

IOWA STUDY ON ADOLESCENT HEALTH

JUNE 1982



OFFICE FOR HEALTH PLANNING AND INTERGOVERNMENTAL RELATIONS

IOWA STATE DEPARTMENT OF HEALTH

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OFFICE FOR HEALTH PLANNING AND INTERGOVERNMENTAL RELATIONS

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ACKNOWLEDGEMENTS

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Table of Contents

	Page
Recommendations	i - ii
Introduction	1
Health Priorities	1
Mortality	3
Mental Health Utilization	4
Immunization	8
Sexually Transmitted Disease	11
Substance Abuse	13
Prevention of Pregnancy	19
Prenatal Care and Adolescent Parenthood	24
Nutrition	29
Obesity Anorexia Nervosa	31- 32
Bulimia	33
Sports and Nutrition	33
Accidents	33
Dental Health and Fluoridation	35
References	45
Appendix	

Tables

	Page
Leading Causes of Death	3
Mental Health Institutes' Admissions by County	5-6
Community Mental Health Centers' Admissions by Area	7
Hospital Admissions for Substance Abuse	13
Hospital Emergency Room Episodes by Type of Substance	14
Percentages of Student Samples Reporting Substance Use in 1981	17
Student Ratings of School Substance Education Programs	17
Pregnancy Related Concerns	20
Live Births by Teenaged Mothers, 1975-1980	21
Live Birth Order	22
Mean Heights and Weights and Recommended Energy Intake	30
Motor Vehicle Deaths as a Percent of All Deaths by Age	36
Accident Rates from all Causes and Alcohol Related	39
Accidental Deaths by Type of Accident	41
Drinking Drivers Involved in Fatal Crashes, 1970-1980	42
Health Concerns of Iowa Adolescents	43
Safety and Driving	44
Difficulties in Adjustments by Young Mothers	Appendix
Mean Weight for Height, Age and Sex	Appendix

RECOMMENDATIONS

I. Prevention Strategies through the Schools

A. Comprehensive school health education in grades K-12.

The ten content areas approved by the Iowa State Board of Public Instruction.

--- Personal Health, Food and Nutrition, Environmental Health, Safety and Survival Skills, Consumer Health, Family Life (including parenting education*), Substance Use and Nonuse, Emotional and Social Health (including interpersonal skills), Prevention and Control of Disease and Health Resources and Careers

B. Plan and implement nutrition training for Iowa coaches who work with adolescents.

C. Early intervention training for teachers and counselors.

D. Increase number and scope of peer helping groups in Iowa.

E. Provide teachers with publication of resources for adolescents -- especially rural.

II. Prevention Strategies in the Community.

A. Statewide program for more effective early identification and treatment of disorders in children.

"All children should receive continuing health supervision in order to detect any developmental abnormalities at the earliest stages."
From the State Health Plan for Women and Children 1979 - 1980.

B. More parents involved in PTA or other Parent-Teacher Organizations. Parents are primary educators of children and youth.

C. Parenting Education through churches, schools, media, etc.

D. More classes for parents on communicating with adolescents.

E. More work study programs for youth in school and out of school.

- F. Encourage local law enforcement officers and adolescents to work together on accident reduction.
- G. Involve parents, schools and peers in effort toward positive self regard.
- H. Health promotion campaign for County and municipal workers.
- I. Local community health resource centers.
- J. More care giver programs available for adolescent volunteers.
- K. More adult model programs, such as Big Sisters and Big Brothers, for youth in transition.

III. General

- A. Continuation of media blitz on prevention (pregnancy, substance abuse, motor vehicle accidents, poor eating habits and stress).
- B. Public Information Campaign to celebrate life.
- C. More state monies for substance abuse for increased outreach services and residential treatment capability for adolescents.
- D. A rural and an urban model program to follow adolescent mothers for 3 years.
- E. State health education resource center (museum) and current health data.

* In the May 1975 "Journal of School Health," the Education for Parenthood programs are discussed. Children and youth should learn to postpone pregnancy and parenting until they are educationally, physically, socially, economically and psychologically ready to cope with these experiences."

INTRODUCTION

ADOLESCENT HEALTH SERVICES

Adolescent health care may be defined as the coordination of comprehensive services needed by young people from the onset of puberty into the early adult years. Most required services may be provided through a primary health care network, which would be linked by formal agreements to other health, social, and welfare agencies in the community. It is necessary to have established resources for handling serious health problems, although the greater emphasis will be on preventive health services and health education. Services responsive to all phases of adolescent sexuality should be readily available to include family planning, pregnancy testing, prenatal care, treatment of sexually transmitted disease, and parenting. Other important services include: nutrition assessment and counseling, dental care, preventive mental health as well as special services needed for the handicapped adolescent. It is highly desirable to develop a strong relationship with local school programs.

The characteristics of this age group demand staff who have been carefully selected and oriented to the developmental phases of adolescence. The overall objective in adolescent health services is to assist the transition from childhood to healthy adult life.

HEALTH PRIORITIES

In this study on health services for adolescents, the following six areas have significant effects on the health status of young Iowans. Each of these topics are examined in detail in subsequent sections of this study.

- A. During 1980 nearly 400 Iowa adolescents and young adults lost their lives in accidents or from suicides.

Teenage drivers had an accident rate of 5,479 per 10,000 licensed drivers in 1979; their fatal accident rate was 31.8. In comparison, drivers in the 35-44 age range had an accident rate of 446 per 10,000 licensed drivers and a fatal accident rate of 3.0.

Young drivers had the highest rates in all categories:

- accident rate from all causes for 18 year old drivers - 1,455.
- fatal accident rate from all causes for 19 year old drivers - 7.9.
- alcohol-related accident rate for 19 year old drivers - 92.
- alcohol-related fatal accident rate for 19 year old drivers - 3.1.

B. The following statistics were taken from the 1982 State Plan for Substance Abuse:

- 683 persons under 21 years were admitted for alcohol abuse treatment in 1980.
- 775 admitted for drug abuse.

According to the Department of Public Instruction's 1981 Substance Abuse Education Program Survey: "Nearly 46% of twelfth grade students perceive that their peers would approve of 'getting drunk once or twice each week'."

C. Iowa mothers, less than nineteen years of age, delivered 3,529 live infants during 1980. However, nearly 6,500 Iowa adolescents were mothers of infants and young children in 1980. This figure was obtained by extrapolating data from Table IX in the Prevention of Pregnancy Section of this study.

Unfortunately, statistics are not available regarding the following:

- parenting skills of these young mothers
- availability of day care for their infants
- numbers who complete high school education
- availability of job training opportunities

- D. Iowa adolescents and young adults (15-29 years) had nearly 4,700 of the reported cases of gonorrhea during 1980. That was nearly 87 percent of the total cases reported.
- E. National studies indicate that about 15 percent of adolescents are obese. Obese 12 year olds have about one chance in four of having normal weight as an adult. But obese 18 year olds have only one chance in 28.
- F. "Making weight" is a potentially hazardous and widely practiced behavior among high school wrestlers. Large amounts of weight are lost before certification, and postseason weight gains are greater than the steady growth patterns of normal adolescence.

NUMBER OF IOWA ADOLESCENTS

According to the 1980 Census, the population of Iowa was 2,913,387. By extrapolation there were approximately 361,035 adolescents, ages 12 through 18 years of age or 12.4% of Iowans. Nearly one eighth of Iowa residents were adolescents in 1980.

RANDOM SAMPLING OF UTILIZATION OF HOSPITAL BY ADOLESCENTS

Information was obtained from 130 Iowa hospitals for September, 1980, regarding patient utilization in the Patient Information Health Services Area Study (PIHSA Study). More than 3,000 adolescents, ages 12 through 18 years received health care at hospitals during that month. A random sampling of ten percent indicated the following: just over 50 percent were females; 18 year olds went to hospitals for health care more than other adolescents; 15,16 and 17 year olds utilized hospitals more than the younger three age groups; more than one-fourth (26.9%) of young persons received hospital care because of injuries; over one-fourth (25.8%) of teenage women were in hospitals because of complications of pregnancy, childbirth and the puerperium; one eighth of both sexes for diseases of the digestive system; more than one twelfth for diseases of the respiratory system; more than 5% for mental disorders including alcoholic and drug psychosis; over one third (33.8%) of the payments were made by commercial insurance; less than one third (30.0%) by Blue Cross; and more than one eighth (14.1%) by Medicaid, Title XIX.

Leading Causes Of Death By Selected Age Groups

1980 RESIDENT DATA

TABLE I

<u>Age</u>	<u>CAUSE OF DEATH</u>	<u>TOTAL</u>	<u>NUMBER</u>	<u>PERCENT</u>
		126		
5-14	Accidents		70	55.6
	Malignant Neoplasms		20	15.9
	Congenital Anomalies		8	6.3
	Endocrine, Nutritional, and Metabolic Diseases		6	4.8
	Diseases of the Digestive System		5	4.0
		536		
15-24	Accidents		360	67.2
	Suicides		52	9.7
	Malignant Neoplasms		39	7.3
	Homicides		28	5.2
	Disease of the Respiratory System		9	1.7

SOURCE: Vital Statistics of Iowa 1980, Iowa State Department of Health

As shown in Table I, the leading cause of death for Iowans between 5 and 25 years of age are accidents. Suicides are the second leading cause for the 15 to 25 year old group.

MENTAL HEALTH UTILIZATION

"Children and youth represent 20.1% of the impaired population in Iowa. They represent 20.4% of the Community Mental Health Centers' admissions (excluding the children's unit of two centers) and represent 11.6% of the Mental Health Institutes' admissions. These data suggest that children and youth are being served relatively adequately with regard to the number served. The questions arises, however, whether they are being served in the most appropriate manner. The President's Commission on Mental Health strongly recommended integration of mental health into both the health system and the educational system. The mental health providers serving children should be examining the extent to which they are doing this and make efforts to improve their relationships with general health care providers and with the area education agencies and local schools."¹

Recent data from the Community Mental Health Center of Scott County reveal that new admissions during 1981 included 556 cases, ages 1 to 18; 277 cases involved adolescents ages 13 through 17. During the first quarter of 1981, there were 153 new admissions of children and youth. However, 188 children and youth enrolled in the first quarter of 1982. Nineteen percent more were enrolled in 1982 than in 1981 in the first quarter.

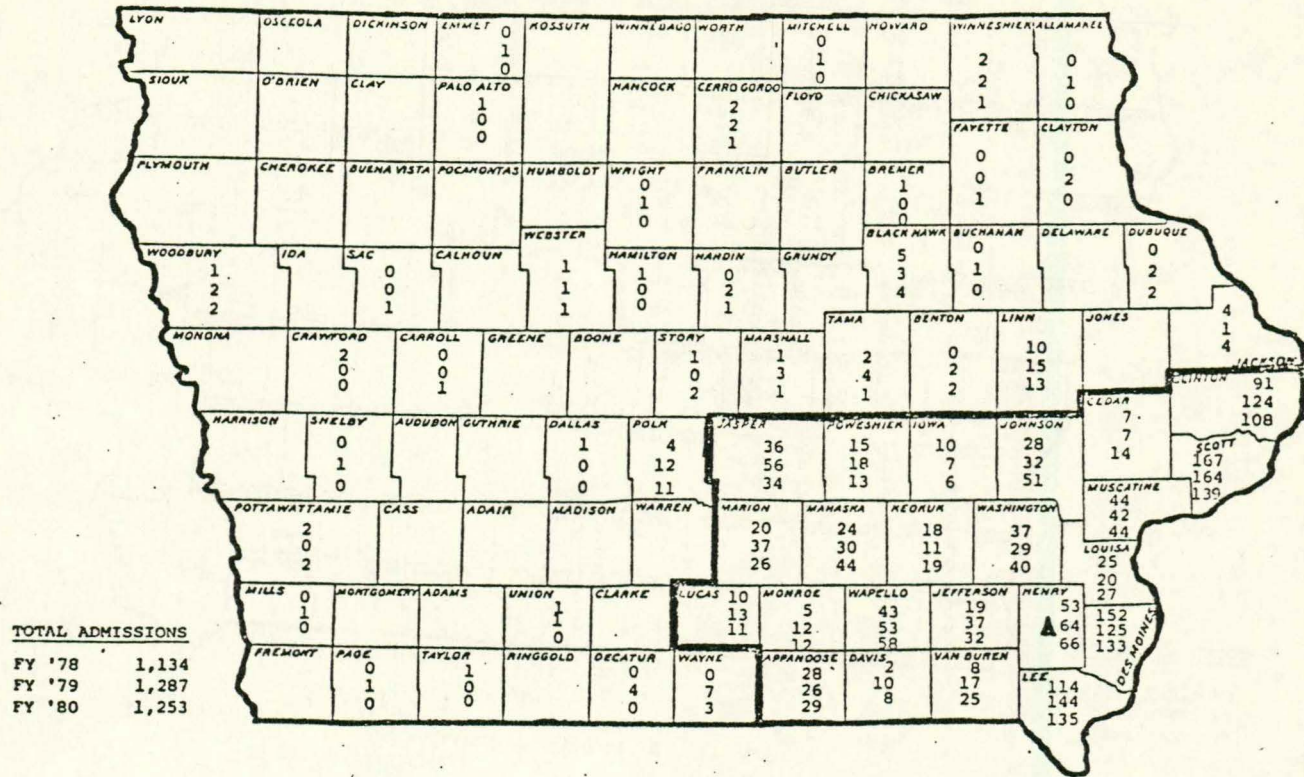
According to the FY 1982-1986 State of Iowa Mental Health Services Program, the following facilities are "residential treatment centers for emotionally disturbed children": Gerard of Iowa, Mason City; Bremwood, Waverly; Children's Home of Cedar Rapids; New Dimensions, Cedar Rapids; Quad City Childrens Center, Davenport; Orchard Place, Des Moines; Porter House Prevention and Evaluation Center, Des Moines; Beloit of Iowa, Ames; Christian Home for Girls, Harlan; and Christian Home for Boys, Clarinda and Christian Home for Children, Council Bluffs.

