- Fire (2)
- Pit water (production water) containment (2)
- Smoke (1)
- Trash (1)

Quantitative Health Data. Final data collection for this report took place in January 2008, unless otherwise noted. Thus, these data are the most currently available at that point in time.

Vital Statistics

- Tables 8 through 11 present vital statistics data and trends for 1996 and 2002-2006 by county. Table 12 provides selected birth statistics by County for 2006, specifically.
- According to the annual birth rate data for the years 1996 and 2002 – 2006, birth rates for all counties have been essentially stable during this period. The exception is Montrose County, for which there was a drop in the birth rate between 1996 and 2002, after which the birth rate stabilized between 2002 and 2006. Garfield County had the highest average annual birth rate during this period.
- The percentage of teen mothers has been stable over the study period, with the exception of Delta County, which saw a drop in the percentage of mothers who are between the ages of 10 and 17 years between 1996 and 2002. Based on the average annual rate for the period 2002-2006, Garfield County had the lowest rate of teen mothers among the comparison counties.
- The rate of low birth weight (<2,500 grams) babies among the four counties is similar.
- Mesa County had the lowest rate of mothers who did not receive prenatal care during the first trimester of their pregnancies. The rates for the other three counties were similar.
- The highest rate of mothers who had less than 12 years of formal education was in Garfield County.
- Garfield County's rate of neonatal and infant deaths was similar to that of Mesa County, and higher than that of Delta and Montrose Counties.
- The age-adjusted, total death rate for Garfield County was comparable to the age-adjusted, total death rate for Delta County, and lower than the age-adjusted, total death rates for Mesa or Montrose Counties. The graph in the section below provides a comparison of crude, total death rates for the four counties over the period of 1990 – 2006. Garfield County had the lowest crude death rate for the past 2 ½ decades.

Table 10. Vital statistics by County 1996, 2002-2006	Delta County						
	1996	2002	2003	2004	2005	2006	2002-2006 Annual Average
Total population	25,718	29,194	29,666	30,073	30,264	30,672	29,974
Total Births							
Number	312	317	332	350	338	344	336
Birth Rate	12.1	10.9	11.2	11.6	11.2	11.2	11.2
Age of Mother 10-17							
Number	31	18	19	19	14	11	16
Percent of Total Births	9.9	5.7	5.7	5.4	4.1	3.2	4.8
Low Weight Births (<2,500 grams)							
Number	23	24	28	37	26	21	27
Percent of Total Births	7.4	7.6	8.4	10.6	7.7	6.1	8.1
Prenatal Care Later than 1st Trimester							
Number	88	94	74	85	97	103	91
Percent of Total Births	28.8	29.7	22.7	26.6	30.5	32.2	28.3
Mother's Education <12 years							
Number	*89*	84	74	95	77	75	81
Percent of Total Births	28.6	26.8	22.5	28	23.4	22.6	24.7

Infant Deaths									
	Number	*	*	5	3	0	*	*	
	Rate	*	*	15.1	8.6	0	*		
Neonatal Deaths									
	Number	*	*	3	*	0	*	*	
	Rate	*	*	9	*	0	*	*	
Total Deaths									
	Number	308	316	338	278	331	323		317
Age-Adjusted Rate		798.3	766.1	801.8	652.6	759.5	747.6	745.2	

Source: Health Statistics Section, Colorado Department of Public Health and Environment.

*indicates one or two events

Birth rates are per 1,000 total population.

Infant and neonatal mortality rates are per 1,000 live births. Infant death is death in the first year of life. Neonatal death is death occurring prior to the 28th day of life.

Total death rates are per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups.

Table 11. Vital statistics by County 1996, 2002-2006	Garfield County						
	1996	2002	2003	2004	2005	2006	2002-2006 Annual Average
Total population	37,678	47,439	48,395	49,319	50,669	52,878	49,740
Total Births							
Number	604	855	871	803	816	945	858
Birth Rate	16	18	18	16.3	16.1	17.9	17.2
Age of Mother 10-17							
Number	22	32	30	25	24	31	28
Percent of Total Births	3.6	3.7	3.4	3.1	2.9	3.3	3.3
Low Weight Births (<2,500 grams)							
Number	37	63	70	65	57	69	65
Percent of Total Births	6.1	7.4	8	8.1	7	7.3	7.6
Prenatal Care Later than 1st Trimester							
Number	157	326	217	197	266	346	270
Percent of Total Births	26.2	38.2	24.9	24.6	32.7	36.7	31.6
Mother's Education <12 years							
Number	144	281	311	276	270	273	282

Percent of Total Births	24	33	35.8	34.6	33.3	29.2	33.1
Infant Deaths							
Number	6	9	5	8	3	3	6
Rate	9.9	10.5	5.7	10	3.7	3.2	6.5
Neonatal Deaths							
Number	5	3	3	6	3	*	3
Rate	8.3	3.5	3.4	7.5	3.7	*	4
Total Deaths							
Number	229	279	310	271	268	289	283
Age-Adjusted Rate	815.8	819	904.3	759.9	729.9	729.4	786.6

Source: Health Statistics Section, Colorado Department of Public Health and Environment.
*indicates one or two events
Birth rates are per 1,000 total population.
Infant and neonatal mortality rates are per 1,000 live births. Infant death is death in the first year of life. Neonatal death is death occurring prior to the 28th day of life.
Total death rates are per 100,000 population.
Age-adjusted rates are adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups.

Table 12. Vital statistics by County 1996, 2002-2006	Mesa County						
	1996	2002	2003	2004	2005	2006	2002-2006 Annual Average
Total population	107,536	122,467	125,077	127,816	130,662	135,473	128,299
Total Births							
Number	1,366	1,553	1,662	1,711	1,819	1,880	1,725
Birth Rate	12.7	12.7	13.3	13.4	13.9	13.9	13.4
Age of Mother 10-17							
Number	99	66	75	69	88	87	77
Percent of Total Births	7.2	4.2	4.5	4	4.8	4.6	4.5
Low Weight Births (<2,500 grams)							
Number	102	123	126	146	141	138	135
Percent of Total Births	7.5	7.9	7.6	8.5	7.8	7.3	7.8
Prenatal Care Later than 1st Trimester							
Number	195	242	257	210	255	292	251
Percent of Total Births	14.3	15.6	15.5	12.3	14	15.6	14.6
Mother's Education <12 years							
Number	295	295	370	276	272	415	366
Percent of Total Births	21.6	19.1	22.4	22.1	20.6	22.2	21.3

Infant Deaths							
Number	16	16	10	12	6	9	11
Rate	11.7	10.3	6	7	3.3	4.8	6.1
Neonatal Deaths							
Number	12	13	7	10	3	7	8
Rate	8.8	8.4	4.2	5.8	1.6	3.7	4.6
Total Deaths							
Number	1,024	1,220	1,232	1,162	1,268	1,268	1,230
Age-Adjusted Rate	952.2	996.2	985	909.1	970.4	936	958.7

Source: Health Statistics Section, Colorado Department of Public Health and Environment.
*indicates one or two events
Birth rates are per 1,000 total population.
Infant and neonatal mortality rates are per 1,000 live births. Infant death is death in the first year of life. Neonatal death is death occurring prior to the 28th day of life.
Total death rates are per 100,000 population.
Age-adjusted rates are adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups.

Table 13. Vital statistics by County 1996, 2002-2006	Montrose County						
	1996	2002	2003	2004	2005	2006	2002-2006 Annual Average
Total population	30,482	35,433	36,122	36,932	37,883	38,908	37,056
Total Births							
Number	484	440	458	496	521	493	482
Birth Rate	15.9	12.4	12.7	13.4	13.8	12.7	13
Age of Mother 10-17							
Number	30	19	23	22	15	19	20
Percent of Total Births	6.2	4.3	5	4.4	2.9	3.9	4.1
Low Weight Births (<2,500 grams)							
Number	41	31	32	46	42	32	37
Percent of Total Births	8.5	7	7	9.3	8.1	6.5	7.6
Prenatal Care Later than 1st Trimester							
Number	146	142	122	176	222	198	172
Percent of Total Births	30.4	32.4	27.2	35.9	42.9	40.5	36.1
Mother's Education <12 years							
Number	143	133	133	138	131	120	131
Percent of Total Births	29.9	31.1	30.4	29.4	26.1	26.3	28.6

Infant Deaths							
Number	3	*	3	*	*	3	*
Rate	6.2	*	6.6	*	*	6.1	*
Neonatal Deaths							
Number	*	0	3	*	0	3	*
Rate	*	0	6.6	*	0	6.1	*
Total Deaths							
Number	304	373	336	339	330	365	349
Age-Adjusted Rate	997.3	1053	930.2	917.9	871.1	938.1	940.1

Source: Health Statistics Section, Colorado Department of Public Health and Environment.

*indicates one or two events

Birth rates are per 1,000 total population.

Infant and neonatal mortality rates are per 1,000 live births. Infant death is death in the first year of life. Neonatal death is death occurring prior to the 28th day of life.

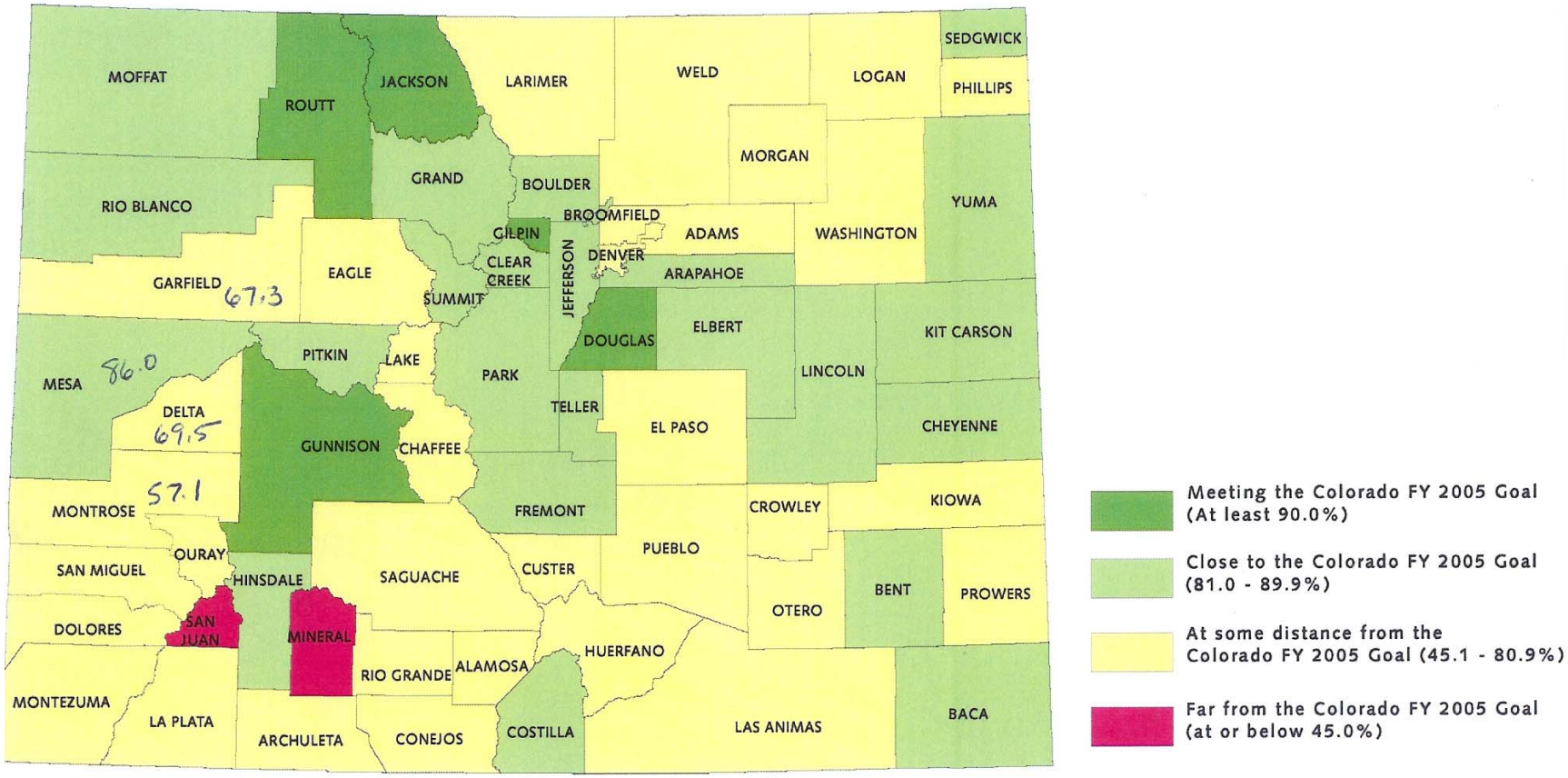
Total death rates are per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups.

Figure 20. First Trimester Prenatal Care by County (Percent)

Healthy People 2010 Goal: Increase the percent of infants born to pregnant women receiving prenatal care beginning in the first trimester to 90.0 percent.

County rates are for the year 2005. The state rate is 80.1 percent.



Colorado First Trimester Prenatal Care

Figure 21. Low Birth Weight by County (Percent)

Healthy People 2010 Goal: Reduce the low birth weight rate to an incidence of no more than 5.0 percent of all births. County rates are 2003-2005 three-year averages. The state rate is 9.1 percent.

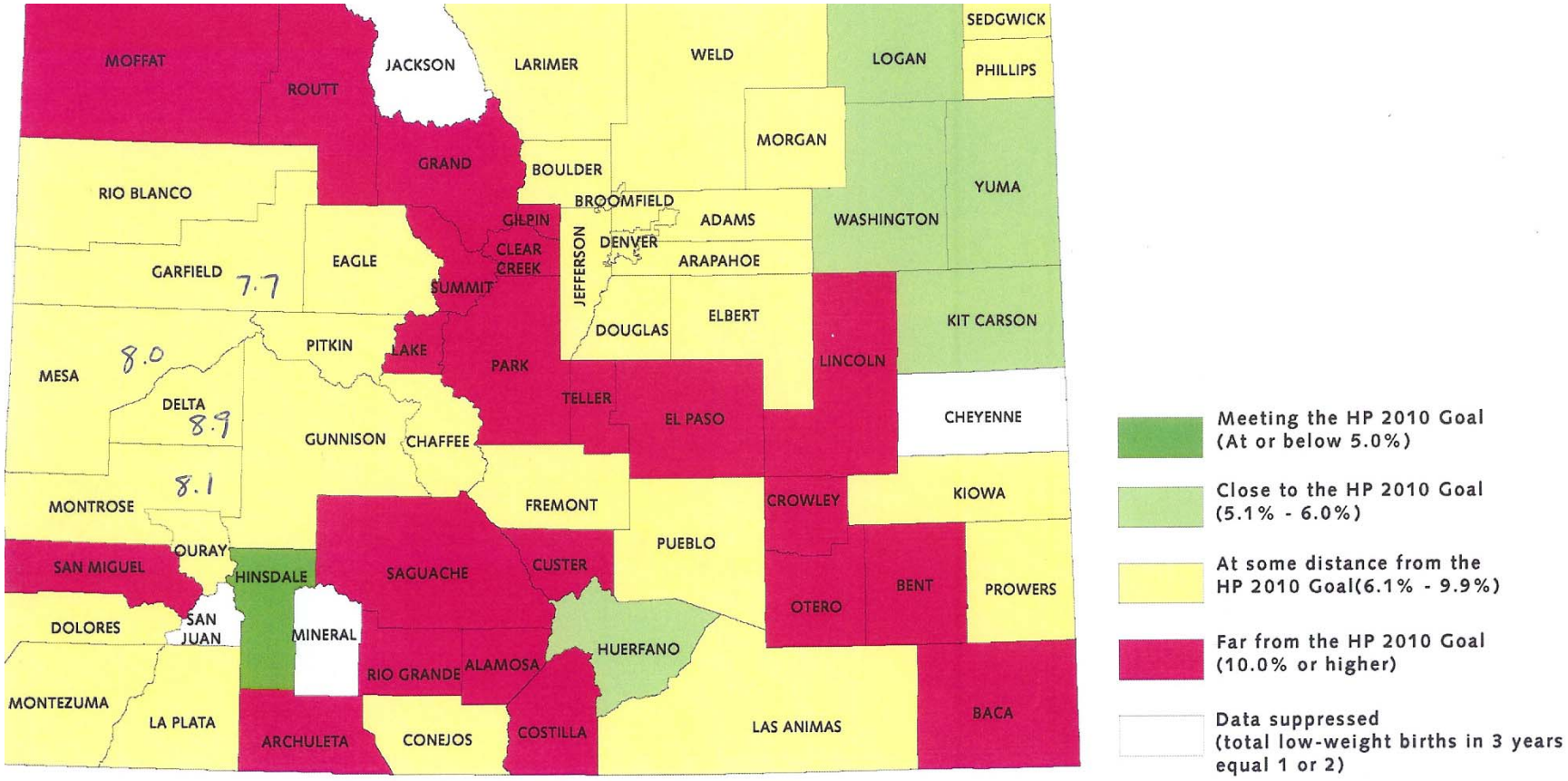


Figure 22. Very Low Birth Weight by County (Percent)

Healthy People 2010 Goal: Reduce the very low birth weight rate to an incidence of no more than 0.9 percent of all births. County rates are 2003-2005 three-year averages. The state rate is 1.3 percent.

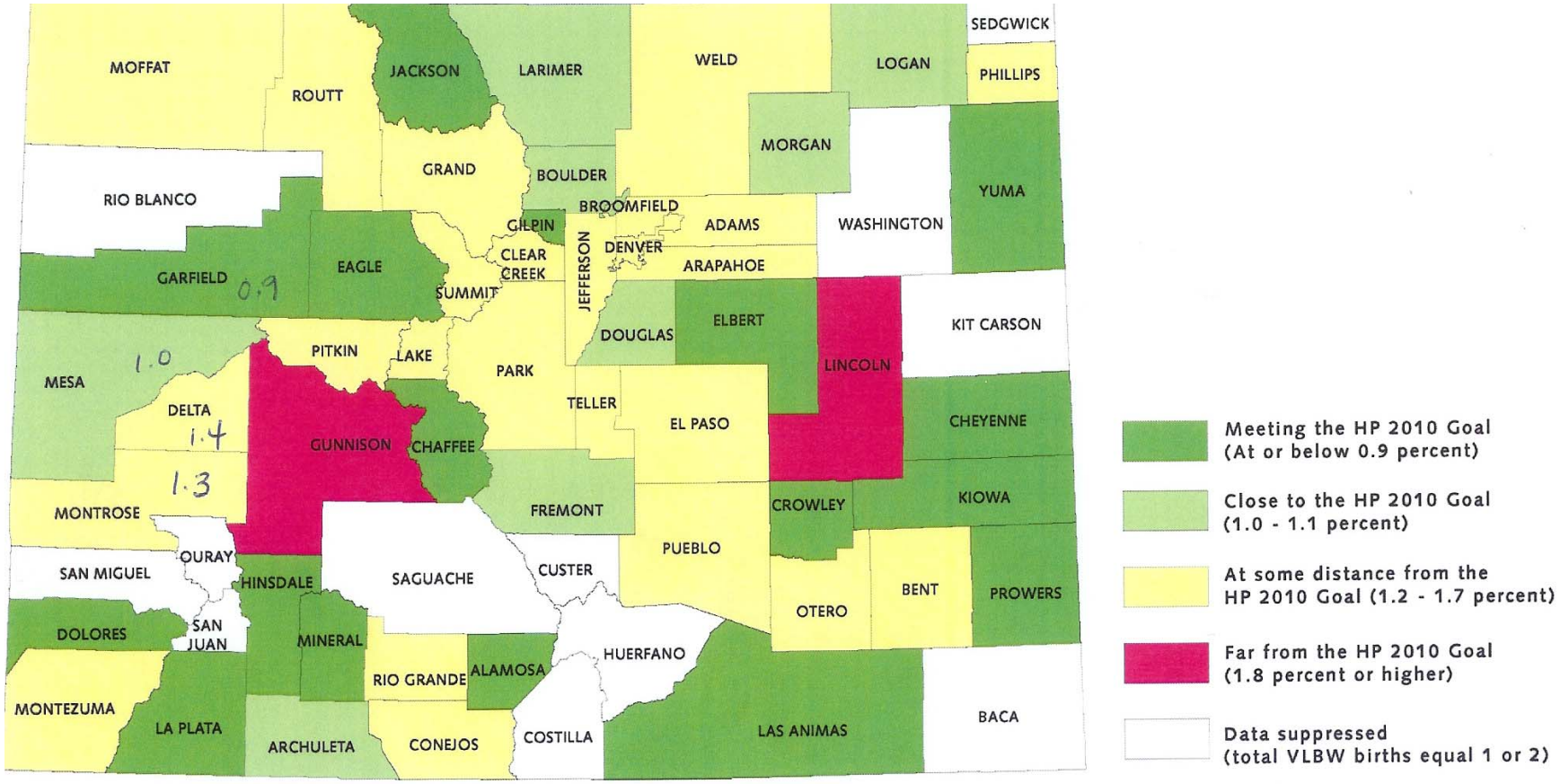


Figure 23. Neonatal Mortality by County (Rate per 1,000)

Healthy People 2010 Goal: Reduce the neonatal mortality rate to no more than 2.9 deaths per 1,000 births.
County rates are 2001-2005 five-year averages, except for Broomfield which is 2002-2005 only.
The state rate is 4.4.

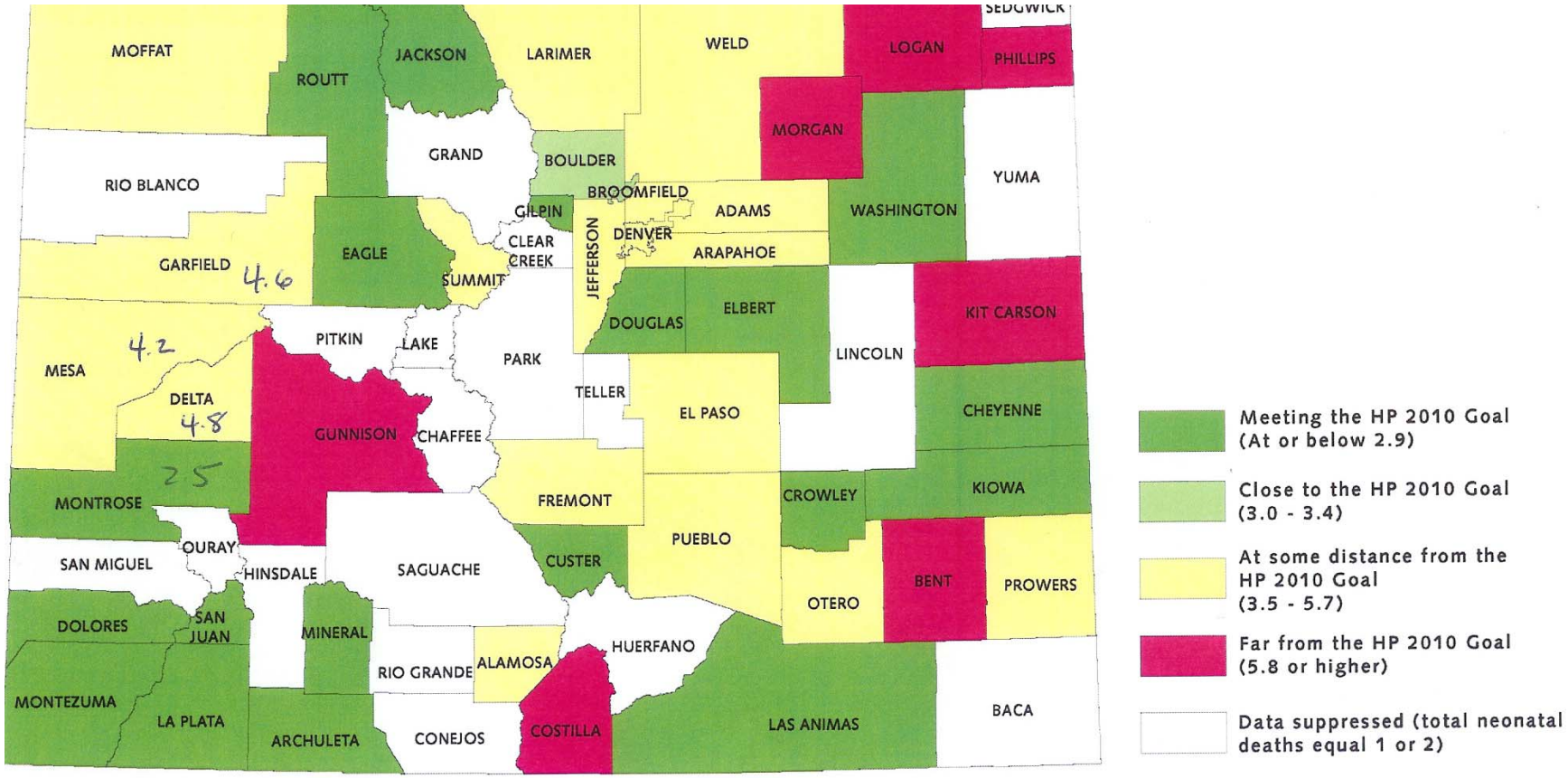
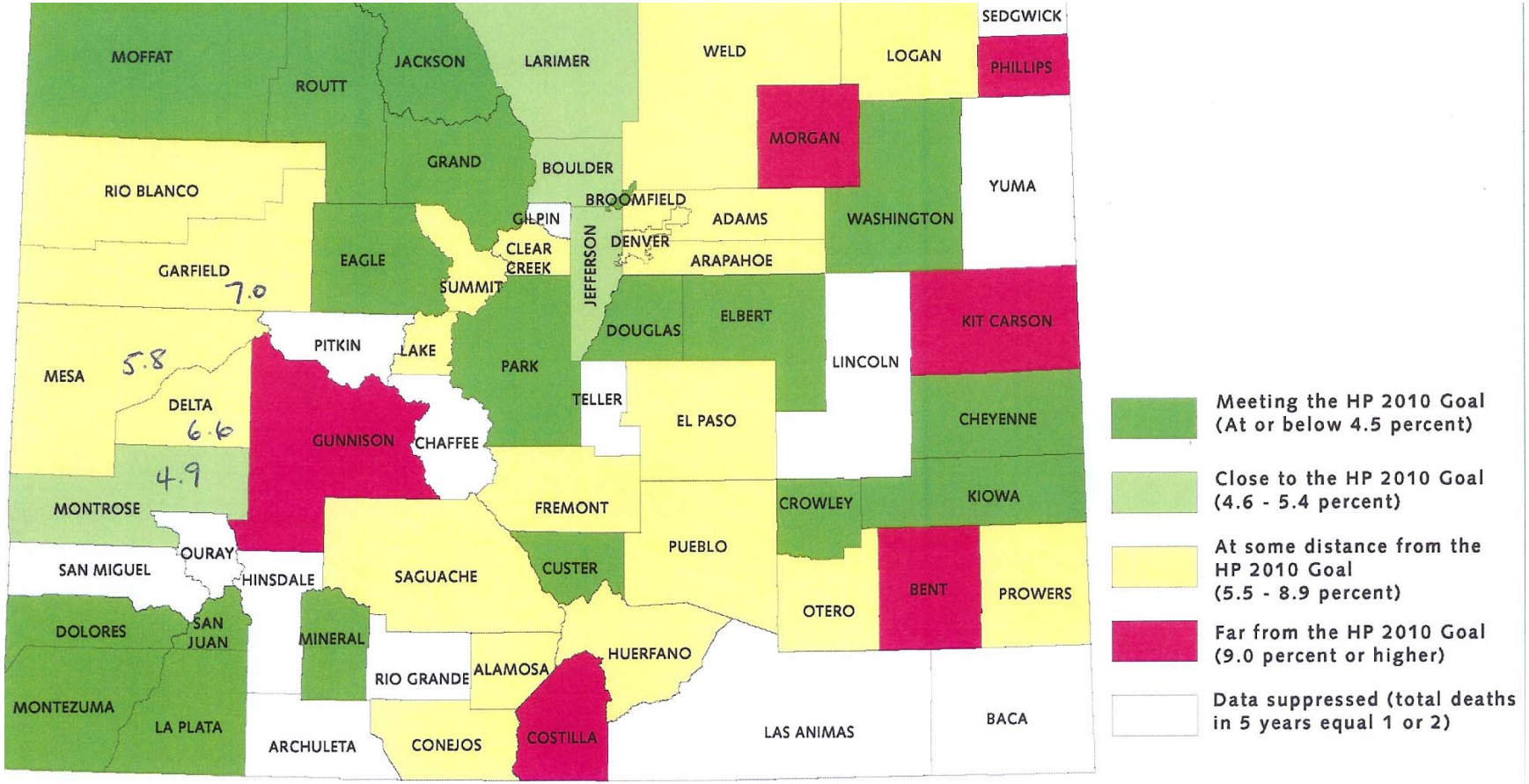


Figure 24. Infant Mortality by County (Rate per 1,000 births)

Healthy People 2010 Goal: Reduce the infant mortality rate to no more than 4.5 deaths per 1,000 births.
County rates are 2001-2005 five-year averages, except for Broomfield which is 2002-2005 only.
The state rate is 6.1.



Colorado Infant Mortality Rates

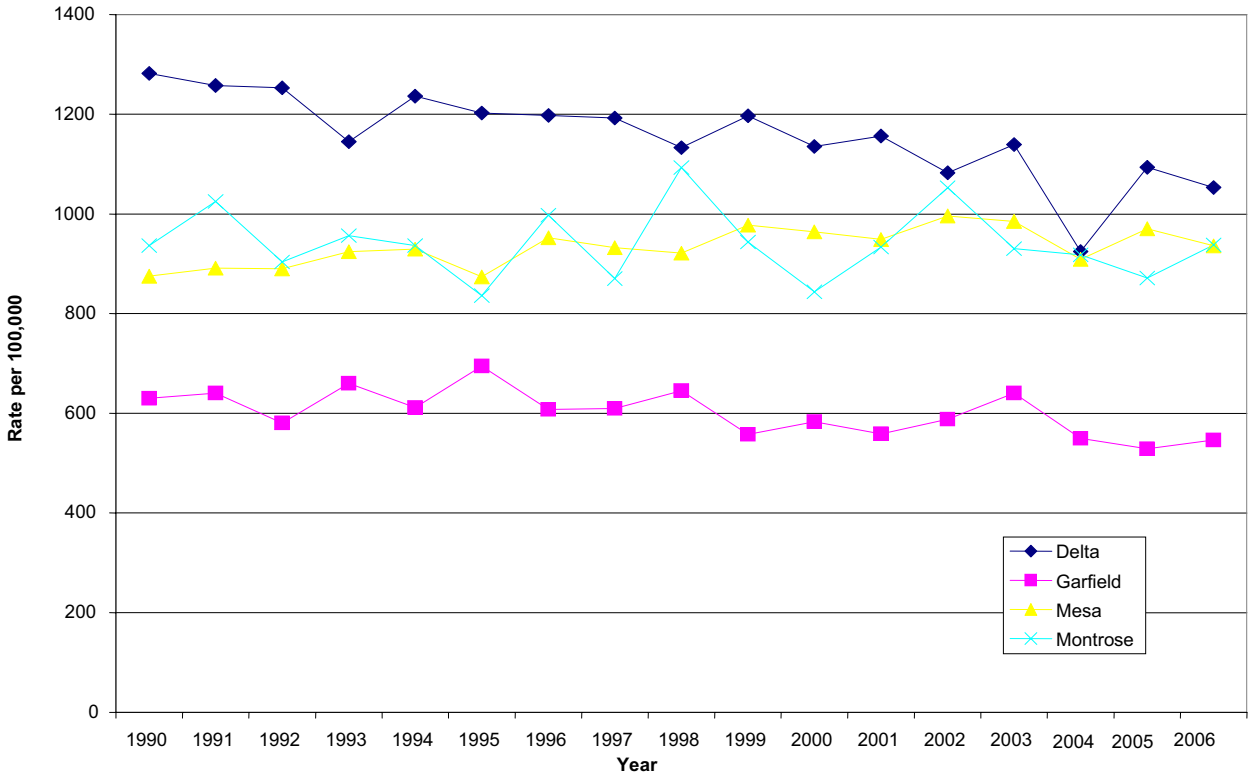
Table 14. Selected birth characteristics by County, 2006

County	Total Live Births	Age of Mother (%)				Low Birth Weight (%)	Very Low Birth Weight (%)
		10-17	18-19	20-29	30+	<2,500 grams	<1,500 grams
Delta	344	3.2	9.3	66.3	21.2	6.1	*
Garfield	945	3.3	7.5	59	30.2	7.3	1
Mesa	1,880	4.6	8.2	61.9	25.2	7.3	0.9
Montrose	493	3.9	8.3	59	28.8	6.5	2

*indicates one or two events

County	Prenatal Care (%)		Pre-term births (%)	Education of mother (%)	Smoking during Pregnancy (%)
	after 1st trimester	No care	<37 weeks	<12 years	
Delta	32.2	1.9	7.8	21.8	11.7
Garfield	36.7	1.8	8.5	28.9	13.8
Mesa	15.6	0.9	7.6	22.1	17.5
Montrose	40.5	0.8	9.1	24.3	8.9

Figure 25. Crude Total Death Rates - Delta, Garfield, Mesa, Montrose Counties



Average, annual, age-adjusted death rates by cause of death are shown in Figure 26 below for the four counties. Cardiovascular disease is the biggest cause of death in all four counties, followed by other heart-related disease and cancer. The rates among the four counties are similar. Please see the "Cause of death" table in Appendix K for the numbers of actual deaths by county and cause.

Figure 26. Average Annual Age-adjusted Death Rates by Cause, 2003-2006

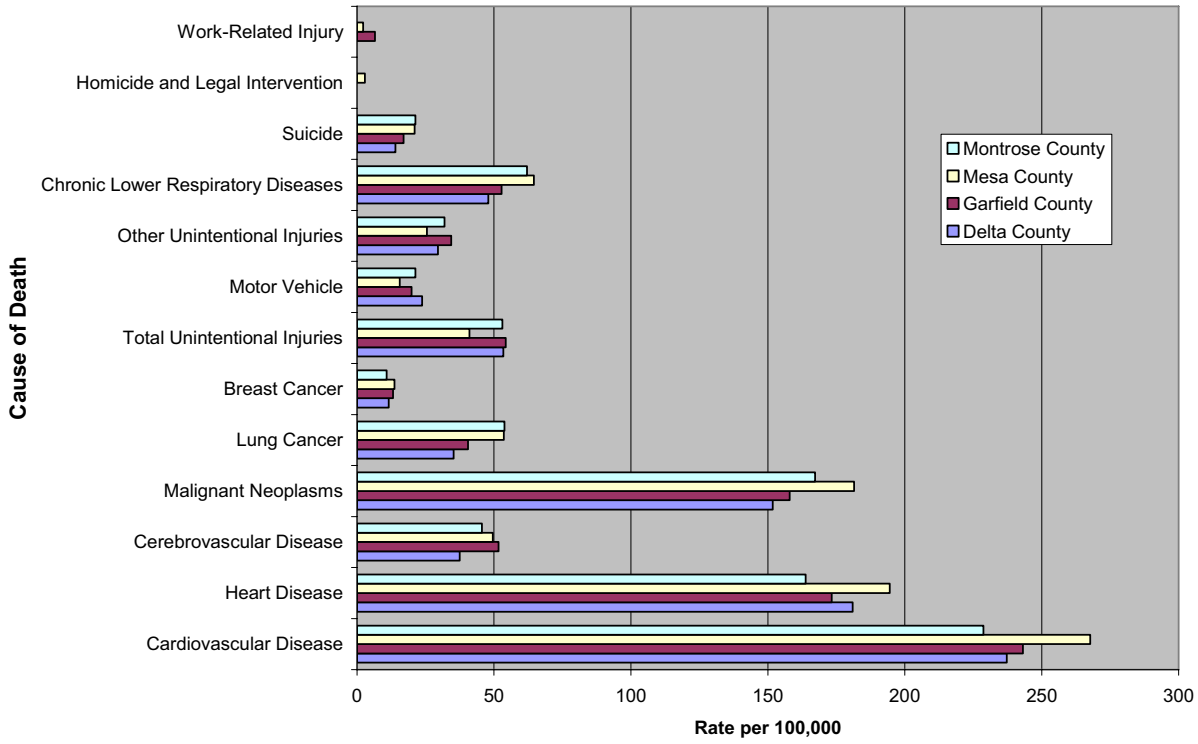


Table 15 provides information on the 2006 age-specific death rates for the four counties. The age distribution of deaths is similar.

Table 15. Age-specific death Rates by County – 2006

	Delta County			Garfield County		
Age	Deaths	Population	Age-Specific Death Rate	Deaths	Population	Age-Specific Death Rate
1-14	*	5,321	*	*	11,290	*
15-24	4	4,159	1	10	7,031	1.4
25-64	58	15,157	3.8	88	29,181	3.0
65+	259	5,708	45.4	187	4,497	41.6
All Ages	323	30,672	10.5	289	52,878	5.5

	Mesa County			Montrose County		
Age	Deaths	Population	Age-Specific Death Rate	Deaths	Population	Age-Specific Death Rate
1-14	7	24,507	0.3	0	7,636	0
15-24	19	21,127	0.9	6	5,342	1.1
25-64	263	68,064	3.9	60	19,480	3.1
65+	970	19,954	48.6	296	5,920	50
All Ages	1,268	135,473	9.4	36	38,908	9.4

*indicates one or two events

Age-adjusted rates are adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups. Source: Health Statistics Section, Colorado Department of Public Health and Environment.

The figures on this page portray death rates by age group and gender for Garfield County residents over the period 1990 through 2006.

Figure 27. Death Rates for Garfield County Males by Age Groups

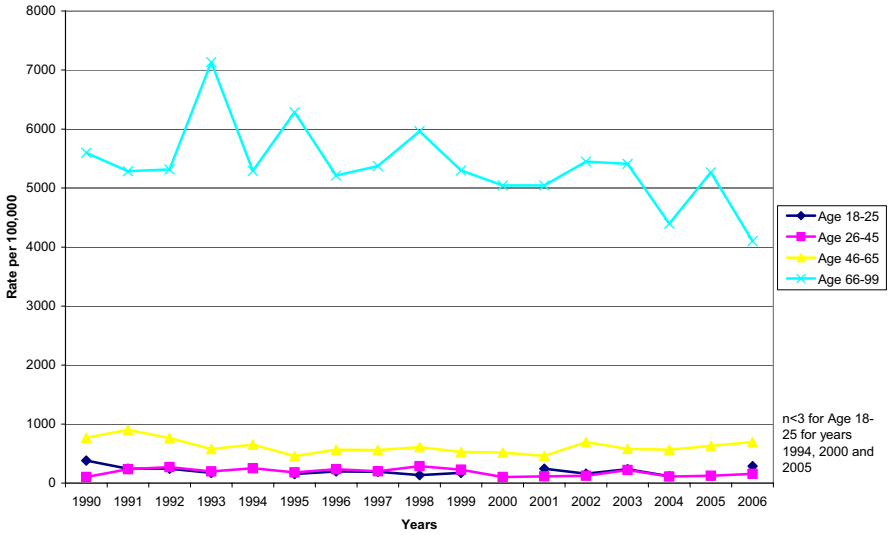
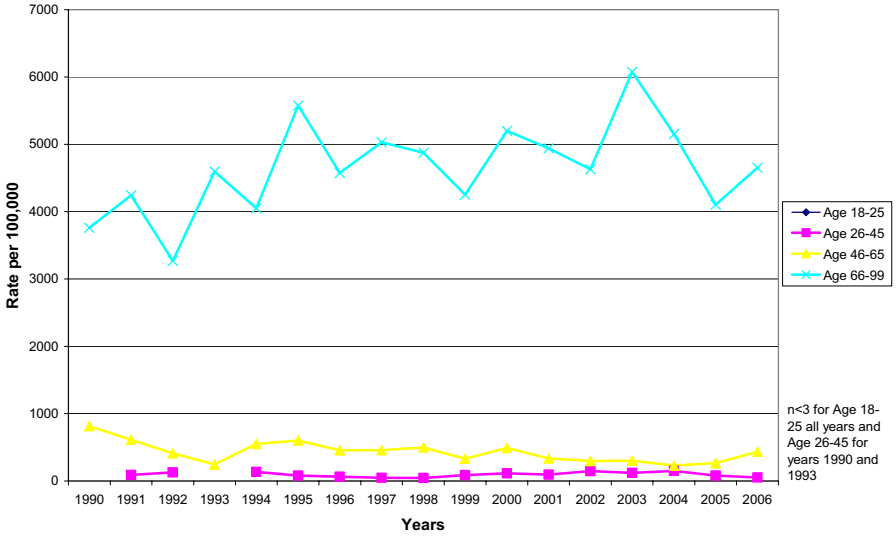


Figure 28. Death Rates for Garfield County Females by Age Groups

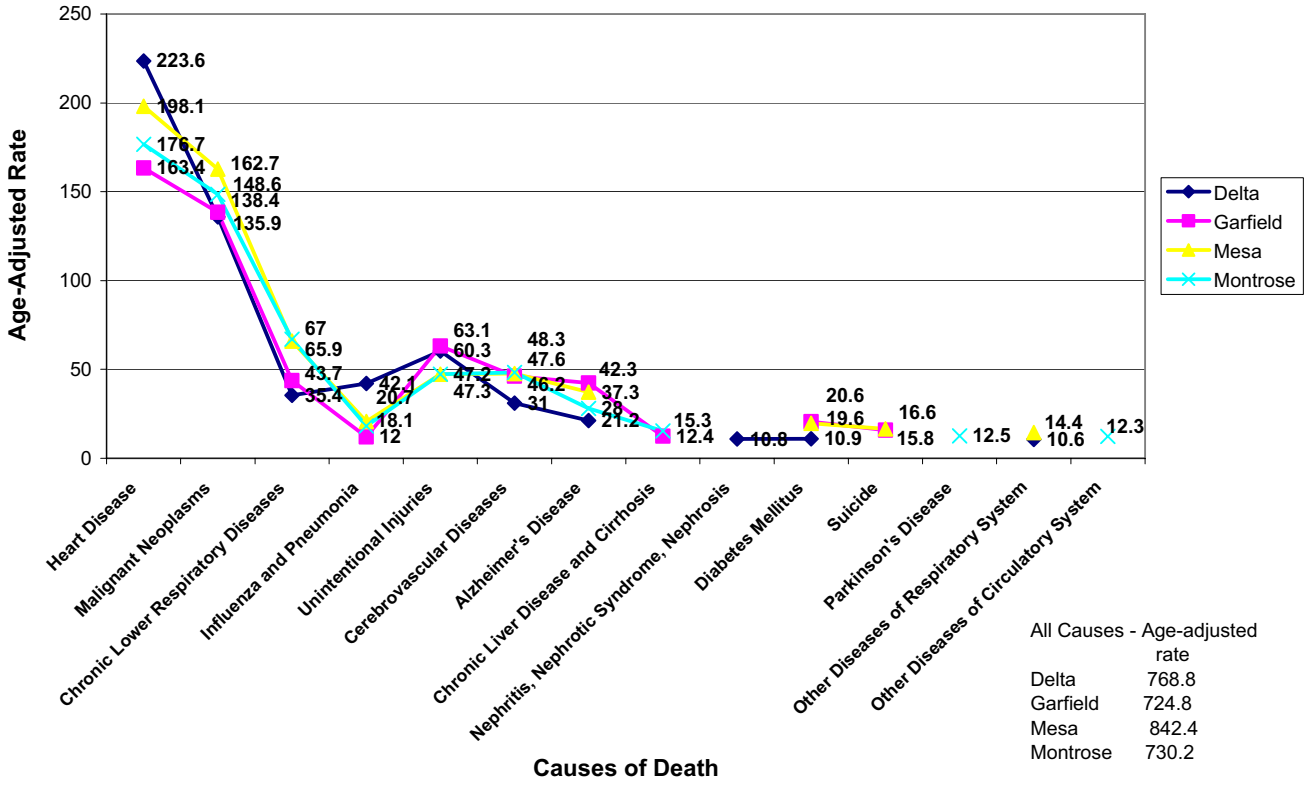


Appendix L provides statistical information on cause of death by race/ethnicity for 2006. Only data for "all races", non-Hispanic Whites and Hispanic Whites are shown in this table. Individuals with other racial or ethnic backgrounds are a relatively small percentage of the population of the four comparison counties, and thus, make a correspondingly small contribution to the overall death statistics. Generally speaking, the distribution of cause of death for Hispanic Whites is either lower than or similar to that of

non-Hispanic Whites in all counties. One notable exception is fact that unintentional injuries accounted for a higher percentage of total deaths for Hispanic Whites than for non-Hispanic Whites in Garfield County.

The figure below shows the leading causes of disease-related death by county for 2006.

