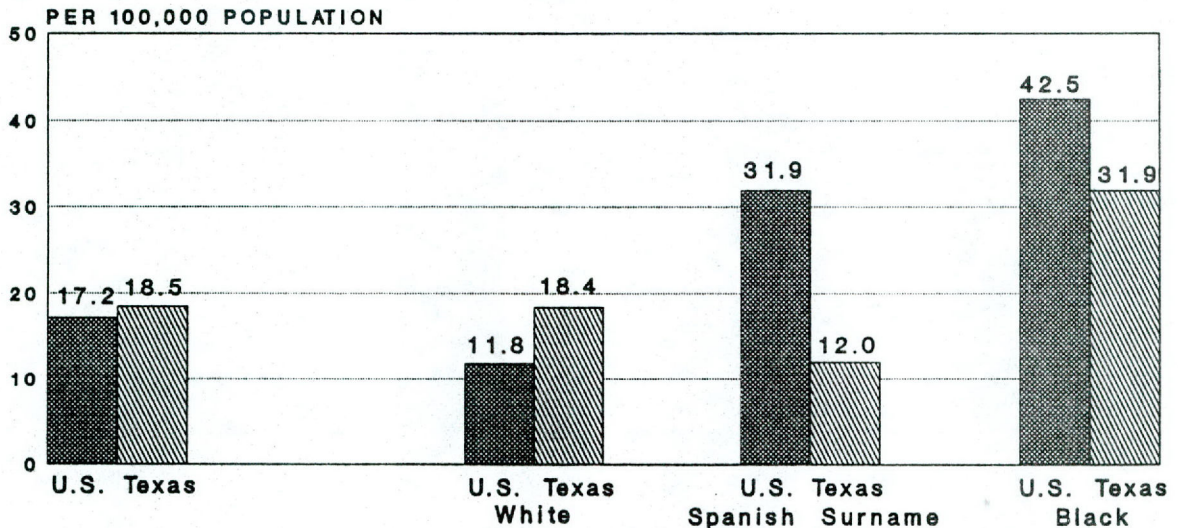
MEASLES
NUMBER OF REPORTED CASES PER 100,000 POPULATION



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
 Source: Immunization Division, TDH

Figure 21

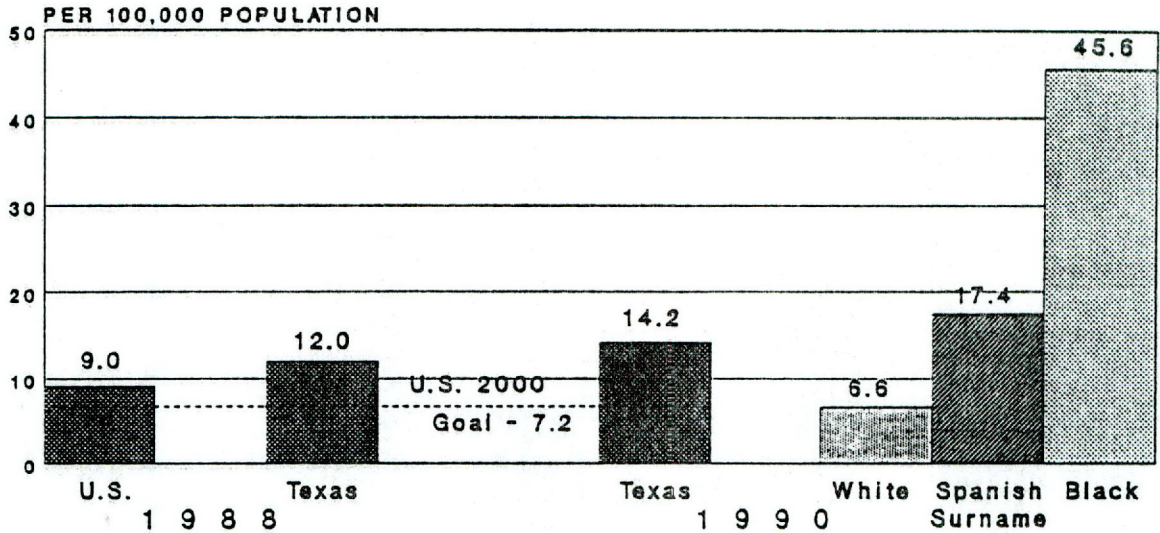
AIDS
NUMBER OF REPORTED CASES PER 100,000 POPULATION
1990



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
 Source: Bureau of HIV and STD Control and
 MMWR, June 2, 1991

Figure 22

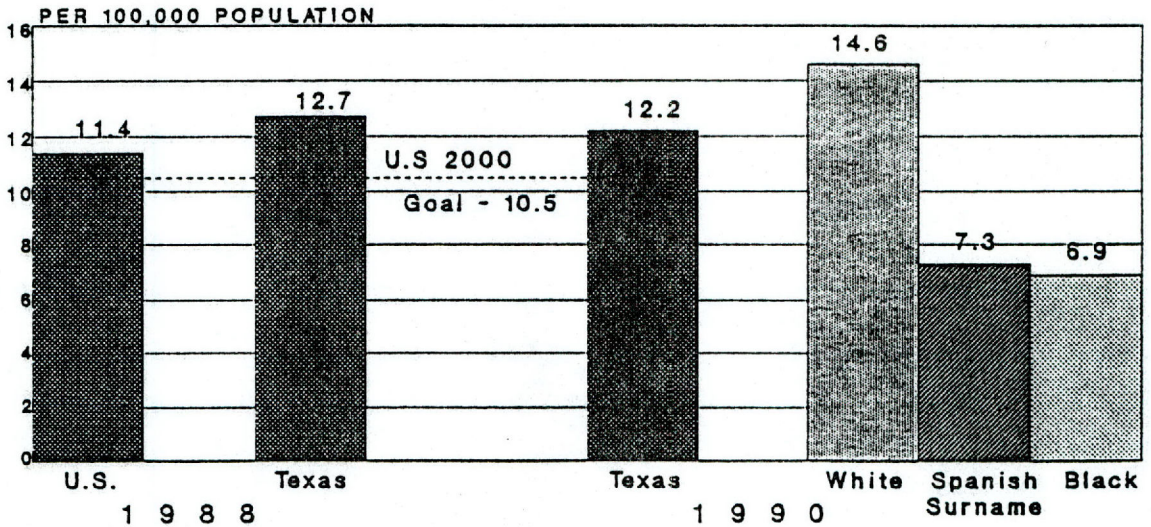
HOMICIDE AGE-ADJUSTED DEATHS PER 100,000 POPULATION



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and
Healthy People 2000

Figure 23

SUICIDE AGE-ADJUSTED DEATHS PER 100,000 POPULATION



Prepared by: Bureau of State Health Data and Policy Analysis, TDH
Source: Bureau of Vital Statistics, TDH, and
Healthy People 2000

The heightened emphasis on prevention has focused attention on the question of cost-effectiveness of prevention services. As the number of approaches to alleviating public health problems increase, information on cost-effectiveness is more frequently sought to aid policy-makers in assessing the potential for various prevention strategies. Cost-effectiveness analysis is a method for measuring and comparing the costs and health effects of a specified change. It is frequently stated as dollars expended per health outcome obtained, such as dollars expended per number of lives saved, per year of life saved or cases of disease avoided. More recently, health effects have been summarized in terms of quality-adjusted life years, a measure that allows for changes in illness and disability and in pain and suffering.

Analyses of prevention strategies on the basis of cost-effectiveness can be interpreted only in comparison with other alternatives, such as doing nothing, using other methods or addressing different problems. Given the current "state-of-the-art" of cost-effective analysis, its most direct application is in making head-on comparisons of similar treatments for the same disease or similar diseases.²⁰ Conducting such analysis is much more difficult when comparing a large number of very different treatments for very different diseases, each of which has a large number of different outcomes. Analyzing the cost-effectiveness of prevention programs is further complicated by the fact that potential savings in the non-medical sector of society frequently are not examined and are difficult to quantify.

Historically, information on the health outcomes of many prevention strategies, as well as medical treatments, has been difficult to obtain. This lack of data has made more difficult the task of showing direct medical cost savings for many prevention interventions, other than selected immunizations. Recently, however, the increased emphasis on prevention has spurred many efforts to document the medical and cost-effectiveness of preventive services.

The U.S. Preventive Services Task Force was commissioned by the U.S. Department of Health and Human Services to prepare age- and sex-specific recommendations for clinical preventive services. Their recommendations, published in 1989 in *The Guide to Clinical Preventive Services*, cover more than 60 major conditions and 169 separate interventions, and were based on an examination of the efficacy and effectiveness of the preventive strategy. These recommendations are presented by age-group and are included in the Appendix. The task force concluded that the greatest potential for clinical preventive services was in the area of patient education and counseling.

The INSURE (Industry-wide Network for Social, Urban and Rural Efforts) project was funded by insurance companies, private foundations and the federal government in 1980 to determine the feasibility of preventive medical services as a health insurance benefit. The study's intent was to demonstrate that preventive services provided within the primary care setting can significantly reduce the risk of disease and promote health.

Study participants received preventive care from their personal physicians, fully paid for without deductibles or coinsurance. The study showed that treated patients with behavioral risks were more likely than untreated control patients to report positive changes in five of six risk behaviors: beginning regular exercise, using auto seat belts, losing weight, decreasing alcohol intake and performance of monthly breast self-examination.²¹

Preventive services also proved beneficial to children and adolescents in the study. For example, the rate of smoking was unchanged for the study group while smoking among control group adolescents increased 37 percent.²² Most strikingly, there was an 85 percent increase in the use of child restraint and seat belts among study infants and children, compared with a 40 percent increase among control group children.

The CDC announced in March 1992 the initiation of a systematic effort to analyze the effectiveness of prevention programs, including the economic aspects. Topics will be selected for analysis based on their current priority for public health as assessed by their inclusion in the National Health Promotion and Disease Prevention Objectives and the availability of data. The Health Care Financing Administration also has five demonstration projects underway on the health outcomes and costs associated with the provision of preventive services to Medicare beneficiaries.

Increased and improved information about the health and social benefits of prevention programs will enhance reliability of cost-benefit analyses. Ultimately a preventive measure can be considered cost-effective whenever the effects or benefits are considered worth the costs, not only when the savings outweigh the costs.²³

Much of the information currently available about the cost-effectiveness of preventive health programs is in terms of the costs of preventive treatment versus the costs of treating diseases and injuries once they occur. Table 8 includes information about the costs and cost savings associated with several preventive health interventions.

TABLE 8
COST EFFECTIVENESS OF PREVENTIVE SERVICES: SELECTED EXAMPLES

PREVENTION STRATEGY	COST SAVINGS/ EFFECTIVENESS & BENEFITS	SOURCE/ STUDY
<p>IMMUNIZATIONS</p> <ul style="list-style-type: none"> • Measles, Mumps, Rubella vaccine • Hepatitis B (HB) vaccine 	<p>For every \$1 spent on MMR (\$20/ dose), \$14 is saved in treatment (average price of treatment is \$3,000) Inpatient cost of treating 180 cases of measles in the Dallas epidemic of 1989 totaled \$3.5 million; the cost of immunizing 10,000 people is \$200,000</p> <p>The Center for Disease Control (CDC) estimates that for every \$1 spent on an HB vaccine, \$2 is saved 15-20 years into the future</p>	<p><i>American Journal of Public Health</i>, v. 75; #7 (1985), p.739 Dallas County Hospital District Study, 1989</p> <p>The Texas Department of Health (TDH), Infectious Disease Program</p>
<p>PRENATAL/ PREGNANCY</p> <ul style="list-style-type: none"> • Prenatal Care • Nutrition supplementation • Family planning services 	<p>For every \$1 spent on prenatal care, \$3 is saved in the first year of a child's life</p> <p>Every \$1 spent on WIC saves the state of Texas \$2.44 in Medicaid expenses</p> <p>For every \$1 spent on family planning (Title XIX) \$14 in AFDC, Food Stamps, & Medicaid was averted; for each \$1 spent on Title XX, \$6 was saved</p>	<p>Institute of Medicine, <i>Preventing Low Birth Weight</i>, 1985 U.S. Dept. of Agriculture Study, WIC Program, Dr. David Rush, 1986 Texas Department of Human Services, Client Self Support Program, 1989</p>
<p>EARLY DETECTION/ SCREENING</p> <ul style="list-style-type: none"> • Sexually Transmitted Disease Control • HIV/AIDS treatment services • Cervical Cancer screening (Pap test) • Breast cancer (mammogram, exams) • Tuberculosis Screening • Hansen's Disease (Foot ulcers) • Diabetes management 	<p>For every \$1 spent on STD control, \$6 is saved in direct medical costs; estimated cost savings in 1991 was \$26 million; program expenditure by TDH was \$4 million</p> <p>For every government dollar spent on HIV community service programs, \$7 was saved by taxpayers</p> <p>Early cervical cancer detection saved \$5,907 & 3.9 years of life / 100 Pap smears</p> <p>The cost for a breast cancer patient cured due to early detection is \$14,000; for those fatal cases not detected early, the cost is approximately \$84,000 (CDC)</p> <p>Cost of a standard case of TB is \$631; the cost of standard preventative therapy is \$9.54</p> <p>Cost of early detection and follow-up for Hansen's Disease is \$113; average cost of hospitalization is \$6,500</p> <p>For every \$1 spent on diabetes management in pre-conception, \$5.19 is saved in hospital charges</p> <p>Diabetic programs that manage complications save more than twice the cost of the stage of complication</p>	<p>TDH, Sexually Transmitted Disease (STD) Program</p> <p>TDH, Human Immunodeficiency Virus (HIV) Division <i>Journal of the American Medical Association</i>, 259; #16 (1988), p.2409</p> <p>TDH, Chronic Disease Program</p> <p>TDH, Tuberculosis Control Program</p> <p>TDH, Disease Prevention Program</p> <p><i>American Journal of Public Health</i>, v.82; #2 (1992), p.168 <i>U.S. Morbidity and Mortality Weekly Reports</i>, DHHS, CDC, v.31; #23 (1982), p.307</p>
<p>EDUCATION/ COUNSELLING</p> <ul style="list-style-type: none"> • Substance abuse counselling • Smoking education/ counselling 	<p>An estimated \$131 dollars was spent in Texas in 1989 to treat individuals born with fetal alcohol syndrome defects</p> <p>The total cost of substance abuse in Texas was approximately \$12.6 billion (1989)</p> <p>One-third of total expenditures of the criminal justice system, and about a quarter of all property crimes involve alcohol and drug abuse</p> <p>Smoking costs Texans an estimated \$3 billion each year</p> <p>Brief advice during office visits cost \$748/ year of life saved for men based on a quit rate of 2.77% as compared with \$11,300 for treating moderate hypertension</p>	<p><i>Economic Cost of Alcohol and Drug Abuse in Texas</i>, Texas Commission on Alcohol and Drug Abuse (TCADA), 1989</p> <p>.</p> <p>.</p> <p><i>Annual Cost of Cigarette Smoking in Texas</i>, Office of Smoking & Public Health Promotion, TDH, 1990</p> <p><i>Journal of the American Medical Association</i>, v.261; #1 (1989), p.75</p>
<p>INJURY PREVENTION</p> <ul style="list-style-type: none"> • Work-site/ health programs • Safety programs 	<p>For every \$1 spent on work-site treatment and monitoring of blood pressure \$2-\$4 is saved</p> <p>There has been a 5-to-1 return on dollars invested by DuPont of Delaware, and an 8-to-1 return by the City of Birmingham, on employee wellness programs</p> <p>Child pedestrian programs would save \$58-\$180 million / year in the U.S.</p> <p>Application of air bag technology would save \$5-\$19 billion / year in the U.S.</p> <p>Bicycle helmet promotion would save an estimated \$183-\$284 million / year in the U.S.</p>	<p><i>Health Education Quarterly</i>, v.9 (1982), p.27</p> <p>Delaware Center for Employee Wellness</p> <p><i>Cost of Injury In The United States: A Report to Congress</i>, 1989</p> <p>.</p> <p>.</p>
<p>ENVIRONMENTAL</p> <ul style="list-style-type: none"> • Water fluoridation 	<p>For every \$1 spent on water fluoridation, \$80 is saved in dental costs</p> <p>Water fluoridation systems cost on average 51 cents per person/ capita</p>	<p><i>U.S. Morbidity and Mortality Weekly Report</i>, DHHS, CDC, v.41; # 21 (1992), p.374</p> <p>.</p>

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ENDNOTES

¹J. Michael McGinnis, M.D., "Prevention in 1989: The State of the Nation," *American Journal of Preventive Medicine*; Vol. 6 No. (1), p.1.

²U.S., Department of Health and Human Services (DHHS), Centers for Disease Control, "Years of Potential Life Lost Before Ages 65 and 85 - U.S., 1989-1990," *Morbidity and Mortality Weekly Reports*, May 8, 1992, Vol. 41, No. 18, p. 313.

³Ibid

³McGinnis, op. cit.

⁴Texas, Department of Health, *Texas Vital Statistics 1990 Annual Report*, p. 116.

⁵J. Michael McGinnis, M.D., Transcript of Presentation to the Texas Medical Association Conference, "Summit 92," April 23, 1992.

⁶*Texas Vital Statistics*, op. cit.

⁷B. E. Henderson, et al, *Science*, 1991, 254:1131-38.

⁸U.S., DHHS, Centers for Disease Control, "Public Health Focus: Mammography," *Morbidity and Mortality Weekly Reports*, June 26, 1992, Vol. 41, No. 25, p. 454.

⁹U.S., DHHS, Centers for Disease Control, U.S. Department of Health and Human Services, "Chronic Disease Reports," *Morbidity and Mortality Weekly Reports*, Vol. 38 (1989) and Vol. 39 (1990), Compilation, October 12, 1990, p. 29.

¹⁰R. Doll, *American Journal of Epidemiology*, 1991, 134(7): 675-88.

¹¹Ibid, p. 41.

¹²*Texas Vital Statistics*, op. cit, p. 149.

¹³"Chronic Disease Reports...", op. cit, p. 25.

¹⁴Texas Diabetes Council, *A Plan to Control Diabetes in Texas*, January 1991, p. 2.

¹⁵Texas, Department of Health, *Healthy Texans 2000 Partnership*, p. 51.

¹⁶"Chronic Disease Reports...", op. cit, p. 21.

¹⁷Texas, Department of Health, Bureau of State Health Data and Policy Analysis, *Homicide, Age Adjusted Deaths Per 100,000 Population*.

¹⁸Texas, Department of Health, Bureau of HIV and Sexually Transmitted Diseases, *Texas HIV and AIDS: A Seroprevalence Report*, October 1991.

¹⁹Rober W. Amler, and Bruce H. Dull, *Closing the Gap, the Burden of Unnecessary Illness*, Oxford University Press, NY 1987, p. 187.

²⁰David M. Eddy, M.D., "Cost-Effectiveness Analysis: Is it up to the Task?," *Journal of the American Medical Association*, June 24, 1992, Vol. 267, No. 24, p. 3342-48.

²¹Donald Logsdon, MD, et. al., "The Feasibility of Behavioral Risk Reduction in Primary Medical Care," *American Journal of Preventive Medicine*, 1989; 5(5).

²²Health Insurance Association of America, *Final Report of the Insure Project*, Washington, D.C., September, 1988.

²³Louise B. Russell, *Is Prevention Better Than Cure?* Washington, D.C., The Brookings Institution, 1986 and Louise B. Russell, *Evaluating Preventive Care: Report on a Workshop*, Washington, D.C., The Brookings Institution, 1987, p.3.

CHAPTER 2

ACCESS TO PRIMARY AND PREVENTIVE CARE IN TEXAS

The availability and delivery of preventive health services has been identified as "the greatest determinant of a population's health."¹ The current system of health care in Texas, and nationally, is primarily a system of medical care founded on the model of treating illnesses/diseases in an acute care or clinical setting. Current health care reimbursement and delivery systems are

rooted in this medical model. Preventive health services have traditionally been provided through public health programs. Barriers to primary and preventive health care can be grouped under three categories: inability to pay for care, inadequate provider capacity, and lack of access to health care facilities and services.

YEAR 2000 GOALS AND OBJECTIVES FOR ACCESS TO PRIMARY AND PREVENTIVE CARE

Attainment of the year 2000 national and state health promotion and disease prevention objectives relies substantially on improved access to and use of clinical preventive services in both the public and private sectors. The National Year 2000 Objectives address financial and health care system related factors that impede access to these preventive services. Access to a specific source of ongoing comprehensive primary care is

addressed as the key to increasing access to and use of clinical preventive services. Due to the unavailability of national or state baseline data for many of the objectives for clinical preventive services, targets for the year 2000 were established using the limited information that exists on some preventive services. The specific national objectives are presented below:

GOAL: Achieve Access to Preventive Care Services for all Texans.
OBJECTIVES:
Increase to at least 50 percent the proportion of people who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and gender as recommended by the U.S. Preventive Services Task Force.
Increase from 82 percent to at least 95 percent the proportion of people who have a specific source of ongoing primary care for coordination of their preventive and episodic health care.
Improve financing and delivery of clinical preventive services so that virtually no Texan has a financial barrier to receiving, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

Assure that at least 90 percent of people for whom primary care services are provided directly by publicly funded programs are offered, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

Increase to at least 50 percent the proportion of primary care providers who provide their patients with the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force.

Increase to at least 90 percent the population of people who are served by a local health department that assesses and assures access to essential clinical preventive services.

Increase the proportion of all degrees in the health professions and allied and associated health profession fields awarded to members of under-represented racial and ethnic minority groups as follows:

<u>Degrees Awarded To:</u>	<u>1985 Baseline</u>	<u>2000 Target</u>
Blacks	5.0%	8.0%
Hispanics	3.0%	6.4%
American Indians/Alaska Natives	0.3%	0.6%

FINANCING OF PRIMARY AND PREVENTIVE HEALTH CARE SERVICES

Texas, like the nation, is experiencing spiraling health care costs. These rising costs seriously impair the ability of individuals and businesses to pay for health care.² According to a national study, total health spending in Texas increased 187.3 percent between 1980 and 1990.³ Per capita spending on health increased 139.7 percent over the same period. An increasing amount of the family budgets of Texans is going to pay for health care. The Texas Comptroller of Public Accounts estimates that family spending on health care doubled in the last ten years and is likely to double again by the year 2000.⁴ The average Texas family of four spent \$5,349 on health care in 1991 and an additional \$3,693 was contributed by the family's employer bringing the family's total annual health care bill to \$9,042. Public expenditures on health care have also skyrocketed. Between 1990 and 1991, Texas Medicaid expenditures increased by 40.4 percent and accounted for 16.3 percent of the state's total expenditures.⁵

The Uninsured

At the same time as health care costs spiraled, the ability of many Texans to pay for health care diminished dramatically. While estimates vary, it is clear that the number of Texans without health insurance has increased substantially over the past few years. According to a national study, the number of non-elderly Texans without health insurance increased from 16 percent in 1980 to 21.4 percent in 1988.⁶ Other estimates of the number of uninsured Texans range from 19.3 percent (Special Texas Census, Texas Department of Human Services, 1989) to 24.1 percent (Employee Benefit Research Institute).⁷ In the EBRI study, Texas ranked second in the nation behind New Mexico in the percentage of the uninsured. The number of uninsured Texans increased by 59.5 percent between 1980 and 1990.⁸

The majority of Americans (65 percent) are medically insured through employment. Employment status is the third strongest predictor,

after family status and income, of whether a person has health insurance. Even so, many employers in Texas do not offer health benefits - approximately 55 percent of uninsured adults in Texas are working, while 18 percent are unemployed.⁹ Job loss, as well as declines in employer-sponsored health insurance, are important and causes growing numbers of uninsured in Texas. A federal law (COBRA) requires employers with 20 or more workers to offer continuation of health care benefits when such coverage is lost due to certain qualifying events. This coverage is expensive, however, and few (approximately 18 percent in 1988) employees who are eligible actually elect to buy continuation policies.¹⁰

Children make up more than one-third (35.2 percent) of uninsured Texans, a higher percentage than for the nation as a whole. Lack of insurance coverage seriously impairs the ability of Texas children to access primary care services. According to the Special Texas Census, uninsured children are five times more likely (10 percent) than insured children (2 percent) to name emergency rooms as their primary source of care, and are four times more likely to say they have no usual source of medical care. More than half (54 percent) of uninsured children had no medical visits during the previous year, compared to only 29 percent of insured children.¹¹

Data from the 1991 Texas Behavioral Risk Factor Surveillance System Survey (BRFSS) indicates that adults are also not receiving needed health care services. A total of 14.6 percent of all respondents age 18 and above, and almost one quarter of females age 25-34 years, reported there was a time during the past year when they needed to see a doctor, but couldn't because of the cost.¹² The National Association of Community Health Centers estimates the health care safety net, consisting of public health clinics and hospitals, federally subsidized community and migrant health centers, and other publicly funded programs, catches less than a quarter of the 43 million people in the U.S. who do not have access to medical care because they lack insurance, live in an underserved area, or cannot find a doctor who accepts Medicaid.¹³

Insurance Coverage of Clinical Preventive Services

Traditionally, health insurance systems in the U.S. have not paid for preventive services, such as medical screening, counseling, and immunizations. It is estimated that only 41 percent¹⁴ of insured adults have coverage for preventive examinations, and that only 45 percent of employment-based health plans cover basic childhood immunizations.¹⁵ In 1991 the Texas Department of Insurance (TDI) surveyed 32 insurance companies in Texas that together account for 72 percent of all accident and health insurance premiums written in the state. Preliminary figures from this survey indicate coverage of well-baby and well-child care at 30 - 38 percent of insured children and coverage of adult wellness and adult annual physicals at 29 percent of insured adults. According to the Texas BRFSS, only 15.2 percent of all Texans age 18 and over reported in 1991 that all of their preventive care needs were covered by their health care plan, while 24.6 percent reported none of these needs being covered.

Medicare is prohibited by statute from paying for preventive services except for pneumococcal and hepatitis B vaccinations, pap smears and mammography. The major preventive component covered by the state Medicaid program is family planning services, prenatal care and Early, Periodic, Screening, Diagnosis and Treatment (EPSDT) services for children up to age 21. The EPSDT program has the potential for providing comprehensive preventive care services to large numbers of Texas children. The Texas Department of Human Services (DHS) estimates that 1.2 million or 19.5 percent of Texas children under age 21 will be eligible for EPSDT services in FY 1993, and the eligible population is expected to grow by about 200,000 each year. Other preventive services for adult Medicaid recipients is minimal. Disease screening is limited to mammography and pap smears, and health education services are not covered.

Texas law mandates health insurance coverage for annual mammography screenings for females 35 years of age and older. This is subject to the

same deductibles and copayments as other radiological examinations. State law also requires coverage of formulas for treatment of phenylketonurea (PKU), an inherited condition that can cause mental retardation if not treated. The coverage must be the same as provided for other prescription drugs. These mandates apply to traditional risk health insurance policies regulated by TDI (an estimated 3.0 million people) and, in certain instances, to Health Maintenance Organizations (HMOs). The Federal Pregnancy Discrimination Act (P.L. 95-555) requires employers with 15 or more employees who provide health insurance to include maternity benefits. State law requires treatment for complications of pregnancy on the same basis as other illnesses. Examples of important preventive care services which are not mandated by Texas law include immunizations and well-baby care, diabetes education and smoking cessation.

HMOs are responsible for a comprehensive range of services for a defined population and are reimbursed through a capitation payment. This payment system provides financial incentives to keep patients healthy. Federally qualified HMOs are required to provide several preventive services, including immunizations, well-child care from birth, periodic health examinations for adults, voluntary family planning services and children's eye and ear examinations.¹⁶ Many HMOs also provide additional preventive services, such as education for self-care and for specific conditions like hypertension and diabetes and behavioral change programs for a modest fee to participants. A TDI survey of 20 licensed HMOs providing health care for 1.5 million Texans indicated that 100 percent of their members were provided well-baby and well-child care in 1991 and that all adults were provided benefits for adult wellness and annual physicals.

Use of Clinical Preventive Services

The information available about the use of preventive services indicates that while the proportion of the population that has ever received preventive services is growing, many individuals are not receiving these services as frequently as recommended. Many clinical preventive services

are underutilized and many of those most in need of preventive services are the least likely to get them. Studies also indicate that insurance coverage and physician recommendations are important factors in increasing the use of preventive services.

No reliable figures are available on the extent to which individuals receive complete or even minimal sets of preventive services. Results of the National Health Interview Survey did indicate significant increases in the use of eight routine preventive sources among adults and children between 1972 and 1982. Low-income people, people with low levels of education and Hispanics were the least likely to receive all eight services.¹⁷ Information is available from various studies and surveys on the receipt of specific preventive services. According to the 1990 BRFSS only 38 percent of women in Texas age 50 and above had a screening mammogram within the past year. Black and Hispanic women age 50 and above had mammograms even less frequently, with only 25 percent of Black and 29 percent of Hispanic women reporting having had a mammogram in 1990. The most frequently cited reasons for not having a mammogram was that it was "not needed", or had not been recommended by their physician.

Studies show that women are more likely to undergo screening when their doctor recommends the procedure. National studies indicate that most women who did not have a recent pap test or breast exam did have a recent contact with a physician.¹⁸ It is estimated that if all women received mammograms according to recommended guidelines, 673 of the 2,246 deaths of Texas women in 1990 due to breast cancer could have been prevented.¹⁹

Studies have also shown the need for improved physician compliance with recommended preventive care practices in clinical settings. Nationally it was estimated that the average American made 4.8 primary medical care visits in 1980, and 75 percent made at least one physician contact per year.²⁰ Because of this high rate of contact and their unique relationships with patients, primary care practitioners are particularly

well positioned to increase the use of preventive services. The evidence indicates, however, that physicians are not providing these services as often as is recommended.

One survey of family practice residents' compliance with preventive care recommendations showed that only 6 percent of patients received cholesterol screening and only 2.2 percent of women age 50-59 received a breast examination.²¹ The highest compliance rate (31 percent) was for Pap tests in women age 20-34. Another analysis of primary and secondary preventive practices by primary care physicians in the U.S. indicated that compliance ranged from a high of 75-77 percent for smoking counseling to a low of 10-19 percent for mammography.²²

A host of factors influence the physician's decision to give preventive care including the physician's beliefs and attitudes about preventive care, perception of the physicians' role, confusion about guidelines for preventive services, practice setting, reimbursement, time constraints, and the socialization and learning process of physicians. Computerized physician reminder systems, flow sheets, physician education and feedback, patient reminder systems, and involving office staff, nurses, and allied health professionals have been shown to increase the delivery of clinical preventive services.²³

AVAILABILITY OF PRIMARY CARE PROFESSIONALS

Primary care services are delivered by physicians with specialties in general/family practice, internal medicine, general pediatrics, and obstetrics/gynecology. However, other allied health professionals involved in providing primary care include dentists, optometrists, pharmacists, podiatrists, physician assistants, nurse practitioners, nurses, emergency care personnel, chiropractors, and a range of therapists.

The availability and distribution of physicians and other primary care providers continues to be of grave concern to all involved in the health care delivery system, regardless of individuals' special interest in the myriad of other problems. Never

in the past several years has this concern been reflected so consistently as it was during 11 regional focus meetings on Texas' health care conducted throughout the state in early 1992. Of eight major problem areas which surfaced in these meetings, 29 recommendations were aimed at health care professionals. These recommendations were not limited to the primary care physician; they included nurse practitioners, dentists, family practice residents, physician assistants, school nurses and pharmacists. A complete listing of focus meeting recommendations is found in the Appendix.

The U.S. Department of Health and Human Services (DHHS) has two programs which identify underserved areas or populations, Medically Underserved Areas (MUAs) and Primary Care Health Professional Shortage Areas (HPSAs). Although it is possible for an area to be designated under both programs, the designation processes are independent. MUAs and HPSAs can generally be defined as areas, or population groups, with a demonstrated shortage of personal health services. HPSAs more specifically identify areas with a shortage of primary care practitioners.

DHHS has designated 224 MUAs in Texas. Metropolitan areas account for 41 designations, and non-metropolitan areas account for 183. For 171 counties, the whole county is considered medically underserved, while portions of other counties are designated as underserved. Nearly 90 percent of rural Texas counties are partially or completely designated MUAs.

There are 124 individual counties in Texas with an HPSA designation. One hundred and ten of these are rural (89 percent). This represents more than half of Texas' rural counties. This designation has been made to 105 entire counties in the state.

Primary Care Physicians

At present, Texas' 17.3 million population is served by 12,024 primary care physicians, including family and general practitioners, pediatricians, internists, and OB/GYNs. (See

Figure 24) Twenty-three counties had no primary care physicians in July 1992. The most acute issues affecting physician distribution include the closing of many rural hospitals over the past decade, the reimbursement differentials between urban and rural physicians from Medicare and Medicaid, the decline in obstetrical services, and the less-than successful recruitment and retention of physicians in rural Texas. Studies show that hospital closures, outmoded equipment, and lack of funds for capital improvements, have a major negative impact on physician recruitment and retention in rural areas.²⁴

According to the Texas Research League, although rural counties in Texas have 19 percent of the population, only 15 percent of the state's primary care physicians practice there. One of the reasons given for this is financial. Primary care physicians on the whole have lower average income than doctors in general; rural physicians also have lower incomes than their urban counterparts. The chasm between urban and rural doctor incomes continues to go unchecked. Numerous examples of disparities in the urban-rural physician situation can be cited, but they all come down to one fact: rural areas continue to have a difficult time getting and retaining doctors, nurses, and other sorely-needed health professionals. (See Part II, Chapter 6 for additional comments concerning rural physicians.)

The way in which medical education is financed and the powerful incentives which encourage physicians to specialize and practice in urban environments is reflected in a lack of primary care physicians available for practice in rural counties. Salary disparities across specialties and the large amounts of educational debt are powerful incentives that influence decisions concerning practice location. Effective April 1, 1992, the Medicaid program began reimbursing Texas physicians providing care to Medicaid patients using a relative value scale. Reimbursement rates for primary care have been increased and geographic payment differentials have been removed. It is too early to determine whether this action will have a positive affect in recruiting and retaining physicians in underserved areas.

Currently, physician training emphasizes curative medicine. Most physician's practices focus on therapy rather than prevention. Physicians often are uncomfortable counseling patients about life style and risky behavior. In 1960, one-half of all new physicians entered primary care medical specialties. In 1986, only 34 percent of all new physicians entered primary care specialties. Income, prestige, and presumed authority play a part in the decline of primary care physicians.

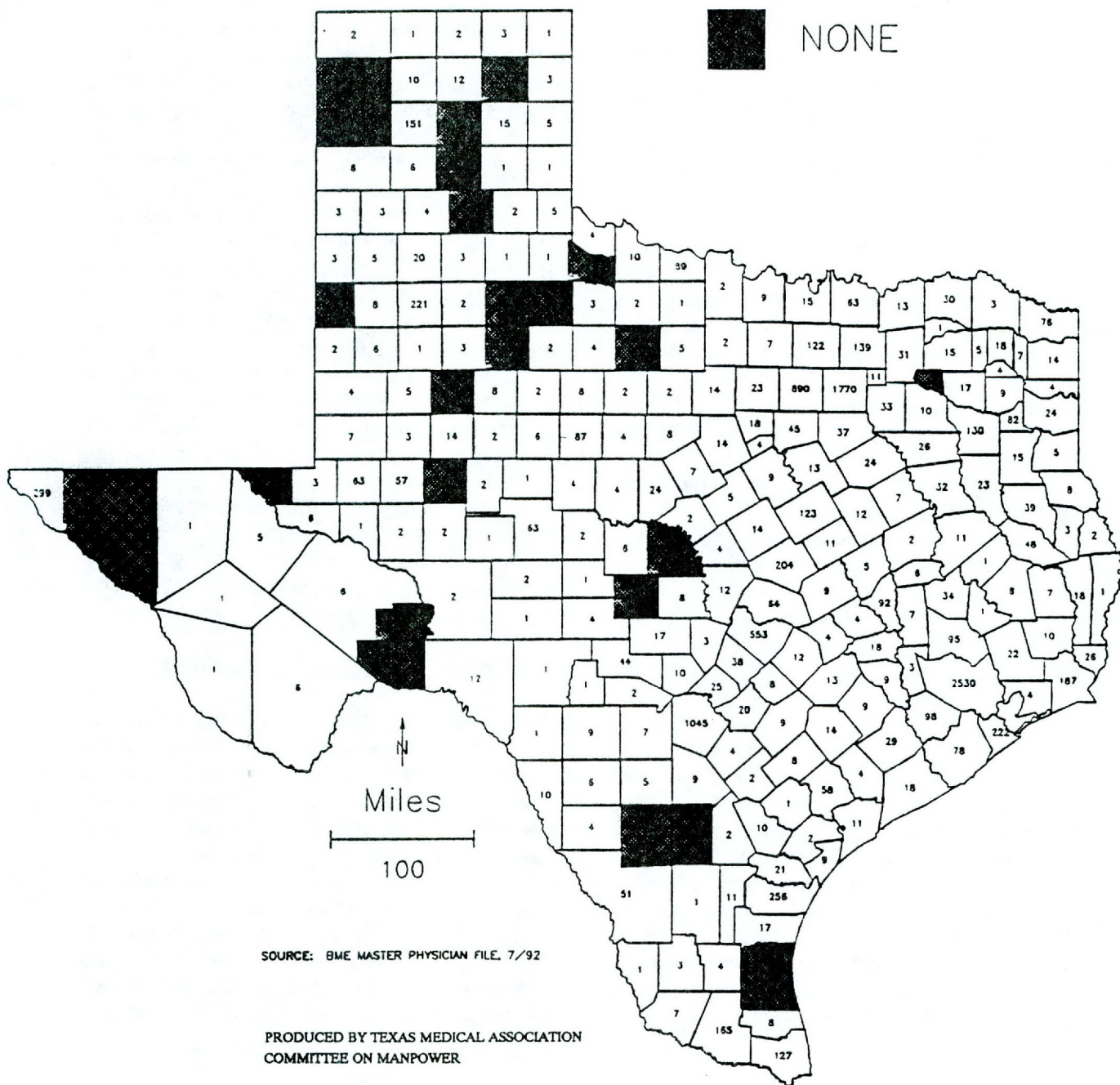
A critical shortage of obstetrical care exists in rural Texas as a direct result of a shortage of physicians providing obstetrical services. The actual percentage of all residency-trained family physicians offering obstetrical service in Texas is unknown, although a random sample conducted in 1988 of 205 Texas family physicians indicated that 61 percent had practiced obstetrics in the past, but do so no longer.²⁵ In 1989, 96 of Texas' 254 counties did not have obstetrical services.²⁶ Physicians' decisions not to include obstetrical services have been attributed to costly malpractice premiums and the fear of lawsuit.²⁷

Physician Assistants

Physician assistants (PAs) provide health care with the supervision of licensed physicians. PAs are academically and clinically prepared to provide diagnostic, therapeutic and preventive services that would otherwise be performed by physicians, and may be found in all settings where physicians practice. PAs graduate from programs at medical schools and teaching hospitals accredited by the Council of Allied Health Education of the American Medical Association. To become certified, PAs must pass the national examination administered by the National Commission on Certification of Physician Assistants. PAs are registered with the Texas State Board of Medical Examiners (TSBME). Current availability of PAs is not enough to meet the increasing demand. National statistics show 7.5 jobs available for each PA graduate. In August, 1992, there were 762 PAs registered with TSBME, with over 30 percent in medically underserved areas.²⁸

At sites serving medically underserved populations, PAs and advanced nurse practitioners

FIGURE 24 PRIMARY CARE PHYSICIANS IN TEXAS BY COUNTY, 1992



(ANPs) may carry out prescription drug orders under physician protocol when the physician is not present. In Texas, prescriptive authority delegated to PAs and ANPs is currently limited to non-scheduled drugs. When no physician is available to supervise, they cannot exercise this authority. This can create problems, particularly in rural areas where they may be the main source of primary care.

Nurses and Advanced Nurse Practitioners

Nurses assist in the delivery of primary and preventive care. Many nurses are community based and form the nucleus of the primary health care team. The current shortage of registered nurses and licensed vocational nurses affect the delivery of primary and preventive care.

Public health nurses are the single largest category of public health professionals, providing 70-90 percent of the personal health services of public health agencies. They provide direct care, risk assessment, health education and counseling, community analysis and development, case finding, case management, and concern for those who do not seek needed care. They work mainly with the 71 city or county local health departments within the eight public health regions of the Texas Department of Health (TDH). Services delivered focus on illness prevention, health promotion, and health maintenance in high-risk populations.

Occupational health nurses are often the sole provider of health care at the worksite. Their focus today is on health promotion and the prevention of illness and injury for workers and their families.

School nurses are often the primary care provider for children and adolescents. They have traditionally provided health screening, immunization assessment, first aid, and health education. More recently they have begun the provision of education related to pregnancy, drug and alcohol abuse, child abuse (including sexual abuse), mental illness, depression, suicide, nutritional disorders, HIV infection, and chronic disease. Some schools in the nation are expanding

their primary health services to the families of their students, using the school as a base. In addition to the above mentioned types of nurses there are many other nurses who are employed in the private offices and clinics of primary care physicians and are an integral part of the delivery of services in these settings.

An advanced nurse practitioner (ANP) is a registered professional nurse prepared by post-basic training to provide primary health care to individuals, families, and/or groups in a variety of settings. ANPs have the same prescriptive authority as PAs (see above). The shortage of faculties prevents development of ANP programs. Specialization includes pediatrics, family and adult care, women's health, oncology, gerontology, school health and neonatal nursing. Clinical nurse specialists, certified nurse midwives and certified registered nurse anesthetists are also included in the term ANP. ANPs apply to the Board of Nurse Examiners for the State of Texas for approval as an advanced nurse practitioner and, in addition, hold national certification in their area of expertise. Certified nurse midwives play an important role in providing prenatal care and deliveries for low-risk pregnancies, especially in medically underserved areas of the state.

In June, 1992 there were 3,259 nurse practitioners licensed and practicing statewide. However, 1,447 were nurse anesthetists, leaving 1,812 in specialties which may include primary care. Only 145 of these practiced in rural areas.

Other Allied Health Care Professionals

Allied health personnel do not always constitute clearly distinguished occupations that are defined by mandated training standards and licensure. There is no generally accepted list of employment. It is difficult to assess the need for various allied health professionals for the delivery of primary and preventive care. In addition to physicians, PAs, ANPs and nurses there is a need for chiropractors, dentists, optometrists, podiatrists, therapists, technicians/technologists, various types of medical assistants, pharmacists, and licensed psychologists, counselors, and social workers.

Because national associations and societies, rather than Texas agencies, certify or register many allied health professions, accurate data regarding individuals certified or registered in the state is not easily obtainable. Bilingual health care providers are needed throughout the state.

AVAILABILITY OF PRIMARY CARE FACILITIES AND SERVICES

One of the major components of a successful primary and preventive health care system is the availability and accessibility of primary and preventive health care facilities and services. The location or usual source of care for the patient's initial contact with the health care system is of vital importance to the success of a primary and preventive health care model. Also of importance to the primary and preventive health care system is the ongoing relationship between the primary care provider and the patient.

Primary health care services are usually provided in a physician's office, hospital emergency room, hospital outpatient clinic, community/migrant health center, local health department, state funded health clinic, private not-for-profit clinic, school health clinic, and work/company site clinic. Patients usually select a primary care facility based on insurance status, such as medically insured, not medically insured, type of insurance benefits and deductible and co-payment costs. Other factors that may influence the patient's choice of primary care facility are lack of transportation, ineligibility for public assistance and lack of knowledge of governmental programs.

Services provided by primary care facilities include diagnosis and treatment, emergency services, family planning, preventive services, health education, laboratory and x-ray, social services, environmental health services, nutritional counseling, health screening, home health care, dental care, transportation, prescription drugs, medical devices and durable supplies and podiatry services. Comprehensiveness of services provided by a primary care facility is usually dependent upon the qualifications and availability of the primary care professional.

Usual Source of Medical Care

According to a DHHS survey in 1987, 81.2 percent of the U.S. population had a usual source of medical care. Of these, 85 percent were in a physician's office.²⁹ These offices may be free-standing or a part of a group practice, health maintenance organization, or hospital outpatient clinic. The distribution of these offices is determined by the site chosen by each individual practitioner.

Most primary and preventive services can be delivered in a physician's office. Diagnostic procedures, such as X-rays and laboratory analyses, are often accomplished in-house. However, laboratory specimens are often collected and forwarded to independent or hospital-based laboratories, or clients can be referred for laboratory and radiology services. Immunizations are administered in-house or by referral and prescription drugs are usually acquired by the client from the local pharmacy.

Projections for 1992 derived from the 1989 DHS Special Texas Census indicate that 94.6 percent of Texans have a usual source of medical care, leaving 5.4 percent of the Texas population without a usual source. For those Texans that have a usual source, it is predicted that the most frequent site is a physician's office (79.2 percent), followed by outpatient clinics (6.4 percent), clinics/health center (3.6 percent), and emergency room (3.4 percent).

DHS further predicts that those Texans who have medical insurance will consider a physicians office (84.3 percent), outpatient clinic (6.2 percent), emergency room (2.5 percent), local clinic (1.9 percent) and other locations (1.8 percent) as their primary or usual source of health care. Three percent of those Texans with medical insurance will have no usual source of health care. Likewise, medically uninsured Texans will consider a physicians office (55.8 percent), outpatient clinic (7.6 percent), emergency room (7.8 percent), local clinic (11.1 percent), and other locations (2.6 percent) as their primary or usual source of health care. Fifteen percent of Texans without medical insurance have no

primary or usual source of health care. (See Figure 25)

The DHHS survey also indicated that persons in good to excellent health were less likely to have a usual source of care than those in poor or fair health. However, those in poor health were more likely to consider a hospital outpatient department or emergency room as their usual source of care.

Financial access to primary care is mainly gained through employer-based insurance coverage. Some federal, state, and local programs provide eligible clients with financial access to physician's offices. Medicare, Medicaid, the Primary Health Care Services Program, and the County Indigent Health Treatment Act are examples. (See Figure 26)

Hospital Emergency Room

People use hospital emergency rooms (ERs), particularly public hospitals, for non-emergency and emergency care because these facilities have convenient hours of operation, are located near transportation routes, and because the individual lacks access to other providers. In 1990, 422 of the 461 hospitals in Texas reported having emergency rooms. This included 168 public, 131 not-for-profit, and 129 for-profit hospitals.³⁰

According to the 1990 TDH/American Hospital Association/Texas Hospital Association Annual Survey of hospitals, Texans made 4,751,150 visits to a hospital emergency room in 1990. TDHS projects that for 1992, 3.4 percent or 603,000 of the state's population will consider a hospital emergency room as their primary or usual source of health care. Of the 603,000 Texans projected to consider an ER as their primary or usual source of health care, 36 percent will have insurance through their employer, 9 percent Medicare, 17 percent Medicaid and 21 percent will have private insurance or a combination of private and public health insurance. Forty percent or 243,000 of those who will consider an ER as their primary or usual source of health care will be uninsured.

Health care in an ER is not appropriate for primary and preventive care, since ERs are staffed

for emergencies. It is also more expensive and does not provide a continuity of care.

Hospital Outpatient Clinics

In 1990, 75 hospitals reported providing outpatient services; 13 hospitals were public, 32 were not-for-profit, and 30 were for-profit. Dallas and Tarrant Counties are examples of hospital districts which have set up community clinics as satellites of hospital outpatient clinics. A regional primary health care outreach clinic has been established in Gilmer, Upshur County, under the sponsorship of the University of Texas Health Sciences Center in Tyler, serving 18 counties. These programs have been successful in reaching and serving those who are uninsured.