In the Mental Health Services Program, the general hospitals listed below provide psychiatric services with separate psychiatric unit(s): St. Joseph Mercy Hospital, Mason City; St. Luke's Hospital, Sioux City; Trinity Regional Hospital, Fort Dodge; Marshalltown Area Community Hospital, Marshalltown; St. Francis Hospital and Allen Memorial Hospital, Waterloo; Mercy Medical Center, Dubuque; Jane Lamb Hospital, Clinton; St. Luke's Hospital, Cedar Rapids; Mercy Hospital, Davenport; Sidney Sands Center, Iowa Lutheran Hospital and Iowa Methodist Hospital, Des Moines, Mary Greeley Memorial Hospital, Ames; Jennie Edmundson Memorial Hospital and Mercy Hospital, Council Bluffs; Ottumwa Hospital, Ottumwa; and Burlington Medical Center, Burlington. The Iowa Psychiatric Hospital, Iowa City, is a state public mental hospital.

Adolescent programs were closed at Clarinda and Mount Pleasant during FY 1981 because of budget curtailments. The MHIs at Cherokee and Independence serve adolescent patients from all areas of Iowa. The four maps on pages 5 and 6 show utilization at the MHIs by county.

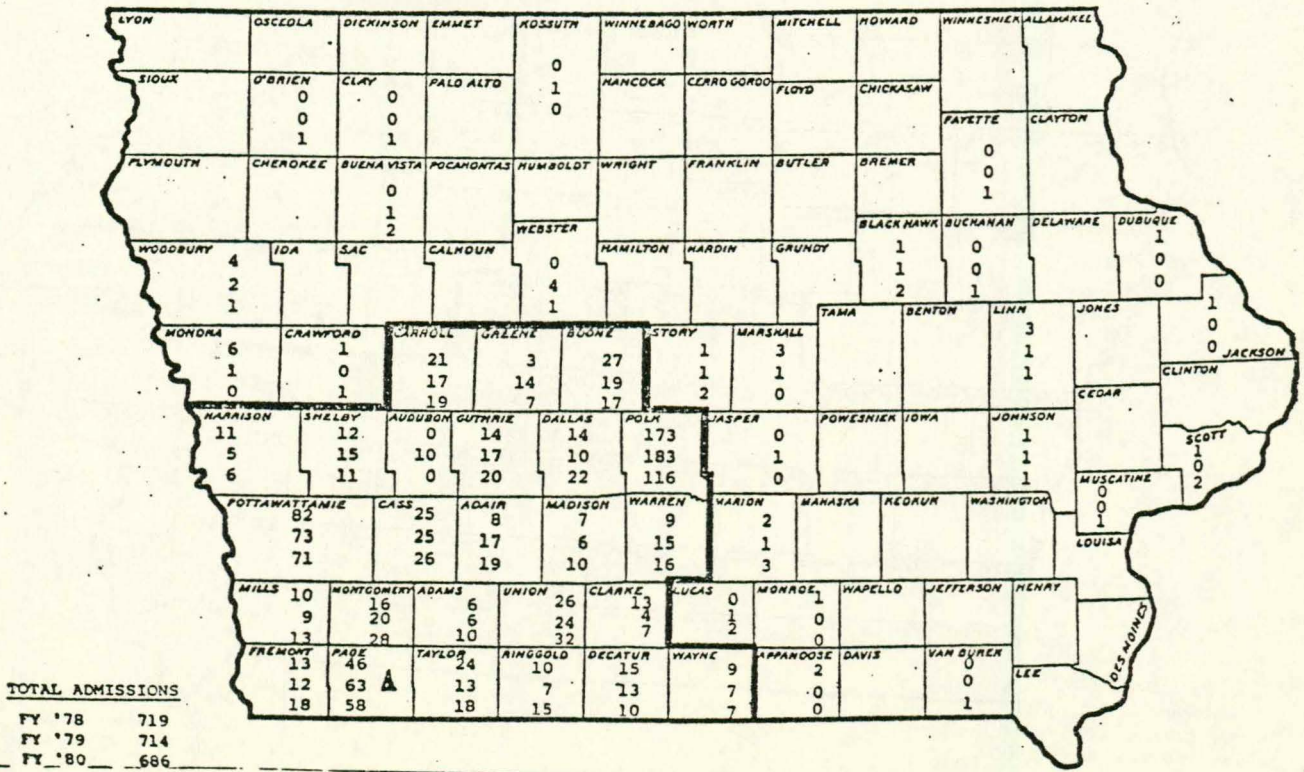
In Table II admissions at Community Mental Health Centers for children and youth are listed.

MT. PLEASANT MENTAL HEALTH INSTITUTE
 TOTAL ADMISSIONS, BY COUNTY OF LEGAL SETTLEMENT
 1978-1980

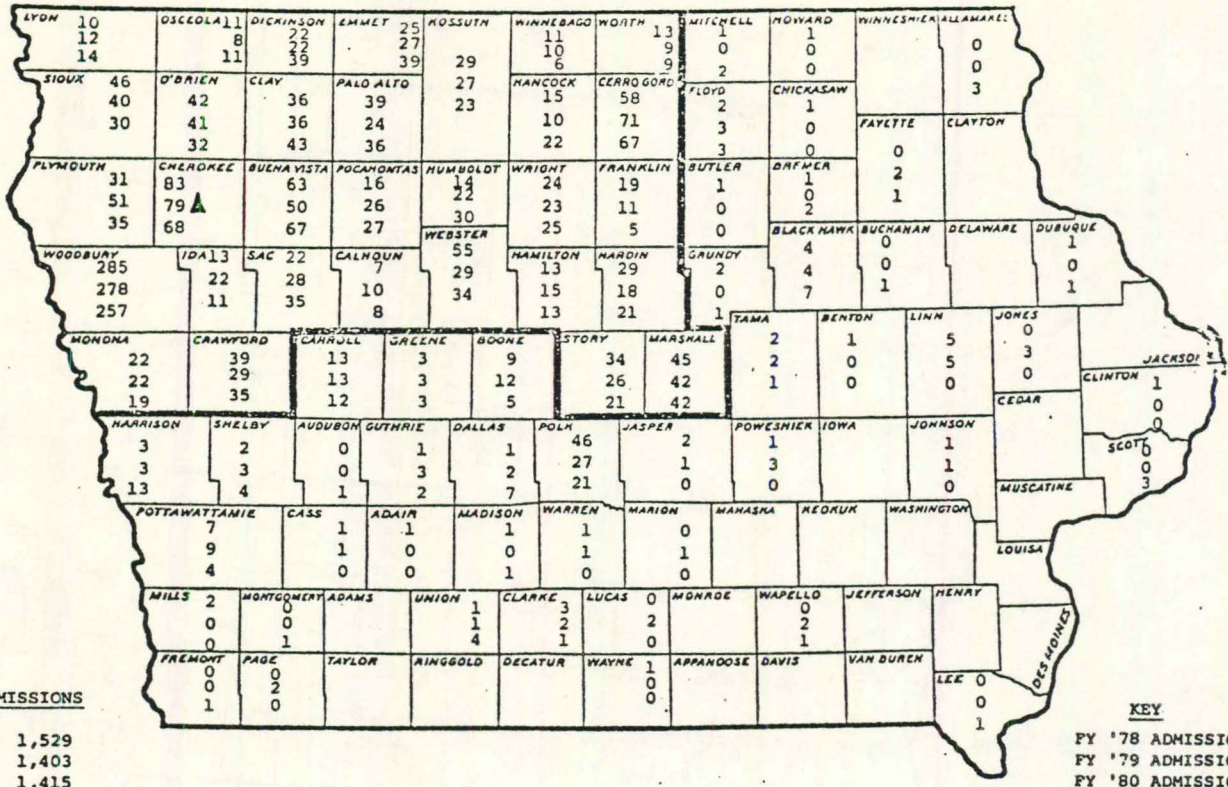


Location of Mt. Pleasant MHI

CLARINDA MENTAL HEALTH INSTITUTE
 TOTAL ADMISSIONS, BY COUNTY OF LEGAL SETTLEMENT
 1978-1980

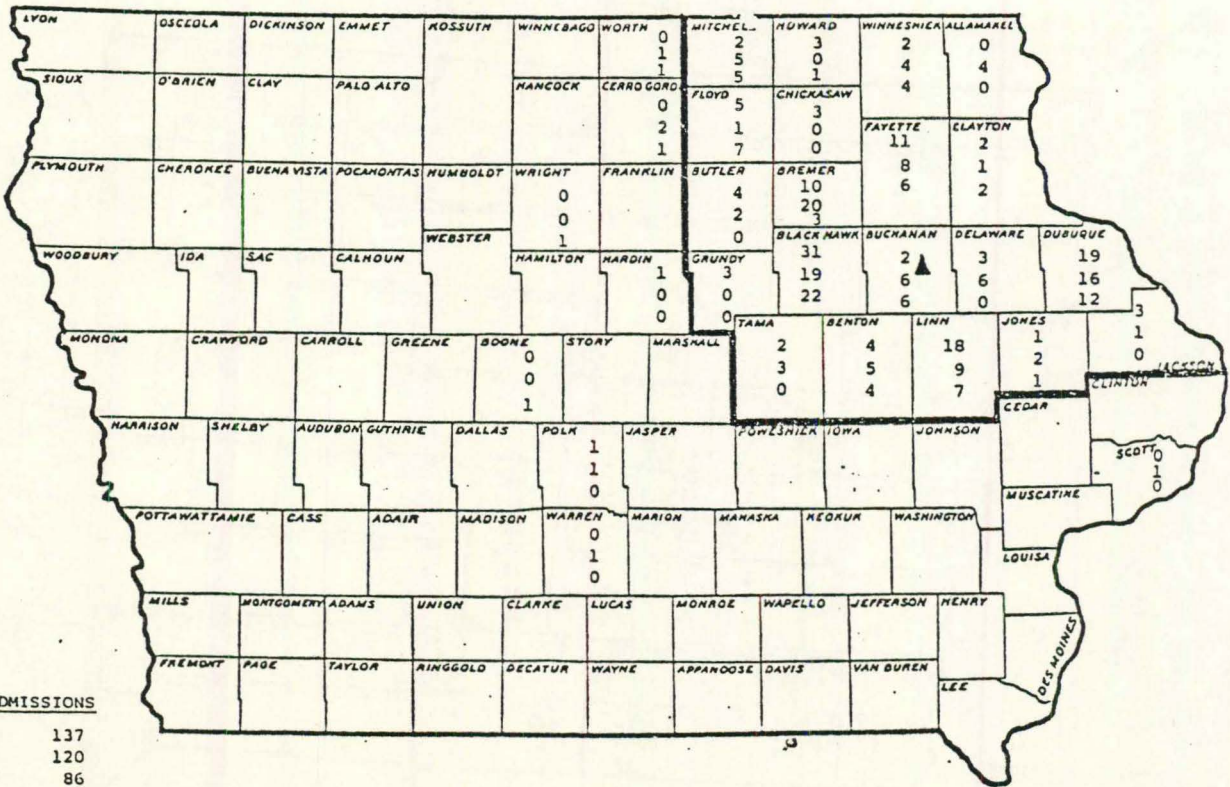


CHEROKEE MENTAL HEALTH INSTITUTE
 TOTAL ADMISSIONS BY COUNTY OF LEGAL SETTLEMENT
 1978-1980



▲ Location of Cherokee MHI

INDEPENDENCE MENTAL HEALTH INSTITUTE
 ADMISSIONS TO ADOLESCENT PROGRAM, BY COUNTY OF LEGAL SETTLEMENT
 1978-1980



▲ Location of Independence MHI

TABLE II
COMMUNITY MENTAL HEALTH CENTERS UTILIZATION

SYSTEM SERVICE		CY 1980 AGES 1 - 17			
AREA	LOCATION	Not Reported	Male	Female	Totals
I	Decorah - Northeast Iowa MHC		41	37	78
II	Mason City-MHC of North Iowa	2	76	73	151
III	Spencer - Northwest Iowa MHC	1	79	90	170
	LeMars - Plains Area MHC				
IV	Sioux City - Siouxland MHC		90	80	170
V	Fort Dodge - North Central Iowa MHC		28	29	57
VI	Vinton - Benton County MH Clinic				
	Tama - MH Clinic of Tama Co.				
VII	Marshalltown - MHC of Mid-Iowa		99	75	174
	Waterloo-Black Hawk - Grundy MHC		213	182	395
	Waverly - Cedar Valley MHC				
VIII	Clinton - MHC of Clinton Co.				
	Dubuque-Dubuque/Jackson MHC		211	138	349
IX	Cedar Rapids - Community MHC of Linn Co.		138	91	229
X	Muscatine-Great River MHC				
	Davenport-Community MHC of Scott Co.		191	162	353
XI	Iowa City-Mid-Eastern Iowa Community MHC		41	29	70
XII	Oskaloosa-South Central MHC	2	111	110	223
	Newton-Jasper Co. MHC				
	Grinnell-Poweshiek Co. MHC				
XIII	Des Moines-Polk Co. MHC		10	9	19
XIV	Des Moines-Des Moines Child Guidance Ctr.		NA	NA	
XV	Ames-Central Iowa MHC *		151	92	243
XVI	Atlantic-Southwest Iowa MHC				
	Denison-West Iowa MHC	1	89	82	171
XVII	Council Bluffs-River Bluffs Community MHC		100	67	168
	Creston and Osceola-Crossroads MHC				
VXIII	Centerville-Rathbun Area MHC				
	Ottumwa-Southern Iowa MHC		113	83	196
XIX	Mt. Pleasant-CMHC of Henry, Louisa and Jefferson Counties.				
	Burlington-Southeastern Iowa MHC	1	237	117	355
	Keokuk-Lee Co. MHC				
	Adel - West Central MHC *				
Totals		7	2,018	1,546	3,571

* 15 includes Ames and Adel

IMMUNIZATION

MEASURES OF HEALTH STATUS

Indicators used in the following analyses of immunizable diseases include:

- incidence rates of childhood immunizable disease
- incidence rates of other immunizable diseases and related mortality

A communicable disease is a disease which can be transmitted from one person to another or from another animal to a person. An immunizable communicable disease is one for which vaccines can be administered to produce immunity. At one time, immunizable communicable diseases were a major cause of death in the United States. Today, thanks to public health and immunization efforts, this threat has been greatly decreased. The eleven immunizable communicable diseases are:

Diseases for which effective immunization exists:

Diphtheria
Hepatitis
Influenza
Measles
Mumps
Pneumonia
Polio
Rabies
Rubella
Tetanus
Whooping Cough

Incidences of seven childhood immunizable diseases

These immunizable diseases, diphtheria, measles, mumps, polio, rubella, tetanus and whooping cough, still pose a potential problem within the state. But since the enactment of the child care and school entrance immunization law in 1978, the incidence of the seven childhood immunizable diseases has declined dramatically. In 1981, there was only 1 case of measles, 4 cases of rubella, 6 cases of pertussis, 54 cases of mumps (immunization not required by the law but rates are declining as most physicians use a measles-mumps-rubella combination vaccine), and no cases of tetanus, diphtheria or poliomyelitis. The figures are the lowest in the state's history. This continued decline is contingent upon the continued high percentage of vaccinated individuals and the continued vigorous enforcement of the state's school and child care center immunization law.