Figure 29. Leading Causes of Death by County, 2006



Birth Defects

Birth defects data by county for the years 2000-2005 was obtained from "*Colorado Responds to Children with Special Needs (CRCSN)*, Colorado's birth defects monitoring and prevention program. This organization is located within the Colorado Department of Public Health and Environment. To be included in CRCSN, a child must be a Colorado resident diagnosed prenatally to three years of age with an eligible condition. Eligible conditions include medical conditions, medical risk factors for developmental delay, or one of two environmental (i.e., maternal) risk factors for delay. Children who meet these criteria are identified, using information from hospitals, vital records (birth, death, and fetal death certificates), from the Newborn Screening Program, the Newborn Hearing Screening Program, laboratories, physicians, and specialty clinics (e.g., genetic or developmental clinics)

Table 16 shows the number of live births identified in Garfield County by year of birth for the time period 2000-2005.

Table 16. Number of Resident Live Births in Garfield County: 2000-2005

YEAR	LIVE BIRTHS
2000	786
2001	782
2002	855
2003	871
2004	803
2005	816
Total	4,913

Table 17 shows that Garfield County's overall rates for major congenital anomalies (birth defects) are no higher than those observed for a comparison area of all counties in Colorado excluding Garfield County.

TABLE 17. RATES OF BIRTH DEFECTS 2000-2005

DIAGNOSIS CATEGORY	Garfield County					Colorado excluding Garfield County			
	Count	Rate	Lower Limit	Upper Limit		Count	Rate	Lower Limit	Upper Limit
MAJOR CONGENITAL ANOMALIES	261	531.2	470.2	597.7		21,445	532.6	525.7	539.6
CENTRAL NERVOUS SYSTEM	21	42.7	26.5	65.3		1,067	26.5	24.9	28.1
ANENCEPHALUS AND SIMLAR ANOMALIES	1	2.0	0.1	11.3		18	0.4	0.3	0.7
ENCEPALOCELE	1	2.0	0.1	11.3		27	0.7	0.4	1.0
MICROCEPHALUS	5	10.2	3.3	23.7		226	5.6	4.9	6.4
CONGENITAL HYDROCEPHALUS WITHOUT SPINA BIFIDA	8	16.3	7.0	32.1		281	7.0	6.2	7.8
EYE	7	14.2	5.7	29.3		599	14.9	13.7	16.1
MAJOR EYE	5	10.2	3.3	23.7		463	11.5	10.5	12.6
MICROPHTHALMOS	1	2.0	0.1	11.3		44	1.1	0.8	1.5
CONGENITAL CATARACT AND LENS ANOMALIES	1	2.0	0.1	11.3		130	3.2	2.7	3.8
CARDIOVASCULAR	103	209.6	171.4	253.7		7,231	179.6	175.5	183.7
MAJOR CARDIOVASCULAR	95	193.4	156.7	235.9		6,803	169.0	165.0	173.0
TRANSPOSITION OF GREAT VESSELS	3	6.1	1.3	17.8		147	3.7	3.1	4.3
COMMON VENTRICLE	1	2.0	0.1	11.3		34	0.8	0.6	1.2
VENTRICULAR SEPTAL DEFECT	28	57.0	37.9	82.3		1,670	41.5	39.5	43.5
OSTIUM SECUNDUM TYPE ATRIAL SEPTAL DEFECT	45	91.6	66.9	122.4		2,846	70.7	68.1	73.3
ENDOCARDIAL CUSHION DEFECTS	1	2.0	0.1	11.3		154	3.8	3.2	4.5
CONGENTIAL STENOSIS OF AROTIC VALVE	3	6.1	1.3	17.8		152	3.8	3.2	4.4
HYPOPLASTIC LEFT HEART SYNDROME	1	2.0	0.1	11.3		110	2.7	2.2	3.3
PULMONARY VALVE STENOSIS AND ATRESIA	4	8.1	2.2	20.8		430	10.7	9.7	11.7

TABLE 17 (CONTINUED). RATES OF BIRTH DEFECTS 2000-2005									
DIAGNOSIS CATEGORY	Garfield County					Colorado excluding Garfield County			
	Count	Rate	Lower Limit	Upper Limit		Count	Rate	Lower Limit	Upper Limit
COARCTATION OF AORTA	10	20.4	9.8	37.4		377	9.4	8.4	10.4
ANOMALIES OF PULMONARY ARTERY	16	32.6	18.6	52.8		1,029	25.6	24.0	27.2
RESPIRATORY	17	34.6	20.2	55.3		1,231	30.6	28.9	32.3
AGENESIS,HYPOPLASIA,DYSPLASIA OF LUNG	5	10.2	3.3	23.7		180	4.5	3.8	5.2
OROFACIAL	12	24.4	12.6	42.6		769	19.1	17.8	20.5
CLEFT PALATE WITHOUT CLEFT LIP	7	14.2	5.7	29.3		360	8.9	8.0	9.9
CLEFT LIP WITH/WITHOUT CLEFT PALATE	6	12.2	4.5	26.6		450	11.2	10.2	12.3
GASTROINTESTINAL	18	36.6	21.7	57.8		2,055	51.0	48.9	53.3
MAJOR GASTROINTESTINAL	15	30.5	17.1	50.3		1,810	45.0	42.9	47.1
TRACHEOESOPHAGEAL FISTULA, ESOPHAGEAL ATRESIA AND STENOSIS	1	2.0	0.1	11.3		182	4.5	3.9	5.2
CONGENITAL HYPERTROPHIC PYLORIC STENOSIS	4	8.1	2.2	20.8		665	16.5	15.3	17.8
ATRESIA,STENOSIS OF THE LARGE INTESTINE,RECTUM,ANAL CANAL	3	6.1	1.3	17.8		211	5.2	4.6	6.0
HIRSCHSPRUNG DISEASE AND OTHER COLON DISORDERS	2	4.1	0.5	14.7		89	2.2	1.8	2.7
GENITOURINARY	97	197.4	160.4	240.3		7,389	183.5	179.4	187.7
MAJOR GENITOURINARY	97	197.4	160.4	240.3		7382	183.3	179.2	187.5
RENAL AGENESIS AND DYSGENESIS	5	10.2	3.3	23.7		162	4.0	3.4	4.7
ARM/HAND LIMB REDUCTION	1	2.0	0.1	11.3		123	3.1	2.5	3.6
LEG/FOOT LIMB REDUCTION	1	2.0	0.1	11.3		59	1.5	1.1	1.9

Table 17 (continued). Rates of Birth Defects 2000-2005									
DIAGNOSIS CATEGORY	**Garfield County**					**Colorado excluding Garfield County**			
	Count	Rate	Lower Limit	Upper Limit		Count	Rate	Lower Limit	Upper Limit
REDUCTION DEFORMITY	2	4.1	0.5	14.7		172	4.3	3.7	5.0
ANOMALIES OF DIAPHRAGM (INC DIAPHRAGMATIC HERNIA)	2	4.1	0.5	14.7		136	3.4	2.8	4.0
ANOMLIES OF ABDOMINAL WALL	2	4.1	0.5	14.7		238	5.9	5.2	6.7
CHROMOSOMAL	15	30.5	17.1	50.3		1,131	28.1	26.5	29.8
TRISOMY 21 (DOWN SYNDROME)	3	6.1	1.3	17.8		529	13.1	12.0	14.3
TRISOMY 13 (INCLUDING PATAU SYNDROME)	1	2.0	0.1	11.3		35	0.9	0.6	1.2
TRISOMY 18 (INCLUDING EDWARDS SYNDROME)	2	4.1	0.5	14.7		40	1.0	0.7	1.4

Rates are per 10,000 live births / Lower and upper limits are 95% confidence limits based on a binomial distribution. Denominator: study area n=4,913 live births, Comparison Area n=402,643

Table 18 shows the major congenital anomaly rates by year of birth in Garfield County. These data do not indicate that the rate of major congenital anomalies was either increasing or decreasing over this time period (Cochran-Armitage Trend Test p=0.68).

Table 18. Major Congenital Anomaly Rates Garfield County : 2000-2005			
Year of birth	Number of Major Anomalies	Number of Births	Major Congenital Anomaly Rate
2000	36	786	458.0
2001	46	782	588.2
2002	53	855	619.9
2003	37	871	424.8
2004	38	803	473.2
2005	51	816	625.0
Total	261	4,913	531.2

Rates are per 10,000 live births

Child and Adolescent Health

The following table and maps provide information on how Garfield County ranks relative to the comparison counties and the State of Colorado on selected measures of child and adolescent health. We chose to look at some of these measures because of concerns expressed during focus group discussions with Garfield County human services providers, school district personnel, healthcare providers, and citizens about these important determinants of health. (Please see the *Qualitative Data* section, above.)

The following measures are portrayed in Table 19:

Teen Fertility. This measure is the rate of births per 1,000 teens ages 15-17 for 2003-2005. The numerator is the total number of births to teens in 2003, 2004, and 2005. The denominator is the sum of the estimated population of females ages 15 through 17 for the same years. The result is multiplied by 1,000 to obtain the average rate for the 3-year period. Data are calculated by the county of residence of the teen. DS indicates data that are suppressed for confidentiality when the numerator or denominator has a value of 1 or 2. The national, *Healthy People 2010* goal refers to pregnancies, not births. The Colorado 2010 goal is 21 births per 1,000 teens. Data source: Numerator -- Health Statistics and Vital Records, Colorado Department of Public Health and Environment. Denominator -- Demography Section, Colorado Department of Local Affairs.

Teen Injury Hospitalizations. This measure is the rate of hospitalization for injuries per 100,000 teens ages 15-19 for the period 2000-2005. The numerator is the sum of all hospitalizations for injuries of teens ages 15-19 in 2000, 2001, 2002, 2003, 2004, and 2005. The denominator is the sum of the estimated population of teens ages 15 through 19 for the same years. The result is multiplied by 100,000 to yield the average rate for the 6-year period. Rates can be affected by small numbers, and caution should be used with these data. While there is no *Healthy Persons 2010 goal* for this measure, the Colorado 2010 goal is a rate of 450.0. Data Source: Injury Epidemiology, Prevention Services Division, Colorado Department of Public Health and Environment.

Teen Suicide. This measure is the rate of suicide deaths per 100,000 teens ages 15-19 for 2001-2005. The numerator is the total number of teen suicide deaths in 2001, 2002, 2003, 2004, and 2005. The denominator is the sum of the estimated population of teens ages 15 through 19 for these same years. The result is multiplied by 100,000 to obtain the average rate for the five-year period. DS indicates that data are suppressed for confidentiality when the numerator or denominator has a value of 1 or 2. Data Source: Numerator -- Health Statistics and Vital Records, Colorado Department of Public Health and Environment. Denominator -- Demography Section, Colorado Department of Local Affairs.

Teen Motor Vehicle Deaths. This measure is the rate of deaths per 100,000 teens ages 15-19 that were caused by motor vehicle crashes for 2003-2005. The numerator is the total number of deaths to teens in 2003, 2004, and 2005. The result is multiplied by 100,000 to obtain the average rate for the 3-year period. DS indicates that data are suppressed for confidentiality when the numerator or denominator has a value of 1 or 2. Data Source: Numerator -- Health Statistics and Vital Records,

Colorado Department of Public Health and Environment. Denominator -- Demography Section, Colorado Department of Local Affairs.

Child Abuse. This measure is the rate of maltreatment (including physical abuse, sexual abuse, emotional abuse and/or neglect) of children younger than18 in calendar year 2005. The value shown reflects the number of unique substantiated cases per 1,000 children less than 18 years of age in a county. Data source: Numerator – Colorado Central Registry, Colorado Department of Human Services. Denominator – Demography Section, Colorado Department of Local Affairs.

Child Deaths. This measure is the rate of child deaths per 100,000 children ages 1-14 for 2001-2005. The numerator is the sum of all child deaths among children ages 1 through 14 in 2001, 2002, 2003, 2004 and 2005. The result is multiplied by 100,000 to obtain the average five-year rate for child deaths. While there is no *Healthy People 2010* goal for this measure, the Colorado goal is 19.0. Data Source: Health Statistics and Vital Records, Colorado Department of Public Health and Environment. Denominator -- Demography Section, Colorado Department of Local Affairs.

Child Motor Vehicle Deaths. This measure is the rate of deaths per 100,000 children ages 0-14 caused by motor vehicle crashes for 2003-2005. The numerator is the sum of all deaths among children ages 0-14 in 2003, 2004, and 2005. The denominator is the sum of the estimated population of children ages 0 through 14 for the same years. The result is multiplied by 100,000 to obtain the average 3-year rate for child motor vehicle deaths. DS indicates data are suppressed for confidentiality when the numerator or denominator has a value of 1 or 2. The *Healthy People 2010* goal is for ages, not specifically for ages 0-14. Data Source: Health Statistics and Vital Records, Colorado Department of Public Health and Environment. Denominator -- Demography Section, Colorado Department of Local Affairs.

Child Injury Hospitalizations. This measure is the rate of hospitalization for injuries per 100,000 children ages 0-14 for 2000-2005. The numerator is the sum of all hospitalizations for injuries of children ages 0-14 in 2000, 2001, 2003, 2003, 2004 and 2005. The denominator is the sum of the estimated population ages 0 through 14 for the same years. The result is multiplied by 100,000 to obtain the average 6-year rate for child injury hospitalizations. Rates can be affected by small numbers, and caution should be used with these data. While there is no *Healthy People 2010* goal for this measure, the Colorado 1020 goal is a rate of 150.0. Data Source: Injury Epidemiology, Prevention Services Division, Colorado Department of Public Health and Environment.

Children with Social Emotional Difficulties. This measure is the estimated percent of children ages 1-14 who have difficulties with emotions, concentration, behavior, or being able to get along with other people. The data combine two years of results from the Colorado Child Health Survey and are specific to children ages 1 through 14 in Colorado in 2004-2005. Numerators and denominators are not provided. Data for Garfield and Mesa Counties are Planning and Management Region data. No data are available for Delta and Montrose Counties. Data Source: Child Health Survey, Health Statistics Section, Colorado Department of Public Health and Environment.

Dental Care Received. This measure is the estimated percent of children ages 1-14 who received needed dental care in the 12 months before the survey. The data combine two years of results from the Colorado Child Health Survey and are specific to children age 1 through 14 living in Colorado in 2004-2005. Numerators and denominators are not provided. Planning and Management Region data are used for Garfield and Mesa Counties. No data are available for Delta and Montrose Counties. There are no *Healthy People 2010* or Colorado goals for this measure. Data Source: Child Health Survey, Health Statistics Section, Colorado Department of Public Health and Environment.

Health Insurance Coverage. This measure is the estimated percent of children ages 1-14 who had any kind of health care coverage, including health insurance, pre-paid plans, or government plans. The data combine two years of results from the Colorado Child Health Survey and are specific to children ages 1 through 14 living in Colorado in 2004-2005. Planning and Management Region data are shown for Garfield and Mesa Counties. No data are available for Delta and Montrose Counties. Numerators and denominators are not provided. Data Source: Child Health Survey, Colorado Department of Public Health and Environment.

Medical Care Received. This measure is the estimated percent of children ages 1-14 who received all the medical care they needed in the 12 months before the survey. The data combine two years of results from the Colorado Child Health Survey and are specific to children ages 1 through 14 living in Colorado in 2004-2005. Planning and Management Region data are shown for Garfield and Mesa Counties. No data are available for Delta and Montrose Counties. Numerators and denominators are not provided. There are no *Healthy People 2010* or Colorado 2010 goals for this measure. Data Source: Child Health Survey, Colorado Department of Public Health and Environment.

Personal Doctor or Nurse. This measure is the estimated percent of children ages 1-14 who have a personal doctor or nurse. The data combine two years of results from the Colorado Child Health Survey and are specific to children ages 1 through 14 living in Colorado in 2004-2005. Planning and Management Region data are shown for Garfield and Mesa Counties. No data are available for Delta and Montrose Counties. Numerators and denominators are not provided. There are no *Healthy People 2010* or Colorado 2010 goals for this measure. Data Source: Child Health Survey, Colorado Department of Public Health and Environment.

Overweight. This measure is the percentage of children, ages 2-14, who's BMI (body mass index) is at or above 85 percent of normal weight for height. The data combine two years of results from the Colorado Child Health Survey and are specific to children ages 1 through 14 living in Colorado in 2004-2005. Planning and Management Region data are shown for Garfield and Mesa Counties. No data are available for Delta and Montrose Counties. Numerators and denominators are not provided. Data Source: Child Health Survey, Health Statistics Section, Colorado Department of Public Health and Environment.

Table 19. Child and Adolescent Health by County

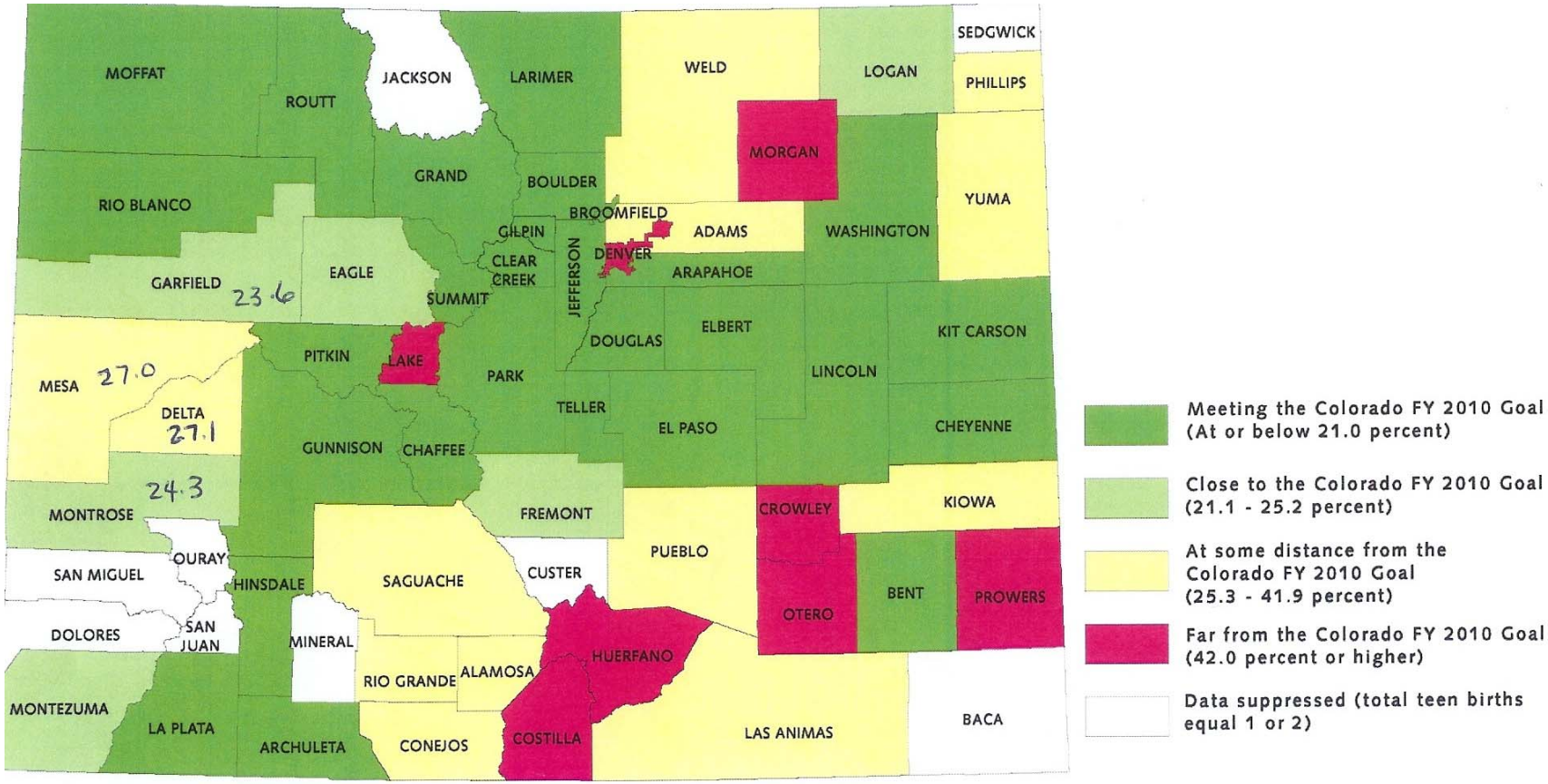
Measure	Delta County			Garfield County		
	Numerator	Denominator	County Measure	Numerator	Denominator	County Measure
Teen Fertility (15-19)	52	1,921	27.1	77	3,258	23.6
Teen Injury Hospitalizations (15-19)	95	12,476	761.5	134	21,175	632.8
Teen Suicide	4	10,752	37.2	0	18,185	12.1
Teen Motor Vehicle Deaths (15-19)	DS	6,510	DS	3	11,059	27.1
Child Abuse	46	6,933	6.6	78	13,833	5.6
Child Deaths (1-14)	9	26,204	34.3	18	50,698	35.5
Child Motor Vehicle Deaths (0-14)	N/A	N/A	N/A	N/A	N/A	91.9
Injury Hospitalizations (0-14)	93	33,264	279.6	121	64,738	186.9
Children with Social Emotional Difficulties	N/A	N/A	N/A	N/A	N/A	34.5
Dental Care Received	N/A	N/A	N/A	N/A	N/A	79.5
Health Insurance Coverage	N/A	N/A	N/A	N/A	N/A	79.5
Medical Care Received	N/A	N/A	N/A	N/A	N/A	98.4
Personal Doctor or Nurse	N/A	N/A	N/A	N/A	N/A	76.8
Overweight	N/A	N/A	N/A	N/A	N/A	16.3

	Mesa County	Montrose County	Colorado	People 2010

Measure	Numerator	Denominator	County Measure	Numerator	Denominator	County Measure		Goal
Teen Fertility (15-19)	224	8,284	27	59	2,430	24.4	24.4	43
Teen Injury Hospitalizations (15-19)	464	58,924	787.5	81	16,021	505.6	573.3	N/A
Teen Suicide	7	50,268	13.9	DS	13,661	DS	12.1	5
Teen Motor Vehicle Deaths (15-19)	7	30,520	22.9	4	8,168	49	26.2	9.2
Child Abuse	412	31,026	13.3	76	9,630	7.9	9.2	10.3
Child Deaths (1-14)	26	115,227	22.6	7	36,012	19.4	20	N/A
Child Motor Vehicle Deaths (0-14)	N/A	N/A	91.9	N/A	N/A	N/A	91.6	N/A
Injury Hospitalizations (0-14)	364	146,958	247.7	73	45,499	160.4	198.3	N/A
Children with Social Emotional Difficulties	N/A	N/A	34.5	N/A	N/A	N/A	28.9	N/A
Dental Care Received	N/A	N/A	79.5	N/A	N/A	N/A	87.9	100
Health Insurance Coverage	N/A	N/A	79.5	N/A	N/A	N/A	87.9	100
Medical Care Received	N/A	N/A	98.4	N/A	N/A	N/A	98.5	N/A
Personal Doctor or Nurse	N/A	N/A	76.8	N/A	N/A	N/A	77.6	N/A
Overweight	N/A	N/A	16.3	N/A	N/A	N/A	14.5	5

Figure 30. Teen Fertility (Ages 15-17)

Colorado FY2010 Goal: Reduce fertility rate among females age 15-17 to 21.0 births per 1,000 females.



County rates are for 2003-2005 three-year averages. The state rate is 40.9.

Figure 31. Teen Injury Hospitalizations

Colorado FY2010 Goal: Reduce the rate of injury hospitalization among children age 15-19 to 450.0 per 100,000.

County rates are 2000-2005 six-year averages, except for Broomfield which is averaged over the three-year period 2004-2005. The Colorado rate is 573.3.

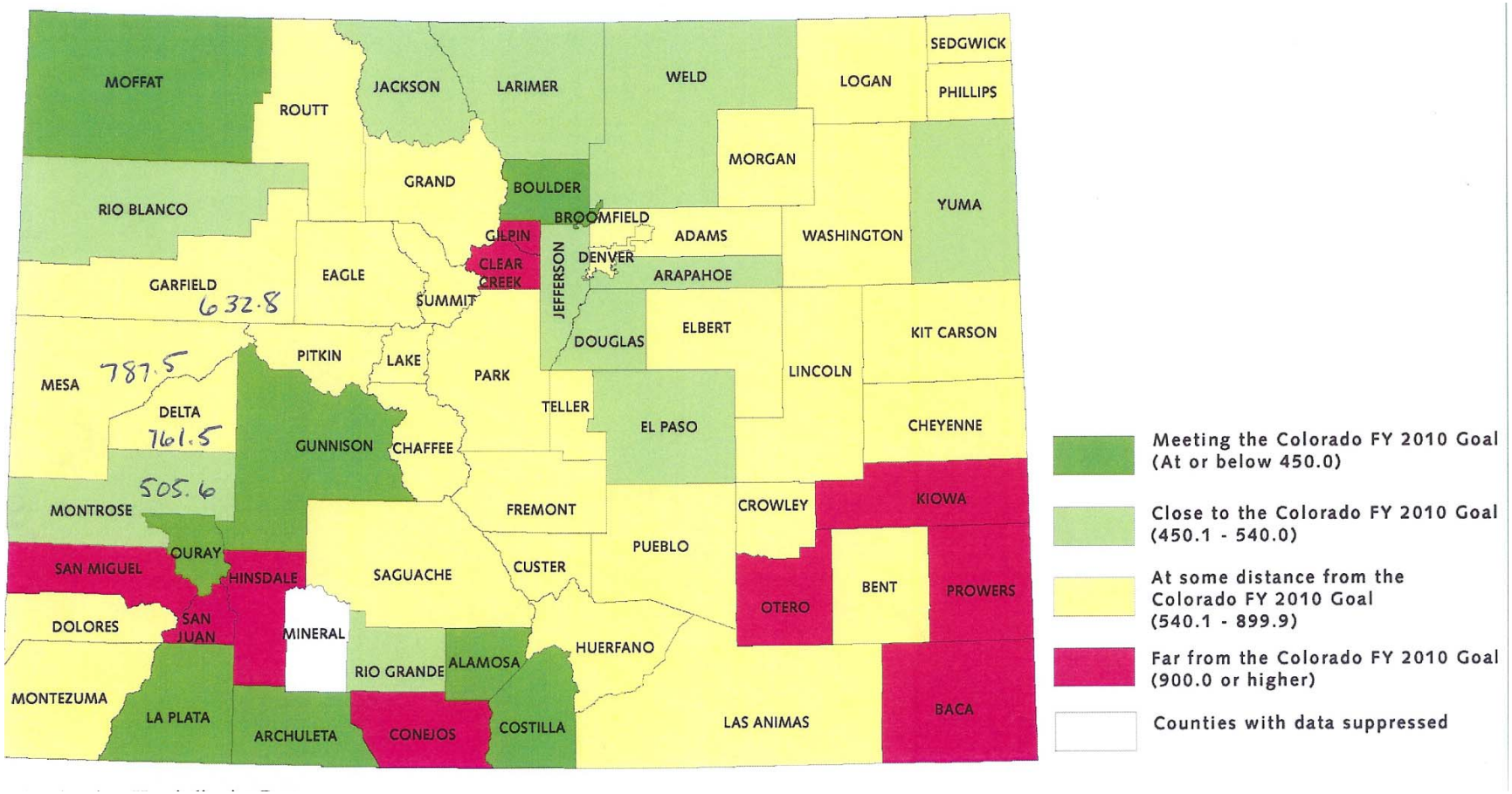


Figure 32. Teen Motor Vehicle Deaths (Ages 15-19)

Healthy People 2010 Goal: Reduce the rate of deaths among adolescents age 15-19 caused by motor vehicle crashes to no more than 9.2 deaths per 100,000 teens.

County rates are 2004-2005 three-year averages. The state rate is 26.2.

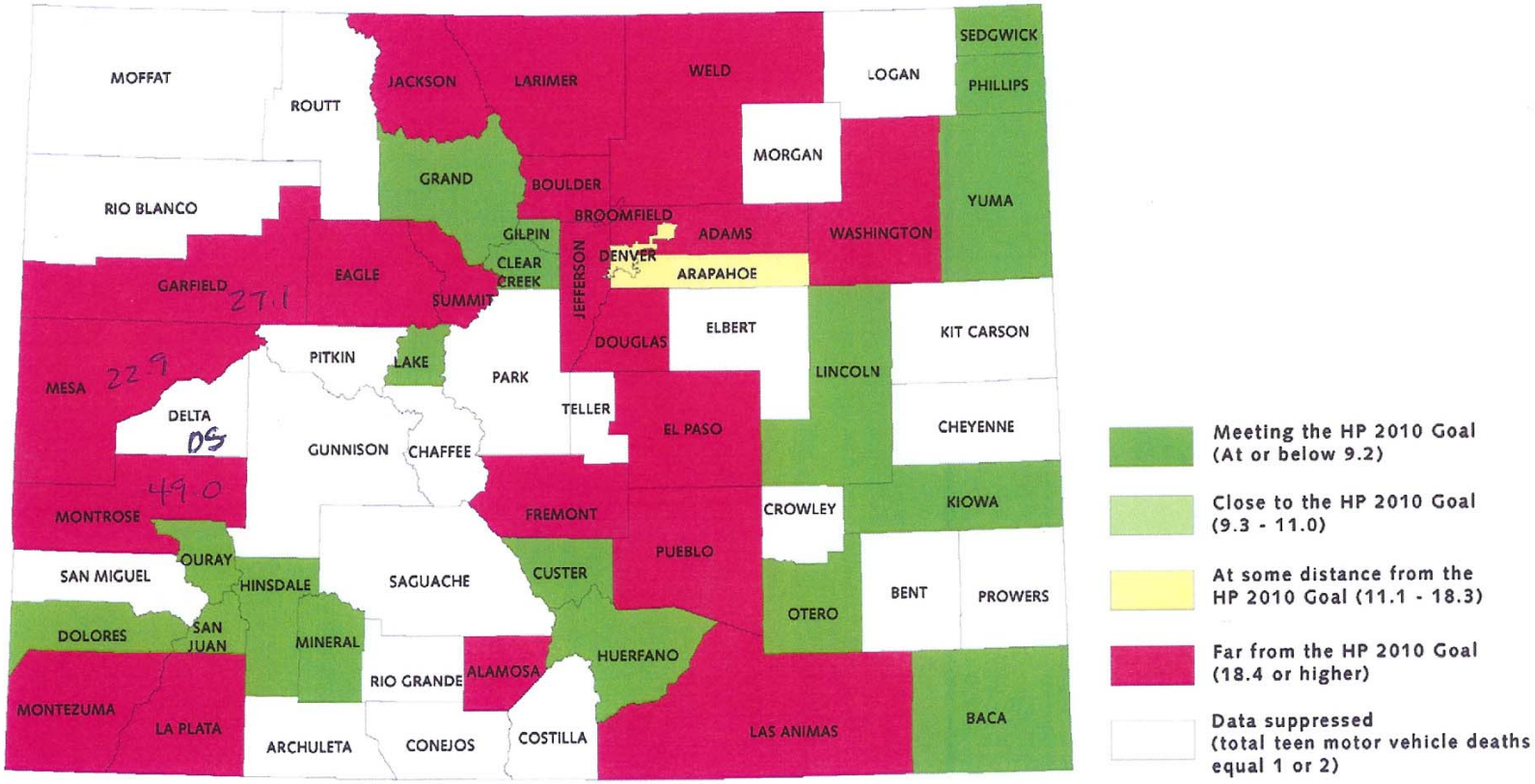
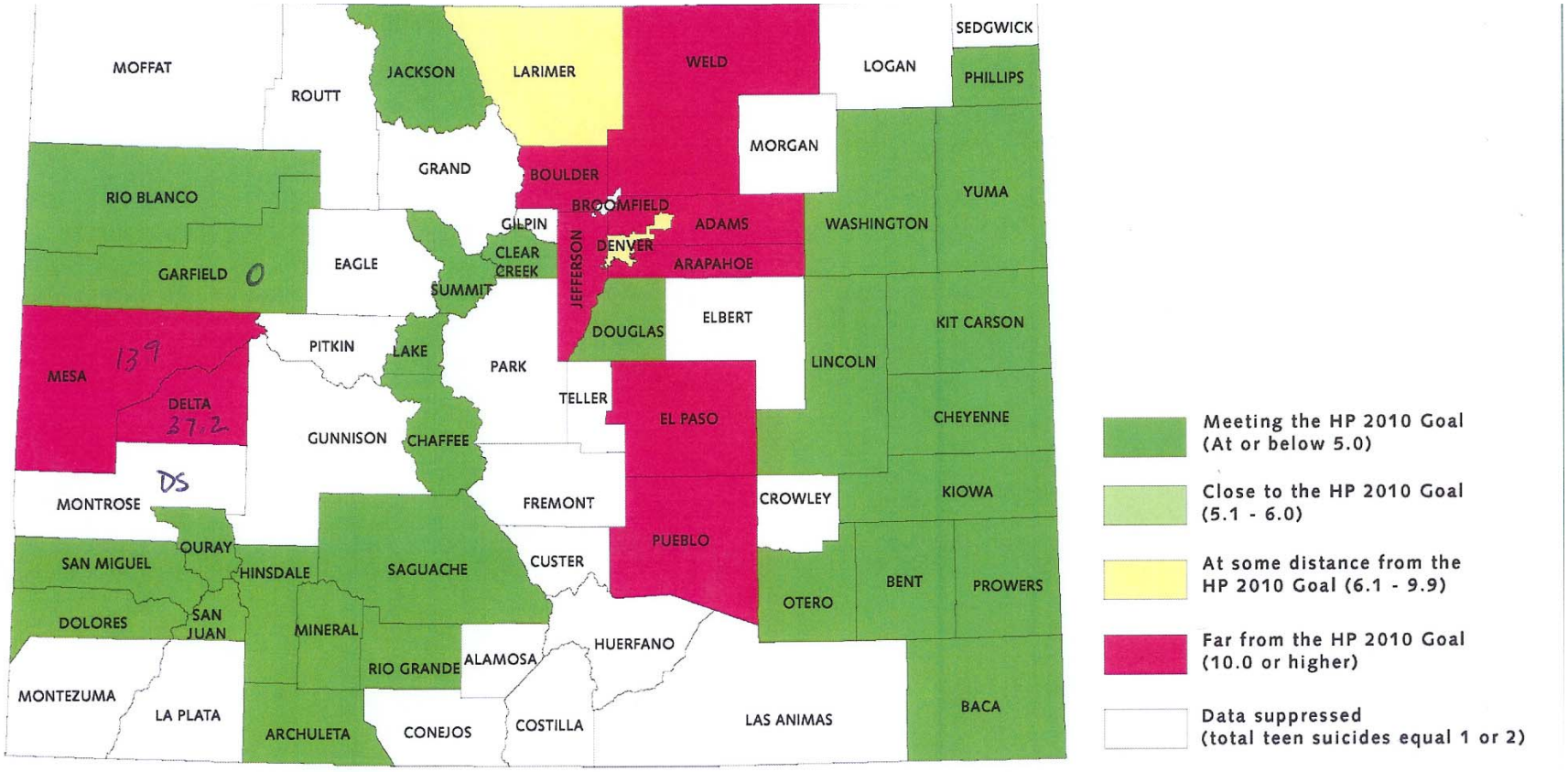


Figure 33. Teen Suicide (Ages 15-19)

Healthy People 2010 Goal: Reduce suicides to no more than 5.0 per 100,000 youth aged 15-19.

County rates are 2001-2005 five-year averages, except for Broomfield which is 2002-2005 only.

The state rate is 12.1.



Colorado Teen Suicide Rates

Figure 34. Child Abuse (Number per 1,000)

Healthy People 2010 Goal: Reduce the incidence of maltreatment of children younger than 18 (including physical abuse, sexual abuse, emotional abuse, and/or neglect) to 10.3 or below.

County rates are for calendar year 2005. The state rate is 9.2 per 1,000.

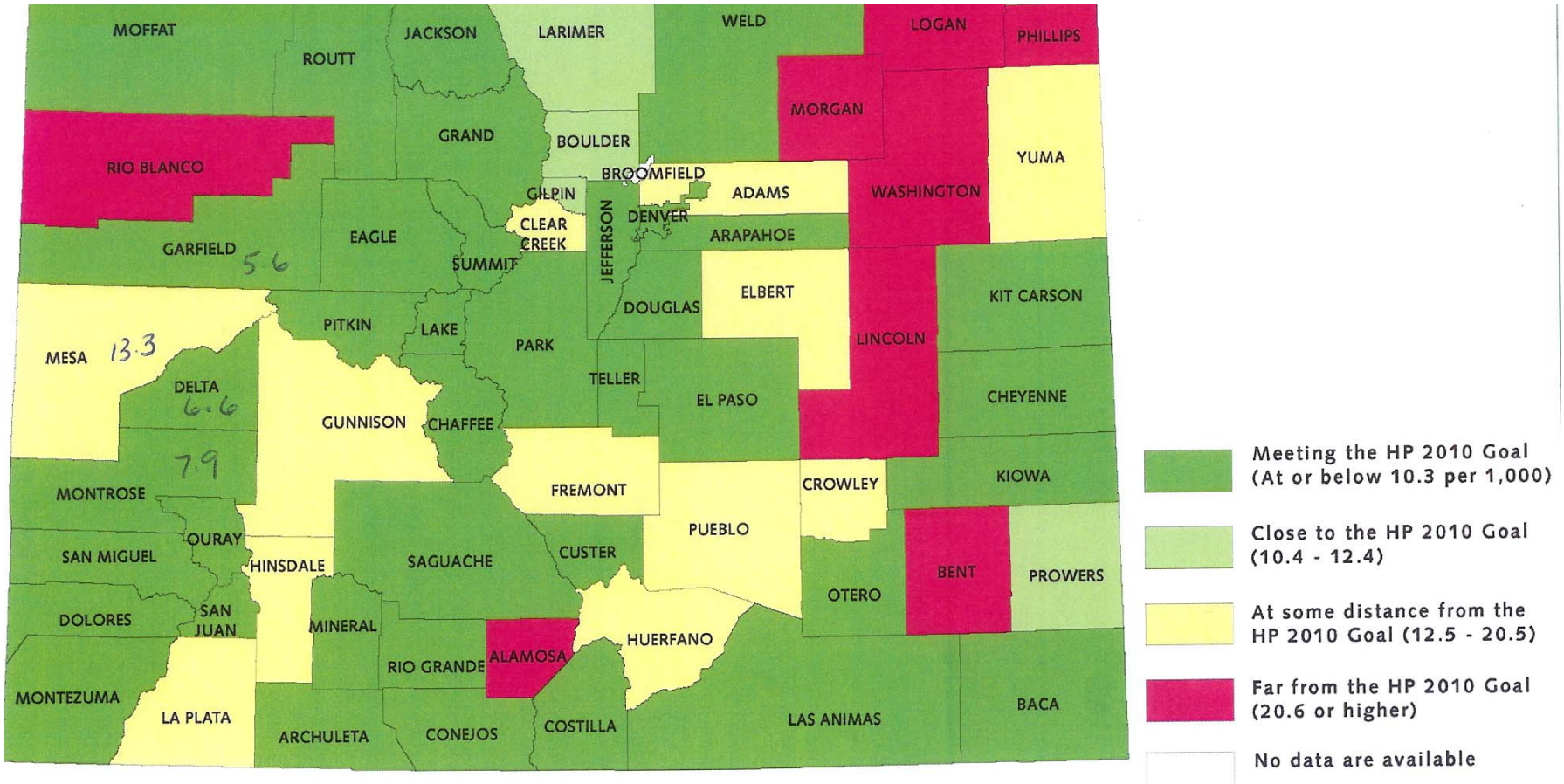
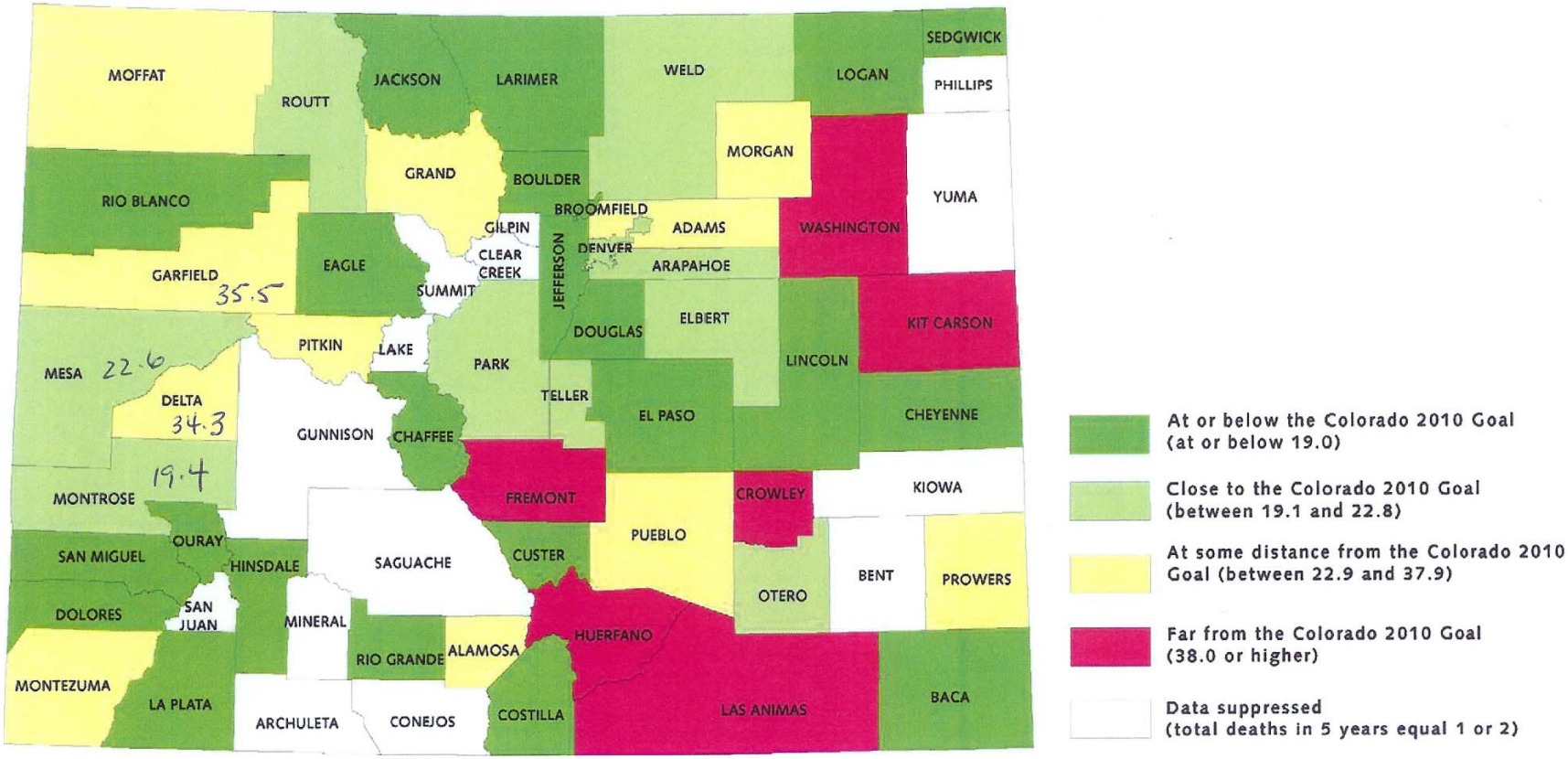


Figure 35. Child Deaths (Ages 1-14)
Number per 100,000

Colorado 2010 Goal: Reduce the death rate of children to no more than 19.0 deaths per 100,000 children aged 1-14.

County rates are 2001-2005 five-year averages, except for Broomfield which is 2002-2005 only.

The state rate is 20.0.



Injury-Related Hospitalizations and Deaths

The Colorado Department of Public Health and Environment tracks injury-related hospitalizations. Although there are many ways by which these data may be sorted and reported (e.g., by age, gender, mechanism of injury, etc.), for the purposes of this report, we have chosen to review only a couple of categories by county: injury hospitalizations by intent, and injury hospitalizations by injury type. Tables 20a and 20b and the accompanying graphs show the relationship of Garfield County to the state and comparison counties in these categories.

Table 20A. Injury Hospitalizations by County, 2001 - 2003
Total – Intention Categories
Age-Adjusted Rates per 100,000

	Total Hospitalizations	Unintentional Injury	Intentional Injury
Delta	812.6*	721.2*	61.9**
Garfield	654.9	574.4	57.3**
Mesa	746.1*	579.2	153.6*
Montrose	607.4**	514.8**	71.6
Colorado	694.0	591.6	81.5

*significantly higher than Colorado rate
**significantly lower than Colorado rate

Figure 36.