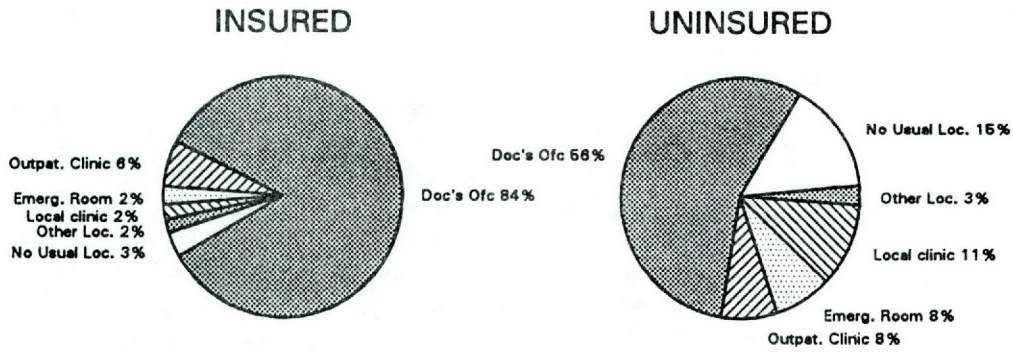
In 1990, Texans visited a hospital outpatient clinic 8,011,951 times.³¹ According to TDHS predictions for 1992, 1,132,000 Texans will consider a hospital outpatient clinic as their primary or usual source of health care. Seventy-nine percent or 894,000 of the predicted 1,132,000 will have insurance. Seventy-five percent will have insurance through their employer, 16 percent Medicare, 15 percent Medicaid, and 32 percent will have private or a combination of private and public health insurance. Twenty-one percent or 238,000 Texans considering a hospital outpatient clinic as their primary or usual source of health care will be uninsured.

Local Programs

There are 71 local health departments in Texas. These consist of 34 county, 25 city-county, nine city, and three multi-county health departments. Services to be provided are determined by the departments and do not always cover needed primary and preventive care. Local health departments are accountable directly to their respective city /county officials.

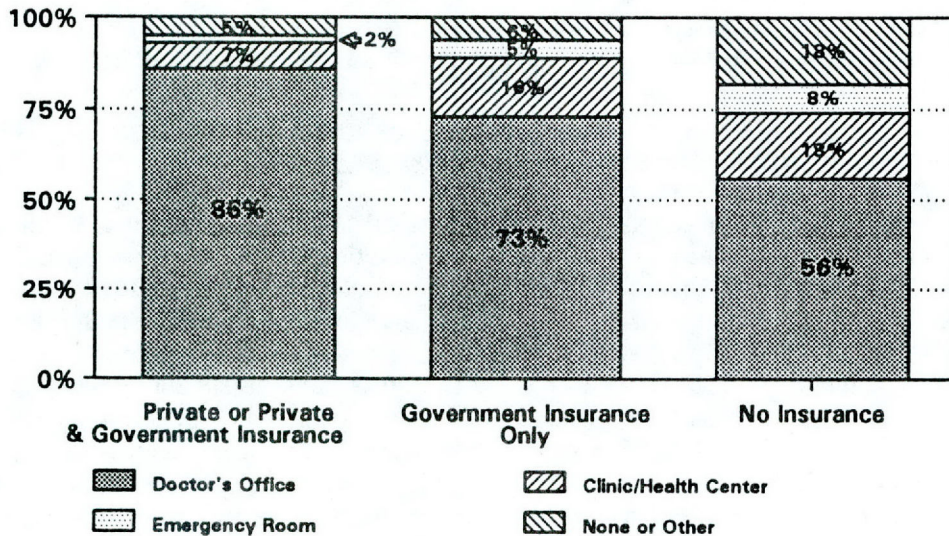
The services provided by 75 percent of the local health departments in the state include: epidemiology and surveillance (communicable diseases and occupational hazards), chronic disease control/adult health (hypertension and

FIGURE 25
TEXANS' SOURCE OF HEALTH CARE
BY LOCATION



Source: Texas Department of Human Services

FIGURE 26
SOURCE OF TEXANS' HEALTH CARE
BY INSURANCE TYPE, 1992 PROJECTION



Source: TDHS, 1989 Special Texas Census

diabetes screenings and nutritional counseling), health education, immunization (childhood and adult), maternal and child health (prenatal care and child health), sexually transmitted diseases (screenings, treatment, and contact follow-up), HIV (testing, counseling, and education), tuberculosis (testing, treatment, and contact follow-up), wastewater management, and water (safe drinking).³²

In FY 1990, local health departments provided services to 505,624 residents of the state. Some of the services provided included 4,199,932 screenings and 1,626,746 immunizations.³³

County Indigent Health Care Program

In 1985, the 69th Texas Legislature enacted laws to provide health care for medically needy people who do not qualify for Medicaid. One of those laws was the County Indigent Health Care Program (CIHCP) implemented in 1986 and administered by DHS. The CIHCP covers 142 counties that are not fully served by a public hospital or hospital district.

Closure of public hospitals, the dissolution of hospital districts and legislative amendments in 1987 and 1989 eliminating the indigent health care responsibility of certain public hospitals has increased the number of counties liable for health care. The 70th Legislature exempted hospital authorities from the responsibilities mandated for public hospitals. The 71st Legislature exempted certain leased, city-owned, and city-and-county-owned hospitals from public hospital responsibilities.³⁴

A county without a public hospital is legally liable for spending up to 10 percent of its general revenue tax levy for hospital and medical services for county residents who meet Aid to Families with Dependent Children (AFDC) income and resources limits, but are not eligible for Medicaid. These people are primarily men, non-pregnant women, women without dependent children, married couples, and illegal entrants to the United States. Their incomes must be below 25 percent of the federal poverty level. Eligible county residents are to receive inpatient and outpatient

hospital care, physician services, laboratory services, X-rays, family planning services, skilled nursing care, rural health clinic services, and prescription drug services, according to state law.³⁵

Usually, counties contract for indigent health care services, rather than provide for those services directly. Some counties operate their programs through local county welfare or public health programs. Others contract with councils of government or other groups to operate the programs.³⁶

During fiscal year 1990, counties spent more than \$22 million in local funds for mandatory services for eligible residents under CIHP, up from \$19 million in fiscal year 1989, and approved more than 22,411 people for health services, compared to more than 18,864 people approved in 1989.³⁷ Unfortunately, there are many uninsured very poor people in Texas who have just a little too much income or too many assets to qualify for either Medicaid or the CIHCP. Most of the working poor earn too much to be eligible for these very minimal programs.

There are over three million Texans below the poverty line, but only 100,000 - 150,000 Texans meet the very restrictive CIHCP guidelines. Some advocates for the poor maintain that some counties are circumventing the legal intent of the program by establishing illegal barriers to application or by making the application process so difficult that even the most determined people are discouraged from completing it.³⁸

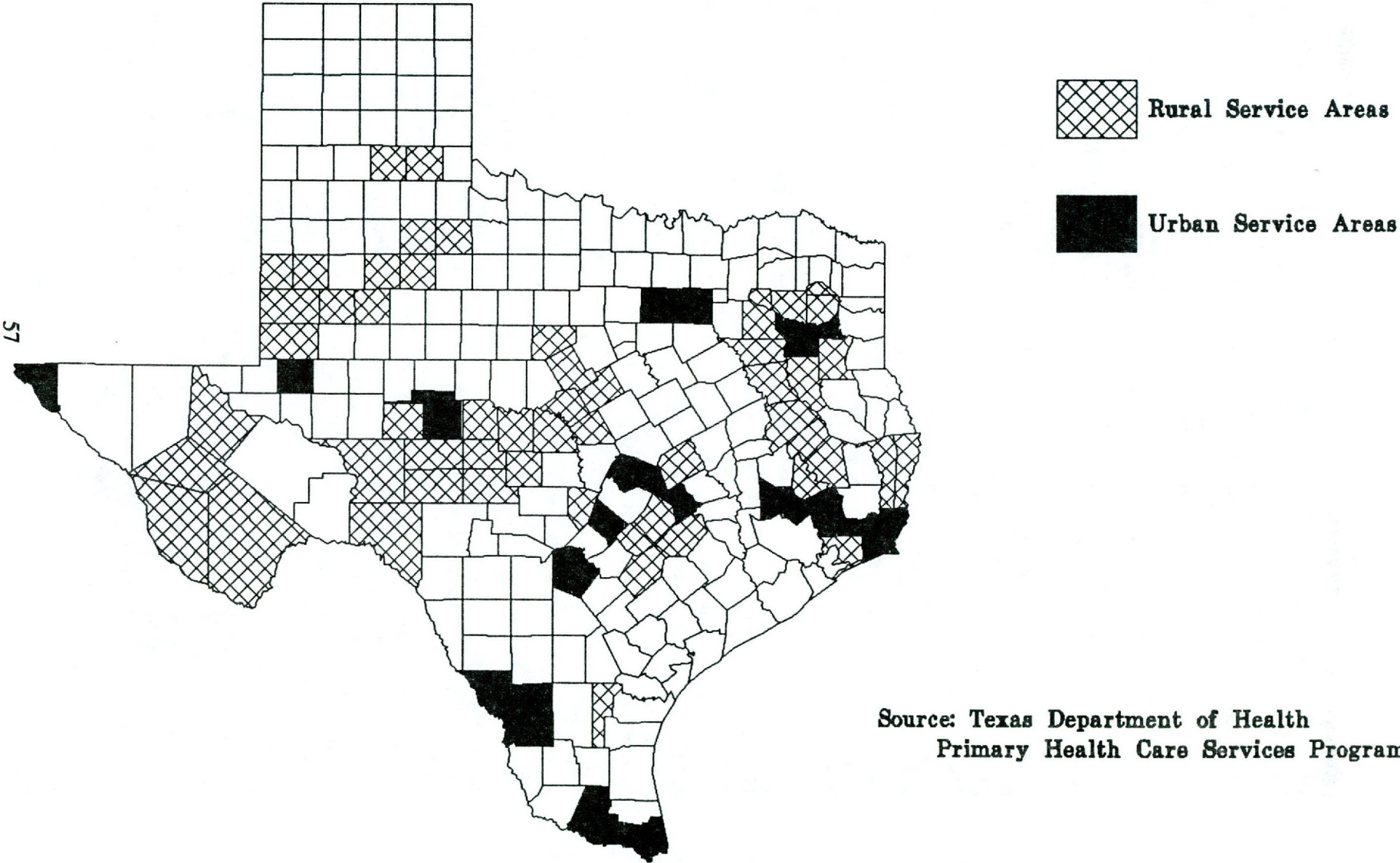
State-Funded Primary Health Care Services Program (PHCSP)

In fiscal 1992, PHCSP funded 33 projects serving 72 counties, 55 of which were rural (See Figure 27). Contracts were awarded on a competitive basis to local providers. Six services designated by the legislature to receive priority attention are diagnosis and treatment, emergency services, family planning, preventive services and immunizations, health education, and laboratory and x-ray. Transportation, dental care, prescription drugs, and screening are also

FIGURE 27

FY 91 PRIMARY CARE SERVICES PROGRAM

LOCATION OF SERVICE AREAS



provided by some of the projects. The program targets individuals who do not meet Medicaid or CIHCP eligibility requirements, and who are without any other public or private health insurance. PHCSP project providers include nine community health centers, two public health regions, four hospital districts, two university/residency programs, seven county and city/county health departments, four community action programs, three non-profit organizations, and one council of government.

In an effort to reduce fragmented health and human services the PHCSP has mandated the use of the Integrated Eligibility (IE) intake system. The IE program reduces the number of applications an applicant must complete for eligibility into health and human services programs. The IE program has been instrumental in getting several TDH and TDHS programs to use the same application form.

In FY 1990, PHCSP provided primary care services to 90,000 medically indigent clients or less than 10 percent of the estimated 1.4 million PHCSP target population. Very poor people and children account for the bulk of the clients using PHCSP services. In FY 1990, 62 percent of the eligible clients were at or below 100 percent of poverty; 56 percent were unemployed; 50 percent were under 18 years of years-of-age; and 44 percent were without services due to an inability to pay.³⁹

Over 800,000 medically indigent people were estimated to be in need of primary health care services in FY 91. The PHSCP was able to provide direct services to over 107,000 of these individuals, while reaching another large number through outreach and other more indirect services. However, this still leaves the majority of uninsured Texans with no access to health care services.⁴⁰

The presence of PHCSP projects has enabled early detection and treatment of over 50 different acute and chronic diseases. The availability of PHCSP services provides a cost-effective method of treatment by decreasing the inappropriate utilization of emergency room services which are

often the only source of health services for the indigent. Through early intervention and preventive services provided by PHCSP, the need for crisis-oriented care is being reduced, resulting in cost savings for the community and a more effective allocation of scarce monetary resources.⁴¹

Community and Migrant Health Centers (C/MHCs)

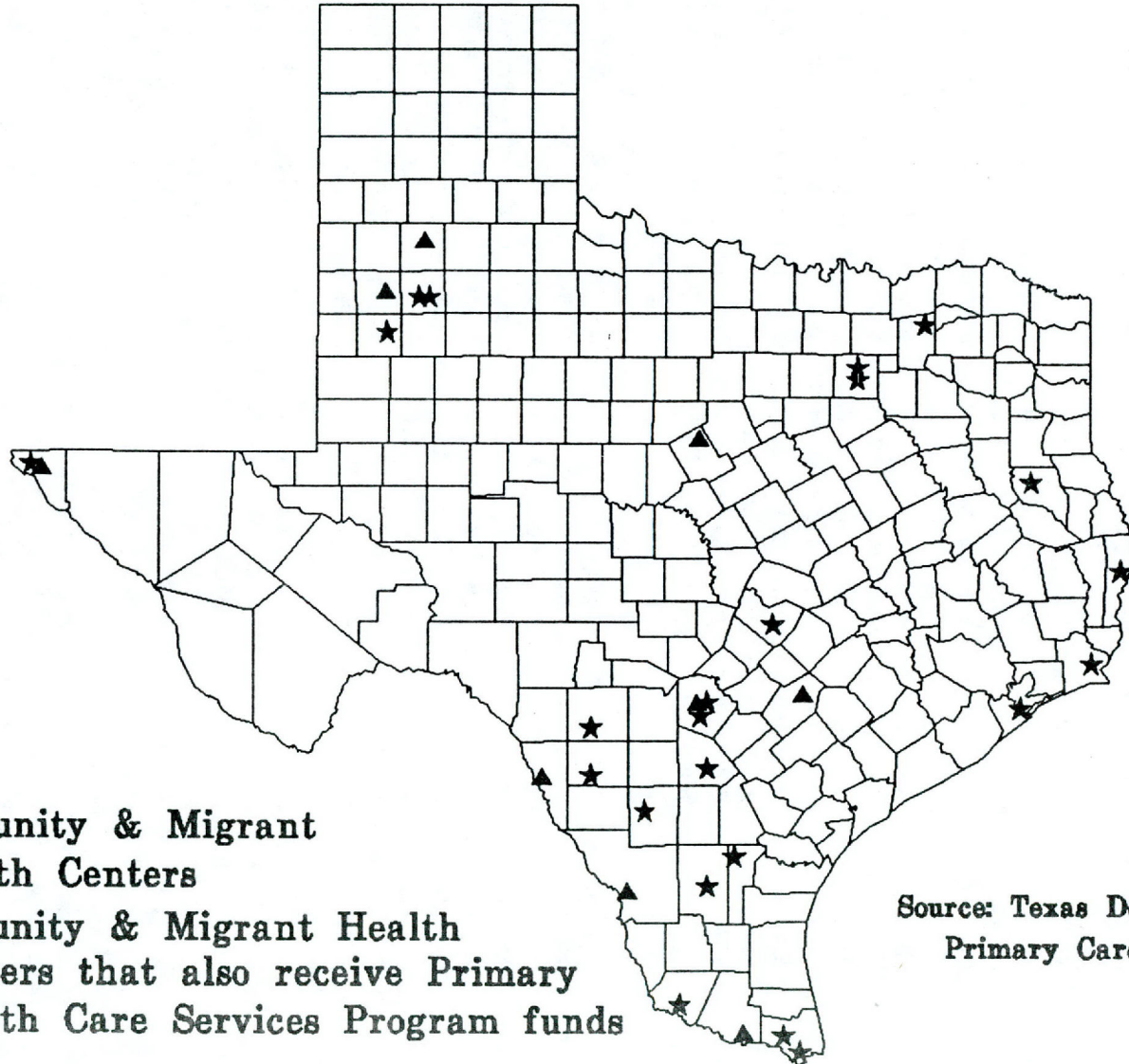
Section 42 CFR part 51c of the Public Service Act describes the federal rules governing a community health center (CHC). A community health center as defined in these regulations is "an entity which through its staff and supporting resources or through contracts or cooperative arrangements with other public or private entities, provides primary health services for all residents of its catchment area." These primary services should be preventive in nature thereby greatly reducing inpatient hospitalization. Texas has 32 federally funded community and migrant health centers⁴² (See Figure 28).

Services as required by law provided by C/MHCs include: physician, physician assistants and nurse clinician services; diagnostic laboratory and radiologic services; preventive health services including children's eye and ear examination to determine the need for vision and hearing correction, prenatal services, well child services, and family planning services; emergency medical services; transportation services as required for adequate patient care; preventive dental services; and pharmaceutical services. To assure each patient receives comprehensive services, most Texas centers have onsite lab, x-ray, and pharmacy services. If these services are not available at the C/MHC, referral mechanisms with other providers are in place.⁴³

The five central principles for C/MHCs are: equity in access, services to defined communities and populations, partnership with communities, multidisciplinary family health care teams, and community oriented primary care (COPC). Many studies have demonstrated striking effectiveness in lowering perinatal and infant mortality rates, preventing rheumatic fever, lowering cardiovascular mortality, and significant

FIGURE 28

COMMUNITY & MIGRANT HEALTH CENTER LOCATIONS IN TEXAS



- ★ Community & Migrant Health Centers
- ▲ Community & Migrant Health Centers that also receive Primary Health Care Services Program funds

Source: Texas Department of Health
Primary Care Health Services Program

reductions in hospitalizations and use of emergency rooms.

Section 330 of the Public Health Services Act cites the enabling legislation for federally funded CHCs. There are 27 community health centers in Texas. These centers provide medical, dental, and social services to some of our poorest and most isolated Texans who would otherwise have limited or no access to basic health care.⁴⁴

Section 329 of the Act cites the enabling legislation for federally funded migrant health centers (MHC). MHCs are located in high impact rural areas that experience significant inflows of migratory and seasonal agricultural workers during the farming and harvesting seasons. In Texas, there are 12 community health centers which receive federal funding from the Migrant Health Program to serve migrant and seasonal farm workers in their communities. In 1989 there were approximately 35,000 medical and dental office visits for migrant and seasonal farm workers and their families. All 12 Texas MHCs are also CHCs.⁴⁵

Section 340 of the Act authorizes grants to public and private nonprofit entities to deliver primary health and substance abuse services to the homeless. Three of the six homeless projects in Texas are members of the Texas Association of Community Health Centers. These three homeless projects provided ambulatory, primary medical services, and some social services to an estimated 9,439 homeless persons in 1990.⁴⁶

In 1989, 269,015 people received medical and dental services from the Texas community and migrant health centers. C/MHHCs provided the following medical services: 833,361 medical visits, 95,331 dental visits, and 58,828 other visits for social services, education and mental health. Based on the number of users and these encounters there were 3.5 visits per person for medical services in 1989, 2.6 visits per person for dental services in 1989, and .8 visits per person in 1989 for other health visits.⁴⁷

In 1990, community and migrant health centers provided services to 315,621 patients. Eight

percent of the patients had private insurance, 23 percent had public insurance and 69 percent had no insurance. Sixty-four percent of persons served are Hispanic.⁴⁸

C/MHCs are extremely difficult to start up in communities due to the lack of federal funds available. C/MHCs must be placed in a medically underserved areas and the clinic must be in an area with high infant mortality and high poverty rates.

Community Action Agencies

Community Action Agencies (CAAs) play a part in providing health care services to remote rural areas of Texas. Some CAAs are private non-profit organizations; others operate as part of a city or county government. The role of the CAA is to help people overcome their economic disadvantages and become self-sufficient.⁴⁹

There are 51 CAAs in Texas providing services in all 254 counties and collectively assisting over 1.25 million low-income Texans each year. Programs sponsored by CAAs include Maternal and Infant Health Improvement Act (MIHIA), Primary Health Care Services Program (PHCSP), Community Health Clinics, Home Health Agencies, Medical Prescription Program, Indigent Health Care Eligibility, and Early Childhood Intervention Programs.

Texas Breast and Cervical Cancer Control Program

TDH, in conjunction with public, private, and volunteer sector agencies and funds provided by the Centers for Disease Control, has recently implemented the Texas Breast and Cervical Cancer Control Program (BCCCP) for eligible women below 200 percent of poverty who meet high-risk criteria for these cancers. The Texas BCCCP is being conducted through a network of 34 contractors in 161 counties.⁵⁰ The Texas Cancer Council, M.D. Anderson Cancer Center, The University of Texas Medical Branch at Galveston, and the American Cancer Society/Texas Division provide the required state matching funds. Additionally, The Texas Cancer

Council supplements the program by paying for essential diagnostic services that are not reimbursed by the Centers for Disease Control. Additionally, the Texas Cancer Council, with federal funding from the program, is spearheading a statewide strategic planning process on breast and cervical cancer. Utilization data for this program was not available at the time of printing this document.

Rural Health Clinics

The Rural Health Clinics Services Act (P.L. 95-210) created standards in 1977 for Rural Health Clinics (RHC) that would receive cost-based reimbursement from both Medicare and Medicaid. The act's primary goal was to promote (through the use of cost reimbursement) the development of clinics using non-physician providers (NPPs) in rural areas that were unable to attract, retain or support a physician full-time. In 1989 there were no RHCs operating in Texas; as of November 1991, Medicare reported that there were 18 certified, freestanding RHCs and 14 provider-based RHCs.⁵¹ As of July 1992 the Bureau of Licensing and Certification of TDH reported that there were 76 active RHCs and 32 pending certification. All RHCs provide primary and preventive health care services.

School-Based Clinics

Efforts are currently underway to expand primary and preventive health care services in Texas. One of the major efforts is the use of schools as health clinics. During the past decade, school-based clinics have been established in more than 150 American high schools to manage the multitude of medical and psychosocial problems faced by present day adolescents, especially those living in inner city environments.⁵² Common services provided by school-based clinics include services for acute or chronic medical problems, physical examinations or immunizations, gynecologic or sexually-related issues, and mental health concerns. Texas currently has school-based clinic demonstration projects in Houston, San Antonio, and Dallas. Other efforts toward bringing health related services into schools include Medicaid's Early Periodic Screening, Diagnosis, and

Treatment (EPSDT) program; EPSDT providers will be allowed to provide screenings in schools to eligible children during the 1992-93 school year. TDH also provided vision and hearing screenings and screening equipment to schools for several years.

Other facilities and services providing primary and preventive health care to Texans include numerous voluntary non-profit organizations and health and human services programs. Voluntary non-profit organizations may sponsor health fairs and other health promotion and education type services in conjunction with larger health-related organizations.

One of the major services provided by health and human service agencies is case management. Case management recognizes that socioeconomic barriers and a complicated, fragmented health and human services system hinder many eligible Texans in accessing health and human services programs. Case management provides an assessment of an individual or family's overall health needs and develops, implements, and monitors a plan to meet the client's needs. Case management services assist the client in accessing and utilizing needed medical, nutritional, developmental, educational, transportation and other health and human services programs. Health and human services programs are also provided through coordinated efforts with public health regional clinics, local health departments, community health centers, medical schools, and other contractors in the state which provide health services.

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CHAPTER 3

DEVELOPING A COMPREHENSIVE/COORDINATED SYSTEM OF PRIMARY AND PREVENTIVE HEALTH CARE IN TEXAS

The previous two chapters present evidence that Texas, like the nation, is suffering a crisis in health care. A crisis not only in the affordability and availability of basic primary and preventive health care services, but in its health status. Increasingly, the health problems that beset Texans are the result of lifestyle factors and behaviors that are most appropriately addressed with primary and preventive health care services. If there is to be a significant improvement in the health status of Texans, these lifestyles and behaviors that cause or contribute greatly to health problems must be addressed directly.

Texas' health care system, however, is not organized to provide primary and preventive health care services in a comprehensive and cost-effective manner. It is primarily a medical care system focused on curing rather than preventing disease. It is highly dependent on large, centralized medical institutions and costly technology. It is based on a reimbursement and educational system which encourages the training of too many medical subspecialists and the provision of unnecessary services, while providing inadequate incentives for basic primary and preventive care.

One result of the current system of financing and delivering health care services is that far too many Texans have no access to care, short of the emergency rooms of public hospitals across the state. Increasing use of emergency rooms for treatment of non-emergency acute care needs contributes greatly to the deteriorating financial condition of these hospitals and further undermines their ability to continue serving as a health care safety net for all Texans.

The deepening health care crisis in Texas underscores the need to reorganize the state's health care resources with increased emphasis on basic primary and preventive care services. Reorienting the health care system in Texas

toward primary and preventive care services will require action in every area of health care, from the way health care services are financed and delivered to the way health professionals are trained and health insurance benefits are structured.

A federal solution is not a prerequisite for action in Texas. Right now there are significant steps that can be taken toward the development of a comprehensive and coordinated system of primary and preventive health care. Much can be accomplished by building on existing initiatives, institutions and systems. The remainder of this chapter discusses models of comprehensive community-based health care programs and presents recommendations for improving primary and preventive health care services in Texas.

COMPREHENSIVE COMMUNITY-BASED SERVICES

Perhaps the most effective strategy for improving the health status of vulnerable populations is the delivery of comprehensive health and social services in community-based settings. This strategy involves focusing on the broad forces affecting the health of people within a defined geographic area. It requires merging the roles of clinical primary care, with its emphasis on individual health, with public health's emphasis on the community. Models of comprehensive community-based systems of primary and preventive health care include federally-funded community and migrant health clinics, and community oriented primary care (COPC) programs. Rural health clinics and public health clinics with primary care services also incorporate aspects of comprehensive, coordinated community-based programs.

Basic principles common to a comprehensive, coordinated approach to community-based health care delivery systems include:¹

- Equity in access to health care through reduction or removal of the barriers of income, insurance status, geography and transportation.
- Service to defined communities and populations.
- Partnership with communities through participation by residents in health care management; emphasis on family and community involvement.
- Multidisciplinary family health care teams.
- Community-oriented primary care involving the application of epidemiology to primary care in the definition of major community health problems, the planning of interventions and the evaluation of health outcomes.
- Emphasis on prevention, early intervention and ongoing maintenance and on social and environmental risk factors, as well as physiologic risk factors for disease and injury.
- Comprehensive health and social services including outreach, social work, mental-health, nutrition and health education provided on-site or through coordinated referrals.
- Accessible location with convenient evening and weekend hours.

The effectiveness of comprehensive, community-based primary and preventive health programs in improving community health status and reducing health care costs is impressive. Studies of federally-supported community and migrant health center programs have shown their effectiveness in the following areas: increasing access to health care for the poor and minorities, lowering perinatal and infant mortality rates, preventing rheumatic fever and lowering cardiovascular mortality.² Community health center populations also showed improvements in the use of preventive services by high risk populations including improved hypertensive control, immunization and Pap smear rates and early and continuous prenatal care.

Community centers have also had a substantial effect on lowering health care costs for their target populations. Hospitalization rates of target populations declined by 20 percent to 70 percent, and use of emergency rooms declined three

percent to 40 percent³. The COPC program implemented in 1989 by the Dallas County Hospital District significantly reduced admissions to the city's public hospital, saving approximately \$2 million in 1990, and improved childhood immunization rates. The COPC program achieved up-to-date immunization status for 91 percent of its patients in 1991, compared with a city-wide average in Dallas of 27.9 percent for children under two years of age.⁴ A program that provides comprehensive services for AIDS patients operated by the Harris County Hospital District has reduced hospitalizations primarily due to the use of case managers who coordinated services among numerous health and social service agencies.

RECOMMENDATIONS: STRATEGIES FOR IMPROVING ACCESS TO AND UTILIZATION OF PRIMARY AND PREVENTIVE HEALTH CARE SERVICES IN TEXAS

Financing and Utilization of Preventive Care Services

1. The legislature should improve preventive care practices in the Medicaid program and other publicly funded programs in Texas that provide primary care services by:

- Requiring that all publicly funded programs offering primary care services provide, at a minimum, the screening, counseling and immunization services recommended by the U.S. Preventive Services Task Force with particular emphasis on patient education and counseling services.
- Expanding Medicaid to cover all federally allowable optional preventive care services.
- Monitoring the provision of preventive services in public programs and providing feedback on clinical preventive services to Medicaid and other public providers.
- Improving outreach and follow-up in Medicaid's EPSDT program to assure maximum coverage of children's preventive health care needs.
- Testing and implementing community-based delivery systems for Medicaid and other publicly funded health programs, such as

HMOs and COPC programs, which emphasize primary and preventive care.

2. Texas medical schools, the Texas Board of Medical Examiners, and professional associations should encourage physicians to increase emphasis on prevention in clinical settings by:

- Conducting awareness campaigns among physicians about the importance and effectiveness of prevention.
- Encouraging increased emphasis on clinical prevention strategies and effectiveness in continuing education curricula for physicians and disseminating information on preventive services guidelines.
- Disseminating information on techniques such as patient flow charts and computer reminder systems designed to encourage physicians to perform preventive services.

3. The legislature should expand insurance coverage of preventive services by mandating coverage in regulated health insurance policies of basic preventive services determined effective by existing guidelines (e.g., U.S. Preventive Services Task Force).

Availability of Primary Health Care Professionals

4. Texas medical schools and the legislature should expand the supply of primary care physicians by:

- Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during the training.
- Refocusing the undergraduate medical education on primary care.
- Expanding the physician loan repayment program for medical students who commit to working in primary care.
- Encouraging medical students to fill existing primary care residency slots.

5. Texas medical schools and the legislature should increase the number of primary care physicians practicing in rural and other underserved areas by:

- Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during training.
- Using performance-based audit factors, such as the number of graduates placed in rural practice, as a measure for further funding of medical schools.
- Promoting professional educational activities and continuing education that includes clinical prevention protocols to improve physician participation in clinical preventive services.
- Examining initiation of a state-level health service corps modeled after the National Health Service Corps for primary care physicians who agree to serve in underserved areas, and examining the revision of the NHSC matching process.
- Recruiting more minority medical school students and persons from rural areas, especially bilingual persons.

6. Texas schools of nursing and allied health professions should educate more non-physician primary care providers and increase their availability in underserved areas by:

- Increasing funding for nurse education.
- Expanding programs for training nurses, nurse practitioners, physician assistants and other allied health professionals, with an emphasis on education for practice in community and rural settings.
- Developing weekend and evening educational programs to accommodate working students.
- Establishing loan programs and loan forgiveness for those serving in designated medically underserved areas.
- Providing incentives (loan repayment, etc.) for nurses, nurse practitioners, and other mid-level primary care professionals to work in community settings and underserved areas.
- Encouraging bilingual individuals to enter allied health care professions.
- Recruiting students from medically underserved regions and communities.
- Assisting communities in locating and recruiting primary care health professionals.

7. The legislature should improve incentives to providers to participate in Medicaid and other public programs by:

- Continuing to improve Medicaid reimbursement for primary care services.
- Considering additional means of assisting providers in rural and underserved areas such as supplemental payments.
- Reducing Medicaid paperwork and regulatory burden and speed up reimbursement.
- Encouraging voluntary and community service.

Availability of Primary Care Facilities and Services

8. The development of comprehensive community-based primary and preventive care services in Texas should be fostered in the following ways:

- The legislature and state health and human service agencies should encourage the development of a health care infrastructure to provide primary and preventive health care services to high-risk, underserved communities by:
 - * expanding the role of all local health departments to include primary care by increasing funding for TDH's primary care grant program;
 - * assisting rural areas in establishing rural health clinics;
 - * continuing efforts to identify and implement coordinated funding mechanisms which maximize the use of federal, state, and local funds;
 - * encouraging the use of schools and other existing institutions as sites for comprehensive community-based health and human services; and
 - * adjusting the hours of community and public health clinics to include evening and weekend hours.
- The legislature, health and human service agencies, and the Texas Education Agency should encourage school districts to provide

comprehensive primary and preventive health care services by:

- * assisting communities in medically underserved areas to establish school-based clinics;
 - * promoting the provision of the Medicaid Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services in all school districts, to serve all eligible children age 0-20;
 - * expanding the utilization of the school nurse by permitting through protocols the school nurse to provide free neonatal vitamins, refer pregnant students to physicians, give immunizations, and provide counseling;
 - * providing vaccines at state rate to private physicians in order to increase immunization;
 - * coordinating with community resources to make available immunizations at school sites and other convenient locations.
- The legislature should designate a state health and human services agency to provide technical assistance to communities in establishing comprehensive community-based health and human service delivery systems including:
 - * building community coalitions to focus on primary and preventive health services;
 - * establishing a community health data base;
 - * training community residents in primary and preventive care;
 - * designing health promotion campaigns;
 - * setting standards to maintain program quality; and
 - * conducting program evaluations.
 - The legislature should designate a state agency to disseminate research results on model primary and preventive care programs and cost-effectiveness studies.

9. The legislature and state health and human service agencies should reduce barriers that hinder Texans' access to primary and preventive health care services by:

- Developing partnerships with physicians in private practice and publicly funded health delivery systems.
- Ensuring that all publicly funded programs that provide primary care offer case management services to ensure that transportation, nutritional, financial and educational needs are met.
- Encouraging and implementing collaboration efforts and coordination of health and human services programs and services.
- Seeking public and private grant funds to increase and improve primary and preventive health services.
- Maximizing the use of existing healthcare resources by using new and existing approaches which combine, coordinate, and strengthen the establishment of system linkages between public and private providers.
- Increasing the number of local health and human service agencies using the "Integrated Eligibility" process and the "One-Stop Shopping" concept by co-locating health and human services offices and clinics.
- Expanding the use of non-traditional sites for providing primary care services, such as mobile units, shopping centers, churches, and schools.
- Providing health and human services that are culturally sensitive and designed to meet the community's needs and concerns.
- Expanding community-based outreach programs that focus on health promotion, primary and preventive health care education, violence and abusive behavior support groups, and family planning.

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PART II
PREVENTION THROUGH THE LIFE CYCLE

PART II

PREVENTION THROUGH THE LIFE CYCLE

INTRODUCTION

The year 2000 connotes change. The past century of biomedical research has provided us with data concerning causes of and methods for controlling factors which bring about disease and disability. Sophisticated techniques for diagnosing and intervening against disease have been developed. Scientific studies have revealed much about the factors that predispose various health threats and the actions that each Texan can take to control risks.

Healthy People 2000: National Health Promotion and Disease Prevention Objectives and *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000* provide a vision of the new century and reductions in preventable death and disability, enhanced quality of life, and reduction in disparities in the health status of populations within the state. One way to grasp the dimensions and the realities of the tasks to achieve increased span of healthy life, reduce health disparities

among Texans, and achieve access to preventive services is to consider the special problems of infants, children, adolescents, adults, and elderly persons. Part II of this plan is designed to look at the major causes of morbidity and mortality of these age groups, provide an insight into the management of risks, and provide recommended policies designed to improve the health of these groups. In addition, Chapter 6 addresses special populations and makes recommendations for improving their health.

A summary of the recommended preventive services from the U.S. Public Health Service *Guide to Clinical Preventive Services* is contained in the Appendix. The guide and the objectives contained in the *Healthy People 2000* and *Healthy Texans 2000 Partnership* have served as a background for developing goals and objectives adopted by the Statewide Health Coordinating Council for the chapters in Part II.

CHAPTER 1

PERINATAL/INFANT

YEAR 2000 GOALS AND OBJECTIVES FOR THE PERINATAL/INFANT STAGE

This beginning stage of the life cycle, perinatal/infant, includes prenatal (the fetus from 20 weeks gestation through birth), neonatal (newborns through 27 days after birth) and postnatal (28 days through one year of age). During the prenatal period, the fetus is totally dependent on the mother for life and development. Breastfeeding babies remain dependent on their

mothers' nutritional intake. The nutritional intake and health behavior of the mother greatly affect the health of the fetus and infant (birth through one year). Primary and preventive health care is vital to the life of the fetus and infant. Chronic diseases and disabilities acquired by the fetus or infant during this period will remain throughout life. Goals and objectives selected by the Statewide Health Coordinating Council for this stage of the life cycle follow.

GOAL 1: Decrease the number of infant and maternal deaths, birth defects, stillbirths, and other handicapping conditions by assuring pregnant women access to adequate prenatal care.
OBJECTIVES
Lower the fetal death rate from 6.6 per 1000 live births to the national Year 2000 objective of 5.0 per 1000 live births and the infant mortality rate from 8.0 deaths per 1,000 births to the Texas Year 2000 objective of 7.0 deaths per 1,000 live births.
Lower the maternal mortality rate from 5.7 per 100,000 live births to the Texas Year 2000 objective of 4.0 per 100,000 live births.
Reduce low birth weight births from 6.9 percent of live births to the Texas Year 2000 objective of no more than 6.0 percent of live births.

GOAL 2: Reduce the incidence of communicable diseases by immunizing children with the recommended inoculations during the first 24 months of life.
OBJECTIVE
Increase the basic immunization series among children under age two to the national Year 2000 objective of at least 90 percent.

MAJOR CAUSES OF MORBIDITY AND MORTALITY

Causes of morbidity and mortality of the perinatal/infant begin prior to conception. Genetics cause birth anomalies, resulting in malformation and death. The age, height, weight, overall health, health behavior, and acquired diseases of the mother may affect the fetus and present problems at delivery which result in injury to the newborn. Maternal exposure to environmental factors, such as viruses, chemicals, and radiation, also cause malformations.

The major contributors of fetal and infant death do not always cause death, but often result in developmental delays and disabilities. Some maternal chronic diseases with risk factors which affect perinatal development include cardiac diseases, hypertension, toxemia, renal disease, hypothyroidism, diabetes, prenatal drug exposures, especially alcohol and tobacco, and anemia (malnutrition and vitamin deficiency). The number of babies born in Texas with birth defects and disabilities is unknown since no registry is kept. Kentucky recently enacted legislation (House Bill 372) to establish a birth

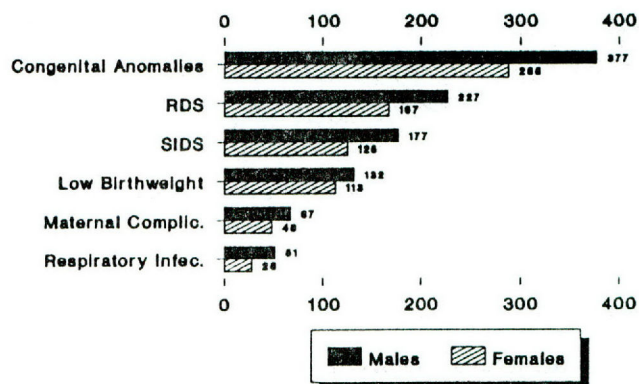
defects registry intended to provide state health officials with information on the numbers and the causes of birth defects, stillbirths, and other handicapping conditions. The long-range goal is to decrease the prevalence of such conditions. The Texas Department Health (TDH) is preparing a recommendation to the 73rd Texas Legislature to establish a statewide birth defects and disabled children's registry.

Infants are susceptible to communicable diseases which may prove fatal. Minority children are disproportionately affected. Hispanic and Black preschool children, particularly in urban areas, face seven to ten times the risk of contracting these diseases as White children. In 1990 nearly half of all measles cases in the nation occurred among children less than five years of age. Nation-wide that year there were 27,672 cases of measles and 89 deaths, mostly children.¹ In 1990 4,400 measles cases were reported in Texas including 12 deaths. (See Figure 20) Measles is preventable by immunization. The Centers for Disease Control (CDC) estimate that nationwide 40 to 60 percent of children under two years of age have not received adequate immunizations.²

According to vital statistics collected by TDH there were 316,257 live births reported in Texas in 1990. There were 2,086 fetal deaths in 1990, a decline of 1.2 percent from 1989, for a fetal death rate of 6.6 per 1,000 live births. The national goal for the year 2000 is no more than 5.0 per 1,000. There were 1,552 neonatal deaths for a 4.9 neonatal mortality rate (neonatal deaths per 1,000 live births). The national goal for 2000 is 4.5.

There were 2,536 infant deaths during 1990. The infant mortality rate (deaths per 1,000 live births) for the state dropped to a record low of 8.0, well under the national rate of 9.1. This decrease indicates that Texas is progressing toward the objective established by *Healthy Texans 2000* of a 7.0 rate. (See Figure 8) Racial variance is illustrated by an infant mortality rate of 6.8 for Whites, 7.3 for Hispanics, and 14.6 for Blacks. The six leading causes of death of infants is presented in Figure 29.

FIGURE 29
1990 LEADING CAUSES OF DEATH
TEXAS, AGE LESS THAN 1



Source: TDH, Bureau of Vital Statistics

TDH combines types of infant death into 13 categories: infectious diseases, diseases of the nervous system, respiratory infections, gastrointestinal causes, all congenital anomalies, maternal complications, low birth weight (LBW, less than five pounds - eight ounces), or short gestation, birth trauma, asphyxiation, respiratory distress syndrome and related respiratory diseases (RDS), neonatal hemorrhaging, sudden infant death syndrome (SIDS), and all "other causes." In 1990 there were 1,693 infant deaths attributed to congenital and perinatal conditions; 391 to symptoms, signs, and ill-defined conditions (302 SIDS); 52 to pneumonia and influenza; 19 to homicides and injuries purposely inflicted; 18 to motor vehicle accidents; and 12 to neoplasms (cancers).

Nation-wide, congenital anomalies were the leading cause of death for White infants in 1989, accounting for 25 percent of all deaths among White infants. The leading cause for Blacks was disorders relating to short gestation and unspecified LBW, accounting for 15 percent of all deaths among black infants. That year the risk of dying within the first year of life was 2.3 times greater for black than for White infants.³ In Texas the leading causes of neonatal deaths (61.2 percent of infant deaths) in 1990 were RDS, LBW, maternal complication, and congenital anomalies. In 1987 LBW accounted for 70.6 percent of neonatal deaths.⁴ Nationally, the leading causes of post-neonatal deaths were SIDS and congenital anomalies.⁵ CDC state "most post-

neonatal deaths resulting from pneumonia and influenza and accidents and adverse effects are preventable with current knowledge."⁶

In 1990, 6.9 percent of live births in Texas were classified as LBW. (See Figure 10) The *Healthy Texans 2000* goal is six percent and the national goal is five percent. Again, there is disparity among races, as 5.8 percent of White infants were classified as LBW, 6.3 percent of Hispanics, and 12.7 percent of Blacks. Babies classified as LBW accounted for 21,979 deaths, or 7.0 percent of live births in 1990. There is also variance among ethnic backgrounds with a 5.8 percent of live births for White mothers, 6.2 for Hispanic, and 13.0 for Black. Very low birth weight (1500 grams or less) is associated with 40 percent of all infant deaths.

Survival of LBW infants has dramatically improved over the last two decades. Modern technology and neonatal intensive care (NIC) units have reduced deaths due to LBW. However, survivors of NIC have experienced approximately three times the rate of significant neurologic aftereffects as do infants of normal birth weight.

LBW deliveries are associated with poor birth outcomes such as delayed neuro-development, learning difficulties, and school failures. These babies are also at risk of chronic pulmonary diseases, lower respiratory tract illnesses, SIDS, and the adverse aftereffects of medications and techniques used in an intensive care setting. Poor outcomes of LBW may include cerebral palsy, epilepsy, mental retardation, vision and hearing impairment, and learning disabilities. LBW/premature infants require more than routine health surveillance once released from the hospital. They have twice the risk of rehospitalization as do other infants.

Mothers' health behavioral choices (tobacco, alcohol, drugs such as crack, nutritional decisions, sexual activity) and risk factors (diabetes, hepatitis B, sexually transmitted diseases including HIV, bacteriuria, anemia, intrauterine growth retardation, hypertension, Rh incompatibility) affect the health of the fetus. Smoking and alcohol and drug abuse are preventable factors and are major targets of health promotion and

prevention. TDH reported that 29,418 women, or 10.5 percent of all Texas women who gave birth in 1990, reported smoking during pregnancy in 1990. Nearly 61 percent of these women reported smoking 10 or fewer cigarettes per day. Eighteen percent of women having fetal deaths reported smoking during pregnancy. Research has showed that secondary smoke is also detrimental to infants.⁷

Alcohol consumption is a maternal adverse health behavior and may lead to fetal alcohol syndrome (FAS) babies. It is estimated that more than 600 babies are born each year in Texas with FAS.⁸ This syndrome causes congenital anomalies and mental and motor retardation. Approximately five percent of all birth defects are alcohol related. FAS is the third leading cause of birth defects involving mental retardation in the U.S. and the only one of the top three that is completely preventable.⁹

Use of illicit drugs before and during pregnancy leads to poor birth outcomes. Exposed infants are four times as likely to be born prematurely, and ten times more likely to die of SIDS. Use of cocaine may cause constriction of blood vessels in the placenta and umbilical cord, which can result in a lack of oxygen and nutrients to the fetus, leading to poor fetal growth and development. New studies are beginning to document certain behavioral and neuro-developmental characteristics seen in children born to women who use drugs during pregnancy. No consensus exists about the effects, the significance, the most appropriate treatment of, or even the number of infants specifically exposed to cocaine during pregnancy. It is not clear whether the characteristics seen in cocaine-exposed children, often called "crack" babies, are actually caused by the cocaine itself, or by other factors associated with poverty such as other drug use, violent/ disruptive environments, homelessness, or a combination of these factors.¹⁰

Sexually transmitted diseases, including AIDS, may be maternally transmitted to the infant. Best estimates of the rate of transmission of the HIV virus from infected mothers to their newborns babies range from 13 to 40 percent.¹¹

Many studies identify poverty as the major cause of high infant mortality rates. Other studies identify genetics as the chief culprit for high infant mortality rates. Women who are poor, less educated, members of minority groups, single, in their teens, or over age 45 tend to receive inadequate prenatal care.¹² Single Black mothers are four times and White mothers five times as likely to receive no prenatal care as married mothers. In 1990, 17.9 percent of live births in Texas were to single mothers. In 1990, 14.8 percent of all live births were to teenage mothers. Teenage mothers, especially if less than 16, have small, immature pelvises, increasing the risk for toxemia, forcep and caesarean deliveries, and premature infants with asphyxia and birth injury. Births to mothers over 40 are associated with higher rates of congenital anomalies, such as Down's Syndrome. (See Part II, Chapter 3 for additional discussion of teenage pregnancies.)

Access to, and adequacy of, prenatal care are influenced by the availability of transportation, the attitudes and motivations of pregnant women, the extent and generosity of public interventions, characteristics of medical providers, and the local health system.¹³ Only 61 percent of women in Texas who gave birth to a live infant in 1990 were reported as having received adequate prenatal care. In 1990, 68.4 percent of new mothers indicated they had received prenatal care within the first trimester. (See Figure 9) Percentages for the races were 79.3 for Whites, 58.6 for Blacks, and 57.0 for Hispanics. Mothers who indicated no prenatal care accounted for 3.4 percent of live births.

MAJOR METHODS OF PREVENTING DISEASE, DISABLING CONDITIONS, AND DEATH

Prenatal/Pregnant Women

Genetic and environmental counseling prior to conception and during pregnancy can avoid possible perinatal deaths and birth defects. Prenatal monitoring of expectant mothers who are at risk can often identify affected fetuses. Some technologies have been developed which correct fetal problems within the womb. Early

identification of abnormalities prepare parents to deal with the situation.

Women who receive early and continuous prenatal care are less likely to have maternal complications, to deliver stillborn or LBW babies, or to have other pregnancy problems. Major objectives of prenatal care are to prevent premature deliveries and obstetric complications and reduce intrauterine growth retardation and premature deliveries which result in LBW. A healthy birth outcome begins with the health of the mother prior to conception, and continues with prenatal care. Prenatal care is also a deterrent to developmental disabilities through early identification and treatment. Prenatal care also protects the mother from complications of pregnancy and maternal mortality. In 1990 there were 18 maternal deaths for a rate of 5.7 deaths per 100,000 live births. Nationally Black women die at a rate three times the rate of White women. The national year 2000 objective is a rate no more than 3.3, and the Texas objective is 4.0.

