

Prenatal and Infant Health

Each year more than 4 million families in the United States bring home a healthy baby who has all the potential for a full and productive life.

But one family in 100 will suffer the loss of their child soon after birth. Why are some 40,000 babies dying each year, and even more suffering from conditions of morbidity? Babies being born too small or too early cause more than three-quarters of infant deaths. The occurrence of this mortality and morbidity is highly correlated with size at birth and length of gestation. (IA STATS)

Low birth weight results in significant loss of life; surviving infants often sustain residual injuries that involve the central nervous system, and there is a substantial financial cost involved in caring for these infants. Certain factors have proven to increase the likelihood of delivering a low birth weight infant:

1. Cigarette smoking during pregnancy
2. Substance abuse immediately prior to conception and during pregnancy (including alcohol abuse)
3. Teen pregnancies

Birth defects rank as the leading cause of mortality in full-term newborn babies in the US. Iowa's overall birth defect rate is approximately 5%. Currently, Iowa is one of only seven states with an active surveillance program. The Iowa Birth Defects Registry monitors the types and frequency of birth defects within the state of Iowa. Information is collected directly from medical records in hospitals and clinics as compared to passive surveillance where information is collected only from birth and death certificates. The state of Iowa has taken a leadership role in birth defects surveillance and has served as a model to other states as they establish similar programs.

Interventions need to focus on providing perinatal health care to at-risk women. This involves preconceptional counseling, early and consistent prenatal care, and substance abuse treatment that keeps the family unit intact.

HIGHLIGHTS...

- Babies being born too small or too early cause more than three-quarters of infant deaths.
- Low birth weight results in significant loss of life.
- Birth defects rank as the leading cause of mortality in full-term newborn babies in the United States.

Live Births 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	111,452	13.0

	County	Number	Crude ¹	County	Number	Crude ¹
Counties with Average Population <10,000	Adair	215	8.8	Lucas	307	11.2
	Adams	130	9.8	Monroe	272	11.3
	Audubon	222	10.9	Osceola	229	10.9
	Clarke	289	11.7	Pocahontas	230	8.7
	Davis	323	12.7	Ringgold	181	11.3
	Decatur	280	11.3	Taylor	211	9.9
	Fremont	281	12.1	Van Buren	271	11.5
	Howard	353	12.2	Wayne	188	9.4
	Ida	269	11.3	Worth	241	10.4
	<u>Group Totals</u>					
Number:	4,492					
Crude:	10.9					

	County	Number	Crude	County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	523	12.4	Henry	737	12.3
	Appanoose	452	11.2	Humboldt	365	11.8
	Buena Vista	749	12.8	Iowa	508	10.9
	Butler	481	10.3	Jefferson	491	9.7
	Calhoun	314	9.2	Jones	592	9.8
	Cass	459	10.5	Keokuk	394	11.5
	Cedar	564	10.4	Kossuth	509	9.6
	Cherokee	407	10.3	Louisa	527	14.7
	Chickasaw	421	10.5	Lyon	440	12.2
	Clay	571	10.9	Madison	521	12.5
	Clayton	595	10.6	Mills	509	11.7
	Crawford	609	12.3	Mitchell	389	11.7
	Delaware	651	11.7	Monona	323	10.7
	Dickinson	517	10.7	Montgomery	410	11.6
	Emmet	368	11.3	O'Brien	532	12.0
	Floyd	597	12.2	Page	557	10.8
	Franklin	362	11.1	Palo Alto	333	11.1
	Greene	345	11.4	Poweshiek	563	10.0
	Grundy	368	10.0	Sac	370	10.4
	Guthrie	389	11.3	Shelby	423	10.9
Hamilton	634	13.2	Tama	710	13.3	
Hancock	389	10.8	Union	432	11.5	
Hardin	630	11.5	Winnebago	383	10.6	
Harrison	524	11.4	Wright	466	11.1	

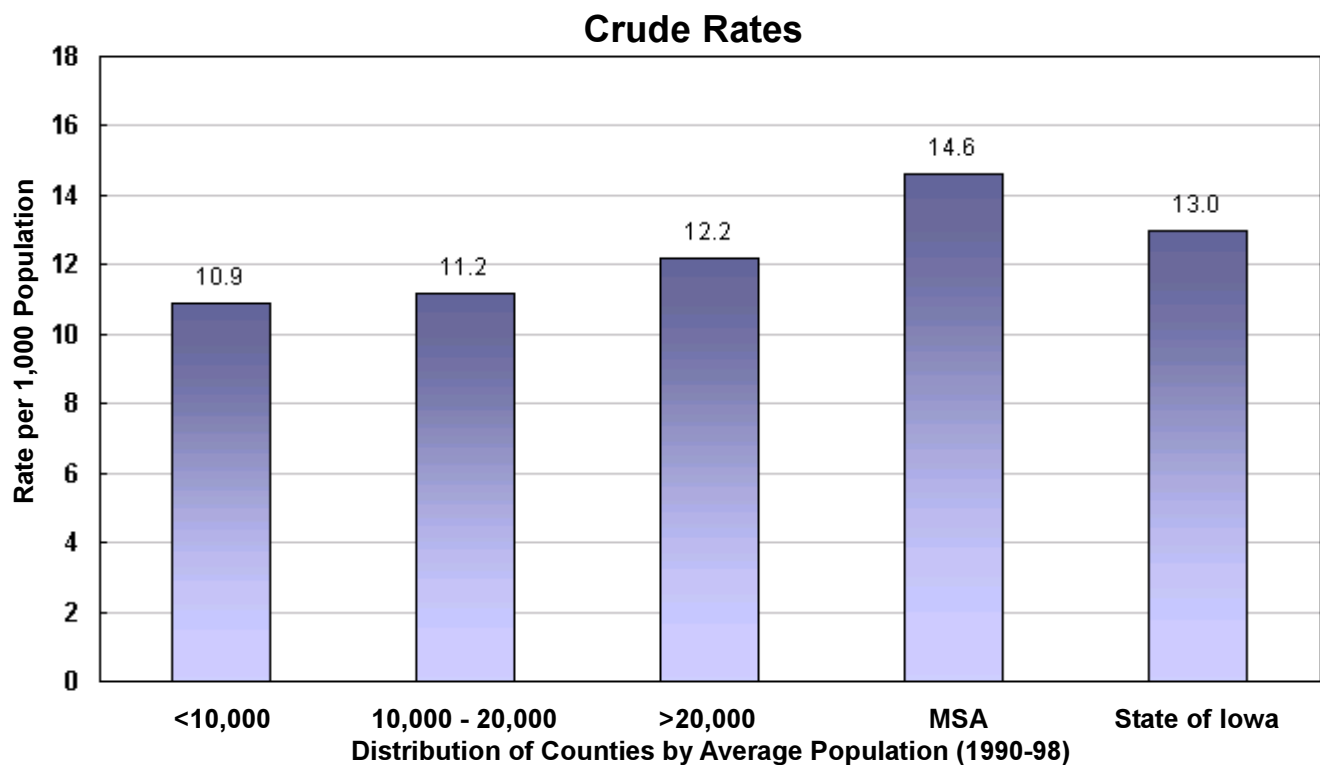
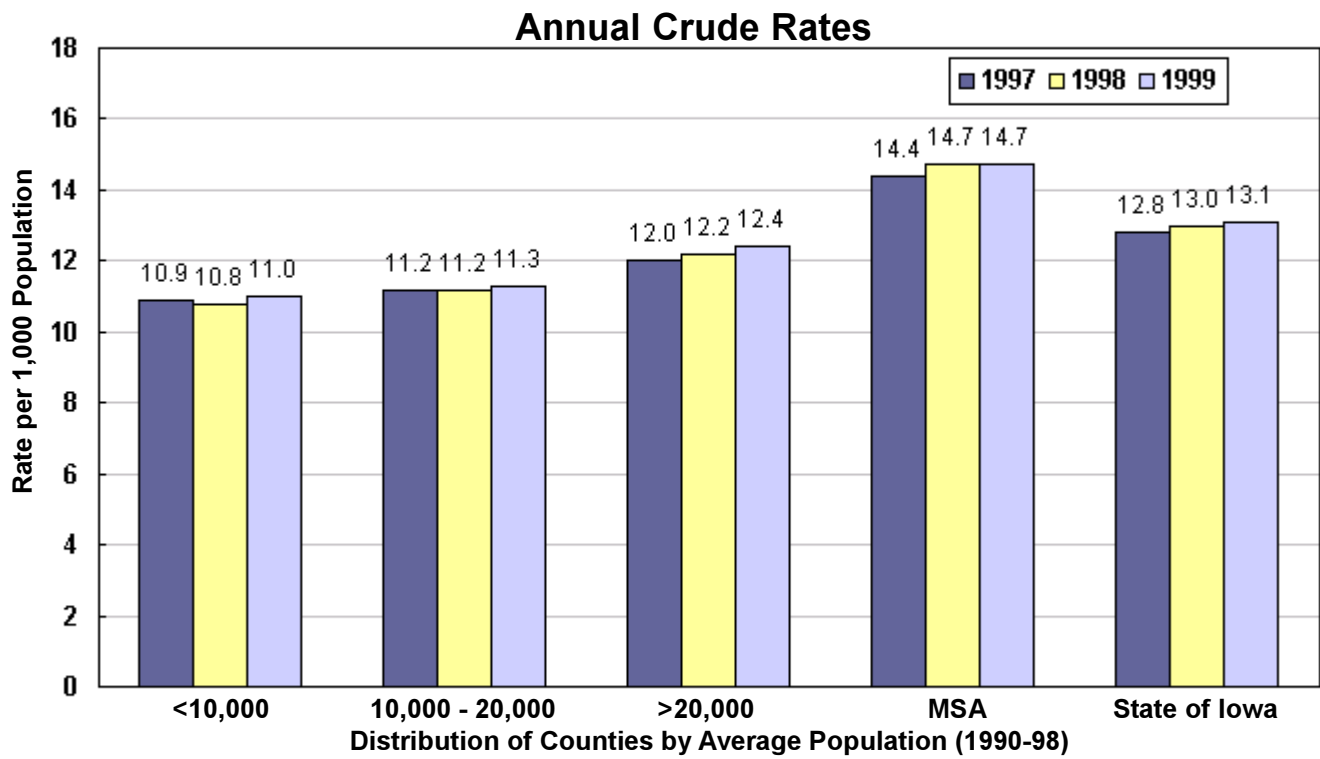
	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000	Benton	871	11.4	Mahaska	844	12.9
	Boone	902	11.5	Marion	1,168	12.4
	Bremer	665	9.5	Marshall	1,556	13.4
	Buchanan	891	14.0	Muscatine	1,803	14.6
	Carroll	736	11.4	Plymouth	923	12.5
	Cerro Gordo	1,601	11.6	Sioux	1,210	12.9
	Clinton	1,935	12.9	Story	2,591	11.5
	Des Moines	1,583	12.6	Wapello	1,211	11.4
	Fayette	725	11.1	Washington	844	13.4
	Jackson	716	11.9	Webster	1,531	13.1
	Jasper	1,313	12.0	Winneshek	594	9.5
	Lee	1,361	11.8			