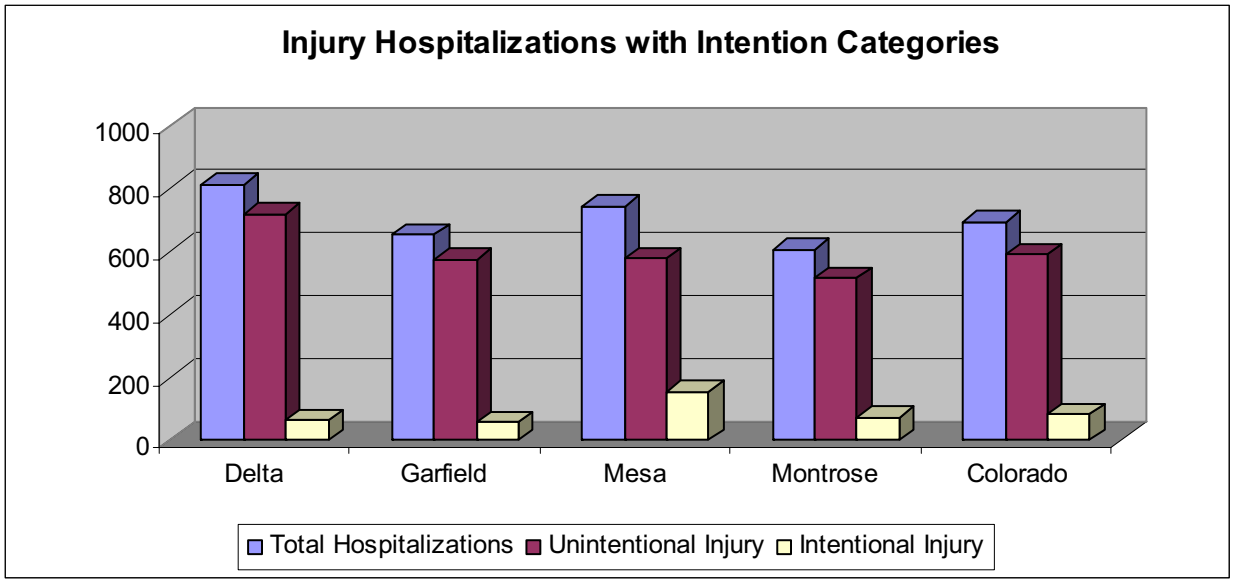
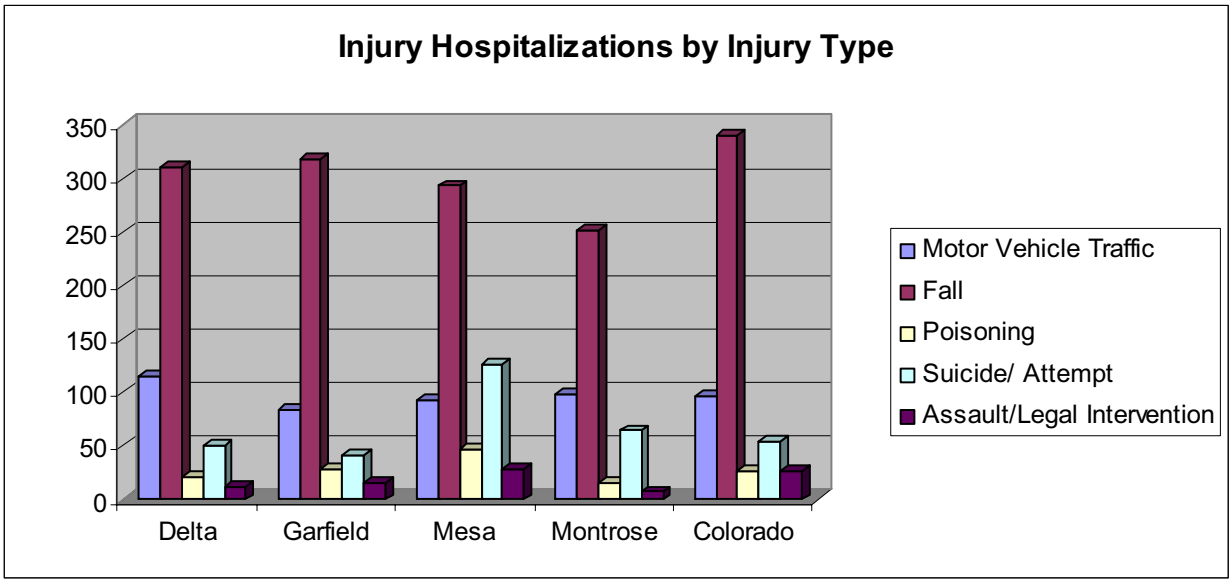


Table 20B. Injury Hospitalizations by County, 2001 - 2003
Total – Injury Type
Age-Adjusted Rates per 100,000

	Motor Vehicle Traffic	Fall	Poisoning	Suicide/ Attempt	Assault/Legal Intervention
Delta	114.4	309.7	20.8	50.8	12.4**
Garfield	83.2	318.4	28.2	41.9**	15.4**
Mesa	93.5	292.8**	46.5*	126.2*	28.0
Montrose	98.9	252**	15.8**	64.3	7.3**
Colorado	96.5	340.6	26.7	54.7	27.1

*significantly higher than Colorado rate
**significantly lower than Colorado rate

Figure 37.



Similarly, the CDPHE records and tracks injury-related deaths. For the purposes of this report, county and state comparisons are shown only for "injury deaths by intention" and "injury deaths by injury type. This information is presented in Tables 21a and 21b and the accompanying graphs.

Table 21A. Injury Deaths by County, 2001 - 2003
Total – Intention Categories
Age-Adjusted Rates per 100,000

	Total Injury Deaths	Unintentional Injury	Intentional Injury
Delta	76.9	47.4	28.1
Garfield	82*	56.1*	22.0
Mesa	65.6	38.2	21.8
Montrose	82.3	57.2*	24.0
Colorado	63.9	41.6	20.1

*significantly higher than Colorado rate
**significantly lower than Colorado rate

Figure 38.

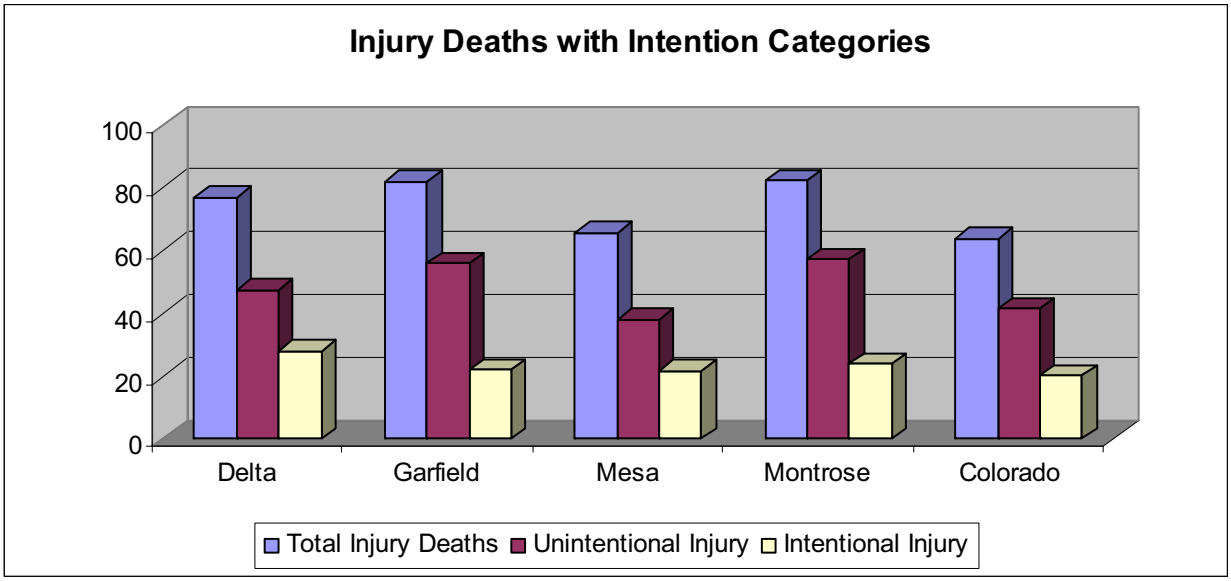
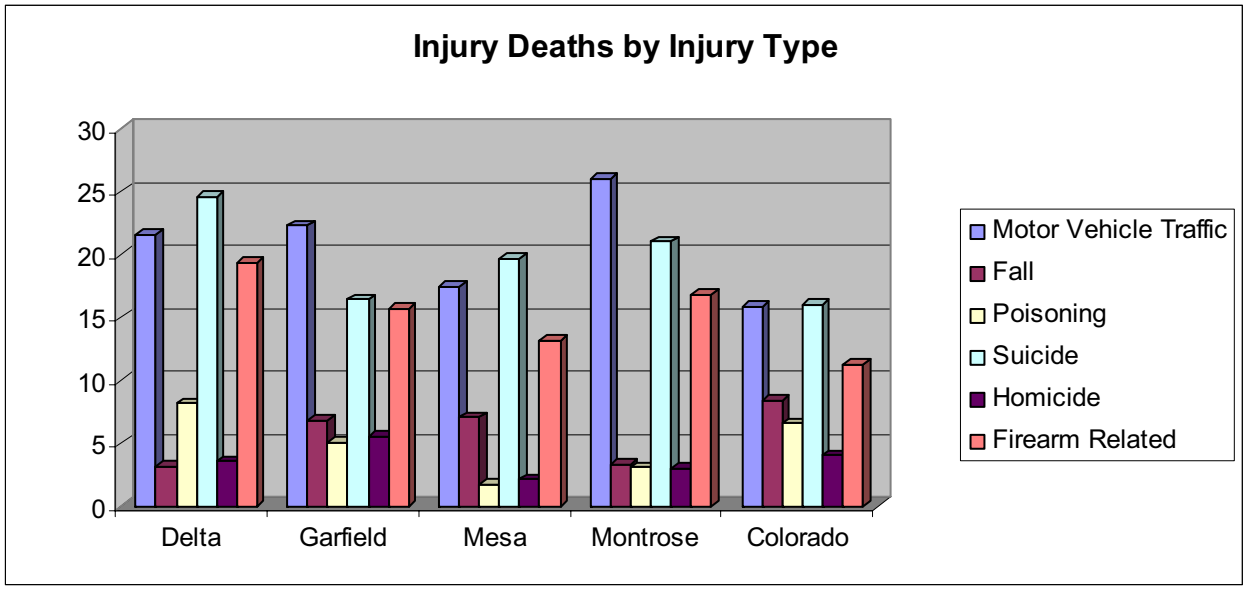


Table 21B. Injury Deaths by County, 2001 - 2003
Total – Injury Type
Age-Adjusted Rates per 100,000

	Motor Vehicle Traffic	Fall	Poisoning	Suicide	Homicide	Firearm Related
Delta	21.6	3.2**	8.2	24.6	3.6	19.4
Garfield	22.3	6.8	5.1	16.4	5.6	15.7
Mesa	17.5	7.1	1.8**	19.7	2.2**	13.2
Montrose	26.0	3.4**	3.1	21.0	3.0	16.8
Colorado	15.9	8.4	6.6	16.0	4.1	11.3

*significantly higher than Colorado rate
**significantly lower than Colorado rate

Figure 39.



Behavorial Risk Factor Study Survey (BRFSS) Data

The annual Centers for Disease Control and Prevention Behavioral Risk Factor Study (a random sample, telephone-based survey of health risk factors and behaviors) provides information on the health of a representative sample of adults. Table 22 provides the results of selected 2004-2005 survey questions by county.

Table 22. 2004-2005 BRFSS	Delta County		Garfield County		Mesa County		Montrose County		Colorado	
Topic	%	95% CI*	%	95% CI*	%	95% CI*	%	95% CI*	%	95% CI*
Diagnosed with diabetes	2.8	0.0-5.8	2.6	0.0-5.1	5.4	3.0-7.8	6.4	1.6-11.2	4.6	3.4-5.0
Current smoker	23.9	14.1-33.7	18.7	9.6-27.7	20.7	15.2-26.3	21.8	12.5-31.1	19.9	18.9-20.9
Currently have health insurance	67.6	56.8-78.4	79.2	20.8-87.6	80.1	74.3-85.9	71.3	60.3-82.3	84.4	83.4-85.3
Ever had asthma	17.2	7.9-26.5	16	8.1-23.9	10.6	7.0-14.2	15	5.2-24.7	17.2	7.9-26.5
Overweight BMI** 25.0-29.9	60.7	49.2-72.2	41.8	31.1-52.5	57.3	50.8-63.8	56.3	44.8-67.8	60.7	49.2-72.2
Obese BMI** >30	14.1	5.4-22.7	12.6	4.9-20.2	20.9	15.5-26.3	21.3	12.2-30.3	14.1	5.4-22.7

*Confidence Interval

**Body Mass index (BMI) is defined as weight in kilograms divided by height in meters squared

Percents are weighted to the total population.

According to the results of this survey, fewer Garfield County residents have diabetes, smoke or are overweight or obese than in the state, as a whole, or in the comparison counties. The percentage of adults in Garfield County who have asthma is similar to the state, as a whole, and to two of the three comparison counties.

Cancer Statistics

Cancer statistics for Colorado and the four comparison counties were obtained from the Colorado Department of Public Health and Environment, Colorado Central Cancer Registry, Prevention Services Division (www.cdphe.state.co.us). Mr. Jack Finch, (Statistical Analyst III) provided the most recently available data (through 2005) for the most frequently observed cancers in Colorado, as well as for several other cancers that are of interest because of their potential link to exposure to benzene or to radionuclides. For cancers that have sufficiently high rates of occurrence to provide meaningful trend data, trends in incidence and mortality rates are provided for the four comparison counties for the years 1992 through 2005. (Please see Appendix M for data tables.) Table 23 (below) shows comparisons of selected cancer incidence rates to the state incidence rates for the same time periods. Blank cells indicate that there was no significant difference from the state rate.

Table 24 provides the same information for mortality rates. It is important to note that mortality rates – more so than incidence rates – may reflect differences in socio-economic status and/or healthcare access (i.e., access to "state-of-the-art" treatment), rather than differences in risk factors for developing cancer. The latter may include an individual's genetic background, lifestyle choices, and/or exposures to a wide range of environmental toxins (chemical, biological, or radiological). One of the difficulties of observing relatively recent trends in cancer incidence statistics and trying to draw conclusions about possible changes in risk factors, is that, with respect to carcinogenic exposures, these trends reflect events that happened 10- 20 years ago or are cumulative over a lifetime. Generally speaking, the appearance of clinical cancer has a "lag" time of up to two decades following initiation of carcinogenesis. (Childhood cancers and some rare cancers are exceptions.) Thus, with the exception of changes in cancer screening practices that often artifactually inflate cancer rates, short-term trends may not reflect changes in the potential for exposure to carcinogenic materials.

Incidence and mortality trends among the comparison counties have also been portrayed graphically (see below). Incidence rates for all cancers have changed little over time, although cancer rates in males dropped slightly for Delta, Garfield, and Montrose counties for the most recent time period. There is relatively little difference among the counties for either male or female cancer incidence rates across the designated time periods. In addition to the county-specific cancer statistics, the information on Colorado and National incidence rates and risk factors was obtained from the "*Cancer in Colorado 1998-2003*" report (www.cdphe.state.co.us/pp/cccr/1998-2003/index.html) and "*Cancer Facts and Figures 2008*" (American Cancer Society, www.cancer.org).

Selected cancers.

Prostate cancer – Although Garfield County's average annual incidence rates for the period of 1992-1998 were higher than those of Delta, Mesa and Montrose Counties, there has been a steady downward trend in prostate cancer rates in Garfield County. For the most recent time period, prostate cancer rates were lower than those for the other three counties. It is important to note that incidence rates are a reflection of "detection" rates. Changes in rates may be an artifact of screening practices (which, in turn, reflect "standards of practice", health insurance coverage, and public acceptance).

Female Breast cancer – A similar downward trend in female breast cancer incidence is seen for Garfield County. Incidence rates among the comparison counties are not significantly different from each other or from the state rate.

Colorectal cancer – Colorectal cancer rates in males for Garfield County have decreased since 1992, and are now similar to those in Montrose County and lower than those in Delta and Mesa Counties and in the state, as a whole. Female colorectal cancer incidence has been highly variable, and is currently similar to the rates in Delta and Montrose Counties and in the state, as a whole (which are all higher than the most recent incidence rate for Mesa County).

Lung cancer – There has been a significant drop in the male lung cancer incidence rates in Garfield County over the most recent tracking period (2003-2005). Garfield County has the lowest incidence rate among the comparison counties and the state of Colorado for this period. Female lung cancer rates in Garfield County have essentially remained stable since 1992. The most recent rates are similar to the state rates, are higher than those for Delta County, and are lower than those for Mesa and Montrose Counties.

Bladder cancer – Bladder cancer incidence rates have been highly variable in Garfield County for both males and females. All of the comparison counties saw a spike in male bladder cancer incidence for the 2001-2002 period (true also for female bladder cancer, with the exception of Delta County, for which no female bladder cancers were reported during this period). The most recent tracking period showed decreases in the incidence rates for all counties, except Montrose County (continued upward trend in male bladder cancer) and Delta County (increase in female bladder cancer). State rates have remained stable for both male and female bladder cancer over the 1992-2005 time period.

Melanoma – Melanoma rates for Garfield County do not differ significantly from those in the comparison counties or the state as whole. Male melanoma rates have tended to decrease since 1999, while female rates have been more variable, although relatively low.

Leukemias – The incidence rates for all male leukemias in Garfield County were lower than those in the comparison counties and the state during 2003-2005 (the only period for which county-specific data were available). Female leukemia incidence rates for Garfield County were essentially the same as for the state, as a whole, slightly lower than for Montrose County, and higher than those for Mesa and Delta Counties.

Thyroid cancer – In all cases, incidence rates for male thyroid cancer were lower than for thyroid cancer in females, during 2003-2005, the only period for which county-specific data were available. In Garfield County, male thyroid cancer rates were lower than in Montrose County and the state, but higher than in Mesa and Delta Counties (No thyroid cancer was recorded for males in Delta County). Thyroid cancer rates for females in Garfield County were only higher than the rates for female residents of Mesa County.

Cervical cancer – Garfield County had the lowest incidence rates for cervical cancer among the comparison counties and the state, as a whole.

TABLE 23. COMPARISON OF COUNTY RATES WITH STATE RATES - INCIDENCE

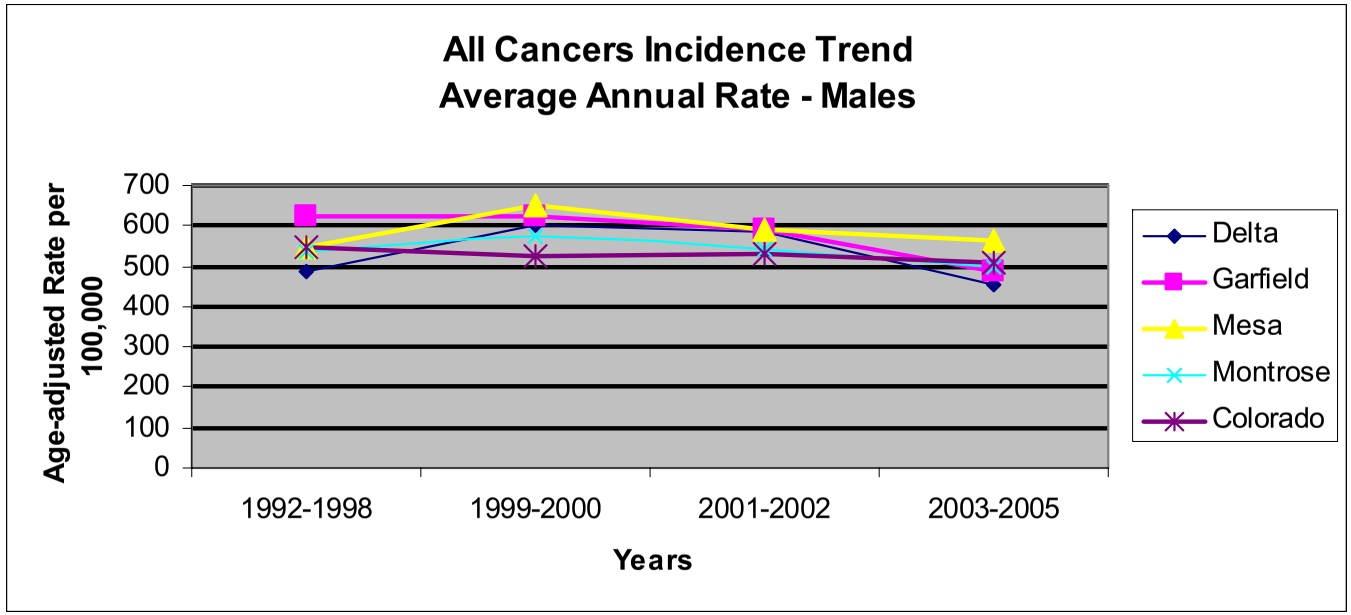
Male	Delta				Garfield				Mesa				Montrose			
	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005
Prostate	↓				↑	↑			↓	↑	↑	↑		↑		
Lung									↑	↑		↑				
Colo-rectal																
Melan-oma										↑						
Bladder														↓		
Leuke-mias																
Thyroid																
All Cancers	↓				↑	↑				↑	↑	↑				
Female																
Breast			↓													
Lung									↑	↑		↑				
Colo-rectal																
Melan-oma	↑		***													
Thyroid												↓				
Leuke-mias																
Bladder			***			***					↑					
Cervix		***	***			***	***									
All Cancers					↑	↓										

. Rate is significantly higher than Colorado rate.
. Rate is significantly lower than Colorado rate.
***Indicates fewer than 3 events in this category.

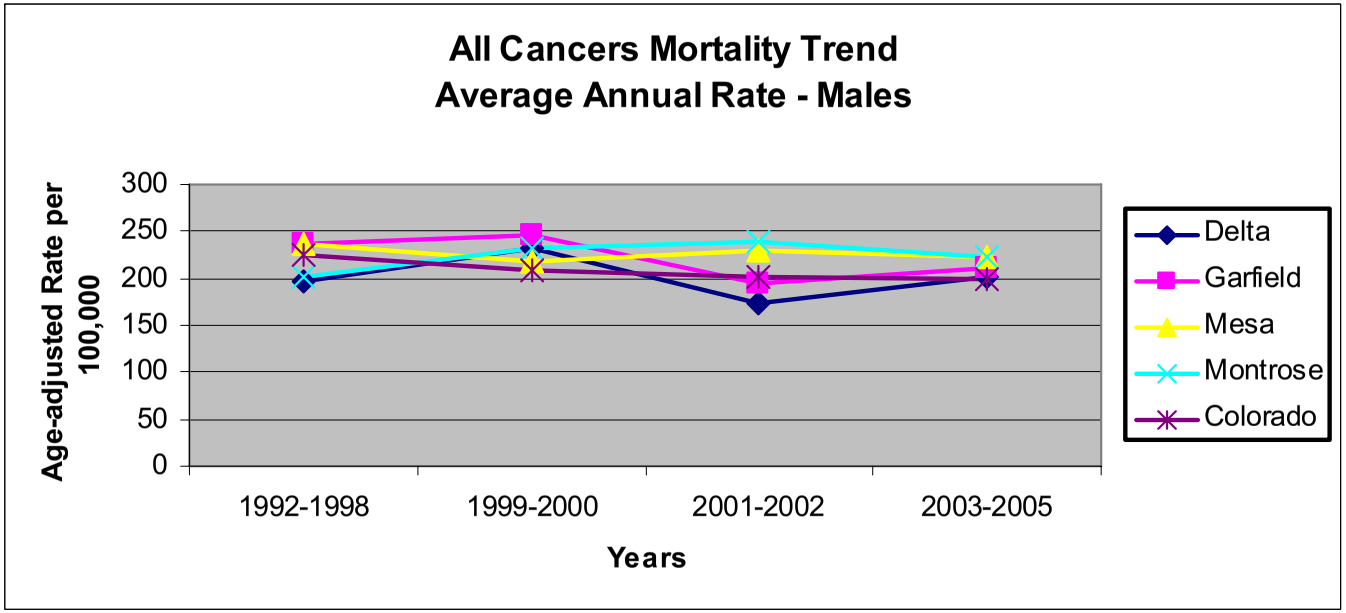
TABLE 24. COMPARISON OF COUNTY RATES WITH STATE RATES - MORTALITY

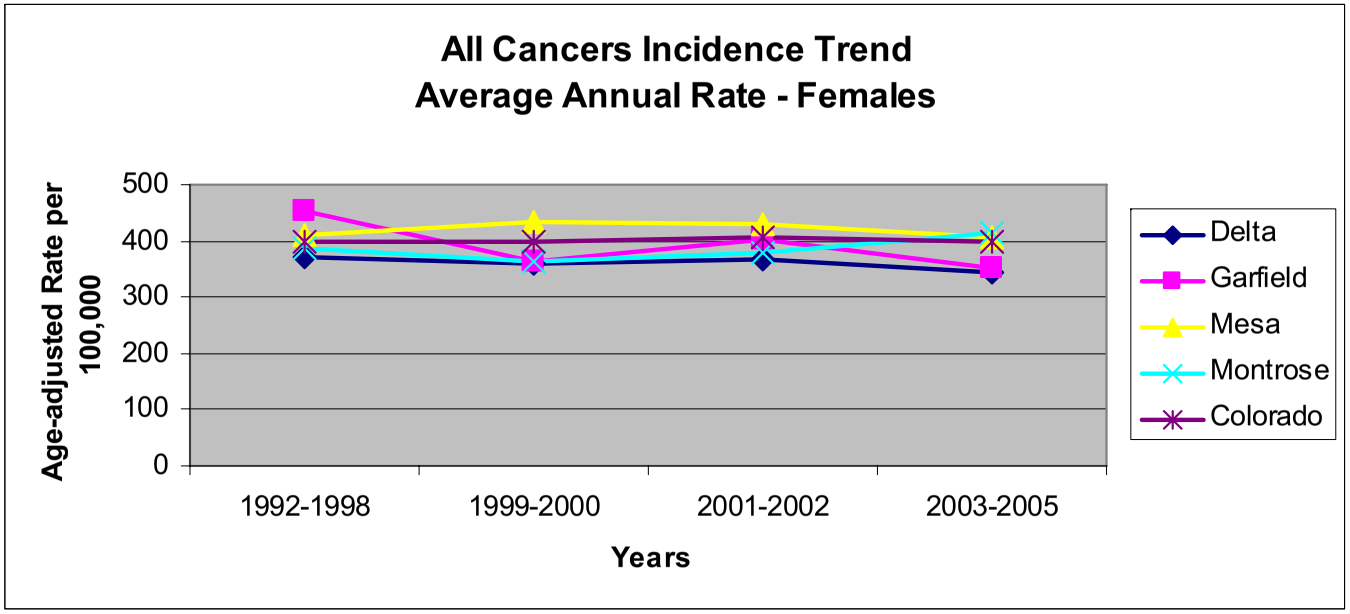
Male	Delta				Garfield				Mesa				Montrose			
	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005	1992-1998	1999-2000	2001-2002	2003-2005
Prostate									↓			↓				
Lung												↑				
Colo-rectal	↓						***									
Melan-oma		***					***	***					***	***		
Bladder	***	***			***		***	***		***				***		
Leuke-mias																
Thyroid				***				***				***				***
All Cancers	↓											↑				↑
Female																
Breast																
Lung				↓								↑				
Colo-rectal												↓				
Melan-oma		***	***	***	***	***	***	***				↓	***	***	***	
Thyroid				***				***					***	***	***	
Leuke-mias								***								***
Bladder		***	***	***	***	***	***	***					***		***	***
Cervix		***	***	***		***	***	***			***		***	***	***	***
All Cancers								***	↑			↑				↑

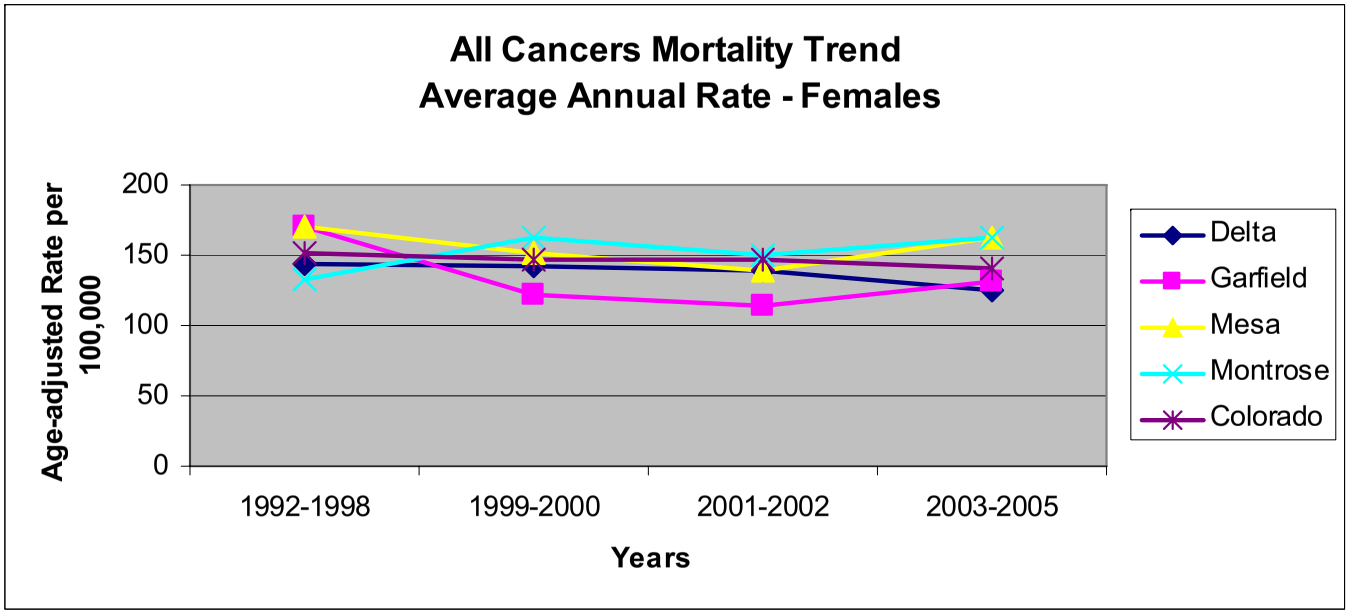
↑Rate is significantly higher than Colorado rate.
↓Rate is significantly lower than Colorado rate.
***Indicates fewer than 3 events in this category

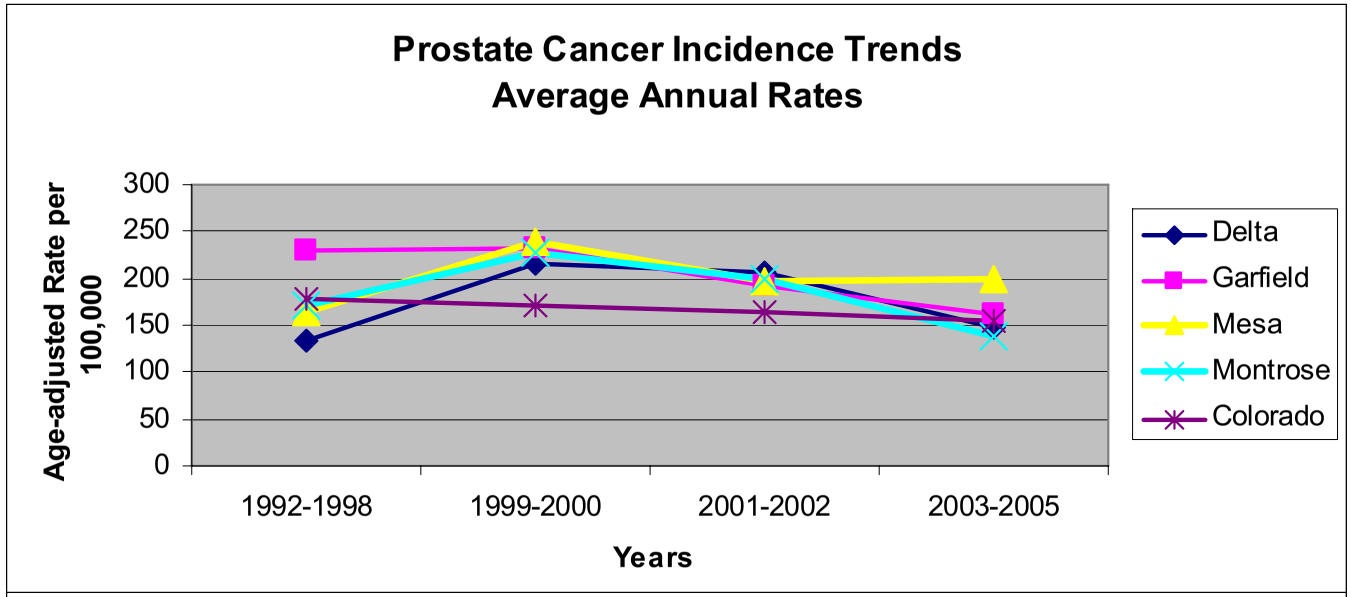


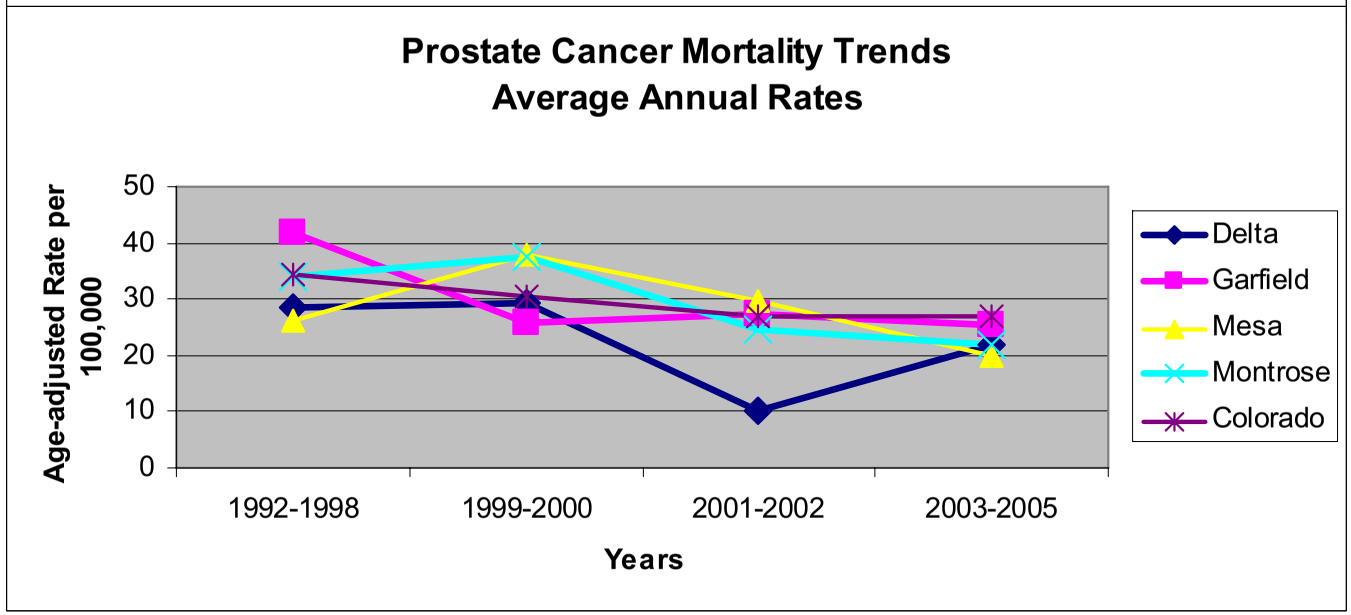
Figures 40a-d. In Colorado, the cummulative lifetime risk for developing cancer of any type is 1 in 2 for males and 2 in 5 for females.



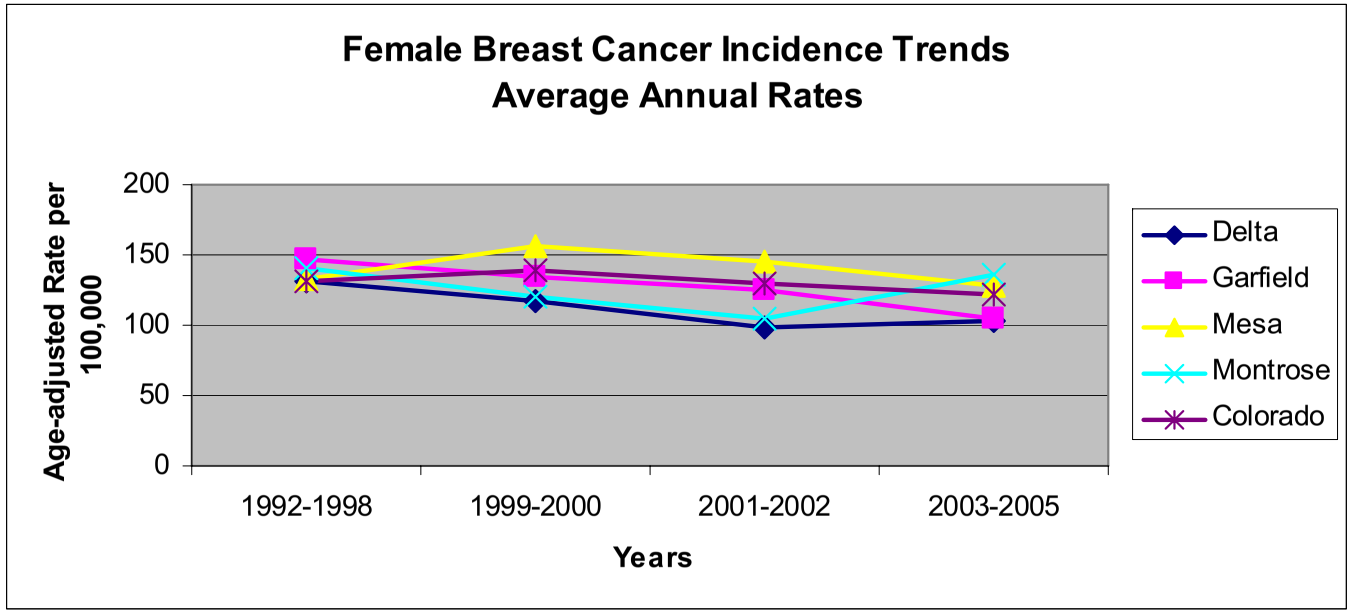

All Cancers Incidence Trend
Average Annual Rate - Females
Age-adjusted Rate per 100,000
500
400
300
200
100
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado

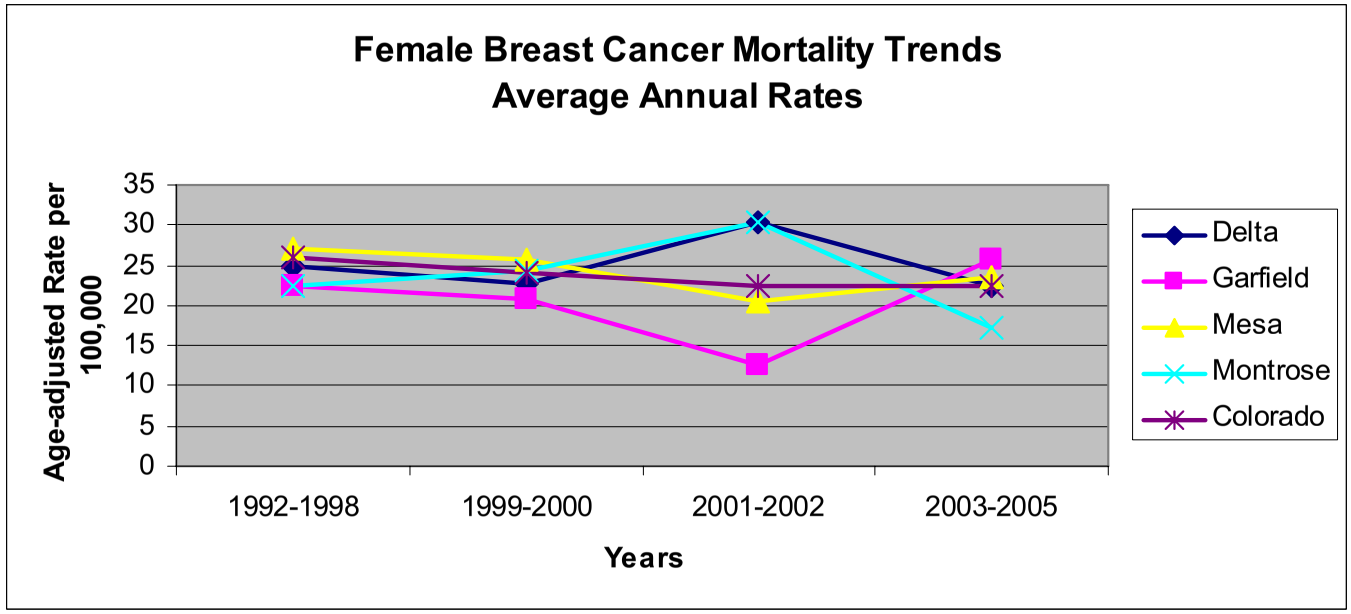

All Cancers Mortality Trend
Average Annual Rate - Females
Age-adjusted Rate per 100,000
200
150
100
50
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado



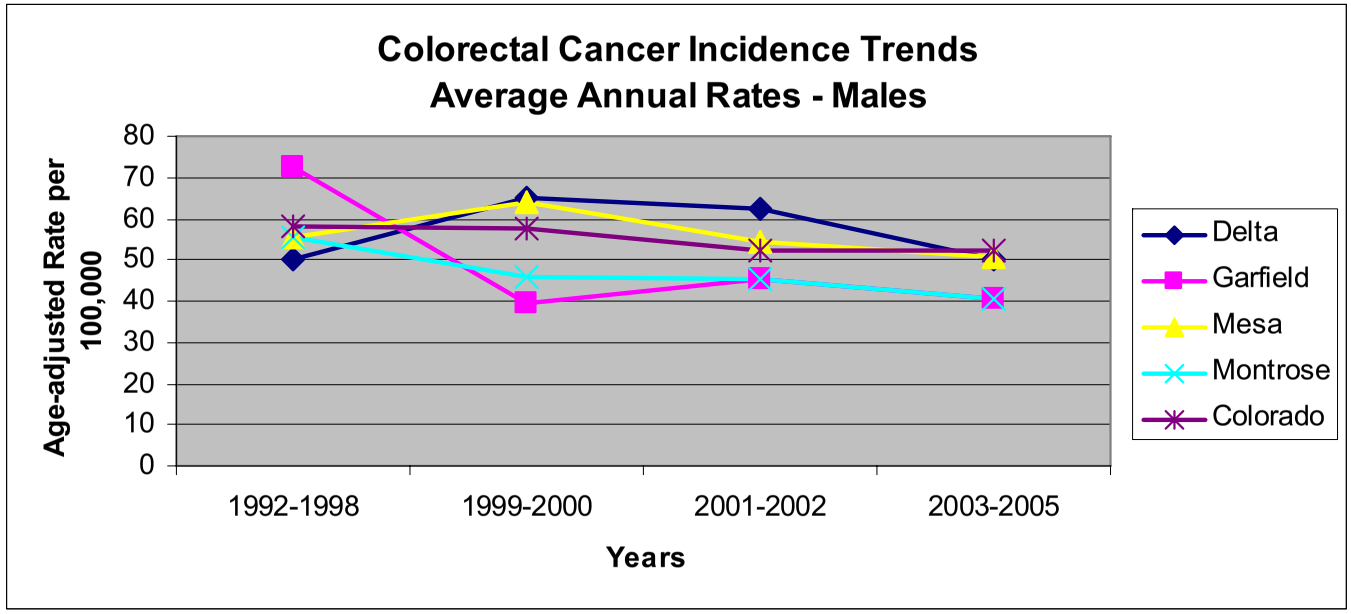


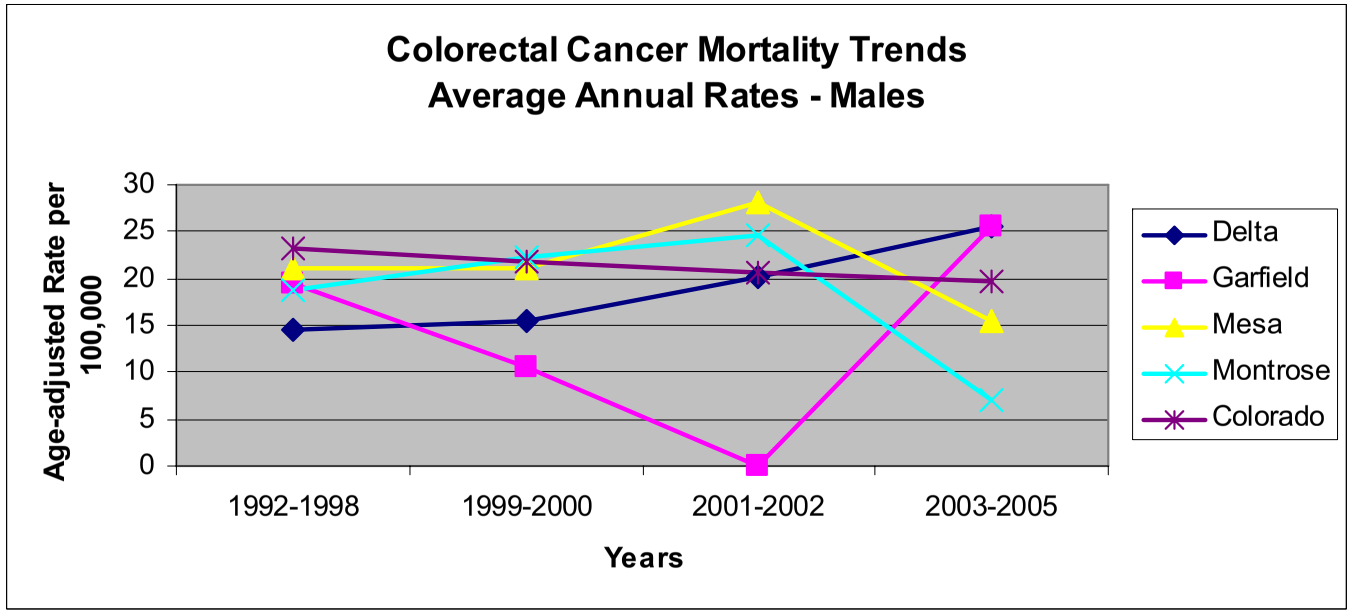
Figures 41a and 41b. Prostate cancer is the most frequently diagnosed cancer in men. In Colorado, 1 in 5 males is likely to develop prostate cancer during their lifetime. The only well-established risk factors for prostate cancer are age (>65 years), ethnicity (incidence rates are highest among African American men), and family history of the disease. Some studies suggest that a diet high in saturated fat may also be a risk factor.