It is essential that prenatal care be obtained during the first trimester of pregnancy and continue through delivery. Prenatal care of pregnant women begins with screening and includes laboratory/diagnostic procedures and counseling. The *Guide to Clinical Preventive Services*, prepared by the U.S. Preventive Services Task Force (See Appendix), recommends taking a genetic and obstetric history, including dietary intake, use of tobacco, alcohol and drug consumption, prior genital herpetic lesions, risk factors for intrauterine growth retardation, and prior LBW or Caesarean deliveries. A family history and physical examination will assist providers of care in determining fetuses at risk of chromosomal abnormalities such as Down's Syndrome, growth retardation, asphyxia, and birth trauma.

Child-bearing and parenting instruction and counseling of women prior to conception and throughout the perinatal/infant period will reduce perinatal deaths and disabilities. Counseling on nutrition, tobacco use, alcohol and other drug use is important in encouraging pregnant women to modify their health behaviors. Maternal health behaviors such as exercise; proper nutrition; and

avoidance of tobacco, alcohol, illicit drugs, stress, sexually transmitted diseases, and other causes of obstetric complications are beneficial. Home visits and parenting training have also been documented to reduce the incidence of child abuse.

Mothers and families of newborns need to receive counseling concerning diet (breastfeeding and nutritional intake, especially iron-rich foods), injury prevention (child safety seats, smoke detectors, hot water heater temperature, stairway gates, window guards, pool fences, storage of drugs and toxic chemicals, and a poison control telephone number), dental health (baby bottle tooth decay and other primary preventive measures), and effects of passive smoking.

It is also important that families receive parenting counseling concerning abuse and neglect. The Texas Department of Human Services (DHS) found that in fiscal year 1991, 5,160 infants were victims of abuse and neglect. Types of abuse and neglect identified include physical and sexual abuse, rejection, abandonment, and physical or medical neglect. Recommended skills to be developed are discipline methods, basic child care, infant stimulation, and unintended injury prevention. (See Part II, Chapter 2 for additional methods for reducing abuse.)

Prenatal laboratory/diagnostic procedures recommended include blood pressure, hemoglobin and hematocrit, blood typing, Rh(D) and other antibody screening, hepatitis B screening, urinalysis, gonorrhea culture, maternal serum alpha-fetoprotein, ultrasound, and glucose tolerance tests. High-risk women should also receive hemoglobin electrophoresis, rubella antibodies, and chlamydial testing.

When women receive prenatal care in the first trimester of pregnancy, providers are able to consider the patient's medical history and other individual circumstances to determine whether additional preventive services should be administered. Additional services may include screening for developmental disorders, musculoskeletal malformations, cardiac anomalies, genitourinary disorders, and metabolic disorders.

Infants

Screening recommended for newborn infants, including physical measurement (height, weight, and head circumference), hemoglobin and hematocrit, and hearing help identify problems which are often correctable. Screening for phenylketonuria (PKU) reduces the number of infants who become mentally retarded. It is estimated that screening and treatment of 20 confirmed cases of PKU saves more than \$1.5 million health care dollars.

TDH annually screens about 300,000 blood samples from newborns for five congenital disorders and other abnormalities. Screenings include PKU, sickle cell disease, galactosemia, hypothyroidism and congenital adrenal hyperplasia.

It is important that infants receive immunizations for common infectious diseases. Recommended immunizations and drug therapies to prevent disease include diphtheria-tetanus-pertussis (DPT) vaccine, oral poliovirus vaccine (OPV), measles-mumps-rubella (MMR) vaccine, haemophilus influenza type b, ophthalmic antibiotics, and phenylalanine (three to six days after birth).

Current standards for immunization against certain communicable diseases are recommended for the first 18 months of life. CDC estimate that 40 to 60 percent of children under age two, about 1.6 to 2.4 million, have not received adequate vaccinations. Reported immunization levels among two-year-olds have ranged as low as 10 percent in some inner-city populations.

TDH has developed 19 standards for immunizations practices. The department is developing an immunization action plan, Texas Infant Immunization Initiative (TI-3) "Every Child by Two," under a federal grant program. Four Texas cities are also developing plans under this grant program. The year 2000 national objective for immunizations is complete age-appropriate immunizations of 90 percent or more of all children by their second birthday.

Ideally, immunizations should be given as part of comprehensive child health care within the first 18 to 24 months of life. The American Academy of Pediatrics and the Public Health Service Immunization Practices Advisory Committee recommend five doses of DPT be administered between birth and age six. Four of these doses are recommended to be given at specific intervals between two and 15 months of age. Regular well-baby visits are the most appropriate means of assuring proper dosages and intervals. The Bureau of Disease Control and Epidemiology annually distributes over two million doses of vaccine free to more than a half-million people.

MAJOR PROBLEMS WITH THE DELIVERY SYSTEM

Barriers to Access

Some barriers to access to prenatal care are the lack of money or insurance coverage, lack of transportation, and unawareness of pregnancy. Uninsured children from low-income families have 38 percent fewer medical care visits than those with insurance. Deductibles or coinsurance are formidable barriers to access for the underinsured. Delay in accessing prenatal care may also be linked to the growing problems of substance abuse. Because of the high costs of malpractice insurance, providers are becoming less willing to accept and treat high-risk pregnancies, causing limited availability of services.

Infant Immunizations

Reported barriers to immunization programs include required advance appointments instead of immunization on request, required physical exams, or enrollment in comprehensive care well-baby clinics before immunization, and vaccine administration fees. Many insurers do not cover immunizations. Other factors associated with delayed receipt of immunizations include minority status, indigence, having an older sibling, use of public providers, incomplete public awareness, and a lack of public demand for immunizations. Reasons given as to why physicians refer patients to public health clinics for vaccination include avoidance of vaccine liability, inconvenience,

inability of patients to pay, and cost of vaccines to the physician.

State Programs

Several programs of different state agencies support primary and preventive care for pregnant women and infants. Problems with state and local resources include insufficient clinic personnel, inadequate clinic hours, and too few clinic locations. Also, the fragmentation of programs causes problems for the public in acquiring individual knowledge of available programs and eligibility requirements.

State Programs which serve pregnant women and children are often fragmented, scattered, and only partially available. Under the current maternal and child health system in Texas, state and local tax dollars are being used to pay for services which in many cases federal Medicaid dollars could help underwrite. In February 1991, the Maternal and Child Health Coalition published a plan, *Women and Children First*, for improving Texas' maternal and child outcomes in the 1990s. Support of this plan should improve birth outcomes.

In 1991 the Texas Medicaid program, the single largest funding source for poor pregnant women and children, expanded coverage to all pregnant women with incomes below 185 percent of poverty guidelines (\$20,609 per year for a family of three). Nationwide it is estimated that more than half the women living in poverty are not eligible for Medicaid until they become pregnant (and know it) thereby causing delays in obtaining prenatal care.¹⁴ The Texas Medicaid program has begun presumptive eligibility, beginning payments before eligibility requirements have been confirmed, which speeds entry into prenatal care. DHS reports that in 1990, 131,804 of 316,257 or 41.7 percent of all births were reimbursed through Medicaid at a cost of \$215 million. An additional \$342.8 million was spent for newborn care.¹⁵

Studies indicate that state and community clinics report better pregnancy outcomes than Medicaid coverage alone. A study by Mark Schlesinger and Karl Kronebusch found that state prenatal outreach and case management programs had five times as

large an improvement in average birth weight as Medicaid supported programs.¹⁶ Some blame the possible stigma of Medicaid care as a barrier to prenatal care. Low Medicaid reimbursement for providers is also identified as a barrier. (See Chapter on Pediatrics for continuation of Medicaid coverage for pediatrics)

The Early, Periodic Screening, Diagnosis and Treatment program of DHS provides services for infants, children, and adolescents through age 21 who are eligible for Medicaid and includes a broad range of primary and preventive services. It provides for appropriate health and developmental history screening, unclothed physical examination, development assessment, immunizations as appropriate, assessment of nutritional status, and vision and hearing testing. Annual health care costs for children receiving services through the EPSDT program are ten percent lower than for children not receiving these services. However, only 17 percent of the eligible children in Texas even receive medical screenings through this program.¹⁷

The Early Childhood Intervention program, an interagency program, provides family-focused services to infants and toddlers, birth through three, who are developmentally delayed. Services are delivered through 77 local programs which cover 254 counties. Services include occupational, physical, and speech therapy; developmental intervention; case management; parent support groups; parent training; and family counseling.

The Women, Infants and Children's (WIC) program of TDH provides nutritional counseling services. Vouchers for the purchase of food for the mother and formula for the infant are provided. According to the U.S. General Accounting Office (GAO), nearly half the pregnant women eligible nationally for WIC services are not getting the assistance they need because the federal government has not allocated enough money. The GAO reports the \$296 million spent on WIC in 1990 saved \$852 million in health care costs in 1991.¹⁸ Finding and enrolling eligible pregnant women in the WIC program continues to be a major challenge. Iowa recently enacted legislation (SB 2427) creating

coupon bonus programs to encourage women to seek prenatal care as well as preventive care for their infants.

The Maternal and Child Health programs of TDH identify the health needs of children and women of child-bearing age. Clinic services include prenatal and postpartum maternity, family planning and genetic screening, and child health clinics. Other programs include a newborn screening program; a speech, hearing, and vision screening program; and a hearing aid loan program. With expanded Medicaid coverage, the Maternal and Infant Improvement Act program has focused on provision of case management services for all high risk pregnant women and infants with low incomes.

At the 11 focus meeting held across the state, it was indicated that schools are being underutilized in teaching sex and parenting education. Many preventive measures may be taught in public schools and community health education classes. It is also important that pregnant women and infants receive major prevention efforts from a system of accessible primary health care services.

Cost Effectiveness of Perinatal/Infant Care

While infant mortality can be measured to determine cost effectiveness of perinatal care, developmental benefits and reduced disability are difficult to quantify. The federal Office of Technology Assessment has studied the potential effectiveness of prenatal care for all pregnant women living in poverty. Its findings indicate for every instance of low birth weight averted by prenatal care, the United States health care system saves between \$14,000 and \$30,000 in health care costs associated with the condition.¹⁹

In 1986 the Texas House Select Committee on Children, Youth and Families reported that \$3.38 in medical costs was saved for every dollar invested in prenatal care. According to an article in the May 1992 issue of the *Austin Business Journal*, the average cost of intensive care for LBW infants is at least \$160,000.²⁰ A WIC study indicates that every dollar invested in nutrition assistance and counseling through the program

saves up to four dollars in Medicaid costs for mothers and their newborns.

During an outbreak of measles in Dallas, more than \$3.4 million was spent to hospitalize 238 cases. The cost of immunizing these children was estimated to be between \$150,000 and \$200,000. In 1991, ten cases of tetanus within the state cost more than \$878,000 in hospital charges. The public sector can purchase different vaccines at an established contract price through CDC. The federal price is \$6.25 for DPT, \$15.33 for MMR, and \$2.01 for OPV.

Private purchase of these vaccines range from 60 to 370 percent higher. It is evident that immunization of infants and pre-school children is cost effective.

A study of nearly 59,000 mother-infant pairs found that one-quarter of these deliveries resulted in infants delivered pre-term or with problems at birth. These pairs accounted for 40 percent of charges for all pairs in the study and an additional cost of approximately \$5.6 billion per year above the costs incurred should the deliveries have been normal and full-term.²¹ Pre-term births represented 24 percent of all cases of poor birth outcomes and 43 percent of the cost associated with these outcomes.²² A recent article concerning infant mortality states that "increased use of prenatal care is likely to have greater impact on neonatal deaths results from causes other than birth defects."²³ It appears that efforts to increase prenatal care and primary and preventive infant health care will result in lower costs and reduce the family suffering caused by illness, disability, or death of infants.

RECOMMENDATIONS

1. Improve birth outcomes by assuring all pregnant women access to an appropriate level of prenatal care by:

- Regionalizing perinatal services with the coordination of private and public resources to assure referral of high-risk pregnant women to an appropriate level of care.

- Maintaining and coordinating all state and federal programs delivering Aid to Families with Dependent Children (AFDC) and perinatal care services to pregnant women and infants and other state programs designed to assist the uninsured and underinsured.

2. Increase participation of pregnant women and mothers of infants in primary and preventive health care by:

- Intensifying public school education emphasizing family planning, birth control including abstinence, health behavior of females prior to conception, need for prenatal care, parenting, and well-baby care.
- Maintaining and increasing outreach efforts of Women, Infants, and Children (WIC), Early Periodic Screening, Diagnosis, and Treatment (EPSDT), and Aid to Families with Dependent Children (AFDC).
- Increasing availability of community-based comprehensive primary care services. (Note recommendations of Part I)

3. Increase information concerning prevalence and causes of birth defects, stillbirths, low birth weights, and other handicapping conditions by establishing a Texas Statewide Birth Defects and Disabled Children's Registry.

4. Accomplish age appropriate immunization of all infants and children birth through two years of age by:

- Routinely assessing the immunization status of persons enrolled in Women, Infants, and Children, Medicaid, and other programs providing services to children and immunizing unprotected children or referring them to public health clinics for immunizations.
- Including childhood immunization as a part of the package of basic benefits of all health insurers and health maintenance organizations.
- Providing vaccines at state rate to physicians.

ENDNOTES

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¹⁶Schlesinger and Kronebusch, p. 99.

¹⁷Texas Maternal and Child Health Coalition, *Women & Children First*, February 1991, p. 4.

¹⁸Jeanne Cummings, "Prenatal Program is Cost-Saver in Long-Run, GAO Report Says," *Austin American-Statesman*, Wednesday, August 6, 1992, p. A20.

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²⁰Rickie Windle, *A Tourniquet for Rising Costs of Health Care*, *Austin Business Journal*, May 18-24, 1992, Vol. 12, No. 13.

²¹Deborah J. Chollet, Ph.D., et.al., Center for Risk Management and Insurance Research, "The Corporate Cost of Poor Birth Outcomes," *Medical Benefits*, (June 15, 1992), Vol. 9, No. 11, p. 1.

²²Rickie Windle.

²³Centers for Disease Control, "Infant Mortality - United States, 1989," p. 85.

CHAPTER 2

PEDIATRICS

YEAR 2000 GOALS AND OBJECTIVES FOR PEDIATRIC LIFE STAGE

Approximately one out of twelve children in the United States lives in Texas. Children younger than 18 years of age comprise almost 30 percent or 5.2 million of the state's 17 million population. (See Figure 30) In this chapter attention is

focused on children age one through nine. Goals and objectives selected by the Statewide Health Coordinating Council for this stage of the life cycle are from *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* and *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000*, as follows:

GOAL 1: Reduce the incidence of vaccine preventable infectious diseases in children, particularly measles.

OBJECTIVE

Increase to the national Year 2000 Objective of 90 percent the proportion of children who complete the basic immunization series by age two.

GOAL 2: Reduce the incidence of child abuse in Texas.

OBJECTIVE

Reduce the incidence of child abuse in Texas by 28 percent from the 1988 reported child abuse cases of 76,344 to the Year 2000 Objective of 54,816.

GOAL 3: Reduce the rate of deaths due to unintentional injuries.

OBJECTIVES

Reduce homicides among children age three and younger from the 1987 rate of 3.9 per 100,000 to no more than the national maternal and child health objective and Year 2000 Objective of 3.1 per 100,000 children.

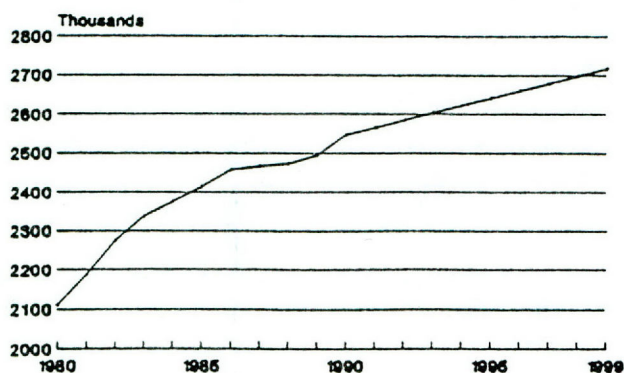
Reduce the death rate of children from 33 per 100,000 in 1988 by 15 percent to no more than the national Year 2000 Objective of 28 per 100,000 for children age 1 - 14.

GOAL 4: Increase the number of eligible children participating in the Medicaid, Early Periodic Screening, Diagnosis, and Treatment program (EPSDT).

OBJECTIVE

Achieve 80 percent eligible client participation in the Medicaid EPSDT medical screening services by the end of 1995.

FIGURE 30
GROWTH IN PEDIATRIC POPULATION
TEXAS, 1980-1999

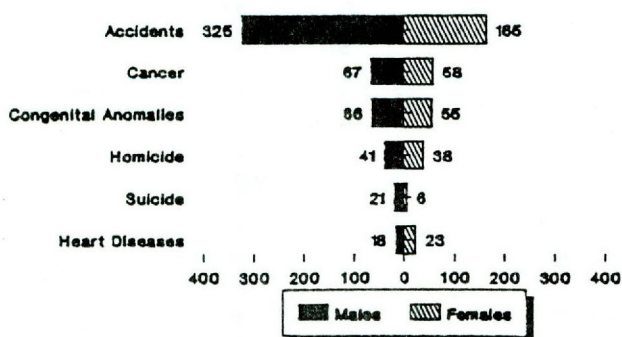


Source: TDH, Bureau of State Health Data and Policy Analysis

MAJOR CAUSES OF MORBIDITY AND MORTALITY

According to the Texas Department of Health (TDH) Vital Statistics 1990 Annual Report, deaths of Texas children age 1 - 14 in 1990 were primarily due to unintentional injuries, 39.1 percent (490); malignant neoplasms (cancer), 10.1 percent (125); congenital anomalies, 9.7 percent (121); homicide, 6.3 percent (79); diseases of the heart, 3.3 percent (41); and suicide, 2.8 percent (27) (See Figure 31).

FIGURE 31
1990 LEADING CAUSES OF DEATH
TEXAS, AGE 1 - 14

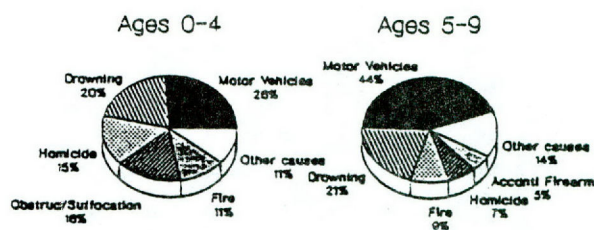


Source: TDH, Bureau of Vital Statistics

Injuries

Injuries claimed the lives of 694 Texas children age 1 - 14 in 1990, for a death rate of 12.8 per 100,000. According to the TDH Injury Control Program, leading causes of accidental deaths in the state for children ages 0 - four in 1990 were motor vehicle (26 percent), drowning (20 percent), homicide (16 percent), obstruction/suffocation (16 percent), fires (11 percent) and other causes (11 percent). Likewise, the leading causes of accidental deaths for children ages five - nine were motor vehicles (44 percent), drowning (21 percent), fire (9 percent), homicide (7 percent), other causes (14 percent) and accidental firearm (5 percent). (See Figure 32)

FIGURE 32
1990 LEADING CAUSES OF INJURY DEATH
TEXAS, AGE 0 - 9



Source: TDH, Injury Control Program

According to the TDH Vital Statistics 1990 Annual Report, motor vehicle accidents alone caused almost as many deaths among children age 1 - 14 as the second and third leading causes together. Two hundred and fourteen children age 1 - 14 were killed by motor vehicle accidents, whereas 246 children died from cancer (second leading cause) and congenital anomalies (third leading cause).

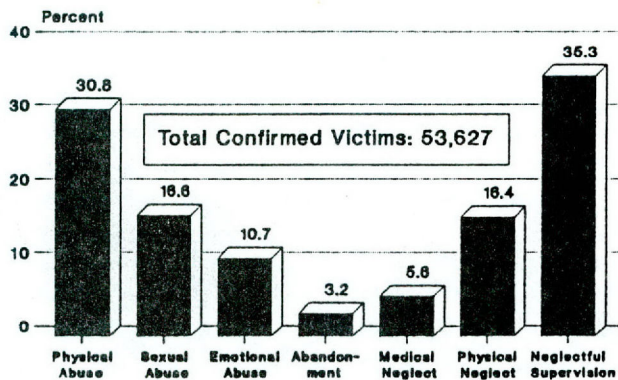
Firearm injuries and mortality have continued to rise since 1988. Between 1985 and 1990, 408 children under 15 years of age were killed by

firearms in the state; 42 percent of the deaths in this age group were attributed to assaults, whereas 40 percent were ruled accidental.¹

Child Abuse

A total of 55,392 Texas children were victims of abuse and/or neglect during fiscal year 1991, an average of 152 children each day. Definitions of child abuse and neglect in the Texas Family Code apply to children younger than 18 who are not married or have not had the disabilities of minority removed by a court. The Code definition of abuse includes the following acts or omissions by any person: emotional abuse, physical abuse, sexual abuse, abandonment, neglectful supervision, medical neglect and physical neglect. (See Figure 33)

FIGURE 33
TYPE OF CHILD ABUSE AND NEGLECT
IN TEXAS, FY 1990



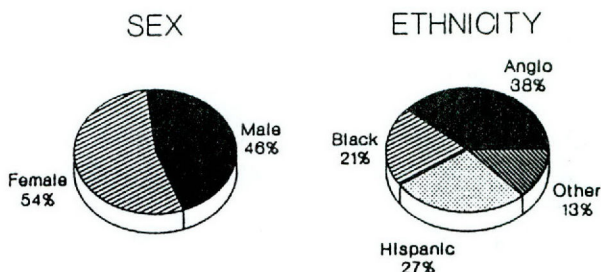
Source: TDH, 1990 Status Report

In FY 1990 children age 13 and under were the predominant victims of child abuse. Female child abuse cases (28,858) out-numbered those of male child abuse cases (24,769) in FY 1990. There was also a disproportionate number of Black child abuse victims compared with the general population. (See Figures 34)

The number of reports of suspected child abuse or neglect, investigated by the Department of Human Services (DHS), almost doubled from fiscal year 1980 to fiscal year 1990, from 44,507 to 82,823. In fiscal year 1991, more than 90,000 reports were investigated by DHS. One hundred-

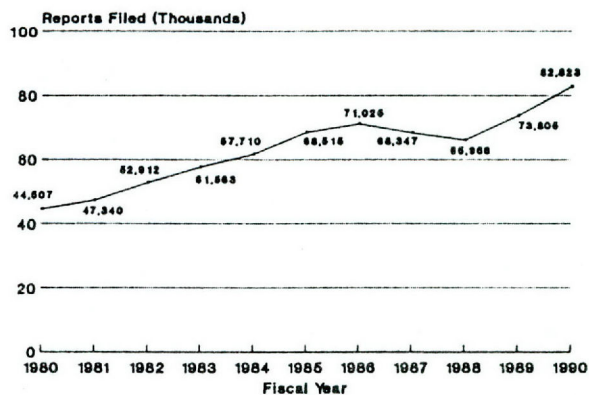
three children died as a result of abuse and/or neglect during the same 12-month period (September 1, 1990 through August 31, 1991).² (See Figure 35)

FIGURE 34
SEX AND ETHNICITY OF CHILD ABUSE
VICTIMS, TEXAS, 1990



Source: TDHS, 1990 Status Report

FIGURE 35
INVESTIGATIONS OF CHILD ABUSE & NEGLECT



Source: Texas Dept. of Human Services

In a recent research survey commissioned by the Children's Trust Fund of Texas, fewer than half the respondents (47 percent) were aware of any programs in their communities where parents can get help if they are concerned about abusing their children. The survey also indicated that child abuse is increasing in Texas and that between 1.9 and 2.5 million adult Texans were possibly abused or neglected as children. In 1978 when the survey was first administered, 14.3 percent of the respondents said they had been abused or neglected as a child. In a 1991 survey the figure increased to 18.7 percent.³

Some of the factors associated with the risk of child abuse and neglect are related to the child, some to the family, and some to socioeconomic conditions. Often these factors are interrelated. Child-related factors include premature birth and low birth weight, receipt of neonatal intensive care, and chronic illness. Family factors associated with increased risk include the absence of either biological parent, alcoholism or an unusually high level of stress in the family, spouse abuse, a parent's history of being abused as a child, parental immaturity and unrealistically high expectations of the child. Socioeconomic factors that have been found to increase the risk of abuse and neglect include poverty, unemployment, social isolation of the family or a family member, living in low-quality or inadequate housing, and living in a high-crime or transient community.⁴

Immunizations

Immunization status is an important health indicator because it is so closely linked to rates of specific childhood diseases that cause disability or death. The numbers of vaccine-preventable diseases reported in 1990 for Texas children age 1 - 14 was 2,819 measles, 335 mumps, 145 pertussis, 69 rubella, and 55 hepatitis B.⁵

Nationally, children between the ages of five and six have the highest immunization rates, and children between the ages of one and four have the lowest rates. Immunization rates are generally lower for children who are non-white, poor, and living in inner cities. About 20 percent of the state's preschoolers are not adequately immunized. Recent retrospective surveys of kindergarten records revealed that only ten percent of the children in Houston, 30 percent in Dallas, and 40 percent in El Paso had received the recommended number of doses of vaccine by the time they were two years old.

The ongoing presence and severity of measles in Texas was once again demonstrated by measles morbidity and mortality in 1990. The 12 measles deaths reported in Texas in 1990 attest to the severity of measles, as does reported hospitalizations and complications caused by measles. Children under five years of age accounted for 47 percent of all Texas cases;

likewise, 48 percent of the cases nationwide were children under age five. This trend illustrates the continuing inability in the United States to vaccinate preschool-age populations appropriately, thereby failing to prevent disease.⁶

In 1990 among Texas' children one to four years of age, Blacks experienced measles at a rate of 243 cases per 100,000 population. The rate was 131 for Hispanics and 69 for Whites. Furthermore, measles vaccine is not usually administered to infants under one year of age; however, this age group experienced alarmingly high incidence rates of measles in 1990. Blacks experienced the highest rate for this age group, 506 cases per 100,000 population, followed by Hispanics (356), and Whites (120).⁷

Tuberculosis

Between 1989 and 1991 there was an 80 percent increase in cases of tuberculosis (TB) among Texas children under 15 years of age. In 1991, there were 213 such children, an increase of about 14 percent over 1990. By August 1992, more childhood TB cases had been seen in Houston than during the entire preceding year. Although there is no data specifically identifying the risk factors for each case, these children are generally from parents who are foreign-born (or foreign-born themselves), from poor families, or from parents who abuse drugs. During 1990, 65 percent of TB cases in children younger than 15 occurred in Hispanics, while 22 percent occurred in Blacks.⁸

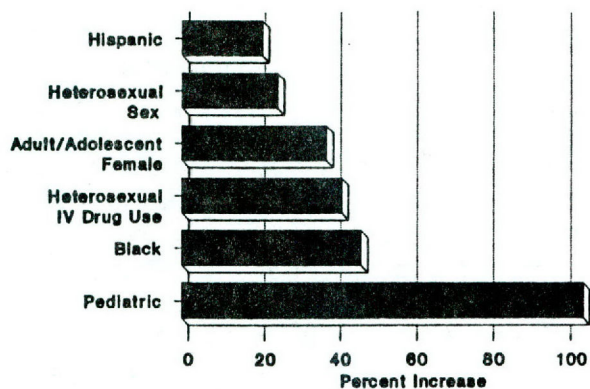
AIDS/HIV

The number of acquired immunodeficiency syndrome (AIDS) case reports has steadily increased since the early 1980s. Between 1988 and 1990, pediatric AIDS cases nearly tripled; 16 cases were reported in 1988, compared to 46 cases in 1990.⁹ Three-quarters of AIDS cases in children under age 13 result from perinatal transmission.¹⁰ (See Figure 36)

Dental Disease

Oral diseases are the most frequently recurring health problems affecting the child population. The consequences of dental diseases include pain,

FIGURE 36
**INCREASE IN AIDS CASES IN TEXAS
 FROM 1989 TO 1991**



Source: TDH, Epidemiology Division

infection, inability to concentrate on learning, school absence, and premature loss of teeth. Decayed, discolored, or missing teeth also detract from appearance and can lower self-esteem.¹¹ According to the National Health Survey 50 percent of two-year-olds have caries, and the average six year-old has three decayed teeth. Children age six to 11 have an average of 1.4 decayed, missing, or filled permanent teeth. From 18 to 23 months of age, 8.3 percent of children living in communities with unfluoridated water have dental decay; children in communities with fluoridated water can expect 60 percent fewer decayed, missing, or filled teeth.¹² Approximately 76 percent of the state's population now benefit from fluoridated water. Dental decay can be reduced by as much as 40 percent by persons drinking fluoridated water from birth to age 12.¹³

Lead Poisoning

Public health officials say lead is the number one environmental threat to children - whether they live in public housing or in suburban homes.¹⁴ Elevated blood lead levels (BLLs) are a major health risk for children; this risk is totally preventable. Elevated BLLs can produce irreversible effects on intelligence and behavior. Even low BLLs can result in subtle, long-term effects on intelligence, fine motor skills, electrophysiological function, heme synthesis, psychological development and behavior. Lead toxicity (blood lead of 30 ug/dL [1.45 umol/L] or greater) afflicted nearly 700,000 children between the ages of six months and five years in the late 1970s.¹⁵ According to the federal government,

between three and four million children, one in six children under six years old, was afflicted with lead poisoning in 1991. The major source of lead in the home is dust and flakes from lead-based paint manufactured before 1977, although children also can absorb lead from drinking water, inhaling lead-based gasoline fumes and coming into contact with lead-contaminated soil. About two million children live in housing with lead-based paint.¹⁶ Leaded fuel is still used in farm machinery and may contaminate soil or air in the child's environment. Additional sources of lead exposure include lead soldering in household plumbing, imported canned foods, lead glaze in ceramic dishes, folk medicines, and certain hobbies.¹⁷

In recent years a growing body of evidence suggests that lead is toxic for children at levels previously thought to be harmless (10 - 15 ug/dL [0.50-0.70 umol/L]). The expanding definition of lead toxicity suggests that the burden of suffering from this disorder is considerably higher than previously assumed.¹⁸ Currently, about one in 10 children is tested for lead exposure. However, three to four million children, about one in every six, have blood lead levels high enough to cause mental and behavioral problems, according to the U.S. Public Health Service.

In nine months of FY 1992, 42,559 EPSDT eligible children in Texas received lead tests. One hundred thirty-seven had blood levels greater than 25 ug/dL. Eighty-six children were receiving treatment for lead toxicity under the Medicaid program during this same period.¹⁹

MAJOR METHODS OF PREVENTING DISEASES, DISABLING CONDITIONS, AND DEATHS

Injuries

For many childhood injuries effective interventions are being developed or already exist and have been implemented. For example, morbidity and/or mortality from injuries could be reduced for motor vehicle crashes by using air bags, automatic occupant restraints, anti-lock brakes, programs to reduce drug and alcohol abuse, and barriers to separate pedestrians from traffic. Homicide could be reduced by teaching

conflict resolution skills, reducing access to lethal weapons, such as firearms, and developing media programs that foster nonviolent behaviors. Suicide could be reduced by improving identification and referral of persons at high risk for suicide and efforts to limit access to lethal means of suicide, such as firearms, high places, and prescription drugs. Drowning could be reduced by enclosing swimming pools with fencing and self-latching gates. Fires and burns could be reduced by using smoke detectors and anti-scald devices in shower heads and faucets.²⁰

Child Abuse

Child abuse is a major contributor to childhood injuries from interpersonal violence. The occurrence of child abuse and neglect may be reduced through visits by public health nurses to parents at high risk for child abuse. Other interventions include instructing parents at high risk for abuse in appropriate parenting skills, teaching children skills in identifying and reporting abusive situations, and conducting support groups for parents identified as being at high risk for child abuse.²¹

One widely used child abuse prevention model is the Parents As Teachers (PAT) program. This program is a home-school partnership designed to give children the best possible start in life, and to support parents in their role as the child's first teacher. PAT serves families with children from the third trimester of pregnancy to age three. Diverse socioeconomic and ethnic groups participate in the program. Another child abuse prevention program that is highly successful is the Healthy Start program.

Immunizations

The occurrence of diphtheria, tetanus, pertussis, poliomyelitis, measles, mumps, and rubella has been reduced to relatively minor levels in the United States. These low levels can be sustained and improved only by continued, knowledgeable use of immunizing agents in the entire population. The effective use of immunizing agents requires reference to the latest guidelines established by expert evaluation of past and new knowledge.

Pertinent to consideration of the effectiveness of any vaccine is the issue of appropriate dosage. Adequate immunizations for school entry in the United States consists of a minimum of four doses of diphtheria-tetanus-pertussis (DTP), three doses of oral poliovirus vaccine (OPV), and one dose of combined measles-mumps-rubella (MMR) vaccine. Preferably, children should have received five doses of DTP, four doses of OPV, and one to two doses of MMR vaccine by the time they enter school. The Immunization Practices Advisory Committee (ACIP) of the United States Public Health Service recommends giving the second dose of MMR vaccine at school entry (age 4 to 6 years); whereas the American Academy of Pediatrics (AAP) recommends the second dose at entry to middle or junior high school (11 to 12 years). The ACIP, however, feels that either schedule is acceptable as is a catch-up alternative in which all children between 5 and 12 years of age are immunized.²²

During calendar year 1992, TDH paid for 3,446,487 vaccine doses for children up to age 19. The Medicaid EPSDT program paid for 536,219 vaccine doses in FY 1992. It is estimated that every \$1 spent for MMR vaccine saves \$14 in treatment of measles-mumps-rubella. The current cost to fully immunize one child in public sector clinics is approximately \$112.05 per child. In the United States, immunization has been highly successful. During the years between 1920 and 1986 vaccine-preventable diseases were reduced an average of 97.6 percent. Ranging from 100 percent for diphtheria to 89.35 percent for tetanus.²³

Lead Poisoning

According to Medicaid EPSDT officials, all children age six months to 72 months are considered at risk and must be screened for lead poisoning. Complete lead screening consists of both parental verbal risk assessment and blood test(s). At age six months and thereafter the provider must assess, during each medical screen, the child's lead risk with verbal questions. A positive response to any question indicates high risk. A blood lead test must be obtained at the time a child is determined to be at high risk and

at each scheduled periodicity visit thereafter through age six. All negative responses to the questions indicate low risk but the child must receive blood lead screening by erythrocyte protoporphyrin (EP) or blood lead testing at 12 months of age and again at 24 months of age. If a child 24 months through 72 months has not received a screening blood test, that child must receive it immediately, regardless of being determined low or high risk. Currently, only Texas children who are eligible for the EPSDT program get routine lead toxicity screenings.

Texas currently has two laws pertaining to lead poisoning. One is the Occupational Disease Reporting Act, enacted in 1985, mandating environmental investigation of any place of employment in which a worker over the age of 16 has been found to have a blood lead level of over 60 micrograms per deciliter. The other lead-related bill is House Bill (HB)1621, passed into law during the 72nd Regular Legislative Session. HB 1621 requires TDH to reimburse any requesting physician blood lead testing for patients on a sliding fee schedule depending on the patients ability to pay.²⁴ Currently TDH is recommending that a bill addressing childhood lead poisoning prevention be drafted during the 73rd Regular Legislative Session.

Dental Disease

According to the U. S. Preventive Services Task Force all patients should be encouraged to visit a dental care provider on a regular basis. Primary care clinicians should counsel patients regarding daily tooth brushing and dental flossing, the appropriate use of fluoride for caries prevention, avoiding sugary foods, and risk factors for developing baby bottle tooth decay and multiple caries. Since only one of four children regularly sees a dentist, early detection and proper referral can prevent later problems. Dental exams should include screenings for dental caries, periodontal disease, periodontitis, and malocclusion.²⁵ Children living in an area with inadequate water fluoridation (less than .07 parts per million should be prescribed daily water fluoride drops or tablets.²⁶ It is estimated that every \$1 spent on community water fluoridation saves from \$2.75 to \$12 in future dental treatment costs, depending on the size of the system fluoridated. Potential lifetime savings in dental treatment costs by dental

health education expenditures of \$60 per student is estimated to be \$672 per student over a lifetime.²⁷

Texas provides dental health education for school-age children. The objective of dental health education is to teach children how to prevent dental disease and to motivate them to preserve their dental health. This is accomplished through a graded dental health education curriculum, for grades K-12, which is used in voluntary participating school systems to teach children the main principles of dental disease prevention: (1) oral hygiene manipulative skills, (2) the role of diet and nutrition, and (3) the need for and importance of regular professional care.²⁸

All Texas school children are eligible for the dental health education program. In FY 1991 733,095 Texas school children received dental health education services from TDH. Over 8,000 eligible children received sealants services, with 28,453 teeth sealed to prevent dental decay. Application of pit and fissure sealants to teeth most susceptible to decay has been shown to be effective in preventing decay. In FY 1991, 14,237 eligible children in 210 counties received restorative dental services. Eligibility for the pit and fissure sealants and restorative dental services were based on U. S. Department of Agriculture (USDA) poverty guidelines for determining eligibility for free meals (school full-free lunch program guidelines).²⁹ The Medicaid EPSDT dental services (includes emergency, preventive, restorative, therapeutic, and orthodontic) provides dental services to EPSDT eligibles under age 21 throughout Texas. Projections for FY 1992 are that 262,229 children will have received EPSDT dental services.³⁰

Screenings

Screening procedures are used to identify persons who probably do not have chronic or long-term illnesses from those who may. Medical screens are generally performed in accordance with periodicity schedules recommended by the American Academy of Pediatrics, and more frequently if needed. Children are referred for diagnostic and/or treatment if indicated by screen findings.

The Bureau of Maternal and Child Health (M&CH), TDH, and the Medicaid EPSDT Program, DHS, are the lead agencies involved with screenings of children, birth through age 20. The Special Senses and Communication Disorders Act, Chapter 36 of the Texas Health and Safety Code, requires that all children enrolled in a DHS licensed child-care facility, or in special grades in a public or private school, shall be screened or have a professional examination for possible vision and hearing problems.³¹ Vision and hearing screening, performed by licensed professionals and certified individuals statewide, identifies children in need of professional evaluation and possible remedial services.

In FY 1990, 2,389,860 children were screened for visual problems by the TDH vision and hearing screening program; 174,331 were referred to vision professionals for further evaluations. Over 2.2 million children were screened for hearing problems in FY 1990; 38,260 were referred to a hearing specialist for further evaluations. TDH loaned audiometers to 365 facilities with registered screeners, in order to provide free screenings.³²

A total of 447,639 EPSDT medical screens are projected for completion in FY 1992. The EPSDT medical screen also includes vision and hearing screening procedures. EPSDT eligible children whose screening results indicates a possible hearing problem are referred to providers with the TDH program for amplification. EPSDT eligible children referred for hearing problems by other referral sources are also referred to this TDH program. DHS has a contractual agreement to reimburse the Program for Amplification for Children of Texas (PACT) for costs related to Medicaid eligible children. This contractual arrangement, which has been in existence for several years, allows the two state agencies to service all children under the age of 21 through one set of providers and one program.³³

The Chronically Ill and Disabled Children's Services Bureau (CIDC), TDH, coordinates with M&CH on issues related to newborn screening, genetics, and primary and preventive health care services for chronically ill and disabled children under 21 years of age who have a medical

diagnosis/condition that is coverable by the CIDC program. CIDC services are authorized by the Texas Health and Safety Code, Chapter 35. The Texas Legislature created this code in 1933 to provide services to eligible chronically ill and disabled children and their families in the areas of early identification, diagnosis and treatment, rehabilitation services, development and improvement of standards and services, and case management services. The current CIDC service system includes primary levels of basic care, secondary levels of specialized care, and tertiary levels of highly specialized care provided by a combination of community-based providers, regional medical centers and clinics, and tertiary medical centers across the State. In FY 1991 CIDC provided comprehensive care services to 16,654 children, and care coordination (case management) to another 9,440 children. Preventive and genetic services are handled as referral services through the case management system.³⁴

Nutrition

A child's developmental outcome is a combination of the child's genes and the environmental exposure of the child. A major environmental influence is nutrition, which can and does interact with genetic makeup. Specific problems related to nutrition and pediatric care include vitamin deficiencies, undernutrition, and overnutrition.

For many children, school meals make a significant contribution to their total day's nutrient intake. Child care settings for preschoolers and before and after school programs for older children contribute substantially to the nutrient intake of Texas' youth. The Texas Education Agency (TEA) reports that 1,811,807 children ate lunch through the National School Lunch Program and 543,006 children had breakfast through the School Breakfast Program during the 1991-92 school year. Other state agencies providing nutrition services to Texas youth or cash reimbursements include the Public Health Nutrition Program, TDH; Supplemental Food Program for Women, Infants, and Children (WIC), TDH; Child and Adult Nutrition, DHS; Child and Adult Care Food Program (CACFP), DHS; Summer Food Service Program (SFSP), DHS; Special

Milk Program (SMP), DHS; and the Nutrition Education and Training (NET), DHS. The Texas Department of Mental Health and Mental Retardation (MHMR) and the Texas Youth Commission (TYC) also provide nutrition services.

The United States Department of Agriculture (USDA) has issued Dietary Guidelines for Americans and is the primary expression of federal nutrition policy. It is especially important that meals provided through the various programs provide choices that include low fat foods, vegetables, fruits, and whole-grain products. Currently, MHMR is the only state agency meeting the USDA guidelines in one of their food service department's programs. The TEA and the DHS are attempting to incorporate these guidelines in their National School Lunch and Breakfast Programs.³⁵

MAJOR PROBLEMS WITH THE DELIVERY SYSTEM

Poverty

Poverty is the single most powerful predictor of poor health among children. It is associated with poor nutrition, substandard housing, disruptive social environment, and a lack of health information. In addition, children in poverty have limited access to quality health care. Poor children are less likely to have health insurance coverage than children in families above the poverty level, and are less likely to receive primary and preventive health care services.

Texas ranks 33rd among the 50 states in the 1992 statistical portrait of the well-being of America's children, *Kids Count Data Book: State Profiles of Child Well-Being*. Texas ranks 43rd in child poverty, with a notable rise in the last decade. Almost one in four children in Texas lives in poverty. Although the number of homeless in Texas is unknown, 18,743 homeless children and youths received federal education aid in the 1989-90 school year.³⁶ More than 100,000 children ages six through 18 are victims of the Medicaid gap; their families earn too much for Medicaid eligibility, but not enough to afford private health care insurance.

Lack of a Coordinated Delivery System

Although the public and private health care systems in Texas provide a significant level of high-quality pediatric health care, the state is far from meeting its needs. The current child health care system is extremely fragmented and lacks a well-organized and coordinated system for providing primary and preventive health care services which are easily accessed throughout the state. Many of the state's child health programs have multiple funding sources, eligibility requirements, and service options which are confusing and rarely user-friendly. Local health departments (LHDs) often fail to bill Medicaid for services provided and thus reduces services provided to other Medicaid eligible clients because of the LHDs lack of available funds to provide services.

The population in Texas under age 21 eligible for Medicaid has been projected to continue increasing by approximately 200,000 per year through FY 1995. Assuring access to preventive, diagnostic, and treatment services is a high priority initiative in both rural and urban areas. To simplify the application process, a single application form is useable for Aid For Dependent Children Services, Food Stamps, and Medicaid. Persons eligible for Medicaid are automatically eligible for EPSDT if under age 21. Both private and public health care professionals are encouraged to enroll as providers of health care services with the Texas Medicaid program. Ongoing efforts are being made among several agencies to better educate employees around the state about available services so that more appropriate referrals will be made for clients. Simplified and automated provider billing and payment systems have been designed to reduce paperwork and to ensure better accuracy and efficiency in handling large volumes of provider claims.³⁷

Lack of Providers and Facilities

Young people in rural areas often must travel great distances to see a physician. With 55 Texas counties lacking a hospital, it is not unusual for rural families to travel more than one-hundred miles to receive medical care. There are only 90

pediatricians in the 205 rural counties in Texas. Another 982 general and family practitioners are providing care to young people. As of mid-1991 there was no primary care doctor in 23 rural counties. Nationwide, more than half the children who die from farm injuries die before reaching a medical facility.³⁸

The delivery of health care to Texas children in lower socioeconomic groups is inadequate. An estimated 30 percent of Texas children have no public or private health insurance. Insurance alone does not ensure access to medical care; adequate numbers and types of providers need to be available. Medicaid benefits provide the basis for health care for many Texans. In 1991, Medicaid paid for the deliveries of 116,000 infants, or 35 percent of all Texas births. In FY 1992 Medicaid projects paying for the deliveries of 140,699 infants.

Although the Medicaid EPSDT program provides services to many Texans, several Medicaid-eligible children cannot access appropriate medical services. According to DHS, only three percent (817) of the state's 29,000 physicians are participating EPSDT providers. There are fewer than 1100 EPSDT medical screening providers in the state. Many physicians either do not participate in the Medicaid program, or severely limit the numbers of Medicaid clients they will serve.

Lead Poisoning

Of all the states which require reporting of high blood lead levels in adults because of occupational exposure, Texas is the only state which does not require reporting of high blood lead levels in children as well. Most state screening programs reach less than five percent of children under seven years of age and are provided through walk-in clinics or as part of screening crusades or special health awareness events.

Barriers

There are many barriers to achieving a comprehensive primary and preventive health care delivery system for children. One of the major barriers has been the lack of overall accountability

and planning for the health of all children. For example, standards of care are defined differently among programs, access to services is contingent upon meeting certain eligibility requirements, and there is no common, unified, and simple means for families to access needed services and programs.

Another major barrier has been the lack of adequate reimbursement for the services rendered by medical professionals. A third barrier has been the volume of provider paperwork and staff time required to receive the reimbursement. A fourth is the lack of a "health home" for children (especially for children with special needs), a medical manager who can coordinate the vast array of health care services for a child and his/her family. A fifth has been the lack of information about available services, programs, and peer support opportunities. A sixth has been the lack of communication between the parents and their providers. Finally, the significant difficulties parents from underserved and low income areas have with taking time off from work, finding transportation, discussing chronic problems with someone unfamiliar with their child, and accessing medical records.

Current health care practices fail to deliver vaccine on the recommended schedule to a large proportion of vulnerable preschool-aged children. This failure is due in part to barriers that impede vaccine delivery and to missed opportunities to vaccinate. The resultant low immunization coverage rates among young children, especially in our inner cities, are reflected in the resurgence of measles in recent years in preschool-aged children.

Examples of barriers to vaccine delivery include policies that require advance appointments for immunizations when there are long delays for such appointments and long office waiting times; policies that require comprehensive physical examinations as a prerequisite, even though appointments for such examinations must be scheduled weeks or months in advance; and artificially imposed limitations on the number of individuals who may enroll for immunization services at a specific location on any given day. Additionally, clinic or office hours are often inadequate to meet the demand for immunization services.³⁹

The current child health system also wastes administrative dollars because of the duplication of effort required when several programs must ask the same questions to determine eligibility and require similar documentation. The child health system in Texas lacks a coordinate system that addresses the health care needs of parents and children, particularly in minority communities and rural areas. The current system is fragmented and disorganized, and thus provides services to a small fraction of the state's child population.

RECOMMENDATIONS

1. Eliminate barriers, fragmentation, duplication and gaps in the current child health delivery system by:

- Simplifying the Medicaid application process.
- Continuing to work on initiatives to improve access and referrals for Medicaid and EPSDT.
- Improving coordination of services between health and human service agencies.
- Expanding the number of eligible children in the EPSDT and CDC integrated child health data base computer system.
- Encouraging families to seek a medical home (permanent primary care provider) which maintains family records and enables the family to access appropriate care at all hours.
- Continuing the development and implementation of the maternal and child health case management models to include all maternal and child health patients.

2. Improve the EPSDT program by eliminating barriers to patients and providers by:

- Establishing a single age criterion for all members within a family unit so that if one child is eligible all the children in the family are eligible.
- Making services more accessible by increasing the number of Medicaid and EPSDT providers.
- Increasing reimbursement rates.
- Continuing to educate patients, providers, and other health and human service agencies about the Medicaid and EPSDT program and services.
- Determining whether liability concerns are barriers to immunizations and other

preventive services in medically underserved areas.