	County	Number	Crude	County	Number	Crude
MSA Counties	Black Hawk	4,818	13.3	Polk	17,537	16.2
	Dallas	1,513	13.6	Pottawattamie	3,561	13.8
	Dubuque	3,449	13.1	Scott	6,778	14.3
	Johnson	3,881	12.6	Warren	1,500	12.4
	Linn	7,964	14.5	Woodbury	4,982	16.3
	<u>Group Totals</u>					
Number:	55,983					
Crude:	14.6					

¹Rates per 1,000 population

Source: Iowa Department of Public Health, Vital Statistics

Live Births 1997-1999



Out-of-Wedlock Births 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	30,070	269.8

	County			County		
	Number	Crude ¹		Number	Crude ¹	
Counties with Average Population <10,000	Adair	51	237.2	Lucas	77	250.8
	Adams	30	230.8	Monroe	61	224.3
	Audubon	37	166.7	Osceola	45	196.5
	Clarke	85	294.1	Pocahontas	56	243.5
	Davis	39	120.7	Ringgold	35	193.4
	Decatur	96	342.9	Taylor	44	208.5
	Fremont	80	284.7	Van Buren	63	232.5
	Howard	73	206.8	Wayne	40	212.8
	Ida	42	156.1	Worth	55	228.2
	<u>Group Totals</u>					
Number:	1,009					
Crude:	224.6					

	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population 10,000 to 20,000	Allamakee	120	229.4	Henry	199	270.0
	Appanoose	146	323.0	Humboldt	81	221.9
	Buena Vista	217	289.7	Iowa	90	177.2
	Butler	96	199.6	Jefferson	115	234.2
	Calhoun	71	226.1	Jones	142	239.9
	Cass	124	270.2	Keokuk	77	195.4
	Cedar	94	166.7	Kossuth	97	190.6
	Cherokee	119	292.4	Louisa	150	284.6
	Chickasaw	102	242.3	Lyon	55	125.0
	Clay	149	260.9	Madison	102	195.8
	Clayton	134	225.2	Mills	131	257.4
	Crawford	171	280.8	Mitchell	73	187.7
	Delaware	132	202.8	Monona	85	263.2
	Dickinson	133	257.3	Montgomery	148	361.0
	Emmet	112	304.3	O'Brien	95	178.6
	Floyd	153	256.3	Page	163	292.6
	Franklin	94	259.7	Palo Alto	87	261.3
	Greene	86	249.3	Poweshiek	144	255.8
	Grundy	54	146.7	Sac	93	251.4
	Guthrie	83	213.4	Shelby	84	198.6
Hamilton	176	277.6	Tama	236	332.4	
Hancock	90	231.4	Union	112	259.3	
Hardin	161	255.6	Winnebago	94	245.4	
Harrison	117	223.3	Wright	101	216.7	