State Programs and their strategies

School Immunizations

The compulsory child-care and school immunization law, which became effective January 1, 1978, covers all children enrolled in elementary or secondary schools or licensed child-care centers (approximately 685,000 children).

Because of the immunization law, close to 97 percent of all school-age and day care center-enrolled children are adequately immunized against rubella, rubeola, polio, diphtheria, tetanus and pertussis. Children are not required by the legislation to be immunized for mumps. However, 99 percent of these children are immunized due to the inclusion of the mumps vaccine in the measles and rubella vaccines.

In order to prevent birth defects, including mental retardation, it is important to have all women of childbearing age immune to rubella. Screening of teenage women and the provision of rubella vaccination to those who are not immune and who are not pregnant or who do not plan to be pregnant within three months of the time of the vaccination is desirable if rubella related birth defects are to be eliminated.

Children less than school and child care age in Iowa have not reached the desired 90 percent immunization level. However, the level of immunizations found in this group is high. In a survey conducted by the State Health Department in 1977, 78.1 percent of all two year olds, 92% of all kindergartners, 91.4% of all day care and 90.2% of all children in Head Start were fully immunized at levels recommended for their age groups.

Currently, 59 counties provide regular free immunization services to their residents. Twenty-two counties provide free immunizations when the patients are referred to a public health nurse by a physician. Most of the larger communities are providing access to immunization service. The Iowa State Department of Health routinely conducts free school based immunization programs where needed.

The Immunization Program of the Iowa State Department of Health conducts a yearly survey of child care centers and a K-12 audit. The child care center survey is conducted by staff of the Disease Prevention Division. Child care centers are chosen in three ways - random sample, all centers newly licensed (previous 6 months) and all Head Start programs. The K-12 audit is conducted by local boards of health. The program conducts outbreak control programs whenever the need arises. Cases of measles are investigated. Susceptibles are determined and appropriate courses of action such as free clinics are initiated immediately.

The Iowa State Department of Health Immunization Program provides vaccines free to Iowa Physicians on request. Immunization program personnel regularly attend County Medical Society meetings whenever immunizations are to be discussed.

Iowa hospitals have, on occasion, assisted the efforts of the Immunization Program by distributing supplies and vaccine through their pharmacies. Personnel from the Iowa Medical School Hospital often lend their expertise and influence toward the efforts of the program. The program provides vaccine to Maternal and Child Health clinics, to Early Periodic Screening, Diagnosis and Treatment Program clinics and to neighborhood health centers.

The schools of Iowa remain as valuable resources to the Immunization Program. Much of the work of the program centers around the schools. The schools are active in their support of the program.

For individuals who can afford to pay, and for individuals covered by Medicaid, immunizations and venereal disease treatment at a private physician's office present no financial problems. But for individuals who fall into the "near poor" category (100 to 125 percent of poverty level), about 5.0 percent of all residents in Iowa, the cost of vaccinations in private physicians' offices may be prohibitive. Throughout the state, children in low income families tend not to receive the recommended immunizations before school age. Thus, financial accessibility may possibly become a barrier to service unless public clinics or school immunization services and reimbursement for venereal disease treatment and screening are available and accessible.

The cost of a complete regimen of vaccinations against the seven immunizable communicable diseases (diphtheria, measles, mumps, polio, rubella, tetanus and whooping cough) for one individual is \$7.54. Charges in physicians' offices will be greater than this cost, but in many public clinics vaccines are free.

The Infectious Disease Control Section of the Disease Prevention Division of the State Department of Health maintains its function by means of surveillance, investigation and education. Reports of disease are received and processed by the epidemiology secretary. Cases that require follow-up are given special attention and are investigated either by Public Health Nurses, Public Health Field Representatives or other State Health Department officials.²

SEXUALLY TRANSMITTED DISEASE

Young Most At Risk

In Iowa during 1980, there were 5,351 cases of gonorrhea. Nearly 87 percent of the reported cases occurred in 15 to 29 year-olds. Statistics were obtained from ISDH, Disease Prevention Division.

Partial List of Sexually Transmitted Diseases (STDs)

Gonorrhea	Genital herpes
Syphilis	Chlamydia
Non-gonococcal urethritis (NGU)	Trichomoniasis

In addition, at least two forms of hepatitis are sexually transmissible. While trichomoniasis occurs frequently, its consequences are not known to be severe. Non-gonococcal urethritis may be acquired through sexual contact or by other causes. Of the STDs listed above, gonorrhea, syphilis and genital herpes are of greatest health concern. But only syphilis and gonorrhea cases are required by State Law to be reported to the State Department of Health.

Syphilis and Gonorrhea

In Iowa in 1980, there were 183.7 reported gonorrhea cases/100,000 population. Though syphilis and gonorrhea are treatable with antibiotics, they are not currently prevented by immunization. Approximately 28 percent of the gonorrhea cases in Iowa each year occur among teenagers. Almost nine of ten gonorrhea cases occur in persons less than thirty.

If an individual with gonorrhea is not adequately treated, complications may result. Sterility may result in both men and women. The most common complication in the female is pelvic inflammatory disease (P.I.D.). P.I.D. is an inflammation of the tissues of the reproductive organs such as the fallopian tubes or the uterus.

There are other possible complications. Occasionally, the organism of gonorrhea is carried by the blood stream to other areas of the body. One common place for the organism to settle is in the joints, causing a very painful form of arthritis or heart disease. None of the complications of gonorrhea need occur if the infected individual consults a doctor for treatment.

If a pregnant woman has gonorrhea at the time she delivers her child, the disease organisms may infect the child's eyes as it passes through the mother's birth canal. Blindness could result. Because of this danger, most states, including Iowa, require that preventive drops of silver nitrate medication or an antibiotic be placed in the eyes of every newborn child. Also, an adult could infect his or her own eyes by hand-to-eye transmissions.

There are three stages of syphilis. The first two stages can disappear without treatment. It is extremely infectious. The third stage might go undetected for years. Untreated syphilis can lead to crippling, blindness, heart disease, even insanity.

In 1980, Iowa had 6.3 reported cases of syphilis in all stages per 100,000 population. (Total cases - 183) In 1973 in Iowa the rate of reported syphilis in all stages was 14.4 cases per 100,000 population. Listed below are total reported cases per annum: 1973 - 417; 1974 - 377; 1975 - 331; 1976 - 359; 1977 - 254; 1978 - 235 and 1979 - 242. Data provided by Disease Prevention Division.

Genital Herpes or Herpes Simplex Virus 2 (HSV-2)

"Genital herpes--which is manifested by very painful lesions similar to cold sores or fever blisters can cause severe neurological damage in an infant infected while passing through the birth canal. Such infection occurs in 50% of infants delivered vaginally by infected mothers. Active lesions in a pregnant woman are an indication for a Caesarean section." The annual incidence rate of herpes simplex based on national rates is probably around 350 cases per 100,000 population.

State Programs and Their Strategies

The Iowa State Department of Health - Venereal Disease Control Section is the control and coordination agency in the state for all venereal disease programs.

State Venereal Disease Control personnel and field staff assigned throughout the state provide the following services:

- A. "Certain clinical and laboratory services for the detection, diagnosis, treatment and management of syphilis and gonorrhea. Examination, testing and treatment is available to those persons with, or those suspected of having, syphilis or gonorrhea.
- B. The application of the epidemiologic process through various case finding and case prevention devices, such as:
 1. Contact interviewing and investigation, including the preventive treatment of named contacts who may be incubating the disease.
 2. Investigation and follow-up of all persons with a positive test for syphilis and/or gonorrhea.
 3. A special gonorrhea screening program intended to detect (what is most often a symptomatic) gonorrhea in the unsuspecting female population.
 4. Conducting other investigations where venereal disease is suspected.
- C. Establishing and maintaining good rapport, and developing a strong working relationship, with the entire medical profession, local health departments, local family planning personnel, other agencies and the community.
- D. Assisting in developing information and education programs designed to create a sense of awareness among various groups, especially the school systems."

Four STD training, two-day workshops have been scheduled throughout the state for Family Planning personnel. This joint training effort was started in 1979. Three Family Planning Agencies in Iowa operate STD clinics.³

SUBSTANCE ABUSE

The State Plan for Substance Abuse reports that 683 persons under 21 years of age were admitted for alcohol abuse treatment, or 13.9% of total admissions. Forty-four percent or 775 of total admitted for drug abuse were under 21.

The fatal accident rate due to alcohol-related traffic deaths for Iowans was greatest for eighteen and nineteen years olds (2.9/10,000 licensed drivers age 18 and 3.1/10,000 licensed drivers age 19). "The modal age of first use of the primary drug of abuse reported by drug clients entering treatment in 1980 was 15/16. Juvenile substance abuse related arrests accounted for 16.4% of all juvenile court case dispositions in 1979. Fifty-four percent of juveniles were admitted to state institutions with a diagnosed substance abuse problem history in 1980.²

The following table shows moderate to severe use of different substances by juveniles in institutions. Category was determined by frequency of use and effect use had on the individuals' life (e.g., school, employment, legal involvement).

ADMISSIONS TO JUVENILE INSTITUTIONS BY ALCOHOL, DRUG, AND POLYDRUG ABUSE PROGRAM FISCAL YEAR 1977-80

	Moderate to Severe Alcohol Abuse - Little or No Drug Abuse	Moderate to Severe Drug Abuse-Little or No Alcohol Abuse	Moderate to Severe Alcohol Abuse and Drug Abuse	Total
FY 1977	120 (23%)	127 (23%)	272 (53%)	519 (100%)
FY 1979	85 (12%)	206 (29%)	421 (59%)	712 (100%)
FY 1980	532 (94.5%)	10 (1.8%)	21 (3.77%)	563 (100%)

The decrease in overall juvenile institutional admissions between fiscal year 1979 and 1980 is in part a result of efforts to deinstitutionalize youth in Iowa who can be placed in a community based setting and the revisions of the moderate to severe alcohol abuse is compared to prior years' figures where polydrug and drug abuse accounted for the majority of the substances of abuse reported. The reason for this change cannot be ascertained at this time but will be reviewed for trend analysis in the next year's plan.³

Table III
HOSPITAL ADMISSIONS FOR SUBSTANCE ABUSE - 1980
BY AGE AND LENGTH OF STAY

	<u>Age</u>
<u>SEX</u>	13-24
Male	68.0%
ALOS*	12.9
Female	32.0%
ALOS*	16.0
Total	27.0%
ALOS*	13.9

*ALOS - Average length of stay in days.

Some of the factors that determine length of stay are: patient required detoxification or inpatient treatment services; whether or not the patient was dependent upon alcohol or alcohol and/or drugs and the patient's general physical condition.⁴

The 1980 hospital licensure survey indicated the following hospitals have detoxification units:

Burlington	Forest City
Cedar Rapids, Mercy	Iowa City, University
Council Bluffs, Mercy	Ottumwa, St. Joseph
Davenport, Mercy	Sioux City, Marian Health Center
Des Moines, Methodist	Waterloo, Schoitz
Des Moines, Broadlawns	
Dubuque, Mercy	
Eldora	

Other hospital facilities provide emergency detoxification services as needed.

Substance abuse treatment for adolescents is available at Gordon Clinical Dependency Center, Sioux City, and Youth and Shelter Services, Ames.

Table IV

HOSPITAL EMERGENCY ROOM EPISODES - 1980
BY SEX, AGE AND TYPE OF SUBSTANCE

DRUG	<u>MALE</u>		<u>FEMALE</u>	
	<u>ACCIDENTAL</u>	<u>INTENTIONAL</u>	<u>ACCIDENTAL</u>	<u>INTENTIONAL</u>
	Juv.	Juv.	Juv.	Juv.
Opiates	2	0	4	1
Tranquilizers	23	3	17	9
Barbiturates	16	3	22	3
Stimulants	23	2	15	1
Alcohol/ Poly Drug*	7	0	1	2
Hallucinogens	0	0	1	0
Volatile Substances	12	2	2	0
Non-Narcotic Analgesic	161	4	127	23
Other**	363	2	307	5
Unknown	2	1	3	4
<u>Total</u>	609	17	499	48

*Ninty-five percent (95%) of the alcohol related episodes also involved other drugs as well.