3. Provide equitable access to quality primary and preventive health care services by:

- Increasing the number of children receiving health screens through EPSDT.
- Increasing child health services in Texas to ensure that children can access health care.
- Assisting communities in medically underserved areas to establish clinics at school sites.
- Extending the clinic hours of all publicly funded clinics to include culturally sensitive selective evening and Saturday hours according to community needs.
- Using community-based locations and non-traditional methods of providing services such as mobile units, community centers, churches, volunteers, and schools.

4. Expand the number of public and private providers accepting Medicaid-eligible children by:

- Providing financial incentives to providers who accept Medicaid patients.
- Expanding recruitment efforts of Medicaid providers.
- Implementing educational loan repayment programs for Medicaid providers.
- Increasing awareness of using Medicaid when available.

5. Expand the use of school-based clinics in the delivery of child health services by:

- Establishing an adequate ratio for RN-to-students for all school districts.
- Expanding the utilization of the school nurse by permitting, through protocols, the school nurse to provide free neonatal vitamins, refer pregnant students to physicians, give immunizations, and provide counseling.
- Encouraging school districts to participate to the extent possible in the Medicaid and EPSDT program.

6. Promote the use of community-based outreach programs in reducing violence and abusive and neglectful behavior toward children by:

- Promoting school-based violence prevention and gun safety programs that are a part of the curriculum on a yearly and age-appropriate basis.

- Developing family-centered outreach programs for abused children.
- Promoting and encouraging parenthood education classes.
- Promoting home health visitor programs for new and high-risk parents such as the "Parents As Teachers" program and "Healthy Start" program.

7. Reduce the incidence of childhood preventable morbidity and mortality by:

- Expanding the availability of free immunizations and health screenings to Texas children at age-appropriate times.
- Continuing efforts to adjust the fluoride content of community water systems to optimum fluoride levels.

- Increase the number of school districts in Texas using the most current and widely used school-based oral health education (Tattle Tooth, A New Generation) curriculum.
- Supporting the passage of the Childhood Lead Poisoning Prevention Act in Texas.
- Encouraging health care organizations to work with community organizations to plan and implement ongoing health promotion and injury prevention programs.
- Recognizing firearm injuries as a public health problem and establishing the regulatory authority for promulgating safety standards for firearms, addressing the problems of trigger locks, muzzle velocity, and visible indication as to whether the gun is loaded.

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CHAPTER 3

ADOLESCENTS

YEAR 2000 GOALS AND OBJECTIVES FOR THE ADOLESCENT LIFE STAGE

Adolescence is generally the healthiest period of a person's life. This is a period of growth and gaining strength and independence. Growing independence leads to testing the emotional bonds that previously guided and controlled a child's life. This testing of limits and strengths can lead to adolescent risk-taking which is developmentally normal during this period of life, but which can have dangerous consequences. Some of this risk-

taking can take the form of experimenting with drugs, alcohol, firearms, motor vehicles, and sex even for adolescents who do not engage in overtly hazardous behavior.

Adopting the appropriate indicators from the *Healthy Texans 2000 Partnership: Health Objectives for the Year 2000*, the Statewide Health Coordinating Council presents the following health goals and objectives for the adolescent years of life.

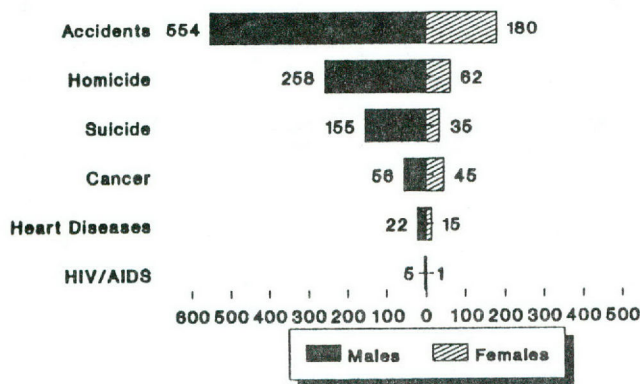
GOAL 1: Prevent trauma deaths to Texas' adolescents.
OBJECTIVES
Reduce the percentage of high school seniors currently using alcohol from 57.5 percent to the Texas Year 2000 objective of 50 percent.
Reduce the percent of high school seniors ever having used illicit drugs from 54.3 percent to the Texas Year 2000 objective of 40 percent.

GOAL 2: Improve the morbidity and mortality rate of Texas' adolescents.
OBJECTIVES
Increase the percentage of students in public schools (7-12) who are enrolled in physical education every semester of every year: grades 7-8, from 76 percent to the Texas Year 2000 objective of 100 percent; grades 9-12, from 26 percent to the Texas Year 2000 objective of 100 percent.
Reduce the percentage of youth who start smoking from 27 percent to the Texas Year 2000 objective of 10 percent.
Reduce the number of pregnancies per 100,000 among women younger than 18 from 40.73 to the Texas Year 2000 objective of 38.5.
Reduce the annual incidence of first episode of HIV-related pneumonia from 617 to the Texas Year 2000 objective of 494.
Increase the percentage of Texas schools providing a comprehensive 5-12 health education program to the Texas Year 2000 objective of 100 percent.

MAJOR CAUSES OF MORBIDITY AND MORTALITY

The six leading causes of death of adolescents, age 10 - 19, are unintentional injuries (accidents), homicide and suicide (intentional injuries), cancer, heart disease, and HIV/AIDS. (See Figure 37) These years are particularly hazardous for males. Trauma death as a single category, which includes unintentional injuries, drownings, poisonings, homicide, and suicide, is by far the leading killer of teenagers - 968 adolescent male and 227 adolescent female Texans died in 1990. (See Figure 37) The next three leading causes of death - cancer, HIV/AIDS and heart disease - accounted for 83 males and 61 females. For every death of an adolescent (age 13 - 19) that was caused by injury, there were an estimated 41 injuries requiring hospitalization and 1,100 cases that required treatment in emergency departments.¹ In 1990, trauma caused 86.6 percent of the deaths of young adults in Texas (age 10 - 19). Nearly all these deaths were preventable.

FIGURE 37
1990 LEADING CAUSES OF DEATH
TEXAS, AGES 10 - 19

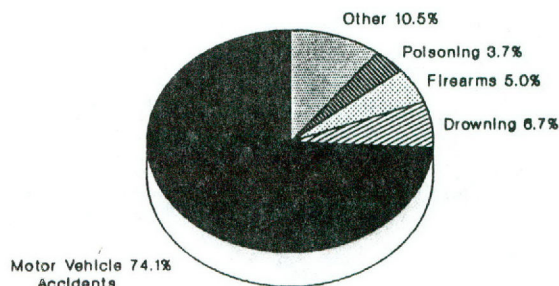


Source: TDH, Bureau of Vital Statistics

In 1990 motor vehicle accidents caused 928 (698 males/230 females), or 74 percent, of the deaths due to unintentional injuries. (See Figure 38) In the same year, 124 teenage drivers in fatal crashes were reported as driving while intoxicated (DWI). This was nearly ten percent of the total number of DWI drivers of all ages in such accidents. (See

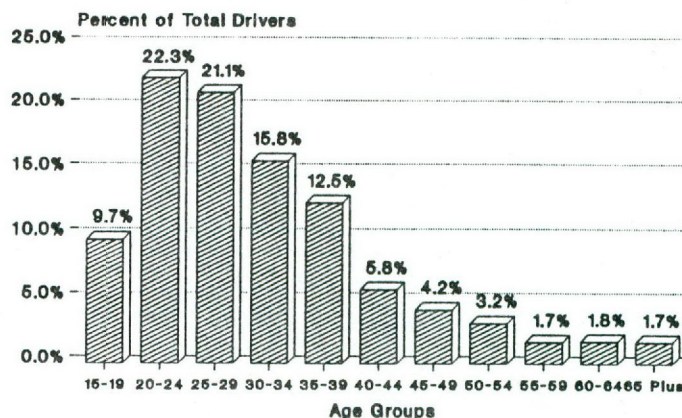
Figure 39) The other leading causes of accidental deaths for adolescents are drowning, firearms, and poisoning.

FIGURE 38
1990 ACCIDENTAL DEATHS
ADOLESCENTS IN TEXAS



Source: TDH, Bureau of Vital Statistics

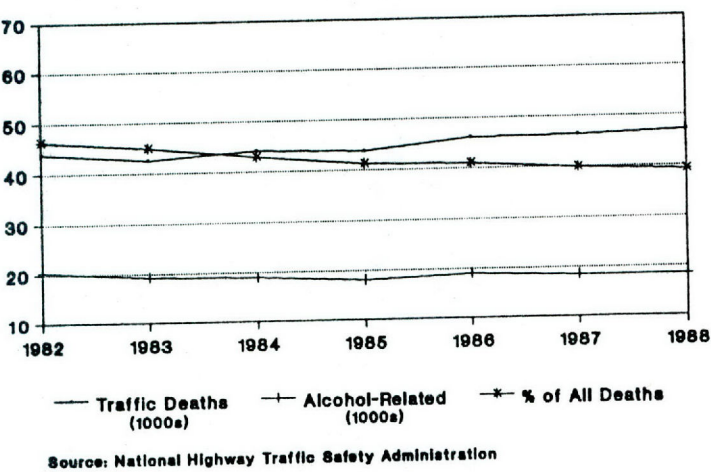
FIGURE 39
TEXAS DRIVERS REPORTED AS
DWI IN FATAL ACCIDENTS IN 1990



Source: Texas Department of Public Safety, Motor Vehicle Accidents 1990

Nationally, drug or alcohol abuse is a major factor in the cause of many of teen deaths. In fact, alcohol is cited as a factor in 38 percent of the motor vehicle deaths for all ages (See Figure 40); although, encouragingly, the percent of teenage drivers in fatal crashes who were intoxicated decreased steadily from 1982 to 1988. (See Figure 41)

FIGURE 40
ALCOHOL-RELATED TRAFFIC FATALITIES
UNITED STATES, 1982-1988



In 1990 the number of firearm-related deaths in Texas surpassed motor vehicle deaths as the leading cause of injury deaths for the first time since vital records were computerized in 1964.³ The 10-19 year age group had 452 deaths by firearms in 1990; 384 were males - more than five times the number of females killed by firearms that year. (See Figure 42) Handguns are used in nearly half of all homicide deaths (49.5 percent) and about 75 percent of the firearm-related homicides.⁴

FIGURE 42
1990 FIREARM DEATHS IN TEXAS
AGE: 10 - 19

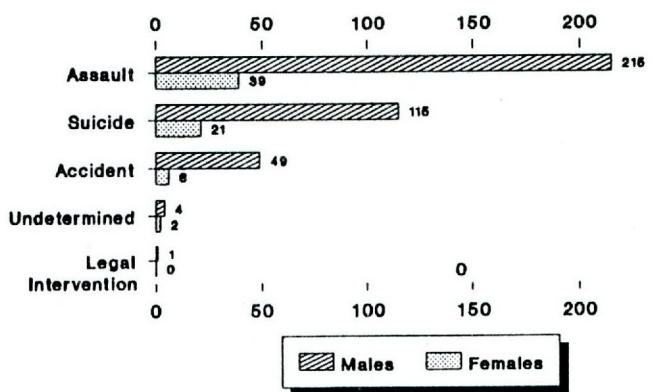
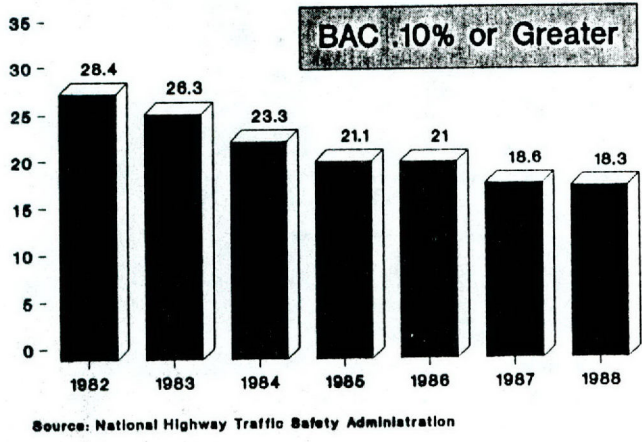


FIGURE 41
U.S. PERCENT OF TEENAGE DRIVERS
IN FATAL CRASHES WHO WERE DRUNK



In 1989 drug abuse was cited as the cause of death for 39 Texas teenagers (age 10-19); 29 of these deaths were males.² A national survey by the Centers for Disease Control (CDC) revealed that 35 percent of U.S. high school students have tried marijuana, and eight percent have tried cocaine. Alcohol and drugs are known to diminish one's judgment and inhibitions, and thus can intensify the efforts of teenage risk taking.

Gun-related violence among high school youths increasingly commands the attention of the public health professions and has become a leading cause of morbidity and mortality among the young. Nationally, high school-aged youths committed 7,000 homicides with firearms between 1980 and 1989. The highest firearm-related death rate was among Black males at 57.1 per 100,000 population. The national rate for Black males from 15-19 years declined from 1980 to 1984, but then started increasing dramatically, rising from 35.8 to 79.5 per 100,000 by 1988 (See Figure 43). Studies have found poverty to be the major risk factor in firearm deaths. When all ethnic groups were considered together using economic conditions as the variable factor, the apparent higher risk for Blacks over other ethnic groups virtually disappeared.⁵

FIGURE 43
FIREARM MORTALITY RATES
AGE 15 - 19, United States

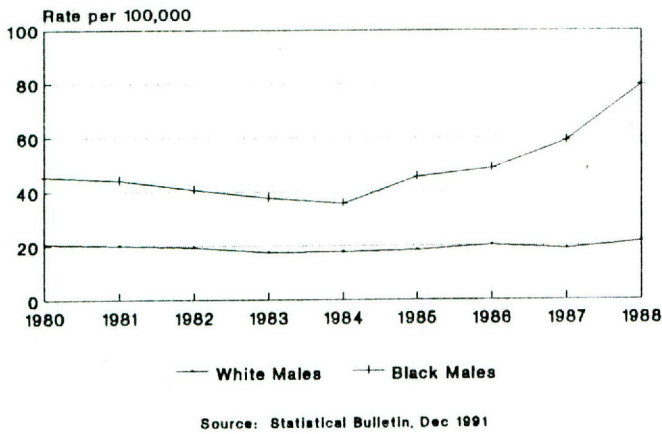
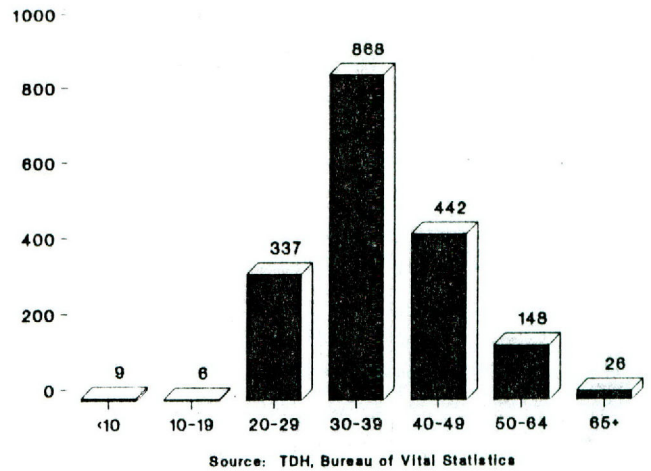


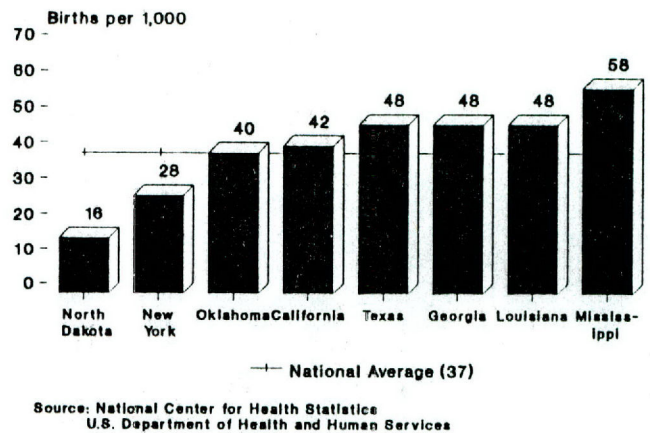
FIGURE 44
1990 AIDS DEATHS IN TEXAS



Acquired Immunodeficiency Syndrome (AIDS) became a public health concern in the early 1980s, and the number of cases is climbing at an astonishing rate. Although the number of diagnosed AIDS cases for adolescents has not reached the frighteningly high figures that it has for those in their 20s and 30s, the rate of increase is cause for alarm because of the typical period of several years between HIV infection and onset of AIDS. In 1989 there were 10 AIDS cases among Texas adolescents; as of April 3, 1992, there were 63. Because of the long dormancy period of HIV before the AIDS disease becomes manifest, unprotected sex or intravenous drug use in the teen years can result in increasingly high rates of AIDS deaths in young adults (See Figure 44). The CDC survey of adolescents that was previously mentioned in this chapter indicated that more than 50 percent of young people are initiating sexual intercourse in their teens, but, on the average, they are waiting more than a year before seeking contraceptives.⁶ CDC also suggests that, in 1989, 30 percent of newly reported gonorrhea cases, and ten percent of newly reported syphilis cases, in the U.S. occurred among 10 to 19 year olds.⁷

Teen pregnancy is a major health concern. Texas ranks near the top in the number of births to teenage girls. (See Figure 45) Babies born to adolescents start their lives with many difficulties.

FIGURE 45
1989 TEEN BIRTH RATE
AGE, 15 - 17



Most teenage mothers are unmarried and must rear their children in a single-parent environment where the opportunities for better education and higher wages are significantly curtailed. In 1991 the average monthly number of teenage mothers receiving Aid to Families with Dependent Children (AFDC) in Texas was 21,076. Some of these mothers were as young as 11 years of age. Babies of adolescent mothers are also at a higher risk of being born at a low birth weight, thus creating higher risks for adverse health outcomes and infant mortality. (See Part II, Chapter 1 for more information on infant mortality.)

Child abuse is a significant factor in the health of adolescents in Texas. In 1991, there were nearly 2.7 million reported cases of child abuse in the United States, and in fiscal year 1991, 55,392 Texas children were reported victims of abuse or neglect. Of this number, 17,574 were age 10-19. During this same period, 103 children died in Texas as a result of abuse or neglect. Many of these children experienced several kinds of abuse including sexual, physical, and emotional abuse; medical neglect; abandonment; neglectful supervision; or refusal to assume parental responsibility. In addition to its link with juvenile delinquency, childhood abuse produces damaging emotional aftereffects that can often persist throughout life.⁸

MAJOR METHODS OF PREVENTING DISEASE, DISABLING CONDITIONS, AND DEATH

In 1990, more than 85 percent of the deaths of adolescents were associated with high-risk behavior. Nearly all died as the result of actions which could have been prevented. Such actions could have been driving while intoxicated, speeding or driving recklessly, not using car seat belts, abusing drugs or alcohol, reckless use of handguns, engaging in unprotected sex, using "dirty" hypodermic needles, or, just not taking normal precautions. These are only a few examples of preventable actions which can have fatal consequences.

Drug and Alcohol Abuse Prevention

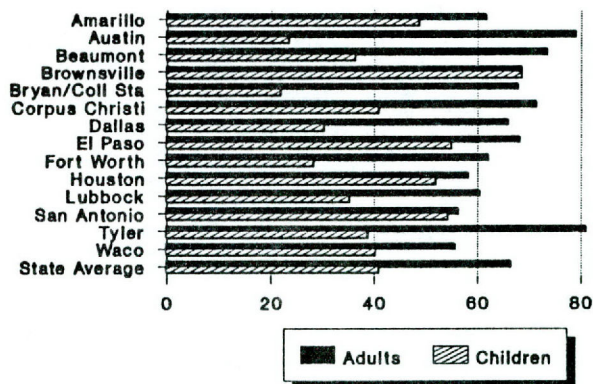
A tendency to indulge in risk-taking behavior is a recognized trait among teenagers, especially males. How these behaviors are affected by social cues, pressures, norms, and the availability of certain products such as alcohol and drugs, cars, and firearms needs further research. Before interventions can be developed which will successfully reduce adolescents' desire for forbidden drugs and alcohol, it is important to understand how adolescents view the problem and its potential solutions, including responses to both mandatory and voluntary behavioral changes, changes in the design and marketing of products, or modifications in the broader social and physical environments.⁹

The need for more research does not diminish the necessity for continuing to educate adolescents in families and in school about the dangers of alcohol and drugs. The federal government provides grants to the states for drug and alcohol education. The Texas curriculum for drug and alcohol abuse education has been in use for two years and has already been cited by the U.S. Department of Education as a model program for other states to use. Additionally, all 50 states have recently passed legislation raising the legal drinking age to 21 years. Data indicates that these laws are related to a 12 to 13 percent reduction in fatal vehicle crashes among adolescents.¹⁰

Seat Belt and Helmet Use

National studies have estimated that seat belts are 40 to 55 percent effective in preventing death and serious occupant injury in automobile crashes. Although Texas law requires seat belt use during vehicle operation, many drivers and their passengers still do not use them, and seat belt use varies widely across the state (See Figure 46).

FIGURE 46
SEAT RESTRAINT USE IN TEXAS
1991 SURVEY RESULTS

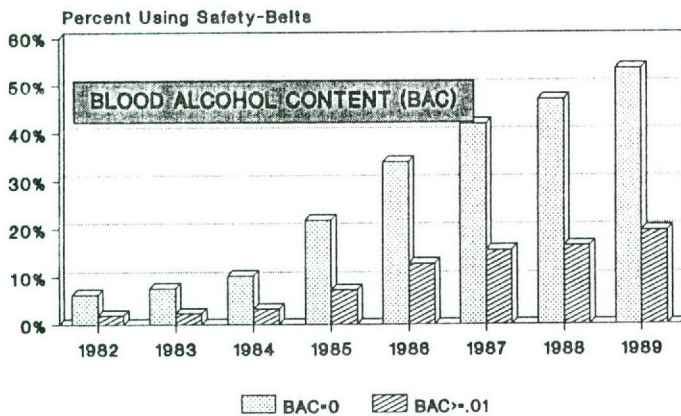


Source: Texas Transportation Institute, Texas A&M Univ. System, September 1991.

One indicator of the effect alcohol has on judgement is an estimate by the National Highway Traffic Safety Administration that only 20 percent of the drivers involved in fatal crashes who had been drinking used their safety belts, as compared

with more than 50 percent of the drivers involved in fatal crashes who had not been drinking (See Figure 47).

FIGURE 47
ESTIMATED PERCENT OF U.S. DRIVERS
IN FATAL CRASHES USING SAFETY-BELTS



Source: NHTSA, Fatal Accident Reporting System

In 1991, 15 Texas children age 10 - 19 died in bicycle accidents and 1,133 were injured. A North Carolina study found that more than 75 percent of bicycle deaths involve head injuries, and one child in seven under the age of 15 receives a head injury in a bicycle accident.¹¹ Proper use of helmets by all riders could greatly reduce the number of serious head injuries and resultant deaths. For motorcycle accidents, it is expected that helmet use could save as many as 28 percent of the lives lost.¹²

Hand Gun Control

Handguns are easy to use and conceal, and there are millions of them available throughout the country. This makes them the weapon of choice in most firearm-related deaths and robberies. In most states, it is illegal to sell a gun to a minor or a felon. The Brady Bill, which would have required a waiting period for the purchase of a handgun, never made it into federal law. If enacted, it would require that gun sellers take the time to ensure that buyers meet the legal criteria for purchase. Former Surgeon General C. Everett Koop has called for the licensing of gun owners

who would have to meet certain qualifications, i.e., a minimum age and skill level, with periodic review, in order to buy a gun. Violations could then lead to revocation of the license. Another measure that could be adopted would be the registration of all guns, so that the owner could be identified when a specific gun is linked to a crime.

Guns are also responsible for numerous suicides and unintentional deaths annually. Guns kept at home should be kept secure from children by trigger locks or locked gun cabinets. Mature adolescents who can be permitted use of family rifles or shotguns should be given instruction on the safe and proper use of guns.

Adolescent Suicide Prevention

Suicide is the third highest cause of death for adolescents in Texas. In 1990, 190 Texas children age 10 - 19 died by their own hands. Of this number, 71.5 percent used a gun to kill themselves. Among college students nationwide, suicide is the second leading cause of death. One study has found that there may be a close link between suicide and increased use of alcohol and the easy access to firearms.¹³ Betsy Comstock, M.D., of Houston, who participated in the study of the teen suicide clusters in Clear Lake and Plano, Texas, noted that although no clear conclusions could be found, the best measures to reduce teen suicide were to provide education about mental health and suicide in the schools, and to make small-group counseling available when the death of a schoolmate or friend occurs, especially if the death is a suicide. Dr. Comstock emphasized that schools and hospital emergency rooms should also play an important role in secondary prevention after a suicide attempt has occurred. Schools have often minimized suicide attempts. Minimizing these attempts, or pretending that they never happened, ignores the seriousness of the suicidal adolescent's illness.

Some writers have drawn links between adolescent suicides within an area and focussed on "suicide ideation" as a cause of some suicides. This has led some researchers to believe that teen suicide is contagious and that publicity about it should be squelched. As compelling as this theory has been, it has not been widely accepted by other

researchers.¹⁴ Many causes of suicide have precursors outside the school environment, but which make the suicidal adolescent vulnerable to school pressures. It is therefore important for school staff and faculties to be alert for students who exhibit symptoms of suicidal tendencies and to have a positive, supportive program to help such youth. Suicide is usually associated with depression, antisocial behavior, or anxiety disorders. Studies have also found that suicide attempts of the last few decades have tended to follow age groups into maturity, indicating that there may be growing stress on the "baby boom" generation due to overcrowding and excessive competition.¹⁵

HIV and Teenage Pregnancy Prevention

Although much has been written about the problem of AIDS, the success of health promotion efforts to reach adolescents and heterosexual adults has been less than desired. In several studies, researchers have found that the persons at lowest risk are those most likely to take precautions before sex. According to the most recent federal survey of adolescent sexual behavior, 63 percent of the males between 15 and 19 who have only one sexual partner a year use a condom. The rate drops to 56 percent for those with two partners a year, 45 percent for those with three, and only 37 percent for the "core" risk group with more than four partners.¹⁶

The probability that most adolescents lack the emotional maturity to discuss intimate relations argues for stronger and more innovative efforts to stress abstinence as a goal of health educators and public health promotion programs. One way to address this problem is to include in sex education the option of postponing sex as an acceptable life-style choice for adolescents and to allow for more complete discussion of the topic. This year the Texas Education Agency is implementing a new component to its curriculum for HIV prevention which provides a curriculum resource of teaching strategies that are age-appropriate and across all content areas to ensure that each teacher has received the same training on how to discuss HIV prevention in the context of healthy life skills.

If teenagers at risk of becoming pregnant can be encouraged to delay pregnancy or to avail themselves of family planning services, the potential savings would be substantial. In the first year of birth, teenage mothers and their babies, who required public funds solely due to the birth of the mother's first child, utilized an estimated average of \$9,548 for AFDC, Food Stamps and Medicaid. In 1989 the national public cost for such families was \$21.55 billion. The potential savings by delaying these births would be \$8.62 billion. For every Title XIX Family Planning dollar that is spent, an estimated \$13.64 is saved. (See Figure 11 for figures on teenage births in Texas.) For every Title XX Family Planning dollar, an estimated \$6.63 is saved.¹⁷

In Atlanta, the Henry W. Grady Memorial Hospital and Emory University piloted a program aimed at helping high-risk eighth graders learn how to refrain from early sexual encounters. The program, **Postponing Sexual Involvement**, is based on "social inoculation" to help young teenagers learn why and how to say, "No." The program learned that traditional knowledge-based educational methods were unsuccessful because until about 16, adolescents have only a limited ability to recognize the impact of their decisions. Furthermore, instead of adults, the program used older teenagers (11th and 12th graders) as role models and teachers. The program results showed that by the end of the eighth grade, students who were not in the program were five times more likely to have begun having sex than those who had been in the program.¹⁸

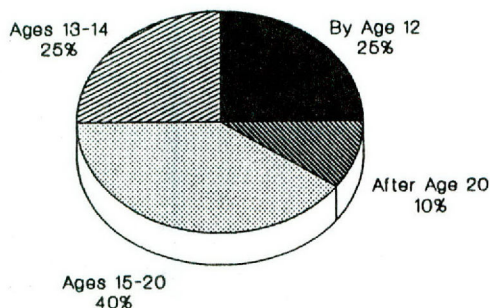
An example of a comprehensive approach to sexuality education is the Sex Information and Education Council of the United States (SIECUS) Guidelines. The education model presented in these guidelines helps students to clear up the confusion around sexuality that confronts them, and too often leads adolescents to despair and to self-destructive behavior. The SIECUS Guidelines are appropriate for use within the public schools as they provide a model that respects the diversity of opinions within the community. However, it would be naive to rely on education as the sole strategy in the battle against teenage pregnancies and AIDS; other strategies must also be considered, e.g., the availability of condoms in

schools and counseling services which discuss a complete range of options with teenage clients.

Tobacco Use

Despite laws in most states which set a minimum age for the purchase of cigarettes, in the United States there are currently an estimated 2.6 million adolescents, aged 12-17, who smoke.¹⁹ The average age for beginning smokers is 13. (See Figure 48) In fact, only ten percent of tobacco users start after the age of 20. If children can avoid using tobacco while they are still adolescents, the chance that they will ever start is greatly reduced.

FIGURE 48
WHEN TOBACCO USE BEGINS
U.S. AVERAGE AGE IS 13



Source: National Institute on Drug Abuse
National Household Survey on Drug Use

As an example of what local communities can do, in 1988, with the assistance of the Texas Department of Health's Office of Smoking and Health, **Project Comply** was initiated in Abilene, Texas to get the cooperation of local merchants to stop selling tobacco products to minors. The leading influence in this project was Lynda Calcote, an Abilene community volunteer and former member of the Statewide Health Coordinating Council. In 1989 the Texas Legislature enacted a law prohibiting the sale of cigarettes to minors and the posting of signs to this effect.

A study by the National Automatic Merchandising Association reports that while 16 percent of teens

who smoke get their cigarettes from a vending machine, 13 year-olds are 11 times more likely to buy cigarettes from a vending machine than 17 year-olds. Nearly all teenage smokers (96 percent) have been stopped from buying cigarettes over the counter, but only one in ten have been stopped from buying from a vending machine.²⁰ Removal of cigarettes from vending machines should help reduce adolescents' access to tobacco.

Although tobacco is not an immediate cause of death for the young, 19 percent of all deaths in Texas in 1989 were attributable to smoking. Furthermore, the younger one begins smoking, the greater are the chances that one will die of a smoking-related disease.²¹ Strategies to reduce the access and exposure of teenagers to tobacco products and second-hand, or sidestream smoke, might include making all school campuses and functions tobacco-free; strengthening the enforcement of penalties against individuals and businesses that sell tobacco products to minors; and increasing the tobacco excise tax. Education on the hazards of tobacco is one more strategy for reducing the number of teens using tobacco.

Child Abuse

States around the country are grappling with an increase in the numbers of child abuse cases. The increase may be caused by an increase in the actual incidents of child abuse, or an increase in the rate of reporting such incidents due to the increase in the exposure of the problem. Nevertheless, states are approaching the problem in a number of ways. Texas, for instance, recently reorganized its health and human resources agencies, streamlining all of the child abuse services into the Department of Protective and Regulatory Services. Hawaii is trying an ambitious preventive program to screen every new parent to identify those at risk of domestic violence and then provide counseling to help these families during their early stages of parenting. The program includes weekly visits until the child is 18 months and is then scaled back to quarterly visits. The supervisor of child services for the Hawaii Health Department estimates that the program costs the state \$1,600 a year per family, whereas foster care for an abused child costs \$6,000 per year.²²

MAJOR PROBLEMS WITH THE DELIVERY SYSTEM

There are many barriers to adolescents from low-income families receiving the necessary health care services. Nearly 20 percent of the nation's youth are without public or private health insurance. In Texas, 22 percent of the children under 18 years of age are without any health insurance. For those who are poor, near-poor, have little education, and are minorities, the percentage of uninsured is much greater.²³ Furthermore, most health insurance does not include dental services, thus creating an additional barrier to adolescents needing dental care. According to the Texas Department of Health (TDH) 1984-87 survey of dental caries in adolescents, Hispanics and Blacks not only experienced more tooth decay, but received less treatment for it.

Nutrition is a necessary component of adolescent health which is not adequately considered by the present health delivery system. Most of the state publicly-funded food programs and services do not recognize any specific dietary guidelines.²⁴ The Texas Education Agency (TEA) and the Texas Department of Human Services (DHS) are attempting to incorporate the U.S. Department of Agriculture guidelines in their National School Lunch and Breakfast Programs, but school districts are not required to comply. Some of the barriers to implementation of nutritional guidelines in public schools include the availability of vending machines to students, inadequate labeling of food products offered by manufacturers, restrictive state purchasing rules for fresh produce, and the lack of sufficient time some schools allot for students to eat breakfast or lunch.²⁵ In June 1990 an informal group, the Interagency Council on Nutrition, was formed to share information and coordinate nutrition support services in Texas; to be successful, such an effort would require the establishment of an accepted standard of dietary guidelines for all state agencies to follow and authority to compel agency participation in the program.²⁶

Other systemic factors which work against adolescents getting the proper health care are

inadequate numbers of school nurses and public health providers, inaccessible hours of operation, and a fragmented delivery system. Personal and family factors can also act as barriers. Parental perceptions that care is not needed, lack of transportation, and the perception of a lack of confidentiality by the teen, prevent many adolescents from seeking health care even when it is wanted. "Health care for young people is episodic and crisis-related, and opportunities for comprehensive preventive health screenings are scarce."²⁷ One in 12 of our nation's children do not have a regular source of health care. For Black children, the number is one in five. Nearly a quarter of inner-city children rely on hospital outpatient services, emergency rooms, walk-in care centers, and public health centers. Thus is a long pattern of emergency health care use established.²⁸

In order to fill this need, TDH, DHS, TEA, the Texas Employment Commission, and the Governor's Office are working together to develop a school health initiative which will use block grant monies to provide many of these preventive and primary care health services in school-based clinics. Several school districts in south Texas and San Antonio have already begun to utilize similar arrangements. With the permission of the local school board and a consent form signed by the students' parents, clinics have been established with the on-site school nursing staff to provide a full range of health services in a confidential manner.

In Dallas County, Parkland Memorial Hospital has been operating community and school-based clinics with traveling teams to provide preventive and primary care to adolescents under the Community Oriented Primary Care (COPC) program. Beginning with the West Dallas Youth Clinic which has been operating for 20 years, the program now provides health services to nine schools in the Dallas area. The services include health screening and assessments, primary care treatment, family planning, and counseling. These services are provided five days a week at the Parkland Young Adult Clinic, the West Dallas Youth Clinic, at two elementary schools, and by four traveling teams at six other participating high schools. The full-time clinics see approximately

9,500 patients a year with about 26,000 to 28,000 annual visits. The traveling teams see about 7,500 patients visiting each school from one-half day to two days a week.

The advantages to a school health service program are many. The COPC program has seen a 25 percent reduction in adolescent pregnancy rates for the service area, and the rate of hospitalization is one-quarter that of non-clinic users. The program offers an entry point into the health care system for all children as well as being a health resource for the community. It provides a broad range of comprehensive, clinical preventive services including social services and counseling, mental health services, and case management of complex medical problems. It is also confidential and user friendly. And, very importantly, it is convenient; providing a health service facility which teens are more likely to walk in and use spontaneously. A list of guidelines for clinical preventive services for adolescents as recommended by the U.S. Preventive Services Task Force is provided in Tables 3 and 4 of the Appendix.

RECOMMENDATIONS

1. Enact legislation requiring an adequate ratio of school nurses to students in the middle and secondary schools and prescribing their minimum duties and responsibilities.
2. Encourage local school districts to participate in age-appropriate programs of education for self-responsibility which include drug and alcohol abuse, prevention of AIDS and other sexually transmitted diseases, pregnancy prevention and family planning, use of safety helmets with motorcycles and bicycles, use of car safety belts, proper nutrition, and suicide prevention.
3. Fund additional health screening programs for adolescents as recommended by the U.S. Preventive Services Task Force.
4. Increase the use of schools and other alternative sites as health care settings.
5. Institute controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns.
6. Reduce the incidence of HIV infection, communication of sexually transmitted diseases, and unwanted pregnancies among adolescents by encouraging health clinics to make condoms available for sexually active teenagers and to provide explicit advice on the options available, including abortion and adoption, for pregnant teenagers.
7. Reduce the number of adolescents who smoke by:
 - Making all school campuses and functions tobacco-free;
 - Strengthening the enforcement of penalties against individuals and businesses that sell tobacco products to minors;
 - Removing all tobacco products from vending machines that are accessible to minors; and
 - Increasing the tobacco excise tax.
8. Reduce Texans' exposure to carcinogenic second-hand smoke by enacting laws restricting smoking in public buildings and common areas, including all state office buildings.
9. Reduce the number of teenagers becoming pregnant by funding and encouraging the use of new and innovative pregnancy prevention programs, such as, parent-child talk groups, teen-to-teen talk sessions, and mentoring programs.
10. Develop programs to prevent child abuse which are based on the co-operative efforts of parents, schools, and communities.
11. The Texas Legislature should establish a mechanism for coordinating development and implementation of standard dietary guidelines for public food distribution programs.

ENDNOTES

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²⁸Ibid.

CHAPTER 4

ADULTHOOD

YEAR 2000 GOALS AND OBJECTIVES FOR THE ADULTHOOD LIFE STAGE

Adulthood, being the longest period of the life cycle (age 20 - 64), encompasses numerous factors related to the health of the individual. This chapter does not attempt to examine every aspect of health in the life stage of an adult; many subjects of concern to adults have been addressed in previous chapters. Discussion here will focus on two periods: young adulthood and late adulthood.

Adulthood is also the period of life that a person spends in the work force and is, therefore, most vulnerable to occupational hazards, such as motor

vehicle crashes, back and muscle strains, repetitive motion injuries, hazardous chemicals, medical wastes, and industrial machinery. Since a significant portion of life is spent in this environment, a healthy work place, where an employee can also have an opportunity to learn how to improve his or her life-style, is an important factor in keeping a healthy work force at a cost savings to the employer.

The Statewide Health Coordinating Council has adopted appropriate indicators from the *Healthy Texans 2000 Partnership: Health Objectives for the Year 2000* and presents the following goals and objectives for the adult years of life.

GOAL 1: Reduce the rate of injuries and injury deaths for Texas' adults.
OBJECTIVES
Reduce the number of deaths per 100,000 resulting directly from the effects of drugs and alcohol from 61.6 to the Texas Year 2000 objective of 50.
Reduce the number of homicides and assaults from 214,845 to the Texas Year 2000 objective of 148,299.
Reduce the annual number of deaths due to firearms from 154 to the Texas Year 2000 objective of less than 100.
Reduce the number of deaths per 100,000 caused by motor vehicles from 20 to the Texas Year 2000 objective of 17.3.
Reduce the rate of lost workdays due to on-the-job injuries per 100 workers from 75 to the Texas Year 2000 objective of 50.
Reduce the rate of occupational fatalities per 100,000 workers from 9.7 (1986) to the Texas Year 2000 objective of 8.2.

GOAL 2: Improve the health of adults in Texas.
OBJECTIVES
Reduce the percentage of adults age 18 - 64 weighing 120 percent or more of desirable body weight from 22 percent to the Texas Year 2000 objective of 20 percent.
Increase the percentage of Texans age 18 and over who participate in at least moderate physical activities three or more days per week for 20 minutes or more per occasion from 40 percent to the Texas Year 2000 objective of 55 percent.
Reduce the smoking prevalence for adults age 18 and over from 24 percent to the Texas Year 2000 objective of 15 percent.
Reduce the number of deaths due to heart disease (age-adjusted rate per 100,000) from 262.1 to the Texas Year 2000 objective of 190.
Reduce the number of deaths due to stroke/cerebrovascular disease (age-adjusted rate per 100,000) from 51.7 to the Texas Year 2000 objective of 25.
Reduce the number of deaths due to breast cancer per 100,000 women age 40 and older from 59.7 to the Texas Year 2000 objective of 52.6.
Reduce the number of deaths due to cervical cancer per 100,000 women age 18 and older from 4.0 to the Texas Year 2000 objective of 3.3.
Reduce the projected annual number of deaths due to diabetes per 100,000 for the Year 2000 from 8,426 to the Texas Year 2000 objective of 7,584.
Raise the percentage of people who have received all of the appropriate screening and immunization services to the Texas Year 2000 objective of 60 percent.

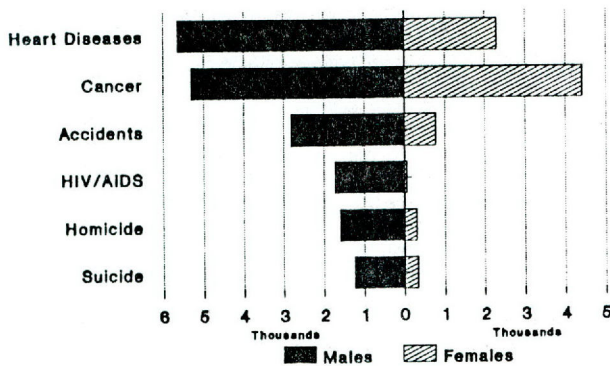
MAJOR CAUSES OF MORBIDITY AND MORTALITY

The six leading causes of death for adults are heart disease, cancer, accidents (unintentional injuries), HIV/AIDS, homicide, and suicide. (See Figure 49) Through age 44, trauma (unintentional injuries, homicide, and suicide) is the leading cause of death for adults. Although it accounts for more years of potential life lost than all other deaths common to this age group (cancer, heart disease, and stroke) combined, in 1983 the federal expenditure for injury research was only \$112 million compared to \$998 million

for cancer research and \$624 million for research on heart disease and strokes.¹

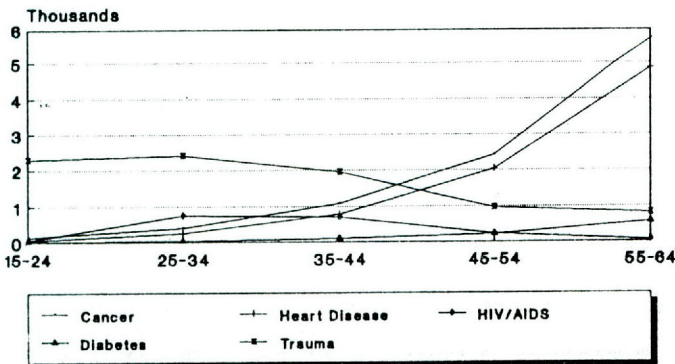
The fastest rising cause of death for age 20 - 64 is HIV/AIDS infection. In 1990, AIDS was the fourth leading killer after heart disease, cancer and unintentional injuries. After the age of 44, heart disease and cancer far exceed any other as a cause of death. (See Figure 50) In fact, the factors influencing mortality are significantly different for early and later adulthood. Therefore, it is easier to understand the causes of death by examining these periods separately.

FIGURE 49
1990 LEADING CAUSES OF DEATH
TEXAS, AGE 20 - 64



Source: TDH, Bureau of Vital Statistics

FIGURE 50
1990 LEADING CAUSES OF DEATH
AGE 15 - 64, TEXAS



Source: TDH, Bureau of Vital Statistics

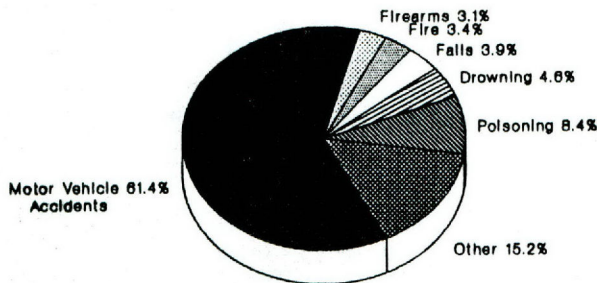
Young Adulthood

Young adulthood covers age 20 - 44, and is a period distinguished by education, career building, and beginning a family; however, in 1990 more Texans in this age group died from unintentional injuries, or accidents, than any other cause. When homicide and suicide are included, the human cost of trauma becomes even more dramatic. Common to the period, also, are substantial differences in the rates of death between male and female. Trauma killed 42.7 percent of the males as compared to 29 percent of the females in this age range.

Furthermore, young adulthood is characterized by risks associated with behavioral factors, such as, abuse of alcohol. Alcohol and drugs are factors in a number of health and social problems. The most significant causative factor of death of young adults is substance abuse. In 1989, 23 percent of the deaths of young adults (age 25 - 44) in Texas were drug or alcohol-related.² In 1989 the total economic cost of substance abuse in Texas was approximately \$12.6 billion.³ Alcohol especially affects intentional and unintentional deaths, suicides, cancer, pregnancy complications, and cirrhosis of the liver. One of the most startling is the toll it takes on perinatal health. Such complications due to fetal alcohol exposure cost Texans an estimated \$353 million, \$131 million of which is for fetal alcohol syndrome (FAS) alone. (1989) (See Part II, Chapter 1 for more information on FAS.) The age group with the highest number of deaths due to alcohol is 20-24. According to a study of the 1989 Texas Vital Statistics, 261,791 years of potential life are lost annually due to drugs and alcohol.⁴ Approximately 434,000 adult Texans have drug problems, and more than one million adult Texans are considered problem drinkers. In 1989 more than 64,000 drug arrests were made in Texas. For those who had sought treatment for their addiction in 1990, cocaine was cited as the problem 26 percent of the time. In 1988, 1,363 persons died in traffic accidents involving alcohol, and another 31,825 were injured.⁵ The drug-related fatalities in Texas are mostly young adults age 25-44. In fact 63 percent of drug and drug-related deaths in Texas are in this age group.⁶

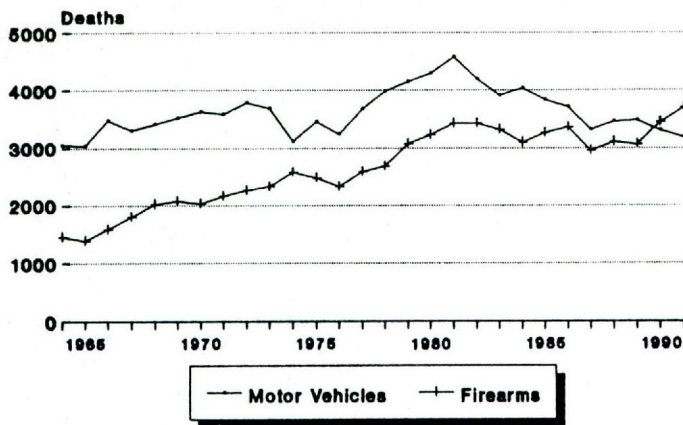
Motor vehicle crashes are responsible for the deaths of more adult Texans than all other unintentional injuries combined. (See Figure 51) Until 1990 motor vehicle accidents was the largest single cause of injury mortality in Texas. In that year, all firearm-related deaths, which include intentional causes, e.g., homicide and suicide as well as the "accidental," surpassed motor vehicles for the first time since vital records were computerized in Texas in 1964.⁷ (See Figure 52) In 1990, 45 percent of the firearm deaths for adults were due to suicide and 54 percent were due to assaults. The 25-34 age group had the highest death rate from firearms at 28.9 per 100,000 population.

FIGURE 51
1990 ACCIDENTAL DEATHS
TEXAS, AGE 20 - 64



Source: TDH, Bureau of Vital Statistics

FIGURE 52
FIREARM AND MOTOR VEHICLE-RELATED
DEATHS IN TEXAS, 1964-1991



Prepared by the TDH Injury Control Program

After unintentional injuries, AIDS was the greatest cause of death for young adult males at 20.8 percent. The number of AIDS deaths peaks at age 30 - 39. From 1985-1990, 46.8 percent of all AIDS deaths in Texas were persons in this decade of life. In 1991 men were 96 percent of all AIDS patients in Texas. Although only four percent of the women in this age range died from AIDS in 1990, the AIDS mortality rate for women is climbing faster than it is for men primarily due to heterosexual transmission of the virus.