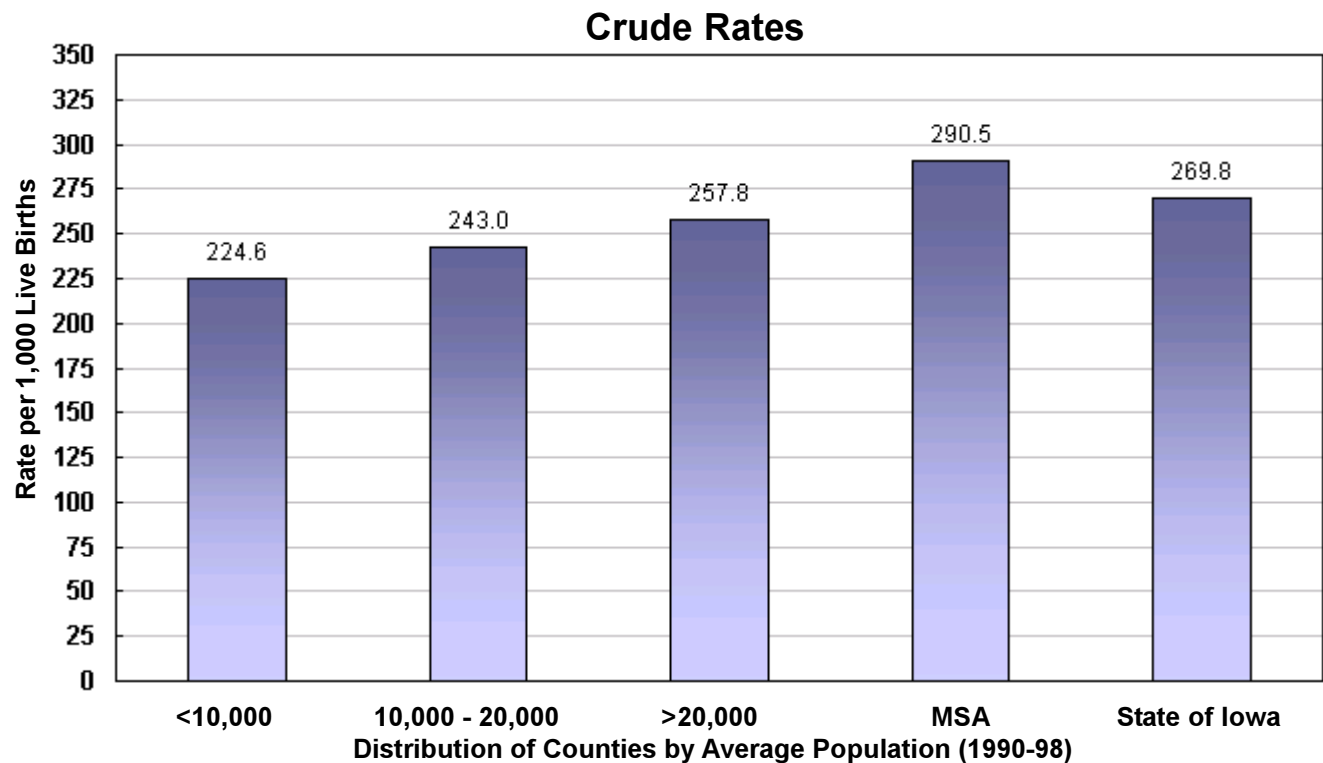
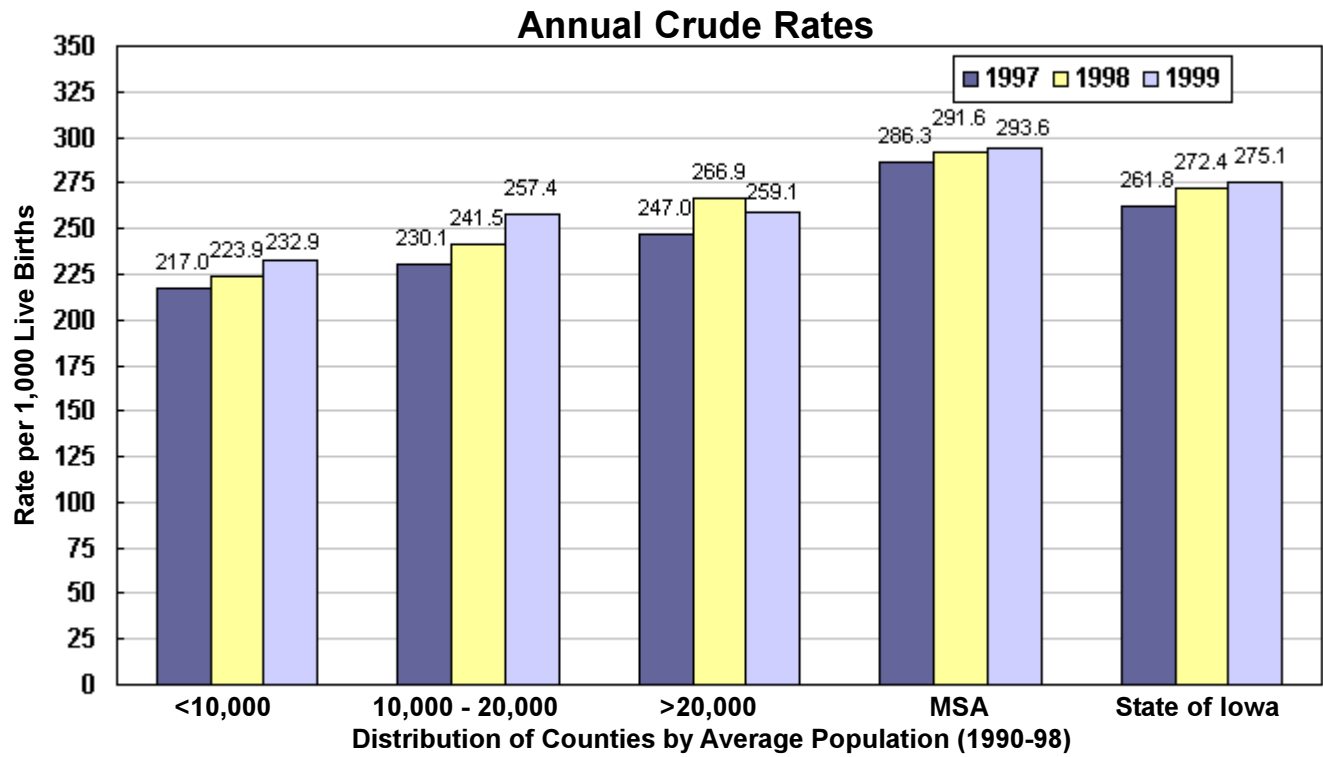
	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population >20,000	Benton	150	172.2	Mahaska	197	233.4
	Boone	201	222.8	Marion	214	183.2
	Bremer	120	180.5	Marshall	469	301.4
	Buchanan	194	217.7	Muscatine	577	320.0
	Carroll	157	213.3	Plymouth	202	218.9
	Cerro Gordo	496	309.8	Sioux	133	109.9
	Clinton	672	347.3	Story	347	133.9
	Des Moines	575	363.2	Wapello	386	318.7
	Fayette	191	263.4	Washington	132	156.4
	Jackson	195	272.3	Webster	563	367.7
	Jasper	303	230.8	Winneshek	106	178.5
	Lee	528	388.0			

	County			County		
	Number	Crude		Number	Crude	
MSA Counties	Black Hawk	1,749	363.0	Polk	4,798	273.6
	Dallas	336	222.1	Pottawattamie	1,310	367.9
	Dubuque	833	241.5	Scott	2,447	361.0
	Johnson	666	171.6	Warren	327	218.0
	Linn	1,977	248.2	Woodbury	1,822	365.7
<u>Group Totals</u>						
Number:	16,265					
Crude:	290.5					

¹Rates per 1,000 live births

Source: Iowa Department of Public Health, Vital Statistics

Out-of-Wedlock Births 1997-1999



Mothers Under Age 20 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	11,853	106.4

	County			County		
	Number	Crude ¹		Number	Crude ¹	
Counties with Average Population <10,000	Adair	23	107.0	Lucas	31	101.0
	Adams	14	107.7	Monroe	31	114.0
	Audubon	17	76.6	Osceola	22	96.1
	Clarke	45	155.7	Pocahontas	25	108.7
	Davis	22	68.1	Ringgold	21	116.0
	Decatur	58	207.1	Taylor	26	123.2
	Fremont	37	131.7	Van Buren	43	158.7
	Howard	37	104.8	Wayne	29	154.3
	Ida	20	74.3	Worth	28	116.2
	Group Totals					
Number:	529					
Crude:	117.8					

	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population 10,000 to 20,000	Allamakee	55	105.2	Henry	83	112.5
	Appanoose	63	139.4	Humboldt	32	87.7
	Buena Vista	99	132.2	Iowa	34	66.9
	Butler	39	81.1	Jefferson	56	114.1
	Calhoun	29	92.4	Jones	67	113.2
	Cass	57	124.2	Keokuk	34	86.3
	Cedar	33	58.5	Kossuth	44	86.4
	Cherokee	46	113.0	Louisa	77	146.1
	Chickasaw	35	83.1	Lyon	36	81.8
	Clay	64	112.1	Madison	36	69.1
	Clayton	42	70.6	Mills	39	76.6
	Crawford	46	75.5	Mitchell	33	84.8
	Delaware	64	98.3	Monona	36	111.5
	Dickinson	49	94.8	Montgomery	50	122.0
	Emmet	60	163.0	O'Brien	52	97.7
	Floyd	64	107.2	Page	74	132.9
	Franklin	55	151.9	Palo Alto	32	96.1
	Greene	44	127.5	Poweshiek	67	119.0
	Grundy	21	57.1	Sac	41	110.8
	Guthrie	28	72.0	Shelby	27	63.8
Hamilton	80	126.2	Tama	106	149.3	
Hancock	37	95.1	Union	45	104.2	
Hardin	93	147.6	Winnebago	41	107.0	
Harrison	52	99.2	Wright	48	103.0	
Group Totals						
Number:	2,445					
Crude:	104.5					