**Vitamins, birth control pills, etc. ingested primarily by children as an accident. Reporting facilities: University of Iowa Hospitals, Iowa City; Allen Memorial Hospital, Waterloo; St. Joseph's Hospital, Ottumwa; Mercy - St. Luke's Hospital, Cedar Rapids; St. Vincent's Hospital, Sioux City; Trinity Regional Hospital, Fort Dodge; and Mercy Hospital, Davenport.⁵

TABLE V

ADMISSIONS TO IOWA MENTAL HEALTH INSTITUTES BY QUADRANT AREA - FISCAL YEAR 1980
FOR PRIMARY DRUG AND ALCOHOL DEPENDENCE

MHI Quadrant	Independence Northeast		Mount Pleasant Southeast		Clarinda Southwest		Cherokee Northwest		Statewide	
	#	%a	#	%a	#	%a	#	%a	#	%a
Age:										
Under 18	20	2.4%	4	1.1%			3	.6%	27	1.4%
18-20	58	7.0%	23	6.2%	9	4.0%	46	9.6%	136	7.2%

aPercent totals are the breakdown of each subcategory within each institution vertical column.

COMMUNITY MENTAL HEALTH CENTERS DISCHARGED SUBSTANCE ABUSE
OTHER CLIENTS - January 1, 1978 - December 31, 1979

DISTRICT

Character- istics	Northwest		Northeast		Central		Southwest		Southeast		State Total	
	aSA	bA11	cSA	dA11	eSA	fA11	gSA	hA11	iSA	jA11	kSA	lA11
Age:												
Under 18	14.0%	20.0%		20.0%		18.0%		22.0%	13.0%	21.0%	8.0%	20.0%
18-20	19.0%	10.0%	25.0%	9.0%	6.0%	10.0%	9.0%	8.0%	7.0%	6.0%	15.0%	9.0%

a Number of Substance Abuse Cases=58
 b Number of All Cases=1,328
 c Number of Substance Abuse Cases=20
 d Number of All Cases=1,306
 e Number of Substance Abuse Cases=17

f Number of All Cases=2,187
 g Number of Substance Abuse Cases=22
 h Number of All Cases=878
 i Number of Substance Abuse Cases=15

j Number of All Cases=1,288
 k Number of Substance Abuse Cases=132 (NM1)
 l Number of All Cases=6,987 (NM127)

Total number of substance cases of all age groups is 132. The number is low because: the Community Mental Health Center's reporting system is based on recording cases at discharge. Clients with a primary substance abuse problem would be referred to other agencies and not be recorded, and IDSA must license programs providing substance abuse services, so most CMHCs would refer substance abuse clients to licensed programs.⁶

Iowa Department of Substance provided \$250.00 grants to prevention programs in Dickinson, Winnebago, Worth, Howard, Winneshiek, Allamakee, Sioux, O'Brien, Palo Alto, Cerro Gordo, Clayton, Sac, Franklin, Fayette, Hamilton, Hardin, Black Hawk, Buchanan, Dubuque, Monona, Boone, Story, Benton, Linn, Shelby, Guthrie, Greene, Dallas, Jasper, Poweshiek, Iowa, Clinton, Scott, Pottawattamie, Mahaska, Washington, Union, Clarke, Henry, Taylor and Ringgold.

The Crime Commission has provided \$1000.00 grants to prevention programs in Emmet, Kossuth, Winneshiek, Cerro Gordo, Clayton, Franklin, Butler, Bremer, Woodbury, Sac, Calhoun, Hamilton, Black Hawk, Dubuque, Boone, Marshall, Linn, Jackson, Shelby, Dallas, Polk, Jasper, Iowa, Johnson, Cedar, Clinton, Scott, Pottawattamie, Madison, Montgomery, Union, Clarke, Des Moines, Decatur and Appanoose Counties.

Professionals in substance abuse programs believe that networking, cooperation and coordination among community agencies and organizations, is important in prevention. Professionals expressed concerns about the continuum of care, incest and family violence, unemployment among youth, confidentiality, care in the least restrictive setting, ability to pay for services, and lack of group homes for adolescent women.

"Substance use continues to present some serious social problems for school persons, law enforcement persons, health professionals and citizens of Iowa communities. Substance use and abuse always present possible harm to the health of the user and the well-being of his/her family. It is important to have current data on youths' substance behaviors, knowledges and attitudes in order to responsibly address these social and health issues.

The Substance Education Program within the Iowa Department of Public Instruction began a series of tri-annual studies of youth substance behaviors, attitudes and knowledges in the fall months of 1975. The youth studies have continued with data collections in 1978 and 1981."⁷

During the fall of 1981, more than 6,500 Iowa public school students, in school districts ranging in size from rural to urban and in grades six, eight, ten and twelve, completed the survey form.

More than one-third of the students reported in 1975, 1978 and 1981 that they would seek the help of a friend for drug problems. However, 13%, 15% and 11.5%, respectively, responded they would not know where to seek help. More than one-fifth would talk to parents -- 21% in both 1975 and 1981; 24% in 1978.

Table VI
 PERCENTAGES OF STUDENT SAMPLES REPORTING
 SUBSTANCE USE IN 1981

	Tobacco	Marijuana	Alcohol	Other Drugs
Ever Used	33.0	17.8	63.3	5.7
Regular Use	2.3	2.8	21.5	1.7
Heavy Use	6.9	3.8	6.0	0.9

Table VII
 STUDENT RATINGS OF SCHOOL
 SUBSTANCE EDUCATION PROGRAMS

	6th Grade	8th Grade	10th Grade	12th Grade	Total
Yes, very useful.	61.5	47.0	31.0	27.0	42.5
Yes, some use.	26.0	40.0	52.5	56.0	43.0
No, little use.	5.0	8.0	11.0	12.0	9.0
No, waste of time.	7.5	5.0	5.5	4.5	5.5

Source: Substance Abuse Education Program Survey, D.P.I.

Peers' Influence from SAEPS:

"Youth disclose that their peers are the second most important source of influence on their substance nonuse decisions.

Youth indicate that their peers are their third most important source of substance information and their most likely source of help for a substance problem.

It is very likely that youth will associate with some friends/peers who use alcohol, tobacco and marijuana.

Peer disapproval of some common alcohol, marijuana and tobacco behaviors decreases in frequency with each increase in grade level.

Nearly 46% of twelfth grade students perceive that their peers would approve of 'getting drunk once or twice each week'."

Berkeley - Seattle Curriculum and Peer Helper Groups

The Instruction and Curriculum Division, Iowa Department of Public Instruction, developed A Tool for Assessing and Designing Comprehensive School Health Education and they provided training for Area Education Agencies personnel. Local school districts may request copies of this educational booklet from their local educational agency.

A rural, local education agency, Arrowhead AEA located at Fort Dodge, and a large urban district, Des Moines, have planned and implemented comprehensive health education. Both systems use the Berkeley-Seattle Curriculum K-7.

In the Arrowhead area 27 school districts, comprising 56% of the students in that area, are teaching comprehensive health education in fifth grade, 26 districts in fourth grade; 25 in sixth grade and nine in seventh grade. Twenty-five of the 27 districts are public schools, and two are parochial.

In Des Moines 30 of the 40 elementary schools have comprehensive health education in fourth, fifth and sixth grade. All junior high schools have health education in seventh grade. The health course is every day for 12 weeks.

School personnel report that there are less disciplinary problems and less absenteeism during the health units.

There are approximately 115 peer helper groups in Iowa schools according to the Iowa Department of Public Instruction (DPI) as compared to only 2 groups in 1976. The goal of peer helping is to help adolescents establish friendships and to communicate better.⁸

PREVENTION OF PREGNANCY

"Adolescent sexuality and its attendant problems -- particularly pregnancy -- are not new developments, but increased numbers of adolescents in the population have made the impact more visible".⁹ The following three factors are important regarding teenage pregnancy: between 1950 and 1970 the population of persons ages 10-21 doubled from 20 million to 40 million in the United States; in 1960, 16.1% of young women ages 15-19 were married, in 1970 only 11.9% were married; and there was a large increase in fertility for young women 15.5 years old. Of all 15 and one half year old young women in 1968, 69% were fully fertile while in 1940, only 37% were fully fertile.

" The effectiveness of special contraceptive services for teenagers has been reported in several studies of post-partum adolescents. Rauh et al¹⁰ found that 60% of a group of adolescent mothers not in a teen program did not use contraceptives compared to 9% of those teenagers who attended a special clinic. Seventy-nine percent of adolescent mothers not in the teen program had repeat pregnancies within 2 years compared to 33% of those who attended the teen clinic. A similar study conducted by Dickens et al¹¹ found that 80% of teenagers from a specialized teen service accepted contraceptives postpartum compared to 68% of teenagers who had been in regular obstetric services."¹²

Do adolescents who request contraceptives continue to use them effectively to avoid unintended pregnancy? In one study 53% of never-married women who had used contraception at some time did not use any method at last intercourse.

"Similar patterns of sporadic contraceptive use were reported in a study of knowledge and use of condoms by male high school students.¹³ Twenty-eight percent had used condoms at some time, but 72% of this group had not used one at last intercourse."¹⁴

Nationally of sexually active unmarried women ages 15 to 19, 25 % never use contraceptives, and about 45% use them only occasionally.¹⁵

Nine hundred Iowa adolescents completed a seven page questionnaire, "Health Concerns of Iowa Adolescents" during 1981. The survey was designed by personnel from Iowa State Department of Health and Iowa State University Home Economics Extension in conjunction with the State Adolescent Health Committee. Table VIII shows percentages of teenage Iowa respondents and their concerns about unplanned pregnancy.

Ordinarily the number of adolescent mothers who delivered live infants in one year is stated in reports. In this document, consideration will be given to the fact (Table IX) that in 1980 in Iowa there were approximately 6,480 adolescent mothers under 19 years of age. If all these infants and young children were in one Iowa town, that town would be nearly as large as Pella. If both parents were added to the more than 6,000 infants and children, they could populate a city nearly the size of West Des Moines.

Ideally the number of adoptions would be subtracted from the total of infants delivered to teen mothers. However, the Department of Social Services does not collect data on the ages of mothers adopting out their babies. In 1976, 822 infants and children were adopted to non-related petitioners.

TABLE VIII

FAMILY PLANNING AND SEXUAL HEALTH CARE

PREGNANCY RELATED CONCERNS

	GREAT CONCERN	SOME CONCERN	LITTLE CONCERN
Unplanned Pregnancy	54	15	31
Physical Relationships	48	28	24
Birth Control	48	20	32
Abortion	42	16	42

"Pregnancy related concerns, particularly unplanned pregnancy, are of concern for more than half of the sample, although only 16% report using family planning services." 16

TABLE IX
LIVE BIRTHS BY TEENAGED MOTHERS, PERCENT DISTRIBUTION, BY YEAR
1975 - 1980 RESIDENT DATA

AGE OF MOTHER	1980		1979		1978		1977		1976		1975	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL LIVE BIRTHS	47,797	100.0	46,763	100.0	44,559	100.0	44,898	100.0	41,570	100.0	41,360	100.0
18 and Under	3,529	7.4	3,532	7.6	3,688	8.3	3,957	8.8	3,886	9.3	4,219	10.2
12	-	-	1	0.0	2	0.0	1	0.0	-	-	1	0.0
13	5	0.0	5	0.0	5	0.0	9	0.0	11	0.0	8	0.0
14	48	0.1	40	0.1	52	0.1	52	0.1	44	0.1	53	0.1
15	179	0.4	166	0.4	174	0.4	240	0.5	220	0.5	249	0.6
16	523	1.1	499	1.1	566	1.3	660	1.5	673	1.6	703	1.7
17	1,054	2.2	1,075	2.3	1,138	2.6	1,239	2.8	1,251	3.0	1,373	3.3
18	1,720	3.6	1,746	3.7	1,751	3.9	1,756	3.9	1,687	4.1	1,832	4.4

SOURCE: Vital Statistics of Iowa, Iowa State Department of Health

Table X

Live Birth Order 1980

	Total Live Births	<u>Age of Mother</u>	
		Under 15	15-19
<u>Total</u>	47,797	53	5,905
First Child	19,864	52	4,831
Second Child	16,007	-	967
Third Child	7,714	1	94
Fourth Child	2,657	-	7
Fifth Child	842	-	3
Not Stated			3

Source: Vital Statistics, Iowa State Department of Health

In 1980 the figures in Table X show that 7,130 infants and young children had mothers under age 20 when live birth order is considered. For example, 967 mothers under 20 years delivered their second child during 1980.

In a study cited in Healthy People,¹⁷ sexually active teenage women gave the following reasons for not using contraceptives:

- ability to predict the time of month when they are fertile
- belief that chances of pregnancy are low, and
- services were unavailable.

Actually in Iowa services are available throughout the state. The Iowa State Department of Health administers the Iowa Family Planning Program which encompasses 12 private agencies that provide services to 60 Iowa counties. The Reproductive Health Development Corporation serves 39 counties through subcontracts with six private agencies.

Most primary care physicians provide some family planning counseling.

During the calendar year 1981, family planning agencies in the state of Iowa served 23,041 clients under 20 years of age.

In the Iowa Family Planning Training Program

"The effort to coordinate training with allied agencies continued this fiscal year. This effort has been addressed in two ways:

- (1) solicit the expertise of trainers in allied agencies to provide training. Family Planning personnel have the opportunity to learn from recognized experts who are familiar with Iowa. Allied training consultants provide training at no costs, and administrative contacts are made. This fiscal year the Iowa Family Planning Program has enjoyed the cooperative efforts of trainers from ISU Family Environment Extension Department, Iowa Medical Society Foundation, local physicians, area education agencies, USDA, and ISDH programs of WIC, Dental Health, MCH and Disease Prevention.
- (2) Invite allied agency personnel to participate as trainees in co-sponsored events.

In this way family planning personnel can be co-trained with allied agency personnel they will work with at the local level. Trainees report that this opportunity has strengthened the service delivery network in the field. Approximately 10% of attendees are from allied agencies."¹⁸

FY82 TRAINING TOPICS

The following are training topics for FY82 which involve 520 trainees and 906 trainee days.