National hospital discharge surveys show that complications involving obstetrics (i.e., pregnancies, deliveries) and gynecology are the most frequent cause of hospitalization for women in this age group. According to *Healthy Texans 2000*, Texas exceeded the nation's rate for maternal mortality (7.2) in 1988 with 7.9.

Mental Health

Depression is the most common psychiatric disorder and one of the most frequent problems seen in general medicine. It is most common among young people age 18 - 44, and it is two to three times more common among women than men.⁸ Although depression occurs in up to 30 percent of the patients seen by primary care physicians, it is frequently overlooked as a diagnosis.⁹ Even though it can lead to other serious health complications such as alcoholism, suicide and a variety of physical symptoms, neither depression nor most other mental illnesses are provided adequate coverage by the insurance industry. An estimated 50,000 to 70,000 suicides occur annually in the U.S., of which 30 to 70 percent have been previously diagnosed with major depression. Furthermore, the annual direct and indirect cost of depression in the U.S. exceeds \$16 billion.¹⁰

Late Adulthood

Late adulthood covers age 45 - 64, and is often a period of visible aging and can be accompanied by reviewing career goals, and frequent changes in the make up of family life. The principal causes of death during this period are chronic diseases, which are responsible for more than 50 percent of the deaths nationwide. The primary life-style factors responsible for these diseases are tobacco use, poor nutrition, and lack of exercise. The major chronic diseases, cancer and heart disease, significantly affect the health of this age group. During age 45 - 64, diseases of the heart accounted for 32.8 percent of men's deaths in 1990 and 23.1 percent of women's deaths. For women of this age, cancer is the deadliest disease, accounting for 41 percent of their deaths. Other mortal diseases accounting annually for a substantial number of middle-age adult deaths in Texas are cerebrovascular diseases (4.0 percent),

chronic liver disease (3.0 percent), diabetes (3.0 percent), and chronic obstructive pulmonary disease (2.5 percent).

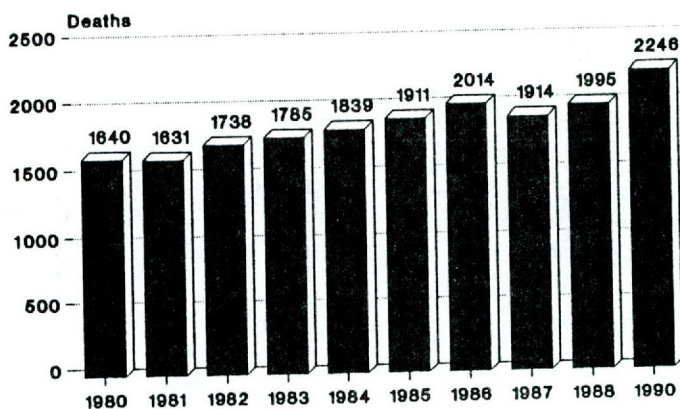
Heart disease is the leading cause of death in Texas; nationally it is responsible for nearly half of all deaths. It covers a wide range of heart defects, including irregular heart beats and the closing of pulmonary arteries. Heart disease can result from and affect defects of other organs and systems. The main risk factors for cardiac disease are hypertension, cholesterol, obesity, smoking, and diabetes. Hypertension is commonly known as high blood pressure. It can double the risk of getting coronary disease and is often diagnosed during this period. Stroke, a cerebrovascular disease, is often the result of hypertension and was the third leading cause of death in 1988. It has many of the same risk factors as hypertension and diabetes, including poor nutrition, lack of exercise, and smoking.

Cancer is the second most common cause of death in Texas. The risk of developing many types of cancer increases with age. Cancer involving the lung, breast, colon, and cervix are most common. There is a great need for more epidemiologic data on cancer incidence rates, survival rates, stage at diagnosis, and treatment, without which it is difficult to monitor the effectiveness of prevention and early intervention efforts. From 1980 to 1988, female breast cancer deaths increased 22 percent, (See Figure 53) but the age-adjusted mortality rate has not varied much. It was 23 per 100,000 in 1968 and 22 per 100,000 in 1988. However, for women over 40, the age-specific mortality rate was 59.7 per 100,000 in 1988. Lung cancer is predominant among men, at least three times as high as for women, and is also the most costly. Cervical cancer deaths, although fluctuating, decreased by 13 percent from 1980 to 1988, (See Figure 54) but the mortality rates for Texas Hispanic and Black women are respectively two and three times the rate for White women.¹¹

Diabetes, a disease characterized by irregular glucose metabolism, also involves many organ systems, including the kidney, eyes, and heart. An estimated 850,000 Texans suffer from this disease, and without effective preventive measures, more than 1,000,000 will be afflicted

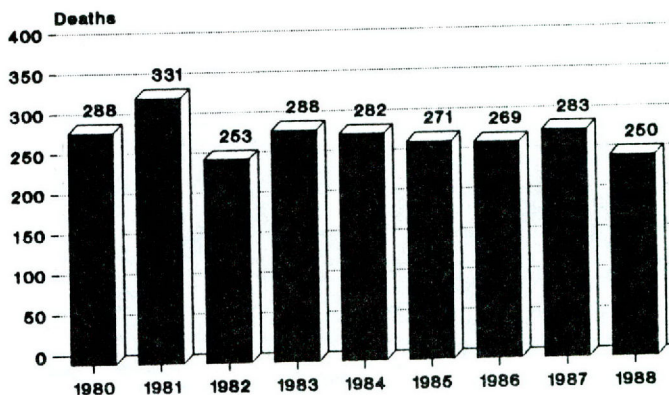
by the year 2000. Studies estimate that Hispanics are two to three times more likely to contract diabetes than Whites, and Blacks have also been found to experience a higher rate of the disease than Whites (See Part II, Chapter 6). Furthermore, one of the most serious effects of this disease is that it is the leading cause of blindness occurring during adulthood.¹² However, the full impact of the disease in Texas is not yet completely understood, due to a difficulty in obtaining data.

FIGURE 53
TEXAS BREAST CANCER DEATHS
1980-1990



Source: *Impact of Cancer in Texas*, 5th Edition

FIGURE 54
TEXAS CERVICAL CANCER DEATHS
1980-1988



Source: *Impact of Cancer in Texas*, 5th Edition

MAJOR METHODS OF PREVENTING DISEASE, DISABLING CONDITIONS OR DEATH

Smoking Cessation

Statewide and nationally smoking is the largest single precursor of death. In 1990 in Texas 23,254 persons died of diseases directly attributable to smoking or inhaling second-hand smoke, e.g., cardiovascular diseases, respiratory diseases, and lung cancer. (See Figure 55) This is 19 percent of all deaths during the year. However, for persons who quit smoking and remain tobacco-free, after 15 years the health risks decrease to the same as a non-smoker.¹³

Over the past 15 years, the United States has made considerable improvement in the decline of the number of smokers. From 1975 to 1983 the proportion of cigarette smokers fell from 43 percent to 30 percent; however, in the nine years following, the percentage of U.S. smokers has only fallen another five points.¹⁴ In 1988, 24

education about and prevention of tobacco use, establishing minimum standards for regulating smoking in public places and work sites, delivering smoking prevention messages, and promoting community anti-tobacco efforts.

Control of Drugs and Alcohol

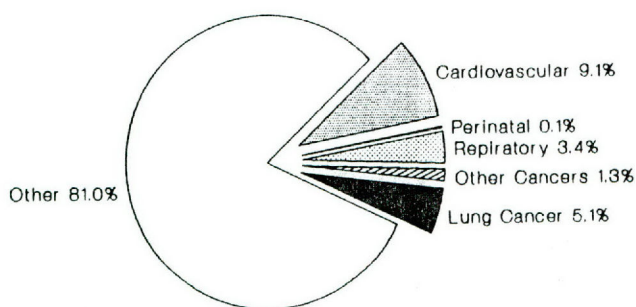
Nearly half of all traffic crashes involve alcohol, and a recent study shows that most drunk drivers killed in automobile crashes have blood alcohol levels at least 50 percent over the legal limit. Many states have proposed legislation to reduce drunk driving, but, according the National Transportation Safety Board, the most effective step is legislation allowing a police officer to take the driver's license from anyone who fails, or refuses to take, a sobriety test. The driver can be given a temporary permit to arrange a hearing and transportation. Twenty-nine states now have such laws, commonly known as administrative license revocation. Following passage of this law, Nevada had a 41 percent decline in fatalities, and North Dakota had a 37 percent decrease.¹⁵ During the 72nd Texas Legislature, a similar bill was defeated.

Avoidance of HIV High-Risk Behavior

Due to the normally long dormancy period of HIV (ten years), the high number of AIDS deaths in the 30-39 year age range are usually a result of HIV infection during the 20s, or earlier. (See Figure 44) A recent study by the Harvard University Global AIDS Policy Coalition predicted that as many as 110 million people worldwide will be infected with HIV by the year 2000.¹⁶ Therefore, it is imperative that a policy be developed that will convince Texans, especially those at highest risk, to avoid the kinds of behavior that transmit the AIDS virus, e.g., unprotected sexual activity and intravenous drug use.

Every person must be responsible for their own life-style choices, but several policy actions can be made that could facilitate the control of AIDS. Such actions taken in various states include making condoms available through schools and public health clinics and testing needle exchange programs for intravenous drug users in a few

FIGURE 55
1990 TEXAS SMOKING-ATTRIBUTABLE DEATHS BY DIAGNOSTIC CATEGORY



Source: TDH, Public Health Promotion Division

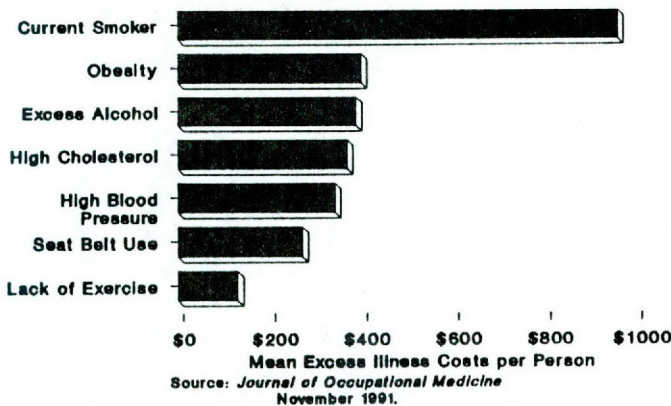
percent of Texas adults were smokers. Although this is a substantial improvement from the 31 percent in 1982, the Texas Health Objective for Year 2000 is 15 percent. To meet this objective, *Healthy Texans 2000* recommends raising tobacco excise taxes and dedicating that revenue for

large U.S. cities. However, to reach the populations at greatest risk of HIV infection, an explicit radio and television education campaign must be developed to reach all elements of society. Implementing a counseling/support program to reach these high-risk groups should also be considered.

Promote Proper Diet and Exercise

The leading causes of death for all persons, especially older adults, are heart disease and cancer. (See Figure 49) The major factors causing heart disease, besides smoking, are poor nutrition and insufficient exercise. Three of the risk factors in Figure 56, obesity, high cholesterol and high blood pressure, are directly related to not eating the right kinds of food. More fiber and less fat in the diet will improve one's chances of combating heart disease and colon cancer. A fourth risk factor, lack of exercise, is also a significant determinant of heart disease. Physical exercise is an essential component of any fitness and weight loss regimen.

**FIGURE 56
BEHAVIORAL RISKS ON ABSENTEEISM
IN THE WORKPLACE, U.S.**

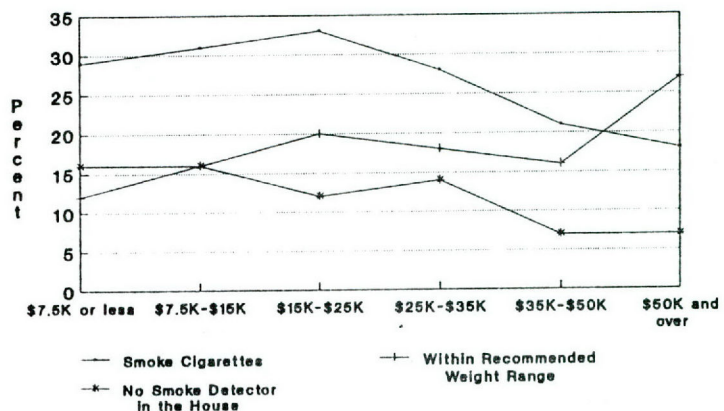


Although there have been improvements in what Americans do to prevent disease and injury, almost all have been in areas that have little to do with life-style and self-discipline and more to do with technology, legislation and government, e.g., use of smoke detectors, seat belt use, and DWI enforcement.¹⁷ The progress that has been made

in fitness and nutrition is more perception than reality. The proportion of adult Americans who exercise strenuously has stayed much the same since 1983 (37 percent) and the proportion of Americans who are overweight has increased from 58 percent in 1983 to 63 percent according to a recent Louis Harris survey for *Prevention* magazine.¹⁸ Another finding in these surveys is that there is a wide gap between the socially advantaged and the disadvantaged. Those who are better educated and more affluent tend to have better health habits than those who are not. (See Figures 57 and 58) The evidence indicates that the message of health promotion is followed more closely by the affluent.

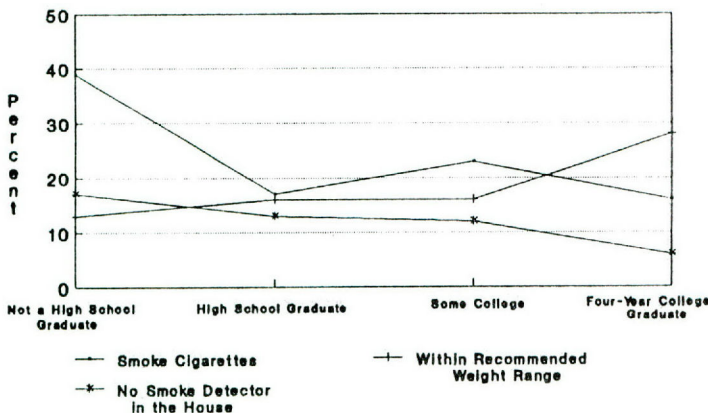
The changes necessary to effect an improvement in the morbidity and mortality for these diseases are the responsibility of the individual. However, it would appear that Americans seldom find sufficient motivation to commit to a healthier diet or life-style. For many the effort requires the assistance of a structured group with knowledgeable leadership. To make the desired impact throughout the population, it may be necessary to combine more wellness programs throughout the employment sector, with stronger and more innovative promotional and educational messages by the media. The data in the Harris surveys also suggest that more health education

**FIGURE 57
RISK FACTORS BY HOUSEHOLD INCOME**



Source: *Health Management Quarterly*, 2nd Quarter 1992.

FIGURE 58
RISK FACTORS BY EDUCATION



Source: *Health Management Quarterly*,
2nd Quarter 1992.

messages on fitness and nutrition should be targeted to the less advantaged in relevant and acceptable ways.

Employee Wellness Programs

Fitness and wellness classes should not be an advantage only for those who can afford it. They should be available throughout society. Many work places are now offering wellness programs by making time and facilities and/or support programs available to help their employees develop healthier life-styles. These effort include exercise programs, nutritional information, safety information, smoking cessation clinics, substance abuse clinics, and stress reduction classes. These employers are discovering substantial savings in the form of healthier and more productive employees with lower absentee rates. Some examples of successful wellness programs include Dupont of Delaware, where a five to one return on dollars spent for wellness programs was experienced; the City of Birmingham, Alabama, where an eight to one return was experienced;¹⁹ and another study which found a \$2 to \$4 return for every \$1 spent on work site treatment programs and blood pressure monitoring.²⁰ Figure 56 shows the potential for individual savings through employee wellness programs. In addition, the total costs to U.S. companies of illnesses caused by unhealthy life-style practices

illustrated in Figure 56 are conservatively estimated at \$70.8 million annually.²¹ Just the economic benefits of reducing unhealthy behaviors are reason enough to show that such programs are needed throughout the work force.

Medical Prevention Strategies

Many mortal or debilitating diseases can be arrested or controlled if detected and treated in the early stages. Cancer and heart disease are among them. In 1990 more than 28,000 persons died of cancer in Texas. During this period, an estimated 59,000 new cases of cancer were discovered.

A patient who can be cured of breast cancer because of early detection by mammography will have medical costs of \$14,000 to \$25,000. If not detected early, the medical costs for a terminal breast cancer patient will be at least \$84,000. Although breast cancer is the most common cancer in U.S. women, in 1987 only 56 percent of Texas women over 40 reported ever having had a mammogram.²² Because breast cancer is treatable if detected early, it is estimated that regular mammography screening would save 600 lives annually in Texas.²³

Early detection of cervical cancer would save an estimated \$5,907 and 3.7 years of life per 100 Pap tests.²⁴ If Pap screening were done regularly at three-year intervals, an estimated 90 percent of invasive cervical cancers could be prevented.²⁵

The previous examples of disease prevention and cost savings through regular screenings and health checkups are relevant for other mortal diseases as well. Screening for cancer, blood pressure checks, and cholesterol screening are other precautions that should be taken at regular intervals. During these screenings and checkups, it is the physician's responsibility to counsel the patient on his/her status and what actions may be necessary to prevent or control a potential health problem, e.g., moderate one's diet, begin exercising, stop smoking, adopt less stressful life-style, or moderate alcohol consumption. (See Tables 5 and 6, Appendix for recommended clinical guidelines of the U.S. Preventive Services Task Force.)

Although diabetes was once fatal, it no longer prevents diabetics from leading normal active lives, if diagnosed and treated early. However, because of the mild early symptoms, many people do not realize they have the disease. As many as half of all persons with diabetes are unaware of their disease.²⁶ A greater effort must be made to educate Texans about diabetes and the necessity of regular visits to their primary care physician, especially if symptoms of this disease become apparent.

Depression is not as easily detected as physical ailments, but those who do not feel well should seek medical advice. If the patient suspects depression, he should suggest it himself. There are screening tests which have been proposed for use by primary care practitioners, but there is insufficient evidence to recommend their application on a general basis.²⁷ Therefore, it is necessary for every person and their primary care provider to be alert for the mental and physical clues that could be the indicator of depression or other mental illness.

In general, physical examinations and screenings are important because acute conditions can often be detected and treated in time to curtail a disease. Seeing the family physician or local primary care provider periodically, even when not feeling sick, can often save time and money in intensive or protracted treatment, and it could also save a life.

MAJOR PROBLEMS WITH THE DELIVERY SYSTEM

Trauma System Availability

In the 71st Texas Legislature, House Bill 18 established the Trauma Technical Advisory Committee to develop a trauma registry and the criteria for a trauma system for Texas. The committee has accomplished this task. However, trauma is a costly medical problem, and few hospitals can afford to maintain a recognized trauma facility when there is so little revenue from such an effort. Hospitals which accept the designation as a trauma center must accept all patients requiring their expertise, but often the patient has no resources to pay for this special care, and the hospital and physicians receive little

or no compensation. In 1989 uncompensated trauma care in Texas amounted to \$157 million for hospital care and \$54 million for pre-hospital care by emergency medical services units.²⁸ Physician and rehabilitation costs are not included in these figures. Furthermore, large urban public hospitals serve large geographical areas, a burden which cannot be sustained by local governments without substantial public dollars. When a public hospital provides treatment for an indigent patient from outside the county which is the tax base for that hospital, there is no obligation for the patient's county of residence to reimburse the hospital for the treatment. Due to large distances between trauma services, especially in rural Texas, patients who are severely injured are frequently taken to a small hospital or clinic that does not have the personnel or the equipment to treat the patient. If that hospital has no transfer agreement with a better-equipped hospital, the patient may not survive the critical time, known as the "Golden Hour," before receiving appropriate care.

Women's Health Issues

The Governor's Commission for Women has looked at a number of health issues of particular concern to women, but which have not received adequate attention within the medical delivery system. Most important is the lack of research on diseases that affect women, such as breast cancer, cervical cancer and ovarian cancer.

Health insurance is a particular concern for women. Single mothers in the job market do not have the flexibility in job selection as do men, and health insurance may not be as available with their jobs. In addition, women must deal with the discriminatory practices of health insurance policies. Because women are at a higher risk of depression than men, and many health insurance programs do not give adequate coverage for mental health problems, mental health is a significant concern to women.

Access to primary care

Access to primary care is difficult for low-income adults, especially for rural residents. Access to primary and preventive health care is discussed

more fully in Part I, Chapter 2; however, it needs reiteration because more than 22 percent of the state population over 18 years of age have only Medicaid or no health insurance at all.²⁹ In 1988, 22 rural counties had no primary care physician (see Appendix), and in 1989, 41 percent of all rural hospital admissions were Medicare or Medicaid patients. In November 1990, 56 Texas counties were without hospitals, and 127 had only one. One source of primary care available for the indigent is the Community and Migrant Health Center. Figure 27 in Part I, Chapter 2 shows the location of these centers. During the year ending March 1990, 131,900 patients had used the rural centers, and 679,600 total visits to these centers were recorded during this time.

There is a scarcity of state programs providing primary care services to low-income residents of Texas. Only the County Indigent Health Treatment Program and the Primary Care Program provide assistance at the state level. The Primary Care Program is limited in the areas it serves, and the County Indigent Health Treatment program has very limited resources and serves only the poorest patients. For the patient with no health insurance and whose income is just above the poverty guidelines, it is often hard to find money for even the necessary health visits, including prenatal care, periodic check-ups, and prescriptions.

RECOMMENDATIONS

1. Develop a strategic plan for a statewide trauma system that will provide a mechanism for coordinated trauma-related services.
2. Reduce the incidence of HIV infection by developing and distributing more explicit anti-AIDS materials for public service, print and electronic media.
3. Develop incentives for private and public employers to provide employee wellness programs

that encourage instruction and facilities for exercise, nutrition, safety, substance abuse elimination, smoking cessation, and stress reduction programs.

4. Reduce the number of motor vehicle fatalities and injuries by enacting an administrative license revocation law in Texas that requires immediate surrender of the driver's license of any driver who fails or refuses to take a sobriety test.
5. Fund additional research on women's health issues and diseases.
6. Reduce the risk of exposure to tobacco by increasing the tobacco excise tax.
7. Reduce Texans exposure to carcinogenic second-hand smoke by enacting laws restricting smoking in public buildings and common areas, including all state office buildings.
8. Reduce the rate of firearm deaths in Texas by instituting controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns.
9. Improve preventive care services by requiring reimbursement by private insurance carriers and publicly funded health programs for regular screenings, e.g., chest x-rays; cholesterol and blood pressure checks; Pap smears; cancer screenings, including breast, colon, and prostate cancer; examinations, including eye and dental; counseling; and immunization services as recommended by the U.S. Preventive Services Task Force.
10. Support education regarding, and compliance with, the 1992 U.S. Occupational Safety and Health Administration (OSHA) guidelines on workers' safety.

ENDNOTES

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⁵Texas, Department of Health, *Healthy Texans 2000 Partnership: Health Objectives for the Year 2000*, p. 15.

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⁷David Zane, Mary Jo Preece, et al. "Firearm-related Mortality in Texas (1985-1990)," *Texas Medicine*, November 1991.

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¹⁹Robert L. Bertera, Dr.P.H., "The Effects of Behavioral Risks on Absenteeism and Health-Care Costs in the Workplace," *Journal of Occupational Medicine*, Vol. 33, No. 11, November 1991, p. 1119.

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CHAPTER 5

ELDERLY

YEAR 2000 GOALS AND OBJECTIVES FOR THE ELDERLY STAGE

The elderly period of the life cycle includes persons 65 years and older. The U.S. Bureau of Census estimated the elderly Texans to be 1,756,000 for July 1, 1991. With a total population estimate of 17,349,000, the elderly account for 10.1 percent of the state's population.¹ The elderly age group is increasing three times faster than the general population and will grow by 40 percent during the 1990s. It is estimated that persons 75 and over will number over 1.3 million in 2000.² The elderly over 85 years of age are growing faster than any other segment of population. It is anticipated that this increase will be reflected in increased rates of morbidity and mortality of the elderly in the next decade.

This is the age of retirement, and most elderly are on fixed incomes. The Texas Department of Human Services estimates that 29.4 percent of the elderly had incomes at or below the national poverty level in 1988. Inability to pay or receive financing for health care continues to be a barrier to services for the elderly.

As individuals enter this life cycle period they often bring with them chronic conditions acquired

in earlier periods of the life cycle which will need continuing medical treatment. The elder years are a time in life when degeneration of the body increases. This causes the elderly to become more susceptible to disease, both acute and chronic, to accidents, and makes them vulnerable to abuse and neglect. In addition to degeneration, the accumulation of the effects of poor health behavior of previous years adds to the likelihood of disease and disability in elderly years. It is estimated that 25 percent of the elderly are functionally disabled, needing assistance in one or more daily functions, such as eating, toileting, bathing, dressing, getting in and out of bed, and getting around inside.³ Ninety percent of them rely on friends, neighbors, and relatives for assistance in the daily functions they are unable to perform themselves.

The aging process will continue to affect persons within this age group and cause them to require medical and functional assistance. Since the elderly will suffer progressive degeneration, the goals and objectives adopted from *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000* and *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* by the Statewide Health Coordinating Council for this age group are as follows.

GOAL 1: Reduce avoidable deaths, injuries, and disease among the elderly.
OBJECTIVES:
Reduce deaths among people aged 65 through 84 from falls and fall-related injuries to the national Year 2000 goal of no more than 14.4 per 100,000.
Increase pneumococcal pneumonia and influenza immunization among institutionalized chronically ill or older people to the national Year 2000 objective of at least 80 percent.
Increase the portion of the elderly population who eat nutritious, low-fat diets, exercise regularly and don't smoke from 35 percent to the Texas Year 2000 goal of 50 percent.
Reduce pneumonia and influenza deaths among the elderly to the national Year 2000 goal of no more than 40 per 100,000.

GOAL 2: Delay the disabling effects of chronic disease, maintain personal independence, and preserve functional capacity.

OBJECTIVE:

Increase the proportion of the elderly who have received, as a minimum within the appropriate interval, all of the screening and immunization services and at least one of the counseling services appropriate for their age and gender as recommended by the U.S. Preventive Services Task Force to at least 40 percent.

GOAL 3: Remove unnecessary sustained pain, prohibitive costs and adverse ethical dilemmas from the process of dying.

OBJECTIVE:

Increase the portion of the elderly who have prepared an advance directive to physicians with durable power-of-attorney for health care decisions from eight percent to the Texas Year 2000 objective of 25 percent.

MAJOR CAUSES OF MORBIDITY AND MORTALITY

The Texas Department of Health (TDH) provides data concerning hospital outpatient visits, hospitalizations, and deaths of elderly Texans. The Texas Medicare Hospital Outpatient Claim Study (See Figure 59) reported the six leading causes of claims in 1989 as diseases of the circulatory system, including cerebrovascular; symptoms, signs, and ill-defined conditions; diseases of the genitourinary system; neoplasms (cancers); injury and poisoning including fractures; and diseases of the nervous system and sense organs including cataracts. The Medicare Hospital Discharge Data (See Figure 60) indicates that diseases of the circulatory, digestive, genitourinary, and respiratory systems; neoplasms; and injury and poisoning were the major causes of claims. The Bureau of Vital Statistics (TDH) reported that in 1990 the six leading causes of death for the elderly (See Figure 61) were heart disease, cancer, cerebrovascular disease, pulmonary disease, pneumonia/influenza, and diabetes.

These reports indicate that heart diseases are the major cause of hospital outpatient visits, hospitalizations, and deaths of the elderly. In 1990, 31,346 elderly persons died of heart

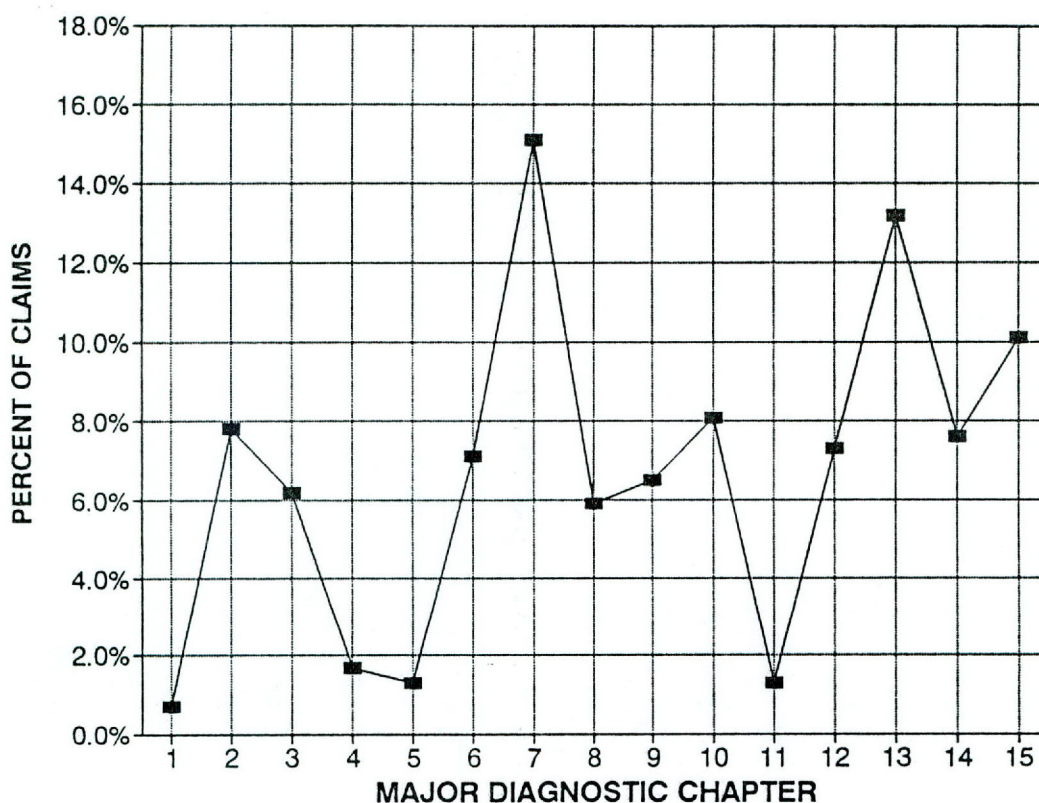
disease. Risk factors which contribute to heart disease are use of tobacco, hypertension, high total cholesterol and low levels of high-density lipoprotein, and obesity. Behaviors believed to reduce occurrence of heart disease include balanced nutrition, physical fitness and exercise, and smoking cessation. The elderly can reduce death and disability by adapting healthier lifestyles.

The susceptibility to cancer increases rapidly with age. Screening and early detection increase the chances of cancer remission or cure. TDH reported 18,576 elderly persons died from cancer in 1990. The American Cancer Society estimated the number of new cases of cancer diagnosed in Texas for 1990. It estimated 8,600 lung, 5,000 colon, 7,700 breast, 5,200 prostatic, 700 cervical, and 1,600 melanoma cancers would be diagnosed in 1990.⁴ Since the elderly sustain a major portion of these diagnoses, the pain, suffering and disability inflicted by cancer on the elderly is great. Many of the same factors and behaviors contributing to heart disease also contribute to cancer. Cancer shares similar risk factors with heart disease. A 1989 Surgeon General's report estimates that 30 percent of all cancer deaths, and 87 percent of lung cancers, are tobacco related.⁵

FIGURE 59

MEDICARE HOSPITAL OUTPATIENT CLAIM STUDY TEXAS, 1989

DISTRIBUTION OF CLAIMS BY MAJOR DIAGNOSTIC CHAPTER *



MAJOR DIAGNOSTIC CHAPTER *	# CLAIMS	%	ANCD **
1 Infectious and Parasitic Diseases	11,487	0.7	1.18
2 Neoplasms	125,011	7.8	1.64
3 Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders	99,112	6.2	1.72
4 Diseases of the Blood and Blood-Forming Organs	27,729	1.7	1.69
5 Mental Disorders	20,070	1.3	1.37
6 Diseases of the Nervous System and Sense Organs	113,102	7.1	1.21
7 Diseases of the Circulatory System	242,304	15.1	1.45
8 Diseases of the Respiratory System	94,853	5.9	1.27
9 Diseases of the Digestive System	104,445	6.5	1.12
10 Diseases of the Genitourinary System	129,611	8.1	1.29
11 Diseases of the Skin and Subcutaneous Tissue	20,673	1.3	1.22
12 Diseases of the Musculoskeletal System and Connective Tissue	117,191	7.3	1.18
13 Symptoms, Signs and Ill-Defined Conditions	211,943	13.2	1.21
14 Injury and Poisoning	122,376	7.6	1.12
15 V Codes	160,940	10.1	1.67
TOTAL	1,600,847	100.0	1.33

* Diagnostic Chapter refers to sections of the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) system of classification

** Average Number of Claims per Diagnosis

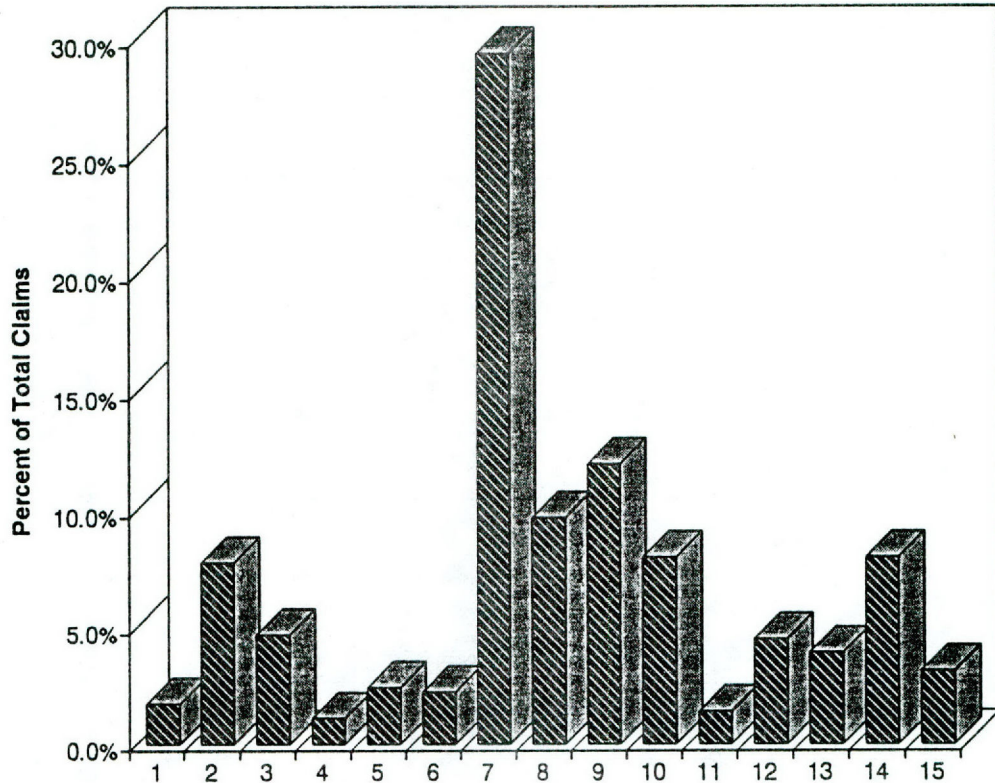
Source : Texas Department of Health, Bureau of State Health Data and Policy Analysis.

FIGURE 60

MEDICARE HOSPITAL DISCHARGE DATA

TEXAS, 1988

DISTRIBUTION OF CLAIMS BY MAJOR DIAGNOSTIC CHAPTER *

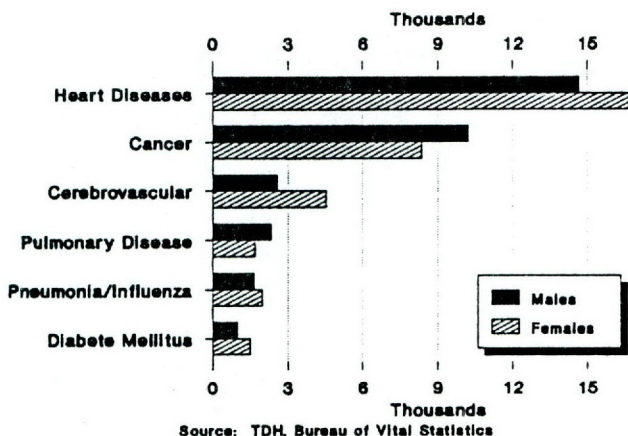


MAJOR DIAGNOSTIC CHAPTER *		# CLAIMS	% DIST
1	Infectious and Parasitic Diseases	7,641	1.7
2	Neoplasms	35,925	7.8
3	Endocrine, Nutritional, & Metabolic Diseases & Immunity Disorders	21,423	4.7
4	Diseases of the Blood and Blood-Forming Organs	4,826	1.1
5	Mental Disorders	11,194	2.4
6	Diseases of the Nervous System and Sense Organs	9,879	2.2
7	Diseases of the Circulatory System	134,852	29.4
8	Diseases of the Respiratory System	44,749	9.7
9	Diseases of the Digestive System	55,329	12.0
10	Diseases of the Genitourinary System	36,884	8.0
11	Diseases of the Skin and Subcutaneous Tissue	6,478	1.4
12	Diseases of the Musculoskeletal System and Connective Tissue	20,594	4.5
13	Symptoms, Signs and Ill-Defined Conditions	18,115	3.9
14	Injury and Poisoning	36,786	8.0
15	V Codes and All Others	14,516	3.1
TOTAL		459,191	100.0

* Diagnostic Chapter refers to sections of the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) system of classification

Source : Texas Department of Health, Bureau of State Health Data and Policy Analysis.

FIGURE 61
1990 LEADING CAUSES OF DEATH
TEXAS, AGES 65 +



Cerebrovascular disease accounted for 7,132 elderly deaths in 1990. Strokes are a leading cause of disabling conditions. In 1988, 87 percent of all cerebrovascular disease deaths occurred among the elderly.⁶ Risk factors associated with cerebrovascular disease include hypertension, salt consumption, obesity, smoking, high blood cholesterol, and a sedentary lifestyle. Cerebrovascular disease is also associated with diabetes and renal disease.

There were 4,048 deaths due to chronic obstructive pulmonary disease among the elderly in 1990. Cigarette smokers are at high risk of pulmonary disease.

Pneumonia and influenza claimed the lives of 3,657 elderly persons in 1990. In the United States, more than 80 percent of reported pneumonia and influenza deaths occurred among persons age 65 and over.⁷ These diseases also exacerbate cardiopulmonary and other chronic disease increasing deaths reported due to those causes. Pneumococcal disease is three times more prevalent among the elderly than the population as a whole. Immunization against pneumococcal pneumonia and influenza is an effective prevention measure. A 1989 national health interview survey indicated that only 14 percent of persons age 65 and older reported ever having received pneumococcal vaccine.⁸ The "Year 2000" goal for the nation is to reduce influenza-associated

deaths to no more than 40 per 100,000 for persons age 65 and older.

Diabetes accounted for 2,500 deaths of the elderly in 1990. However, the total extent may not be reflected, since it is often listed as a contributing or secondary cause of death on death certificates. The likelihood of diabetes increases after age 40. Nation-wide more than two million older Americans have diabetes. Associated conditions include kidney disease, hypertension, and loss of sight and limbs. Hypertension also places diabetics at increased risk for numerous other chronic conditions. Risk factors associated with diabetes are a family history of diabetes, poor diet, delay in diagnosis, physical inactivity, and obesity. Hispanics are three to five times more likely to contract diabetes than the general public. Blacks are also disproportionately affected. Both have twice the complication rate as Whites. Diabetic complications are, to a considerable extent, preventable with proper treatments.

Injury and poisoning accounted for 1,096 elderly deaths. Seventy-five percent of deaths due to falls occur to persons 65 and older. National studies predict that one-third of persons over 65 living at home will fall each year.⁹ Over one third of the falls result in fractures. Medications, failing eyesight and other degenerative conditions are contributing factors. The home environment, such as loose rugs, stairs, height of beds and chairs, improper footwear, and inadequate lighting also contribute. The U.S. Public Health Service has estimated that two-thirds of deaths due to falls are preventable.¹⁰ Abuse and neglect also contribute to injury and functional impairment.

The U.S. Department of Health and Human Services estimates that 24 million American men and women will suffer pain, disability and disfigurement from osteoporosis in 1992, and osteoporosis will be responsible for more than one million fractures costing some \$10 billion to repair.¹¹ Roughly one-half of the elderly who suffer hip fractures never recover normal function, and 20 percent die within six months of their accident. It is estimated that 20 million American women have osteoporosis, that 1.5 million of them will have fractures, and that, of

these, 50,000 will die of complications.¹² While genetics is believed to be a major contributor, hormonal changes, nutritional deficiency and decreased physical activity also contribute to osteoporosis. Alcoholism and smoking appear to be associated with greater risk of fractures. Exercise and ingesting of calcium and vitamin D in earlier years, and estrogen therapy for post menopausal women are believed to decrease the loss of bone tissue.

Other diseases of the elderly causing functional impairment include arthritis; visual problems, such as cataracts and glaucoma; and Alzheimer's Disease and other related dementias. The cause of Alzheimer's Disease is unknown and therefore methods of prevention are also unknown. It is estimated that one in five persons over the age of 80 is affected.¹³ Much emotional and physical stress is placed on those who must care for individuals stricken with the disease.

MAJOR METHODS OF PREVENTING DISEASE, DISABLING CONDITIONS, AND DEATHS

Clinical prevention services are an important part of primary care for the elderly. They include screening services, counseling intervention, immunizations, and drug regimens. The ways physicians deliver primary and preventive care differ greatly. In an effort to standardize preventive practice, the U.S. Public Health Service (USPHS) established the U.S. Preventive Services Task Force which developed *The Guide to Clinical Preventive Services* published in 1989. Recommendations of the guide concerning the elderly are summarized as follows (See also Appendix, Table 7):

Screening services include a taking of a medical history (prior symptoms of transient ischemic attack; dietary intake; physical activity; use of tobacco, alcohol, and drugs; and functional status at home). Also, a physical examination (measurement of height and weight, blood pressure, visual and hearing acuity, and clinical breast examination) and laboratory/diagnostic procedures (nonfasting total blood cholesterol,

dipstick urinalysis, mammogram, and thyroid function tests).

Counseling concerning diet (fat, cholesterol, complex carbohydrates, fiber, sodium, calcium, and caloric balance), exercise program, substance abuse (tobacco cessation, alcohol and drug use), injury prevention (avoidance of falls, use of safety belts, use of smoke detectors, not smoking near bedding or upholstery, regulation of hot water heater temperature, and use of safety helmets), and instruction in proper tooth brushing and flossing and referral for regular dental visits.

Immunizations include annual review of immunization records to insure delivery of booster shots for tetanus/diphtheria, annual influenza vaccine, and pneumococcal vaccine.

Continuation of preventive drug regimens, such as estrogen replacement as a part of primary health care for the elderly. Only through regular primary care visits can the need, selection of medication, and dosage be determined for these regimens.

Through regular primary care visits, providers can identify signs of depression, suicide risk factors, abnormal bereavement, changes in cognitive function, medications that increase risk of falls, signs of physical abuse or neglect, malignant skin lesions, peripheral arterial disease, tooth decay, gingivitis, and loose teeth. Preventive treatments, counselings and referrals can reduce injuries, illnesses, chronic conditions, and deaths.

Prevention care may be divided into three stages: primary, reduction of risk factors; secondary, early detection and treatment; and tertiary, minimizing morbidity and maximizing quality of life. Primary care becomes increasingly important to the elderly, because it delays disabling effects, maintains independence, and preserves functional capacity. It is important that options be provided the elderly so they may stay in their own homes and avoid institutionalization. Options, such as community health and social services, including adult day care, home health care services and homemaker/chore services, assist the elderly

maintain their independence. Primary health care must continue to be provided when the elderly move to residential alternatives such as congregate housing, adult foster homes, personal care homes and nursing facilities.

MAJOR PROBLEMS WITH THE DELIVERY SYSTEM

In developing the state health plan, the Statewide Health Coordinating Council (SHCC) had a particular interest in the health care concerns of the elderly and appointed an ad hoc committee (membership listed at the end of the chapter) to study the issue. Health specialists from state agencies and health care associations were asked to participate as resource persons. Many of the identified delivery system problems and recommendations which follow were provided by this committee. Health care problems of the elderly and recommendations received at ten regional focus meetings held in early 1992 are also included. Problems concerning the need for additional community health clinics, the maldistribution of primary care providers, and transportation pertaining to the complete life cycle are addressed in Part I of the plan. It should be noted issues identified by the ad hoc committee concerning current regulatory, licensing, and certification of long-term care facilities were considered beyond the scope of primary and preventive care and were referred to the Legislative Health and Human Services Work Group on Nursing Homes for their consideration.

Preventing Avoidable Disease, Injury, and Death

A comprehensive policy for the delivery of preventive services to the elderly has not been developed. While the guide referenced earlier provides recommended services, primary care providers deliver preventive services according to their own practice standards. H.R. 4094 introduced in the U.S. House of Representatives in 1992 addresses a schedule of preventive services of the Medicare program, the federal Employee Health Benefits Program, and the Department of Veterans Affairs. This draft bill provides an outline for the development and

passage of a state preventive health care bill which would direct providers in the delivery of preventive services to the elderly, but would require adequate funding to be effective.

Access to health care continues to be poorly organized. Individuals in need of care must apply to numerous agencies to obtain access to and financing for services, as no one program provides the comprehensive and complementary mix of services. The appropriate support services for teaching elderly persons to do self-help preventive services are inadequate. Since primary and preventive care for the elderly require an array of services, development of teams of physicians, nurses, therapists, nutritionists, counselors, etc., would be more effective, especially in rural areas.

Delaying the Disabling Effects of Chronic Diseases and Preserving Functional Capacity

When chronic diseases strike the elderly, or they become progressively less able to function on their own, outside assistance is needed to maintain life. Community services, home health care services and, finally, personal care homes and nursing facility care, are required. About a fourth of the nation's elderly are estimated to be persons with disabilities. An estimated 90 percent of those with disabilities are cared for by family, neighbors, or friends. However, those with no one to assist them, or whose conditions are beyond the capabilities of family or friends, must receive assistance from the community to maintain life.

Some conditions, such as Alzheimer's Disease, place stress on the caregiver and services to assist are inadequately reimbursed. Comments at the focus meeting indicated there is a need to provide respite care for these caregivers and that there is an inadequate supply of health care providers trained in gerontology. Elderly persons and community caregivers need training in self-care or treatments that can be administered in the home.

There is lack of coordination and communication between and among different state agencies and between state, local and county health departments providing services to the elderly. Primary care

providers, the elderly, and families or guardians of the elderly need information concerning availability, eligibility requirements, and entry points to receive services. There is a need for a consolidated, computerized information and referral system that combines both public and private providers. Multi-language presentations are also needed.

Maintenance of Elderly Independence

With aging, there is increasing need for a broad array of services to allow the elderly choices along a continuum of long-term care in the least restrictive environment. The "institutional bias" in the current reimbursement system, does not allow the elderly and their families to choose home as the "preferred choice" and the institution as "the alternative." Many times a few services such as homemaker, personal care, meals, emergency response, or adult day health care may enable a person to live independently in the home. These services may also supplement or provide respite to families who want to care for their loved ones at home. Expansion of existing community care programs, currently under the auspices of TDHS and the Texas Department on Aging (TDoA), would provide a full array of health and social supports to persons in their homes.

When elderly persons need continuous supervision, in addition to other support services and do not have sufficient informal supports, personal care homes services are the next step along the continuum. Personal care homes provide daily functional needs without nursing services. This continuum of services is not always available, accessible, nor affordable for the elderly, especially the rural elderly.