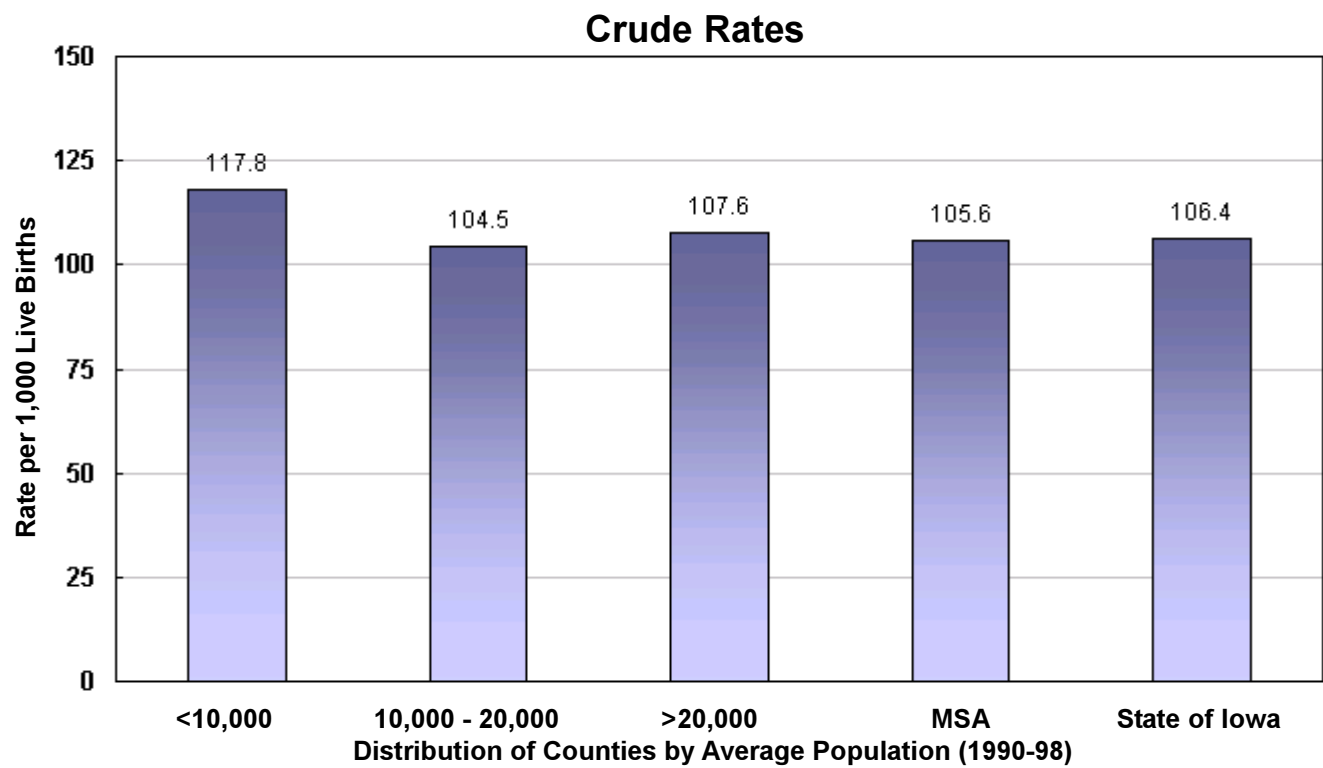
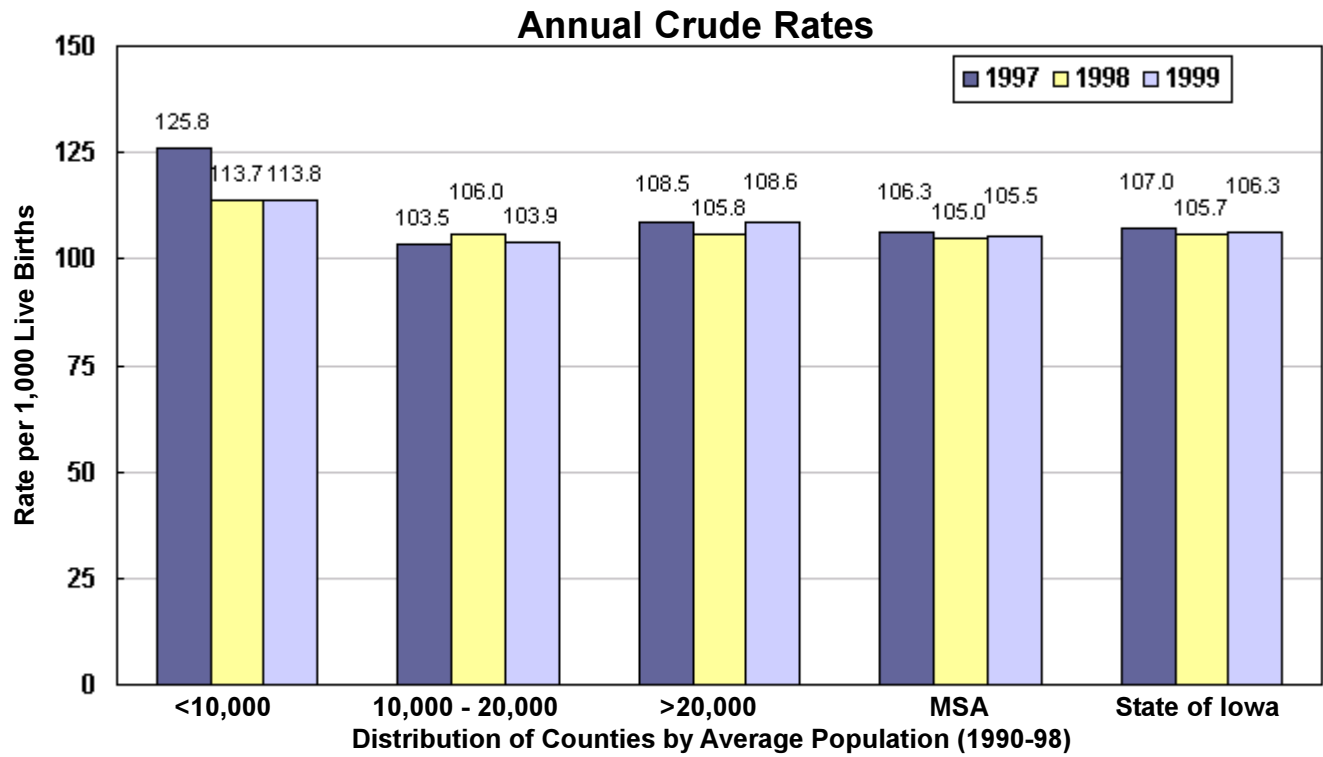
	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population >20,000	Benton	51	58.6	Mahaska	95	112.6
	Boone	80	88.7	Marion	116	99.3
	Bremer	60	90.2	Marshall	212	136.2
	Buchanan	71	79.7	Muscatine	308	170.8
	Carroll	46	62.5	Plymouth	81	87.8
	Cerro Gordo	151	94.3	Sioux	85	70.2
	Clinton	273	141.1	Story	141	54.4
	Des Moines	249	157.3	Wapello	163	134.6
	Fayette	79	109.0	Washington	55	65.2
	Jackson	69	96.4	Webster	205	133.9
	Jasper	130	99.0	Winneshek	39	65.7
	Lee	208	152.8			
	Group Totals					
Number:	2,967					
Crude:	107.6					

	County			County		
	Number	Crude		Number	Crude	
MSA Counties	Black Hawk	606	125.8	Polk	1,759	100.3
	Dallas	143	94.5	Pottawattamie	501	140.7
	Dubuque	312	90.5	Scott	907	133.8
	Johnson	176	45.3	Warren	135	90.0
	Linn	653	82.0	Woodbury	720	144.5
Group Totals						
Number:	5,912					
Crude:	105.6					

¹Rates per 1,000 live births

Source: Iowa Department of Public Health, Vital Statistics

Mothers Under Age 20 1997-1999



Low Birth Weight (< 2500 Grams) 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	7,056	63.3

	County			County		
	Number	Crude ¹	County	Number	Crude ¹	
Counties with Average Population <10,000	Adair	12	55.8	Lucas	20	65.1
	Adams	8	61.5	Monroe	18	66.2
	Audubon	16	72.1	Osceola	14	61.1
	Clarke	25	86.5	Pocahontas	11	47.8
	Davis	16	49.5	Ringgold	16	88.4
	Decatur	14	50.0	Taylor	12	56.9
	Fremont	16	56.9	Van Buren	15	55.4
	Howard	25	70.8	Wayne	13	69.1
	Ida	18	66.9	Worth	18	74.7
	Group Totals					
Number:	287					
Crude:	63.9					

	County			County		
	Number	Crude	County	Number	Crude	
Counties with Average Population 10,000 to 20,000	Allamakee	27	51.6	Henry	48	65.1
	Appanoose	34	75.2	Humboldt	13	35.6
	Buena Vista	49	65.4	Iowa	34	66.9
	Butler	28	58.2	Jefferson	31	63.1
	Calhoun	23	73.2	Jones	38	64.2
	Cass	32	69.7	Keokuk	22	55.8
	Cedar	26	46.1	Kossuth	39	76.6
	Cherokee	19	46.7	Louisa	27	51.2
	Chickasaw	26	61.8	Lyon	29	65.9
	Clay	37	64.8	Madison	34	65.3
	Clayton	34	57.1	Mills	41	80.6
	Crawford	42	69.0	Mitchell	16	41.1
	Delaware	34	52.2	Monona	12	37.2
	Dickinson	34	65.8	Montgomery	35	85.4
	Emmet	20	54.3	O'Brien	18	33.8
	Floyd	35	58.6	Page	36	64.6
	Franklin	21	58.0	Palo Alto	19	57.1
	Greene	20	58.0	Poweshiek	24	42.6
	Grundy	23	62.5	Sac	24	64.9
	Guthrie	22	56.6	Shelby	25	59.1
Hamilton	40	63.1	Tama	40	56.3	
Hancock	27	69.4	Union	36	83.3	
Hardin	45	71.4	Winnebago	27	70.5	
Harrison	33	63.0	Wright	33	70.8	
Group Totals						
Number:	1,432					
Crude:	61.2					