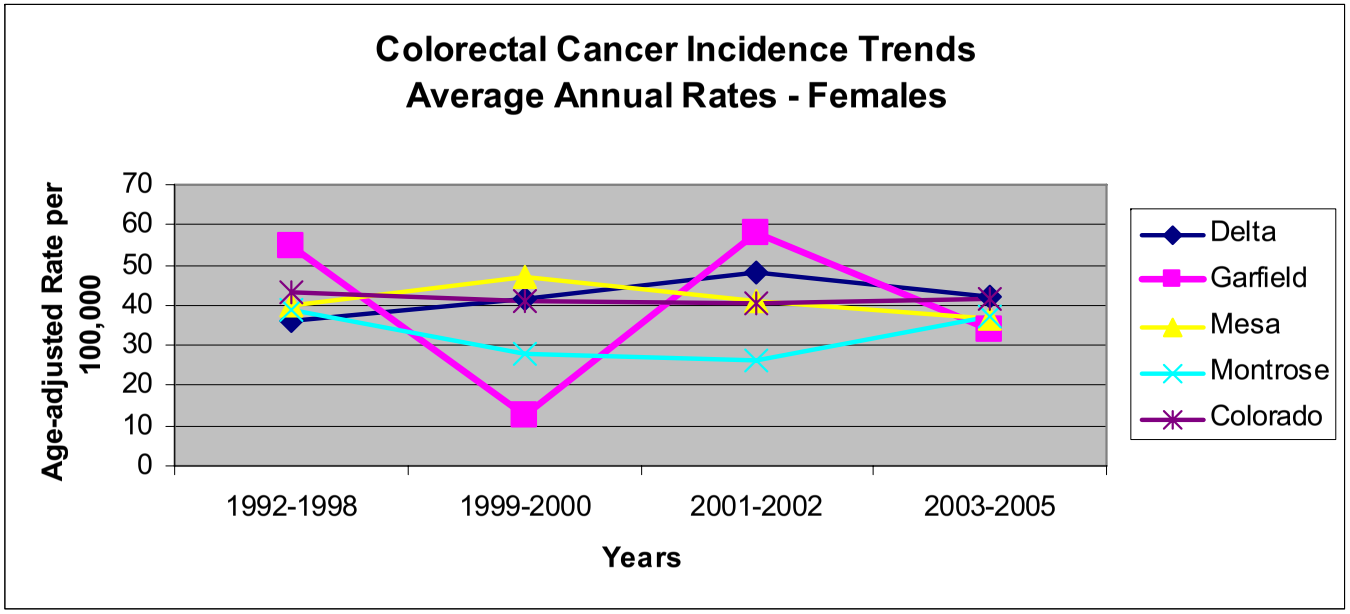


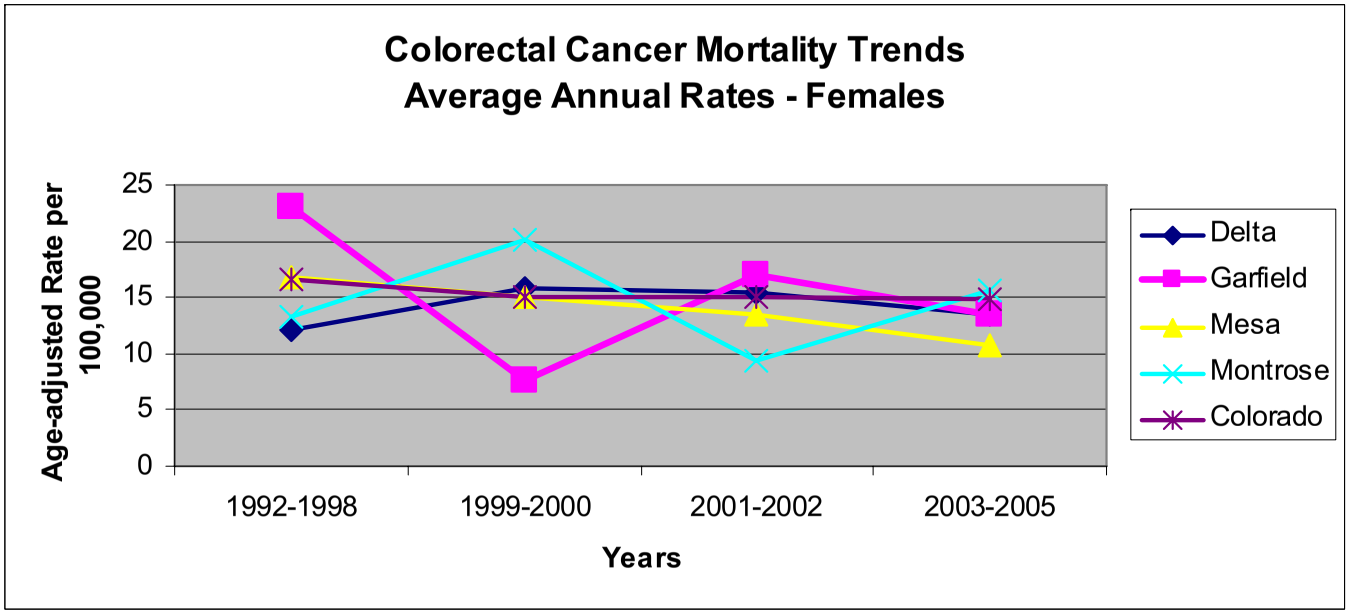
Figures 42a and 42b. Breast cancer is the most frequently diagnosed cancer in women. In Colorado, it is likely that 1 in 7 women develop breast cancer during their lifetime. Age is the most important risk factor for female breast cancer. Other risk factors include genetic background (inherited mutations in the BRCA1 and BRCA2 genes; a personal or family history of breast cancer), and reproductive factors such as a long menstrual history, never having children or having a first child after age 30, and recent use of oral contraceptives. Other factors such as obesity, postmenopausal hormone therapy, physical inactivity and alcohol use may play a role in the development of breast cancer.

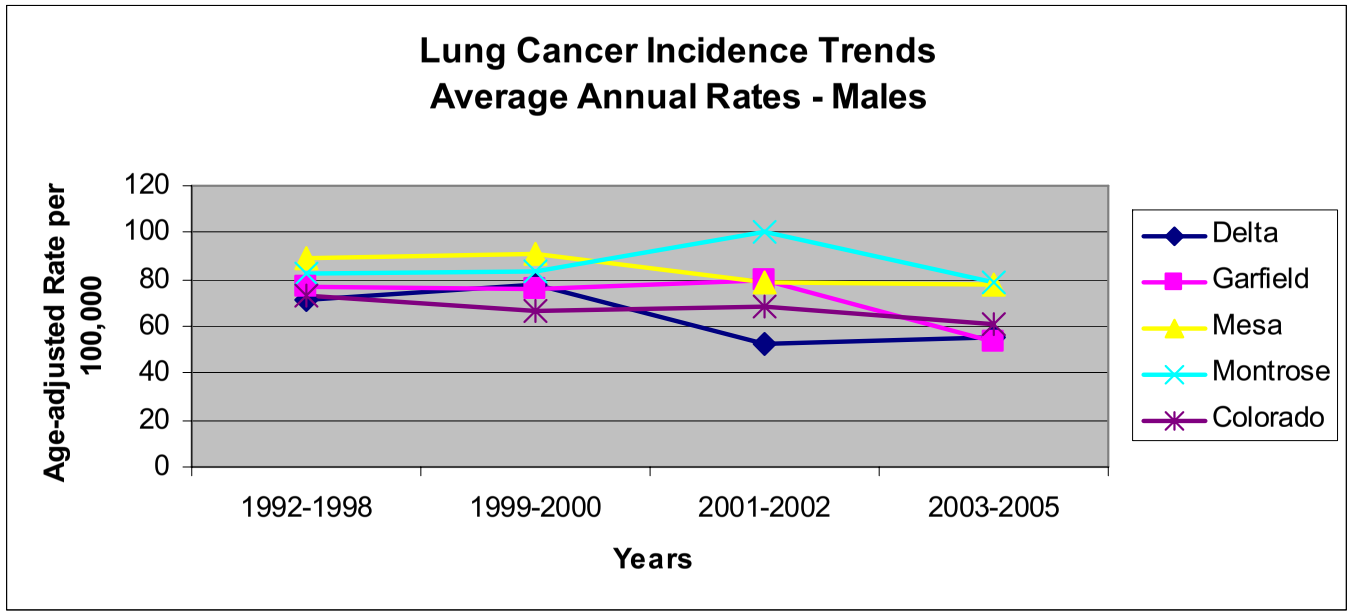


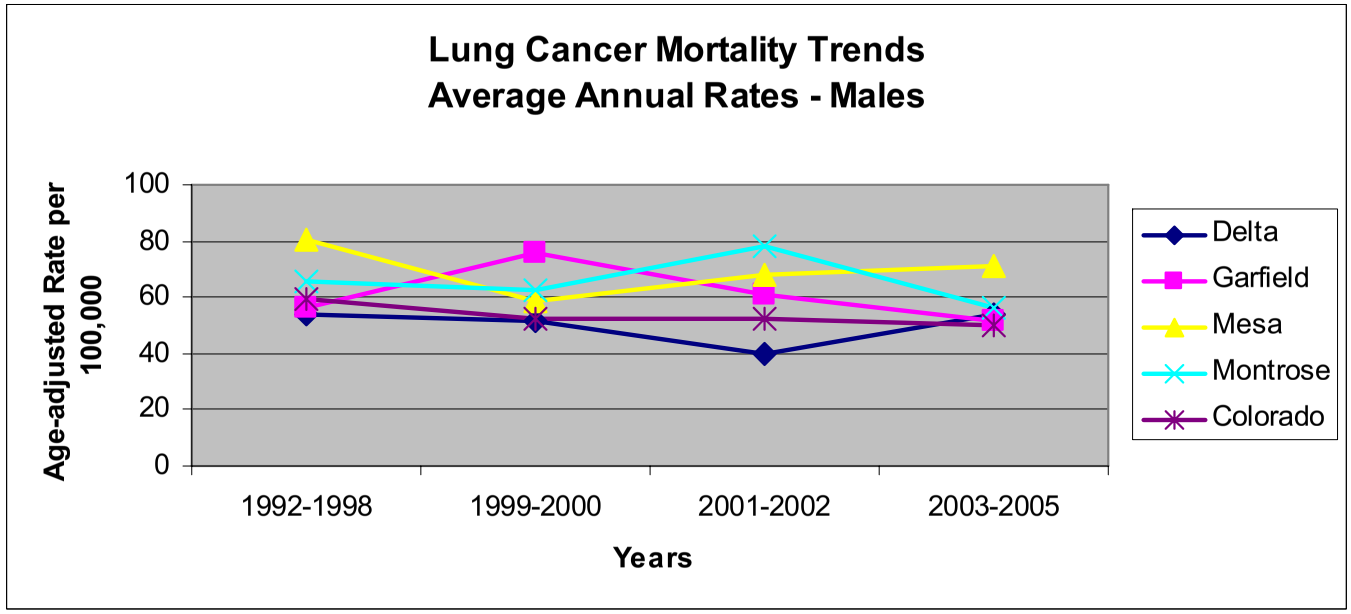


Figures 43a-d. Nationally, colorectal cancer is the third most common cancer in both men and women. In Colorado the lifetime risk for developing colorectal cancer is 1 in 14 for males and 1 in 18 for females. Risk factors for developing colorectal cancer include increasing age, certain genetic mutations or a personal or family history of colorectal cancer, polyps, or chronic inflammatory bowel disease. Other risk factors include obesity, physical inactivity, smoking, alcohol consumption, and a diet high in red or processed meat and low in fruits and vegetables.

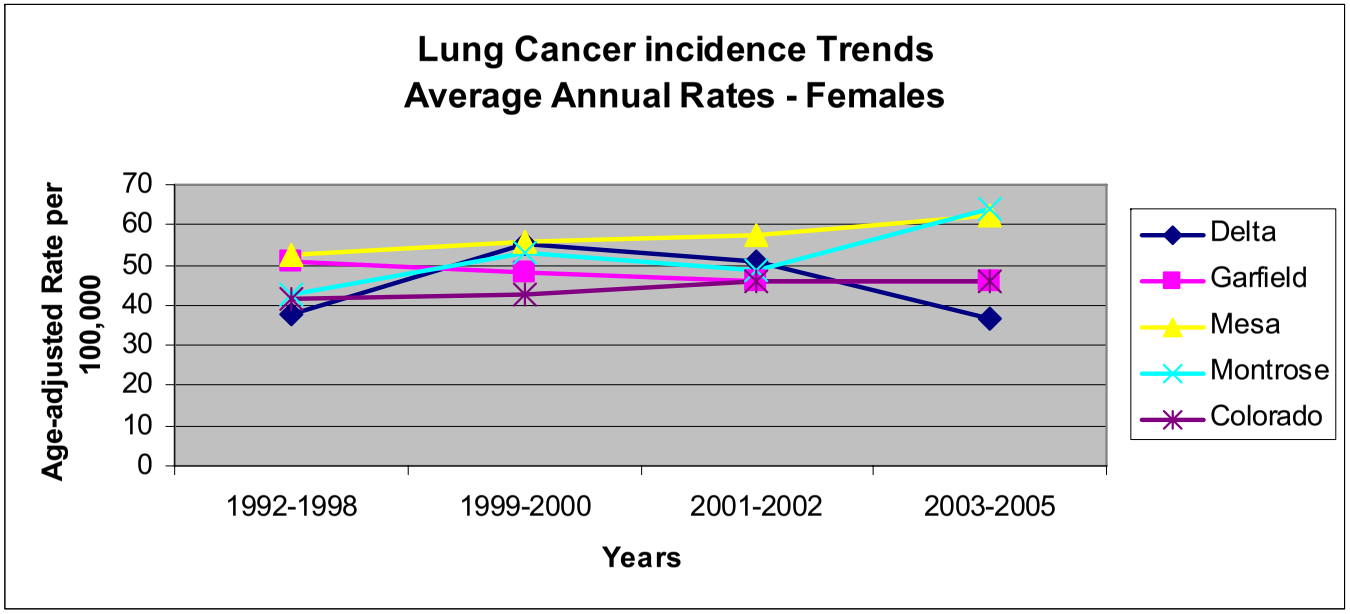

Colorectal Cancer Incidence Trends
Average Annual Rates - Females
Age-adjusted Rate per 100,000
70
60
50
40
30
20
10
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado

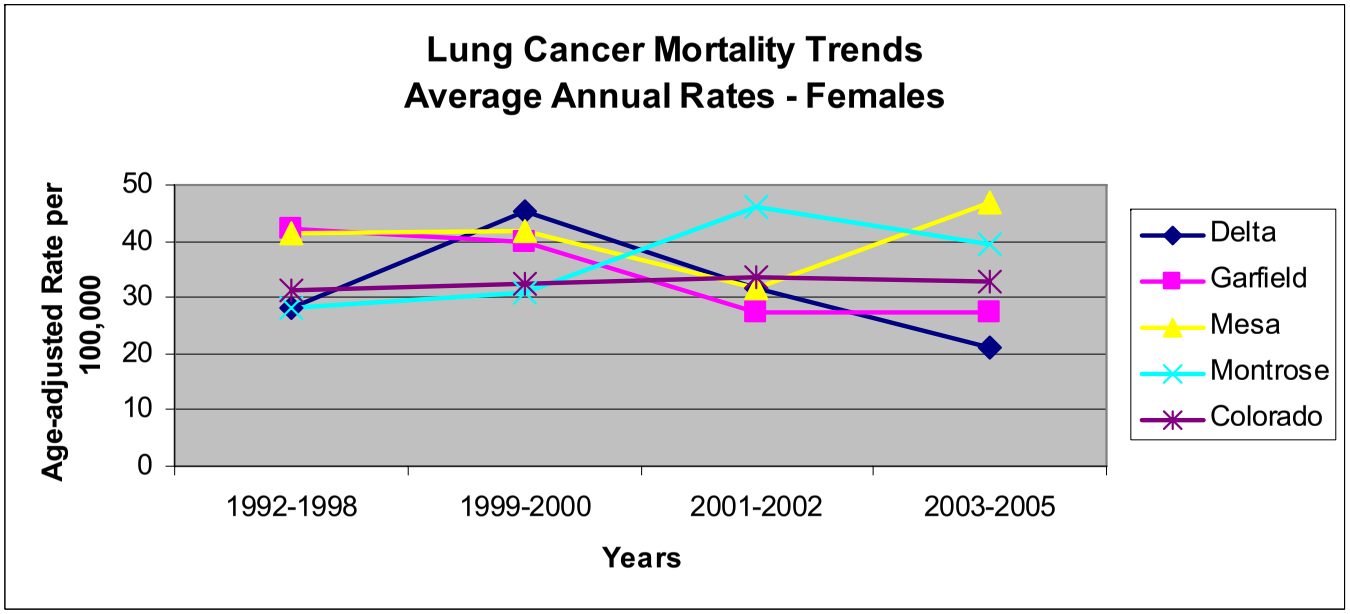

Colorectal Cancer Mortality Trends
Average Annual Rates - Females
Age-adjusted Rate per 100,000
25
20
15
10
5
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado

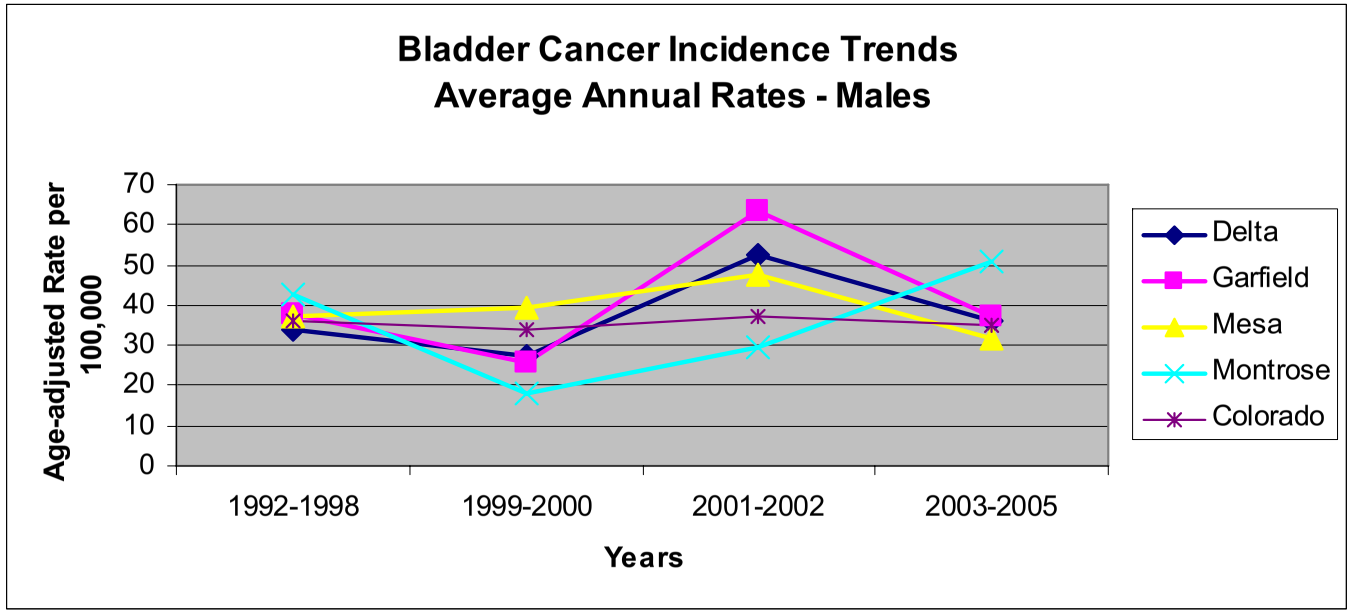


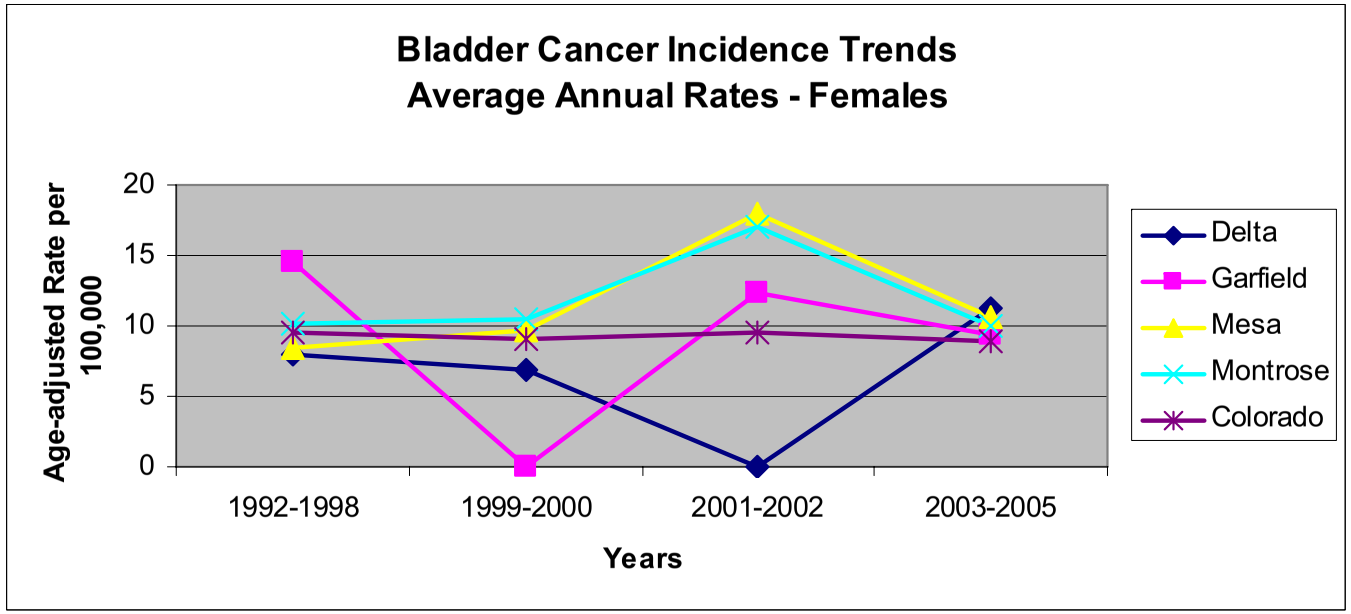


Figures 44a-d. Although the incidence rates for lung cancer are declining, it is still the second most frequently diagnosed cancer in both men and women, and accounts for the most cancer-related deaths. In Colorado, the lifetime risk of lung cancer is 1 in 10 for males and 1 in 15 for females. Cigarette smoking is by far the most important risk factor for developing lung cancer. Other risk factors include genetic background history of tuberculosis and occupational or environmental exposure to secondhand smoke, radon, asbestos, certain metals, organic chemicals, and other air pollutants, and radiation.

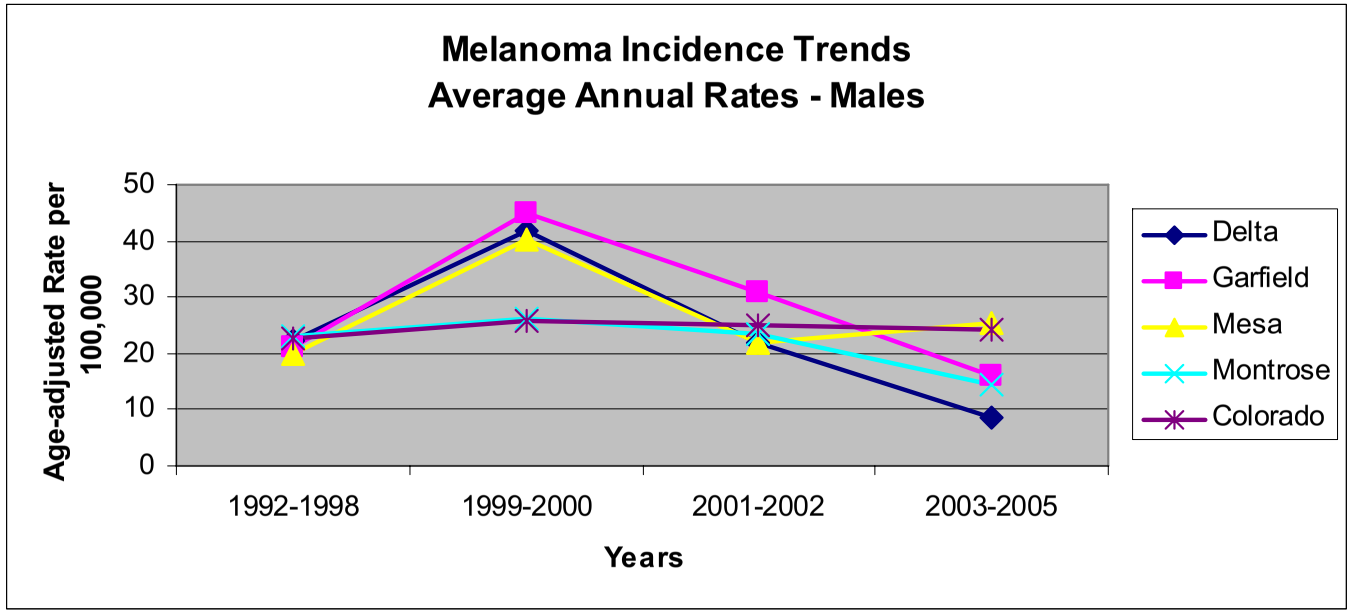

Lung Cancer incidence Trends
Average Annual Rates - Females
Age-adjusted Rate per 100,000
70
60
50
40
30
20
10
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado

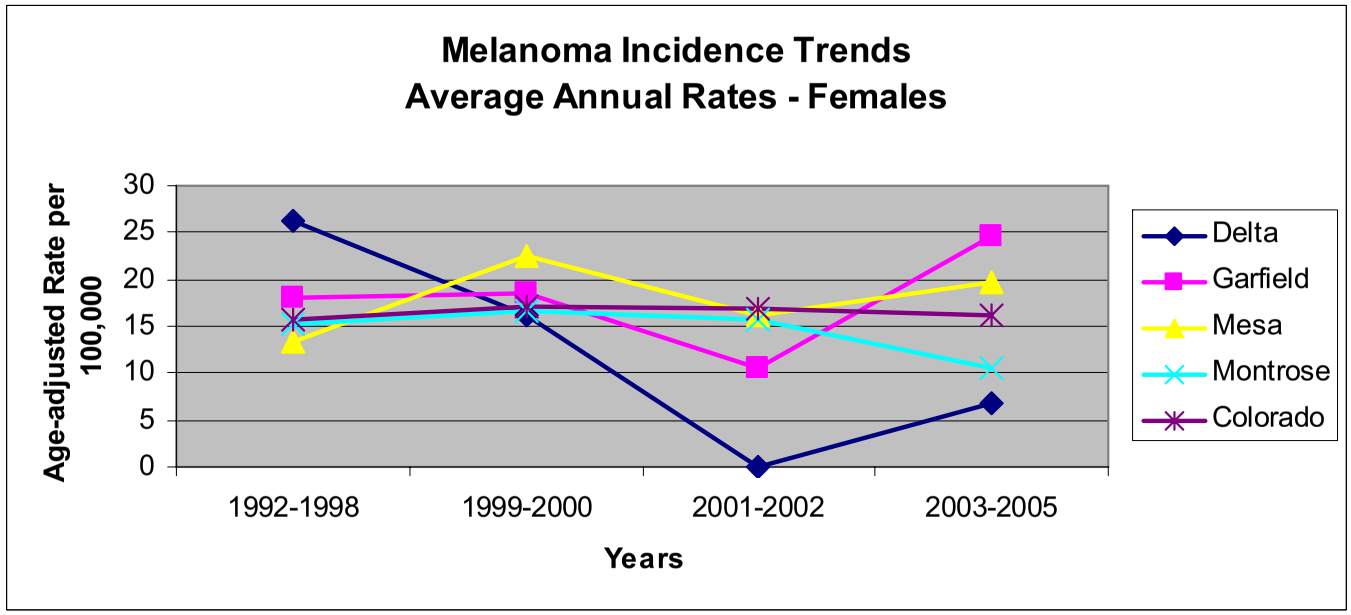

Lung Cancer Mortality Trends
Average Annual Rates - Females
Age-adjusted Rate per 100,000
50
40
30
20
10
0
1992-1998
1999-2000
2001-2002
2003-2005
Years
Delta
Garfield
Mesa
Montrose
Colorado



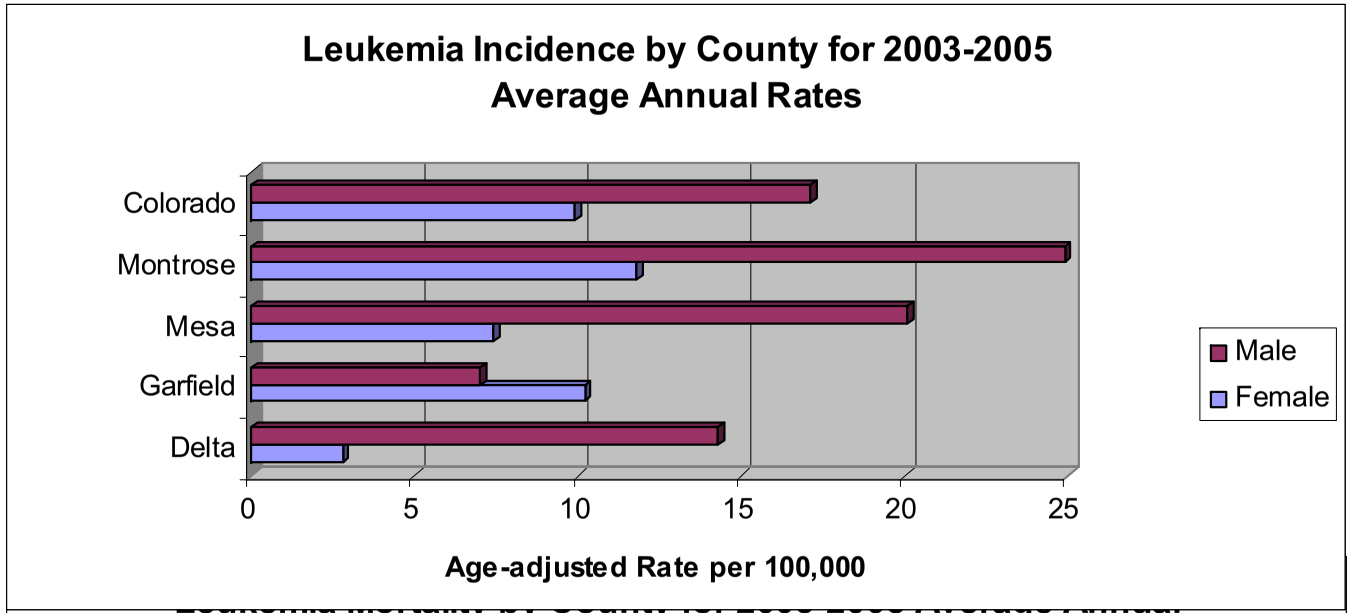


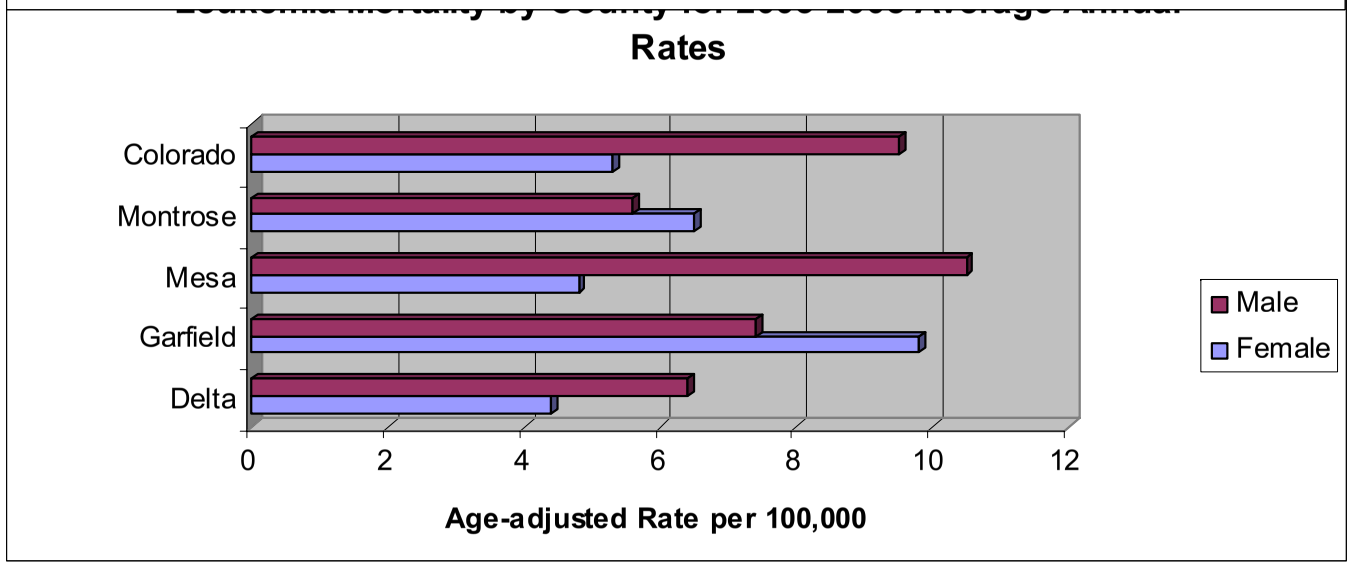
Figures 45a and 45b. Nationally, bladder cancer incidence rates are nearly four times higher in men than in women. In Colorado, the lifetime risk for bladder cancer is 1 in 20 for males and 1 in 76 for females. Smoking is the most important risk factor for developing bladder cancer. Workers in the dye, rubber or leather industries and individuals who live in communities that have high levels of arsenic in their drinking water are also at increased risk for developing bladder cancer.





Figures 46a and 46b. Melanoma is the most common, serious form of skin cancer, and occurs primarily (although not exclusively) in whites. The major risk factors for melanoma are personal or family history and the presence of large numbers or atypical moles. Other risk factors include a history of excessive sun or ultraviolet light exposure; sun sensitivity (light or red hair and light skin); diseases that suppress the immune system; and occupational exposure to coal tar, pitch, creosote, arsenic compounds, or radiation.





Figures 47a and 47b. Although leukemia is diagnosed 10 times more often in adults than in children, it is often thought of as primarily a childhood disease. The most common types of leukemia diagnosed in adults are acute myeloid leukemia and chronic lymphocytic leukemia. Leukemia occurs more frequently in males than in females. In Colorado, the lifetime risk of developing leukemia is 1 in 45 for males and 1 in 79 for females. Individuals with Down Syndrome and certain other genetic abnormalities have higher rates of leukemia. Cigarette smoking and exposure to radiation and to chemicals like benzene are also risk factors for leukemia.

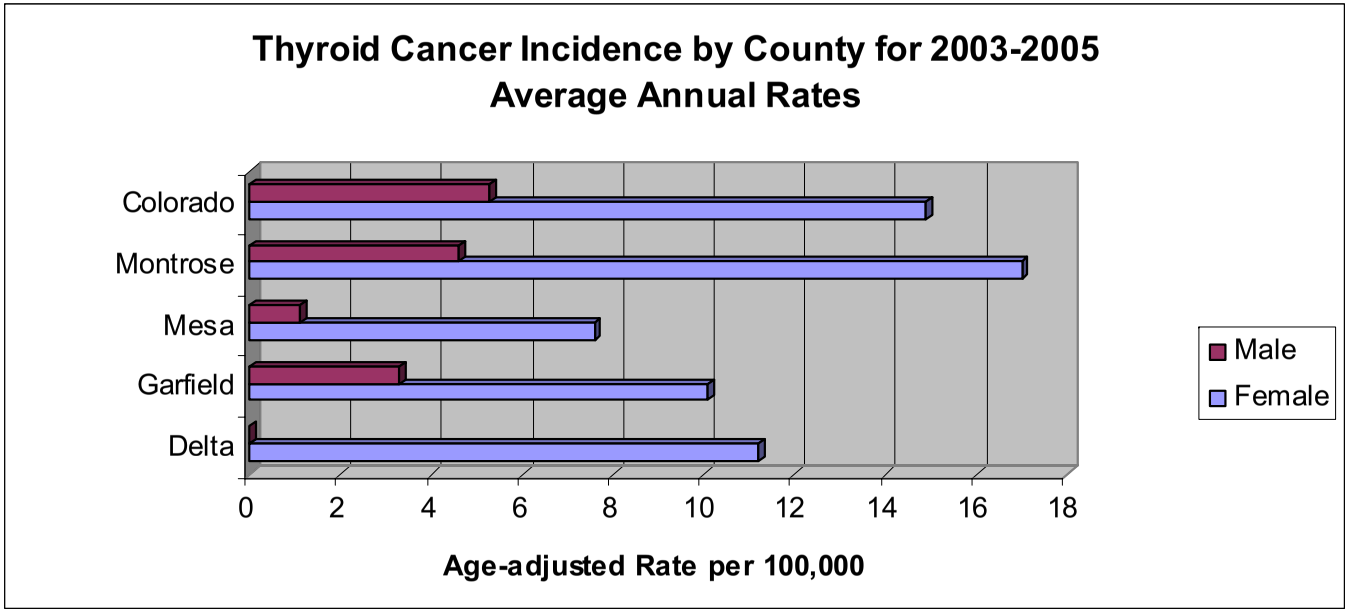


Figure 48. Nationally, thyroid cancers occur about 3 times more often in women than in men, and they are more frequent in younger adults. In Colorado, the lifetime risk of developing thyroid cancer is 1 in 204 for males and 1 in 92 for females. Major risk factors for developing thyroid cancer are a diet low in iodine, exposure to radiation, and certain inherited medical conditions.

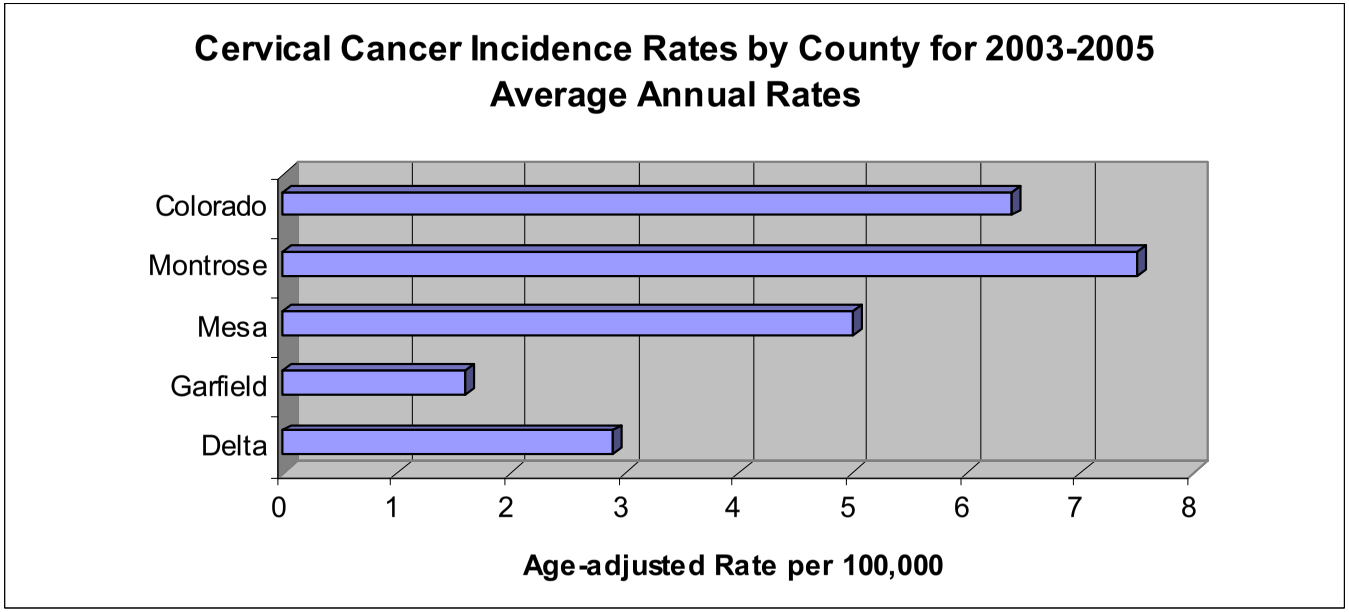


Figure 49. Incidence rates for cervical cancer have decreased significantly, and as Pap screening has become more common, cervical cancer is more often detected before it becomes invasive. In Colorado, 1 in 154 women develop invasive cervical cancer over their lifetime. The primary cause of cervical cancer is infection with human papillomavirus (HPV). The ability of the infection to progress to cancer is related to factors such as suppressed immunity, having many children, cigarette smoking, and nutrition. Long-term use of oral contraceptives is also associated with an increased risk of cervical cancer.

West Nile Virus

There are two reasons for looking at county-based statistics for West Nile virus — both are related to concerns voiced by Garfield County residents. First, in public meetings, focus groups, and interviews, citizens have expressed the concern that birds appeared to be fewer in number in certain areas of Garfield County than remembered. Birds are the reservoir host for West Nile virus. They may become ill and die as a result of the viral infection.

Second, many of the symptoms associated with human West Nile virus infection mimic those reported by Garfield County residents and attributed to exposures related to natural gas industry activities.

West Nile virus was first observed in Colorado in 2002. It was not until 2003, however, before the virus had a significant Western Slope presence. The coincidence of the presence of this virus and the beginnings of the surge in natural gas industry activities on the Western Slope make it important to consider the possibility that West Nile virus infection could be the cause of some of the human physical symptoms and animal impacts that have been reported by Garfield County residents. At this point, it would be extremely difficult to either rule out West Nile virus as the cause of at least some of these impacts or to prove conclusively that it was the virus and not exposure to volatile organic compounds or other toxicants present in the environment as a result of natural gas activity.