There is also a need for additional health care providers with gerontology training. Bilingual providers are also in short supply. Long-term providers compete with hospitals, doctors' offices, and other health care providers in hiring nurses. Nursing homes and other organizations which provide long-term care services for the elderly must offer nurses and aides a competitive wage, benefits packages and continuing education

opportunities to recruit and retain these providers of care.¹⁸

Problems of the rural elderly mirror those of the rural population as a whole. There is an inadequate supply of facilities and delivery personnel. Part I, Chapter 2 and Part II, Chapter 6 address these problems. However, elderly persons in rural areas may experience particular difficulty in reaching services, since ambulation and transportation may be problems. Sparse populations cause problems with rural independent living of the impaired elderly. Focus meeting comments indicated there is a need for additional reimbursement to cover extended travel expenses for providers of rural home health care. Title 3, Independent Living Options program of the TDoA, is an example of services that could be expanded into rural areas.

Case management services exist within programs of various state agencies. However, there is no coordination among these programs. There is no assurance that elderly individuals who need these services will receive them.

The Bienvivir Senior Health Services program in El Paso, operating as an enhanced adult day health care center, is a model program designed to coordinate the service needs of the elderly. The program operates under Medicare and Medicaid waivers providing services to an exclusively frail population, certifiable for institutionalization. The incentive is to keep participants functioning at as high a level as possible and to reduce hospitalization and institutionalization. Services are provided at a lesser cost than institutionalization costs.

Texas does not provide additional financial benefits for those who receive Supplemental Security Income (SSI) and who need the services of a personal care home. Therefore, those who receive SSI and who live in unregulated "board and care" facilities, cannot afford to pay the costs associated with living in a licensed personal care facility. Many of the hundreds of "board and care" facilities provide substandard care. Except in rare circumstances, the elderly in Texas cannot

receive Medicaid benefits unless they also receive SSI.

Large numbers of unlicensed personal care facilities are operating unlawfully in Texas. Many of these facilities use structures that present fire and other hazards to health and safety, and the care given in them is below the standards required of a licensed facility. Many of the residents of these unlicensed facilities have low or modest incomes and cannot pay the providers sufficiently to support construction and operation of a licensed facility.

As the elderly become increasingly impaired, many will require nursing facility care. It is estimated that 43 percent of Americans who reached age 65 in 1991 will spend time in a nursing home.¹⁴ During the latter part of 1991 and the beginning of 1992, much progress has been made in regulating nursing facilities to assure residents receive quality care. Several other state organizations are preparing recommendations to assure a quality assurance program that monitors and evaluates the quality and appropriateness of resident care, and the quality of resident life.

Many elderly persons have not been adequately counseled in the need to prepare a durable power of attorney for health care and/or a directive to physicians which will control the application of life-sustaining procedures. While lives of the elderly may be extended through treatments such as cardiopulmonary resuscitation, mechanical ventilation, dialysis, IV therapy, and other measures, there often is no assurance that good health will be restored, or an acceptable quality of life will be maintained. Needless prolongation of life, without reversal of the underlying medical conditions in terminal individuals, is extremely costly.

For the terminally ill elderly and their families the process of deciding whether to undergo life prolonging treatments is often bewildering and traumatic. Whether public and private insurance should reimburse the costs of these treatments has become a social and ethical problem for the individual, the family, health care providers, and the public. While institutional providers are

required to provide information concerning advanced directives, living wills and durable powers of attorney, as a condition of admission, this information needs to be more widely distributed to the elderly so decisions can be made in advance.

Health Care Costs for the Elderly

The delivery system is expected to provide an array of services to the elderly which are accessible and affordable, both to the individual and the public, when financing care is not within the means of the elderly. Uncontrolled health care costs are making health insurance unaffordable to a growing number of elderly Texans. The present system of health care, with its explosive increases in costs and growing numbers of the uninsured, is both unfair and financially unsupportable over the long run. The elderly demand a greater portion of health care from the delivery system. Nationally, the elderly represent 12.7 percent of the population, but account for 33 percent of physicians' time, 30 percent of prescription drugs, 40 percent of over the counter drugs, and 40 percent of acute hospital admissions.¹⁵

The Medicare program was established to provide primary and acute health care for individuals over 65 years of age. However, Medicare has premiums, deductibles, and co-payment costs which can create financial barriers. It does not cover preventive care services (except pneumococcal and hepatitis B vaccinations, papanicolaou smears, and mammography) and only minimal nursing facility care. Other problems with Medicare are the costs and frustrations associated with paperwork. Many providers are refusing to take new patients because of this paperwork, time delays in reimbursement, other reimbursement difficulties, and liability insurance. Since there are limitations on the services provided by Medicare, the elderly have found it necessary to purchase supplementary insurance policies (Medigap) which result in additional costs and provide only limited coverage.

Persons over 65 who are eligible for Medicaid can have their Medicare premiums paid by Medicaid.

Medicaid provides nursing home coverage to those who qualify on a basis of health care need and financial ability. Individuals entering nursing facilities must divest themselves of their assets, "spend down," to meet eligibility standards. This spend down may place their spouse in a dire financial position. Medicaid does not adequately reimburse needs of the elderly for supportive services such as dental care, eyeglasses, and hearing aids.

Until recently, private insurance to cover long-term care, including home health services and institutionalization costs, was not available. Persons with pre-existing conditions usually remain excluded from coverage. The costs of these policies are high and unaffordable to most of the elderly, so they must depend on Medicaid for nursing facility care and other long-term care services.

Medications

Costs of medications are a particular problem for the elderly. Costs continue to escalate rapidly and the elderly often require numerous prescriptions. In 1989 the Medicaid program in Texas spent over \$159 million for prescription medications.¹⁶ Elderly residents of nursing homes who are qualified for Medicaid, have their prescription drugs provided, while non-institutionalized elderly Medicaid persons are limited to three prescriptions monthly. A study of New Hampshire's coverage of Medicaid prescription drugs concluded that limiting reimbursement for effective drugs places frail, low-income elderly patients at increased risk of institutionalization in nursing facilities, and may increase Medicaid costs.¹⁷

Millions of dollars are wasted annually due to federal drug destruction requirements. A policy is needed that both protects the consumer from receiving incorrect medications and allows restocking of and credit for unused drugs to save money for the consumer and the program. Substantial additional costs occur by failure to require less expensive generic substitutes, use of multiple packaging systems, and the inability of the state to use bulk purchasing power to

supply drugs to its Medicaid patients. Furthermore, cost-share for Medicaid residents is prorated during the month, rather than treated as a true deductible. Medicaid residents who reside in a nursing facility for less than a month do not meet the deductible.

This requires additional calculations and paperwork adding costs to the state.

RECOMMENDATIONS

1. Prevent avoidable disease, injury, and death of the elderly by:

- Developing outreach services to enlist all Texas elderly into a primary care program emphasizing preventive care.
- Encouraging individuals to identify a single primary care provider, provider organization, or a system of care which would coordinate their health care needs.
- Stressing an interdisciplinary "team concept" approach in primary health care provider education and health care delivery.
- Modifying Medicaid regulations to provide all qualified beneficiaries over 65 with unlimited required medications.
- Supporting and funding public health promotion to educate the elderly concerning good eating habits, exercise and abstinence from alcohol, drugs and tobacco.
- Ensuring that dental care is included as a part of primary health care.

2. Maintain personal independence and preserve functional capacity of the elderly by providing an array of services as alternatives to nursing facility care by:

- Funding programs that assist the rural elderly to maintain independent living.
- Providing Supplemental Security Income (SSI) coverage in an amount equal to the average cost of residing in a personal care home, plus an appropriate personal needs allowance, provided the recipient resides in a facility licensed or regulated by the state.
- Exploring the development of a 1915(c) Medicaid waiver to provide Medicaid funds to operate a personal care home program.

- Expanding the Medicaid nursing facility waiver and frail elderly programs under the Texas Department of Human Services to provide a comprehensive array of health and support services to persons in their own homes, provided the services are a cost-effective option to institutionalization.

3. Assure the quality of home and community health care services provided the elderly by:

- Coordinating service delivery and regulation among all state agencies that fund long term care services.
- Enforcing licensing requirements for personal care homes once sufficient funding has been made available through an SSI supplement and/or a Medicaid waiver program.
- Exploring the creation of a quality consultation program to provide professional help for marginal facilities to improve their quality of care.
- Developing multi-language client materials to assist health care providers obtain information needed to properly deliver care.
- Providing continuing education concerning health care of the elderly for providers.
- Requiring and supporting state-funded medical, nursing, and allied health schools to include gerontological training and education.
- Providing educational loan repayment incentives for providers delivering primary and preventive health care to the elderly.
- Exploring methods for providing competitive wages and benefits packages to attract and retain long-term care nursing professionals.

4. Improve access to health care services for the elderly by:

- Developing a long-range automated information and referral system with an automated data base and a dedicated 800 number. The system should include data on both public and private providers and programs to provide the elderly, their guardians, their providers, and agencies with eligibility requirements, entry locations, and services.
- Supporting the Texas Department on Aging's development of a statewide database on all services for the elderly.

- Publicizing and funding the statewide toll-free elderly services 800 number of the Texas Department on Aging and ultimately combining all elderly service 800 numbers into a single number.

5. Reduce the cost of health care services provided the elderly by:

- Requiring all hospitals to provide a three-day supply of medications for a patient transferred directly to a nursing facility to reduce waste and destruction of unused medications.
- Supporting the revision of federal drug destruction requirements to afford protection in the drug delivery process, and to afford substantial cost savings.
- Instructing the Texas Department of Human Services to determine the financial impact of changing the methodology for collecting the patient share of cost of nursing home care as a true up-front deductible, rather than on a pro-rated basis, as an additional method for funding long-term care programs.
- Allowing nursing homes to select drug suppliers and adopt labelling and dispensing methods to improve patient care and reduce waste.

6. Reduce pain and suffering of terminally ill elderly by requiring all health care providers to counsel elderly individuals concerning advanced directives.

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ENDNOTES

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¹⁴Texas, Office of the Texas Attorney General, "Elder Law Section Seeks Higher Standards for Nursing Homes," *Elder Alert*, April 1992, Vol. 1, No. 2, p. 1.

¹⁵Texas, Department of Health, *Healthy Texans 2000 Partnership*, p. 24.

¹⁶Brian D. Shinavier and Kenneth W. Kirk, Medication Waste in Selected Central Texas Long-Term Care Facilities Under the Same Corporate Ownership," *The Consultant Pharmacist*, April 1992, Vol. 7, No. 4, p. 415

¹⁷U.S., Department of Health and Human Services, "Capping Medicaid Prescription Drugs May Backfire," *Research Activities*, (December 1991), No. 148, pp. 1-2.

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CHAPTER 6

SPECIAL POPULATIONS AND SELECTED AREAS

YEAR 2000 GOALS AND OBJECTIVES FOR SPECIAL POPULATIONS AND SELECTED AREAS

Dramatic improvements in aggregate health measures, such as life expectancy and infant mortality, tend to obscure the severe disparities among underserved populations. The health needs of special populations cannot be met without adequate primary care. Often the lack of primary care itself defines such populations as special. These groups are most vulnerable to barriers which prevent them from obtaining care. Even those with the means to pay for care and practitioners to supply it may not have access to care for a variety of logistical, physical, mental, cultural, or personal reasons.

Health problems are strongly influenced by an individual's social environment. Multiple changes in traditional family structures and community networks have led to the recognition of special groups whose health needs are different relative to the needs of the general population. These special populations are characterized either by

racial/ethnic groups, demographics, or health needs. They present unique challenges to primary care.

Texas has a vast geographical context which consists of three geographical/population areas: urban, rural, and border. Each area, though different in terms of location, size, and culture, has very similar health and human services needs. Disparities among populations in key health indicators, such as lack of access and availability to health care, health care provider and facilities shortages, lack of knowledge about public programs, environmental decay, lack of health insurance, lack of transportation, unemployment, poverty, education and language deficiencies, and poor self-esteem are common problems at various degrees to each of the geographical/population areas. Goals and objectives selected by the Statewide Health Coordinating Council for special populations and selected areas are from the *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* and the *Healthy Texans 2000 Partnership: Texas Health Objectives for the Year 2000*, as follows:

GOAL 1: Reduce health disparities among special populations in Texas.

OBJECTIVE

Focus special attention on reducing and finally eliminating disparities among population groups of Texas.

GOAL 2: Reduce the rate of death due to drug and alcohol use.

OBJECTIVE

Lower the number of deaths resulting directly from the effects of drug and alcohol from 61.6 per 100,000 population to the Texas Year 2000 objective of 50 per 100,000.

GOAL 3: Reduce the incidence of injuries and deaths due to firearms.

OBJECTIVES

Lower the number of homicides and assaults from 214,845 in 1988 to the Texas Year 2000 objective of 148,299.

Lower the number of homicides among Black men aged 15-34 from 90.5 per 100,000 in 1987 to no more than the Healthy People 2000 objective of 72.4 per 100,000 Black men.

Lower the number of unintentional injuries and deaths due to firearms from 154 in 1988 to the Texas year 2000 objective of less than 100.

Lower the number of suicides from 2,255 in 1988 to the Texas Year 2000 objective of less than 1,500.

GOAL 4: Improve maternal and infant health by the year 2000.

OBJECTIVES

Increase the number of women receiving an adequate number of prenatal visits as defined by the Kessner index from 54 percent of live births in 1988 to the Texas Year 2000 objective of 65 percent of live births.

Lower the number of infant deaths from 9.0 per 1,000 live births in 1988 to the Texas Year 2000 objective of 7.0 per 1,000 live births.

Lower the number of low weight births from 6.8 percent of live births in 1988 to the Texas Year 2000 objective of 6.0 percent.

GOAL 5: Reduce the age-adjusted death rate due to heart disease and stroke.

OBJECTIVES

Lower deaths due to heart disease from the 1988 rate of 262.1 per 100,000 to the Texas Year 2000 objective of 190 per 100,000.

Lower deaths in Blacks due to heart disease from the 1988 rate of 335.3 per 100,000 to the Texas Year 2000 objective of 234 per 100,000.

Lower deaths due to stroke in Texas from 51.7 per 100,000 in 1988 to the Texas Year 2000 objective of 25 per 100,000.

Lower deaths in Blacks due to stroke from 57 per 100,000 in 1988 to the Texas Year 2000 objective of 28 per 100,000.

GOAL 6: Reduce the statewide rate of death and disability due to cancer.

OBJECTIVES

Lower deaths due to breast cancer per 100,000 Black women aged 40 and older from the 1988 rate of 72.0 to the Texas Year 2000 objective of 66.5.

Lower deaths due to cervical cancer per 100,000 Hispanic women age 18 and older from the 1988 rate of 5.1 to the Texas Year 2000 objective of 3.9.

Lower deaths due to cervical cancer per 100,000 Black women age 18 and older from the 1988 rate of 8.4 to the Texas Year 2000 objective of 5.9.

MINORITY HEALTH

Texas is a state of diverse populations, cultures, life-styles, languages, and geography. Extending over 266,000 square miles, Texas is home to over 17 million people. The racial/ethnic distribution of Texas' population in 1990 was estimated to be 60.6 percent White, 25.5 percent Hispanic, 11.6 Black, 3.0 percent Native-American, 1.8 percent Asian-American, and 0.1 percent other.¹ Racial/ethnic minorities are quickly becoming the emerging majority of the state's population. According to the 1990 Census, Texas has the second largest Hispanic population and the third largest Black population among all states.

A recent study of changing racial composition of metropolitan areas indicated that between 1980 and 1990 the percentage increases for each of the ethnic groups in the Dallas metropolitan area were higher than virtually all the other top ten urban areas in the nation.² In 1990 the racial/ethnic distribution of Texans living in urban areas was 58.7 percent White, 26.3 percent Hispanic, 12.4 percent Black, and 2.6 percent other.³

Texas is becoming the home to a growing number of refugees and immigrants. Vietnamese account for the largest number of refugees settling in Texas in FY 1990-91, with 3,700, 75 percent of total arrivals; followed by 426 Soviets, 9.0 percent; 335 Ethiopians, 7.0 percent; 161 Laotians, 3.0 percent; and 125 Romanians, 2.5 percent. Cuba, Iran, Afghanistan, Albania, and Somalia represent countries with less than one percent of total refugee arrivals into Texas during FY 1990-91. As of June 30, 1991, the U.S. Department of Health and Human Services,

(DHHS) Office of Refugee Resettlement had estimated Texas' Southeast Asian refugee population arriving since 1975 to be 73,700.⁴

The health status of racial/ethnic minorities has traditionally lagged far behind that of other population groups in the state. Low-income, rural and elderly minorities are particularly disadvantaged in the health care arena. Hispanics, Blacks, Asian-Americans, and Native-Americans have a far higher rate of sickness and death in all the diseases that are preventable and treatable by good medical care. Likewise, minorities, which are quickly becoming the majority of the state's population, have far higher incidences of unemployment, poverty, violence, and dependency on public health and human services programs. Studies further indicate widening gaps in access to health care, quality of health care, and health insurance coverage among minority populations.

Major Causes of Morbidity and Mortality

"Excess mortality" can be defined as the number of Black, Hispanic, or other racial/ethnic group of Americans who die each year, minus the number expected to die in a group of Whites of the same age distribution. These are the deaths that could theoretically be prevented if minority populations lived under the same health conditions as Whites. In 1987 the last year for which full statistics are available, there were nearly 75,000 excess deaths among Black Americans, according to special calculations of the National Centers for Health Statistics.⁵

The Office of Minority Health Resource Center (OMH) of DHHS, Public Health Service, *Report*

of the Secretary's Task Force on Black and Minority Health (1985), identified the six causes of death that together account for more than 80 percent of the excess mortality found among minority populations. They are cancer; cardiovascular disease and stroke; cirrhosis (chemical dependency); diabetes; homicide, suicide, and unintentional injuries; and infant mortality.

Nationally, life expectancy among Whites is 75.5 years, compared to Blacks at only 69.5 years; and Black males, only 65.1. Texans born in 1990 have a life expectancy of 75.1 years. An Hispanic child born in Texas in 1990 has a life expectancy at birth of 76.6 years, exceeding the White life expectancy by 1.5 years. The Black population in Texas has seen a gain in life expectancy of 4.1 years, or 6.3 percent, over the last 20 years. However, Black life expectancy remains far below the average, with a life expectancy at birth of only 69.4 years for those born in 1990. Black males born in Texas have the lowest life expectancy of any race/gender group - 64.9 years, or 13.6 percent below the average for all Texans.⁶ Figure 6, indicates that in 1990 Blacks had substantially higher age-adjusted deaths per 100,000 population with 771.8 deaths compared with the Texas average of 528.9 deaths.

According to the *Texas Department of Health Vital Statistics 1990 Annual Report*, there were 17,059 deaths in the Hispanic population. The leading causes were diseases of the heart, malignant neoplasms (cancer), accidents and adverse effects, cerebrovascular diseases (stroke), diabetes mellitus, homicide, pneumonia and influenza, chronic liver disease and cirrhosis, certain conditions originating in the perinatal period, and congenital anomalies. (See Table 10)

That same report indicates there were 16,623 deaths among the Black population in 1990. The leading causes were diseases of the heart, malignant neoplasms (cancer), cerebrovascular diseases (stroke), homicide, accidents and adverse effects, diabetes mellitus, pneumonia and influenza, certain conditions originating in the perinatal period, chronic obstructive pulmonary disease and allied conditions, and human

immunodeficiency virus infection (HIV). (See Table 10)

Heart Disease and Stroke

Heart disease and stroke cause more deaths, disabilities, and economic loss in the United States than any other acute or chronic disease and are the leading causes of days lost from work.⁷ Although the incidence of heart disease has steadily declined, heart disease has been the leading cause of death in Texas for the past five decades. TDH vital statistics indicate that the overall, age-adjusted (to 1980 U.S. population) heart disease death rate in Texas decreased from 304.4 per 100,000 population in 1979 to 261.1 in 1988. Despite the decline in heart disease death rate, Blacks experienced a 1988 age-adjusted death rate of 335.3.

In 1990 mortality due to heart disease accounted for 31.5 percent (39,443) of the total 125,019 deaths in Texas for a age-adjusted death rate of 232.2 per 100,000 population. Figure 14 indicates that in the 1990 the age-adjusted death rate for heart disease in Blacks was 221.1, compared with 148 for Whites and 137.5 for Hispanics.

Stroke (cerebrovascular disease) has been the third leading cause of death in Texas behind cancer and heart disease for the past five decades. In 1988 the stroke age-adjusted death rate in Texas was 51.7 per 100,000. In 1990 stroke accounted for 6.7 percent (8,388) of the total deaths in Texas for an age-adjusted death rate of 49.4 per 100,000 population. The stroke age-adjusted death rate for Blacks in 1988 was 57.

Cancer

Cancer is the second most common cause of death among Texans, but risks and patterns of mortality differ between males and females and among the state's three major racial/ethnic groups. In 1990 males accounted for 55 percent (155,625) of the cancer deaths while females accounted for 45 percent (12,825) for a total of 28,483 cancer deaths. Likewise Whites accounted for 76 percent, Blacks 13 percent, and Hispanics 11 percent of the total Texas cancer deaths. Black

Texans suffer the highest age-adjusted mortality rate due to cancer than any other ethnic/racial group in the state. Table 9 shows that Blacks had higher age-adjusted mortality rates for almost every type of cancer, with death rates for Black males due to cancer over 140 percent those for White males. Incidence of cancer in Texas occurs most often in six specific cancer sites: lung, colon, female breast, prostate, cervix, and melanoma of the skin.⁸

Lung cancer is the leading cause of cancer deaths in Texas. In 1990 12.1 percent of lung cancer deaths occurred in Blacks and 7.6 percent of the deaths occurred in Hispanics. Figure 12 indicates that in 1990 the incidence of lung cancer mortality occurred in Texas on an age-adjusted incidence rate average of 41.5 per 100,000 population, just under the 42.0 per 100,000 population cited in the Healthy People 2000 goal. Figure 12 further indicates that mortality due to lung cancer in 1990 occurred in Black populations on an age-adjusted incidence rate of 57.4, Whites 43.4, and Hispanics 22.0 per 100,000 population.

From 1980 to 1988 Black males in Texas experienced mortality due to lung cancer on an age-adjusted incidence rate of 97.4 per 100,000 population, compared to White males at 72.8 and Hispanic males at 37.5 per 100,000 population. White females experience mortality due to lung cancer on an age-adjusted incidence rate of 25.6 per 100,000 population, compared to Black females at 23.0 and Hispanic females at 10.8. (See Table 9)

Nationally, an estimated 155,000 new cases of cancer of the colon and rectum were diagnosed in 1990. Overall, colorectal cancer accounted for about 15 percent of all cancer diagnoses, second but almost equal to lung cancer. Relative survival rates, however, are much higher for colorectal cancer than for lung cancer.⁹ In 1986, 41 percent of persons who died from colorectal cancer were 60-74 years of age, and 44 percent were equal to or greater than 75 years of age. When adjusted for age, colorectal cancer mortality was 44 percent higher for males than females and 15 percent higher for Blacks than for Whites.¹⁰ (See Table 9)

In 1990 an estimated 150,000 new cases of breast cancer were diagnosed among American women. Breast cancer is the leading cause of cancer for females and the third leading site overall. It is estimated that approximately one in ten women will develop breast cancer in their lifetimes. The incidence of breast cancer has increased more than one percent per year since the early 1970s. Between 1977 to 1983, the age-adjusted death rate for breast cancer was higher than for any other cancer site among females in all population groups. The five-year survival rates for breast cancer during 1975-1984 were among the highest of any site, exceeding 70 percent for each racial group except among American Indian and Black females.¹¹

Data from 1980-1988 reflect that the age-adjusted death rate for breast cancer for Texas women was 26.2 per 100,000 for Black females, 22.3 for White females, and 15.5 for Hispanic females. (See Figure 13) In 1988 mortality due to breast cancer claimed the lives of 1,995 Texas women, and an estimated 6,400 women were diagnosed with the disease. Despite the availability of early detection methods for breast cancer, the overall mortality has not changed significantly during the past 20 years.¹²

Prostate cancer was diagnosed in an estimated 106,000 males in the United States in 1990. It was the leading or second (after lung cancer) cause of cancer among males who were Black, Filipino, Mexican American, American Indian or White. It ranked third, after lung cancer and colorectal-rectal cancers, for Chinese and Japanese males. Prostate cancer survival rates are generally high, often exceeding 70 percent. From 1977 to 1983, the age-adjusted incidence rate for prostate cancer was much higher for Black males (119 per 100,000) than for any other group, 71 percent higher than for White males. Furthermore, Black male survival was ten percent lower than White males during 1975-84.¹³ Prostate cancer is primarily a disease of older males. The incidence rate begins to increase sharply between ages 55 and 60 and continues to rise with increasing age for all racial/ethnic groups.

From 1980 to 1988, 2,215 female Texans died of cervical cancer. Table 9 shows higher death

TABLE 9

Mortality Due to Cancer
Age-adjusted rates per 100,000 population
1980-1988

		WHITE	HISPANIC	BLACK
LUNG CANCER	Males	72.8	37.5	97.4
	Females	25.6	10.8	23.0
COLON CANCER	Males	16.5	9.3	21.6
	Females	12.2	6.6	16.3
BREAST CANCER	Females	-	-	-
		22.3	15.5	26.2
PROSTATE CANCER	Males	18.5	13.3	36.4
		-	-	-
CERVICAL CANCER	Females	-	-	-
		2.4	5.1	7.3
CANCER MORTALITY	Males	197.6	138.7	280.0
	Females	122.7	96.3	150.5

Source: *Impact of Cancer on Texas*, 1991

rates for Black and Hispanic females during this period. Despite the effectiveness and availability of Pap smear screening, invasive cervical cancer mortality rates for Hispanic and Black women are two and three times higher than the rate for White women. The highest death rate of invasive cervical cancer was seen for Hispanic females whose rate was 1.4 times that for Blacks and twice that for Whites.

Women with cervical cancer diagnosed at an invasive stage have a much poorer survival rate than women whose cancers were diagnosed at the an early stage. It is estimated that up to 90 percent of invasive cervical cancers could be prevented by screening at three year intervals. Black and Hispanic females of all age groups were more likely to have their cervical cancers diagnosed at an invasive stage than were White females.¹⁴

Diabetes

Diabetes mellitus, a disease characterized by high levels of glucose in the blood, occurs when the body improperly metabolizes glucose. A 1987 report entitled "Texans At Risk" notes that 700,000 Texans suffer from the disease, about 300,000 of whom are Hispanic. Considerable evidence suggests that diabetes mellitus is much more prevalent in Hispanics than in Whites.

In 1990 diabetes mellitus claimed the lives of 3,454 Texans; 40.8 percent of these deaths were in Black and Hispanic Texans. Between 90 and 95 percent of all diabetics are thought to have type II diabetes. This non-insulin-dependent type of diabetes often develops in overweight people over 40 years of age; it is the type most frequently found in the Hispanic diabetic population. At least three studies (as reported in the 1988 United

States General Accounting Office report, *Health Care - Availability in the Texas-Mexico Border Area*, of which two were conducted in the border area, have concluded that diabetes type II is two to five times more prevalent among Hispanics than among the general U.S. population. Hispanics with diabetes are also afflicted by a higher rate of diabetic retinopathy and endstage renal disease.¹⁵

Homicide

Homicide is the most frequent cause of death for Black men between the ages of 15 and 34. The homicide rate for those between age 25 and 34 is seven times that of Whites. A Black man has a 1-in-21 lifetime chance of being murdered, and Black women are more than four times as likely to be homicide victims as White women.

Minority youths in Texas face an extraordinary high risk of death or injury from interpersonal violence. After dropping dramatically from 1981 to 1985, the Black homicide death rate of males ages 15-24 fluctuated below, then in 1990 soared above the 1981 level of 97.5 deaths per 100,000 population, a 54 percent rise. In 1990, 777 Black and 650 Hispanic men died from homicide, compared to 501 White men. Black and Hispanic men between the ages of 15-34 accounted for 67.9 percent and 65.4 percent of the homicides, respectively, in their racial/ethnic group. A total of 159 Black females and 83 Hispanic females died from homicides in 1990.

The TDH Injury Control Program reports that firearm deaths in the state exceed vehicle fatalities. Findings further indicate that males are five times more likely than females to be killed by firearms. Blacks are nearly twice as likely to be killed by guns as are Whites and Hispanics, with Black males having the highest firearm death rate, 57.1 deaths per 100,000 population.¹⁶ Figure 22 further indicates that in 1990 Blacks and Hispanics had homicide age-adjusted deaths per 100,000 population of 46.7 and 18.7, respectively, greater than the Texas average of 13.7. The homicide age-adjusted deaths per 100,000 for Whites was 6.1, under the U.S. Healthy People 2000 goal of 7.2.

Unintentional Injuries

Unintentional injuries are the fourth leading cause of death in the United States and Texas. On average, 17 Texans die everyday as a result of injuries. Unintentional injuries are caused by motor vehicle crashes, firearms, falls, drownings, poisonings, fires and other accidents. More than half of the fatal unintentional injuries statewide are moving vehicle-related. Figure 15 indicates that deaths due to motor vehicle crashes occurred on an age-adjusted basis 22 times in Hispanic, 20.5 times in Black, and 17.7 times in White populations per 100,000. Minorities are also more likely to be injured on the job because of the large number of minorities that work as blue collar laborers. Because many blue collar employers do not provide adequate health insurance and pay low wages, on-the-job injuries are likely to go untreated and unreported.

Maternal and Child Health

Each year in Texas, Black infants die at a rate (14.0 per 1,000 live births) that is higher than White infants and Hispanic infants (Figure 8). In the past year, a decrease in the infant death rate in the first year of life was noted. However, that rate for Black infants was still twice that of White infants (7.2) and Hispanic infants (7.8).¹⁷ Black infants are nearly four times more likely to die of prematurity and low birth weight than Whites. Many industrialized countries have infant mortality rates substantially below 9.0. Japan, Finland, and Sweden had infant mortality rates of 6.0 in 1986. In that year, the United States ranked 18th among industrialized countries in overall infant mortality and 28th in the mortality rate for Black infants.¹⁸

In 1990, 69 percent of women giving birth received an adequate number of prenatal visits (as defined by statistical index). Hispanics are more likely than any other racial/ethnic group to receive late prenatal care. Figure 9 indicates that 45.1 percent of Hispanics, 43.2 percent of Blacks, and 22.6 percent of Whites received no prenatal care during the first trimester of their pregnancy.

Seven percent of babies born in 1990 were low birth weight babies, those weighing less than 5.5

pounds or 2500 grams. Projections suggest that this level will remain relatively unchanged over the next ten years. Figure 10 indicates that the percentage of total births less than 5.5 pounds was 12.7 percent for Black infants, significantly higher than the Hispanic and White rates of 6.3 and 5.8 percent, respectively.

In 1988 Texas ranked second among all states in the birth rate for girls between the ages of 15 - 19. Births to mothers under age 17 occurred twice as frequently for Hispanics and three times more for Blacks than for White teen mothers.

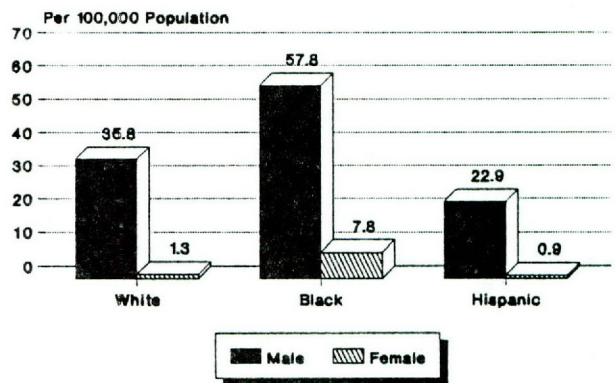
The potential consequences of teenage childbearing include higher incidence of low birth-weight infants. Babies born to mothers younger than 15 years old are more than twice as likely to weigh less than 5.5 pounds, and are nearly three times more likely to die within the first 28 days of life. Teenagers are also less likely to receive adequate prenatal care. In addition to the immediate health consequences for mother and child, teenage pregnancy has serious implications for their future economic, physical, and social well-being. Children of adolescent mothers experience a higher incidence of sudden infant death syndrome, child abuse, and a higher rate of illness and injuries for which medical attention is sought.¹⁹

AIDS/HIV

The rate of AIDS among Blacks is more than triple that of Whites. Among women and children, the gaps are even wider. Black women face between 10 - 15 times the risk of AIDS as compared to White women. Black children account for more than 50 percent of all children with AIDS. The cumulative incidence of AIDS among Hispanic women is about eight times higher than among non-Hispanic women, and the rate for HIV infection is over six times higher for Hispanic children than White children. HIV transmission among Black and Hispanic women is primarily linked to intravenous drug abuse by these women and their sexual partners. Many children with perinatally transmitted AIDS come from families in which one or both parents were intravenous drug users.²⁰

In Texas, 65 percent of the AIDS/HIV cases reported in 1990 were White, but this demographic aspect is changing rapidly. Between 1988 and 1990, morbidity among Whites increased 47 percent, whereas Blacks experienced a 111 percent increase and Hispanics a 72 percent increase. This follows a nationwide trend that began before 1990. Twenty percent of the Texas AIDS/HIV cases in 1990 were Black and 15 percent were Hispanic. The increased incidence rate of AIDS among Blacks and Hispanics in 1990 clearly reinforces the impression that AIDS/HIV is a significant problem among Black and Hispanic Texans.²¹ (See Figure 62)

FIGURE 62
1990 INCIDENCE OF AIDS IN TEXAS



Source TDH, *Epidemiology in Texas*,
Annual Report 1990

Sexually Transmitted Diseases

Sexually transmitted diseases continue to be a problem in minority populations. Blacks accounted for 76 percent (32,629) of the 43,231 gonorrhea cases reported in 1990. Primary and secondary (P&S) syphilis morbidity in Texas increased significantly for the second consecutive year in 1990. The cases of P&S syphilis reported in 1990 represented a 21 percent increase over the 4,267 cases reported in 1989, and the incidence rate of 30.4 cases per 100,000 population was the highest reported in Texas since 1984. Blacks accounted for 79 percent of the P&S syphilis in 1990, compared with 73 percent of the cases in 1989.²² Reported syphilis rates for Blacks were significantly higher than for Whites or Hispanics.

Infectious Diseases

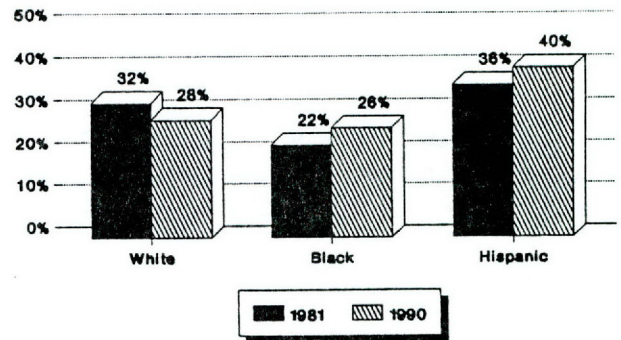
Measles continues to be the most prominent vaccine preventable disease in Texas. In 1990, 51.9 percent of the cases reported were reported in minorities. The rates of reported measles cases per 100,000 in 1990 were 43.5 Black, 33.8 Hispanic, and 17.6 White. Black and Hispanic children between the ages of 1 - 4 experience measles at a rate of 243 and 131 per 100,000 population, respectively. Whites of the same age group experienced measles at a considerably lower rate of 69 per 100,000 population.

Tuberculosis (TB) is an increasing public health problem in the United States, particularly among racial/ethnic minorities. Blacks and Hispanics represent 12 percent and 26 percent of the Texas population, respectively, yet 26 percent of the TB cases in 1990 occurred in Blacks, and 40 percent were Hispanic. Blacks and Hispanics accounted for 22 percent and 36 percent of the TB cases in 1981, respectively. The incidence of TB among Blacks increased from 26 cases per 100,000 population in 1981 to 29 cases in 1990. In contrast, 32 percent of the TB cases in 1981 were White, but Whites accounted for only 28 percent of the cases in 1990 (See Figure 63). Foreign-born persons are another population group at risk of developing TB. There were 118 cases of TB reported in individuals designated as refugees in 1990, an increase of 27 percent over 1989. Twenty-four percent (531) of the TB cases in Texas in 1990 were born outside the United States; the majority (68 percent) of these were from Mexico.²³ Another serious problem concerning the direction TB has taken is the increase in cases in children younger than 15. During 1990, 65 percent of TB cases occurred in Hispanics, while 22 percent occurred in Blacks. Even though TB is a curable disease, the TDH Bureau of Vital Statistics reported 90 deaths from respiratory TB and 30 deaths from other tuberculosis in 1990.²⁴

Hepatitis B is the most common and best understood form of bloodborne hepatitis. The incidence of hepatitis B is increasing throughout the United States despite the availability of an effective and safe vaccine. In 1990 hepatitis B occurred in Whites at a rate of 6.1 per 100,000

population, Hispanics 10.4 per 100,000 population and Blacks 14.1 per 100,000 population.²⁵

FIGURE 63
DISTRIBUTION OF TUBERCULOSIS
IN TEXAS



Source TDH, *Epidemiology in Texas*,
Annual Report 1990

Alcohol and Drug Abuse

Alcohol and drug abuse in Texas is a major public health problem. More than one million adult Texans are problem drinkers, and approximately 434,000 have a drug problem. Junior high and high school students are also reported to have significant drug and alcohol problems. Alcohol and drug abuse is a causal factor in seven of the ten leading causes of death, including heart disease, several cancers, stroke, unintentional injuries (trauma), homicide, suicide, and cirrhosis of the liver.

Different substances affect the body in different ways. Snorted (through the nose) cocaine reaches a peak in the brain in minutes, injected doses hit the brain in 15 seconds, and smoked cocaine arrives in about seven seconds. The more rapidly cocaine gets into the brain, the more addicting it is. Prenatal cocaine use can cause irreversible birth defects, producing the so-called "crack-babies." Amphetamines and stimulants, or "speed," increase the activity of the central nervous system, reduces hunger and produce an intense feeling of well-being which is later overshadowed by feelings of irritability, depression and paranoia. Alcohol ingestion during pregnancy can cause Fetal Alcohol Syndrome (FAS), a specific pattern of irreversible birth defects, or Fetal Alcohol Effects, a lower

degree of FAS. The sharing of needles is the connection between drug addiction and AIDS/HIV. Intravenous users are uniquely at risk for HIV. Approximately 1,742 Texans were diagnosed in 1990 as having contracted AIDS through the use of needles.²⁶

Minority group members are at highest risk for death attributed to alcohol and drug abuse, according to the federal government. For example, the national age-adjusted death rate per 100,000 for Black men who consumed alcohol in 1987 was 22 compared with 9.1 for the total population. Native Americans had even higher rates at 25.9.

Health Status of Refugees

According to the TDH Refugee Health Screening Program, refugees enter Texas with a variety of medical problems which should be evaluated and decisions made about treatment and/or referrals. Some of the most common conditions are vision impairment, dental problems, goiter, hypertension, heart conditions, hearing impairment, and anemia. In addition, refugees frequently arrive with incomplete, unreliable, or non-existent immunization histories.

Refugees are at high risk for TB infection and disease. Overall infection rates of 40-50 percent have been observed. Up to ten percent of refugees may eventually develop TB if not preventively treated. Refugees, especially those from Southeast Asia, Africa, the Middle East, and parts of Eastern Europe, are a high-risk group for hepatitis B infection, carriage, and transmission. From 10 to 15 percent of childbearing women are carriers, posing a significant risk to newborns in that population. Hepatitis B carriers are at greatly increased risk of cirrhosis or cancer of the liver.

In various studies, up to 70 percent of refugees have been found to be infected with intestinal parasites, even in the absence of symptoms. Fifty percent of refugees arriving in Texas from 1983-1991 who were screened for parasites were infected. In addition to the morbidity and occasional mortality associated with parasites, untreated infections in the refugee population may result in transmission within households and

within the general population specifically through the food service industry and in day-care centers.

Major Methods of Preventing Disease, Disabling Conditions and Death

Statistics demonstrate with sharp clarity that minorities do not receive enough early, routine, and preventive health care. Early prenatal care can reduce low birth weight and prevent infant mortality. Increased abstinence from tobacco, alcohol, cocaine, and marijuana during pregnancy will also help reduce fetal deaths and FAS. Family planning services assist women in planning their subsequent reproductive life. Pregnancies can then be spaced or prevented to the benefit of the mother, the family, and the potential infant. In 1975, each birth to a teenage mother receiving food stamps, Aid to Families with Dependent Children program services (AFDC) and Medicaid cost \$18,000. Each person receiving family planning services in the public arena costs \$63.²⁷

Approximately 30 percent of adults in America have high blood pressure. People with uncontrolled high blood pressure are at three to four times the risk of developing coronary heart disease and as much as seven times the risk of developing stroke as do those with normal blood pressures. Overall, Blacks have a higher prevalence of high blood pressure than Whites, 38 percent versus 29 percent. The Coronary Primary Prevention Trial as cited in the *Healthy People 2000* showed that men at risk were able to reduce coronary heart disease by about two percent for every one percent lower blood cholesterol level. Most people can lower their high blood cholesterol by reducing their intake of saturated fat, total fat, and dietary cholesterol, and by normalizing their weight and increasing physical activity. Medications are available for those whose blood cholesterol levels remain significantly elevated despite diet modification.²⁸

Once surrounded by fear and fatalism, cancer has been the focus of statewide educational campaigns to inform the public that the risk of cancer can be significantly reduced when adequate preventive measures are taken. Tobacco has been estimated to account for 30 percent of cancers, and dietary factors another 35 percent. Early detection also

can have an important impact on cancer deaths rates. Procedures such as mammography and clinical breast examinations, the Pap test, sigmoidoscopy, and oral, skin, and digital rectal examinations make it possible to detect and treat cancers before they spread.²⁹

The estimated medical costs for a patient who is cured of breast cancer because of early detection will be \$14,000 to \$25,000 depending on the stage of the cancer at time of diagnosis. For a patient whose breast cancer is not detected early and therefore dies from her disease, medical costs will be at least \$84,000. A 1988 *Journal of the American Medical Association (JAMA)* study indicates that early detection of cervical cancer saved \$5,907 and 3.7 years of life per 100 Pap tests.³⁰

Diabetes is one of the ten leading causes of death in Texas. This year approximately 2,000 persons in Texas will die from diabetes as a primary cause. Diabetes mortality rates are highest in Black and Hispanics over 45 years old. Death rates from diabetes among minority women over 45 years old are at least twice that of their White counterparts. Effective diabetes control strategies such as early diabetes detection and screening of high-risk populations, education programs and management training, access to routine health care, and interventions in the progress of complications will provide better health care and reduce morbidity, mortality, and economic costs due to diabetes.³¹

Although some therapeutic agents may extend survival, there is currently no available treatment to prevent deaths among people with AIDS. The survival rate in the early 1980s was only about 15 percent, before the licensure of antiviral drugs such as zidovudine (AZT). AZT has been shown to slow replication of the virus and improve survival prospects, as have selected other agents now under study. Most HIV-infected people in Texas do not know they harbor the virus, and increased counseling, testing, and follow-up services are needed. Public education efforts, such as Project MAEN (Mutual AIDS Education Network), administered in Brazos County by the local health department on risks and precautions, are essential to slowing the spread of the disease.

Other objectives target reducing experience with sexual intercourse among adolescents; increasing use of condoms among sexually active, unmarried people; increasing outreach and access to treatment programs for intravenous drug abusers; expanding testing and counseling for people at risk of HIV infection, including improved counseling skills among primary care providers; increasing education in schools and colleges about HIV infection and its prevention; and extension of regulations to protect workers at risk for occupational transmission of HIV.³²

The typical sexually transmitted disease (STD) patient in Texas is a young, poor member of a minority group and lives in one of the seven major metropolitan areas. Major methods of preventing STD include increased use of condoms among sexually active, unmarried people and greater availability of comprehensive STD-related services in clinics and centers that provide family planning, maternal and child health care, drug treatment, and primary care to low income families. Clinicians should take a complete sexual and drug use history on all adolescent and adult patients. Sexually active patients should receive complete information on their risk for acquiring STD. They should be advised that abstaining from sex or maintaining a mutually faithful monogamous sexual relationship with a partner known to be uninfected are the most effective strategies to prevent infection with HIV or other sexually transmitted diseases. Patients who choose to engage in sexual activity with multiple partners or with persons who may be infected should be advised to use a condom at each encounter. Patients should be offered testing in accordance with recommendations on screening for syphilis, gonorrhea, chlamydia, genital herpes, hepatitis B, and infection with HIV.³³ For every \$1 spent on STD control, nearly \$6 is saved in direct medical costs.³⁴

If a person tests positive for TB but the condition has not progressed to the clinically active stage, the patient may respond to preventive therapy. This can preclude a latent infection from developing into active TB and restrict further transmission of the disease. In cases where a person has already developed active TB, it can usually be cured through a six-to-nine month

regimen of drug therapy. For patients who adhere to their prescribed treatment, there is a cure rate of 95 percent or higher.

When a patient does not adhere to treatment, the chance of developing drug resistant TB exists. Once a person develops drug resistant TB, a new treatment regimen must be prescribed. Unfortunately, through additional non-compliance by the patient or by physician or nursing errors, a TB case may become multi-drug resistant. The mortality rate for a patient who becomes sensitive to several drugs is over 50 percent. In 1991, 7.4 percent of TB cases reported in Texas were resistant to one or more anti-tuberculosis drugs; and 2.6 percent were resistant to more than one. In comparison, a survey indicated that 23 percent of the cases in New York City were drug resistant.³⁵

During 1990 firearm-related injuries surpassed motor-vehicle crashes as the leading cause of injury-related mortality in Texas, the first state to report this pattern to CDC. State, local communities, and school systems have employed a variety of strategies to prevent firearm-related injuries and deaths. An important element of many of these strategies is to inhibit, restrict, or reduce immediate access to firearms in the general population or in specific locations. In some states and localities, firearms are prohibited from being carried in public. In Detroit and Massachusetts, legislation that increased the penalty for violating such laws reduced the occurrence of firearm-related homicide. In some school systems methods used to deter students from bringing firearms on school grounds include random locker searches, walk-through with metal detectors, and policies requiring that students use only clear plastic or mesh bookbags so that weapons cannot be readily hidden. Community efforts to prevent firearm-related deaths should use other measures in addition to reducing access to firearms, such as reduction of the incidence of interpersonal violence through behavioral and other interventions (e.g., conflict resolution training and mentoring programs).³⁶

Major Problems with the Delivery System

The health of minority populations in Texas is highly impacted by a number of disparities: access to health care, quality of health care,

public and private health insurance and usual source of health care. The disheartening fact of the minority health status crisis is that the majority of minorities that are affected don't realize the severity of their health care situation.

Minorities most affected by the crisis in health status are the unemployed, working poor, underinsured/uninsured, women, and children. Factors that hinder minority populations from accessing health care include shortcomings in education, language deficiencies, poor self-esteem, culture and certain employment (lack of insurance), and income (too much income to qualify for public aid, too little to purchase health insurance out-of-pocket). Low incomes and lack of insurance restricts minority access to primary and preventive care more than any other variable.³⁷

Barriers specific to the delivery or use of preventive services include uncertainty among health care providers about which services to offer, practice organization characteristics that are not conducive to delivery of preventive services (e.g., lack of time, too few allied health professionals, and limited access to medical record system organized for prevention), and inadequate knowledge among consumers to create the necessary demand. Another important barrier is the lack of reimbursement or financing. In addition to the fact that few insurance plans cover preventive services, a substantial proportion of Texans, an estimated 3.6 million, are without health insurance. And many more are underinsured or are covered by insurance programs with requirements and payments that providers are increasingly reluctant to accept.

Another barrier to the delivery or use of preventive services is the orientation to the "medical model" vs. "health model" of health care services. The health model embraces disease prevention and health promotion, as opposed to the more narrowly focused medical model which often focuses on costly, after-the-fact treatment, and curative measures for all diseases.