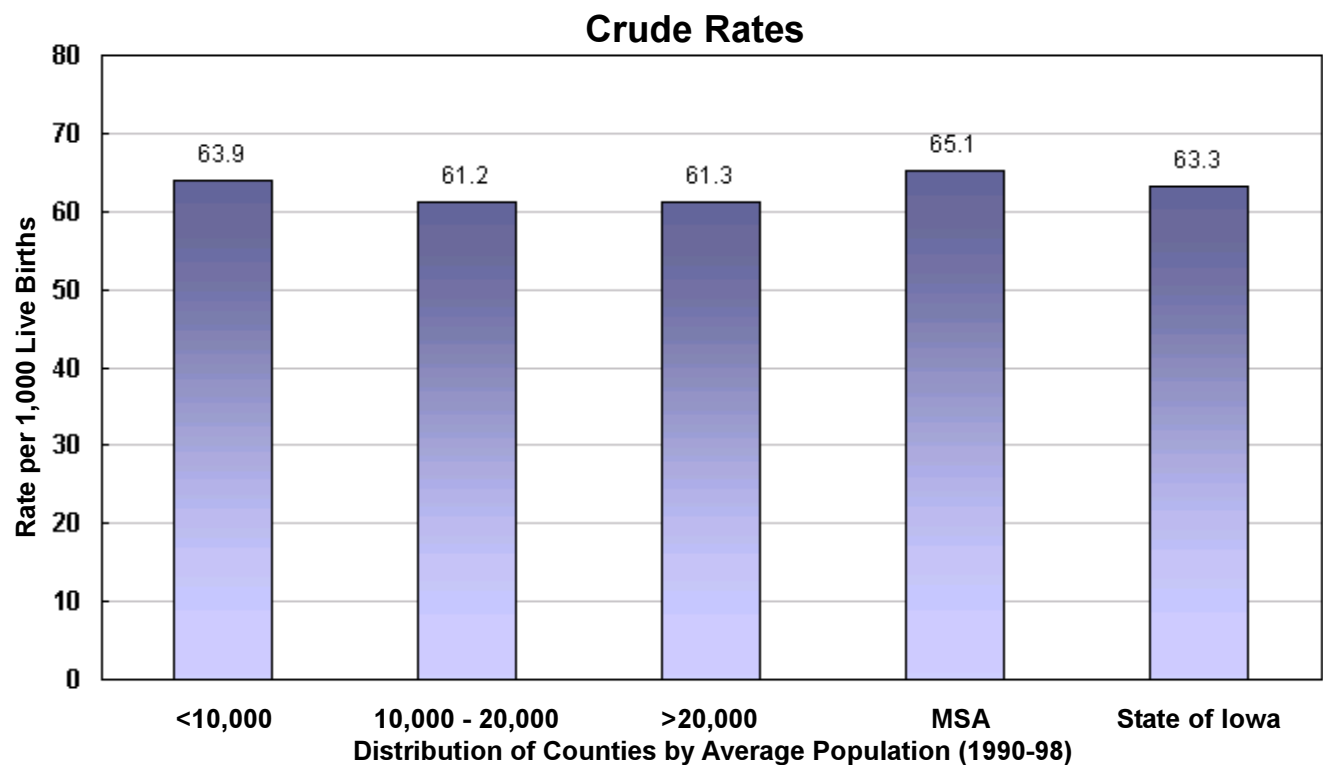
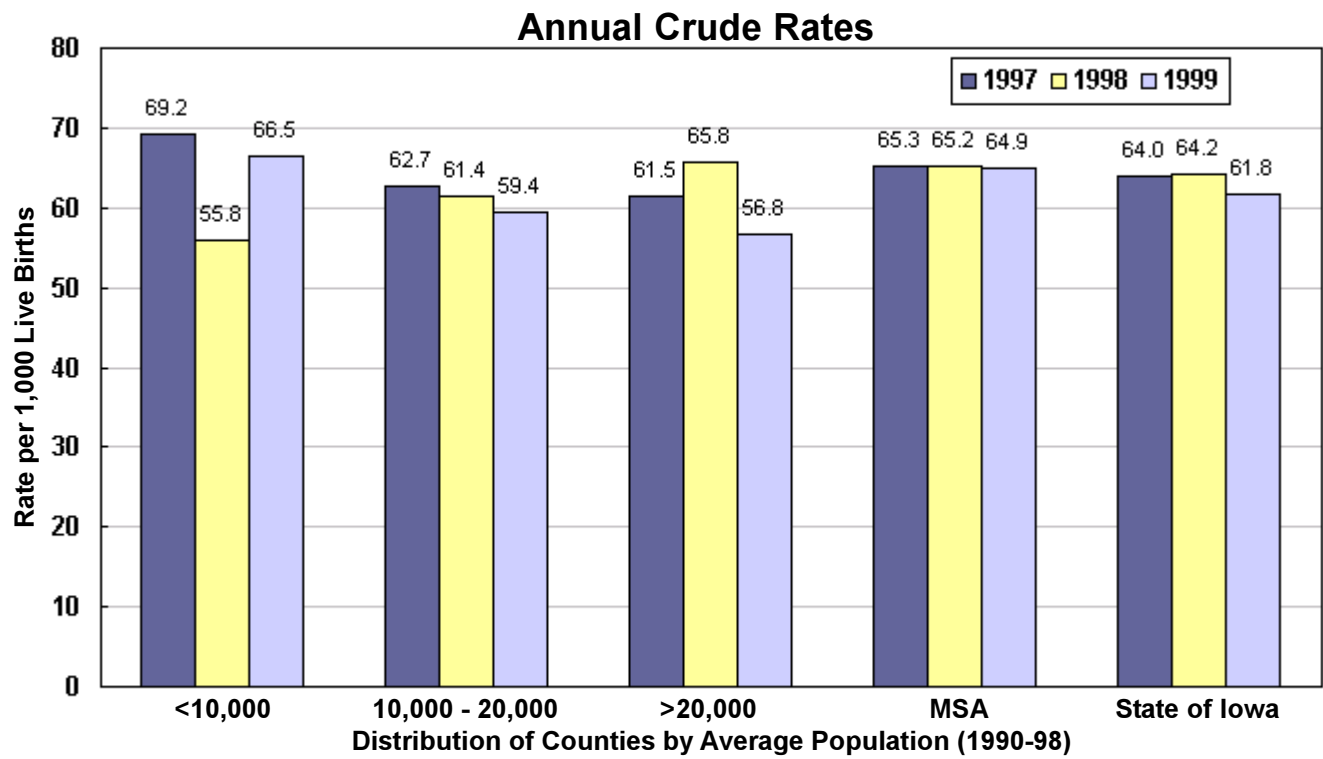
	County			County		
	Number	Crude	County	Number	Crude	
Counties with Average Population >20,000	Benton	56	64.3	Mahaska	44	52.1
	Boone	66	73.2	Marion	61	52.2
	Bremer	34	51.1	Marshall	81	52.1
	Buchanan	64	71.8	Muscatine	99	54.9
	Carroll	57	77.4	Plymouth	46	49.8
	Cerro Gordo	106	66.2	Sioux	60	49.6
	Clinton	129	66.7	Story	163	62.9
	Des Moines	95	60.0	Wapello	88	72.7
	Fayette	41	56.6	Washington	52	61.6
	Jackson	33	46.1	Webster	115	75.1
	Jasper	77	58.6	Winneshek	37	62.3
	Lee	87	63.9			
	Group Totals					
	Number:	1,691				
Crude:	61.3					

	County			County		
	Number	Crude	County	Number	Crude	
MSA Counties	Black Hawk	366	76.0	Polk	1,184	67.5
	Dallas	82	54.2	Pottawattamie	247	69.4
	Dubuque	208	60.3	Scott	432	63.7
	Johnson	251	64.7	Warren	94	62.7
	Linn	446	56.0	Woodbury	336	67.4
Group Totals						
Number:	3,646					
Crude:	65.1					

¹Rates per 1,000 live births

Source: Iowa Department of Public Health, Vital Statistics

Low Birth Weight (< 2500 Grams) 1997-1999



Mothers Who Began Prenatal Care in the First Trimester: 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	96,305	864.1

	County	Number	Crude ¹	County	Number	Crude ¹
Counties with Average Population <10,000	Adair	191	888.4	Lucas	237	772.0
	Adams	108	830.8	Monroe	235	864.0
	Audubon	212	955.0	Osceola	202	882.1
	Clarke	251	868.5	Pocahontas	210	913.0
	Davis	209	647.1	Ringgold	153	845.3
	Decatur	227	810.7	Taylor	176	834.1
	Fremont	237	843.4	Van Buren	202	745.4
	Howard	290	821.5	Wayne	147	781.9
	Ida	247	918.2	Worth	217	900.4
	<u>Group Totals</u>					
Number:	3,751					
Crude:	835.0					