Natural History of West Nile Virus (www.cdphe.state.co.us/dc/Zoonosis/zoonosis.asp)

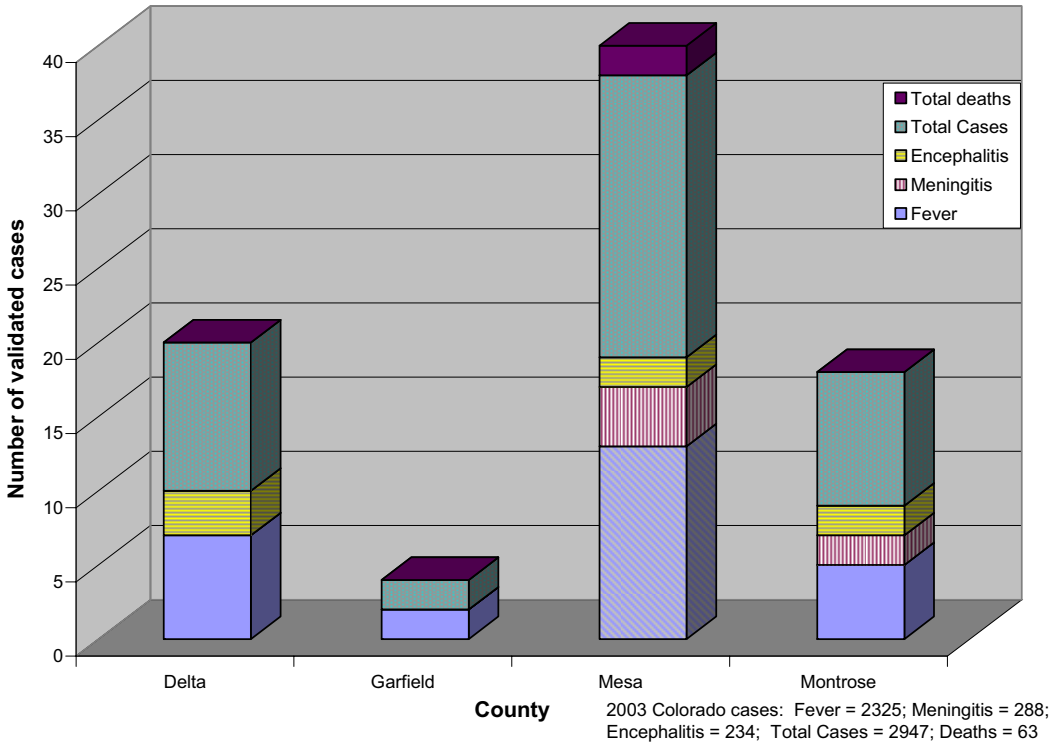
West Nile virus is maintained in a bird-mosquito-bird cycle. Mosquitoes are infected by feeding on an infected bird; virus is then transmitted to a new host when the mosquito bites a person or other animal. Humans and horses are the most frequent, "dead-end" hosts (i.e, they cannot infect other mosquitoes). Viruses are prevalent from May to September, when mosquitoes are most abundant.

West Nile virus infection has been detected in more than 70 wild bird species. The highest death rates are seen among birds in the corvid family. Horses are susceptible to infection with West Nile virus and can die as a result of the infection. Other clinical signs include lack of coordination or muscle control, weakness of limbs, and inability to rise. Other mammalian species may be susceptible to infection with this virus (e.g., there have been reports of infection in dogs).

Most people who are infected with West Nile virus do not become ill and have no symptoms. For those who do become ill, the onset of symptoms occurs 5-15 days after being bitten by an infected mosquito. The clinical symptoms of West Nile virus infection range from a flu-like syndrome (West Nile fever) to meningitis and encephalitis. The symptoms of West Nile fever have been reported to last significantly longer than the usual flu. Individuals who have developed West Nile fever report "not feeling well" for many months after the onset of the illness. In some cases, infection with the virus results in inflammation of the brain, resulting in either meningitis or encephalitis. In these cases, symptoms begin with a high fever and headache that may progress to stiff neck, disorientation,
tremors, coma and death. Severe infections have resulted in long-lasting neurological syndromes that resemble polio.

The following graphs and maps illustrate the time trends for West Nile Virus in Colorado from 2002 through 2007 (Colorado Department of Public Health and Environment). Information is provided for both human and animal infections. It is important to note that the numbers for human cases represent only those that were clinically validated (either by blood tests or by the fact that the individual was hospitalized as a result of their infection). Because of the tendency of individuals suffering "flu-like" symptoms NOT to be tested for West Nile virus (due to cost or unavailability of the test) and to either be treated by their doctors or to treat themselves symptomatically, it is very likely that the actual numbers of individuals who developed West Nile Fever were much higher than those listed in the official records (CDPHE; www.cdphe.state.co.us) and reported here.

Figure 50. West Nile Virus Infections – 2003



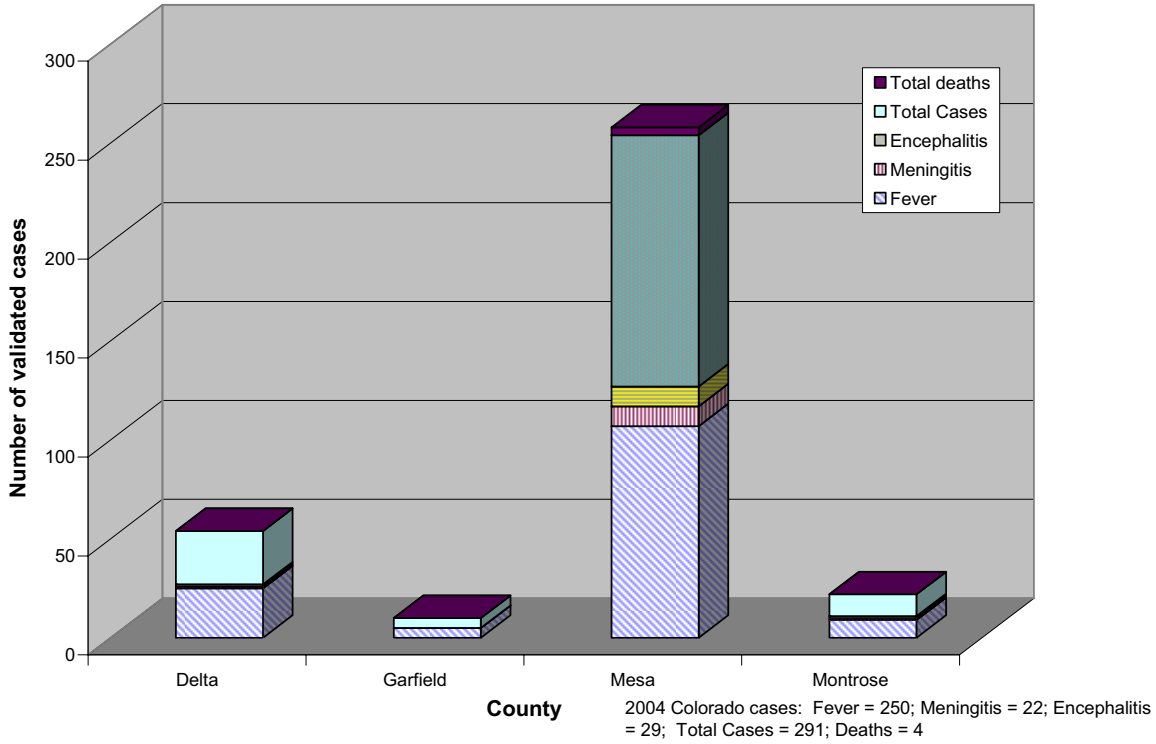


Figure 51. West Nile Virus Infections – 2004

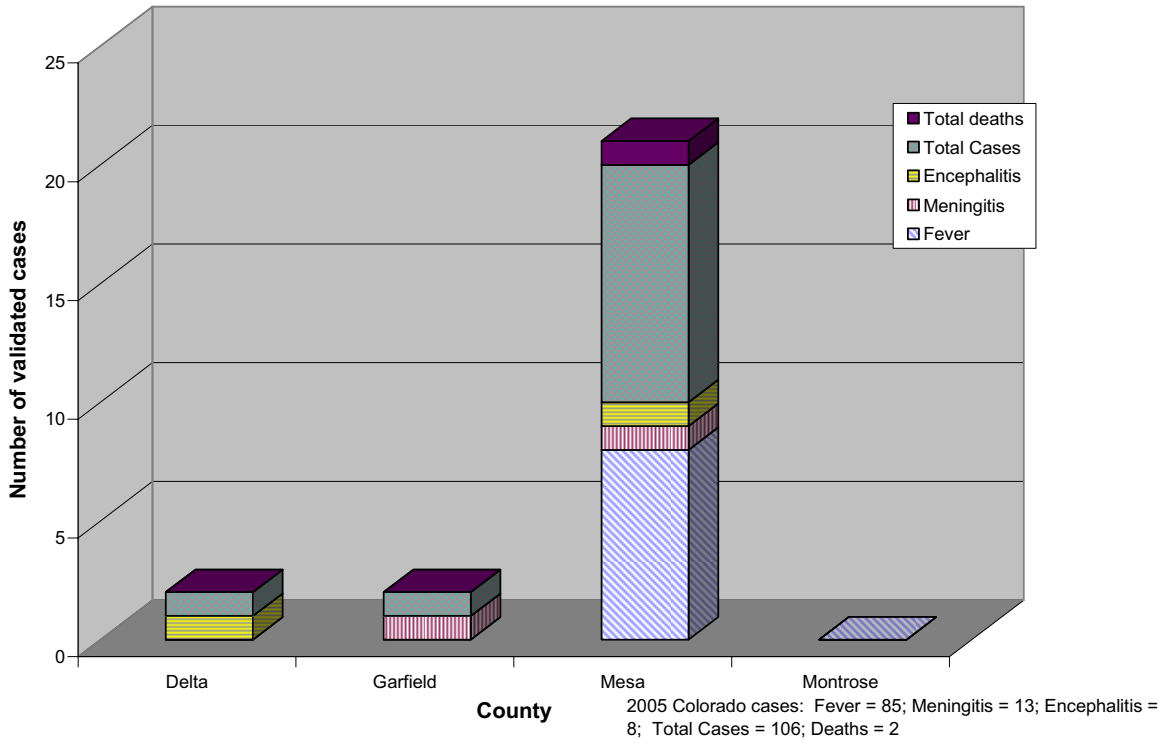
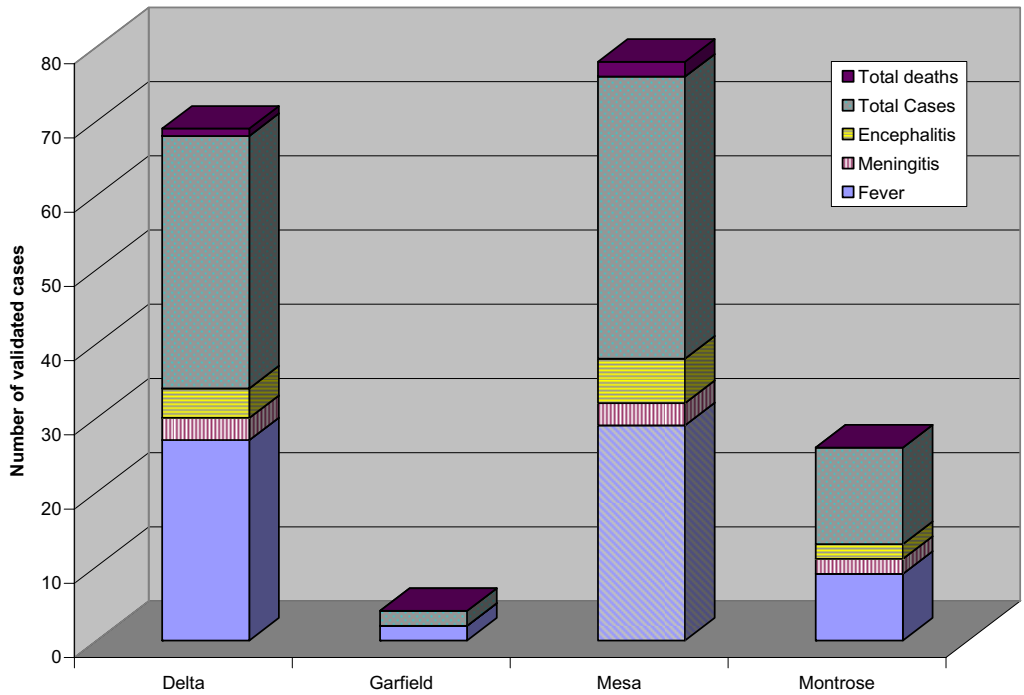


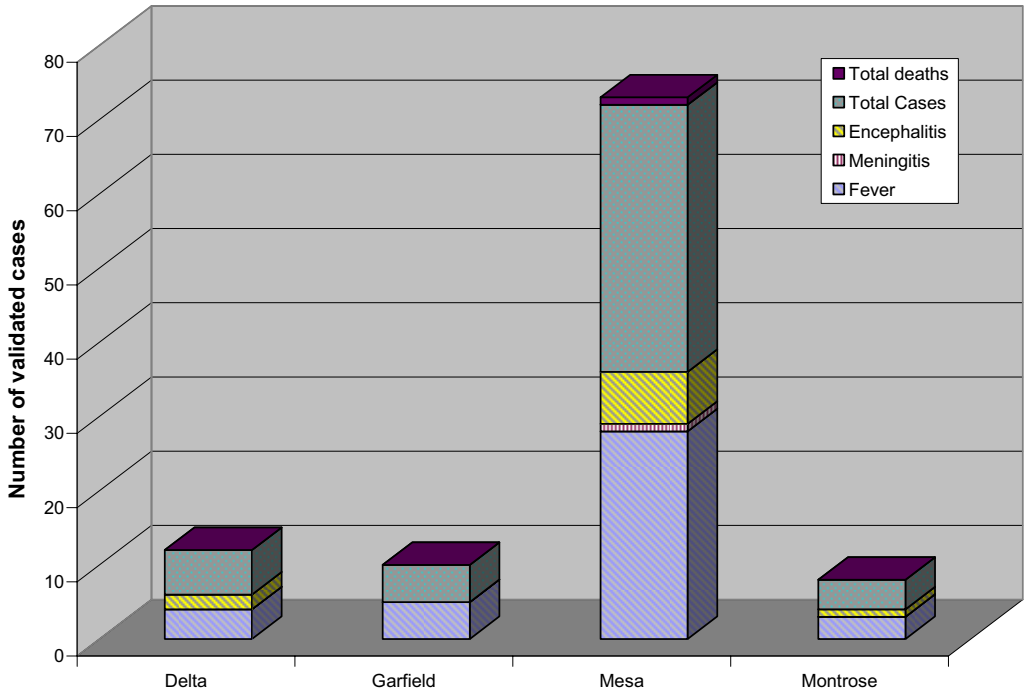
Figure 52. West Nile Virus Infections – 2005

Figure 53. West Nile Virus Infections – 2006



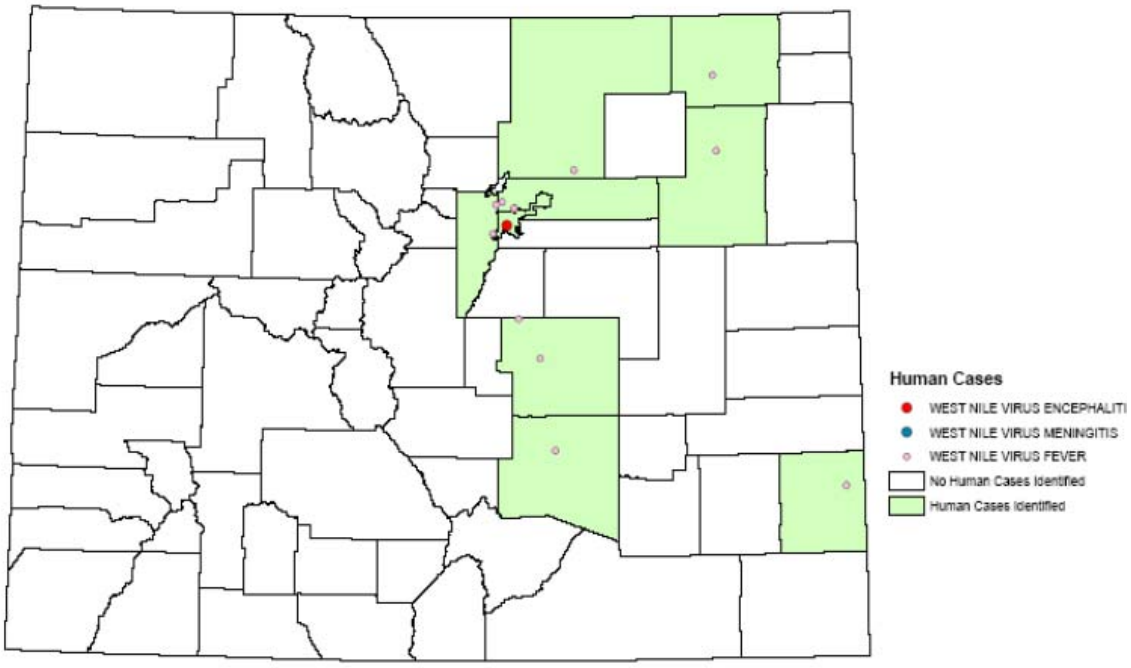
2006 Colorado cases: Fever = 280; Meningitis = 34; Encephalitis = 31; Total Cases = 345; Deaths = 7

Figure 54. West Nile Virus Infections – 2007

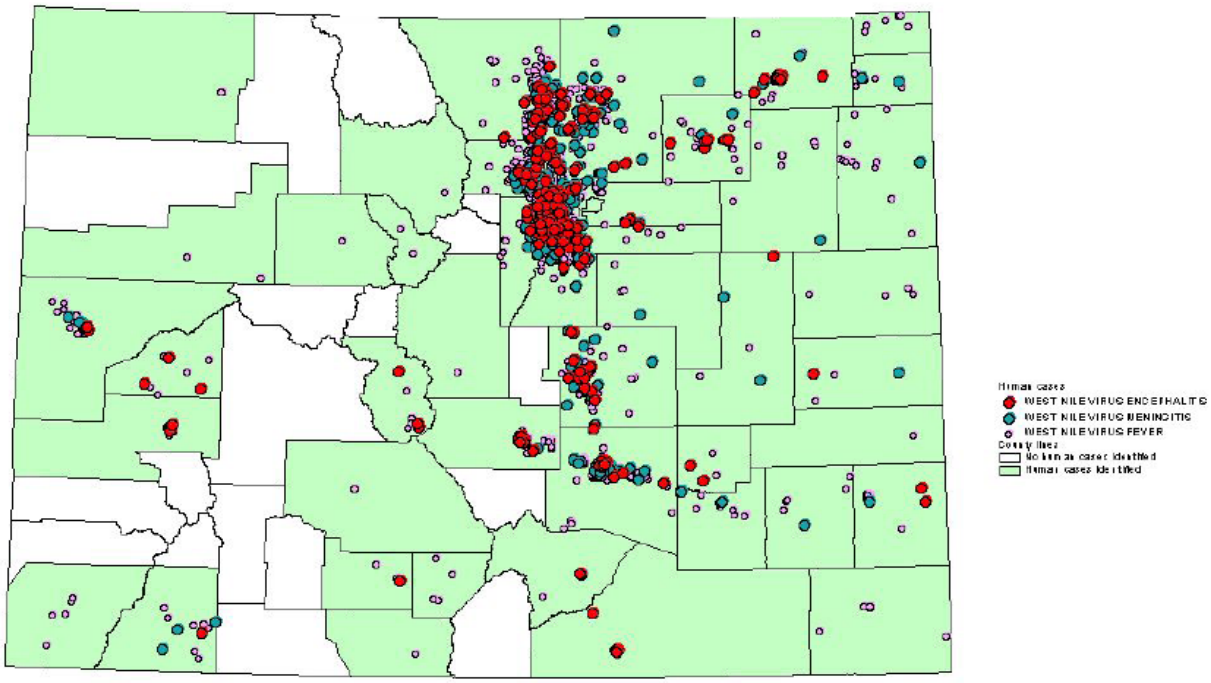


2007 Colorado cases: Fever = 459; Meningitis = 43; Encephalitis = 53; Total Cases = 555; Deaths = 6

Figure 55. Colorado West Nile Virus Human Cases – 2002



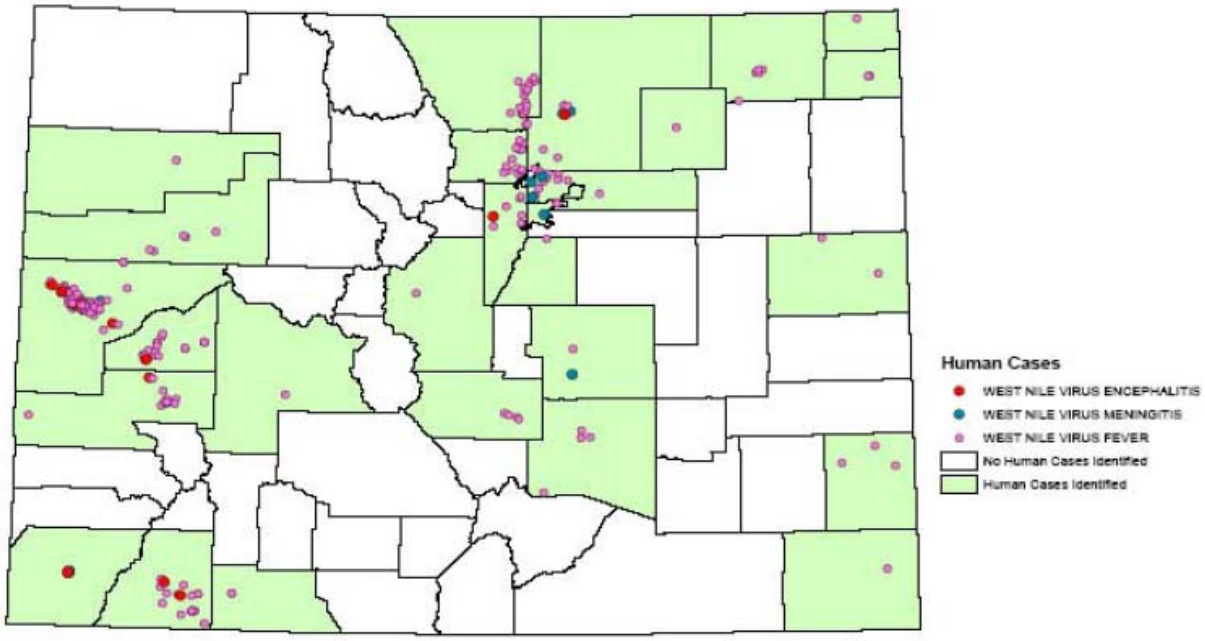
N = 14



N = 2,944

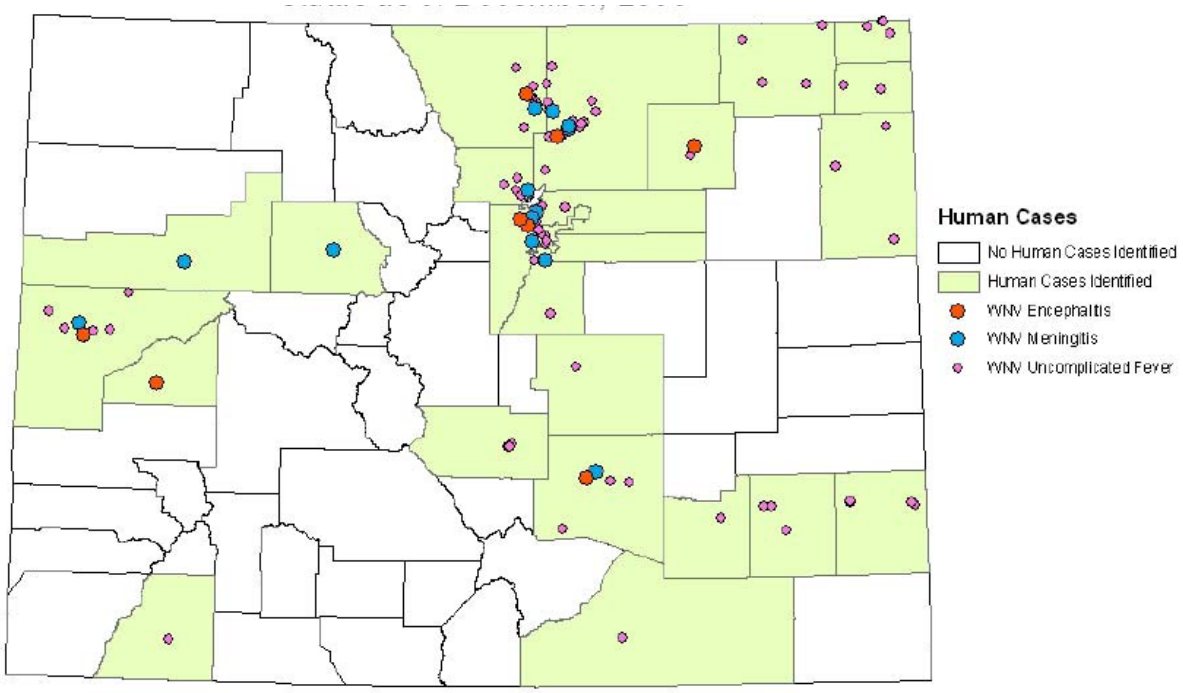
Figure 56. Colorado West Nile Virus Human Cases – 2003

Figure 57. Colorado West Nile Virus Human Cases – 2004



N = 289

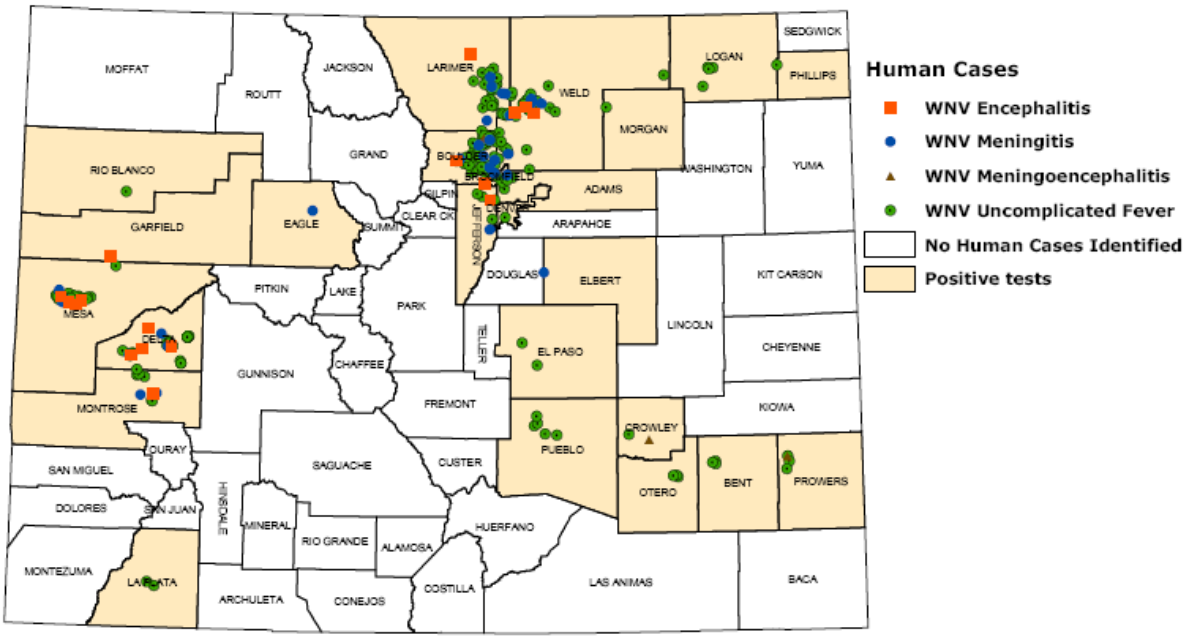
Figure 58. Colorado West Nile Virus Human Cases – 2005



N=106

NOTE: Points have been displaced from actual location to protect confidentiality

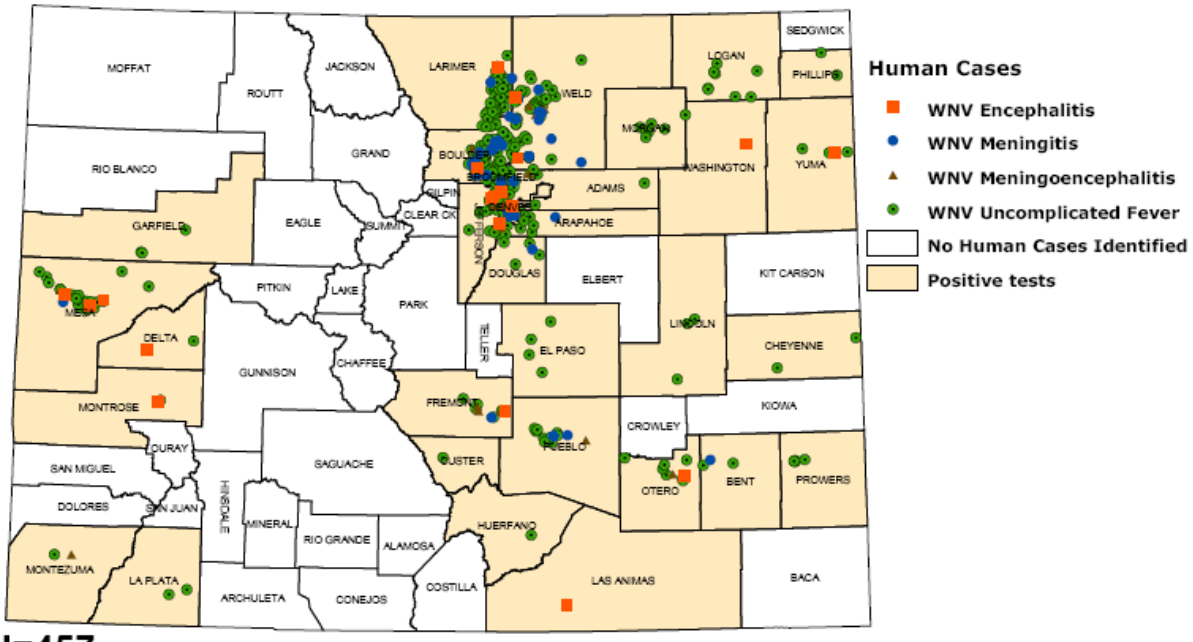
Figure 59. Colorado West Nile Virus Human Cases – 2006



N=282

Note: Points have been displaced from actual locations to protect confidentiality.

Figure 60. Colorado West Nile Virus Human Cases – 2007



N=457

Note: Points have been displaced from actual locations to protect confidentiality.

Figure 61. Colorado West Nile Virus Surveillance Map – 2002

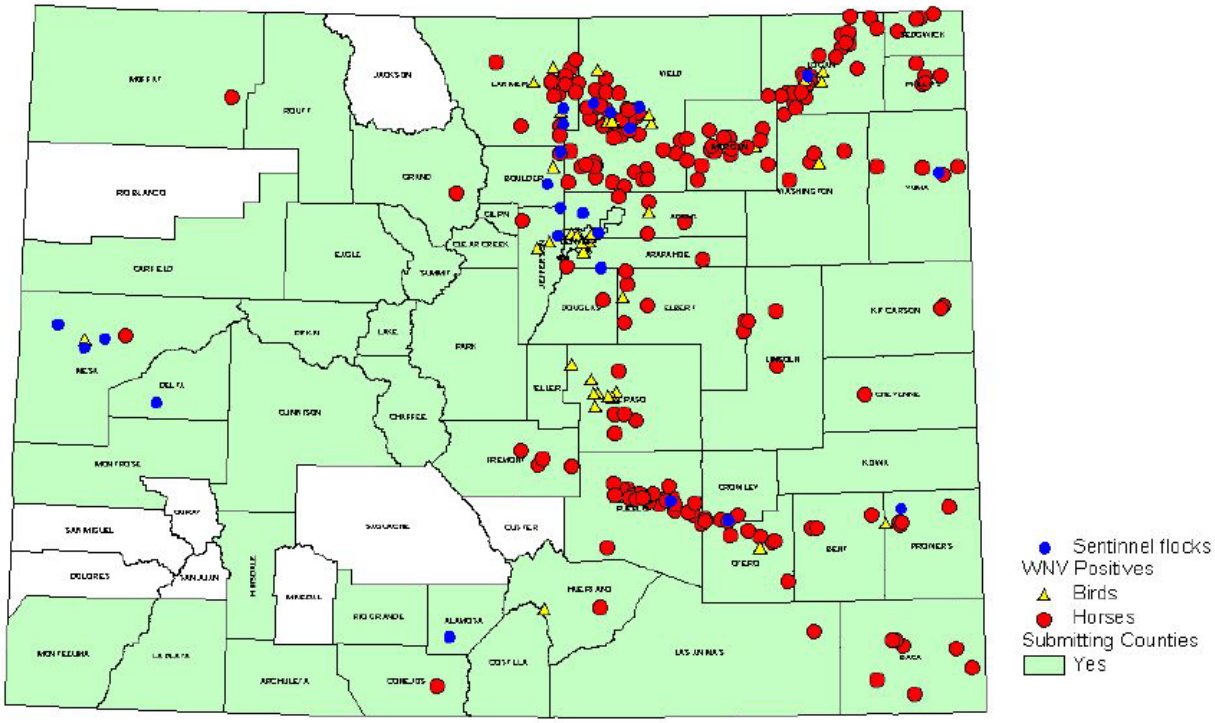


Figure 62. Colorado West Nile Virus Surveillance Map – 2003

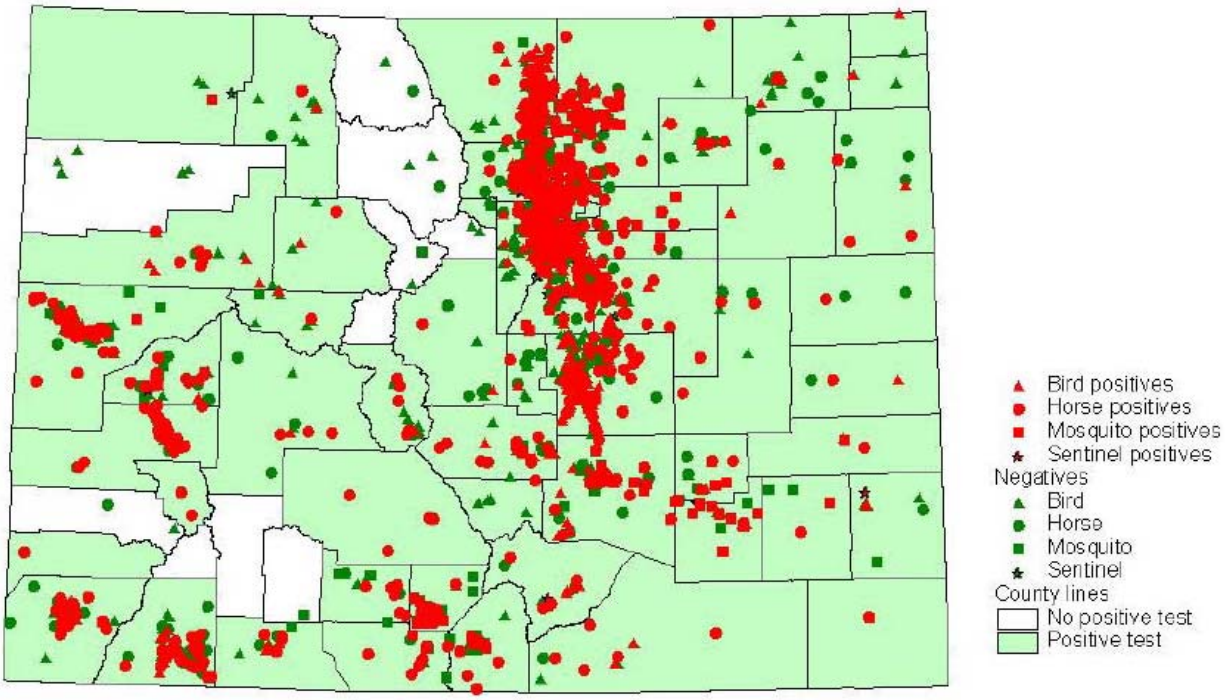


Figure 63. Colorado West Nile Virus Surveillance Map – 2004

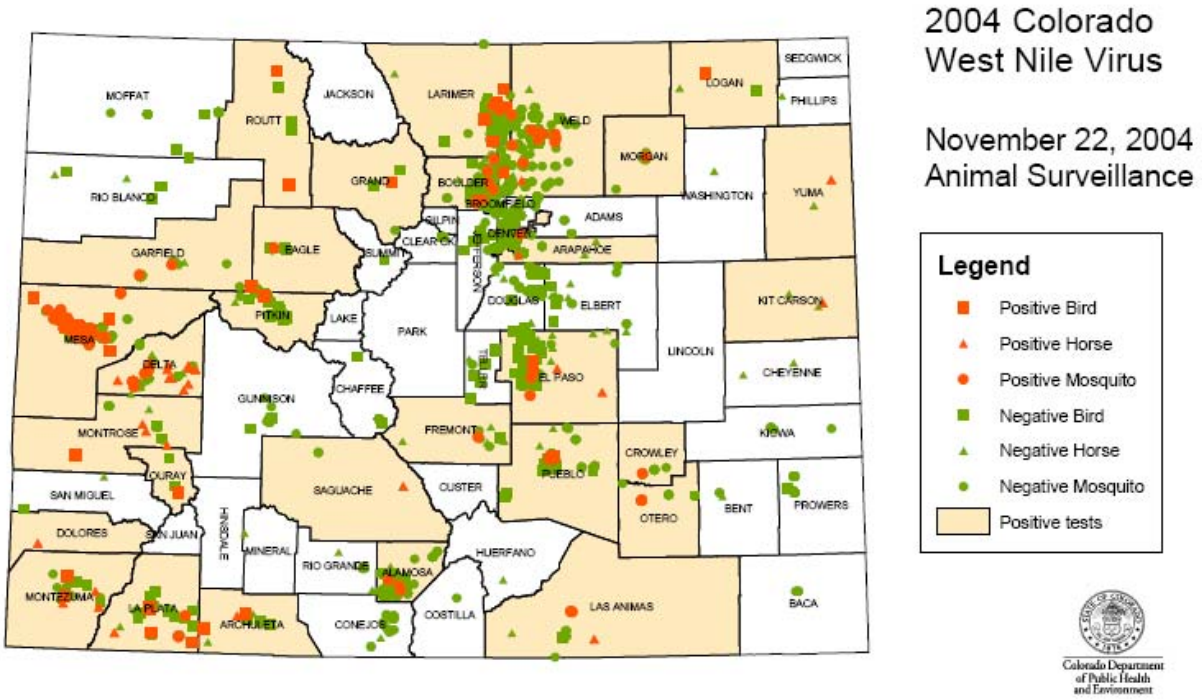


Figure 64. Colorado West Nile Virus Surveillance Map – 2005

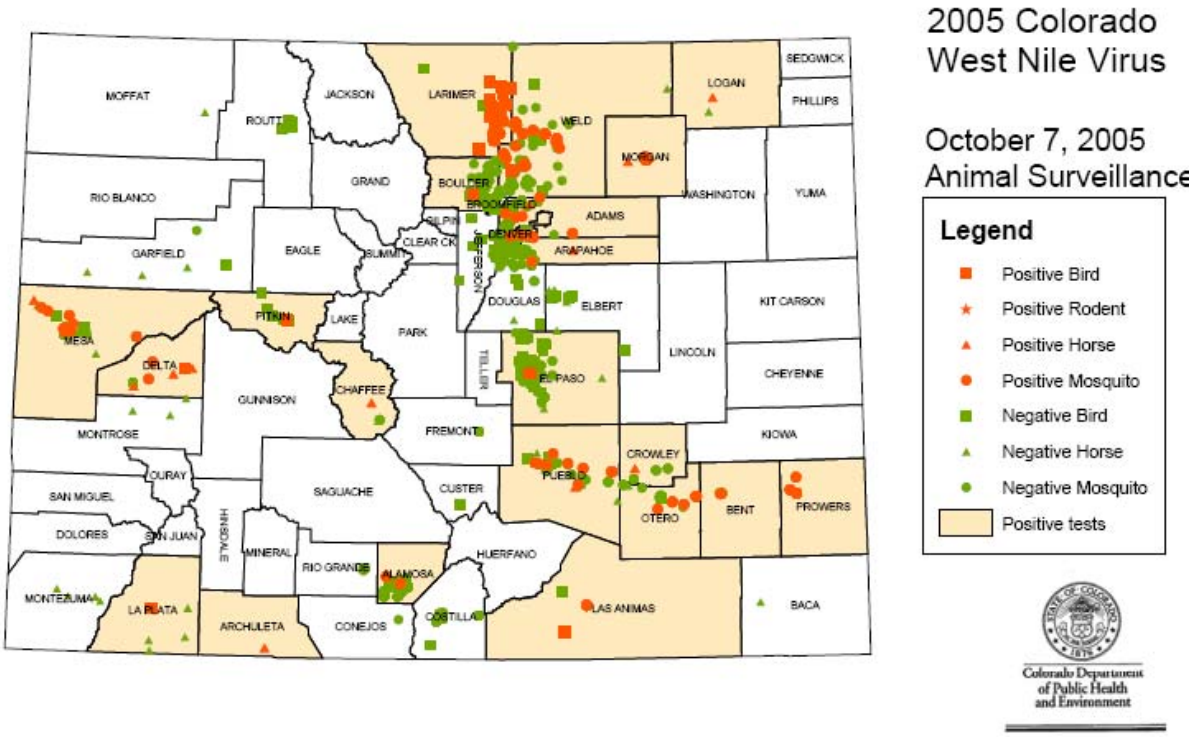


Figure 65. Colorado West Nile Virus Surveillance Map – 2006

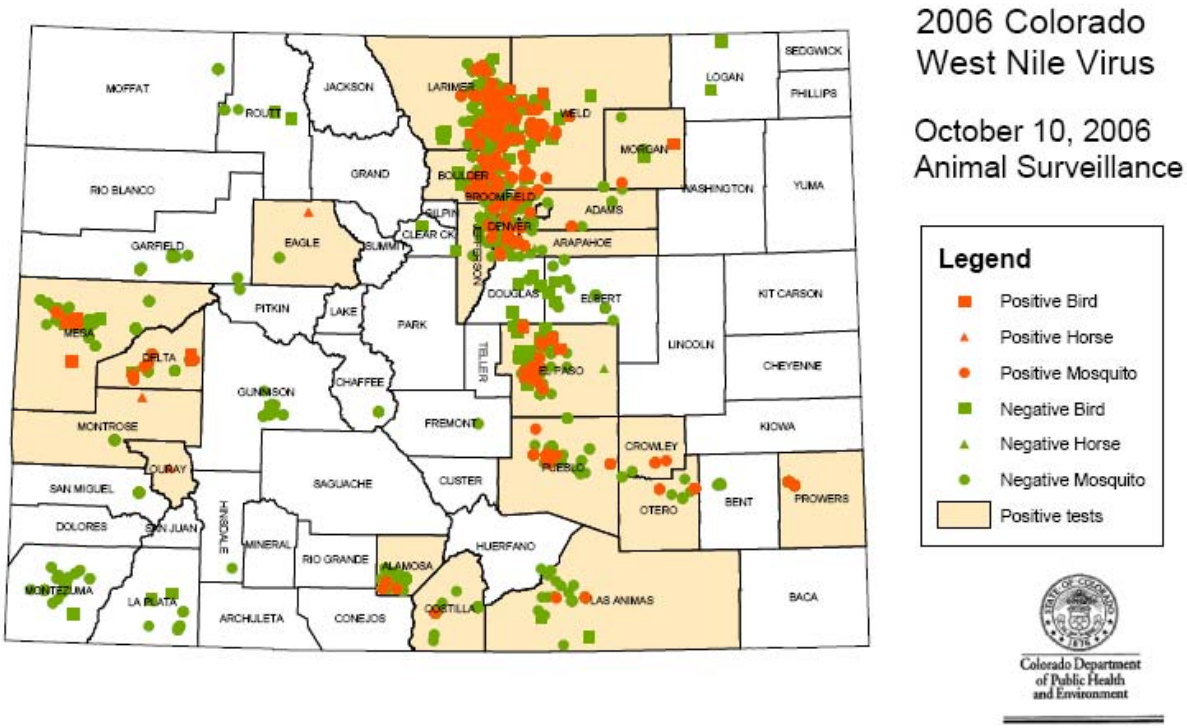
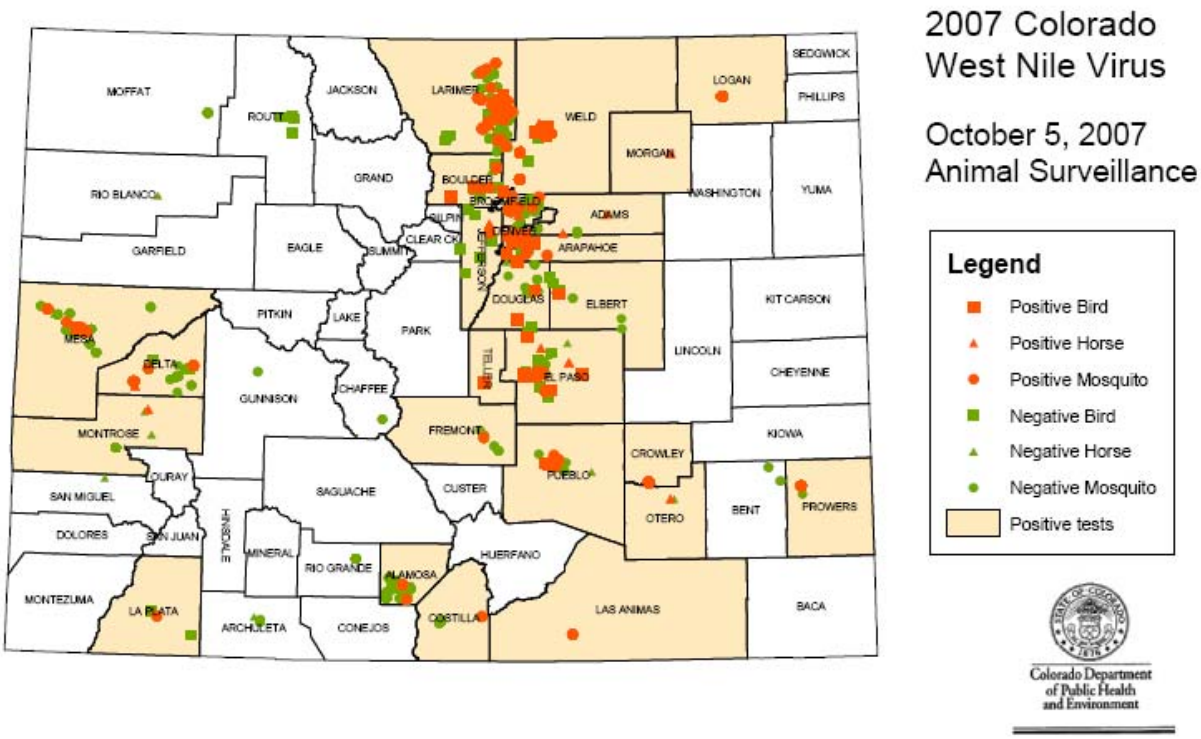


Figure 66. Colorado West Nile Virus Surveillance Map – 2007



Reportable Conditions

The Colorado Department of Public Health and Environment, by state statute, collects data on a variety of "reportable conditions", including a number of infectious diseases and cancer. Reportable conditions for which Garfield County, at least one of the comparison counties, or another county in the state reported one or more cases of the condition are detailed in Tables 25A through 25G for each of the years 2000, 2001, 2002, 2003, 2004, 2005, and 2006. Numbers of cases and rates (per 1,000 population, 2000 census data) for the four counties and the state are given. Garfield County cases are highlighted to allow easier comparison with the other county data.