TRAINING

Infertility
Data System (3 sites)
Family Planning Services for Persons with Disabling Conditions
Providing V.D. Services (4 sites)
Natural Family Planning
Interpersonal Skills: Training of Trainers
Interpersonal Skills: Counselor Training (2 sites)
Interpersonal Skills Follow-up
Seventh Annual Update
Health Concerns for Iowa Adolescents (5 sites)

TECHNICAL ASSISTANCE

Patient Costs (2 sites)
Program Management
Problem Follow-up and Referral
Clinic Efficiency
Clinic Efficiency/Outreach

The Interpersonal Skills training is through a special initiative grant designed for training family planning personnel in counseling adolescents. At the Seventh Annual Update, the following sessions will enable participants to better serve adolescents: nutrition and maternal health care; family planning films for patient and community education; practical aspects of maternal health care; contraceptive care: development and technology; growth and development: infancy through pre-adolescent; approaches to the adolescent patient; and priorities in community education.

According to Healthy People,¹⁹ education and information measures should include:

- community based programs aimed at reducing the number of repeat pregnancies among adolescents (National rates - 25% of adolescent mothers have another pregnancy within one year).
- better informed parents with the ability to communicate with their children
- sex education courses for males as well as females about importance of assuming responsibility for practicing birth control.
- parenting education in elementary and high schools and colleges that train personnel for delivery of human services
- providing contraceptive information to all sexually active teenagers; information should be accessible, convenient, inexpensive, and most important, effective communication methods

PRENATAL CARE AND ADOLESCENT PARENTHOOD

Despite declined rates of infant and maternal mortality, many high risk pregnancies still need to be identified early so that appropriate care and support can be given.

Early identification increases the likelihood of a positive health outcome for those prospective mothers and infants who are at risk. Factors of high risk for mortality or morbidity of pregnant women and infants include:²⁰

- 4th parity or higher
- previous perinatal mortality
- age of mother (under 18 - over 34)
- educational level of mother (less than high school)
- social-economic level of mother
- presence of previous maternal chronic conditions (diabetes, hypertension, kidney disease)
- marital status (out-of-wedlock)
- trimester in which care was begun (second or third)
- prematurity or low birthweight (less than 2,500 grams)
- substances used (high alcohol ingestion, heavy smoking and drug abuse)

A reduction in the percentage of infants of birth weight less than 2500 grams (5 1/2 pounds) and infants born with birth defects would significantly change infant survival and health status.

"Teenagers gave birth to 17.2 percent of all infants born in 1977 in the United States. These infants had a low-birth weight incidence about 1 1/2 times the national average. The 1977 rate of premature delivery for mothers under 15 years old was 24.3 percent, almost three times the national average of 8.8 percent. Thus, prenatal advice and supervision are especially important for teenagers, yet they are less likely than any other age group to start care early in pregnancy. Part of the explanation for this may be that 85 percent of the very young mothers are not married, and, therefore, may delay facing the fact of their pregnancy. Counseling and outreach programs are needed so that they can learn the importance of early prenatal care and so that they are helped to deal with their situation".²¹

In the United States in 1978 the infant mortality was 13.8 per 1,000 live births. The Iowa rate was 12.5.

Mothers under 19 years are high risk. In 1980 in Iowa the fetal death rate for 16 and 17 year old mothers was 11.9 as compared to the overall rate of 8.4. Other high risk factors including rates for fetal deaths (over 20 weeks gestation) and neonatal deaths (up to 28 days) are shown in Table XI.

TABLE XI

	Fetal Deaths Rate		Neonatal Deaths Rate		Perinatal Deaths Rate	
	1980	1974	1980	1974	1980	1974
Mother under 16 years	8.5	9.6	21.6	48.2	29.9	57.3
16-17 years	11.9	13.6	11.4	14.8	23.2	28.2
Parity over 3	11.8	13.9	7.7	11.0	19.4	24.8
Out of Wedlock	14.3	16.0	14.3	21.3	28.4	36.9
Education under 9th Grade	12.6	14.2	10.6	23.0	23.0	36.9
9 to 12 Education	11.4	12.9	9.9	13.7	21.2	26.5
Previous Fetal Death	11.8	13.3	10.6	14.4	22.3	27.6
Previous Live Birth Now Dead	23.9	12.9	27.1	34.5	50.3	47.0
Under 3 Prenatal Visits	46.4	--	68.1	--	111.3	--
First Exam in 3rd Trimester	10.9	11.3	14.1	10.4	24.8	21.5

In Iowa in 1980 there were 47,797 live births; 406 fetal deaths - rate for 1,000, 8.4; 368 neonatal deaths - rate for 1,000, 7.7; 774 perinatal deaths rate for 1,000, 16.1.

In 1974 there were 40,179 live births; 424 fetal deaths - rate 10.4; 418 neonatal deaths - rate 10.4; 842 perinatal deaths - rate 20.7.²²

In a rural state such as Iowa overall rates are lower than national averages, but providing services can be more expensive due to the rural setting.

"Poor nutrition is one of the correlates of low birth weight. Maternal weight before and weight gain during pregnancy are predominant influences on infant birth weight. It is recommended that total weight gain be at least 25-30 pounds, with gain minimal during the first trimester.

Improved maternal nutrition increases infant birth weight. Diet supplementation programs (such as the Special Supplemental Food Program for Women, Infants, and Children WIC), especially those providing calories and proteins, produce statistical increases in infant birth weight. Data from more than 30 years ago suggest that an adequate diet during the last weeks of pregnancy may even be able to offset the effect on birth weight of earlier severe dietary deficiencies".²³

In September 1981, four WIC directors who serve more than one-fifth of Iowa WIC clients estimated that 30 to 40% of the women clients are under 19.

It is especially important that a pregnant adolescent have adequate nutrition, so that the nutritional needs of her own growing body do not have to compete with those of the fetus. "In assessing the pregnant teen it is important to remember that nutritional status at the time of conception is the culmination of the

female's lifetime nutritional experience; also, it is an important determinant of reproductive efficiency. Both pregnancy and adolescence are periods of increased requirements for energy and for some 40 essential micro and macronutrients." ²⁴

Pregnant girls ages 11 - 14 should consume 2,500 calories daily; adolescent women ages 15 - 18, who are pregnant, 2,400 calories daily. Underweight young women may need up to 1,000 more calories per day. Young pregnant women may be reluctant to gain the recommended amount of weight. Nutrition counseling for pregnant teenagers can represent a major challenge for health professionals.

In the United States, 12.5 to 13 years is the average age at menarche. If pregnancy occurs before a period of three years after menarche, the young mother is likely to deliver a low birthweight infant.

Prior to pregnancy, adolescents and women should be informed about other factors that may affect the health of their future infants. In the very early stages of pregnancy, the fetus is most vulnerable to radiation damage. Maternal smoking, use of alcohol and drugs can also affect fetal development.

It is important that pregnant adolescents and women receive prenatal care during the first trimester and throughout their pregnancies. The rates in Table XI show fetal, neonatal and perinatal deaths for all mothers delivering in 1980 who began prenatal care in third trimester and who had less than three prenatal visits. During FY 1981, 54% of young women under 20 enrolled at the seven maternal health centers, receiving funds from ISDH, started prenatal care during the first trimester.

"The psychological impact of pregnancy on the adolescent girls may be more detrimental to her lifetime well-being and that of her child than are the effects of biological immaturity. Pregnancy, with its own psychological tasks, adds greatly to the emotional burden carried by the young adolescent. The pregnant teenager has less opportunity to develop self-esteem. Society's punitive attitude toward early pregnancy tends to withhold the understanding and support which the young pregnant girl desperately needs." ²⁵

In the Cvetkovich and Grote study teenage women reported the following reasons for becoming sexually involved: unable to say "no"; wanted to please their boyfriends; and thought sexual activity was expected of them. Young men stated that they found it difficult and embarrassing to discuss contraception with their girlfriends.

Young people need more than knowledge and access to contraceptive methods. Lack of interpersonal communication skills is one of the correlates of teenage pregnancy and for repeat pregnancies among teens. ²⁶

The following is a portion of a speech given by Rebecca D. Shaw, M.D., at the April 7, 1982, Great Plains Perinatal Meeting, Des Moines:

"In a review of teenage deliveries at University of Iowa Hospitals in 1977-78, only 4.5% of the infants were placed for adoption. The remaining 1,174 babies remained in the custody of their young mothers, only half of whom were married. Of the unmarried, two-thirds of these mother-child units were supported by ADC, payments which are often not sufficient for adequate diet and housing. Therefore, many of these Iowa infants begin life as a burden for their mothers, even if they are healthy babies.

Nationally, only 20-35% of pregnant adolescents complete high school as compared to 77% of older mothers. Data from the University of Iowa by Grinstead, Cain, and Atcherson shows that 48% of 18 and 19 year old mothers had completed high school.

In a large Baltimore study, 40% of adolescent mothers had repeat pregnancies in less than one year. This compares to only 20% in the older mothers. This recurrent pregnancy rate greatly compounds the problems for mothers and infants. Contraception for these adolescents is clearly a big need. Some teens who have some sex education and do know about contraception are apprehensive about side effects and don't want to use some forms of birth control. Yet the dangers of pregnancy at this age far outweigh the dangers of any form of contraception for most healthy young women."

There are few repeat pregnancies among the young women who have been students at the Teen Academic and Parenting Program (TAPP), Davenport. Students return to regular schools the semester following the births of their infants. In addition to the regular academic program, students benefit from courses in prenatal care, infant nurturing and consumer education. Day care is provided for the infants; the students then have practical learning experiences with the babies. A support group for the students and interested relatives is also available. In the Appendix there is a list, "Difficulties in Adjustment", that the young mothers compiled.

TAPP is a part of the Davenport public school system. During the 1980-81 school year, 118 students were enrolled at TAPP. This school was organized 10 years ago. Scott County also has the Scott County Organization on Adolescent Pregnancy and Parenting (SCOAPP), the only Iowa Chapter of the national organization of professionals concerned with teenage pregnancy and parenthood.²⁷

Not all health problems are reflected in mortality and morbidity figures. It is also important to foster early detection of developmental disorders during the first year of life to maximize the benefits of care. And the first year is a significant period for laying the foundation for sound mental health through the promotion of loving relationships between parents and child.²⁸

In the Boston area, interviews with adolescent parents about their needs revealed that the problem most frequently reported was lack of money. Other concerns were isolation and depression; inadequate housing; acceptable child care especially for children under three years; good and timely health care; limited opportunities to complete education and receive job training; marital problems and difficulty in obtaining regular relaxation and recreation.²⁹

As a result of this study the researchers made the following recommendations:

- More emphasis on parenthood and long term follow-up (at least three years following birth of infants) of adolescent parents and their children.
- Basic life maintenance skills included in all school curricula.
- Services available in order for young parents to complete their education. Services should include infant and child care, flexible school schedules and transportation.
- Family health services.

- Contraceptive counseling and services available to all young parents.
- Reduction of the frequent isolation experienced by teenage mothers. Drop-in centers, support groups, subsidized telephone services, school attendance and employment can all benefit young mothers who have problems of isolation and loneliness. Aggressive outreach is necessary to help those mothers who are apathetic.
- Infant and child care services available, especially to single mothers. Coordination of services by providers.
- Provision of basic necessities.
- Vocational training and job placements for adolescent mothers and fathers.
- Supervised, post-delivery residences, especially for many single teenage mothers.

In "Children Today", September-October 1979 the social and economic consequences of teenaged childbearing were analyzed. Data from the following two national surveys were utilized: a sample of 5,000 young females in the National Longitudinal Study of the Labor Market Experiences of Young Women and a sample of 5,000 households in the Panel Study of Income Dynamics. The economic impact of teenage motherhood is not direct. However, it appears to trigger a chain of events that undermine economic well being. Other research documents associations between early motherhood and lower educational attainment, a higher probability of divorce, high subsequent fertility and later poverty.

NUTRITION

"Human food behaviors are dictated by both biological and social needs. This is particularly true during adolescence when a rapid period of biological development is occurring. Simultaneously, adolescents are motivated to assert their individuality in terms of social behavior, including food selection.

The interrelationship between biological and social needs must be emphasized in terms that adolescents understand. This understanding should be based on the premise that food is related to health and that the optimum health is a prerequisite to a better quality of life at the present and in the future.

Approximately 50 percent of adult weight and 20 percent of linear growth are achieved during adolescence. Because of the variability in maturation rates, assessing the nutritional status of adolescents becomes more difficult. An assessment based on chronological age addresses the average nutrient requirements and does not speak to the problem of early or later maturers. In more recent years, the increasing incidence of adolescent pregnancies, obesity, and sports-related injuries presents other kinds of nutrition-related concerns above and beyond requirements for satisfactory development.

In screening adolescents with potential health problems, dietary history is a significant indicator of adequate nutrient intake over time. A history serves to identify certain types of foods containing substances essential to good health and that must be obtained dietarily. Moreover, a dietary history supplements growth data and biochemical values indicative of good health.

A broad screening of individuals and groups to identify nutritional or dietary problems common to the adolescent population is integral to any preventive health approach for this age group. A second approach should involve specific screening to identify at-risk groups diagnosed as diabetic, hypertensive, pregnant, failing to thrive, early and late maturers, and other similar nutrition-related health problems.

Preventive health services for adolescents should include individual and group dietary counseling, nutrition education and programs, and health referral systems for the follow-up of adolescents with chronic diseases involving dietary modification.

Other needed services include information about where, when, and how to apply for food assistance programs; free and reduced school lunches; and food demonstration programs. Other services could involve credible physical education programs at schools and public agencies which encourage participation of both the adolescents and their families."³¹

Health promotion during adolescence involves the establishing of eating habits which lower risk of degenerative disease. These modifications in the American diet are recommended in Healthy People and Dietary Guidelines for Americans (1980):

- decrease consumption of foods high in fat, saturated fat and cholesterol.
- decrease consumption of foods high in salt and refined sugars.

- increase consumption of complex carbohydrates and naturally occurring sugars (fruits, vegetables, legumes and grains)
- maintain ideal weight by consuming only as much energy as is expended.

These changes are designed to lower a person's risk of developing diabetes and cardiovascular, digestive and dental diseases.