	County	Number	Crude	County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	430	822.2	Henry	644	873.8
	Appanoose	380	840.7	Humboldt	311	852.1
	Buena Vista	599	799.7	Iowa	448	881.9
	Butler	435	904.4	Jefferson	416	847.3
	Calhoun	272	866.2	Jones	517	873.3
	Cass	420	915.0	Keokuk	332	842.6
	Cedar	503	891.8	Kossuth	429	842.8
	Cherokee	383	941.0	Louisa	446	846.3
	Chickasaw	366	869.4	Lyon	395	897.7
	Clay	527	922.9	Madison	477	915.5
	Clayton	485	815.1	Mills	452	888.0
	Crawford	522	857.1	Mitchell	302	776.3
	Delaware	567	871.0	Monona	286	885.4
	Dickinson	480	928.4	Montgomery	356	868.3
	Emmet	303	823.4	O'Brien	494	928.6
	Floyd	436	730.3	Page	509	913.8
	Franklin	282	779.0	Palo Alto	297	891.9
	Greene	276	800.0	Poweshiek	517	918.3
	Grundy	342	929.3	Sac	318	859.5
	Guthrie	318	817.5	Shelby	374	884.2
Hamilton	568	895.9	Tama	580	816.9	
Hancock	332	853.5	Union	371	858.8	
Hardin	546	866.7	Winnebago	324	846.0	
Harrison	445	849.2	Wright	392	841.2	

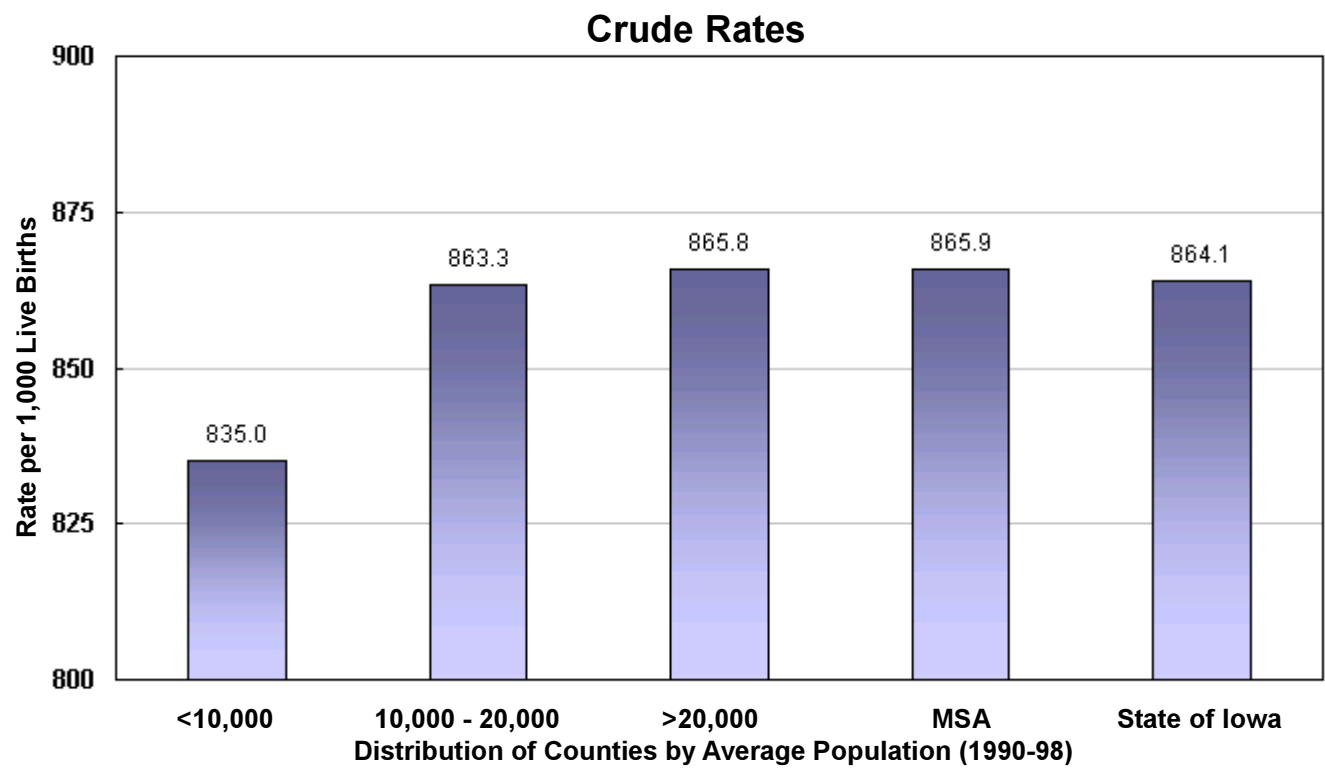
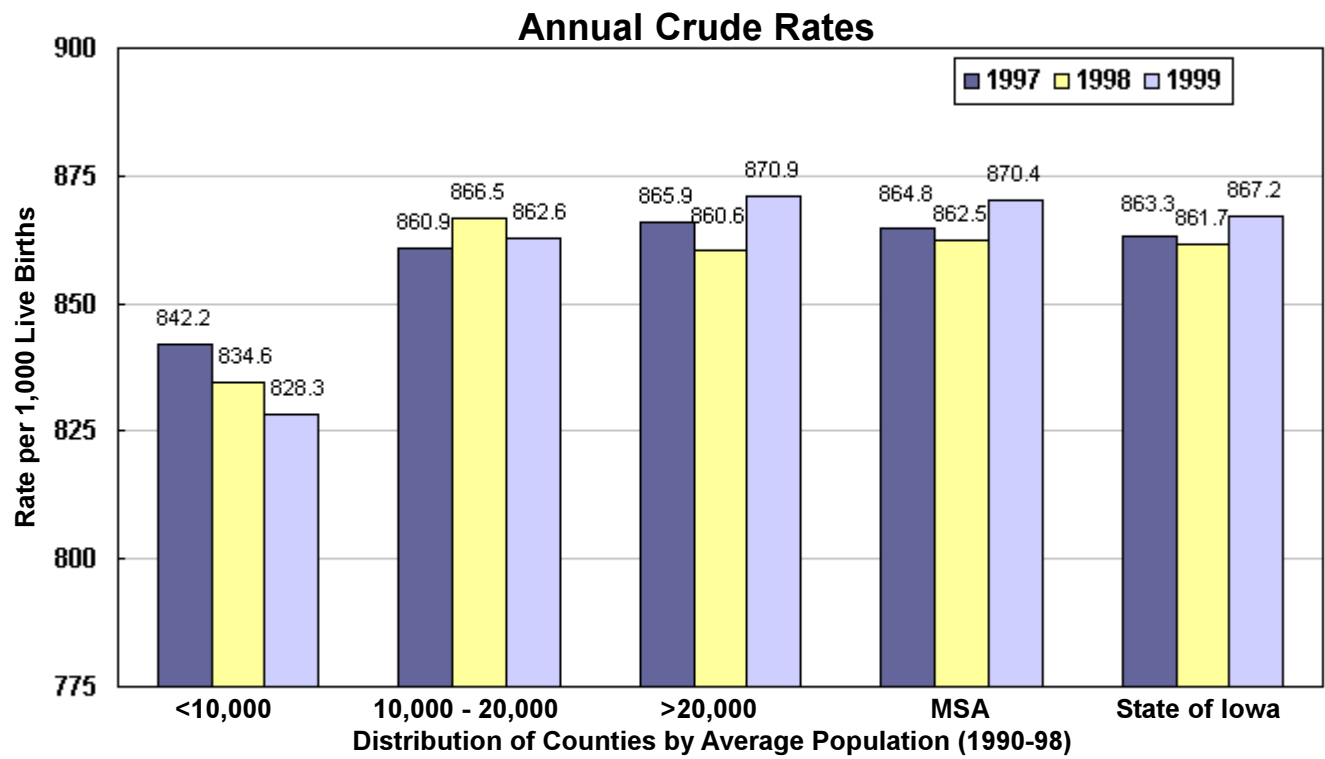
	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000	Benton	775	889.8	Mahaska	734	869.7
	Boone	796	882.5	Marion	1,048	897.3
	Bremer	605	909.8	Marshall	1,287	827.1
	Buchanan	696	781.1	Muscatine	1,588	880.8
	Carroll	696	945.7	Plymouth	821	889.5
	Cerro Gordo	1,348	842.0	Sioux	1,094	904.1
	Clinton	1,678	867.2	Story	2,329	898.9
	Des Moines	1,326	837.7	Wapello	971	801.8
	Fayette	644	888.3	Washington	721	854.3
	Jackson	624	871.5	Webster	1,239	809.3
	Jasper	1,170	891.1	Winneshiek	495	833.3
	Lee	1,189	873.6			