- In 2000, none of the rates for reportable conditions in Garfield County were ranked highest, when compared to the state and comparison county rates.
- In 2001, the only reportable condition for which Garfield County had the highest rate was giardiasis.
- In 2002, Garfield County's rates were highest for influenza, meningitis, and invasive strep pneumonia.
- In 2003, Garfield County's rates for giardiasis, hepatitis A, and influenza were the highest.
- In 2004, Garfield County's rates for encephalitis, salmonellosis, and shigellosis were the highest. The rate for meningitis was the same as Mesa County's rate, and was higher than for the state and the other two comparison counties.
- In 2005, Garfield County's rates were the highest for encephalitis (1 case out of only 8 in the state that year), hepatitis A, malaria, meningitis, shigellosis, and varicella (chicken pox).
- In 2006, Garfield County's rates for hanta virus pulmonary syndrome, hepatitis A and C, salmonellosis, and shigellosis were the highest.

At least one case of the following diseases was reported during each year of the period, 2000-2006:

- camphylobacter
- giardiasis
- influenza
- salmonella
- shigellosis
- hepatitis C
- hepatitis A was reported in five of the seven years
- hepatitis B was reported in six of the seven years.

Table 25A. 2000 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	3	0.25	1	**	42	0.10
CAMPYLOBACTER	6	2.14	6	1.36	16	1.36	2	**	592	1.36
CRYPTOSPORIDIOSIS	1	**	0	0.00	0	0.00	0	0.00	72	0.17
E0COLI	1	**	3	0.68	7	0.59	1	**	157	0.36
ENCEPHALITIS	0	0.00	0	0.00	2	**	0	0.00	15	0.03
GIARDIASIS	2	**	5	1.13	11	0.93	4	1.19	695	1.60
HAEMOPHILUS INFLUENZAE	0	0.00	0	0.00	0	0.00	0	0.00	33	0.08
HANTAVIRUS PULMONARY SYNDROME	1	**	0	0.00	0	0.00	0	0.00	8	0.02
HEMOLYTIC UREMIC SYNDRM	0	0.00	0	0.00	0	0.00	0	0.00	11	0.03
HEPATITIS A	0	0.00	1	0.23	4	0.34	1	0.30	223	0.51
HEPATITIS B	2	**	1	0.23	4	0.34	3	0.89	831	1.92
HEPATITIS C	8	2.86	18	4.07	60	5.10	2	**	6802	15.68
INFLUENZA	3	1.07	2	**	64	5.44	2	**	592	1.36
LISTERIOSIS	0	0.00	2	**	0	0.00	0	0.00	11	0.03
MALARIA	1	**	0	0.00	2	**	0	0.00	30	0.07
MENINGITIS	0	0.00	1	0.23	5	0.42	0	0.00	211	0.49
MENINGOCOCCAL DISEASE	0	0.00	0	0.00	1	**	0	0.00	35	0.08
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	1	**
PERTUSSIS	0	0.00	0	0.00	31	2.63	0	0.00	487	1.12
SALMONELLOSIS	6	2.14	7	1.58	15	1.27	12	3.56	692	1.59
SHIGELLOSIS	1	**	4	0.90	3	0.25	0	0.00	269	0.62
STREP PNEUMO INVASIVE	0	0.00	0	0.00	0	0.00	0	0.00	226	0.52
TOXIC SHOCK-STREP	0	0.00	0	0.00	0	0.00	0	0.00	2	**
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	2	**
Column Total	32	11.42	50	11.30	228	19.38	28	8.32	12039	27.75

Rates per 1,000 population, based on county population according to 2000 census data.
*** rates not calculated for fewer than 3 cases.*

Table 25B. 2001 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	1	**	1	0.22	1	**	0	0.00	34	0.08
CAMPYLOBACTER	6	2.09	8	1.73	19	1.58	8	2.31	766	1.72
CRYPTOSPORIDIOSIS	0	0.00	0	0.00	2	**	0	0.00	44	0.10
E0COLI	1	**	1	0.22	2	**	0	0.00	95	0.21
ENCEPHALITIS	0	0.00	0	0.00	1	**	0	0.00	10	0.02
GIARDIASIS	4	1.39	10	2.17	15	1.25	2	**	632	1.42
HAEMOPHILUS INFLUENZAE	0	0.00	0	0.00	1	**	0	0.00	38	0.09
HEMOLYTIC UREMIC SYNDRM	1	**	0	0.00	0	0.00	0	0.00	11	0.02
HEPATITIS A	0	0.00	1	0.22	1	**	0	0.00	89	0.20
HEPATITIS B	1	0.35	0	0.00	10	0.83	2	**	748	1.68
HEPATITIS C	15	5.22	24	5.20	104	8.66	11	3.18	5708	12.84
INFLUENZA	5	1.74	12	2.60	25	2.08	1	**	1743	3.92
LISTERIOSIS	0	0.00	0	0.00	0	0.00	0	0.00	10	0.02
MALARIA	0	0.00	1	0.22	0	0.00	0	0.00	25	0.06
MENINGITIS	1	**	2	**	9	0.75	0	0.00	388	0.87
MENINGOCOCCAL DISEASE	0	0.00	0	0.00	2	**	0	0.00	38	0.09
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	3	0.01
PERTUSSIS	0	0.00	0	0.00	14	1.17	1	**	389	0.87
SALMONELLOSIS	1	**	3	0.65	9	0.75	4	1.16	593	1.33
SHIGELLOSIS	0	0.00	1	0.22	2	**	0	0.00	245	0.55
STREP PNEUMO INVASIVE	0	0.00	0	0.00	2	**	0	0.00	317	0.71
TOXIC SHOCK-STREP	0	0.00	0	0.00	0	0.00	0	0.00	2	**
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	1	**
Column Total	36	12.54	64	13.86	219	18.23	29	8.38	11929	26.83

Rates per 1,000 population, based on county population according to 2000 census data.
*** rates not calculated for fewer than 3 cases.*

Table 25C. 2002 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	0	0.00	0	0.00	32	0.07
CAMPYLOBACTER	2	**	3	0.63	3	0.24	1	**	616	1.36
CRYPTOSPORIDIOSIS	1	**	0	0.00	5	0.41	0	0.00	57	0.13
E0COLI	0	0.00	1	**	1	**	1	**	109	0.24
ENCEPHALITIS	0	0.00	0	0.00	0	0.00	0	0.00	15	0.03
GIARDIASIS	2	**	8	1.69	7	0.57	9	2.54	578	1.28
HAEMOPHILUS INFLUENZAE	0	0.00	0	0.00	0	0.00	0	0.00	36	0.08
HANTAVIRUS PULMONARY SYNDROME	0	0.00	0	0.00	0	0.00	0	0.00	1	**
HEMOLYTIC UREMIC SYNDRM	0	0.00	1	**	1	**	0	0.00	14	0.03
HEPATITIS A	1	**	0	0.00	2	**	0	0.00	75	0.17
HEPATITIS B	0	0.00	1	**	14	1.14	0	0.00	789	1.74
HEPATITIS C	11	3.77	34	7.17	96	7.84	6	1.69	6128	13.55
INFLUENZA	35	11.99	126	26.56	259	21.15	5	1.41	3363	7.44
LISTERIOSIS	0	0.00	0	0.00	0	0.00	0	0.00	7	0.02
MALARIA	0	0.00	0	0.00	0	0.00	0	0.00	25	0.06
MENINGITIS	1	**	5	1.05	3	0.24	0	0.00	254	0.56
MENINGOCOCCAL DISEASE	2	**	0	0.00	0	0.00	0	0.00	25	0.06
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	2	**
PERTUSSIS	6	2.06	0	0.00	8	0.65	0	0.00	464	1.03
SALMONELLOSIS	4	1.37	4	0.84	7	0.57	6	1.69	615	1.36
SHIGELLOSIS	3	1.03	4	0.84	3	0.24	0	0.00	213	0.47
STREP PNEUMO INVASIVE	0	0.00	6	1.26	0	0.00	0	0.00	392	0.87
TOXIC SHOCK-STREP	0	0.00	0	0.00	0	0.00	0	0.00	7	0.02
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	5	0.01
WEST NILE VIRUS	0	0.00	0	0.00	0	0.00	0	0.00	12	0.03
Column Total	68	23.29	193	40.68	409	33.40	28	7.90	13834	30.59

Rates per 1,000 population, based on county population according to 2000 census data.

*** rates not calculated for fewer than 3 cases.*

Table 25D. 2003 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	0	0.00	0	0.00	25	0.05
CAMPYLOBACTER	8	2.70	1	**	10	0.80	2	**	605	1.32
CRYPTOSPORIDIOSIS	0	0.00	0	0.00	7	0.56	0	0.00	38	0.08
E0COLI	1	**	1	**	3	0.24	0	0.00	78	0.17
ENCEPHALITIS	0	0.00	0	0.00	0	0.00	0	0.00	3	0.01
GIARDIASIS	0	0.00	8	1.65	7	0.56	2	**	458	1.00
HAEMOPHILUS INFLUENZAE	1	**	0	0.00	3	0.24	0	0.00	39	0.09
HANTAVIRUS PULMONARY SYNDROME	0	0.00	0	0.00	0	0.00	0	0.00	5	0.01
HEMOLYTIC UREMIC SYNDRM	0	0.00	1	**	0	0.00	0	0.00	8	0.02
HEPATITIS A	0	0.00	8	1.65	0	0.00	1	**	59	0.13
HEPATITIS B	4	1.35	1	**	14	1.12	1	**	684	1.49
HEPATITIS C	27	9.10	36	7.44	120	9.59	13	3.60	5977	13.03
INFLUENZA	144	48.54	444	91.75	413	33.02	41	11.35	14880	32.44
LISTERIOSIS	0	0.00	0	0.00	0	0.00	0	0.00	9	0.02
MALARIA	0	0.00	1	**	0	0.00	0	0.00	22	0.05
MENINGITIS	2	**	1	**	10	0.80	0	0.00	709	1.55
MENINGOCOCCAL DISEASE	0	0.00	0	0.00	1	**	1	**	27	0.06
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	1	**
PERTUSSIS	1	**	0	0.00	3	0.24	1	**	368	0.80
SALMONELLOSIS	1	**	3	0.62	17	1.36	0	0.00	492	1.07
SHIGELLOSIS	2	**	3	0.62	2	**	0	0.00	331	0.72
STREP PNEUMO INVASIVE	3	1.01	3	0.62	1	**	1	0.28	365	0.80
TOXIC SHOCK-STREP	0	0.00	0	0.00	0	0.00	0	0.00	3	0.01
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	4	0.01
WEST NILE VIRUS	10	3.37	2	**	19	1.52	9	2.49	2947	6.42
Column Totals	204	68.77	513	106.00	630	50.37	72	19.93	28137	61.34

Rates per 1,000 population, based on county population according to 2000 census data.

*** rates not calculated for fewer than 3 cases.*

Table 25E. 2004 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	0	0.00	0	0.00	15	0.03
CAMPYLOBACTER	7	2.33	9	1.82	5	0.39	3	0.81	827	1.78
CRYPTOSPORIDIOSIS	0	0.00	0	0.00	3	0.23	3	0.81	59	0.13
E0COLI	0	0.00	0	0.00	4	0.31	0	0.00	52	0.11
ENCEPHALITIS	0	0.00	3	0.61	0	0.00	0	0.00	8	0.02
GIARDIASIS	6	1.99	5	1.01	12	0.94	7	1.90	517	1.11
HAEMOPHILUS INFLUENZAE	1	**	0	0.00	1	**	1	**	44	0.09
HANTAVIRUS PULMONARY SYNDROME	0	0.00	0	0.00	0	0.00	0	0.00	4	0.01
HEMOLYTIC UREMIC SYNDRM	0	0.00	0	0.00	0	0.00	0	0.00	6	0.01
HEPATITIS A	1	**	1	**	1	**	0	0.00	51	0.11
HEPATITIS B	4	1.33	1	**	5	0.39	0	0.00	578	1.24
HEPATITIS C	30	9.97	49	9.93	153	11.97	34	9.21	4818	10.35
INFLUENZA	0	0.00	1	**	0	0.00	0	0.00	26	0.06
LISTERIOSIS	0	0.00	0	0.00	1	**	0	0.00	13	0.03
MALARIA	0	0.00	1	**	0	0.00	0	0.00	19	0.04
MENINGITIS	1	**	8	1.62	21	1.64	0	0.00	424	0.91
MENINGOCOCCAL DISEASE	0	0.00	0	0.00	0	0.00	0	0.00	15	0.03
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	3	0.01
PERTUSSIS	26	8.64	1	**	112	8.76	1	**	1185	2.55
SALMONELLOSIS	3	1.00	6	1.22	4	0.31	1	**	542	1.16
SHIGELLOSIS	0	0.00	2	**	1	**	1	**	161	0.35
STREP PNEUMO INVASIVE	11	3.66	10	2.03	13	1.02	1	**	332	0.71
TOXIC SHOCK-STREP	0	0.00	1	**	0	0.00	0	0.00	2	**
TYPHOID FEVER	0	0.00	1	**	0	0.00	0	0.00	3	0.01
VARICELLA(CHICKEN POX)	1	**	41	8.31	28	2.19	44	11.91	2040	4.38
WEST NILE VIRUS	27	8.98	5	1.01	127	9.94	11	2.98	296	0.64
Total	118	39.23	145	29.40	491	38.42	107	28.97	12040	25.88

Rates per 1,000 population, based on county population according to 2000 census data.

*** rates not calculated for fewer than 3 cases.*

Table 25F. 2005 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	1	**	1	**	17	0.04
CAMPYLOBACTER	4	1.32	10	1.97	10	0.77	6	1.58	868	1.84
CRYPTOSPORIDIOSIS	0	0.00	0	0.00	5	0.38	1	**	50	0.11
ENCEPHALITIS	0	0.00	1	**	0	0.00	0	0.00	8	0.02
GIARDIASIS	2	**	5	0.99	11	0.84	4	1.06	534	1.13
HAEMOPHILUS INFLUENZAE	1	**	1	**	4	0.31	0	0.00	42	0.09
HANTAVIRUS PULMONARY SYNDROME	0	0.00	0	0.00	0	0.00	0	0.00	11	0.02
HEMOLYTIC UREMIC SYNDRM	0	0.00	0	0.00	0	0.00	0	0.00	10	0.02
HEPATITIS A	0	0.00	2	**	0	0.00	0	0.00	49	0.10
HEPATITIS B	0	0.00	1	**	2	**	1	**	435	0.92
HEPATITIS C	24	7.93	36	7.10	127	9.74	28	7.39	4235	8.97
INFLUENZA	10	3.31	11	2.17	36	2.76	1	**	1032	2.19
LISTERIOSIS	0	0.00	0	0.00	1	**	0	0.00	6	0.01
MALARIA	0	0.00	1	**	0	0.00	0	0.00	25	0.05
MENINGITIS	1	**	4	0.79	5	0.38	0	0.00	322	0.68
MENINGOCOCCAL DISEASE	0	0.00	0	0.00	1	**	0	0.00	19	0.04
MUMPS	0	0.00	0	0.00	0	0.00	0	0.00	6	0.01
PERTUSSIS	5	1.65	15	2.96	81	6.21	3	0.79	1383	2.93
SALMONELLOSIS	5	1.65	5	0.99	13	1.00	5	1.32	582	1.23
SHIGELLOSIS	0	0.00	6	1.18	0	0.00	0	0.00	170	0.36
STEC (shiga toxin producing E0coli)	1	**	1	**	6	0.46	0	0.00	83	0.18
STREP PNEUMO INVASIVE	2	**	4	0.79	16	1.23	0	0.00	421	0.89
TOXIC SHOCK-STREP	0	0.00	0	0.00	3	0.23	0	0.00	6	0.01
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	7	0.01
VARICELLA(CHICKEN POX)	7	2.31	57	11.25	89	6.83	33	8.71	1797	3.81
WEST NILE VIRUS	1	**	1	**	10	0.77	0	0.00	110	0.23
Total	63	20.82	161	31.77	421	32.29	83	21.91	12228	25.89

Rates per 1,000 population, based on county population according to 2000 census data.

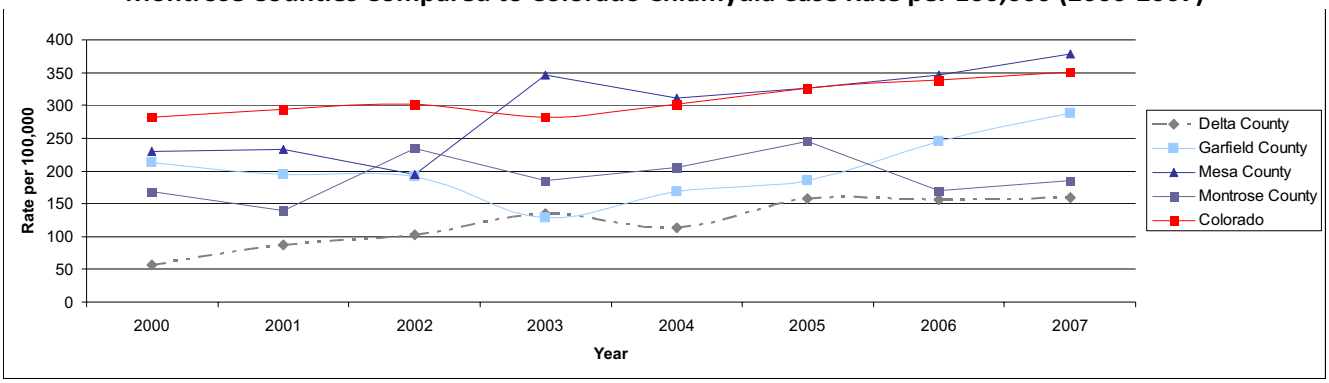
*** rates not calculated for fewer than 3 cases.*

Table 25G. 2006 Reportable Conditions	Delta Cases	Delta Rate	Garfield Cases	Garfield Rate	Mesa Cases	Mesa Rate	Montrose Cases	Montrose Rate	Colorado Total	Colorado Rate
AMEBIASIS	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
CAMPYLOBACTER	6	1.93	0	0.00	8	0.60	5	1.41	830	1.73
CRYPTOSPORIDIOSIS	0	0.00	0	0.00	2	**	0	0.00	77	0.16
ENCEPHALITIS	0	0.00	0	0.00	1	**	0	0.00	11	0.02
GIARDIASIS	3	0.97	3	0.57	7	0.53	3	0.84	554	1.15
HAEMOPHILUS INFLUENZAE	0	0.00	1	**	5	0.38	0	0.00	51	0.11
HANTAVIRUS PULMONARY SYNDROME	0	0.00	1	**	0	0.00	0	0.00	6	0.01
Hemolytic Uremic Syndrm	0	0.00	0	0.00	0	0.00	0	0.00	8	0.02
HEPATITIS A	0	0.00	1	**	0	0.00	0	0.00	44	0.09
HEPATITIS B	1	**	2	**	10	0.75	2	**	521	1.08
HEPATITIS C	27	8.71	51	9.77	115	8.63	22	6.19	3490	7.26
INFLUENZA	11	3.55	1	**	17	1.28	5	1.41	775	1.61
LISTERIOSIS	0	0.00	1	**	0	0.00	0	0.00	12	0.02
MALARIA	0	0.00	0	0.00	0	0.00	0	0.00	25	0.05
MENINGITIS	0	0.00	4	0.77	5	0.38	5	1.41	241	0.50
MENINGOCOCCAL DISEASE	0	0.00	1	**	2	**	0	0.00	22	0.05
MUMPS	0	0.00	1	**	0	0.00	0	0.00	51	0.11
PERTUSSIS	17	5.48	12	2.30	9	0.68	15	4.22	710	1.48
SALMONELLOSIS	6	1.93	12	2.30	9	0.68	3	0.84	625	1.30
SHIGELLOSIS	2	**	6	1.15	2	**	0	0.00	238	0.50
STEC (shiga toxin-producing E0coli)	0	0.00	0	0.00	1	**	1	**	109	0.23
STREP PNEUMO INVASIVE	6	1.93	7	1.34	10	0.75	3	0.84	422	0.88
TOXIC SHOCK-STREP	0	0.00	0	0.00	0	0.00	0	0.00	1	**
TYPHOID FEVER	0	0.00	0	0.00	0	0.00	0	0.00	7	0.01
VARICELLA(CHICKENPOX)	15	4.84	23	4.41	50	3.75	14	3.94	1504	3.13
WEST NILE VIRUS	34	10.96	2	**	38	2.85	13	3.66	345	0.72
Total	128	41.28	129	24.72	291	21.85	91	25.60	10679	22.22

Sexually Transmitted Diseases (STDs). Of the conditions that are reportable to the state health department, other than cancer, a recent trend in the frequency of STD diagnoses is worth noting. The worksheets and data to support the graphs shown below are provided in Appendix N; data are from the STD/HIV Surveillance Program, Disease Control and Environmental Epidemiology Division, Colorado Department of Public Health and Environment.

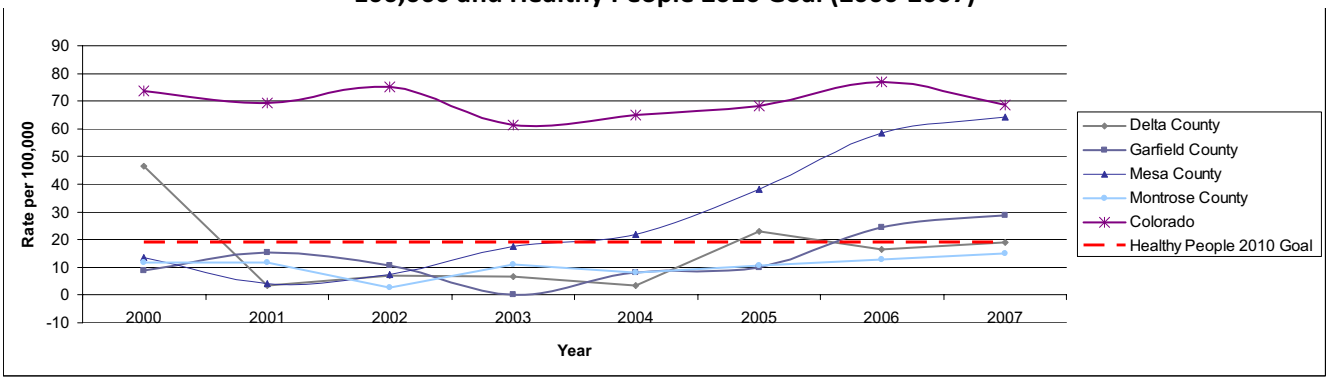
- For the time period, 2003 through 2007, the rate of reported cases of Chlamydia in both Garfield and Mesa Counties has steadily increased. It is not clear, at this time, whether this rate increase is due to an actual increase in disease or is an artifact of changes in screening patterns in the two counties. Overall, Garfield County's rates are lower than those for Mesa County and the state, but higher than those for Delta and Montrose Counties. Both Delta and Montrose Counties show an increase in reported cases for 2004-2005, but then the rates are flat (Delta) or decrease (Montrose) from 2005 through 2007.

Figure 25H. Rate per 100,000 Population of Reported Chlamydia Cases in Delta, Garfield, Mesa and Montrose Counties Compared to Colorado Chlamydia Case Rate per 100,000 (2000-2007)



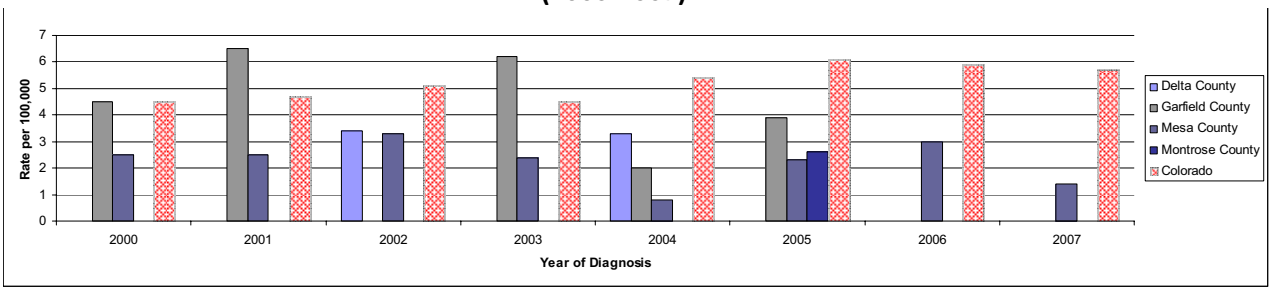
- Similarly, the rate of reported cases of Gonorrhea in Garfield and Mesa Counties steadily increased from 2003 through 2007. Garfield County's rates are again lower than those for both Mesa County and the state, but higher than those for Delta and Montrose Counties. Delta County's Gonorrhea cases showed the same pattern as for Chlamydia; Montrose County's Gonorrhea cases increased slightly over the period 2004 through 2007.

Figure 25I. Rate per 100,000 Population of Reported Gonorrhea Cases in Delta, Garfield, Mesa and Montrose Counties Compared to Colorado Gonorrhea Case Rate per 100,000 and Healthy People 2010 Goal (2000-2007)



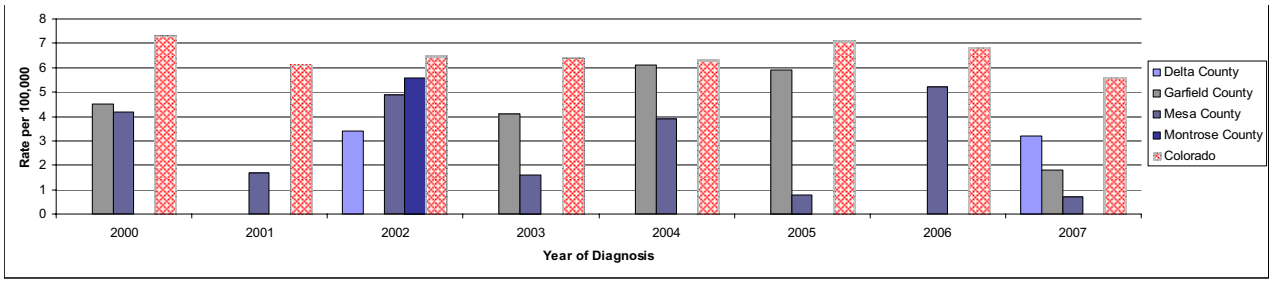
- Garfield County had the highest rate of reported HIV cases among the four counties for the years 2000, 2001, 2003, and 2005. These rates were higher than the state rate for the years 2001 and 2003. (There were no cases reported in 2002, 2006, or 2007.)

Figure 25J. Rate per 100,000 Population of Reported HIV Cases in Delta, Garfield, Mesa and Montrose Counties Compared to Colorado HIV Case Rate per 100,000 (2000-2007)



- Garfield County had the highest rate of reported AIDS cases among the four counties for the years 2000, 2003, 2004, and 2005. (There were no cases reported in 2001, 2002, or 2006.)

Figure 25K. Rate per 100,000 Population of Reported AIDS Cases in Delta, Garfield, Mesa and Montrose Counties Compared to Colorado AIDS Case Rate per 100,000 (2000-2007)



Hospital and Insurance Provider Data. Several other data sources were used to expand the picture of the health of Garfield County residents. Hospital discharge data and emergency room visit data provided comparative information on the more serious conditions for which Garfield County residents sought medical care. Health insurance claims data from a major health insurance provider operating on the Western Slope was another resource for information regarding health and healthcare usage among the comparison counties. Unfortunately, our attempts to obtain primary care provider information were not successful.

Hospital Discharge Data

Table 26 provides information on hospitalization rates and hospital choice for Garfield County residents during 2005 and 2006. Out of more than 4,000 hospitalizations of Garfield County residents during both 2005 and 2006, approximately 60% of those patients were hospitalized at Valley View Hospital in Glenwood Springs. Approximately 16% and 12% of the patients were hospitalized in St. Mary's Hospital and Medical Center (Grand Junction) or Grand River Hospital District (Rifle), respectively. The rest were hospitalized in other area or regional hospitals.

Table 27 shows the top 10 DRG (Diagnosis-Related Group) categories for Garfield County residents hospitalized in 2000 through 2005. "Diagnosis-Related Group" is a system that was developed for the U.S. Health Care Finance Administration to classify hospital cases into one of approximately 500 groups (DRGs) expected to have similar hospital resource use. The system is used by Medicare and Medicaid as part of a prospective payment plan. It takes into account diagnoses, procedures, age, gender and the presence of complications or co-existing medical conditions.

For the purposes of this study, the approximately 500 DRG categories were collapsed into 130 consolidated categories for which data were obtained. These 130 categories were then further grouped into larger, relationship categories, the contents of which, are described below.

During this six-year period, with the exception of 2003, circulation disorders and bone and joint disorders were either the first or second most common reasons for hospitalization (in 2003, birthing and pregnancy disorders was number one, and circulation disorders was third). Because of the frequency with which respiratory and nervous system concerns were mentioned by Garfield County residents, and the potential for air quality issues to cause or exacerbate respiratory conditions, these two DRG categories are highlighted. Respiratory disorders were either the fourth or fifth most common reason for hospitalization in all years; nervous system disorders were ranked either seventh or eighth each year. Digestive disorders ranked third in four out of the six years. Neonatal disorders were sixth in frequency during the entire six-year period.

Table 26. Hospital Utilization, Garfield County Residents 2005-2006 (Colorado Hospital Association)

Patient Origin Garfield County	Valley View Hospital		Saint Marys Hospital and Medical Center		Grand River Hospital District		Aspen Valley Hospital		University Hospital		Presbyterian Saint Lukes Medical Center		Vail Valley Medical Center	
FY 2005	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share
TOTAL	2,384	55.9%	668	15.7%	515	12.1%	277	6.5%	79	1.9%	69	1.6%	62	1.5%
GLENWOOD SPRINGS	914	80.0%	65	5.7%	9	0.8%	28	2.5%	34	3.0%	19	1.7%	20	1.8%
RIFLE	415	42.9%	206	21.3%	261	27.0%	5	0.5%	11	1.1%	14	1.4%	9	0.9%
CARBONDALE	519	57.0%	65	7.1%	4	0.4%	224	24.6%	15	1.6%	18	2.0%	16	1.8%
PARACHUTE	95	17.9%	229	43.2%	172	32.5%	-	0.0%	1	0.2%	3	0.6%	4	0.8%
NEW CASTLE	294	68.4%	48	11.2%	22	5.1%	14	3.3%	7	1.6%	9	2.1%	9	2.1%
SILT	146	52.7%	49	17.7%	46	16.6%	5	1.8%	11	4.0%	6	2.2%	4	1.4%
BATTLEMENT MESA	1	10.0%	6	60.0%	1	10.0%	1	10.0%	-	0.0%	-	0.0%	0	0.0%

FY 2006	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share	Cnty Cases	Cnty Share
COUNTY TOTAL	2,346	55.8%	674	16.0%	513	12.2%	272	6.5%	66	1.6%	76	1.8%	62	1.5%
GLENWOOD SPRINGS	863	78.8%	84	7.7%	4	0.4%	26	2.4%	21	1.9%	25	2.3%	21	1.9%
RIFLE	371	38.7%	237	24.7%	280	29.2%	6	0.6%	6	0.6%	11	1.1%	14	1.5%
CARBONDALE	543	58.7%	40	4.3%	2	0.2%	229	24.8%	23	2.5%	17	1.8%	17	1.8%
PARACHUTE	103	19.6%	217	41.3%	157	29.8%	-	0.0%	6	1.1%	4	0.8%	2	0.4%
NEW CASTLE	292	74.9%	42	10.8%	25	6.4%	5	1.3%	6	1.5%	4	1.0%	6	1.5%
SILT	171	57.2%	49	16.4%	43	14.4%	6	2.0%	4	1.3%	15	5.0%	2	0.7%
BATTLEMENT MESA	3	27.3%	5	45.5%	2	18.2%	-	0.0%	-	0.0%	-	0.0%	0	0.0%

Table 26. Hospital Utilization, Garfield County Residents 2005-2006 (continued)

Patient Origin Garfield County	The Childrens Hospital		Other Hospitals		Total
FY 2005	**Cnty Cases**	**Cnty Share**	**Cnty Cases**	**Cnty Share**	**Total Cases**
TOTAL	37	0.9%	176	4.1%	4,267
GLENWOOD SPRINGS	15	1.3%	38	3.3%	1,142
RIFLE	4	0.4%	43	4.4%	968
CARBONDALE	8	0.9%	41	4.5%	910
PARACHUTE	2	0.4%	24	4.5%	530
NEW CASTLE	7	1.6%	20	4.7%	430
SILT	1	0.4%	9	3.2%	277
BATTLEMENT MESA	0	0.0%	1	10.0%	10
FY 2006	**Cnty Cases**	**Cnty Share**	**Cnty Cases**	**Cnty Share**	**Total Cases**
COUNTY TOTAL	35	0.8%	161	3.8%	4,205
GLENWOOD SPRINGS	14	1.3%	37	3.4%	1,095
RIFLE	9	0.9%	25	2.6%	959
CARBONDALE	3	0.3%	51	5.5%	925

PARACHUTE		4	0.8%	33	6.3%	526
NEW CASTLE		2	0.5%	8	2.1%	390
SILT		2	0.7%	7	2.3%	299
BATTLEMENT MESA		1	9.1%	0	0.0%	11

Table 27. Top 10 DRG categories by year in Garfield County (Colorado Hospital Association)

2000		2001		2002		2003		2004		2005	
DRG category	per 1000	DRG category	per 1000	DRG category	per 1000	DRG category	per 1000	DRG category	per 1000	DRG category	per 1000
Circulation Disorders	9.87	Circulation Disorders	9.72	Bone and Joint Disorders	9.55	Birthing and Pregnancy Disorders	8.86	Circulation Disorders	8.98	Circulation Disorders	8.96
Bone and Joint Disorders	8.74	Bone and Joint Disorders	9.05	Circulation Disorders	8.87	Bone and Joint Disorders	8.82	Bone and Joint Disorders	8.96	Bone and Joint Disorders	8.11
Birthing and Pregnancy Disorders	8.54	Digestive Disorders	7.78	Digestive Disorders	8.39	Circulation Disorders	8.64	Digestive Disorders	7.85	Digestive Disorders	7.76
Respiratory Disorders	8.45	Birthing and Pregnancy Disorders	7.52	Respiratory Disorders	8.24	Digestive Disorders	7.67	Birthing and Pregnancy Disorders	7.52	Birthing and Pregnancy Disorders	7.56

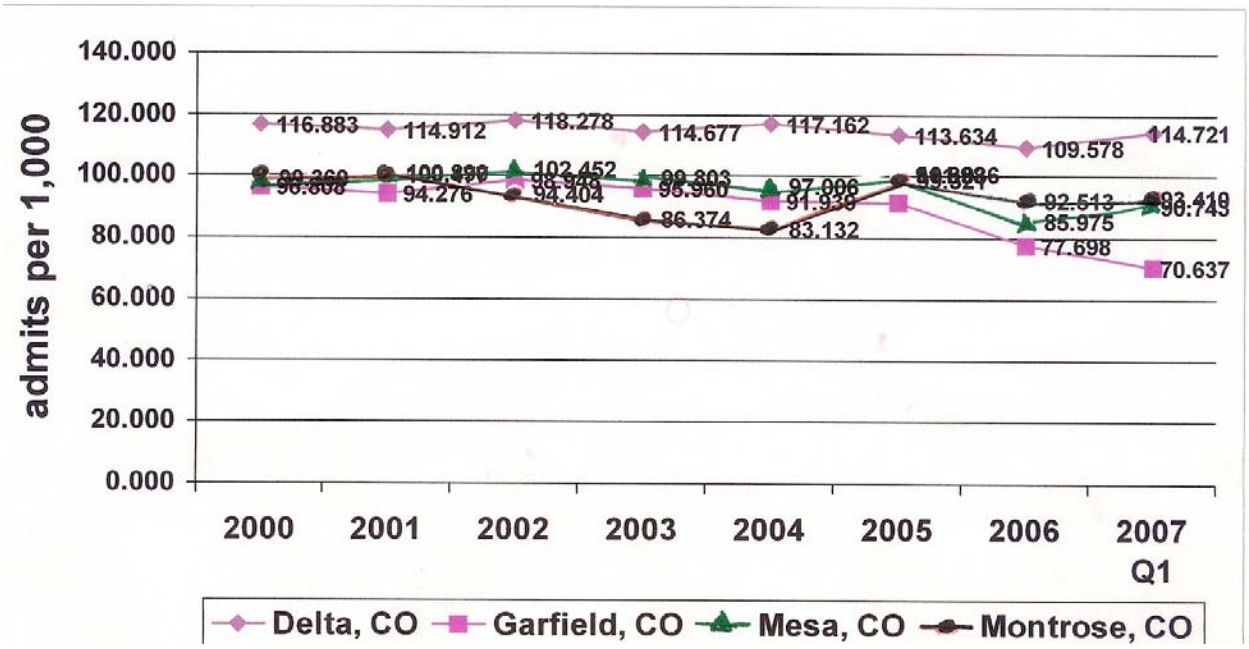
Digestive Disorders	8.38	Respiratory Disorders	6.89	Birthing and Pregnancy Disorders	7.74	Respiratory Disorders	7.36	Respiratory Disorders	6.73	Respiratory Disorders	6.93
Neonatal Disorders	6.21	Neonatal Disorders	6.04	Neonatal Disorders	6.07	Neonatal Disorders	5.29	Neonatal Disorders	5.09	Neonatal Disorders	4.78
Nervous System Disorders	3.82	Female Reproductive Disorders	3.92	Nervous System Disorders	3.96	Nervous System Disorders	3.51	Nervous System Disorders	4.22	Nervous System Disorders	3.59
Female Reproductive Disorders	3.77	Nervous System Disorders	3.66	Female Reproductive Disorders	3.86	Female Reproductive Disorders	3.37	Female Reproductive Disorders	3.22	Female Reproductive Disorders	3.53
Nutritional, Metabolic and Thyroid Disorders	2.58	Pancreas and Liver Disorders	2.95	Nutritional, Metabolic and Thyroid Disorders	2.51	Pancreas and Liver Disorders	3.14	Pancreas and Liver Disorders	2.88	Pancreas and Liver Disorders	2.51
Pancreas and Liver Disorders	2.12	Nutritional, Metabolic and Thyroid Disorders	2.69	Urinary Tract Disorders	2.49	Urinary Tract Disorders	2.52	Urinary Tract Disorders	2.47	Nutritional, Metabolic and Thyroid Disorders	2.49

A more detailed analysis of the hospitalization DRGs **by county of residence** for the years 2000 through 2006 and for the first quarter of 2007 follows. The rates referred to and shown in the graphs are per 1,000 individuals, based on the 2000 census data for county population. (The complete data set and more detailed subcategory graphs may be found in Appendix O.)

- **All Hospitalizations**

Delta County has the highest rate over the 6.25-year period for hospitalizations. Garfield County has either the lowest or the next-to-lowest rate for this period, and showed a downward trend in hospitalization rate from 2005 into the first quarter of 2007.

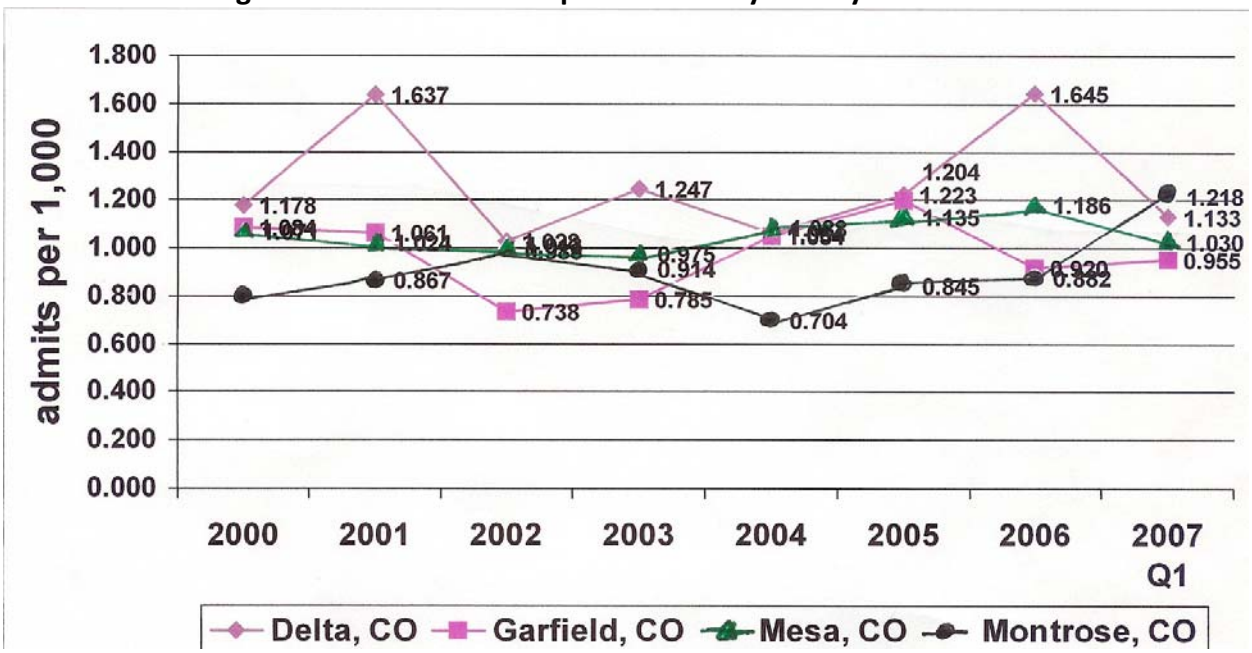
Figure 67. All Hospitalizations by County of Residence



- **All Trauma**

Garfield County's trauma rates were generally the same as or lower than the rates for the comparison counties for the 6.25-year time period.