Iron Vitamin A and calcium are the nutrients most frequently deficient in the diets of adolescents in the United States. "Nutritional inadequacies have been found more frequently in young adolescent girls than in any other age group."³²

TABLE XII

Mean Heights and Weights and Recommended Energy Intake

Category	Age (years)	Weight (kg)(lb)	Height (cm) (in.)	Energy Needs (with range) (kcal)
Females	11-14	46 101	157 62	2200 (1500-3000)
	15-18	55 120	163 64	2100 (1200-3000)
Males	11-14	45 99	157 62	2700 (2000-3700)
	15-18	66 145	176 69	2800 (2100-3900)

Table XII was taken from Recommended Dietary Allowances (1980), the National Academy of Sciences. Average energy needs by age and sex group are provided only as guidelines. Energy allowances in kilocalories (kcal) are shown by chronological age. Actual needs are related to developmental age.

"The values cited are median intakes of adolescents followed in longitudinal growth studies in Boston, Denver, and Iowa City. The values are in substantial agreement with cross-sectional data from nutrition surveys, such as HANES. The intakes in parentheses are 10th and 90th percentiles to indicate the range of energy intake among adolescents of these ages. It must be emphasized that more appropriate allowances for individual adolescents may be derived from observations of appetite, activity, growth, and weight gain in relation to the extent of deposits of subcutaneous fat."

The Iowa Task Force on Comprehensive School Health Education included the following as one of the 10 recommended subject areas for health education curriculum, K-12:

"Food and Nutrition . . . Students will analyze the importance of proper food selection and consumption as it relates to maintaining and enhancing health of self and others."

The Instruction and Curriculum Division, Iowa Department of Public Instruction, developed A Tool for Assessing and Designing Comprehensive School Health Education, and they provided training for Area Education Agencies personnel. Local school districts may request copies of this educational booklet from their local educational agency.

A rural, local education agency, Arrowhead AEA located at Fort Dodge, and a large urban district, Des Moines, have planned and implemented comprehensive health education. Both systems use the Berkeley-Seattle Curriculum K-7 Food and nutrition education is included in this curriculum.

In the Arrowhead area 27 school districts, comprising 56% of the students in that area, are teaching comprehensive health education in fifth grade, 26 districts in fourth grade; 25 in sixth grade and nine in seventh grade. Twenty-five of the 27 districts are public schools, and two are parochial.

In Des Moines 30 of the 40 elementary schools have comprehensive health education in fourth, fifth and sixth grade. All junior high schools have health education in seventh grade. The health course is every day for 12 weeks.

School personnel report that there are less disciplinary problems and less absenteeism during the health units.

OBESITY

Probably the most common nutritional and health problem among adolescents is obesity. It is estimated that obese 12 year olds have about one chance in four of having normal weight as an adult; obese 18 year olds have about one change in 28. National estimates indicate that about 15% of adolescents are obese. Refer to appendix for mean weight for height and age tables.

"Before a treatment plan is initiated, the following factors should be assessed; body image, depression, dependence, self esteem, socialization, compulsive behavior, activity, eating patterns and motivation. Those adolescents who are found to be significantly depressed, have low self esteem, body image disturbances or are extremely dependent and immature will require intensive supportive counseling before approaching the weight problems.

Recent reports suggest that behavioral techniques combined with diet and prescribed physical activity and exercise may prove to be the most successful method for treating adolescent obesity."³²

According to studies a major cause of adolescent obesity is inactivity. Obese adolescents are more sedentary than their slimmer counterparts. In their treatment plan structured physical activity should be an integral component of their treatment plans.

In Nutrition Reviews (Feb. 1981) a Matrix for Action: Nutrition and Dietary Practices for American Population in the Teenage Period, the following recommendations are made for schools:

1. Involve the schools in working closely with fast food chains and other food stores in efforts to provide teenagers with appropriate nutrition information such that they will be able to make better informed food choices.
2. Encourage schools to have teenagers develop the nutrition component and related field experiences in the school health education curricula.
3. Encourage schools to enlist the help of teenagers in teaching each other and their parents about good nutrition.

4. Encourage schools to incorporate into their health education curricula educational strategies to assist teenagers and their parents to select from a fast food menu, foods that when combined, will provide greater nutritional adequacy.
5. Involve schools in education about food ingredients to encourage students to read labels and become acquainted with those ingredients which are nutritious and those which are not.
6. Encourage local school food service directors to establish innovative nutrition education programs involving cafeteria workers and students. Use Type A lunches as educational tool for teaching good nutrition.
7. Encourage school personnel to eliminate "empty calorie" food vending machines and replace with nutritious foods in vending machines.
8. Conduct animal studies in biology classes or health classes demonstrating effect of good diet vs. "junk food" diet.
9. Encourage fast food chains to provide salads or an alternative to fried foods.
10. Encourage the school food service to allow teenagers to assist in planning menus that include foods that will be eaten rather than thrown away.

There are also recommendations for the home, the community, the worksite, media, private sector, government and the health care system.

For seven years Iowa State University Extension Service has sponsored camps for obese adolescents. This year three extension areas in eastern Iowa are planning and implementing "Camp I Can."

Anorexia Nervosa

"Anorexia nervosa is the diagnostic term for a state of pitiful emaciation that is the result of self-inflicted voluntary starvation. It occurs mainly in adolescent girls most of whom are of middle and upper-class backgrounds, and it is usually associated with amenorrhea (absence or abnormal stoppage of the menses). It does occur in prepubertal boys, but with only about one-tenth of the frequency. There is no true loss of appetite, so the term "anorexia nervosa" is a misnomer. Instead of the lethargy and exhaustion so commonly associated with severe malnutrition, the syndrome includes a marked and persistent drive for activity."⁴⁹

According to Dr. Anyan's book, *Adolescent Medicine in Primary Care*, characteristics of the disorder are amenorrhea, weight loss, and considerable physical activity. The young people become obsessed with thinness; dietary control changes to avoidance of food. Hunger is denied. Fatigue and sleep disturbances affect most patients.

Whether a patient requires ambulatory or in-patient treatment depends upon the following factors: if body weight is below 85-90% of expected lean body mass (LBM); patient cannot manage regular activities; increased fatigue; availability of parents to participate in patient's care and clinicians impression of the probable response to therapeutic intervention.

BULIMIA

A number of counselors who work with Iowa Adolescents are seeing adolescent women athletes who have some of the symptoms of bulimia (gorge-purge or binge-purge syndrome):

- A. "Recurrent episodes of binge eating (rapid consumption of large amount of food in a discrete period of time, usually less than two hours).
- B. At least three of the following:
 1. Consumption of high calorie, easily ingested food during a binge.
 2. Inconspicuous eating during a binge.
 3. Termination of such eating episodes by abdominal pain, sleep, social interruption, or self-induced vomiting.
 4. Repeated attempts to lose weight by severely restrictive diets, self-induced vomiting, or use of cathartics or diuretics.
 5. Frequent weight fluctuations greater than ten pounds due to alternative binges and fasts.
- C. Awareness that the eating pattern is abnormal and fear of not being able to stop eating voluntarily.
- D. Depressed mood and self-deprecating thoughts following eating binges.
- E. The bulimic episodes are not due to anorexia nervosa or any known physical disorder."*

*The criteria above is reprinted from a leaflet from Overeaters Anonymous.

SPORTS AND NUTRITION

This section was written by Laura Sands, R.D., ISDH.

Preoccupation with winning and peer pressure makes the adolescent athlete particularly susceptible to nutrition misinformation. Sports magazine expound the "competitive edge" of different diets and nutritional supplements, while inappropriate weight and eating regimens are encouraged by peers and, sometimes, coaches and trainers.

The Iowa Wrestling Study of high school wrestlers in 1970 documented that the coach and other wrestlers are the most frequently consulted resources about "making weight" a potentially hazardous and widely practiced behavior. Physicians were seldom consulted. Clearly there is a need to teach sound nutritional principles in schools, as well as to inform parents and coaches about the dangers of some dietary practices.

Generally a diet which meets the guidelines set out in Healthy People will be appropriate for the athlete. Carbohydrate is the most efficient energy source and is the nutrient most readily converted to glycogen, the storage form of glucose. Adequate glycogen stores are particularly important in endurance sports. To assure adequate stores, 55 - 60% of total calories should be in the form of carbohydrates. This, along with other sound nutritional recommendations for the general public are elaborated upon in the publication Dietary Goals for the United States, 1977. (Available through Superintendent of Documents)

Water is the most critical nutrient for young athletes, especially during periods of intense training and competition. Wrestlers in participation have been encouraged to restrict water intake in order to meet weight categories, which may be inappropriate, in any case. Short term sequelae include dehydration and impaired performance while renal complications may result in the long run. As thirst may not reflect the body's actual need, athletes need to be instructed on how to rehydrate systematically following training sessions and competitive events.

If the athlete consumes a diet containing a variety of whole foods, nutritional supplements such as vitamins, minerals and protein powders are unnecessary and certainly not helpful in terms of actual performance. One exception is adolescent females who may require additional iron. Megadoses of vitamins do have pharmacologic effects, so the supplemental program undertaken by the athlete is of concern and should be monitored by competent health professionals.

Weight is an area of particular concern to wrestlers. The Iowa Wrestling Study indicated that a large number of high school wrestlers lost considerable amounts of weight in short time periods before certification into a specific weight category. Most lost 5 to 6% of their initial weight. In addition to reducing fluids, the wrestlers reduced the amount of food eaten. Another finding was that weight gains following the season were greater than the growth changes which would be expected for changing body dimensions. Neither the patterns of weight loss nor the rapid post-season gains are consistent with the steady growth patterns of normal adolescence.

By severely restricting caloric and nutrient intakes during this critical growth period, the wrestler may compromise his growth potential. In addition, under conditions of chronic food deprivation, strength and aerobic capacity decline.

ACCIDENTS

Nationally in 1977, motor vehicle accidents accounted for 37 percent of all deaths in the 15 to 24 year age group. In Iowa in 1980, 277 persons in this same age group died from motor vehicle accidents. MORE THAN ONE-HALF (51.7%), OF YOUNG IOWANS (AGES 15-24) WHO DIED IN 1980 DIED FROM MOTOR VEHICLE ACCIDENTS.)

Table XIII shows types of accidental deaths in Iowa in 1980 for age groups 5 - 14 and 15 - 24.

"Although a complex interaction--of driver, vehicle and roadway--determines the risk of accidents, nevertheless a teenage or young adult driver who is involved in a traffic accident in the United States is twice as likely to die as a driver 25 years old or older.

Alcohol consumption is clearly implicated in many of the fatalities. About half of fatally injured drivers have been found to have blood alcohol concentrations of more than 100mg/dl (100 milligrams of alcohol per deciliter of blood). In most states, this is considered presumptive evidence of intoxication. Blood alcohol levels even lower than 100mg/dl increase the likelihood of an accident -- especially for teenagers, the elderly, and others particularly sensitive to alcohol. Young people also place themselves at greater risk by driving while under the influence of marijuana or other drugs.

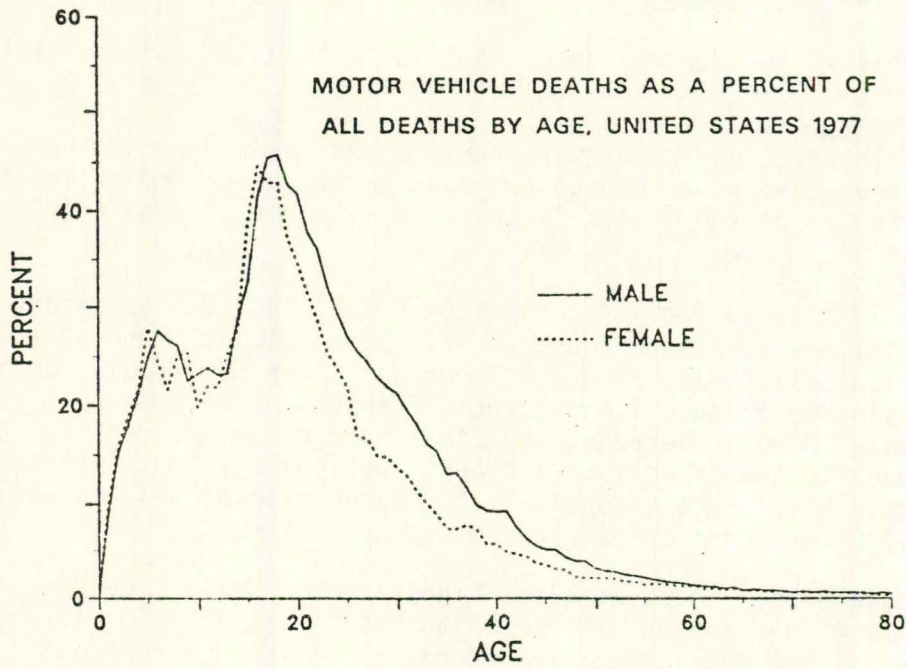
The attitudes of young people about risk are significant. While excessive speed was a factor in 35 to 40 percent of all vehicular fatalities in 1977, it was an influence in almost half of those involving teenagers 15 to 19. Although lap and shoulder belts can help to prevent serious injuries and fatalities, 80 percent of Americans, including teenagers and young adults, do not use them.

Motorcycle accidents killed more than 4,000 Americans in 1977 -- 30 percent of them under 20 years of age. Motorcyclists, because they have so little protection, have a seven times greater chance of fatal injury for each mile driven than do automobile drivers. And, more frequently than automobile accidents, motorcycle accidents cause severe, permanent head injuries leading to paralysis."³³

"By a wide margin, the major public health problem for teenagers in this country is injuries associated with motor vehicle use." Beginning with the age of 13, motor vehicle passenger death rates per capita climb sharply compared to passengers of other ages. According to one Insurance Institute study, more than 7,000 teenagers in the U.S. lost their lives in passenger car crashes in 1978.

Table XIV is a graph showing the high proportions of adolescents and young adults who die in motor vehicle accidents.