	County	Number	Crude	County	Number	Crude
MSA Counties	Black Hawk	4,281	888.5	Polk	15,177	865.4
	Dallas	1,294	855.3	Pottawattamie	2,957	830.4
	Dubuque	3,071	890.4	Scott	5,606	827.1
	Johnson	3,487	898.5	Warren	1,371	914.0
	Linn	7,103	891.9	Woodbury	4,129	828.8
<u>Group Totals</u>						
Number:	48,476					
Crude:	865.9					

¹Rates per 1,000 live births

Source: Iowa Department of Public Health, Vital Statistics

Mothers Who Began Prenatal Care in the First Trimester 1997-1999



Mothers Who Smoked During Pregnancy 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	20,137	180.7

	County			County		
	Number	Crude ¹		Number	Crude ¹	
Counties with Average Population <10,000	Adair	49	227.9	Lucas	67	218.2
	Adams	35	269.2	Monroe	49	180.1
	Audubon	26	117.1	Osceola	41	179.0
	Clarke	58	200.7	Pocahontas	44	191.3
	Davis	42	130.0	Ringgold	25	138.1
	Decatur	68	242.9	Taylor	49	232.2
	Fremont	61	217.1	Van Buren	46	169.7
	Howard	50	141.6	Wayne	38	202.1
	Ida	35	130.1	Worth	43	178.4
	Group Totals					
Number:	826					
Crude:	183.9					

	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population 10,000 to 20,000	Allamakee	87	166.3	Henry	168	228.0
	Appanoose	101	223.5	Humboldt	61	167.1
	Buena Vista	95	126.8	Iowa	80	157.5
	Butler	78	162.2	Jefferson	68	138.5
	Calhoun	56	178.3	Jones	104	175.7
	Cass	109	237.5	Keokuk	54	137.1
	Cedar	95	168.4	Kossuth	82	161.1
	Cherokee	100	245.7	Louisa	77	146.1
	Chickasaw	72	171.0	Lyon	53	120.5
	Clay	126	220.7	Madison	79	151.6
	Clayton	91	152.9	Mills	127	249.5
	Crawford	117	192.1	Mitchell	48	123.4
	Delaware	108	165.9	Monona	58	179.6
	Dickinson	66	127.7	Montgomery	102	248.8
	Emmet	73	198.4	O'Brien	72	135.3
	Floyd	95	159.1	Page	133	238.8
	Franklin	60	165.7	Palo Alto	62	186.2
	Greene	81	234.8	Poweshiek	129	229.1
	Grundy	40	108.7	Sac	67	181.1
	Guthrie	87	223.7	Shelby	81	191.5
Hamilton	139	219.2	Tama	141	198.6	
Hancock	58	149.1	Union	113	261.6	
Hardin	131	207.9	Winnebago	75	195.8	
Harrison	125	238.5	Wright	85	182.4	

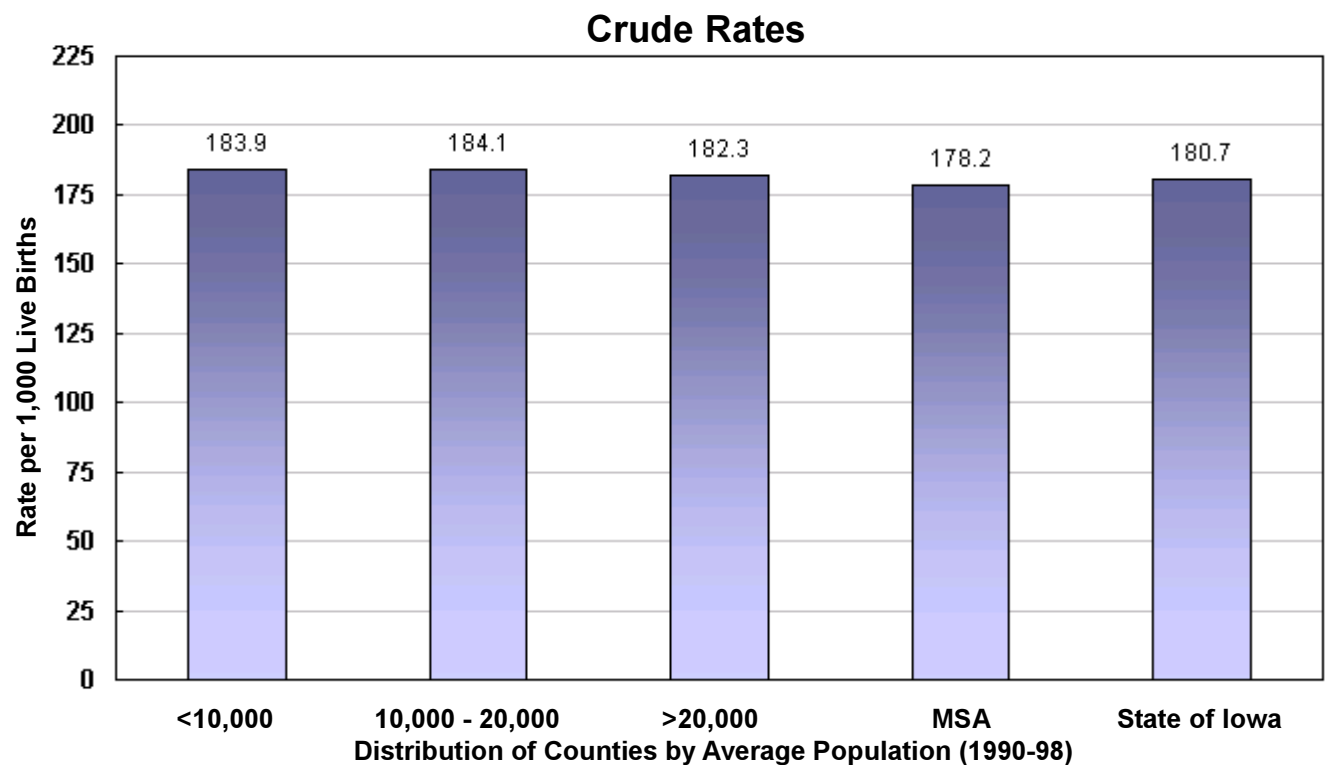
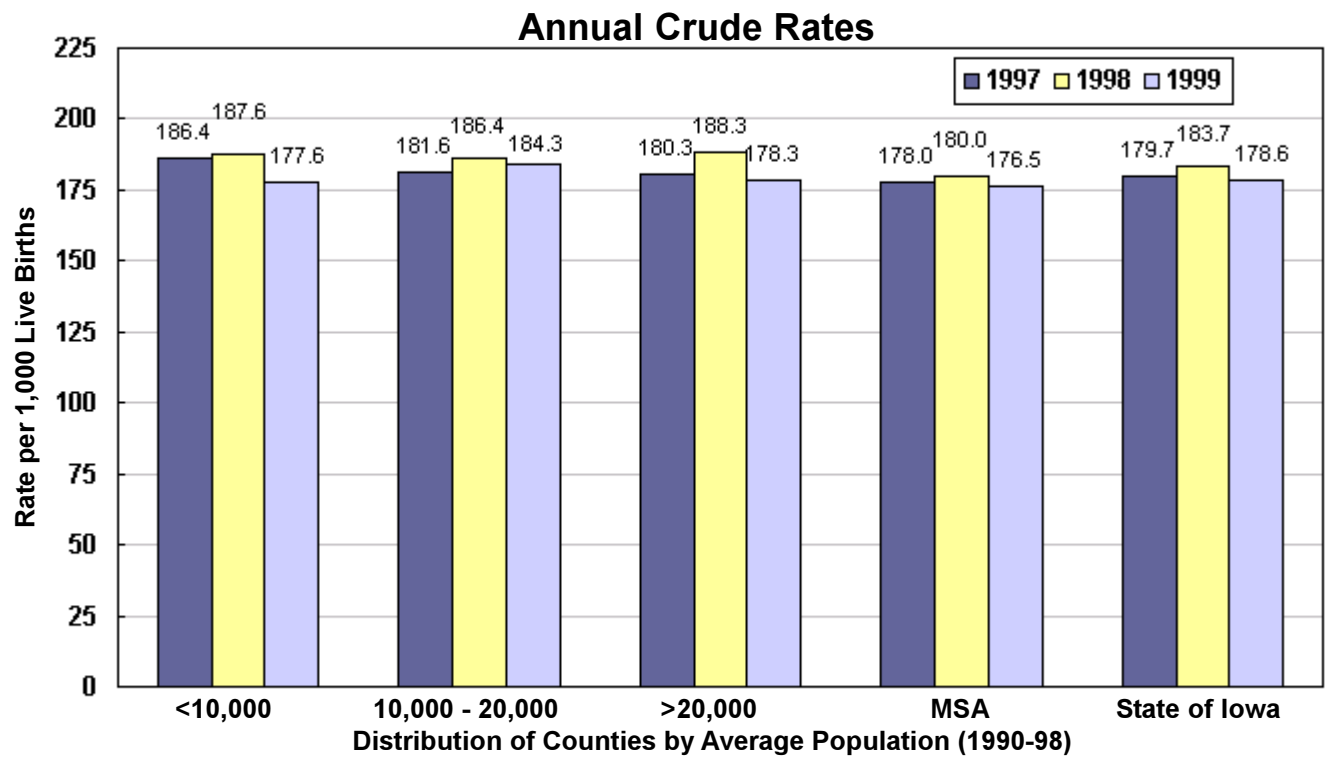
	County			County		
	Number	Crude		Number	Crude	
Counties with Average Population >20,000	Benton	151	173.4	Mahaska	153	181.3
	Boone	187	207.3	Marion	204	174.7
	Bremer	96	144.4	Marshall	324	208.2
	Buchanan	159	178.5	Muscatine	298	165.3
	Carroll	49	66.6	Plymouth	142	153.8
	Cerro Gordo	319	199.3	Sioux	84	69.4
	Clinton	502	259.4	Story	202	78.0
	Des Moines	406	256.5	Wapello	255	210.6
	Fayette	124	171.0	Washington	105	124.4
	Jackson	116	162.0	Webster	404	263.9
	Jasper	301	229.2	Winneshek	70	117.8
	Lee	375	275.5			