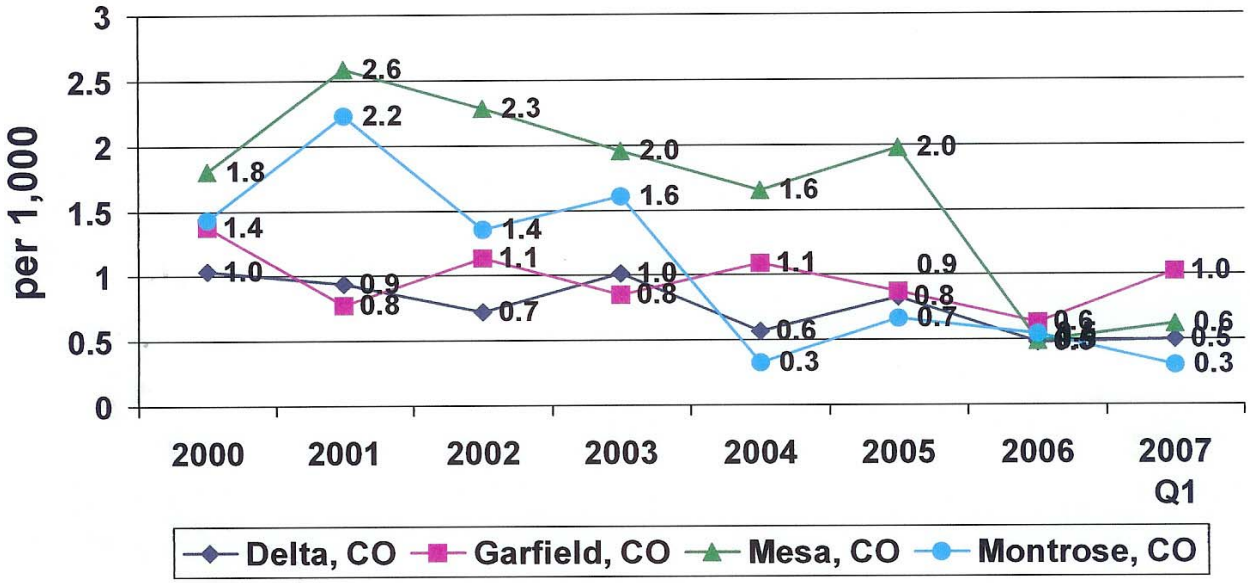
Figure 68. All Trauma Hospitalizations by County of Residence



- **Alcohol and Drug Disorders**

This area was of concern to some Garfield County residents because of a perception that an influx of natural gas industry workers could result in an increase in the use and abuse of alcohol and drugs. With respect, specifically, to hospitalization as a result of alcohol and drug-related disorders, Mesa County has the highest rates for the study period, although their rate dropped in 2006 to essentially the same as for the other counties. Garfield County's rates were similar to those Delta County and lower than the rates for Montrose County through 2003. In 2003, Montrose saw a decrease in alcohol and drug hospitalizations, which brought their rate to one that was similar to those of Garfield and Delta Counties. Garfield County's rate appeared to be increasing in 2007, at which time it had the highest rate of the four counties. *Caution: one-quarter's data is not generally sufficient to safely predict a trend.*

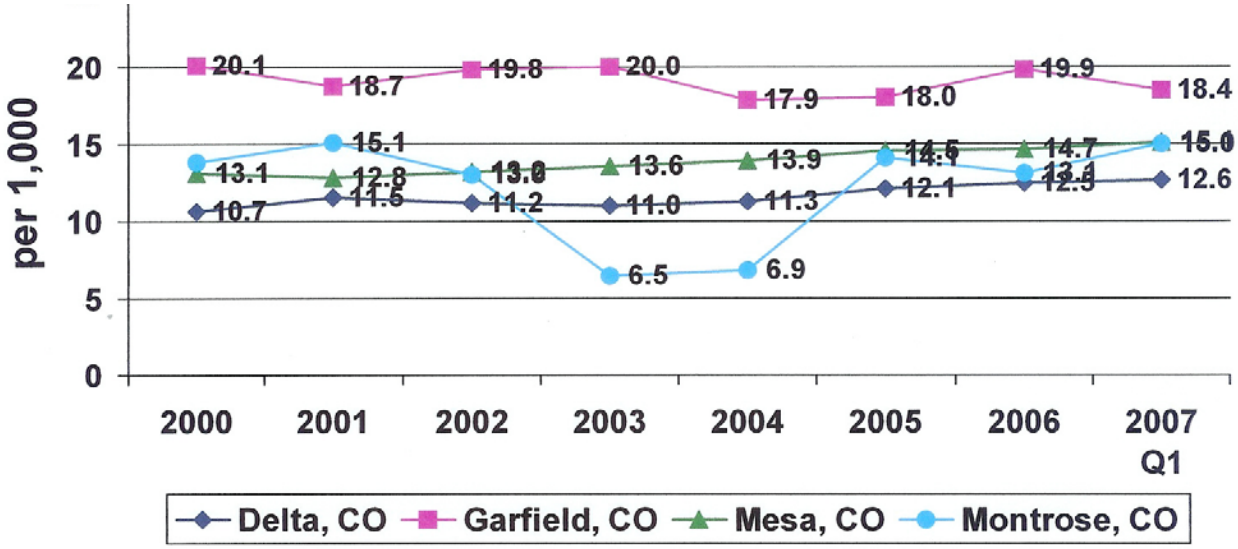
Figure 69. Alcohol and Drug Disorders Hospitalizations by County of Residence



- **Birthing and Pregnancy Disorders**

Garfield County's overall rates for this category were consistently higher than those for the comparison counties. The percentages of complicated births, out of all births, for Delta, Garfield, Mesa, and Montrose Counties were 53.4, 58.0, 61.4, and 53.0, respectively. Postpartum complications, in particular have been steadily increasing in Garfield County since 2004. This category also includes abortions, cesarean sections, ectopic pregnancies, false labor, other antepartum diagnoses with or without surgical procedures, threatened abortion, and vaginal deliveries with and without complications. Further breakdown of information for this category is provided below.

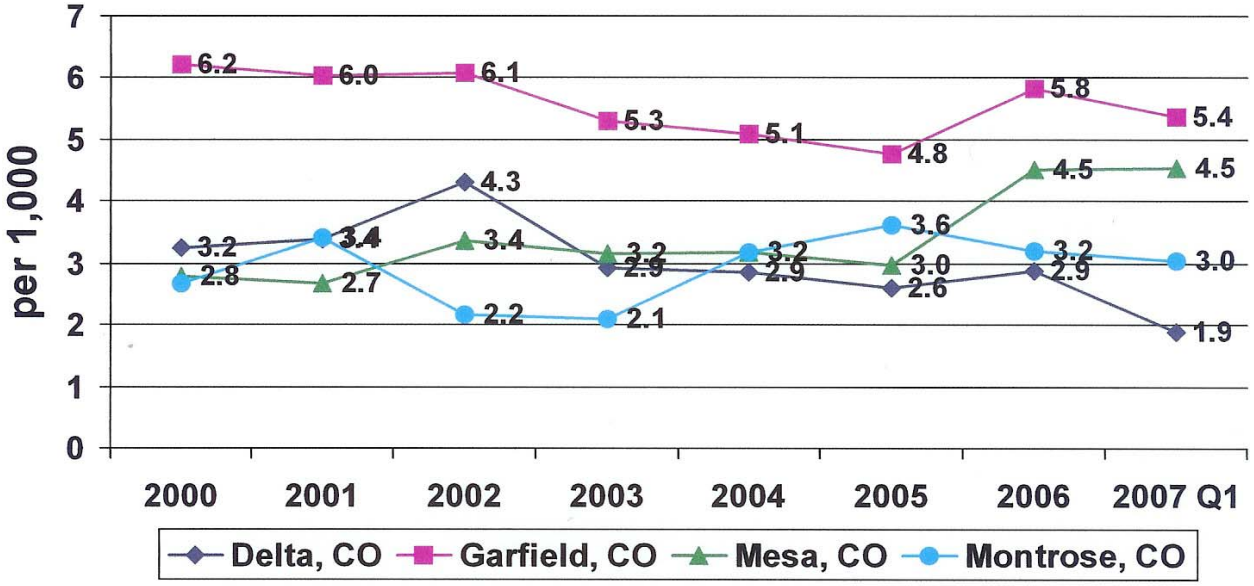
Figure 70. Birthing and Pregnancy Disorders Hospitalizations by County of Residence



- Neonatal Disorders

Neonatal disorder hospitalization rates in Garfield County have been relatively stable, and generally lower than the rates for Mesa and Montrose Counties and similar to the rates for Delta County. Mesa County's neonatal disorder hospitalization rates have been consistently higher than for the other three counties. This category includes extreme immaturity or respiratory distress at birth, prematurity, full-term neonates with significant problems, and neonatal death or transfer to another facility for care.

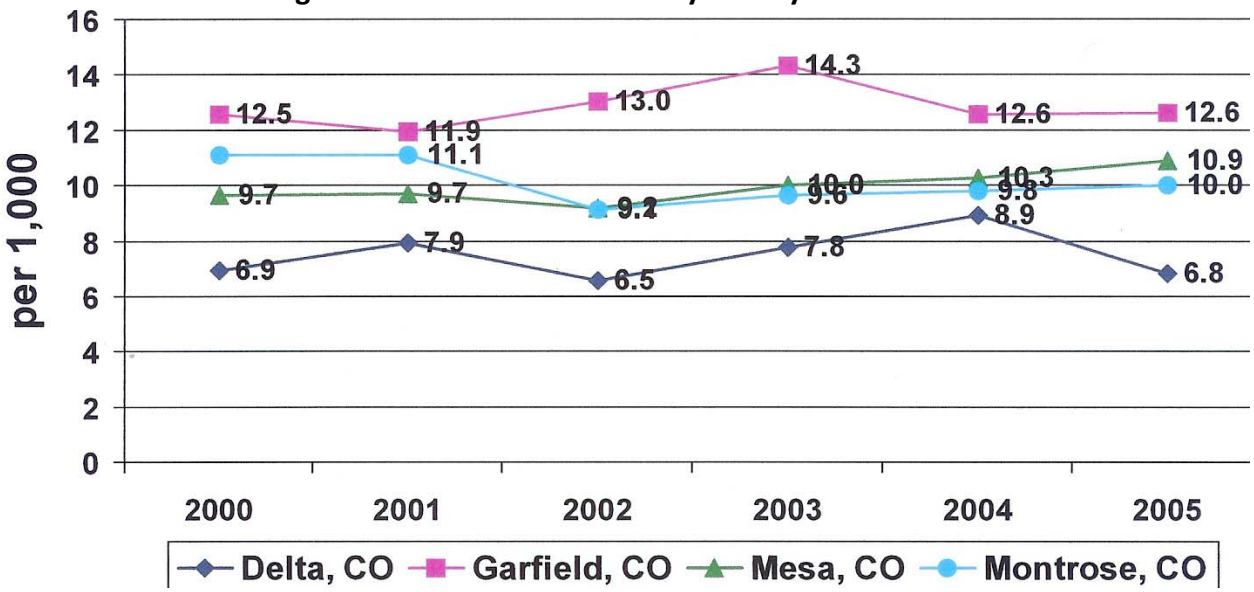
Figure 71. Neonatal Disorders Hospitalizations by County of Residence



- **Normal Newborn Hospitalizations**

On the other hand, Garfield County also has the highest rates for normal newborns born in the hospital. These higher rates for both normal and abnormal births most likely reflect the fact that Garfield County has the highest birth rates among the four counties for the years studied (Tables 10-13. Vital Statistics).

Figure 72. Normal Newborns by County of Residence



- **Female and Male Reproductive Disorders Hospitalizations**

To complete the picture of factors that might influence pregnancy and birth outcomes, the following graphs show data for hospitalizations related to hospitalizations for treatment of reproductive organ disorders. Garfield County hospitalization rates for female reproductive disorders were generally the same as or lower than the rates for the other three counties. Montrose County had the highest rates for this category for all years, with the exception of the Year 2000, in which Delta County had the highest rate. This category includes infections and malignancies of the female reproductive organs, menstrual disorders, surgical procedures involving female reproductive organs, and tubal ligations.

Garfield County hospitalization rates for male reproductive disorders were generally the same as or lower than the rates for the other three counties. Delta County had the highest rates for this category for all years. This category includes complications of benign prostatic hypertrophy, transurethral prostectomy, inflammation and malignancies of the male reproductive organs, and other surgical procedures involving male reproductive organs.

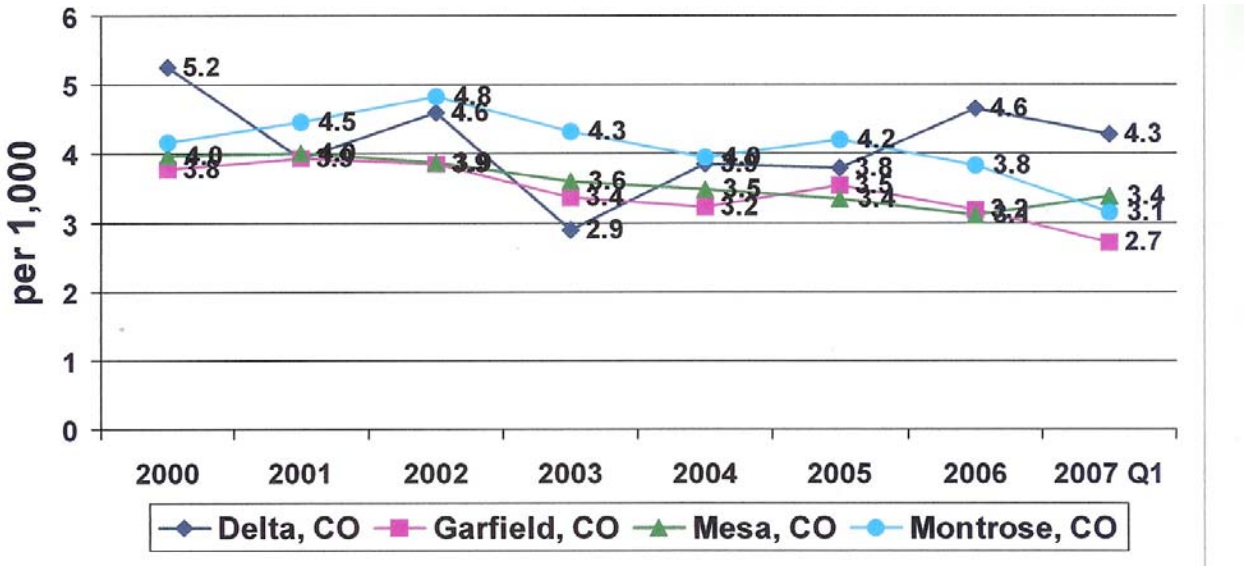
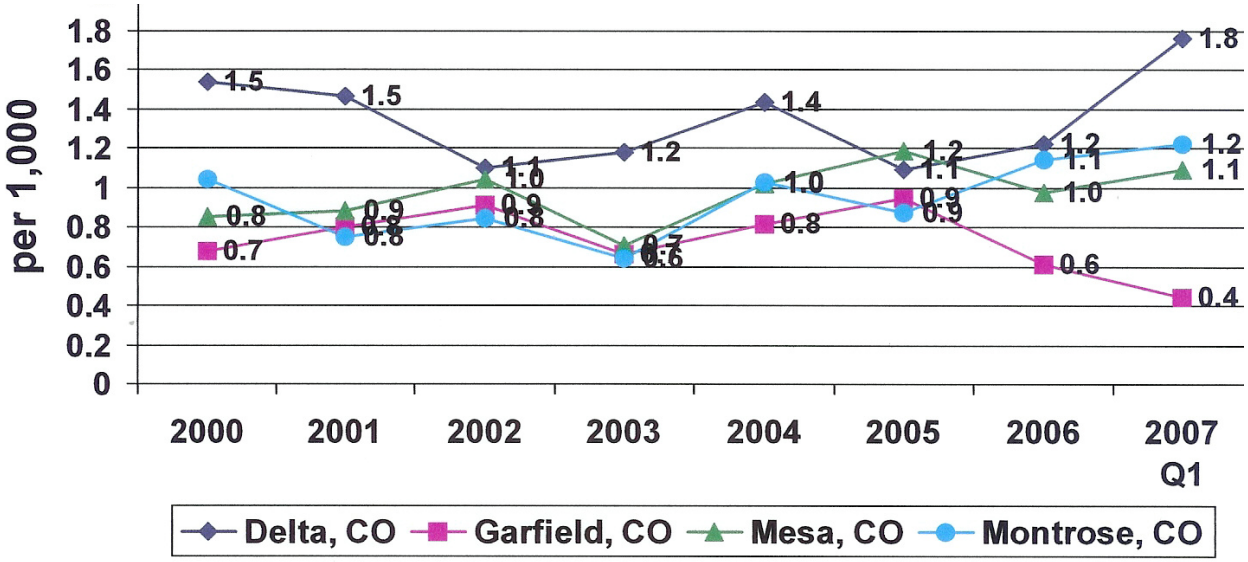


Figure 73. Female Reproductive Disorders Hospitalizations by County of Residence

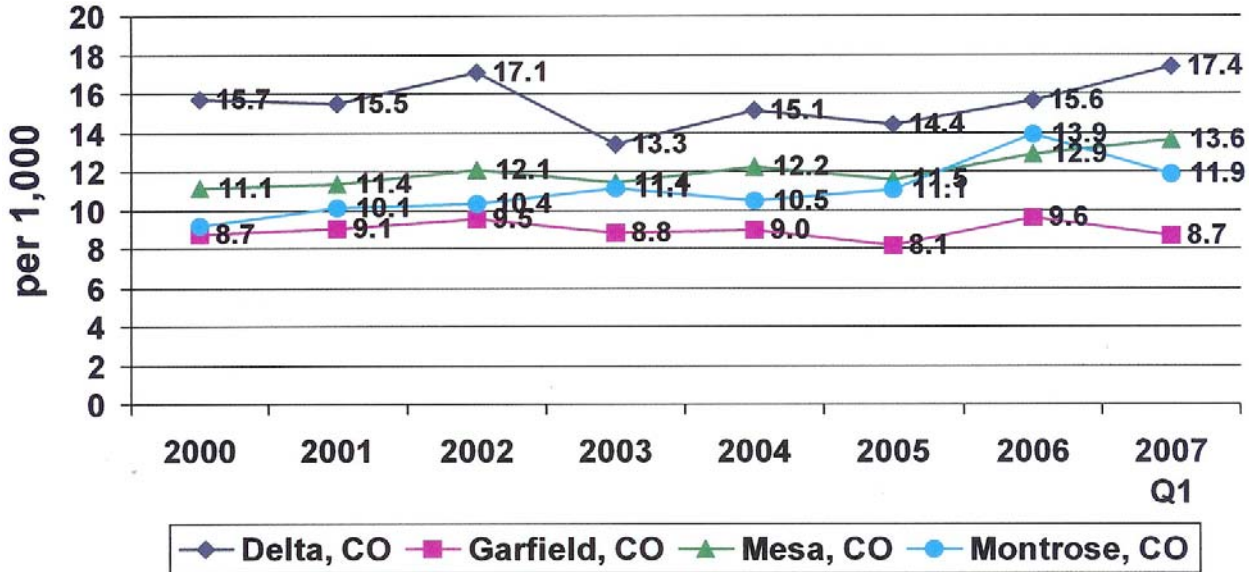
Figure 74. Male Reproductive Disorders Hospitalizations by County of Residence



- **Bone and Joint Disorders**

Delta County has the highest rates throughout the 6.25-year period. Garfield County's rates were the lowest of the four counties, and were generally stable. This category includes back and neck and other joint procedures, fractures, strains, sprains and dislocations, and musculoskeletal and connective tissue disorders.

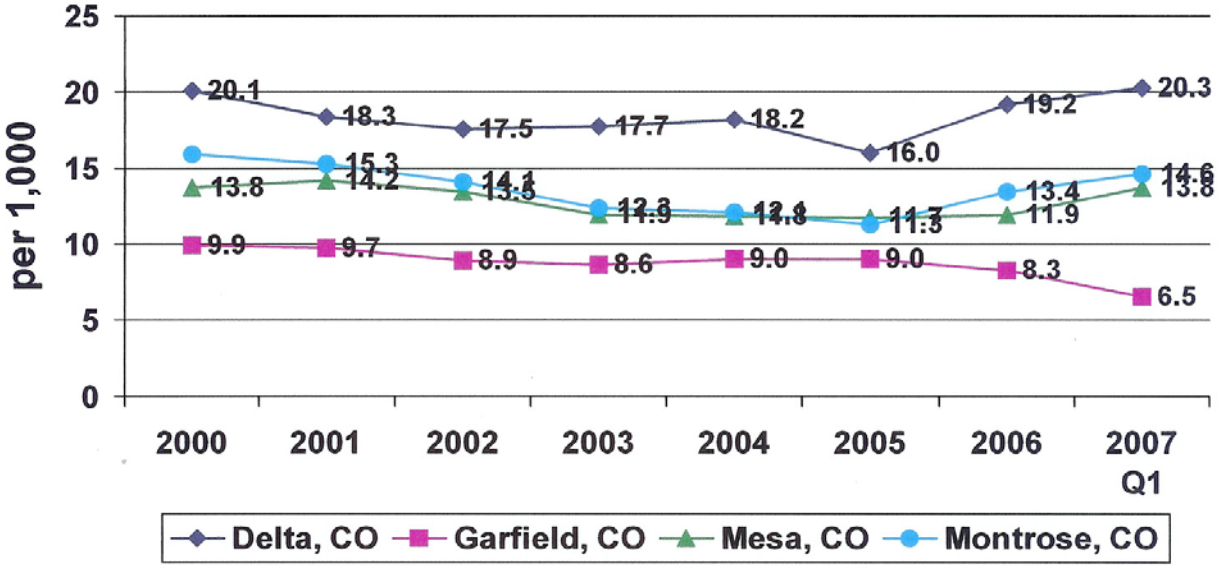
Figure 75. Bone and Joint Disorders Hospitalizations by County of Residence



- **Circulation Disorders**

Delta County has the highest rates throughout the 6.25-year period for this category. Garfield County's rates were the lowest of the comparison counties and were generally consistent over the period. There was a slight downward trend in 2007, at which time, the rates for the other three counties were trending up. This category includes acute myocardial infarction, angina pectoris, atherosclerosis, cardiothoracic procedures, cardiovascular disorders and procedures, chest pain, circulatory system disorders, coronary bypass, heart failure and shock, hypertension, peripheral vascular disorders, and syncope and collapse.

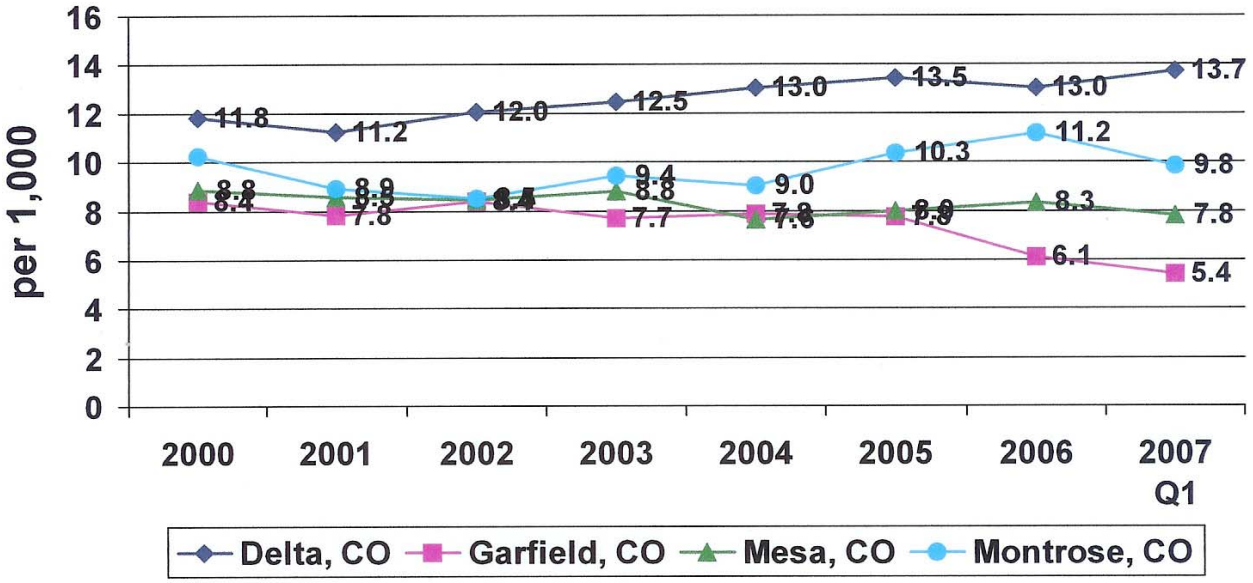
Figure 76. Circulation Disorders Hospitalizations by County of Residence



- **Digestive Disorders**

Mesa County has the highest overall rates for this category. Garfield County's overall rates are essentially the same as those in Delta and Montrose Counties until 2005, when Montrose County began to see an increasing trend in these disorders. Garfield County's rate began a downward trend for the same time period. This category includes appendectomy; digestive malignancy; gastrointestinal hemorrhage; gastrointestinal obstruction; hernia procedures; peptic ulcer; small and large bowel procedures; stomach, esophageal and duodenal procedures; and other digestive syndrome diagnoses. For some of these subcategories, Garfield County's rates were the lowest of the four counties; Garfield County's rates were never highest for any subcategory.

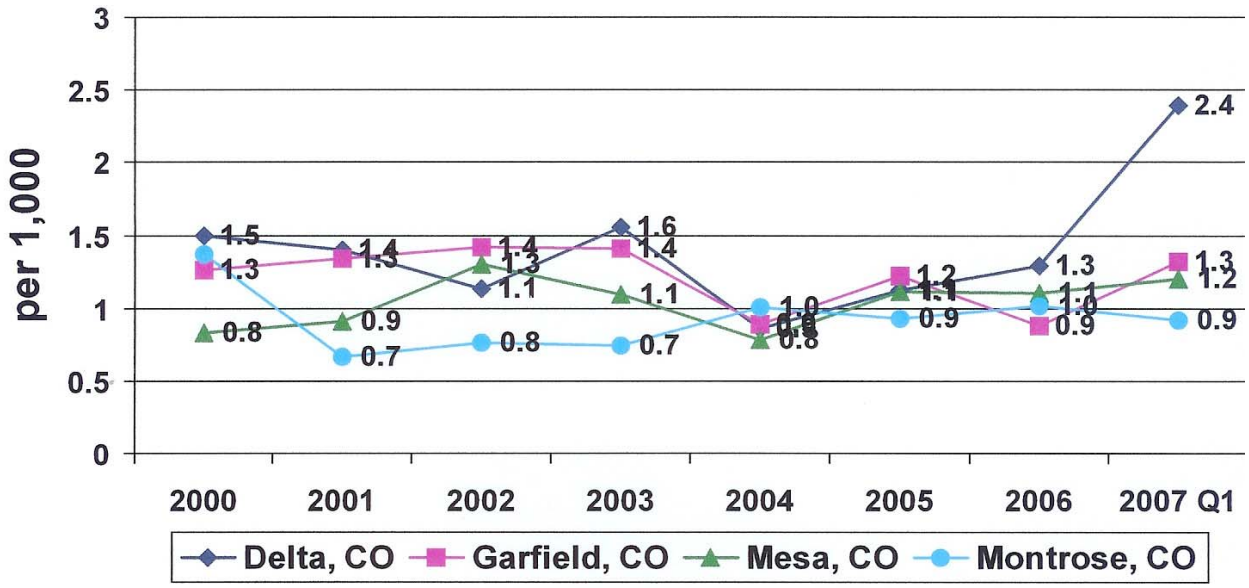
Figure 77. Digestive Disorders Hospitalizations by County of Residence



- **Ear, Nose, Throat Disorders**

Overall, and in general, the hospitalization rates for this group of disorders were similar among the four counties, although Delta County has a peak in the first quarter of 2007. When looking at the subcategories, however, Garfield County's hospitalization rates for otitis media and upper respiratory infections for children, ages 0-17 years, are the highest among the four counties. This is also true for the hospitalization rates for bronchitis and asthma in children. In contrast, the hospitalization rates for otitis media, upper respiratory infection, bronchitis and asthma in adults are the lowest among the four counties. Garfield County also has the lowest rate of COPD hospitalizations. This category includes dysequilibrium; ear, nose, mouth and throat diagnoses; otitis media an upper respiratory infection.

Figure 78. Ear, Nose, Throat Disorders Hospitalizations by County of Residence



- **Infectious and Parasitic Diseases**

Hospitalizations for infectious and parasitic diseases were highest in Delta County throughout the majority of the time period studied. Rates for all counties appear to be decreasing from a high in 2005, with the exception of rates for Montrose County, which have remained essentially stable. Garfield County's hospitalization rates for these diseases were generally lower than for the other three counties, increasing to a peak in 2005, and then dropping steadily through the 1st quarter of 2007. This category includes postoperative and post-traumatic infections, fevers of unknown origin, viral illnesses, septicemia, and other infectious or parasitic disease diagnoses.

Figure 79. Infectious and Parasitic Diseases Hospitalizations by County of Residence

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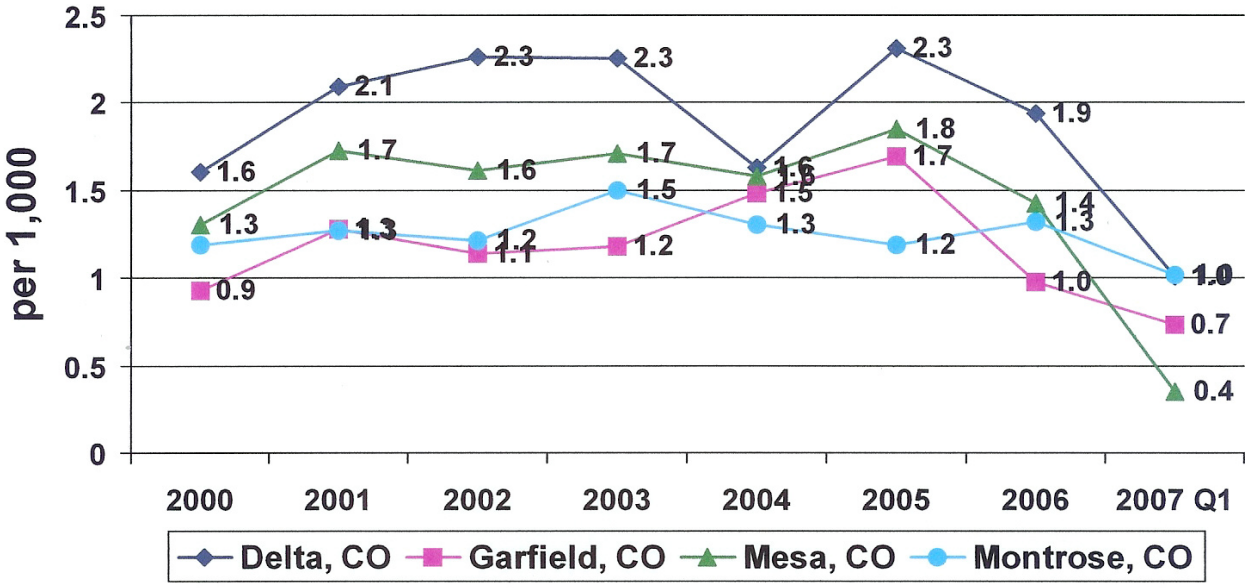
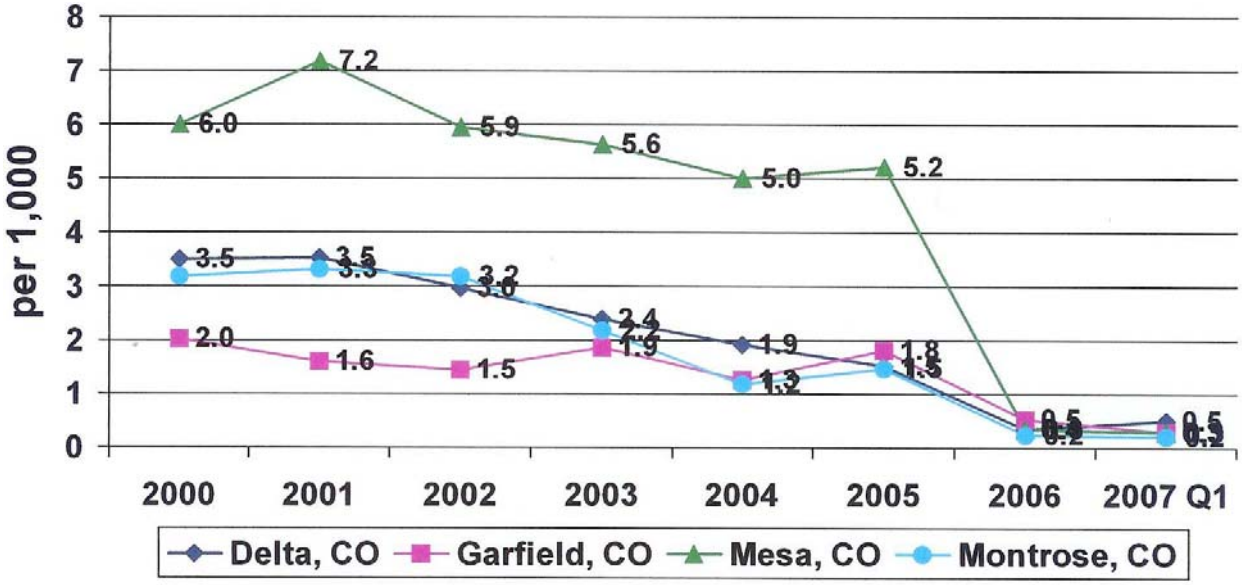


- **Mental Disorders**

Garfield County's hospitalization rates for mental disorders are the lowest among the four counties through 2003; the rates remain stable through 2005, after which there is a downward trend in the rate through the first quarter of 2007. Mesa County's rates are highest among the four counties. After a significant drop in the rate in 2006, the Mesa County rate becomes essentially that same as for the other counties. This category includes acute adjustment reaction and psychosocial dysfunction, childhood mental disorders, depressive neuroses, other neuroses, psychoses, and other mental disorders.

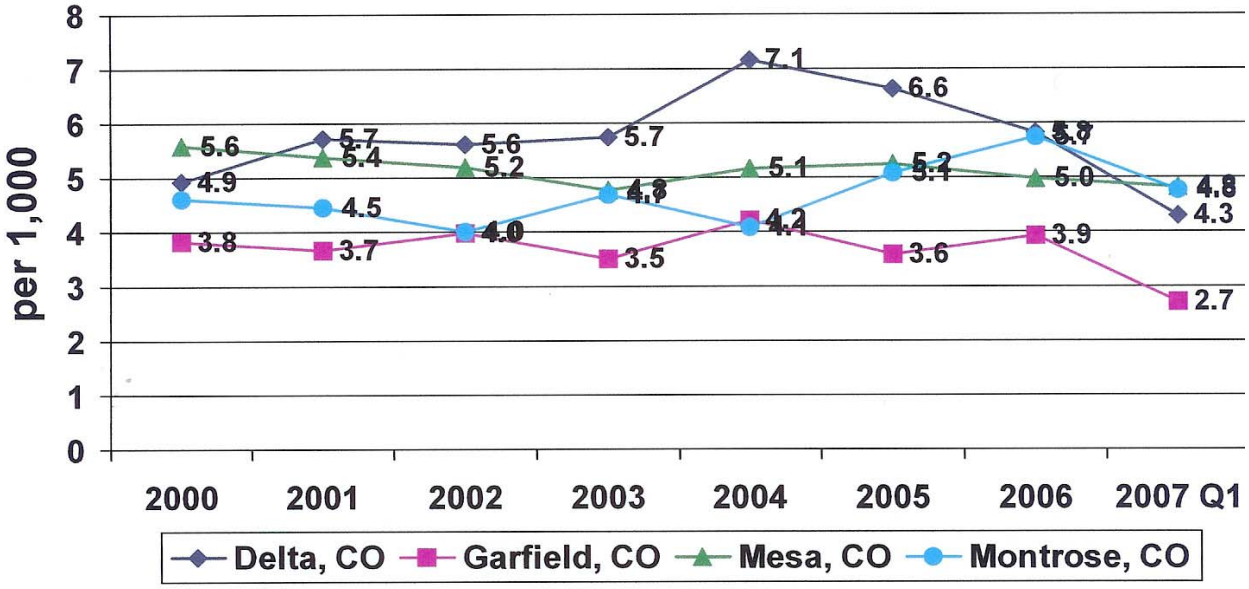
Figure 80. Mental Disorders Hospitalizations by County of Residence



- **Nervous System Disorders**

Garfield County has the overall lowest rates for the 6.25-year period; Delta County's rates are the highest for the years 2001 through 2005. With respect to the subcategory, seizure and headache for children (ages 0-17), Garfield County's rates show an upward trend since 2004, with a big jump in the first quarter of 2007. Seizure and headache hospitalization rates for individuals over 17 years of age show a downward trend since 2004, and are similar to those of the other counties. [Subcategory data are not shown here, but are provided in Appendix N. This category includes cerebrovascular disorders, concussion, cranial and peripheral nerve disorders, craniotomy, extracranial procedures, intracranial hemorrhage or cerebral infarction, nervous system infection except viral meningitis, nervous system neoplasms, seizure and headache, spinal disorders and injuries, stupor and coma (nontraumatic and traumatic), transient ischemia, viral meningitis, and other nervous system disorders.

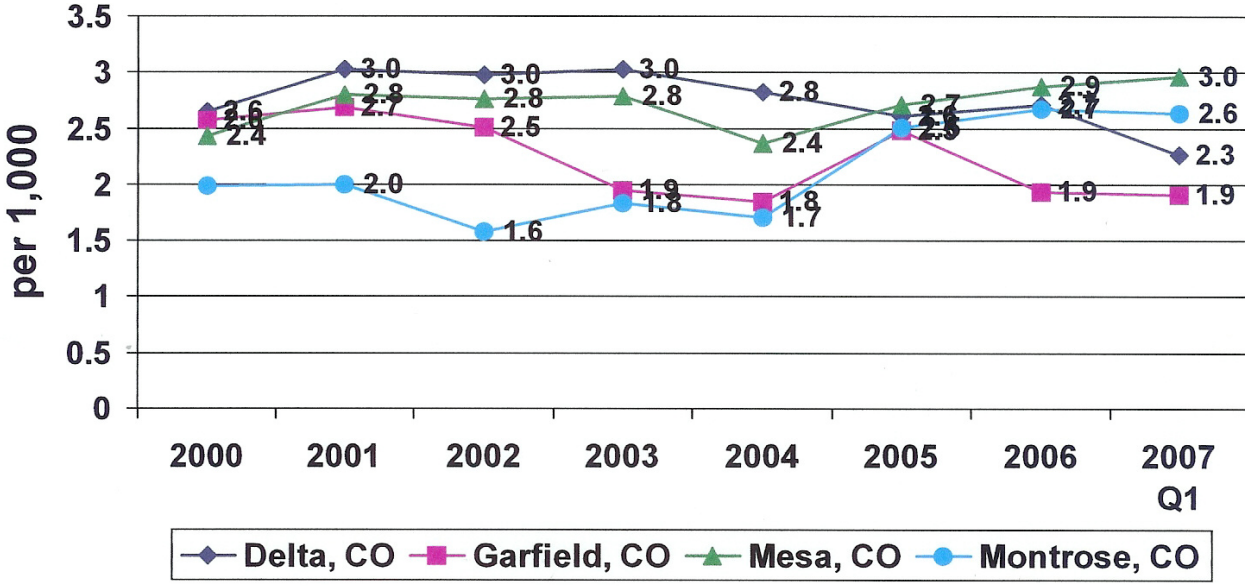
Figure 81. Nervous System Disorders Hospitalizations by County of Residence



- **Nutritional, Metabolic and Thyroid Disorders**

Montrose County has the lowest rates until 2005; rates increased between 2004 and 2005, then leveled off. Garfield County's rates showed a downward trend between 2002 and 2003, a spike in 2005, and decreases again in 2006. Garfield County's diabetes rates are the lowest among the counties for both children and adults. This category includes diabetes (ages 0-35 and >35); endocrine, nutritional and metabolic disorders, nutritional and miscellaneous metabolic disorders (ages 0-17 and >17), and obesity procedures.

Figure 82. Nutritional, Metabolic and Thyroid Disorders Hospitalizations by

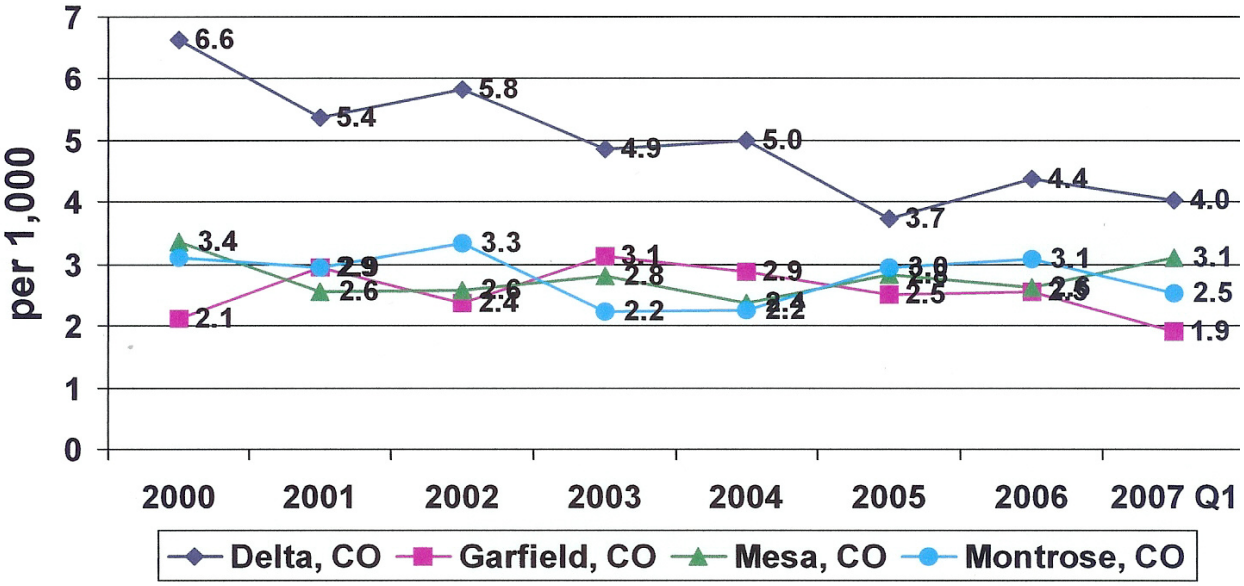


County of Residence

- **Pancreas and Liver Disorders**

Delta County's rates are consistently the highest among the four counties. Rates for the other counties across the time period are similar. This category includes cirrhosis and alcoholic hepatitis, malignancy of hepatobiliary system or pancreas, and pancreas and liver disorders. Garfield County's hospitalization rates are the highest among the counties for most years, surpassed only by Delta County in 2003 and 2006.

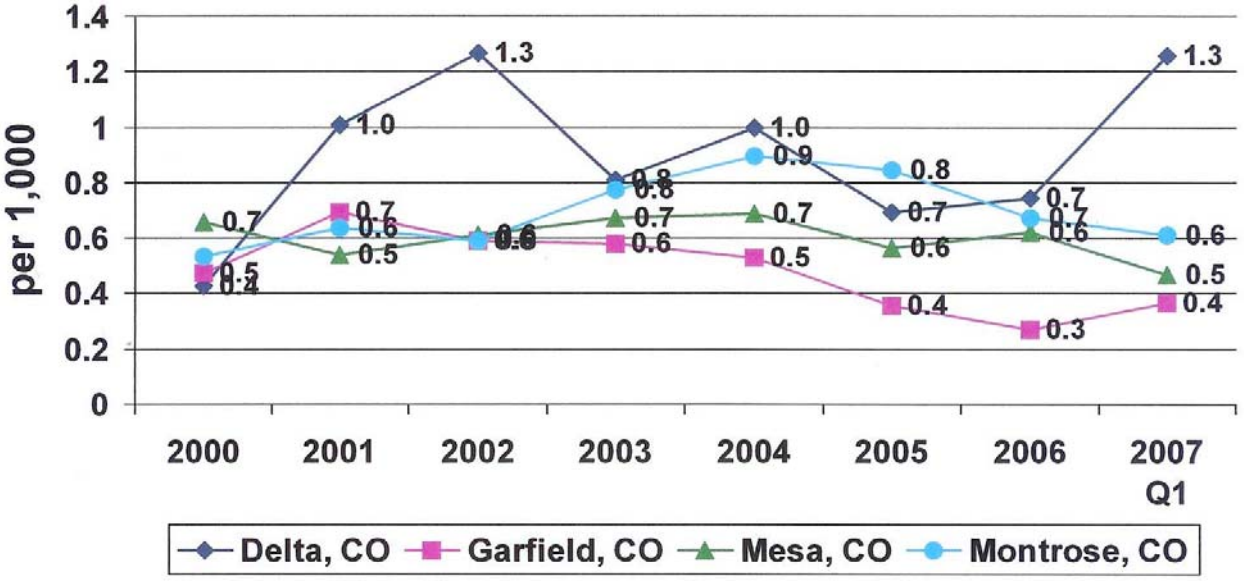
Figure 83. Pancreas and Liver Disorders Hospitalizations by County of Residence



- **Red Cell and Clotting Disorders**

Garfield County's rates show a steady downward trend from 2001- through 2006, with a slight increase in the first quarter of 2007. Garfield County's rates are generally lower than those for the other three counties.