Lack of Health Insurance

In 1989 there were 3,117,000 Texans living below the federal poverty level. Hispanics represented 47.6 percent of the state's poverty population;

Whites, 30.5 percent; and Blacks, 21.9 percent. The majority of those at or below poverty have never experienced health care under a private insurance program. Many of those are not covered by private or public insurance and those that are often seek health care from large public hospitals and hospital emergency rooms that have rotating staffs, thereby blocking the continuity of care.

In 1991, 3.6 million Texans under age 65, representing 24.1 percent of state's non-elderly population had no health insurance for the full year. In 1989 a special census conducted by DHS found that 12.6 percent of Whites, 19.9 percent of African American, and 35.8 percent of Hispanic Texans were without health insurance. The U.S. Census Bureau's March 1990 Current Population Survey showed that in every age group, Texas had higher levels of uninsured than those of the nation. Figures from the U. S. Census Bureau for 1990 show that nearly 30 percent of Texas children are uninsured, compared to about 15 percent nationwide.³⁸

Access and Availability of Health Care

Availability refers to finding ways of getting services to people, whereas accessibility focuses on the ability of getting people to services. There are basically two problems related to availability: loss of existing providers, facilities, and services; and the attraction of new providers, facilities, and services. Many minorities must seek medical care in a haphazard, patchwork assembly held together by too few providers, rather than an integrated health care system. Their efforts are undermined by employers who fail to provide insurance, and Medicaid and Medicare systems that inadequately reimburse doctors and leave many patients uninsured.

Barriers which limit minorities access to medical care include eligibility standards, inability to pay or obtain medical coverage, poor transportation networks and services, language problems, and cross-cultural misunderstandings. Clashes in perception of what is health and what is illness between the lay public and health care providers contribute to fear, disregard, intolerance, and rudeness.

As with availability, the range of access problems and their possible solutions differ from community to community and county to county. With access, however, the services may be in place, but are not being fully or appropriately utilized. Some access problems are very difficult to overcome. Inability to pay, for example, may result from a depressed local economy, or a lack of skills or education necessary to be employed above a subsistence level. Ineligibility for public and medical coverage is often the result of state and federal regulations that narrowly define eligibility categories. On the other hand, there are some barriers that are much easier to remove: extended hours, sliding fee scales, bilingual nurses and physicians, and pleasant personnel can all improve access for minority populations.³⁹

Quality Of Health Care

The barriers to quality health care that Asian immigrants face include the lack of multilingual, multicultural county services. Many Asian-Americans face a "triple jeopardy" when it comes to getting good health care, as a result of poverty, language barriers, and immigrant or refugee status. The triple jeopardy situation hinders access and places many Asians at greater risk for poor health status. Although Asian-Americans make up one of the fastest growing segments of the U.S. population, inadequate statistics are kept on their health status. Asians are often said to be too small in number to be significant entries, or they are lumped together for reporting purposes and are recorded as "other" or as "White".⁴⁰

Lack of insurance restricts Hispanics' access to adequate health care. As an urban and poor minority, Hispanics receive most of their health care from large public hospitals with rotating staffs, thus they rarely experience any continuity of care. Lack of insurance also affects overuse of hospital emergency rooms and late initiation of perinatal care.

There continues to be a large gap in information about Hispanic culture and data describing the health status of Hispanics. Prevention services that are available and accessible may not be acceptable because of their cultural incompatibility. The unacceptability of current

"mainstream" prevention efforts by the Mexican-American community is a result of design flaws. The conceptual framework of these programs does not incorporate appropriate cultural contexts. Examples of these could be the focus on individuals and segmentation in contrast to the Mexican American concepts of unity, *familia* (family), and interdependence. Translation of English-language materials without determining their cultural message and symbolism is inappropriate and generally ineffective. Designing acceptable programs and materials may not be "quick and fast," but it could be an investment well worth the long-term pay off.⁴¹

Though data gathering has been conducted more in Black communities than other minority communities, the need for more surveillance is evident by the significant gaps in health status for Blacks. More outreach programs, primary care clinics, and minority providers are needed in minority communities to reach those who fall between the Medicaid gap or live in underserved areas. Funding for programs that service substance abusers, and women and children in underserved areas is vitally needed. For those who have Medicaid, current trends by medical providers and facilities limit the number of Medicaid patients seen. Even physicians who take Medicaid patients often have trouble admitting them into hospitals. Medicaid patients who go to a hospital are often treated differently than those who have private insurance. Many minorities in urban areas have nowhere to go for medical care because of a lack of transportation, facilities, and providers practicing within minority and underserved communities.

BORDER HEALTH

The Texas-Mexican border extends close to 1,000 miles along the Rio Grande River, from El Paso to the Gulf Coast. Sixteen of the 254 counties in Texas are considered border counties, home to nine percent of the state's population. According to 1988 TDH population estimates, 89 percent of the border population, 1.5 million people, live in urban border counties (El Paso, Hidalgo, Cameron, and Webb). The border is uniquely characterized by the concept that the border is a single community which happens to be divided by

an international boundary. People, goods and services, diseases and environmental problems move freely across the Rio Grande River. According to the Pan American Health Organization (PAHO), this is the only border in the world where first world directly meets third world. An estimated 3.5 million people reside along the Texas-Mexico border. Nearly two-thirds of these live in Mexico and one-third in Texas. People move freely back and forth across the Rio Grande River with family members residing on both sides.⁴² In 1988 the racial/ethnic distribution of Texans living in border counties was 73 percent Hispanic, 25 percent White, and 1.6 percent Black.⁴³

Texas border communities have a majority of Mexican residents and constitute a significant proportion of citizens of Mexican descent living in the United States. Culturally, people of Mexican origin living on the U.S. side have become somewhat adapted to the Anglo-Saxon culture, but still maintain their Mexican heritage. U. S. residents who reside in Mexican communities near the border are practically non-existent.

It is estimated that 140,000 Texas border residents live in over 500 *colonias* or unincorporated rural subdivisions, and two-thirds of the *colonias* residents were born in the United States. *Colonias* are characterized by substandard housing, inadequate roads and drainage, and inadequate or no water supply or wastewater disposal system. Spanish or a mixture of Spanish and English is the spoken language. Illiteracy is the norm. The majority of *colonia* residents are eligible for some form of public assistance, but only 38 percent use food stamps and only 15 percent receive Medicaid benefits.⁴⁴ According to the DHS *Colonias Factbook*, 65 percent of *colonias* residents have no health insurance, 67 percent of those over 18 did not complete high school, and 15 percent of the households report they do not usually have enough to eat.

The Maquiladora/Twin plant industries in Mexico have impacted both health and environmental status on both sides of the Rio Grande River. Approximately 670 Twin plants along the Texas-Mexico border draw thousands of unskilled workers and their families. The plants have

created concerns about pollution of the air and water along the border. The Maquiladora strengthens the Texas-Mexico border economy, but places heavy demands on the border's health infrastructure.

Improving the health status of residents on both sides of the border has been the subject of many programs, projects and studies. Despite extensive efforts by public and private organizations over several decades, health problems persist. Some problems are specific to border communities while others cut across geographic lines. Likewise, border residents have endured extremely poor living and environmental conditions, high unemployment and severe poverty. For example, the Lower Rio Grande Valley, which has the highest concentration of *colonias*, is the poorest metropolitan area in the United States. More than 35 percent of border residents live below the poverty line.⁴⁵

The border culture is also influenced by the mobility of populations between both sides of the border, temporarily as well as permanently, and by the immigration of groups of people from other states that seek better working opportunities. The constant movement of people in both directions, the difference in the economic level that exists between one side of the border and the other, and the cultural identity of a good number of its inhabitants make health-related problems similar and closely interrelated between both sides.

Major Causes of Morbidity and Mortality

Health problems along the Texas-Mexico border include high incidence of chronic diseases, alcohol and substance abuse, child abuse, lack of available dental services, and environmentally-related illnesses, such as gastroenteritis, hepatitis, and lead poisoning. Other health-related problems include communicable diseases, water and air pollution, availability of potable water, and a lack of indoor plumbing and electricity.⁴⁶

In 1990 there were 8,751 deaths in 14 border counties. According to the TDH Vital Statistics Annual report the leading causes of death in these counties were diseases of the heart, malignant neoplasms (cancer), accidents and adverse effects,

cerebrovascular diseases (stroke), diabetes mellitus, chronic obstructive pulmonary, pneumonia and influenza, chronic liver disease and cirrhosis, homicide, and suicide. (See Table 10)

Maternal and Child Health

Nativity patterns along the Texas-Mexico border are substantially different from those of the nation as a whole. Completed fertility is higher, as are crude birth (non age-adjusted) rates and age-specific fertility rates, especially among older women. Although little is known about natality patterns in the Mexican *municipios* (a political jurisdiction analogous to a county in Texas), data available indicate crude birth rates are very high.

Despite overall health improvements in the Texas border counties, conditions still lag behind those in the rest of Texas. Areas of concern include large numbers of out-of-hospital births, late or no prenatal care, high parity and large number of teenage pregnancies. Birthrates among teens and women over 34 are higher along the border than the Texas average. Women in these categories have a higher risk of complicated pregnancies than other women. The risk for teens is especially high. In 1990 only about 42 percent of teens giving birth in border counties received early prenatal care.

According to the TDH County Fact Sheet, 40,057 of the 316,257 live births, 13 percent, occurred in border counties in 1990. Teenage mothers less than 18 accounted for 2,191 or 5.0 percent of border live births; single mothers accounted for 5,499 or 14 percent of live births; and low weight babies accounted for 2,439 or 6.1 percent of the live births in border counties. Forty-one percent or 16,354 of the border counties live births were to mothers receiving late or no prenatal care. Border counties reported 237 infant deaths, or a rate of 5.9 per 1,000 live births, well below the Texas rate of 8.0 per 1,000 live births. There were 166 neonatal deaths, or a rate of 4.1 per 1,000 live births compared to Texas' 4.8; and 213 fetal deaths, or a rate of 5.3 per 1,000 live births compared to Texas' 6.6.

Even though the infant mortality rates are lower in the border area than the state, as a whole, there

TABLE 10
LEADING CAUSES OF DEATH IN TEXAS- 1990
 (Age-adjusted rates per 100,000 population)

	Total Population		White Population		Hispanic Population		Black Population		Border Population		Rural Population	
	DEATHS	RATE	DEATHS	RATE	DEATHS	RATE	DEATHS	RATE	DEATHS	RATE	DEATHS	RATE
Disease of the heart	39,443	156.4	30,095	153.1	4,425	127.0	4,923	226.1	2,595	127.1	11,132	158.9
Malignant neoplasm (cancer)	28,483	131.8	21,703	132.9	3,190	96.0	3,590	181.7	1,787	100.0	7,403	130.0
Cerebrovascular disease (stroke)	8,388	30.8	6,226	28.4	979	27.2	1,183	51.9	515	23.8	2,466	30.6
Accidents and adverse effects	6,225	34.1	3,996	33.3	1,397	33.7	832	40.6	529	34.0	1,649	47.6
Chronic and pulmonary disease and allied conditions	4,857	19.6	4,250	22.4	290	7.9	317	15.1	316	14.9	1,408	20.7
Pneumonia and influenza	4,267	15.1	3,300	14.6	522	13.5	445	18.8	271	11.8	1,283	15.3
Diabetes mellitus	3,458	15.0	2,047	11.4	873	26.6	538	25.4	397	21.3	919	14.9
Homicide	2,391	14.2	721	6.6	734	17.4	936	45.6	132	9.1	251	8.7
Suicide	2,156	12.2	1,714	14.6	300	7.3	142	6.9	116	7.6	442	13.1
Human Immunodeficiency virus	1,836	10.4	1,224	10.6	295	7.0	317	15.5	49	3.5	110	3.8
Chronic liver disease cirrhosis	1,562	8.5	927	6.7	479	15.4	156	9.3	196	13.3	298	6.8
Certain conditions originating in the perinatal period	1,052	6.0	391	4.2	340	5.9	321	13.4	103	5.9	146	5.0
Congenital anomalies	1,005	5.7	543	5.4	321	6.0	141	6.2	100	5.7	175	5.8
Other causes	19,896	91.1	14,190	85.0	2,924	86.2	2,782	140.3	1,558	81.9	6,376	80.5
All causes (Total)	125,019	540.5	91,327	518.6	17,069	470.0	16,623	781.2	8,664	456.2	32,875	537.9

Source: Texas Vital Statistics, 1990 Annual Report, Texas Department of Health

are some concerns about under reporting of infant deaths, prenatal care and delivery care. Under reporting of infant deaths can occur whenever any of the following take place: midwives fail to report infant deaths for fear of being reprimanded; illegal aliens are afraid of being discovered; and large numbers of births are at home, with "shoe box" (inexpensive home) burials taking place. Impoverished women in the border area often resort to lay midwives (some of whom may not have been trained for delivery assistance), who deliver babies at lower fees than those charged at local medical facilities. In addition, poor women are more likely to wait until late in their pregnancies to obtain care.⁴⁷

Migration to the U.S. to give birth is the most widely publicized issue related to cross-border travel for health care. The main reason for entering the U.S. for delivery appears to be the mother's desire for a U.S. birth certificate for her child, since a baby born in the U.S. is automatically a U.S. citizen. Along with citizenship rights, the baby receives a WIC card, welfare check, and food stamps for as long as the child resides in the United States. Migration for birth, "drop-in" deliveries, is also a major contributor to the increases in patients with no prenatal care records and undiagnosed high risk conditions.

Also of concern in the Lower Rio Grande Valley is the high number of anencephaly cases. Anencephaly is a birth defect where the infant is missing all or part of the brain. It is difficult to truly know the rate of occurrence of this condition because Texas does not have a birth defects registry. However, TDH conducted an extensive 14 month study in Cameron County and estimated the rate of occurrence to be 10 per 10,000 in 1986 and 20 per 10,000 in 1991. The Centers for Disease Control (CDC) estimates that the rate for the United States is 3-4 per 10,000 and Texas is 5.0 per 10,000.⁴⁸

Communicable Disease

Communicable diseases are a significant public health problem on both sides of the border. Each side has different systems of immunization, treatment and reporting of diseases. According to

a study conducted by the University of Texas Health Science Center in San Antonio, by the age eight years approximately 35 percent of the children in the border community of San Elizario, a *colonia* outside El Paso will have been infected with Hepatitis A, and by the age of 35 years 85-90 percent of the residents will had been infected. Drug-resistant TB remains a problem on the Mexican side of the border, and it is vital that screening and treatment remain available to all persons on both sides of the border. Sexually transmitted diseases have long been a problem, not only due to the cross-border use of the "red light districts", but also because the process of contact tracing is difficult.⁴⁹

Compared with the United States and Texas, border communities have a higher incidence of the following: gastrointestinal diseases; amebiasis (an infestation with a protozoan parasite); shigellosis, and campylobacteriosis (both bacterial infections). These diseases are often caused by poor hygiene, polluted water (common in the *colonias*), and contaminated foods. Conversely, salmonellosis (a gastrointestinal disease generally transmitted through contaminated food) has a lower incidence rate than the state rate. The reported border incidence rate for type A hepatitis (a viral infection affecting the liver) was almost three times higher than the state rate.

According to the TDH Epidemiology Division, there were 2,722 or 16.0 per 100,000 population cases of hepatitis A reported statewide in 1990; border counties accounted for 661 or a substantially higher rate of 43 per 100,000. Statewide there were 139 cases of amebiasis; border counties accounted for 36 cases or 26 percent of reported cases for a rate of 2.35 per 100,000 population. There were 2,315 cases of salmonellosis reported at a rate of 13.6 per 100,000 population; border counties accounted for 252 reported cases or 11 percent. And there were 3,550 cases of shigellosis reported statewide at a rate of 20.9 per 100,000 population; border counties represented 806 reported cases or 23 percent, at a rate of 52.5 per 100,000 population.

Border counties accounted for 421 or 19 percent of the 2,242 reported cases of TB statewide. Twenty-four percent, or 531 persons contracting

TB in Texas in 1990, were born outside the United States; the majority (68 percent) of these were from Mexico. A number of them live part-time in Mexico and in Texas. This life-style contributes to interruptions in therapy, the inability to trace contacts, and continued transmission of the disease on both sides of the border.

Border counties also accounted for 650 or 15 percent of the 4,409 cases of measles reported statewide. Measles occurred at a rate of 42.38 per 100,000 population among the 14 border counties, substantially higher than the 26 per 100,000 population statewide.

The border area presents some unique challenges to the collection and interpretation of morbidity data. Analysis is hampered by the effects of self-treatment, cross-border migration for treatment, undercounts, and even possible systematic overcounts of reported morbidity. Thus, findings may reflect variations in reporting rather than the incidence of disease among the border population.

Noncommunicable Health Problems

There are noncommunicable health problems such as obesity, diabetes, gallbladder disease, and dental disease which are of particular concern in the border area. All have a high incidence among Hispanics, who make up the majority of the border population. Extensive data on the reported incidence of these problems were not available for this plan.

The relationship between obesity and Type II diabetes in the Hispanic population of Texas is a major concern. Hispanics are three to four times more likely to develop diabetes than Whites. Hispanics who are diabetic are also more prone to diabetic complications. Type II diabetes could be reduced by nearly half by preventing obesity in middle-aged adults. Obesity also increases the risk of gallbladder disease and some types of cancer, and has been implicated in osteoarthritis of the weighting joints.⁵⁰

Environmental Issues

Water and air pollution and the dumping of hazardous waste threaten residents on both sides of the border. Water pollution of the Rio

Grande/Rio Bravo River and groundwater results from inadequate drainage and inadequate disposal of human wastes. Industries on both sides of the river discharge waste materials into the river; and agricultural chemicals, especially in the Lower Rio Grande Valley, wash into the river. Ponding of water leads to mosquito breeding problems, necessitating control measures. The "Agua Negra" is an open sewer ditch on the Mexican side of the Rio Grande River, 200 yards from the border of El Paso and 18 miles long. It is a prolific breeder of mosquitoes which also affects the groundwater.⁵¹

Air pollution is a problem, especially in the El Paso region where the geography permits inversions which trap the pollutants in the valley occupied by El Paso and Ciudad Juarez. Vehicle emissions, unpaved streets, open burning of dumps and rubber tires and industrial smokestack emissions create high levels of pollutants and particulate matter in the air along the border.⁵²

A further concern is illegal dumping of hazardous waste from one country to the other. Hazardous materials and wastes shipped to and from Maquiladoras are a potential health problem. By law, any hazardous wastes generated from processing materials imported into Mexico should be returned to the country of origin, a policy established by the passage of a comprehensive environmental and ecologic protection law in Mexico in 1988. The law obligates the two countries to work together to enforce their laws on transboundary hazardous waste shipments and seems to have created a significant hazardous waste disposal problem for communities on the U.S. side of the border.⁵³

Major Problems with the Delivery System

Barriers to good health along the Texas-Mexico borders are unique in that good health is exceedingly dependent on political processes, public and privately funded programs, culture and language, and socioeconomic status. Studies of the Texas-Mexico border indicate extreme disparities in access to health care, availability of primary and preventive health care providers, quality of health care, incidence of illnesses and diseases and health insurance status. Studies further indicate that Texas residents living on the border do not fully understand the U.S. health

care system, and there is a lack of culturally competent health care providers.

Since health insurance and income status are closely related, a very high proportion of border residents lack public and private insurance. Because of high poverty rates, tax bases in most border counties are small. Local funding for adequate social support services is often lacking. The Texas-Mexico border has almost double the rate of poverty shown by the state as a whole. One out of five families on the Texas-Mexico border is a single parent family, a condition associated with a high probability of poverty status. Approximately 33 percent of the border population have incomes below 250 percent of poverty and lack health insurance.⁵⁴

Access to Health Care

A unique border characteristic is the accessibility of inexpensive medical/dental services and pharmaceuticals in Mexico. Most of those who go to Mexico for health services are between the ages of 15 and 44 and speak only Spanish. Gaps in Medicare and Medicaid coverage for outpatient care, pharmaceutical, and dental work motivate border residents to obtain services in Mexico.

Problems of access, availability, and health care education and promotion are severe in Texas, where the needs of specific populations are not being addressed, particularly along the border. *The 1986 Valley Primary Health Care Review* identified the lack of financing and the lack of medical transportation as the chief obstacles to access to care. While most respondents to the South Texas Needs Assessment Survey said they lived within 30 minutes of their health care provider, the border region is vast. Many areas are remote and great distances must sometimes be traveled to reach hospitals and physicians. Many residents lack the resources needed to travel for services.⁵⁵

Facilities and Professions

The 14 Texas-Mexico border counties have 2.7 staffed hospital beds per 1,000 population, compared with 3.5 staffed hospital beds per 1,000 population statewide. The staffed bed occupancy

rate in these counties varies from a low of 36 percent to a high of 70 percent. The ratio of primary care physicians also varies widely. Zapata County has the lowest ratio, with one physician for 9,509 residents. In contrast, Brewster County has one physician for 1,728 residents. Although El Paso has the most physicians, with one for every 786 residents. Despite the substantial number of physicians in El Paso, only four percent have practices in the poorest part of the city. Yet, this area is home to 32 percent of El Paso's population.⁵⁶

Infrastructure

Public health systems along the Texas/Mexico border have been overwhelmed with demands for personal and clinical preventive services and this demand will continue to grow in the future due to fertility and economically-motivated migration, e.g. the maquiladora manufacturing activity. The organization and delivery of public health services in both Texas and Mexico are impacted by inadequate infrastructure, staffing, and facilities, and by inconsistent training, low provider salaries and poor environmental safeguards and sanitation. In Texas and Mexico, population demographics and the economic recession have overburdened existing systems. The health systems and services requirements of border communities compel binational collaboration. Unilateral and/or uncoordinated action on the part of one nation will not be sufficient to achieve lasting results.⁵⁷

The current health system along the border lacks an adequate personal health care delivery system that stresses primary and preventive health care services. Both Mexico and the United States need to recognize and treat the border as a single epidemiological unit for purposes of assessing health problems, planning, and implementing remedial program systems.

RURAL HEALTH

Rural communities have long lagged behind their urban counterparts in health status and the garnering of health care resources commensurate with their needs. The migration patterns of rural America have resulted in an increase in the proportion of rural populations who are elderly,

poor, and underserved. Health care problems in rural areas are largely related to a lack of primary care, and developing that capacity for rural Texas presents an immense challenge to the flexibility of primary care.

In 1990 population data indicated that of the state's 254 counties, 205 are considered non-metropolitan or rural, yet only 3,119,455 or 18 percent of the state's 16,986,510 population live in rural Texas. Rural Texas is characterized by its widely dispersed population, spread across 82 percent of the state's land; its large elderly population; higher poverty rates than urban areas; and its lack of health care services, providers, and facilities.

The *Texas Rural Health Chart Book* indicates that the racial/ethnic distribution of Texans living in rural areas in 1990 was 69 percent White, 22.1 percent Hispanic, 8.4 percent Black, and 0.8 percent other. According to 1990 census data, 15.9 percent of all Hispanics and 13.2 percent of all Blacks living in Texas live in rural counties. Although Whites represent the largest segment of the rural population, there are some rural areas where racial and ethnic groups predominate, and these often include the poorest rural counties in the state.

The aging of rural America is dramatically illustrated by the fact that more than one in five rural counties are identified as likely retirement counties.⁵⁸ Approximately 16 percent of rural Texans are age 65 or older, compared with 8.8 percent of urban residents. Almost 30 percent of all Texans age 65 or older live in rural parts of the state.

Rural Texas also has a large number of migrant and seasonal farm workers. There are no reliable national or state figures for the number of migrant and seasonal farm workers and their families. It is estimated that there are 4.2 million migrant and seasonal farm workers in the United States, and about 500,000 residing and working in Texas.

The majority of the state's migrant and seasonal farm workers are native Texans, but many of them speak Spanish as their first language, are not proficient in English, and have not completed high

school. A disproportionate number of migrant and seasonal farm workers are children under age 15. More than half the state's migrant and seasonal farm workers are Hispanic and live in *colonias* along the Texas-Mexico border. For the most part, migrant and seasonal farm workers are the working poor, earning less than the federal poverty level.⁵⁹

Rural Texas, once considered the place to be where the air is clean, the sky is blue, and the value systems were something to be envied, is now confronted with major problems with its health and human services delivery, economic, educational, transportation, communications, sewage, and water systems. Rural Texans experience a higher incidence of poverty, unemployment, no health insurance, teenage pregnancy, late or no prenatal care, and abuse of the elderly and disabled than their urban counterparts. In addition, rural health problems are compounded by hospital closures, the curtailment of obstetrical services, and a shortage of rural physicians, nurses and allied health professionals.

Major Causes of Morbidity and Mortality

Rural and urban Texans are equally at risk of dying from one of the leading causes of deaths, such as cancer, heart disease, stroke, and chronic obstructive pulmonary diseases and allied conditions. According to the *Texas Rural Health Chart Book* the leading causes of death in rural Texas in 1990 were malignant neoplasms (cancer), diseases of the heart, cerebrovascular disease (stroke), chronic obstructive pulmonary disease, and unintentional injuries. (See Table 10)

Unintentional Injuries

Between 1983 and 1987 approximately 35 persons died for every 1,000 persons injured in an auto accident in rural Texas, compared with 13 persons for every 1,000 injured in an auto accident in urban areas. Rural counties vary greatly in the rate of expected deaths if injured, ranging from 8.7 deaths per 1,000 injuries in Hemphill County, to 209.7 deaths per 1,000 injuries in Terrell County. In urban areas the range is far narrower, from 9.9 to 39 deaths per 1,000 injuries.⁶⁰

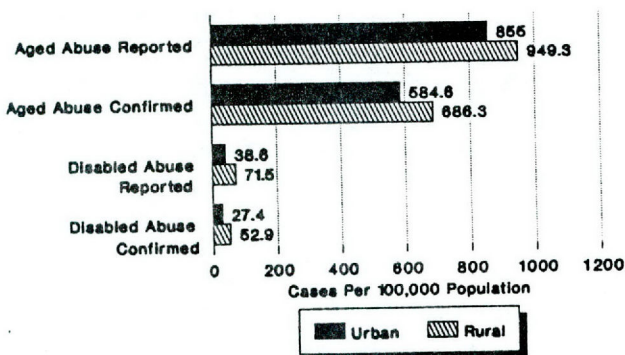
Violence and Abusive Behavior

On average, abuse of children up to age 18 was reported at a rate of 2,177 per 100,000 children in rural areas in 1991, higher than the rate of 1,945 per 100,000 in urban counties. In 1991, there were 6,899 cases of abuse to children under age 18 confirmed by DHS. Rural Texas represented 19.8 percent of reported and 18.9 percent of confirmed child abuse cases in 1991.

Abuse to persons age 65 and older and to disabled individuals was reported and confirmed by DHS at higher rates in rural areas in 1991. Elder abuse was reported at a rate of 949 per 100,000 persons age 65 and over in rural areas, compared with 856 per 100,000 in urban counties. Similarly, confirmed cases were documented at a rate of 686 per 100,000 in rural and 585 per 100,000 in urban Texas. One in three (32.3 percent) of confirmed cases of abuse to older Texans occurred in rural areas in 1991, representing 3,405 cases. Nearly the same proportion, 30.3 percent, of confirmed cases of abuse to persons with disabilities was reported in rural counties, representing 1,649 cases.⁶¹ (See Figure 64)

Several population groups have shown a rise in suicide attempts: White women age 25 to 35, Blacks, Native Americans, and the elderly. Rural areas have a consistently higher suicide rate than do urban areas. People in rural areas tend to be more isolated and have fewer available resources.⁶²

FIGURE 64
1990 ABUSE OF OLDER AND DISABLED TEXANS
REPORTED TO THE THE STATE

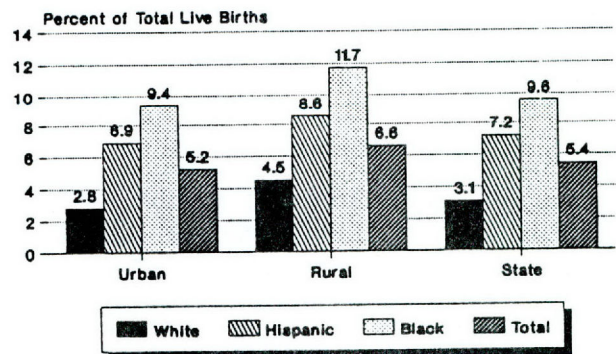


Source, TDHS, Adult Protective Services

Maternal and Child Health

Data presented in the *Texas Rural Health Chart Book* indicated that in rural areas 6.6 percent of total births were to women under 18 years of age in 1990, compared with 5.2 percent of urban births. The higher proportion of births to women under 18 years of age in rural areas is reflected across all racial and ethnic groups. The proportion of births to White women under age 18 is 4.5 percent in rural, and 2.8 percent in urban Texas. Hispanic births to this age group account for 8.6 percent of rural and 6.9 percent of urban births. The proportion for Blacks is 11.7 percent in rural and 9.4 percent in urban areas. (See Figure 65)

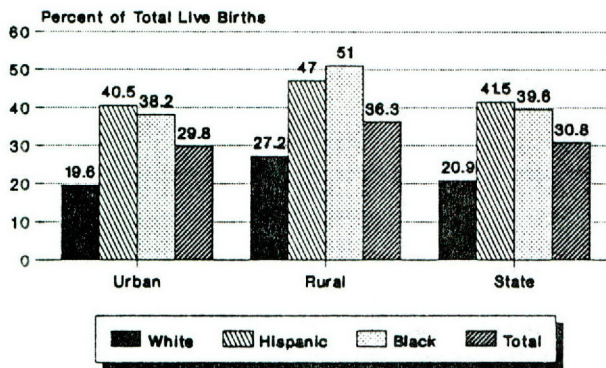
FIGURE 65
1990 BIRTHS TO MOTHERS
UNDER 18 YEARS OF AGE



Source TDH, Bureau of Vital Statistics

In general, rural women are more likely to receive late prenatal care, after the first trimester of pregnancy. In 1990, 36.3 percent of rural women and 29.8 percent of urban women received late prenatal care. In urban areas and across the state in general, Hispanics are more likely than any other racial group to receive late care. In rural Texas, however, Black women are more likely to get late care. More than half of Black women in rural Texas receive late prenatal care. Nearly half - 47 percent - of Hispanic rural women also receive late care. About one in four White women in rural areas received late prenatal care. One out of every two Hispanic and Black women in rural Texas receive delayed treatment. (See Figure 66)

FIGURE 66
MOTHERS IN TEXAS RECEIVING
LATE PRENATAL CARE IN 1990



Source: TDH, Bureau of Vital Statistics

The percentage of low birth weight babies is slightly higher in rural areas for both White and Hispanic births, at 6.1 percent and 6.9 percent, respectively, compared with 5.7 and 6.2 in urban Texas. The reverse is true for Black births, with 11.9 percent of babies registering at less than 5.5 pounds in rural areas and 12.8 percent in urban areas. Low birth weight affects Black births at a much higher rate than any other racial group across the state. Black births statewide are more likely to be to low birth weight infants than White or Hispanic births. Low birth weight is defined as weighing less than 5.5 pounds, or 2500 grams.

In 1990 the number of deaths of children under age one for every 1,000 children born was 8.8 in rural Texas, compared with 7.9 in urban areas. Higher rural infant mortality rates are common to both White and Hispanic groups. Among Blacks, however, the infant mortality rate is higher in urban Texas, at 14.2 deaths per 1,000 births, than in rural areas at 12.4 such deaths. Statewide, the infant mortality rate for Blacks is twice that for either White or Hispanics.

Major Methods of Preventing Disease, Disabling Conditions and Death

The pervasive shortage of physicians in rural areas has led to the creation of group practice satellite clinic systems in several areas of the state. Satellite clinics from Junction's Kimble Hospital operate on scheduled days in Edwards and Menard Counties to provide much-needed primary care

services to residents and make referrals for patients with more severe health care needs. This project represents the rural hospital's efforts to diversify while providing much needed access to health care for area citizens.⁶³

Telemedicine is comprised of telecommunications that connect a patient and a health care provider through live, two-way audio, two-way video transmissions across great distances and permits effective diagnosis, treatment, and other health care activities. Telemedicine has been considered a partial solution to the problems of delivering medical care to remote areas or to areas underserved by health care providers. The Texas Telemedicine Project, initiated by Telemedical Interactive Consultative Services, Inc., (TICS), a not-for-profit 501(C)(3) organization, began in 1989 with seed money grants from the Hogg Foundation for Mental Health. The Texas Telemedicine Project brings medical, mental health, and educational services where they are absent or in short supply. An underlying motivation for the project was the driving need to squelch the flood of dying rural hospitals.

In its fifteenth month of operation, the project is successfully providing health care and other services to real people in real need. Some of the specialty consultations connected are cardiology, rheumatology, neurology, urology, nephrology, and psychiatry. To date the project has seen 2,290 patients, and has saved six lives.⁶⁴

Major Problems with the Delivery System

In 1980, 14.7 percent of the state's population lived below 100 percent of the federal poverty level; the 1988 poverty rate was 18.3 percent. In rural Texas, the rate increased from 18.8 percent in 1980, to 22.8 percent in 1989. The percentage of rural residents below poverty is consistently higher than the percentage of urban Texans. In 1988, 22.8 percent of the rural population was below poverty, compared to 17.3 percent in urban counties.

The unemployment rate is higher in rural areas, registering 5.4 percent compared to 5.1 percent for urban areas in 1980, and 6.3 percent compared to 6.1 percent for urban areas in 1990.

That year approximately 89,685 Texans were considered in the labor force, but out of a job.

An estimated 17.6 percent of rural Texans, 579,811 persons have no health insurance. Among rural residents with incomes above poverty, 11.8 percent are uninsured. Rural residents are less likely than their urban counterparts to have private coverage. Approximately 66.8 percent of urban and 58.3 percent of rural residents carry this type of insurance coverage. Rural residents in general are slightly more likely to have government insurance, such as Medicaid or Medicare. Nine percent of rural and 6.4 percent of urban residents are covered by government insurance.

While 10.8 percent of the population is enrolled in the Medicaid program in rural areas, only 8.9 percent are enrolled in urban areas. The proportion of the population that is Medicaid eligible is higher in the lower Rio Grande Valley, other counties along the Texas - Mexico border, and in east Texas. These areas are generally experiencing higher poverty rates.⁶⁵

Health Professionals and Facilities Shortages

Rural Texas faces a worsening shortage for both health professionals and health facilities. As of August 31, 1991, only 13 of the 205 rural Texas counties were not designated by the federal government either as a Medically Underserved Areas (MUA), a Health Professional Shortage Area (HPSA), or as containing a Medically Underserved Population (MUP). Many counties have more than one of the designations.

One hundred counties and portions of 21 additional counties are designated as Primary Care Health Professional Shortage Areas (HPSAs). There are 224 MUA designations for Texas. This includes 171 total county populations and portions of 53 counties. Of the 224 MUA designations, 41 are in urban areas; 183 are in rural areas. One-hundred sixty-three of the 205 rural counties are wholly designated as MUAs. Another 18 are partially designated.⁶⁶

Published reports from the Texas Department of Health indicate that in 1989 approximately 15

percent of Texas' staffed hospital beds were located in rural counties. Of the 116 Texas hospitals that closed their doors permanently between 1980 and 1991 over one-half were rural.

Though rural counties have 18 percent of the state population, only 15 percent of Texas primary care doctors practice there. The biggest reason for this maldistribution is financial. Rural areas can support relatively few specialists, so most rural doctors are in primary care fields, general or family practice (GP/Fps) and pediatrics. More rarely, obstetrics and gynecology (OB/GYNS) or (less often) internal medicine. Primary care doctors as a group have lower average incomes than physicians in general, and rural doctors have lower incomes than urban doctors.⁶⁷

Of the 205 rural counties in the state, 18 had no physician in 1990. Twenty-five had no primary care physician, i.e., general/family practice, obstetrics/gynecology, pediatrics, internal medicine. An additional 22 rural counties had only one physician in 1990. The population-to-physician ratio varied from a low of 1,025:1 to a high of 12,918:1 in these counties. One hundred-six rural counties or 52 percent, had five or fewer physicians in 1990.

On average, rural physicians may care for twice as many patients as their urban counterparts. In rural Texas, there is one physician per 1,395 individuals. In urban areas of the state there is one doctor for every 684 individuals. Although rural Texans account for 18.4 percent of the population, only 9.9 percent of Texas physicians practice in rural counties.

Rural hospitals have significantly fewer RNs and distinctly lower RN-to-LVN ratios than their urban counterparts, reflecting a greater reliance on nurses with less training and lower salaries. The RN-to-LVN staffing ratio for rural hospitals in 1988 was one to one. For urban areas there were 2.9 RNs for every LVN on the hospital staff.

With so few health care providers and facilities, basic primary, preventive, and prenatal care is extremely difficult to access in rural Texas. Access to maternity services is an ongoing rural problem that can be particularly difficult for

Medicaid recipients. A study by a coalition of groups involved in children's health issues found that close to one-half of Texas counties lack either hospital obstetrical or hospital neonatal services; another 57 counties have no public source for prenatal care.⁶⁸ These problems, coupled with the increasing trend of physicians and facilities either not seeing or limiting the number of Medicaid patients served, are extremely troubling and frustrating to rural Texans.

Transportation

Time, distance, and transportation to care are major barriers for rural residents and for persons traveling or visiting in rural areas. Rural networks are often poor, public transportation is rare, and weather conditions may extend normal travel time or temporarily make travel impossible. For elderly and disabled persons, even short distance barriers may be difficult to overcome.

There is great need for a coordinated transportation program that can meet more of the health and human service transportation needs, many of which are not reasonably the responsibility of Medicaid, in rural Texas. This need was noted by the comptroller's 1991 performance audit, and led to the creation of the Governor's Health and Human Services Transportation and Planning Office.

RECOMMENDATIONS

Minority Health

1. Increase the number of minorities in the health care system by:

- Establishing a comprehensive, community-based social family services program using a cross-cultural approach.
- Expanding the number of counties (local health departments, hospital districts, and public clinics) using the Community Oriented Primary Care (COPC) model.
- Creatively developing and implementing methods of taking primary and preventive health care services into minority and underserved communities.
- Increasing the minority populations'

knowledge and use of publicly funded health and human services programs.

2. Reduce the incidence of preventable morbidity and mortality in minority populations and underserved areas by:

- Developing and implementing culturally sensitive-and-reading level appropriate educational campaigns about prevention, screening services, and life-style.
- Identifying and investigating disparities in health status among ethnic/minority populations and refugees.
- Developing and distributing more explicit anti-AIDS materials for public service, print and electronic media.

3. Increase the availability and accessibility of primary and preventive health care services for minority populations by:

- Placing primary and preventive health care clinics and providers in minority communities.
- Establishing clinic hours that are flexible and convenient for employed members of minority communities.

4. Improve birth outcomes by assuring all pregnant women access to an appropriate level of prenatal care by:

- Regionalizing perinatal services with the coordination of private and public resources to assure referral of high-risk pregnant women to an appropriate level of care.
- Maintaining and coordinating all state and federal programs delivering family assistance (AFDC) and perinatal care services to pregnant women and infants, and other state programs designed to assist the uninsured and underinsured.

5. Reduce the number of teenagers becoming pregnant by funding and encouraging the use of new and innovative pregnancy prevention programs including:

- Parent-child talk groups.
- Teen-to-teen talk sessions and mentoring.

6. Expand the role and duties of nurse practitioners, midwives, school nurses, and Early Periodic Screening Diagnosis and Treatment (EPSDT) program providers by:

- Providing nurse practitioners patient referral privileges.
- Encouraging nurse midwives to provide services in underserved areas.
- Permitting school nurses to give immunizations, and provide primary and preventive health care services through appropriate protocols.

7. Promote the use of community-based outreach programs in reducing violence, abusive, and neglectful behavior in minority and underserved communities by:

- Promoting school-based violence prevention and gun safety programs that are a part of the curriculum on a yearly and age appropriate basis.
- Developing family-centered outreach programs for abused children.
- Promoting and encouraging parenthood education classes.
- Promoting home health visitor programs for new and high-risk parents.
- Recognizing firearm injuries as a public health problem and establishing the regulatory authority for promulgating safety standards for firearms, addressing the problems of trigger locks, muzzle velocity, and visible indication as to whether the gun is loaded.
- Instituting controls on handguns including a waiting period for the purchase of any handgun and the registration of all handguns.

8. Improve the current health care system to reflect increased comprehensiveness in primary and preventive health care services, cultural sensitivity, and continuity of care by:

- Ensuring that screening programs provide follow-up for those with abnormal findings.
- Providing cultural sensitivity and language training to health care providers, care givers, and health and human services employees,

particularly those involved in direct service delivery.

9. Increase the number of minorities in health care professions by:

- Providing incentives to minority health and allied health professionals to provide services in minority communities.
- Encouraging medical schools to increase their recruitment efforts in minority and underserved communities.
- Developing and implementing special allied health programs for high school students in minority and underserved communities.

10. Increase the involvement of minorities in the development of health care systems, programs, and policies by:

- Building statewide networks and community coalitions to focus on primary and preventive health services.
- Encouraging public facilities in minority communities to sponsor health related programs and outreach services.
- Encouraging increased minority participation on health and human services task forces.

11. Expand and improve the Refugee Health Screening Program by:

- Increasing the amount of information gathered on refugees arriving at non-contract areas.
- Developing tracking mechanisms to track individuals from initial skin testing through to completion of therapy for tuberculosis infection.
- Improving methods and systems of getting tuberculosis infected refugees evaluated and placed in preventive therapy.

Border Health

1. Increase coordination and collaboration between the U.S. and Mexican health-related agencies by:

- Developing a five-year strategic plan to guide Texas and Mexico in establishing

priorities, designing interventions, and allocating resources relative to border health issues.

- Exploring mechanisms to facilitate bi-national health professions exchange programs.
- Encouraging the U.S. Congress to create a permanent U.S.-Mexico Health and Environmental Commission.

2. Design and implement programs that would increase the number of primary care physicians, dentists, nurses and allied health professionals along the Texas-Mexico border by:

- Recruiting at the high school level and providing incentives for staying in the border area after education is completed.
- Providing low costs loans, stipends, or grants with repayment possible by working in underserved border areas after graduation.
- Encouraging the legislature to provide state funding to supplement federal funding of Health Education Training Centers and Area Health Education Center grants.
- Encouraging the legislature to subsidize the development of nurse practitioner training programs in the Lower Rio Grande Valley.
- Encouraging the legislature to create family practice, internal medicine, pediatric, and gerontology residency programs on the Texas-Mexico border.
- Encouraging the legislature and the Texas Higher Education Coordinating Board to create and subsidize masters degree programs in nursing along the border.
- Developing a disproportionate share formula which deals with reimbursement for physicians, nurses, clinics, and primary care providers on the border.

3. Expand the availability of primary and preventive health care services along the Texas-Mexico border by:

- Encouraging learning opportunities and rewards for medical students who choose to become family practice physicians.
- Removing the limitations and expanding the roles of nurse practitioners, midwives, school nurses and EPSDT providers.

- Expanding the utilization of Medicaid and other health-related programs to ensure the maximum number of border residents receiving entitlements.
- Developing public transportation networks in areas not adequately served by mass transit programs.
- Expanding education and health care delivery through telecommunications.

4. Improve epidemiological data to better define the health profile of the population living on the Texas/Mexico border by:

- Developing an information clearinghouse.
- Treating sister communities along the border as single epidemiological units in terms of collecting and analyzing data.

5. Improve the environmental health status of the Texas-Mexico border by:

- Developing exchange programs for training and skills development between Texas and Mexican personnel in environmental, sanitation, and water utility agencies.
- Encouraging the legislature to pass legislation concerning illegal dumping along the Texas-Mexico border, especially in the *colonias*.
- Encouraging border counties to develop and enforce protective zoning laws in watershed areas and high-risk illegal dump sites.
- Encouraging the legislature to prioritize international agreements with Mexico to deal with environmental problems.

Rural Health

1. Design and implement programs that would increase the number of primary care providers and allied health professionals by:

- Encouraging physicians, nurses, and allied health professionals to practice in rural areas by enacting loan repayment programs and supporting rural education programs.
- Continuing to adequately fund expansion of primary care and rotation programs, medical school clerkship programs, state

scholarships, and loan repayment programs.

- Expanding the exposure of physicians in residency to rural practice by funding demonstration projects and additional off-site rotations.
- Supporting and expanding the development of a coordinated state and local emergency medical services systems and networks.

2. Expand the availability of primary and preventive health care services in rural Texas by:

- Encouraging the legislature to create a new program to provide state funds to match local community funds used to pay for physician relocation and start-up costs.
- Considering additional means of assisting providers in rural and underserved areas such as allowing supplemental payments.
- Assisting rural areas in establishing rural health clinics.
- Adjusting the hours of community and public health clinics to include evening and weekend hours.
- Expanding education and health care delivery through telecommunications.
- Encouraging the legislature to restructure the County Indigent Health Care Program to maximize the use of funds available to the counties and increase services provided.
- Encouraging the legislature to give communities the authority to create local health districts with taxing authority to support health facilities and services.

3. Texas medical schools and the legislature should increase the number of primary care physicians practicing in rural and other underserved areas by:

- Increasing exposure of all medical students to comprehensive community health settings by requiring rotation to community clinics during training.
- Using performance-based audit factors, such as the number of graduates placed in rural

practice, as a measure for further funding of medical schools.

- Promoting professional educational activities and continuing education that includes clinical prevention protocols to improve physician participation in clinical preventive services.
- Examining initiation of a state-level health service corps modeled after the National Health Service Corps (NHSC) for primary care physicians who agree to serve in underserved areas, and examining the revision of the NHSC matching process.
- Recruiting more minority medical school students and persons from rural areas, especially bilingual persons.

4. Texas schools of nursing and allied health professions should educate more non-physician primary care providers and increase their availability in underserved areas by:

- Increasing funding for nurse education.
- Expanding programs for training nurses, nurse practitioners, physician assistants and other allied health professionals, with an emphasis on education for practice in community and rural settings.
- Developing weekend and evening educational programs to accommodate working students.
- Establishing loan programs and loan forgiveness for those serving in designated medically underserved areas.
- Providing incentives (loan repayment, etc.) for nurses, nurse practitioners, and other mid-level primary care professionals to work in community settings and underserved areas.
- Encouraging bilingual individuals to enter allied health care professions.
- Recruiting students from medically underserved regions and communities.
- Assisting communities in locating and recruiting primary care health professionals.