TABLE XIV



SOURCE: Insurance Institute for Highway Safety

Following are some highlights of the Insurance Institute's research findings:

The Dangerous Age

In 1977, 8 percent of the U.S. population was 16, 17, 18 and 19 years old. However, they sustained 17 percent of all motor vehicle-related fatalities.

Drivers

Eighteen year olds are associated with more fatal crashes per licensed driver than any other age.

Sixteen and seventeen year old drivers are responsible for more than 60 percent of the passenger vehicle-related deaths of 16 and 17 year olds; about one-third of the deaths of 15 year olds and one-quarter of the deaths of 14 year olds.

Passengers

More than one half of fatally injured teenaged passengers sustain those injuries in vehicles driven by teenagers.

Sex

Driver involvement in fatal crashes is much greater for teenaged males than females.

Nighttime

A majority of the fatal injuries for teenaged passengers and drivers occurred from 9:00 p.m. until 5:59 a.m.

Alcohol

A substantial reduction in nighttime fatal crashes have occurred in states that have raised their legal drinking age.

Single-Vehicle Crashes

Younger drivers involved in fatal crashes were more likely to have single-vehicle crashes than were older drivers.

Driver Education

Some Connecticut school districts eliminated driver education. There was a 57 percent net reduction in licensure of 16 and 17 year olds and a commensurate reduction in crashes in this age group.

Restraints

Ontario, Canada, has a mandatory belt-use law. Research indicates that high risk teenaged drivers were least likely to use seat belts.

Public Policies

The following public policies that might reduce teenaged driver's fatal crashes were discussed:

1. Postpone driver licensure until 18 years old.
2. Licensed drivers under 18 years operate vehicles only between 4:00 a.m. and 8:00 p.m.
3. Raise legal minimum drinking age.
4. Eliminate high school driver education

Accident Rates in Iowa

As Table XV indicates the motor vehicle accident rates from all causes and alcohol-related causes are highest for 18 and 19 year old drivers.

Alcohol-related deaths by county for more than a three year period are shown in Table XVI.

"The number of alcohol-related traffic deaths in Iowa has stayed the same since 1970, while the number of road fatalities not involving drinking has dropped dramatically, according to a new study by the Governor's Highway Safety Office.

The report also points out that drunken drivers are far more likely to be killed on rural roads than in town, and that most drivers in such crashes are 24 years of age or younger.

The study, released Thursday, says that in 1970, Iowa had 270 alcohol-related traffic deaths, exactly the same as in 1981. During the same period, other road fatalities have dropped 43 percent, from 642 in 1970 to 342 last year.

Joyce Emery, a traffic safety analyst who authored the report, said it points out the need for stricter enforcement by local law enforcement agencies, and for tougher drunken driving laws to be passed by the Iowa Legislature.

Factors that have contributed to the large number of alcohol-related deaths since 1970 include an increase of 14 percent in vehicle miles traveled, a doubling of motorcycle crashes, lowering the legal drinking age to 19, and a law change enabling gasoline stations to sell beer, according to the report."³⁵

"The loss of society from drunk driving fatalities and injuries was valued at more than \$81.5 million in 1980 for Iowa alone. This figure was obtained using estimates published by the National Highway Traffic Safety Administration: value to society of each life saved is \$287,175; value of each injury averted is \$3,185."³⁶

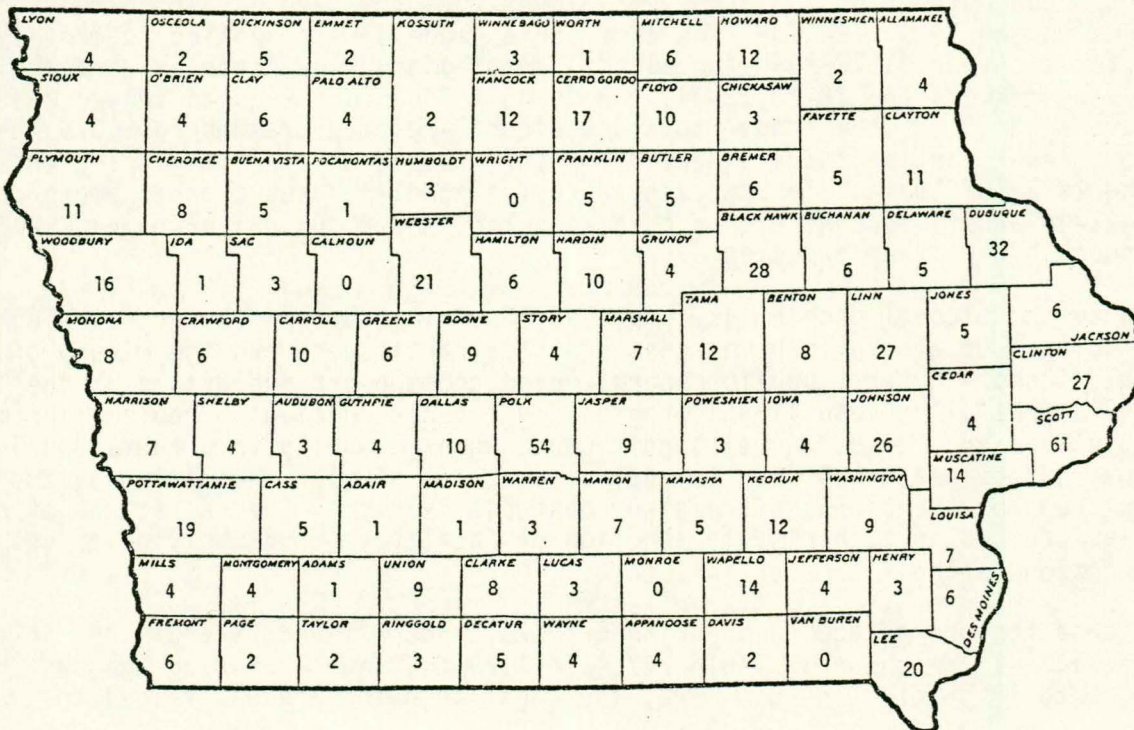
IOWA 1979

TABLE XV
ACCIDENT RATES* OF DRIVERS BY AGE

AGE	ALL CAUSES		ALCOHOL-RELATED	
	ACCIDENT RATE	FATAL ACCIDENT RATE	ACCIDENT RATE	FATAL ACCIDENT RATE
15 & Under	152	3.1	5	.8
16	1,287	6.4	36	2.1
17	1,455	6.7	60	1.9
18	1,384	7.7	81	2.9
19	1,201	7.9	92	3.1
20 - 24	822	5.4	66	2.6
25 - 34	514	3.5	30	1.0
35 - 44	446	3.0	21	.8
45 - 54	414	2.4	14	.4
55 - 64	371	2.4	10	.3
65 - 74	308	1.9	5	.2
75 & Older	299	1.7	2	.1

*ACCIDENTS PER 10,000 LICENSED DRIVERS
SOURCE: Governor's Highway Safety Office

TABLE XVI
Alcohol-Related Deaths
1979 to 1981*



CP-14407

*As of March 5- 1982

SOURCE: "The Alcohol Problem", Governor's Highway Safety Office

MICHIGAN

Table XVII
Drivers Involved In Motor Vehicle Crashes
in Michigan, 1972-1979

AGE 18-20

	HAD BEEN DRINKING	HAD NOT BEEN DRINKING	TOTAL	PERCENT HAD BEEN DRINKING
1972	8140	75630	83770	9.7
1973	8170	74990	83160	9.8
1974	8270	68370	76640	10.8
1975	10310	67855	78165	13.2
1976	11625	75755	87380	13.3
1977	11680	77800	89480	13.0
1978	12165	82775	94940	12.8
1979	9010	75290	84300	10.7
<i>Projected 1979</i>	<i>13000</i>	<i>80810</i>	<i>93810</i>	<i>13.8</i>

"Motor vehicle accidents in Michigan during the period 1972-1979 were analyzed to examine whether the change in legal drinking age (from 18 to 21, in December 1978) affected the numbers of 18-to-20-year-old drivers involved in alcohol-related crashes during 1979. Box-Jenkins time-series models were applied to monthly crash data for the years 1972-1979 for alcohol-related and non-alcohol-related accidents involving drivers age 18-20, 21-24, and 25-45. The study results showed that for drivers aged 18-20, the actual total of alcohol-related crashes for 1979 was 31 percent less than the total expected for 1979, based on the time-series analyses of the 1972-1978 data. In contrast, actual alcohol-related crashes among drivers aged 21-24 were 9 percent higher than expected, and among drivers aged 25-45 were 5 percent higher than expected."³⁷

"Because the alcohol problem is comprised of social customs, laws governing the availability of alcoholic beverages, political attitudes, and the misery of individual alcohol-abusers, public understanding and support for action at the local level is crucial for additional progress in crash reduction. Problem identification in this area takes on new significance when community volunteers and local highway safety personnel need to analyze their particular regional problems and bring them to attention. Often a key obstacle is simply the resistance of particular persons in authority to sanction or facilitate drunk driving arrests and prosecution in their area of influence."³⁶

Iowa data for one decade on drinking drivers, under 21 and 21 and over, involved in fatalities are shown in Table XIX. In 1973 the legal drinking age was changed from 21 to 18 years. In July 1978, the legal drinking age was raised to 19.

IOWA TABLE XIII

ACCIDENTAL DEATHS BY TYPE OF ACCIDENT BY AGE

1980 OCCURRENCE DATA

TYPE OF ACCIDENT	TOTAL	5-14	15-24
GRAND TOTAL	1,297	72	358
WORK TOTAL	88	-	19
AGRICULTURE	46	-	5
MINING, QUARRYING, OIL AND GAS WELLS	1	-	-
CONSTRUCTION	17	-	7
MANUFACTURING	8	-	2
TRANSPORTATION	2	-	1
TRADE	2	-	2
SERVICE	8	-	2
GOVERNMENT	4	-	-
OTHER AND UNSPECIFIED INDUSTRY	-	-	-
HOME TOTAL	207	17	15
POISONINGS (GAS EXCEPTED)	8	1	1
POISONINGS BY GASES AND VAPORS	15	-	3
FALLS	104	-	1
FIRES	43	9	6
DROWNING	6	2	-
SUFFOCATION, INGESTED FOOD OR OBJECT	4	-	-
SUFFOCATION, MECHANICAL	3	-	2
FIREARMS	6	3	1
OTHER AND UNSPECIFIED HOME ACCIDENTS	18	2	1
MOTOR-VEHICLE TOTAL	663	40	277
INJURY TO PEDESTRIAN	55	9	17
INJURY TO PEDAL CYCLIST	11	7	1
INJURY TO RIDER OF ANIMAL OR OCCUPANT OF ANIMAL-DRAWN VEHICLE	-	-	-
COLLISION WITH RAILROAD TRAIN	18	-	12
COLLISION WITH OTHER MOTOR VEHICLE	305	11	114
COLLISION WITH FIXED OBJECT	148	2	74
NONCOLLISION	111	11	51
OTHER AND UNSPECIFIED ACCIDENTS	15	-	8
PERSON INJURED *			
DRIVER OF MOTOR VEH. OTHER THAN MOTORCYCLE	345	3	143
PASSENGER IN M V OTHER THAN MOTORCYCLE	151	13	61
MOTORCYCLIST	65	6	37
PASSENGER ON MOTORCYCLE	13	2	6
PUBLIC NON-MOTOR VEHICLE TOTAL	329	14	46
RAILROAD - NOT WITH MOTOR VEHICLE	3	-	1
OTHER VEHICLE - NOT WITH MOTOR VEHICLE	1	-	-
WATER TRANSPORT	3	-	-
AIR TRANSPORT	19	-	4
FALLS	124	-	1
FIRES	3	-	1
DROWNING	36	5	22
FIREARMS	7	1	5
OTHER AND UNSPECIFIED PUBLIC ACCIDENTS	133	8	12
ACCIDENT TYPE UNKNOWN AND LATE EFFECTS	10	1	1

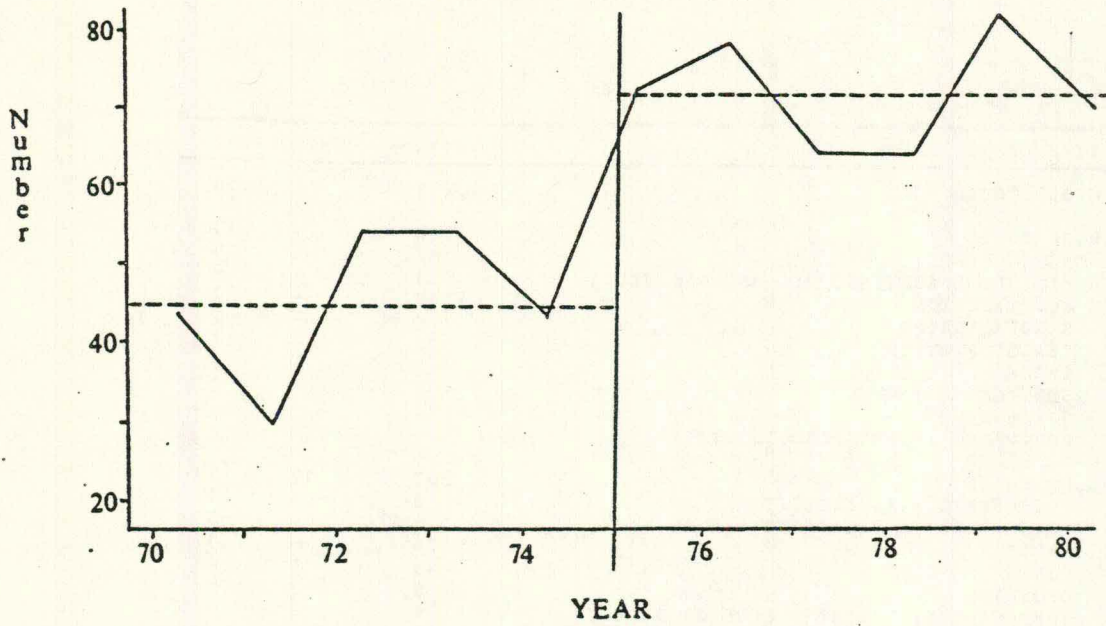
* SPECIAL TOTALS - DO NOT ADD INTO M.V. OR GRAND TOTALS.