Figure 84. Red Cell and Clotting Disorders Hospitalizations by County of Residence



- **Respiratory Disorders**

Overall, Garfield County rates for respiratory disorders are lower than for the other counties; Delta County's rates are the highest. Subcategory data comparisons are more variable, however. (Subcategory data by age are not shown here, but are available in Appendix N.) Garfield County has the lowest rates for bronchitis and asthma in individuals >17 years, but the highest rates for children (ages 0-17). Childhood bronchitis and asthma rates in Garfield County took a big drop in 2005, but increased to 2004 levels in the first quarter of 2007. Chronic obstructive pulmonary disease (COPD) rates in Garfield County are the lowest among the four counties. Garfield County rates for respiratory infections and inflammations for both adults and children are the lowest for the four counties. Rates for simple pneumonia and pleurisy were the lowest among the four counties for adults (>17 years), but highest for children (0-17) through 2005. (Childhood rates in other counties surpassed those for Garfield County from 2005 through the first quarter of 2007.) The other disorders included in this category are major chest procedures, interstitial lung disease, major chest trauma, pulmonary embolism, respiratory neoplasms, and other pulmonary disorders.

Figure 85. All Respiratory Disorders Hospitalizations by County of Residence

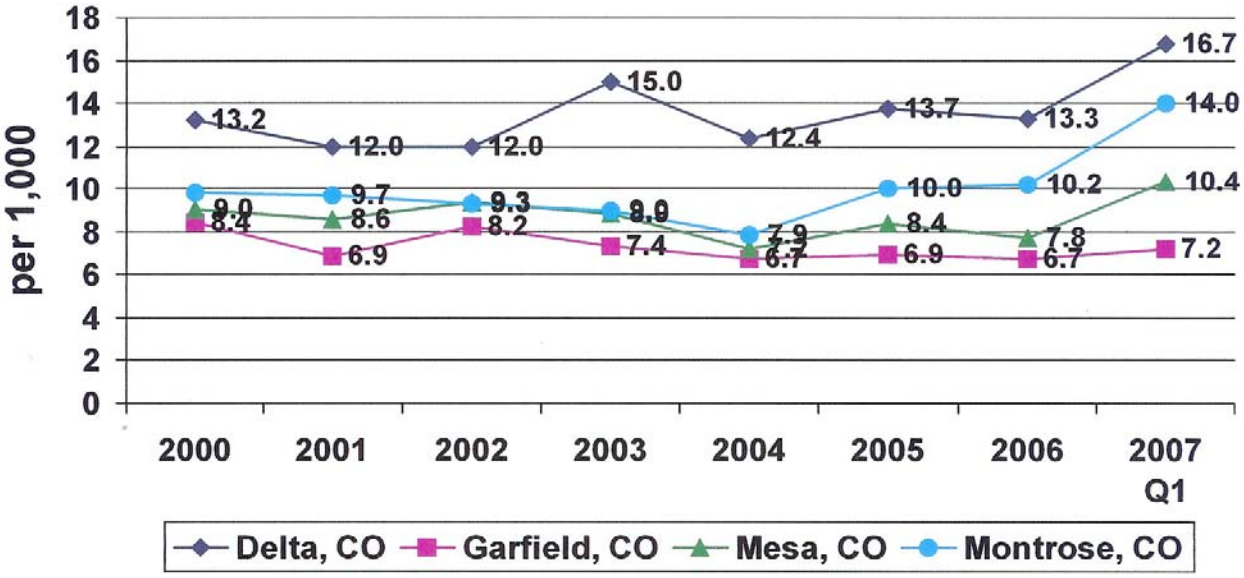
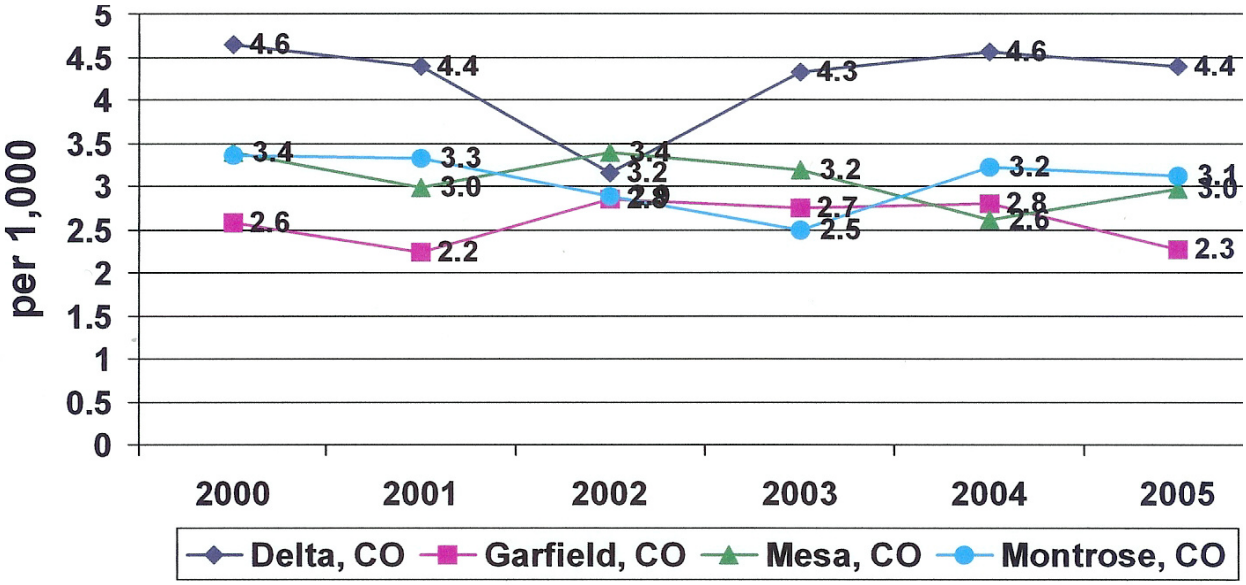


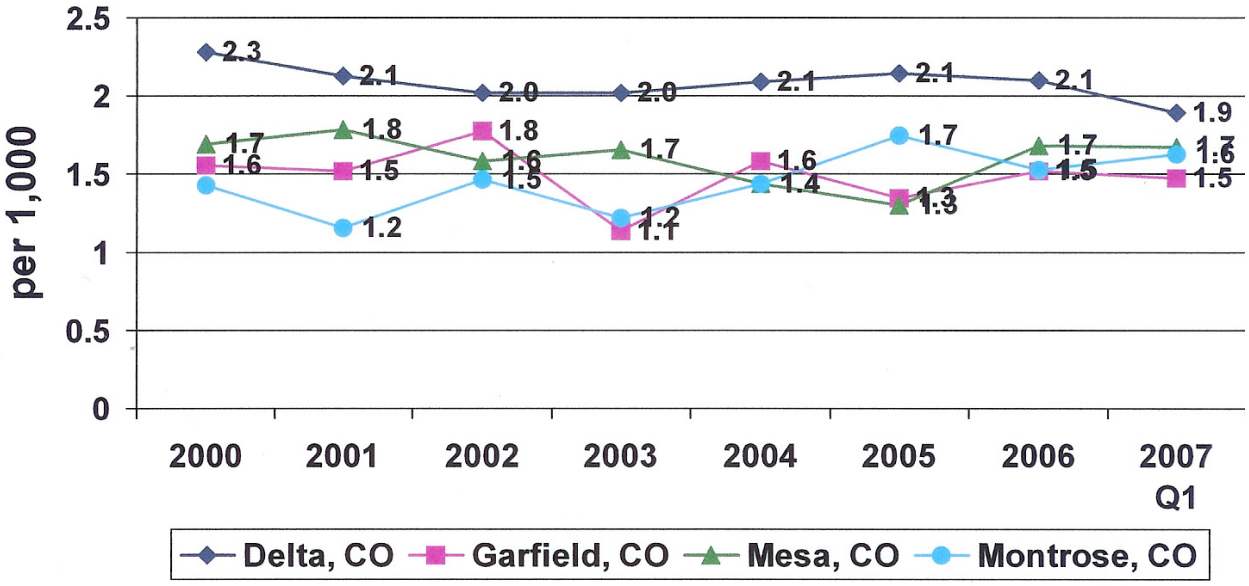
Figure 86. Respiratory Disorders Hospitalizations by County of Residence – Bronchitis, Asthma, COPD and Respiratory Infections and Inflammation



- **Skin Disorders**

Delta County has the highest rates among the four counties; the rates for the other counties are similar across the time period. This category includes cellulitis; malignant breast disorders; skin graft or debridement; skin ulcers; trauma to skin, subcutaneous tissue and breast; and other skin disorders.

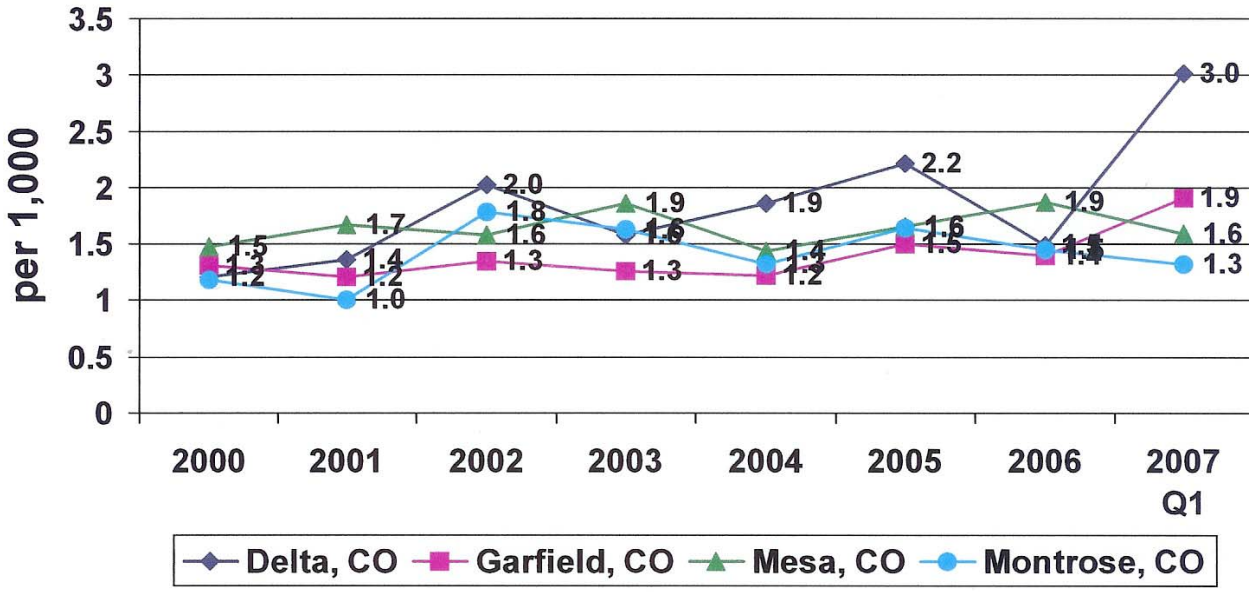
Figure 87. Skin Disorders Hospitalizations by County of Residence



- **Skin grafts, trauma, poisoning and allergic reactions**

Garfield County's hospitalization rates for this category are generally the lowest among the four counties, although Garfield County saw a jump in traumatic injury hospitalization for the first quarter of 2007. This category includes allergic reactions injury, poisoning and toxic effect diagnosis; surgical procedures for injuries; poisoning and toxic effects of drugs; traumatic injury; wound debridement for injuries.

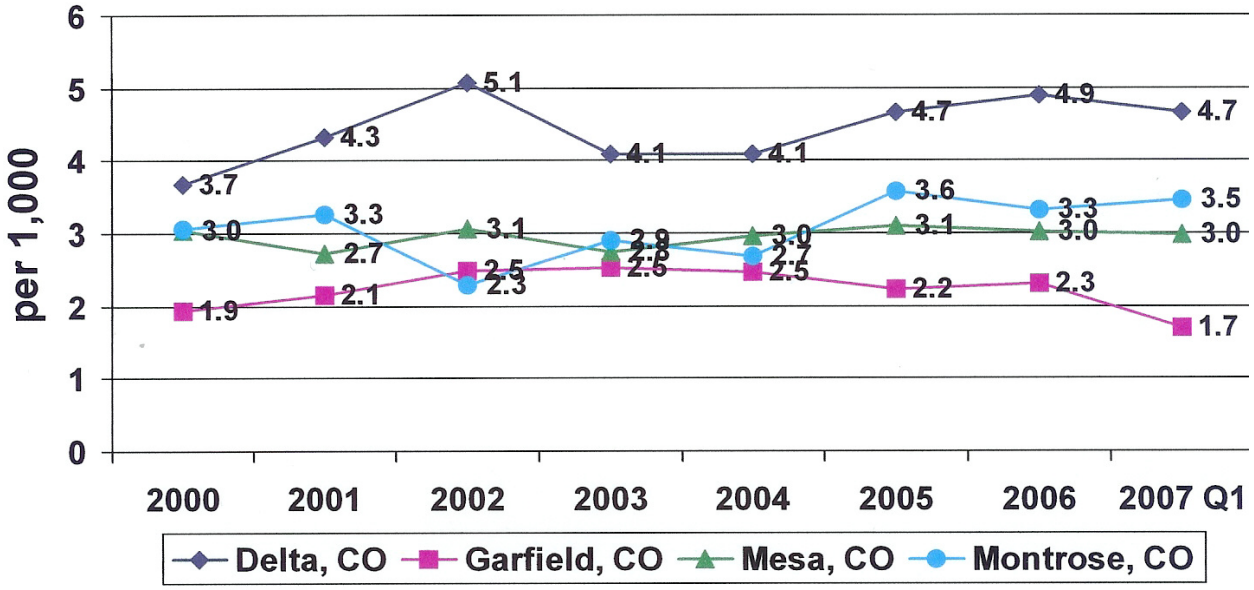
Figure 88. Skin Grafts, Trauma and Poisoning Hospitalizations by County of Residence



- **Urinary tract disorders**

Delta County's rates are the highest across the 6.25-year period; Garfield County's rates are the lowest. This category includes kidney and urinary tract disorders and infections, kidney and urinary tract neoplasms, kidney transplant, and renal failure.

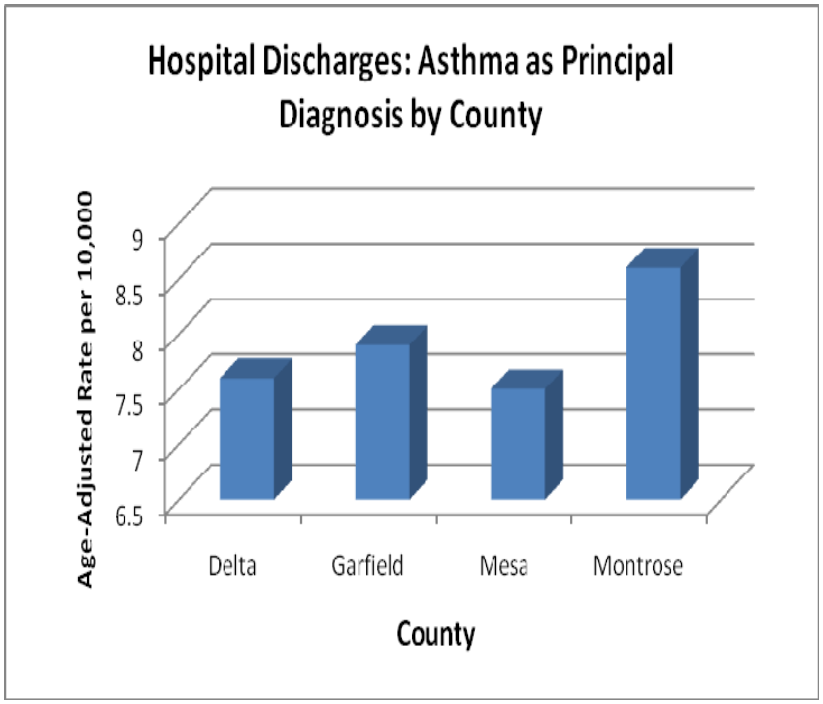
Figure 89. Urinary Tract Disorders Hospitalizations by County of Residence



- **Asthma Hospitalization Rates**

Colorado state data for county rates of hospitalization discharges with a principal diagnosis of asthma for the years 1993-2001 are provided in the graph below (Health Statistics Section, Colorado Department of Public Health and Environment). The age-adjusted rates are per 10,000 county residents. Rates were adjusted to the 2000 U.S. population using the direct method applied to 10-year age groups.

Figure 90.



<u>Rocky Mountain Health Plans Member Data for Health Plan Usage by County; Grand River Health District and Valley View Hospital Emergency Room Admissions Data by Zip Code</u>

Rocky Mountain Health Plans (RMHP) is a non-profit health insurance provider, operating in Colorado. The company's main office is in Grand Junction, Colorado. RMHP provides health insurance to a large proportion of insured individuals in the four comparison counties, although only about 7% of the population of Garfield County is insured by RMHO. We were able to obtain ambulatory, emergency room, inpatient and outpatient hospital visit data for RMHP members in all four counties for the years 2000 through 2007. The limitations of these data, with respect to providing valid comparative information are the fact that fewer individuals are insured by RMHP in Garfield County than in the other three counties (although all rates are adjusted to member months), and the demographics of the RMHP-insured populations most likely varies among the counties. Thus, these comparisons should be viewed with caution. Complete datasets and graphs may be found in the Appendix P.

Only those DRG disorder categories that had at least 200 visits per 1000 Member Months were included in the analysis. Rates are per 1,000 member months.

The Grand River Hospital District (located in Rifle, CO) provided emergency room admission data for the years 2004, 2005, and 2006. These data were organized into the same DRG categories as used for the RMHP member data. Admissions data were sorted by community of residence. As might be expected by the location of the hospital relative to communities within Garfield County, there are few admissions recorded for residents of Carbondale, Glenwood Springs, or New Castle. Thus, only the data for residents of Parachute, Rifle, and Silt are usable and will be discussed in this report. Where Grand River ER visit data differed substantively from the RMHP data for Garfield County, as a whole, the Grand River data are highlighted. Please note that, because of the limitations described above for these data, it is not reasonable to directly compare rates, but it is possible to compare and observe rate trends. A change in rate over a one-year period is NOT sufficient to determine whether an apparent trend is significant or an "outlier". Tables 28-31 discuss these relative trends in the data. Rates are per 1,000 visits. Complete datasets and graphs may be found in the Appendix Q. Of note is the fact that Garfield County residents had the lowest usage rates for annual physical exam visits (adults) and well check-ups (children) of all of the comparison counties over the entire 8-year period. With regard to these low rates, it is also important to note that these rates are for an insured population for which annual physical exams and well-child check-ups are provided.

Valley View Hospital in Glenwood Springs provided emergency room data by zip code of residence for visits that occurred between January 1, 2004 and December 31, 2006. These data were also organized into the DRG categories used for Grand River Hospital District and RMHP member data. Similar to what is described above for the other emergency room data, there are limitations to the possible use and interpretation of the Valley View Hospital data. By far, the largest numbers of emergency room visits were from residents of the Glenwood Springs zip codes. Because the rate calculations (visits by DRG category per 1000 persons) use an estimate of the population residing in each zip code area – and the margin of error increases inversely with the size of the area (i.e., the smaller the geographic area the larger the margin of error in the population estimate) – the rates calculated for each population should only be taken as estimates. To add to the uncertainty of comparing rates among these zip code populations, the data are subdivided into Adult and Child categories. The age categories for data provided by Valley View Hospital were different than those for data provided by Grand River Hospital District and RMHP; Valley View Hospital categorized 0-25 year old individuals as children, while RMHP and Grand River Hospital District designated 0-18 year old individuals as children. Thus, the age categories are not entirely comparable. Finally, the time periods for data provided by Valley View Hospital and the other data sources are not completely overlapping. Because of these limitations in comparing and interpreting the Valley View Hospital emergency room data, with respect to the other two emergency room data sources – and because of the relatively small numbers of emergency room visits for residents of zip code areas other than Glenwood Springs, only the data for the Glenwood Springs zip codes (81601 and 81602) are discussed in the report. It is also important to note that, in the case of smaller populations and shorter time periods (e.g., the September through December 2006 period), a single visit has a greater impact

on the rate, thus making the rates unreliable and the data sets useful only for estimating trends. The complete Valley View Hospital data set and analysis are available in Appendix R.

Table 28. Emergency Room Admissions Data DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007) Inpatient Hospital	Outpatient/Ambulatory	Emergency Room	GRHD ER (2004-2006)	Valley View ER* (2004-2006)
Accident, Injury, Trauma	Garfield County's injury hospitalization rates increased for adults (>18 years) after 2005, but still remained lower than the rates for Mesa and Delta Counties. Accident, injury and trauma hospitalization rates for children (<18 years) residing in Garfield County are the lowest among the four counties.	Garfield County's rates were the lowest among the four counties until 2005 for both adults and children, and remained the lowest for children through 2007.	Same as for inpatient visit rates.	Adult emergency room visits related to accident, injury or trauma increased from 2003 through 2005, then slightly decreased through 2007.	Emergency room visit data for Grand River Hospital District show increasing rates for Silt, Parachute/Battlement Mesa, and Rifle residents for the period 2004-2006.	Adult ER visit rates were stable throughout the period. Rates for children/young adults decreased between 2004 and 2005, then remained stable for the rest of the period.
Annual Physicals/Well Child Check-ups	Not applicable.	Not applicable.	Garfield County's rates are the lowest among the four counties. **Note: These are RMHP data for insured individuals!**	Not applicable.	Not applicable.	Not applicable.
Birthing, Pregnancy, GYN	Rates are consistently higher for Garfield County than for Delta, Mesa and Montrose Counties.	Garfield County residents had lower utilization rates than did residents of Delta, Mesa and Montrose Counties. *This is likely a reflection of the difference in utilization patterns of insured and uninsured populations.*	Same as for inpatient visits.	Same as for inpatient visits.	Data show an increase in birthing and pregnancy-related patient visits for 2005 through 2006 for Silt, Parachute/Battlement Mesa and Rifle residents.	Adult ER visit rates were stable over the period; ER visit rates for this category decreased among young adults. ER visits for conditions in the perinatal period increased through the time period.

Abbreviations: DRG = Diagnosis-Related Group; CHA = Colorado Hospital Association; RMHP = Rocky Mountain Health Plans; GRHD = Grand River Hospital District. *Data presented for Glenwood Springs zip code areas only.

DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007) Inpatient Hospital	Outpatient/Ambulatory	Emergency Room	GRHD ER (2004-2006)	Valley View ER* (2004-2006)
Circulation/Cardiac	Garfield County's rates are the lowest among the four counties.	Garfield County's rates are the lowest among the four counties for both adults and children. Rates show an increasing trend from 2003-2006.	Same as for inpatient visits.	Same as for inpatient visits.	Rates for Silt, Parachute/Battlement Mesa and Rifle residents show an increasing trend for the time period.	Adult ER visits for this category were stable over the period; child/young adult visits decreased.
Endocrine/Metabolic	Overall, Garfield County hospitalization rates for these disorders are not different than the rates for the other three counties. However, diabetes-related hospitalization rates for both adults and children in Garfield County are the lowest among the four counties.	Rates are consistent with the CHA data for both adults and children.	Same as for ER visits.	ER visit rates for these disorders are generally lower for both adult and child residents of Garfield County than for the other three counties; rates show a slight increasing trend over the time period.	Rates for Silt, Parachute/Battlement Mesa and Rifle residents show an increasing trend for the time period.	Adult ER visits decreased between 2004 and 2005, then remained stable for the remainder of the period. Child/young adult rates increased between 2004 and 2005, then decreased from 2005 through 2006.

Abbreviations: DRG = Diagnosis-Related Group; CHA = Colorado Hospital Association; RMHP = Rocky Mountain Health Plans; GRHD = Grand River Hospital District. *Data presented for Glenwood Springs zip code areas only.

DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007) Inpatient Hospital	RMHP (2000-2007) Outpatient/Ambulatory	RMHP (2000-2007) Emergency Room	GRHD ER (2004-2006)	Valley View ER* (2004-2006)
Ear, Nose, Throat, Respiratory	Garfield County has the highest rate for otitis media, upper respiratory infections, bronchitis, and asthma in children. *Asthma hospitalizations have been higher than in either Mesa or Delta Counties since 1993, but were lower than in Montrose County for the period, 1993-2001.* Garfield adult hospitalization rates for these conditions were lowest among the counties, as were the rates for COPD and other respiratory infections and inflammations for both adults and children. Exceptions are simple pneumonia and pleurisy in children, which, until 2005, were highest among the four counties.	Hospitalization rates for adult ENT and respiratory conditions were the lowest among the four counties for adults and similar to the other counties for children.	Garfield County outpatient/ambulatory visits for adults were the lowest among the four counties, but highest among the four counties for children. Garfield County rates decreased for both adults and children from 2005 through 2007.	Garfield County ER visit rates for adults were the lowest among the four counties and were stable over the 8-year period. Rates for children in Garfield County increase steadily from 2000-2003, but are similar to those for the other three counties.	ER visit rates for Silt, Parachute/Battlement Mesa, and Rifle residents are variable, but generally increasing over the time period.	Adult ER visits for otitis media increased between 2004 and 2005, then decreased from 2005 through 2006. Rates for respiratory conditions, in general, and asthma, specifically, were stable throughout the time period. Child/young adult ER visits for otitis media decreased steadily through the time period. Rates for respiratory conditions, overall, were stable, however asthma rates increased.

Abbreviations: DRG = Diagnosis-Related Group; CHA = Colorado Hospital Association; RMHP = Rocky Mountain Health Plans; GRHD = Grand River Hospital District. *Data presented for Glenwood Springs zip code areas only.

DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007) Inpatient Hospital	RMHP (2000-2007) Outpatient/Ambulatory	RMHP (2000-2007) Emergency Room	GRHD ER (2004-2006)	Valley View ER* (2004-2006)
Eye	No data for this category.	Garfield County's rates are the lowest among the four counties for both adults and children.	Same as for hospitalization rates.	Same as for hospitalization rates.	Rates for Silt increased sharply between 2004 and 2005; rate increases for Parachute and Rifle were more gradual for the same time period. Rifle's rates continued to increase through 2006, while Parachute and Silt showed decreasing rates.	Adult ER visits were low and stable throughout the period. Child/young adult rates showed a steady decrease over the time period.
Gastrointestinal/Urinary	Garfield County's rates are either the lowest among the four counties, or are similar to those of the other counties for this group of disorders.	Rates are consistent with the CHA data for both adults and children.	Rates are consistent with the CHA data for both adults and children.	ER visit rates for these disorders are lower for adults in Garfield County than for the other three counties, and also generally lower for children, but increasing over the time period.	Rates for Silt, Parachute/Battlement Mesa and Rifle residents show an increasing trend for the time period.	Adult ER visits for this category were stable throughout the period. Child/young adult visits increased between 2004 and 2005, then decreased between 2005 and 2006.
Infection	No data for this category.	Garfield County rates are similar to those for the other counties.	Garfield County outpatient/ambulatory visits for adults were the lowest among the four counties, but highest among the four counties for children during the time period 2000 through 2002.	ER rates for Garfield County adults were inconsistent, without a sustained trend in either direction, but similar to those for the other counties. Child ER visits for infection-related conditions were generally higher than other counties.	Rates for infection-related ER visits were variable over the time period, without consistent trends for the communities of Parachute/Battlement Mesa, Silt and Rifle.	Adult ER visits for infections decreased throughout the period, as did child/young adult visits.

DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007)			GRHD ER (2004-2006)	Valley View ER* (2004-2006)
		Inpatient Hospital	Outpatient/Ambulatory	Emergency Room		
Mental	Garfield County's rates are the lowest among the four counties.	Garfield County rates are lower than for the other counties and steadily decreasing over the time period.	Same as for hospitalization rates.	Same as for hospitalization rates.	Rates for Rifle and Silt show a gradual increase; rates for Parachute/Battlement Mesa increased steeply between 2005 and 2006.	Overall adult ER visit rates decreased between 2004 and 2005, then increased to 2004 levels between 2005 and 2006. Drug/alcohol-related visits showed a steady increase over the period. The same pattern was seen for children and young adults.
Musculoskeletal	Garfield County's rates are the lowest among the four counties.	Rates are consistent with the CHA data for both adults and children.	Same as for inpatient visits.	Same as for inpatient visits.	No data for this category.	Adult ER visits were stable over the time period, as were child/young adult visits.
Nervous System	Overall, Garfield hospitalization rates for these disorders are lower than for the other counties. For the subcategory of seizure and headache, rates for children in Garfield County have increased since 2004, while decreasing in adults.	Rates are consistent with the CHA data for both adults and children.	Rates are consistent with the CHA data for both adults and children.	Garfield County ER visit rates, overall, were the lowest among the four counties.	Rates for Silt, Parachute/Battlement Mesa and Rifle residents show an increasing trend for the time period.	Adult ER visits, including those related to headaches or migraines, were stable over the period. Child/young adult visits overall increased between 2004 and 2005, then decreased through 2006. Visits related to headaches or migraines increased.

DRG Category	CHA data (2000-1st Q 2007)	RMHP (2000-2007) Inpatient Hospital	RMHP (2000-2007) Outpatient/Ambulatory	RMHP (2000-2007) Emergency Room	GRHD ER (2004-2006)	Valley View ER* (2004-2006)
Pancreas/Liver	Rates for these conditions for Delta County were consistently the highest among the four counties. Garfield County's rates were not different from those of Mesa and Montrose Counties.	No data for this category.	No data for this category.	No data for this category.	No data for this category.	Included with "Gastrointestinal/urinary" category.
Red Cell/Clotting	Garfield County's rates steadily decreased from 2001through 2006.	No data for this category.	No data for this category.	No data for this category.	No data for this category.	Adult ER rates increased between 2004 and 2005/ Child/young adult rates were stable through 2005, then decreased through 2006.
Skin/Allergy	Rates for these conditions for Delta County were consistently the highest among the four counties. Garfield County's rates were not different from those of Mesa and Montrose Counties.	Garfield County's rates are the lowest among the counties, showing periods of moderate rate decrease (2001-2003) and increase (2003-2005).	Garfield County's rates are the lowest among the four counties, increasing slightly from 2003 to 2004, then decreasing from 2005 through 2007.	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period, except for an increase between 2003 and 2004, decreasing to previous rates in 2006. (Rates for children in Garfield County decreased steadily from 2005 through 2007.)	Rates for Silt, Parachute/Battlement Mesa and Rifle residents show an increasing trend for the time period.	Adult ER rates were stable. Child/young adult rates decreased through the period.

Table 29. Inpatient Hospital Admissions Data

DRG Category	RMHP Member Data: 2000-2007*	
	Adult (≥18 years)	Child (<18 years)
Accident, Injury & Trauma	Garfield County's rates are the lowest among the counties until 2005, when the rates rise to become higher than those for Montrose County (but still lower than for Delta or Mesa Counties. Garfield County rates remain stable through 2007.	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year period.
Cardiac	Garfield County's rates are the lowest among the counties, slightly increasing from 2004 to 2006.	
Ear, Nose & Throat	Garfield County's rates are the lowest among the counties, slightly decreasing from 2001 through 2006	Garfield County's rates are similar to those of Delta and Montrose Counties for most of the time period, increasing in 2001, then decreasing through 2007.
Endocrine	Garfield County's rates are generally the lowest among the counties, and remain relatively stable.	Garfield County's rates are relatively stable and lower than those of the other counties, with the exception of being higher than Delta County's rates in 2002, 2003, and 2006.
Eye	Garfield County's rates are the lowest among the counties, and are stable across the time period.	
Gastrointestinal & Urinary	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year time period.	Garfield County's rates have increased during the 8-year time period, but are generally lower than those of the other counties
Infection	Garfield County's rates were highly variable over	Garfield County's rates peaked in 2003, dropping

	the 8-year time period, as were those for the other counties.	steadily through 2006, the rising again in 2007. These rates were generally similar to those of the other counties.
Mental Health	With the exception of 2000 and 2001, Garfield County's rates were lower than those for the other counties, and decreased steadily from 2001 to 2007.	Garfield County's rates were lower or the same as rates for the other counties throughout the 8-year time period. There was a spike in rates during 2004.
Musculoskeletal	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year time period.	Garfield County's rates are low and similar to those of the other counties, with the exception of Montrose County, which had a spike in rates for 2005, then dropping to return to the low rates of the other counties by 2007.
Neurological	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year time period.	
Pregnancy/Gynecological	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year time period, with a moderate increase from 2002 to through 2004, dropping again in 2005.	
Respiratory Condition	Garfield County's rates are the lowest among the counties, and are relatively stable across the 8-year time period, following an increase from 2000 to 2001.	Garfield County's rates increased steadily from 2000 through 2002, remaining stable through 2005, and then decreasing steadily through 2007. These rates are generally similar to those for the other counties, and follow the same trends.
Skin/Allergy	Garfield County's rates are the lowest among the counties, showing periods of moderate rate decrease (2001-2003) and increase (2003-2005).	

Table 30. Outpatient Hospital Visits or Lab Work

DRG Category	RMHP Member Data: 2000-2007*	
	Adult (≥18 years)	Child (<18 years)
Accident, Injury & Trauma	Garfield County's rates are the lowest among the comparison counties until 2005, when there was an an increase in rates, making Garfield County's rates higher than those of Montrose County, but still lower than those for Delta and Mesa Counties. All of the counties showed a decrease in rates between 2006 and 2007 except Garfield County, whose rates remained stable.	Garfield County's rates were among the lowest for the four counties, remaining essentially stable over the 8-year period.
Annual Physical Well Check-ups (child)	Garfield County's rates are the lowest among the four counties for annual physical usage. **NOTE: This rate is for an insured population, for which annual physicals are provided.**	Garfield County's rates were the lowest among the four counties for annual physical usage. **NOTE: This rate is for an insured population, for which well check-ups are provided.**
Cardiac	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	
Ear, Nose & Throat	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	Garfield County's rates tend to fall in the middle of the rates for the four comparison counties, increasing between 2000 and 2001, then increasing through 2007.
Endocrine	With the exception of 2001, Garfield County's rates are the lowest among the four counties, and are generally stable throughout the 8-year period.	Garfield County's rates increased from 2001 through 2003, during which time they were higher than those for Delta County but lower than those for Mesa and Montrose Counties. After 2003, Garfield County's rates were stable through 2006, dropping in 2007, and are lower than the other counties for Garfield County's rates increased from 2001 through 2003, below Garfield rates for 2006 only.

Eye	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	Garfield County's rates are the lowest among the four counties, and show a downward trend from 2005 through 2007.
Gastrointestinal & Urinary	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	From 2001 until 2003, Garfield County's rates are lower than those for the other counties. After 2003, the rates are higher and more similar to those for Delta and Montrose Counties (Mesa County's rates are higher). Rates increase sharply in 2007 for Garfield and Delta Counties, decreasing for Mesa and Montrose Counties.
Infection	Garfield County rates are generally in the middle of the rates for the four counties, and are relatively stable except for an increase in 2001 and a decrease in 2006.	Garfield County's rates increased steeply between 2000 and 2001, remaining high (relative to the other counties) through 2002, then decreasing through 2006. In 2007, Garfield County's rate was again higher than that for the other counties.
Mental Health	With the exception of a spike in 2001, Garfield County's rates are lower than those for the other counties, and steadily decreased through 2007.	Garfield County's rates are generally lower than those for the other counties. Rates increase between 2000 and 2001, again between 2003 and 2004, decrease through 2006, and turn upward slightly in 2007.
Musculoskeletal	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	With the exception of steep increase in Montrose County rates in 2005 (followed by a steep downward trend through 2007), rates for all counties are low.
Neurological	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	
Pregnancy/Gynecological	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	With the exception of a steep increase in rates for Montrose County in 2007, rates for all counties are low.

Respiratory Condition	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	Rates for Garfield County are among the highest for the four counties (rates for Montrose County are generally higher). Rates increase from 2000 through 2002, then decrease from 2006 through 2007.
Skin/Allergy	Garfield County's rates are the lowest among the four counties, increasing slightly from 2003 to 2004, then decreasing from 2005 through 2007.	Garfield County's rates are generally the lowest among the four counties, increasing from 2003 to 2004, then decreasing from 2005 through 2007.

Table 31. Ambulatory Office Visits

DRG Category	RMHP Member Data: 2000-2007* Adult (≥18 years)	Child (<18 years)
Accident, Injury & Trauma	Until 2005, Garfield County's rates are the lowest among the four counties. An increase in rates between 2004 and 2005 puts Garfield County's rates higher than those for Montrose County, but lower than Delta and Mesa Counties, for 2006 through 2007. Garfield County's rates for 2005 through 2007 are stable, while the other counties show decreasing rates for the same period.	Garfield County's rates go up and down during the 8-year period, but are still generally lower than those for the other four counties.
Annual Physical Well Check-ups (child)	Garfield County's rates are the lowest among the four counties for annual physical usage. **NOTE: This rate is for an insured population, for which annual physicals are provided.**	Garfield County's rates were the lowest among the four counties for annual physical usage. **NOTE: This rate is for an insured population, for which well check-ups are provided.**
Cardiac	Garfield County's rates are the lowest among the four counties for the entire 8-year period, despite a gradual increase in rates from 2004 through 2006.	
Ear, Nose & Throat	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	Garfield County's rates generally fall in the middle among the four counties, increasing between 2000 and 2001, then generally decreasing for the remainder of the time period.
Endocrine	With the exception of 2001, when Delta County's rates are lower, Garfield County's rates are the lowest among the four counties for the 8-year time period.	Garfield County's rates are higher than those of Delta County for 2000 through 2003 and again in 2006. Otherwise, Garfield County's rates are the lowest among the four counties.
Eye	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	Garfield County's rates are the lowest among the four counties, with decreasing trends from 2005 through 2007.
Gastrointestinal & Urinary	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year	Garfield County's rates are generally lower or similar to those of the other counties, increasing between 2003 and 2004, and

	period.	again between 2006 and 2007.
Infection	Garfield County's rates are highly variable over the 8-year time period, remaining in the middle of those for the other counties for every year except 2006. In 2006, Garfield Counties rates are lower than those for the other counties.	Garfield County's rates increased sharply between 2000 and 2001, making them the highest among the counties for 2001 and 2002. Between 2002 and 2006, rates decreased continuously, putting Garfield County in the middle of the other counties. In 2007, rates again increased, making Garfield County the highest among the four counties.
Mental Health	Garfield County rates increased between 2000 and 2001, then decreased steadily through 2007. After 2002, Garfield County's rates are the lowest among the four counties.	Garfield County rates increased between 2000 and 2001 and again in 2004, then decreased between 2004 and 2006, increasing slightly in 2007. Over the 8-year time period, Garfield County rates are either lower than or similar to the rates for the other counties. Mesa County has the highest rates for the entire period.
Musculoskeletal	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	With the exception of Montrose County's rates for 2005 through 2006, rates for all counties are low and essentially similar. Montrose County's rates rose steeply between 2004 and 2005, then decreased through 2007.
Neurological	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period.	
Pregnancy/Gynecological	Garfield County's rates are the lowest among the four counties, increasing gradually through 2004, decreasing from 2004 through 2005, and increasing again in 2007.	With the exception of a spike in Montrose County's rates for 2007, all counties have low rates over the 8-year time period.
Respiratory Condition	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period, except for an increase between 2000 and 2001.	Garfield County's rates increase from 2000 to 2002, remain stable through 2005, then decrease steadily through 2007. These rates are generally in the middle of the rates for the four counties.

Skin/Allergy	Garfield County's rates are the lowest among the four counties, and were generally stable throughout the 8-year period, except for an increase between 2003 and 2004, decreasing to previous rates in 2006.	Garfield County's rates are the lowest among the four counties except for 2001, when Delta County's rates were lower. Garfield County's rates increased between 2003 and 2004, decreasing steadily from 2005 through 2007.

Careflight Data

One other measure of traumatic injury rates (and potentially of serious work-related injuries), is statistical information from St. Mary's Hospital "Careflight" emergency flight ambulance service. Complete data sets are available in Appendix S.

Figure 91 shows emergency service for residents of the four counties for all types of emergencies. Figure 92 shows emergency calls to drill rigs in two counties, Garfield and Rio Blanco, both of which have seen a significant increase in natural gas activity over the past four years.

These numbers give a comparison of worker-related, serious injuries between the two counties.

Figure 91. *CareFlights*: Rates by County

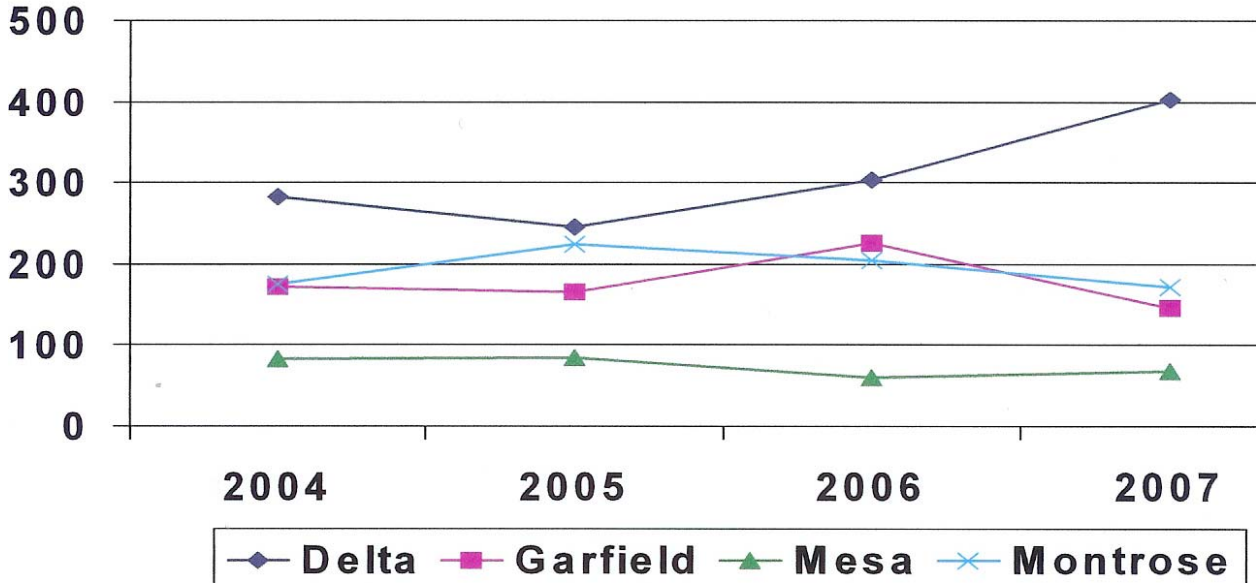
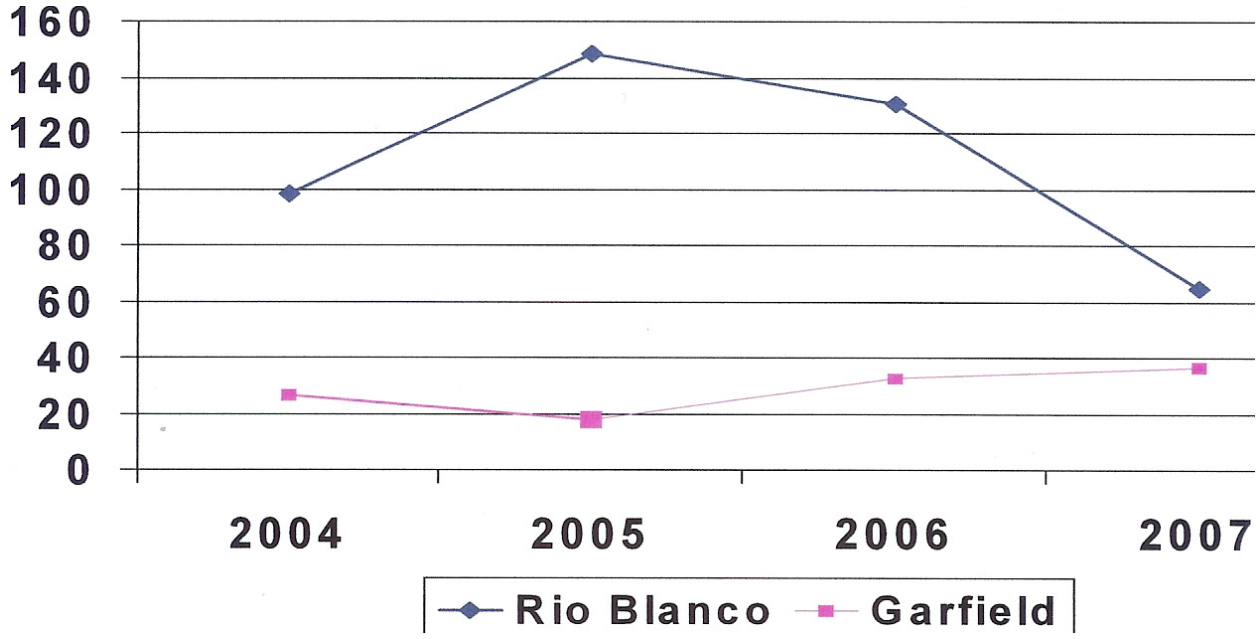



Figure 92. *CareFlights*: Rates of Drill Rig Flights