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**APPENDIX
TO
1993-94 TEXAS STATE HEALTH PLAN**

1993-94 TEXAS STATE HEALTH PLAN
SUMMARY OF RECOMMENDATIONS FROM
ELEVEN FOCUS MEETINGS

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
<p>Lack of prevention programs</p>	<p><u>Strengthen disease prevention measures:</u></p> <ul style="list-style-type: none"> ● Ban smoking in all public and state buildings ● Make cancer screening and prenatal care available to all women ● Fluoridate drinking water throughout state ● Increase immunization measures between state, regional, and county health departments <ul style="list-style-type: none"> ● Enforce laws banning sale of alcohol and tobacco to minors ● Track high risk children ● Educate public about AIDS transmission ● Create a comprehensive, coordinated primary care system
	<p><u>Institute changes in public school education:</u></p> <ul style="list-style-type: none"> ● Begin health and behavior education in kindergarten and include all grades ● Teach abstinence and delay, rather than "safe sex" <ul style="list-style-type: none"> ● Include AIDS and sexually transmitted disease prevention ● Test all students entering school for the first time for tuberculosis
	<p><u>Protect children from abuse and neglect:</u></p> <ul style="list-style-type: none"> ● Redefine what actions constitute child abuse and neglect ● Reexamine laws and practices that protect the rights of abusive parents <ul style="list-style-type: none"> ● Enforce penalties and supervision of families in crisis
	<p><u>Expand public health promotion:</u></p> <ul style="list-style-type: none"> ● Fund pilot studies to determine what works in public education ● Provide more health fairs for screening and referral ● Provide more health care information in the Yellow Pages ● Conduct education campaigns in the work place ● Increase counselling and family planning <ul style="list-style-type: none"> ● Disseminate more literature in stores, satellite clinics, mobile units and primary health clinics ● Increase media coverage of health care information ● Provide incentives, tax credits, and insurance premium discounts for adopting healthy lifestyles
<p>Medicaid</p>	<p><u>Expand Medicaid eligibility and coverage to include:</u></p> <ul style="list-style-type: none"> ● Preventive and primary care ● Nutritional services ● Nurse practitioner's services <ul style="list-style-type: none"> ● Durable medical equipment ● Case management ● Allied health professionals

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
	<p><u>Raise the reimbursement rate for:</u></p> <ul style="list-style-type: none"> ● Primary care providers ● EPSDT services ● Hospitals <ul style="list-style-type: none"> ● Rural health care physicians ● Prenatal care
	<p><u>Maximize federal matching funds by:</u></p> <ul style="list-style-type: none"> ● Implementing the Comptroller's suggestions <ul style="list-style-type: none"> ● Developing a method to use local indigent care money
	<p><u>Eliminate barriers to services by:</u></p> <ul style="list-style-type: none"> ● Eliminating the asset test for children ● Increasing eligibility to get people to primary care earlier ● Developing bilingual health forms ● Providing a designated primary care physician for Medicaid recipients ● Assigning a primary care physician for Medicaid recipients ● Initiating a pilot project to develop and test a computer based integrated eligibility system <ul style="list-style-type: none"> ● Expanding the number of eligibility workers in hospitals and clinics ● Eliminating paperwork ● Simplifying rules and regulations ● Reforming the vendor payment system to include more practitioners ● Address the issue of liability, especially topics such as tort reform, and the excess number of lawsuits
	<p><u>Increase physician participation in Medicaid:</u></p> <ul style="list-style-type: none"> ● Work on attitudes in Medical schools <ul style="list-style-type: none"> ● Work with practicing physicians
<p>Resources</p> <p><i>health care professionals</i></p>	<p><u>Relieve health care professional shortages in rural and other underserved areas:</u></p> <ul style="list-style-type: none"> ● Establish programs to attract nurse practitioners to Texas ● Enlarge the allied health care classes ● Recruit persons from rural areas, bilingual students and minorities for medical, nursing, and allied health careers <ul style="list-style-type: none"> ● Establish a loan payback program for dentists ● Address border health care problems

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
	<p><u>Increase the number of family physicians:</u></p> <ul style="list-style-type: none"> ● Continue mandatory third year family practice rotation ● Assist institutions which provide residency programs ● Require medical students to do community service in underserved communities ● Expand and reform loan payback programs ● Use performance-based audit items, such as the number of graduates placed in rural areas, as a measure for future funding of medical schools <ul style="list-style-type: none"> ● Strengthen and increase slots in primary care residency slots ● Increase the number of residency programs, especially family practice ● Assist physicians in rural and underserved areas in repaying student loans ● Initiate a study to determine why medical schools are not providing more family practice physicians
	<p><u>Increase the number of physicians practicing in rural and other underserved areas:</u></p> <ul style="list-style-type: none"> ● Fund third year rural training rotation of medical students ● Provide optional residency preceptorships in Texas ● Pay stipends to rural physicians to work with medical students <ul style="list-style-type: none"> ● Use performance-based audit items to fund medical schools ● Get medical students into rural settings to train, rather than all together in large teaching hospitals ● Expand National Health Service Corps and tie state-paid medical education to rural service
	<p><u>Train more nurses:</u></p> <ul style="list-style-type: none"> ● Develop additional clinical slots ● Provide incentives to colleges and universities for expanding their programs ● Increase faculty salaries <ul style="list-style-type: none"> ● Lobby for additional funding for nurse training ● Allowing schools to place more than two students per supervisor ● Remove masters degree requirement for faculty
	<p><u>Expand role of the school nurse:</u></p> <ul style="list-style-type: none"> ● Mandate 1/1000 ratio for school nurses to students <ul style="list-style-type: none"> ● Permit school nurses to initiate health histories, and perform blood pressures, vitamins, referrals, immunizations
	<p><u>Expand the authority and use of other health professionals:</u></p> <ul style="list-style-type: none"> ● Nurse practitioners ● Certified nurse midwives (especially in rural areas) <ul style="list-style-type: none"> ● Physician's assistants ● Pharmacists

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
<p><i>health care facilities</i></p>	<p><u>Make preventive and primary care facilities available in rural and underserved areas:</u></p> <ul style="list-style-type: none"> ● Utilize mobile clinics ● Establish step-down hospital units ● Develop regional clinics which qualify for federal assistance ● Initiate demonstration projects of medical school-based community clinics ● Schedule evening and weekend hours at public health clinics ● Establish more rural health clinics <ul style="list-style-type: none"> ● Co-location of state agencies ● Place public minor emergency, public health and neighborhood clinics in communities ● Remove bureaucracy to start up community health clinics ● Provide transportation to public health clinics ● Provide for additional diabetes staff at community health centers and local health departments ● Consolidate public health clinics
	<p><u>Use the schools as a health intervention point for community:</u></p> <ul style="list-style-type: none"> ● Serve as a community health resource after hours ● Provide Medicaid eligibility screening <ul style="list-style-type: none"> ● Provide immunization, screening, well-baby care, and routine primary care ● Require a School Health Specialist for each district to teach preventive health care education
<p><i>public health services</i></p>	<p><u>Develop regional plans for public health services to meet special needs of the area:</u></p> <ul style="list-style-type: none"> ● Develop a public health department for all populations of 100,000 - 150,000 ● Change federal law to allow local departments to provide primary care ● Provide funding for local "umbrella" planning <ul style="list-style-type: none"> ● Expand local health departments services and hours
	<p><u>Improve access to public services:</u></p> <ul style="list-style-type: none"> ● Provide one screening enrollment process for patients ● Develop a computer system for eligibility determinations ● Develop a statewide system for information and referral ● Develop one standardized admission form for health care ● Change federal law to allow health departments to provide primary care <ul style="list-style-type: none"> ● Mandate common eligibility rules and remove agency discretion ● Utilize more volunteers ● Use Universal Access Card ● Drop fees for immunizations

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
	<p><u>Ensure trauma care:</u></p> <ul style="list-style-type: none"> ● Develop a statewide trauma system ● Increase fines for DEI and using funds for trauma care <p>● Provide funds for TETAC system</p> <p>● Increase revenues to fund trauma care and gunshot victims by taxing ammunition and hand guns</p> <hr/> <p><u>Continue WIC and MIHIA programs, and Improve MIHIA by:</u></p> <ul style="list-style-type: none"> ● Allow local communities to determine priorities for women and children <p>● Raise reimbursement rates to recruit more providers</p>
Elderly	<p><u>Develop a comprehensive health care system for quality long term care:</u></p> <ul style="list-style-type: none"> ● Use more case management services ● Make greater use of volunteers and churches in planning ● Provide respite services for care-givers ● Develop more local ombudsman programs <p>● Use Medicaid for community long term care services</p> <p>● Provide day care centers to prevent depression in the elderly communities</p> <p>● Provide housing for disabled with opportunity for shared attendant care</p>
Policy and research	<p><u>Improve research:</u></p> <ul style="list-style-type: none"> ● Provide more funds ● Listing research by behavior rather than skin colors <p>● Research more women's health issues</p> <hr/> <p><u>Increase duties of Statewide Health Coordinating Council:</u></p> <ul style="list-style-type: none"> ● Allocate membership according to region ● Address minority health care needs in the next health plan <p>● Act as clearinghouse to prevent duplication and insure coordination</p> <p>● Support universal access to health care and changes in current system</p> <hr/> <p><u>Reform health public policy:</u></p> <ul style="list-style-type: none"> ● Address the right to health care for all and what level of care ● Reform pharmacy and prescription drug system <p>● Support the American Nurses Association plan, "Nursing Agenda for Health Reform"</p> <p>● Implement an "umbrella" health planning system</p> <p>● Increase funding</p>

SUMMARY OF COMMENTS FROM THE ELEVEN REGIONAL FOCUS MEETINGS

MAJOR PROBLEM	SUGGESTIONS AND COMMENTS
<p align="center">Financing health care</p>	<p><u>Institute changes in the private health insurance system:</u></p> <ul style="list-style-type: none"> ● Mandate coverage of primary and preventive care ● Provide business with incentives for providing health insurance for employees ● Provide tax incentives and special privileges for private insurance companies for underwriting small businesses ● Require coverage of cognitive services and pharmacists ● Prohibit companies from restricting coverage by illness AIDS ● Guard against fraudulent health policies and practices by insurance companies

Prepared by: Bureau of Health Data and Policy Analysis, Texas Department of Health

RECOMMENDATIONS, U.S. PREVENTIVE SERVICES TASK FORCE

Source: U.S., Department of Health and Human Services, *Healthy People 2000: The National Health Promotion and Disease Prevention Objectives*, DHHS Publication No. (PHS) 91-50212, Washington, D.C., Appendix E.

<p>Table 1. Birth to 18 Months Schedule: 2, 4, 6, 15, 18 Months*</p>		<p>Leading Causes of Death: Conditions originating in perinatal period Congenital anomalies Heart disease Injuries (nonmotor vehicle) Pneumonia/influenza</p>
<p>SCREENING</p> <p>Height and weight Hemoglobin and hematocrit¹ <i>HIGH-RISK GROUPS</i> Hearing² (HR1) Erythrocyte protoporphyrin (HR2)</p> <hr/> <p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <ul style="list-style-type: none"> Developmental disorders Musculoskeletal malformations Cardiac anomalies Genitourinary disorders Metabolic disorders Speech problems Behavioral disorders Parent/family dysfunction 	<p>PARENT COUNSELING</p> <p>Diet Breastfeeding Nutrient intake, especially iron-rich foods</p> <p>Injury Prevention Child safety seats Smoke detector Hot water heater temperature Stairway gates, window guards, pool fence Storage of drugs and toxic chemicals Syrup of ipecac, poison control telephone number</p> <p>Dental Health Baby bottle tooth decay</p> <p>Other Primary Preventive Measures Effects of passive smoking</p>	<p>IMMUNIZATIONS & CHEMOPROPHYLAXIS</p> <p>Diphtheria-tetanus-pertussis (DTP) vaccine³ Oral poliovirus vaccine (OPV)⁴ Measles-mumps-rubella (MMR) vaccine⁵ <i>Haemophilus influenzae</i> type b (Hib) conjugate vaccine⁶ <i>HIGH-RISK GROUPS</i> Fluoride supplements (HR3)</p> <p>FIRST WEEK Ophthalmic antibiotics⁷ Hemoglobin electrophoresis (HR4)⁷ T4/TSH⁸ Phenylalanine⁸ Hearing (HR1)</p> <p>Remain Alert For: Ocular misalignment Tooth decay Signs of child abuse or neglect</p>
<p>*Five visits are required for immunizations. Because of lack of data and differing patient risk profiles, the scheduling of additional visits and the frequency of the individual preventive services listed in this table are left to clinical discretion (except as indicated in other footnotes).</p>		

1. Once during infancy. 2. At age 18-month visit, if not tested earlier. 3. At ages 2, 4, 6, and 15 months. 4. At ages 2, 4, and 15 months. 5. At age 15 months. 6. At age 18 months. 7. At birth. 8. Days 3 to 6 preferred for testing.

Healthy People 2000

Table 1. Birth to 18 Months

High-Risk Categories

HR1 Infants with a family history of childhood hearing impairment or a personal history of congenital perinatal infection with herpes, syphilis, rubella, cytomegalovirus, or toxoplasmosis; malformations involving the head or neck (e.g., dysmorphic and syndromal abnormalities, cleft palate, abnormal pinna); birthweight below 1500 g; bacterial meningitis; hyperbilirubinemia requiring exchange transfusion; or severe perinatal asphyxia (Apgar scores of 0–3, absence of spontaneous respirations for 10 minutes, or hypotonia at 2 hours of age).

HR2 Infants who live in or frequently visit housing built before 1950 that is dilapidated or undergoing renovation; who come in contact with other children with known lead toxicity; who live near lead processing plants or whose parents or household members work in a lead-related occupation; or who live near busy highways or hazardous waste sites.

HR3 Infants living in areas with inadequate water fluoridation (less than 0.7 parts per million).

HR4 Newborns of Caribbean, Latin American, Asian, Mediterranean, or African descent.

<p>Table 2. Ages 2–6 Schedule: See Footnote*</p>		<p>Leading Causes of Death: Injuries (nonmotor vehicle) Motor vehicle crashes Congenital anomalies Homicide Heart disease</p>
<p>SCREENING</p> <p>Height and weight Blood pressure Eye exam for amblyopia and strabismus¹ Urinalysis for bacteriuria <i>HIGH-RISK GROUPS</i> Erythrocyte protoporphyrin² (HR1) Tuberculin skin test (PPD) (HR2) Hearing³ (HR3)</p>	<p>PATIENT & PARENT COUNSELING</p> <p>Diet and Exercise Sweets and between-meal snacks, iron-enriched foods, sodium Caloric balance Selection of exercise program</p> <p>Injury Prevention Safety belts Smoke detector Hot water heater temperature Window guards and pool fence Bicycle safety helmets Storage of drugs, toxic chemicals, matches, and firearms Syrup of ipecac, poison control telephone number</p> <p>Dental Health Tooth brushing and dental visits</p>	<p>IMMUNIZATIONS & CHEMOPROPHYLAXIS</p> <p>Diphtheria-tetanus-pertussis (DTP) vaccine⁴ Oral poliovirus vaccine (OPV)⁴ <i>HIGH-RISK GROUPS</i> Fluoride supplements (HR5)</p>
<p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <ul style="list-style-type: none"> Developmental disorders Speech problems Behavioral and learning disorders Parent/family dysfunction 	<p>Other Primary Preventive Measures Effects of passive smoking <i>HIGH-RISK GROUPS</i> Skin protection from ultraviolet light (HR4)</p>	
		<p>Remain Alert For: Vision disorders Dental decay, malalignment, premature loss of teeth, mouth breathing Signs of child abuse or neglect Abnormal bereavement</p>
<p>*One visit is required for immunizations. Because of lack of data and differing patient risk profiles, the scheduling of additional visits and the frequency of the individual preventive services listed in this table are left to clinical discretion (except as indicated in other footnotes).</p>		

1. Ages 3–4. 2. Annually. 3. Before age 3, if not tested earlier. 4. Once between ages 4 and 6.

Table 2. Ages 2-6

High-Risk Categories

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- HR1** Children who live in or frequently visit housing built before 1950 that is dilapidated or undergoing renovation; who come in contact with other children with known lead toxicity; who live near lead processing plants or whose parents or household members work in a lead-related occupation; or who live near busy highways or hazardous waste sites.
- HR2** Household members of persons with tuberculosis or others at risk for close contact with the disease; recent immigrants or refugees from countries in which tuberculosis is common (e.g., Asia, Africa, Central and South America, Pacific Islands); family members of migrant workers; residents of homeless shelters; or persons with certain underlying medical disorders.
- HR3** Children with a family history of childhood hearing impairment or a personal history of congenital perinatal infection with herpes, syphilis, rubella, cytomegalovirus, or toxoplasmosis; malformations involving the head or neck (e.g., dysmorphic and syndromal abnormalities, cleft palate, abnormal pinna); birthweight below 1500 g; bacterial meningitis; hyperbilirubinemia requiring exchange transfusion; or severe perinatal asphyxia (Apgar scores of 0-3, absence of spontaneous respirations for 10 minutes, or hypotonia at 2 hours of age).
- HR4** Children with increased exposure to sunlight.
- HR5** Children living in areas with inadequate water fluoridation (less than 0.7 parts per million).

<p>Table 3. Ages 7–12 Schedule: See Footnote*</p>		<p>Leading Causes of Death: Motor vehicle crashes Injuries (nonmotor vehicle) Congenital anomalies Leukemia Homicide Heart disease</p>
<p>SCREENING</p> <p>Height and weight Blood pressure <i>HIGH-RISK GROUPS</i> Tuberculin skin test (PPD) (HR1)</p>	<p>PATIENT & PARENT COUNSELING</p> <p>Diet and Exercise Fat (especially saturated fat), cholesterol, sweets and between-meal snacks, sodium Caloric balance Selection of exercise program</p> <p>Injury Prevention Safety belts Smoke detector Storage of firearms, drugs, toxic chemicals, matches Bicycle safety helmets</p> <p>Dental Health Regular tooth brushing and dental visits</p> <p>Other Primary Preventive Measures <i>HIGH-RISK GROUPS</i> Skin protection from ultraviolet light (HR2)</p>	<p>CHEMOPROPHYLAXIS</p> <p><i>HIGH-RISK GROUPS</i> Fluoride supplements (HR3)</p>
<p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <ul style="list-style-type: none"> Developmental disorders Scoliosis Behavioral and learning disorders Parent/family dysfunction 		
		<p>Remain Alert For: Vision disorders Diminished hearing Dental decay, malalignment, mouth breathing Signs of child abuse or neglect Abnormal bereavement</p>
<p>*Because of lack of data and differing patient risk profiles, the scheduling of visits and the frequency of the individual preventive services listed in this table are left to clinical discretion.</p>		

Healthy People 2000

Table 3. Ages 7-12

High-Risk Categories

HR1 Household members of persons with tuberculosis or others at risk for close contact with the disease; recent immigrants or refugees from countries in which tuberculosis is common (e.g., Asia, Africa, Central and South America, Pacific Islands); family members of migrant workers;

residents of homeless shelters; or persons with certain underlying medical disorders.

HR2 Children with increased exposure to sunlight.

HR3 Children living in areas with inadequate water fluoridation (less than 0.7 parts per million).

<p>Table 4. Ages 13–18 Schedule: See Footnote*</p>		<p>Leading Causes of Death: Motor vehicle crashes Homicide Suicide Injuries (nonmotor vehicle) Heart disease</p>
<p>SCREENING</p> <p>History Dietary intake Physical activity Tobacco/alcohol/drug use Sexual practices</p> <p>Physical Exam Height and weight Blood pressure <i>HIGH-RISK GROUPS</i> Complete skin exam (HR1) Clinical testicular exam (HR2)</p> <p>Laboratory/Diagnostic Procedures <i>HIGH-RISK GROUPS</i> Rubella antibodies (HR3) VDRL/RPR (HR4) Chlamydial testing (HR5) Gonorrhea culture (HR6) Counseling and testing for HIV (HR7) Tuberculin skin test (PPD) (HR8) Hearing (HR9) Papanicolaou smear (HR10)¹</p>	<p>COUNSELING</p> <p>Diet and Exercise Fat (especially saturated fat), cholesterol, sodium, iron,² calcium² Caloric balance Selection of exercise program</p> <p>Substance Use Tobacco: cessation/primary prevention Alcohol and other drugs: cessation/primary prevention Driving/other dangerous activities while under the influence Treatment for abuse <i>HIGH-RISK GROUPS</i> Sharing/using unsterilized needles and syringes (HR12)</p> <p>Sexual Practices Sexual development and behavior³ Sexually transmitted diseases: partner selection, condoms Unintended pregnancy and contraceptive options</p> <p>Injury Prevention Safety belts Safety helmets Violent behavior⁴ Firearms⁴ Smoke detector</p> <p>Dental Health Regular tooth brushing, flossing, dental visits</p> <p>Other Primary Preventive Measures <i>HIGH-RISK GROUPS</i> Discussion of hemoglobin testing (HR13) Skin protection from ultraviolet light (HR14)</p>	<p>IMMUNIZATIONS & CHEMOPROPHYLAXIS</p> <p>Tetanus-diphtheria (Td) booster⁵ <i>HIGH-RISK GROUPS</i> Fluoride supplements (HR15)</p> <hr/> <p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include: Developmental disorders Scoliosis Behavioral and learning disorders Parent/family dysfunction</p> <hr/> <p>Remain Alert For: Depressive symptoms Suicide risk factors (HR11) Abnormal bereavement Tooth decay, malalignment, gingivitis Signs of child abuse and neglect.</p>
<p>*One visit is required for immunizations. Because of lack of data and differing patient risk profiles, the scheduling of additional visits and the frequency of the individual preventive services listed in this table are left to clinical discretion (except as indicated in other footnotes).</p>		

1. Every 1–3 years. 2. For females. 3. Often best performed early in adolescence and with the involvement of parents. 4. Especially for males. 5. Once between ages 14 and 16.

Healthy People 2000**Table 4. Ages 13–18****High-Risk Categories**

- HR1** Persons with increased recreational or occupational exposure to sunlight, a family or personal history of skin cancer, or clinical evidence of precursor lesions (e.g., dysplastic nevi, certain congenital nevi).
- HR2** Males with a history of cryptorchidism, orchiopexy, or testicular atrophy.
- HR3** Females of childbearing age lacking evidence of immunity.
- HR4** Persons who engage in sex with multiple partners in areas in which syphilis is prevalent, prostitutes, or contacts of persons with active syphilis.
- HR5** Persons who attend clinics for sexually transmitted diseases; attend other high-risk health care facilities (e.g., adolescent and family planning clinics); or have other risk factors for chlamydial infection (e.g., multiple sexual partners or a sexual partner with multiple sexual contacts).
- HR6** Persons with multiple sexual partners or a sexual partner with multiple contacts, sexual contacts of persons with culture-proven gonorrhea, or persons with a history of repeated episodes of gonorrhea.
- HR7** Persons seeking treatment for sexually transmitted diseases; homosexual and bisexual men; past or present intravenous (IV) drug users; persons with a history of prostitution or multiple sexual partners; women whose past or present sexual partners were HIV-infected, bisexual, or IV drug users; persons with long-term residence or birth in an area with high prevalence of HIV infection; or persons with a history of transfusion between 1978 and 1985.
- HR8** Household members of persons with tuberculosis or others at risk for close contact with the disease; recent immigrants or refugees from countries in which tuberculosis is common (e.g., Asia, Africa, Central and South America, Pacific Islands); migrant workers; residents of correctional institutions or homeless shelters; or persons with certain underlying medical disorders.
- HR9** Persons exposed regularly to excessive noise in recreational or other settings.
- HR10** Females who are sexually active or (if the sexual history is thought to be unreliable) aged 18 or older.
- HR11** Recent divorce, separation, unemployment, depression, alcohol or other drug abuse, serious medical illnesses, living alone, or recent bereavement.
- HR12** Intravenous drug users.
- HR13** Persons of Caribbean, Latin American, Asian, Mediterranean, or African descent.
- HR14** Persons with increased exposure to sunlight.
- HR15** Persons living in areas with inadequate water fluoridation (less than 0.7 parts per million).

Table 5.
Ages 19–39
Schedule: Every 1–3 Years*

Leading Causes of Death:

Motor vehicle crashes
Homicide
Suicide
Injuries (nonmotor vehicle)
Heart disease

SCREENING	COUNSELING	IMMUNIZATIONS
<p>History Dietary intake Physical activity Tobacco/alcohol/drug use Sexual practices</p> <p>Physical Exam Height and weight Blood pressure <i>HIGH-RISK GROUPS</i> Complete oral cavity exam (HR1) Palpation for thyroid nodules (HR2) Clinical breast exam (HR3) Clinical testicular exam (HR4) Complete skin exam (HR5)</p> <p>Laboratory/Diagnostic Procedures Nonfasting total blood cholesterol Papanicolaou smear¹ <i>HIGH-RISK GROUPS</i> Fasting plasma glucose (HR6) Rubella antibodies (HR7) VDRL/RPR (HR8) Urinalysis for bacteriuria (HR9) Chlamydial testing (HR10) Gonorrhea culture (HR11) Counseling and testing for HIV (HR12) Hearing (HR13) Tuberculin skin test (PPD) (HR14) Electrocardiogram (HR15) Mammogram (HR3) Colonoscopy (HR16)</p>	<p>Diet and Exercise Fat (especially saturated fat), cholesterol, complex carbohydrates, fiber, sodium, iron², calcium² Caloric balance Selection of exercise program</p> <p>Substance Use Tobacco: cessation/primary prevention Alcohol and other drugs: Limiting alcohol consumption Driving/other dangerous activities while under the influence Treatment for abuse <i>HIGH-RISK GROUPS</i> Sharing/using unsterilized needles and syringes (HR18)</p> <p>Sexual Practices Sexually transmitted diseases: partner selection, condoms, anal intercourse Unintended pregnancy and contraceptive options</p> <p>Injury Prevention Safety belts Safety helmets Violent behavior³ Firearms³ Smoke detector Smoking near bedding or upholstery <i>HIGH-RISK GROUPS</i> Back-conditioning exercises (HR19) Prevention of childhood injuries (HR20) Falls in the elderly (HR21)</p> <p>Dental Health Regular tooth brushing, flossing, dental visits</p> <p>Other Primary Preventive Measures <i>HIGH-RISK GROUPS</i> Discussion of hemoglobin testing (HR22) Skin protection from ultraviolet light (HR23)</p>	<p>Tetanus-diphtheria (Td) booster⁴ <i>HIGH-RISK GROUPS</i> Hepatitis B vaccine (HR24) Pneumococcal vaccine (HR25) Influenza vaccine⁵ (HR26) Measles-mumps-rubella vaccine (HR27)</p> <hr/> <p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <ul style="list-style-type: none"> Chronic obstructive pulmonary disease Hepatobiliary disease Bladder cancer Endometrial disease Travel-related illness Prescription drug abuse Occupational illness and injuries <hr/> <p>Remain Alert For: Depressive symptoms Suicide risk factors (HR17) Abnormal bereavement Malignant skin lesions Tooth decay, gingivitis Signs of physical abuse</p>

*The recommended schedule applies only to the periodic visit itself. The frequency of the individual preventive services listed in this table is left to clinical discretion, except as indicated in other footnotes.

1. Every 1–3 years. 2. For women. 3. Especially for young males. 4. Every 10 years. 5. Annually.

Healthy People 2000

Table 5. Ages 19–39

High-Risk Categories

- HR1** Persons with exposure to tobacco or excessive amounts of alcohol, or those with suspicious symptoms or lesions detected through self-examination.
- HR2** Persons with a history of upper-body irradiation.
- HR3** Women aged 35 and older with a family history of premenopausally diagnosed breast cancer in a first-degree relative.
- HR4** Men with a history of cryptorchidism, orchiopexy, or testicular atrophy.
- HR5** Persons with family or personal history of skin cancer, increased occupational or recreational exposure to sunlight, or clinical evidence of precursor lesions (e.g., dysplastic nevi, certain congenital nevi).
- HR6** The markedly obese, persons with a family history of diabetes, or women with a history of gestational diabetes.
- HR7** Women lacking evidence of immunity.
- HR8** Prostitutes, persons who engage in sex with multiple partners in areas in which syphilis is prevalent, or contacts of persons with active syphilis.
- HR9** Persons with diabetes.
- HR10** Persons who attend clinics for sexually transmitted diseases; attend other high-risk health care facilities (e.g., adolescent and family planning clinics); or have other risk factors for chlamydial infection (e.g., multiple sexual partners or a sexual partner with multiple sexual contacts, age less than 20).
- HR11** Prostitutes, persons with multiple sexual partners or a sexual partner with multiple contacts, sexual contacts of persons with culture-proven gonorrhea, or persons with a history of repeated episodes of gonorrhea.
- HR12** Persons seeking treatment for sexually transmitted diseases; homosexual and bisexual men; past or present intravenous (IV) drug users; persons with a history of prostitution or multiple sexual partners; women whose past or present sexual partners were HIV-infected, bisexual, or IV drug users; persons with long-term residence or birth in an area with high prevalence of HIV infection; or persons with a history of transfusion between 1978 and 1985.
- HR13** Persons exposed regularly to excessive noise.
- HR14** Household members of persons with tuberculosis or others at risk for close contact with the disease (e.g., staff of tuberculosis clinics, shelters for the homeless, nursing homes, substance abuse treatment facilities, dialysis units, correctional institutions); recent immigrants or refugees from countries in which tuberculosis is common; migrant workers; residents of nursing homes, correctional institutions, or homeless shelters; or persons with certain underlying medical disorders (e.g., HIV infection).
- HR15** Men who would endanger public safety were they to experience sudden cardiac events (e.g., commercial airline pilots).
- HR16** Persons with a family history of familial polyposis coli or cancer family syndrome.
- HR17** Recent divorce, separation, unemployment, depression, alcohol or other drug abuse, serious medical illnesses, living alone, or recent bereavement.
- HR18** Intravenous drug users.
- HR19** Persons at increased risk for low back injury because of past history, body configuration, or type of activities.
- HR20** Persons with children in the home or automobile.
- HR21** Persons with older adults in the home.
- HR22** Young adults of Caribbean, Latin American, Asian, Mediterranean, or African descent.
- HR23** Persons with increased exposure to sunlight.
- HR24** Homosexually active men, intravenous drug users, recipients of some blood products, or persons in health-related jobs with frequent exposure to blood or blood products.
- HR25** Persons with medical conditions that increase the risk of pneumococcal infection (e.g., chronic cardiac or pulmonary disease, sickle cell disease, nephrotic syndrome, Hodgkin's disease, asplenia, diabetes mellitus, alcoholism, cirrhosis, multiple myeloma, renal disease, or conditions associated with immunosuppression).
- HR26** Residents of chronic care facilities or persons suffering from chronic cardiopulmonary disorders, metabolic diseases (including diabetes mellitus), hemoglobinopathies, immunosuppression, or renal dysfunction.
- HR27** Persons born after 1956 who lack evidence of immunity to measles (receipt of live vaccine on or after first birthday, laboratory evidence of immunity, or a history of physician-diagnosed measles).

Table 6.

Ages 40–64

Schedule: Every 1–3 Years*

Leading Causes of Death:

- Heart disease
- Lung cancer
- Cerebrovascular disease
- Breast cancer
- Colorectal cancer
- Obstructive lung disease

SCREENING	COUNSELING	IMMUNIZATIONS
<p>History Dietary intake Physical activity Tobacco/alcohol/drug use Sexual practices</p> <p>Physical Exam Height and weight Blood pressure Clinical breast exam¹ <i>HIGH-RISK GROUPS</i> Complete skin exam (HR1) Complete oral cavity exam (HR2) Palpation for thyroid nodules (HR3) Auscultation for carotid bruits (HR4)</p> <p>Laboratory/Diagnostic Procedures Nonfasting total blood cholesterol Papanicolaou smear² Mammogram³ <i>HIGH-RISK GROUPS</i> Fasting plasma glucose (HR5) VDRL/RPR (HR6) Urinalysis for bacteriuria (HR7) Chlamydial testing (HR8) Gonorrhea culture (HR9) Counseling and testing for HIV (HR10) Tuberculin skin test (PPD) (HR11) Hearing (HR12) Electrocardiogram (HR13) Fecal occult blood/sigmoidoscopy (HR14) Fecal occult blood/colonoscopy (HR15) Bone mineral content (HR16)</p>	<p>Diet and Exercise Fat (especially saturated fat), cholesterol, complex carbohydrates, fiber, sodium, calcium⁴ Caloric balance Selection of exercise program</p> <p>Substance Use Tobacco cessation Alcohol and other drugs: Limiting alcohol consumption Driving/other dangerous activities while under the influence Treatment for abuse <i>HIGH-RISK GROUPS</i> Sharing/using unsterilized needles and syringes (HR19)</p> <p>Sexual Practices Sexually transmitted diseases; partner selection, condoms, anal intercourse Unintended pregnancy and contraceptive options</p> <p>Injury Prevention Safety belts Safety helmets Smoke detector Smoking near bedding or upholstery <i>HIGH-RISK GROUPS</i> Back-conditioning exercises (HR20) Prevention of childhood injuries (HR21) Falls in the elderly (HR22)</p> <p>Dental Health Regular tooth brushing, flossing, and dental visits</p> <p>Other Primary Preventive Measures <i>HIGH-RISK GROUPS</i> Skin protection from ultraviolet light (HR23) Discussion of aspirin therapy (HR24) Discussion of estrogen replacement therapy (HR25)</p>	<p>Tetanus-diphtheria (Td) booster⁵ <i>HIGH-RISK GROUPS</i> Hepatitis B vaccine (HR26) Pneumococcal vaccine (HR27) Influenza vaccine (HR28)⁶</p> <p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include: Chronic obstructive pulmonary disease Hepatobiliary disease Bladder cancer Endometrial disease Travel-related illness Prescription drug abuse Occupational illness and injuries</p> <p>Remain Alert For: Depressive symptoms Suicide risk factors (HR17) Abnormal bereavement Signs of physical abuse or neglect Malignant skin lesions Peripheral arterial disease (HR18) Tooth decay, gingivitis, loose teeth</p>

*The recommended schedule applies only to the periodic visit itself. The frequency of the individual preventive services listed in this table is left to clinical discretion, except as indicated in other footnotes.

1. Annually for women. 2. Every 1–3 years for women. 3. Every 1–2 years for women beginning at age 50 (age 35 for those at increased risk). 4. For women. 5. Every 10 years. 6. Annually.

- HR1** Persons with a family or personal history of skin cancer, increased occupational or recreational exposure to sunlight, or clinical evidence of precursor lesions (e.g., dysplastic nevi, certain congenital nevi).
- HR2** Persons with exposure to tobacco or excessive amounts of alcohol, or those with suspicious symptoms or lesions detected through self-examination.
- HR3** Persons with a history of upper-body irradiation.
- HR4** Persons with risk factors for cerebrovascular or cardiovascular disease (e.g., hypertension, smoking, CAD, atrial fibrillation, diabetes) or those with neurologic symptoms (e.g., transient ischemic attacks) or a history of cerebrovascular disease.
- HR5** The markedly obese, persons with a family history of diabetes, or women with a history of gestational diabetes.
- HR6** Prostitutes, persons who engage in sex with multiple partners in areas in which syphilis is prevalent, or contacts of persons with active syphilis.
- HR7** Persons with diabetes.
- HR8** Persons who attend clinics for sexually transmitted diseases, attend other high-risk health care facilities (e.g., adolescent and family planning clinics), or have other risk factors for chlamydial infection (e.g., multiple sexual partners or a sexual partner with multiple sexual contacts).
- HR9** Prostitutes, persons with multiple sexual partners or a sexual partner with multiple contacts, sexual contacts of persons with culture-proven gonorrhea, or persons with a history of repeated episodes of gonorrhea.
- HR10** Persons seeking treatment for sexually transmitted diseases; homosexual and bisexual men; past or present intravenous (IV) drug users; persons with a history of prostitution or multiple sexual partners; women whose past or present sexual partners were HIV-infected, bisexual, or IV drug users; persons with long-term residence or birth in an area with high prevalence of HIV infection; or persons with a history of transfusion between 1978 and 1985.
- HR11** Household members of persons with tuberculosis or others at risk for close contact with the disease (e.g., staff of tuberculosis clinics, shelters for the homeless, nursing homes, substance abuse treatment facilities, dialysis units, correctional institutions); recent immigrants or refugees from countries in which tuberculosis is common (e.g., Asia, Africa, Central and South America, Pacific Islands); migrant workers; residents of nursing homes, correctional institutions, or homeless shelters; or persons with certain underlying medical disorders (e.g., HIV infection).
- HR12** Persons exposed regularly to excessive noise.
- HR13** Men with two or more cardiac risk factors (high blood cholesterol, hypertension, cigarette smoking, diabetes mellitus, family history of CAD); men who would endanger public safety were they to experience sudden cardiac events (e.g., commercial airline pilots); or sedentary or high-risk males planning to begin a vigorous exercise program.
- HR14** Persons aged 50 and older who have first-degree relatives with colorectal cancer; a personal history of endometrial, ovarian, or breast cancer; or a previous diagnosis of inflammatory bowel disease, adenomatous polyps, or colorectal cancer.
- HR15** Persons with a family history of familial polyposis coli or cancer family syndrome.
- HR16** Perimenopausal women at increased risk for osteoporosis (e.g., Caucasian race, bilateral oophorectomy before menopause, slender build) and for whom estrogen replacement therapy would otherwise not be recommended.
- HR17** Recent divorce, separation, unemployment, depression, alcohol or other drug abuse, serious medical illnesses, living alone, or recent bereavement.
- HR18** Persons over age 50, smokers, or persons with diabetes mellitus.
- HR19** Intravenous drug users.
- HR20** Persons at increased risk for low back injury because of past history, body configuration, or type of activities.
- HR21** Persons with children in the home or automobile.
- HR22** Persons with older adults in the home.
- HR23** Persons with increased exposure to sunlight.
- HR24** Men who have risk factors for myocardial infarction (e.g., high blood cholesterol, smoking, diabetes mellitus, family history of early-onset CAD) and who lack a history of gastrointestinal or other bleeding problems, and other risk factors for bleeding or cerebral hemorrhage.
- HR25** Perimenopausal women at increased risk for osteoporosis (e.g., Caucasian, low bone mineral content, bilateral oophorectomy before menopause or early menopause, slender build) and who are without known contraindications (e.g., history of undiagnosed vaginal bleeding, active liver disease, thromboembolic disorders, hormone-dependent cancer).
- HR26** Homosexually active men, intravenous drug users, recipients of some blood products, or persons in health-related jobs with frequent exposure to blood or blood products.
- HR27** Persons with medical conditions that increase the risk of pneumococcal infection (e.g., chronic cardiac or pulmonary disease, sickle cell disease, nephrotic syndrome, Hodgkin's disease, asplenia, diabetes mellitus, alcoholism, cirrhosis, multiple myeloma, renal disease or conditions associated with immunosuppression).
- HR28** Residents of chronic care facilities and persons suffering from chronic cardiopulmonary disorders, metabolic diseases (including diabetes mellitus), hemoglobinopathies, immunosuppression, or renal dysfunction.

<p>Table 7. Ages 65 and Over Schedule: Every Year*</p>		<p>Leading Causes of Death: Heart disease Cerebrovascular disease Obstructive lung disease Pneumonia/influenza Lung cancer Colorectal cancer</p>
<p>SCREENING</p> <p>History Prior symptoms of transient ischemic attack Dietary intake Physical activity Tobacco/alcohol/drug use Functional status at home</p> <p>Physical Exam Height and weight Blood pressure Visual acuity Hearing and hearing aids Clinical breast exam¹</p> <p><i>HIGH-RISK GROUPS</i> Auscultation for carotid bruits (HR1) Complete skin exam (HR2) Complete oral cavity exam (HR3) Palpation of thyroid nodules (HR4)</p> <p>Laboratory/Diagnostic Procedures Nonfasting total blood cholesterol Dipstick urinalysis Mammogram² Thyroid function tests³</p> <p><i>HIGH-RISK GROUPS</i> Fasting plasma glucose (HR5) Tuberculin skin test (PPD) (HR6) Electrocardiogram (HR7) Papanicolaou smear⁴ (HR8) Fecal occult blood/Sigmoidoscopy (HR9) Fecal occult blood/Colonoscopy (HR10)</p>	<p>COUNSELING</p> <p>Diet and Exercise Fat (especially saturated fat), cholesterol, complex carbohydrates, fiber, sodium, calcium³ Caloric balance Selection of exercise program</p> <p>Substance Use Tobacco cessation Alcohol and other drugs: Limiting alcohol consumption Driving/other dangerous activities while under the influence Treatment for abuse</p> <p>Injury Prevention Prevention of falls Safety belts Smoke detector Smoking near bedding or upholstery Hot water heater temperature Safety helmets</p> <p><i>HIGH-RISK GROUPS</i> Prevention of childhood injuries (HR12)</p> <p>Dental Health Regular dental visits, tooth brushing, flossing</p> <p>Other Primary Preventive Measures Glaucoma testing by eye specialist</p> <p><i>HIGH-RISK GROUPS</i> Discussion of estrogen replacement therapy (HR13) Discussion of aspirin therapy (HR14) Skin protection from ultraviolet light (HR15)</p>	<p>IMMUNIZATIONS</p> <p>Tetanus-diphtheria (Td) booster⁵ Influenza vaccine¹ Pneumococcal vaccine</p> <p><i>HIGH-RISK GROUPS</i> Hepatitis B vaccine (HR16)</p> <hr/> <p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <ul style="list-style-type: none"> Chronic obstructive pulmonary disease Hepatobiliary disease Bladder cancer Endometrial disease Travel-related illness Prescription drug abuse Occupational illness and injuries <hr/> <p>Remain Alert For: Depression symptoms Suicide risk factors (HR11) Abnormal bereavement Changes in cognitive function Medications that increase risk of falls Signs of physical abuse or neglect Malignant skin lesions Peripheral arterial disease Tooth decay, gingivitis, loose teeth</p>
<p>*The recommended schedule applies only to the periodic visit itself. The frequency of the individual preventive services listed in this table is left to clinical discretion, except as indicated in other footnotes.</p>		

1. Annually. 2. Every 1–2 years for women until age 75, unless pathology detected. 3. For women. 4. Every 1–3 years. 5. Every 10 years.

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Table 7. Ages 65 and Over

High-Risk Categories

- HR1** Persons with risk factors for cerebrovascular or cardiovascular disease (e.g., hypertension, smoking, CAD, atrial fibrillation, diabetes) or those with neurologic symptoms (e.g., transient ischemic attacks) or a history of cerebrovascular disease.
- HR2** Persons with a family or personal history of skin cancer, or clinical evidence of precursor lesions (e.g., dysplastic nevi, certain congenital nevi), or those with increased occupational or recreational exposure to sunlight.
- HR3** Persons with exposure to tobacco or excessive amounts of alcohol, or those with suspicious symptoms or lesions detected through self-examination.
- HR4** Persons with a history of upper-body irradiation.
- HR5** The markedly obese, persons with a family history of diabetes, or women with a history of gestational diabetes.
- HR6** Household members of persons with tuberculosis or others at risk for close contact with the disease (e.g., staff of tuberculosis clinics, shelters for the homeless, nursing homes, substance abuse treatment facilities, dialysis units, correctional institutions); recent immigrants or refugees from countries in which tuberculosis is common (e.g., Asia, Africa, Central and South America, Pacific Islands); migrant workers; residents of nursing homes, correctional institutions, or homeless shelters; or persons with certain underlying medical disorders (e.g., HIV infection).
- HR7** Men with two or more cardiac risk factors (high blood cholesterol, hypertension, cigarette smoking, diabetes mellitus, family history of CAD); men who would endanger public safety were they to experience sudden cardiac events (e.g., commercial airline pilots); or sedentary or high-risk males planning to begin a vigorous exercise program.
- HR8** Women who have not had previous documented screening in which smears have been consistently negative.
- HR9** Persons who have first-degree relatives with colorectal cancer; a personal history of endometrial, ovarian, or breast cancer; or a previous diagnosis of inflammatory bowel disease, adenomatous polyps, or colorectal cancer.
- HR10** Persons with a family history of familial polyposis coli or cancer family syndrome.
- HR11** Recent divorce, separation, unemployment, depression, alcohol or other drug abuse, serious medical illnesses, living alone, or recent bereavement.
- HR12** Persons with children in the home or automobile.
- HR13** Women at increased risk for osteoporosis (e.g., Caucasian, low bone mineral content, bilateral oophorectomy before menopause or early menopause, slender build) and who are without known contraindications (e.g., history of undiagnosed vaginal bleeding, active liver disease, thromboembolic disorders, hormone-dependent cancer).
- HR14** Men who have risk factors for myocardial infarction (e.g., high blood cholesterol, smoking, diabetes mellitus, family history of early-onset CAD) and who lack a history of gastrointestinal or other bleeding problems, or other risk factors for bleeding or cerebral hemorrhage.
- HR15** Persons with increased exposure to sunlight.
- HR16** Homosexually active men, intravenous drug users, recipients of some blood products, or persons in health-related jobs with frequent exposure to blood or blood products.

**Table 8.
Pregnant Women¹**

FIRST PRENATAL VISIT		
<p>SCREENING</p> <p>History Genetic and obstetric history Dietary intake Tobacco/alcohol/drug use Risk factors for intrauterine growth retardation and low birthweight Prior genital herpetic lesions</p> <p>Laboratory/Diagnostic Procedures Blood pressure Hemoglobin and hematocrit ABO/Rh typing Rh(D) and other antibody screen VDRL/RPR Hepatitis B surface antigen (HBsAg) Urinalysis for bacteriuria Gonorrhea culture <i>HIGH-RISK GROUPS</i> Hemoglobin electrophoresis (HR1) Rubella antibodies (HR2) Chlamydial testing (HR3) Counseling and testing for HIV (HR4)</p>	<p>COUNSELING</p> <p>Nutrition Tobacco use Alcohol and other drug use Safety belts <i>HIGH-RISK GROUPS</i> Discuss amniocentesis (HR5) Discuss risks of HIV infection (HR4)</p>	<p>This list of preventive services is not exhaustive. It reflects only those topics reviewed by the U.S. Preventive Services Task Force. Clinicians may wish to add other preventive services on a routine basis, and after considering the patient's medical history and other individual circumstances. Examples of target conditions not specifically examined by the Task Force include:</p> <p>Counseling on warning signs and symptoms Physical findings of abdominal and cervical examination Tay-Sachs disease Childbirth education Teratogenic and fetotoxic exposures</p>
<p>Remain Alert For: Signs of physical abuse</p>		
FOLLOW-UP VISITS		
<p>Schedule: See Footnote*</p>		
<p>SCREENING</p> <p>Blood pressure Urinalysis for bacteriuria</p> <p>Screening Tests at Specific Gestational Ages</p> <p>14–16 Weeks: Maternal serum alpha-fetoprotein (MSAFP)² Ultrasound cephalometry (HR8)</p> <p>24–28 Weeks: 50 g oral glucose tolerance test Rh(D) antibody (HR9) Gonorrhea culture (HR10) VDRL/RPR (HR11) Hepatitis B surface antigen (HBsAg) (HR12) Counseling and testing for HIV (HR13)</p> <p>36 Weeks: Ultrasound exam (HR14)</p>	<p>COUNSELING</p> <p>Nutrition Safety belts Discuss meaning of upcoming tests <i>HIGH-RISK GROUPS</i> Tobacco use (HR6) Alcohol and other drug use (HR7)</p>	<p>Remain Alert For: Signs of physical abuse</p>
<p>1. See also Tables 4–6 for other preventive services for women. 2. Women with access to counseling and follow-up services, skilled high-resolution ultrasound and amniocentesis capabilities, and reliable, standardized laboratories.</p>		
<p>*Because of lack of data and differing patient risk profiles, the scheduling of visits and the frequency of the individual preventive services listed in this table are left to clinical discretion, except for those indicated at specific gestational ages.</p>		

-
- HR1** Black women.
 - HR2** Women lacking evidence of immunity (proof of vaccination after the first birthday or laboratory evidence of immunity.)
 - HR3** Women who attend clinics for sexually transmitted diseases, attend other high-risk health care facilities (e.g., adolescent and family planning clinics), or have other risk factors for chlamydial infection (e.g., multiple sexual partners or a sexual partner with multiple sexual contacts).
 - HR4** Women seeking treatment for sexually transmitted diseases; past or present intravenous (IV) drug users; women with a history of prostitution or multiple sexual partners; women whose past or present sexual partners were HIV-infected, bisexual, or IV drug users; women with long-term residence or birth in an area with high prevalence of HIV infection in women; or women with a history of transfusion between 1978 and 1985.
 - HR5** Women aged 35 and older.
 - HR6** Women who continue to smoke during pregnancy.
 - HR7** Women with excessive alcohol consumption during pregnancy.
 - HR8** Women with uncertain menstrual histories or risk factors for intrauterine growth retardation (e.g., hypertension, renal disease, short maternal stature, low prepregnancy weight, failure to gain weight during pregnancy, smoking, alcohol and other drug abuse, and history of a previous fetal death or growth-retarded baby).
 - HR9** Unsensitized Rh-negative women.
 - HR10** Women with multiple sexual partners or a sexual partner with multiple contacts, or sexual contacts of persons with culture-proven gonorrhea.
 - HR11** Women who engage in sex with multiple partners in areas in which syphilis is prevalent, or contacts of persons with active syphilis.
 - HR12** Women who engage in high-risk behavior (e.g., intravenous drug use) or in whom exposure to hepatitis B during pregnancy is suspected.
 - HR13** Women at high risk (see HR4) who have a nonreactive HIV test at the first prenatal visit.
 - HR14** Women with risk factors for intrauterine growth retardation (see HR8).