SOURCE: Vital Statistics, ISDH

IOWA

Drinking Drivers Involved in Fatal Crashes

AGED 20 AND BELOW

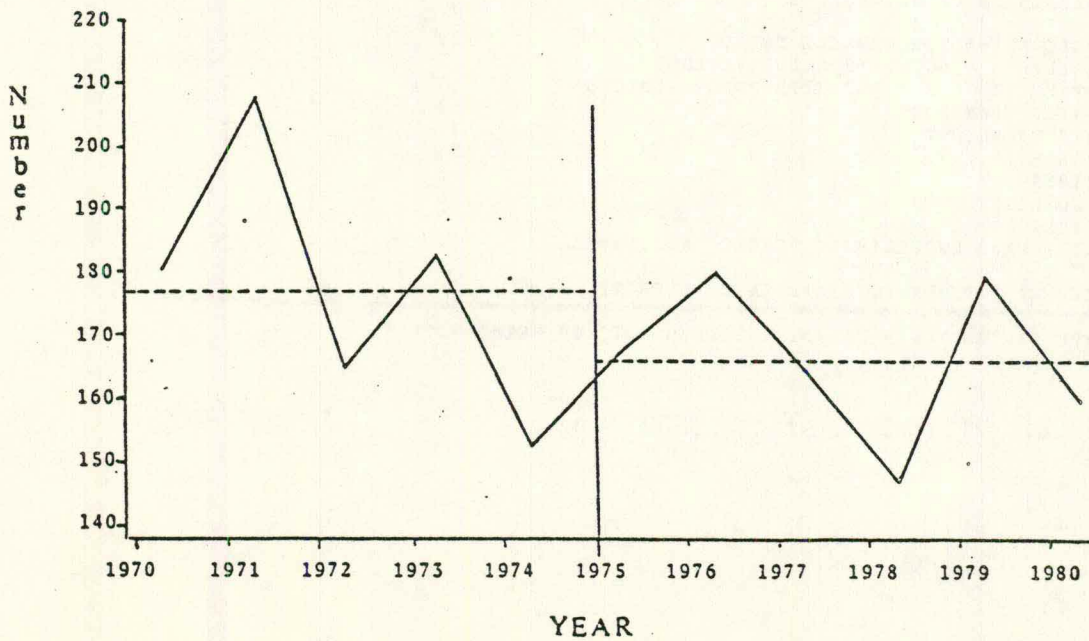


SOURCE: Governor's Highway Safety Office

IOWA

Drinking Drivers Involved in Fatal Crashes

AGED 21 AND OVER



SOURCE: Governor's Highway Safety Office

In the Substance Abuse section of this report "Iowa Study on Adolescent Health", the "Substance Abuse Education Survey" results show that nearly 46% of twelfth grade students perceive that their peers would approve of getting drunk once or twice each week."

In the "Health Concerns of Iowa Adolescents" survey designed by Iowa State Department of Health and Iowa State University Home Economics Extension, avoiding accidents ranked fifth as a concern of the 900 teenage respondents. Other concerns are shown in Table XX.

	GREAT CONCERN	SOME CONCERN	LITTLE CONCERN
¹ HAVING FRIENDS	72	2	3
¹ CANCER	62	17	20
¹ GOOD TEETH	62	21	17
¹ DATING	58	24	18
¹ AVOIDING ACCIDENTS	58	22	20
¹ UNPLANNED PREGNANCY	54	15	31
PHYSICAL RELATIONSHIPS	48	28	24
² BIRTH CONTROL	48	20	32
VENERAL DISEASE	46	18	36
DYING AND DEATH	45	20	25
ABORTION	42	16	42
DRUG ABUSE	42	17	41
ACNE	40	23	37
ALCOHOL ABUSE	38	23	39
MENTAL ILLNESS	38	20	42
SICKNESS	32	36	32
SMOKING	31	21	48
BEING POPULAR	28	33	39

¹ = SIGNIFICANT AT .001 LEVEL
² = SIGNIFICANT AT .001 LEVEL FOR FEMALES BUT NOT MALE

"The degree of concern about certain health habits varies widely. Six concerns were statistically significant: having friends, good teeth, cancer, dating, accidents, and unplanned pregnancy."

In Table XXI the same adolescents responded to questions about driving and riding in motor vehicles.

SAFETY	PERCENT WHO	SOMETIMES-ALWAYS	OCCASIONALLY	NEVER
¹ EXCEED SPEED LIMIT?		52%	22%	26%
¹ RIDE WITH SOMEONE WHO EXCEEDS THE SPEED LIMIT?		80%	15%	5%
DRIVE OR RIDE WITH SOME ONE UNDER THE INFLUENCE OF ALCOHOL?		48%	18%	34%
¹ DRIVE WHILE UNDER THE INFLUENCE OF DRUGS OR MEDICATION?		20%	13%	67%
¹ WEAR SEAT BELTS?		7%	18%	75%
¹ WEAR HELMET IF RIDE BIKE OR CYCLE?		9%	11%	80%

¹ = SIGNIFICANT AT .001 LEVEL.

"While avoiding accidents ranked high on the list of concerns for adolescents, actual behavior seems inconsistent with this concern at times.

Fifty-two percent of the respondents indicated that they sometimes or always exceed the speed limit. Eighty percent indicated that they ride with someone who exceeds the speed limit. Thus, there is the perception that other people exceed the speed limit more often than they themselves do. Forty-eight percent indicated that they ride or drive with someone under the influence of medication or drugs. Once again, it appears as though they perceive it as someone else who is abusing substances rather than themselves. These findings are particularly interesting in view of the fact the seventy-five percent indicated they never wear seatbelts. For those who ride a bicycle, moped, or motorcycle, eighty percent never wear a safety helmet."⁴⁰

DENTAL HEALTH AND FLUORIDATION

Oral health overview

About 98% of the U.S. population has had at least one cavity. By the time children in the U.S. are 17 years of age, each, on the average, has nine decayed, missing, or filled permanent teeth. More than 11% of the U.S. population lose all of their teeth, mainly from dental caries and gum disease. (41)

Uses of Fluoride for Prevention of Dental Caries/Caries Reduction

Systemic

- community water fluoridation - 50-70%
- school water fluoridation - 40%
- fluoride tablets - 20-35%

Topical

- professionally applied - 30-40%
- self applied
 - mouthrinses - 25-33%
 - fluoride dentifrice - 25%

In Iowa 12% of the people on public water supplies are drinking water with deficient levels of fluoride.

"Even for children who visit the dentist regularly, fluoride treatments are infrequent; and many children visit the dentist much less frequently than is recommended, if at all. It has been reported that 30% of the population under the age of 17 have never been to a dentist, and for children under the age of 12, this figure has been reported to be nearly 50%. The fluoride protection gained from use of toothpastes containing this agent is a significant factor in reducing cavities (estimated at 15-30%); but, again, this effectiveness could be greatly increased if other sources of fluoride, both topical and systemic, were included."⁴²

Programs and their strategies

Dental Health Program

The Dental Health Section of the Division of Personal and Family Health provides a variety of preventive dental health services which assist the Maternal and Child Health Section in its comprehensive health care efforts. Programs carried on by the Dental Health Section include the Community Water Fluoridation Program and School Dental Health Program. In addition to these activities, the Director of the Dental Health Section provides technical assistance and consultation to the Dental Health Projects at the Des Moines Health Center and Linn County Dental Health Center in Cedar Rapids.

In an effort to improve the quality and quantity of dental care available to mothers and children, the Dental Health Section provides technical assistance monitoring, and consultation to the dental components of the maternal and child health centers throughout the State.

School based fluoridation: a topical rinse program

The School Dental Health Program provides basic dental health education to children at the elementary school level and also includes the topical fluoride rinse program as a dental caries preventive. School Dental Health Programs are available as either team programs or small scale programs, and differ only in their method of delivery. Team programs utilize three dental hygiene students from the University of Iowa, assisted by the school nurse or classroom teacher, who are supervised by a public health dental hygienist from the Dental Health Section of the Division of Personal and Family Health. Content of the programs consists of the presentation of basic dental health facts on the causation and prevention of dental disease, instructions on tooth brushing and use of dental floss, and the initiation of a fluoride mouthrinse procedure, which requires parental permission. Flossing is taught to children in the upper grades only, due to inadequate manual dexterity in the lower grades. A total of 35,700 youngsters received the fluoride rinse during 1980-81 school year. This year's objective is to provide the fluoride mouthrinse program to 47,000 children.

The small scale programs are recommended for smaller elementary schools or for a few grades in any school. Although less structured than the team content of the program is the same and differs only in that the program explanation and teacher/nurse instruction is conducted by the Dental Health Section's public health dental hygienist. Both programs are designed for first, second grades, third, and either fourth, fifth, or sixth grades. Brushing and flossing are followed up in the classroom for a period of six weeks to allow for reinforcement of the instruction given by the dental hygienist. The fluoride rinse procedure is carried out weekly the remainder of the year. Dental health education was provided to 37,800 children during the 1980-81 school year.

Since a limited number of schools can be reached in a school year by the State staff, the programs can be carried on in succeeding years by the school nurse and/or classroom teacher. Most of the materials and supplies are provided at no cost to the schools upon request.

For Fiscal Year 1982, there will be a continued effort to promote community water fluoridation, the most effective method for preventing dental caries. At present, 88% of the population served by public water supplies in Iowa drink water from supplies using natural or adjusted fluoridation. However, approximately 249,000 people in 388 communities are served by public water supplies with deficient levels of fluoride.

Community Water Fluoridation

The Community Water Fluoridation Program has as its goal the implementation of fluoridation in fluoride deficient public water supplies to reduce the prevalence of dental caries in the population. The Dental Health Section will continue to promote community water fluoridation through a grant program funded through the federal Preventive Health and Health Services Block Grant. This grant will provide funds to assist those communities with fluoride deficient public water supplies in implementing and maintaining water fluoridation systems. The grant pays all reasonable costs involved in the design, purchase, and installation of fluoridation equipment, and the first year's chemical costs.

The Dental Health Section continues its monitoring program to insure that cities with fluoridated water systems maintain the optimum level of fluoride at all times.

Maternal and Child Health Funded Dental Services

Two projects in Iowa continue to provide comprehensive dental treatment services to indigent children.

The Des Moines Health Center Children's Dental Health Project provides diagnostic, preventive, and treatment services to indigent children age 0-18 residing in Polk County or whose parents work in Polk County. An estimated 3,000 of these children will receive services through this project during FY 1982. Approximately 50 children from families living in Dallas, Madison, and Warren counties will also be served during this period.

Dental treatment services are available to low-income children living in Linn County at the Linn County Dental Health Center which is located at St. Luke's Hospital in Cedar Rapids. The project's goal is to provide high quality, comprehensive dental care to children through age 18 of low income families who cannot afford the services of a private dentist and who would otherwise not receive adequate dental care. Approximately 1,150 children will be served by the project in FY 1982.

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APPENDIX

DIFFICULTIES IN ADJUSTMENT

SCHOOL	going back to school friends change finding time for homework babysitting have to plan ahead, can't just go with friends
WORK	finding a job hard to keep a job with school and a child babysitting
HOME	cooking cleaning taking care of the baby homework coping with parents and siblings, while living at home
MOTHER- HOOD	Putting the child before yourself changing diapers feedings sickness babysitting can't just get up and go
MARRIAGE LIVING - TOGETHER	putting him first (sometimes) adjusting to catering others needs before yourself
FINANCIAL SITUATION	paying bills, such as rent telephone heat/water babysitting groceries car payment/gas/insurance/maintenance health insurance doctor bills clothes
FRIEND- SHIP	friends will change you will have grown up somewhat peer pressure
PREGNANCY	fear of labor and delivery/unknown concerned about health of baby*

*Friends of TAPP by Marilyn Robinson

APPENDIX

MEAN WEIGHT FOR HEIGHT AND AGE*

FEMALE

HEIGHT (IN INCHES)	AGE (AT LAST BIRTHDAY)					
	12	13	14	15	16	17
53 - 54.9	65	-	-	-	-	-
55 - 56.9	84	82	-	-	-	-
57 - 58.9	88	93	93	106	116	96
59 - 60.9	97	98	106	110	114	110
61 - 62.9	107	110	113	114	117	121
63 - 64.9	117	117	120	126	127	127
65 - 66.9	121	128	129	134	136	134
67 - 68.9	140	128	142	144	140	137
69 - 70.9	-	-	135	140	160	145

* Derived from data from U.S.H.E.W. National Center for Health Statistics: "Height and Weight of Youths 12 - 17 years, United States". Series 11, No. 124, January, 1973, No. C.H.S.M. 73-1606.

MEAN WEIGHT FOR HEIGHT AND AGE*

MALE

HEIGHT (IN INCHES)	AGE (AT LAST BIRTHDAY)					
	12	13	14	15	16	17
53 - 54.9	72	72	-	-	-	-
55 - 56.9	76	81	-	-	-	-
57 - 58.9	87	86	89	-	-	-
59 - 60.9	95	94	101	-	-	-
61 - 62.9	104	104	105	116	110	120
63 - 64.9	112	117	115	117	117	127
65 - 66.9	123	123	128	127	131	138
67 - 68.9	138	137	138	139	138	148
69 - 70.9	-	150	144	145	148	151
71 - 72.9	-	-	160	159	160	162
73 - 74.9	-	-	-	164	179	168
75 - 76.9	-	-	-	184	-	180

* Data derived from U.S.H.E.W., National Center for Health Statistics: "Height and Weight of Youths 12 - 17 years, United States". Series 11, No. 124, January, 1973, No. C.H.S.M. 73-1606.

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