	County			County		
	Number	Crude		Number	Crude	
MSA Counties	Black Hawk	927	192.4	Polk	3,061	174.5
	Dallas	222	146.7	Pottawattamie	1,026	288.1
	Dubuque	501	145.3	Scott	1,349	199.0
	Johnson	320	82.5	Warren	232	154.7
	Linn	1,389	174.4	Woodbury	949	190.5
Group Totals						
Number:	9,976					
Crude:	178.2					

¹Rates per 1,000 live births

Source: Iowa Department of Public Health, Vital Statistics

Mothers Who Smoked During Pregnancy 1997-1999



Mothers Who Drank During Pregnancy 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	1,474	13.2

	County	Number	Crude ¹	County	Number	Crude ¹
Counties with Average Population <10,000	Adair	*	*	Lucas	4	13.0
	Adams	*	*	Monroe	*	*
	Audubon	*	*	Osceola	*	*
	Clarke	*	*	Pocahontas	5	21.7
	Davis	*	*	Ringgold	*	*
	Decatur	3	10.7	Taylor	*	*
	Fremont	3	10.7	Van Buren	*	*
	Howard	4	11.3	Wayne	*	*
	Ida	*	*	Worth	*	*
	<u>Group Totals</u>					
Number:	27					
Crude:	6.0					

	County	Number	Crude	County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	5	9.6	Henry	6	8.1
	Appanoose	7	15.5	Humboldt	4	11.0
	Buena Vista	8	10.7	Iowa	6	11.8
	Butler	*	*	Jefferson	*	*
	Calhoun	*	*	Jones	15	25.3
	Cass	9	19.6	Keokuk	5	12.7
	Cedar	7	12.4	Kossuth	5	9.8
	Cherokee	5	12.3	Louisa	4	7.6
	Chickasaw	7	16.6	Lyon	*	*
	Clay	6	10.5	Madison	6	11.5
	Clayton	7	11.8	Mills	9	17.7
	Crawford	7	11.5	Mitchell	*	*
	Delaware	15	23.0	Monona	*	*
	Dickinson	7	13.5	Montgomery	4	9.8
	Emmet	10	27.2	O'Brien	*	*
	Floyd	6	10.1	Page	9	16.2
	Franklin	4	11.0	Palo Alto	7	21.0
	Greene	*	*	Poweshiek	5	8.9
	Grundy	*	*	Sac	7	18.9
	Guthrie	5	12.9	Shelby	5	11.8
Hamilton	6	9.5	Tama	8	11.3	
Hancock	3	7.7	Union	6	13.9	
Hardin	5	7.9	Winnebago	3	7.8	
Harrison	6	11.5	Wright	7	15.0	
<u>Group Totals</u>						
Number:	268					
Crude:	11.5					

	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000	Benton	24	27.6	Mahaska	3	3.6
	Boone	3	3.3	Marion	4	3.4
	Bremer	3	4.5	Marshall	15	9.6
	Buchanan	3	3.4	Muscatine	9	5.0
	Carroll	5	6.8	Plymouth	6	6.5
	Cerro Gordo	21	13.1	Sioux	10	8.3
	Clinton	8	4.1	Story	26	10.0
	Des Moines	11	6.9	Wapello	6	5.0
	Fayette	5	6.9	Washington	3	3.6
	Jackson	*	*	Webster	28	18.3
	Jasper	21	16.0	Winneshek	3	5.1
	Lee	24	17.6			
	<u>Group Totals</u>					
Number:	243					
Crude:	8.8					

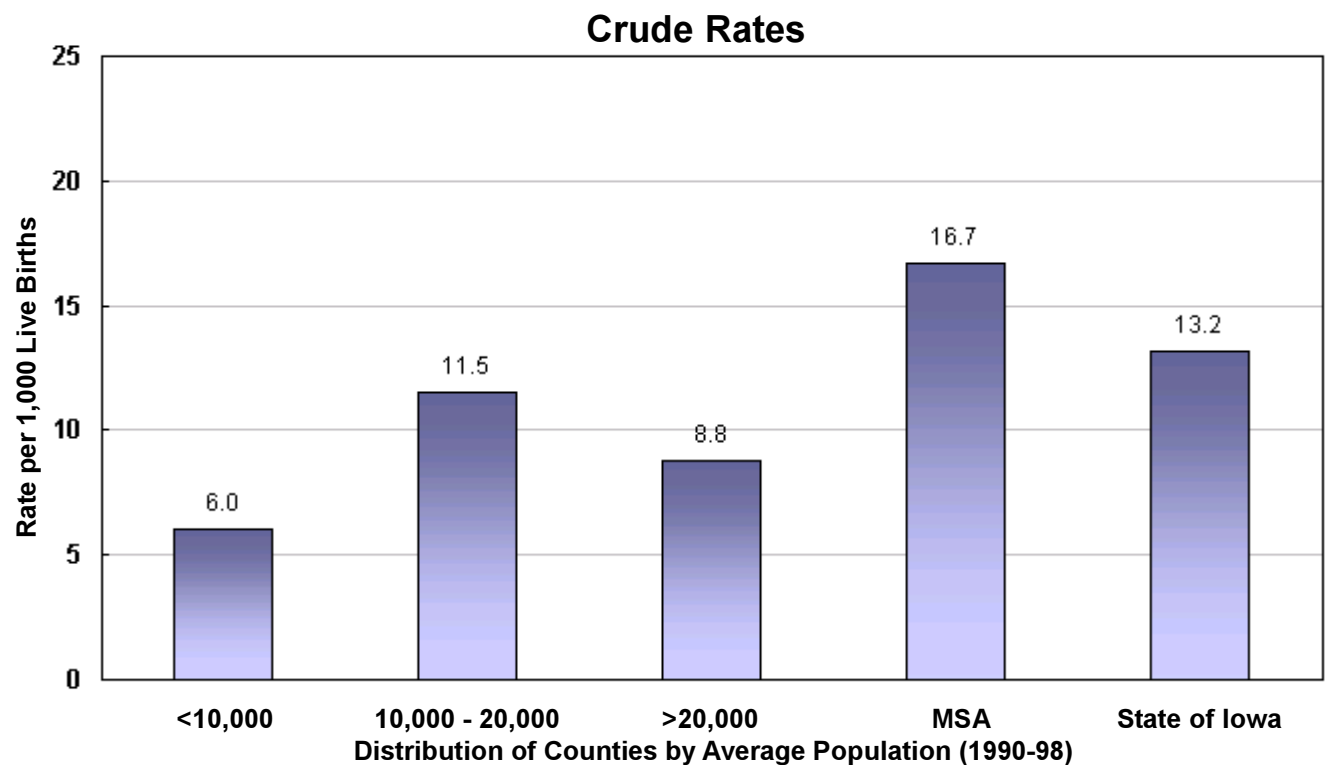
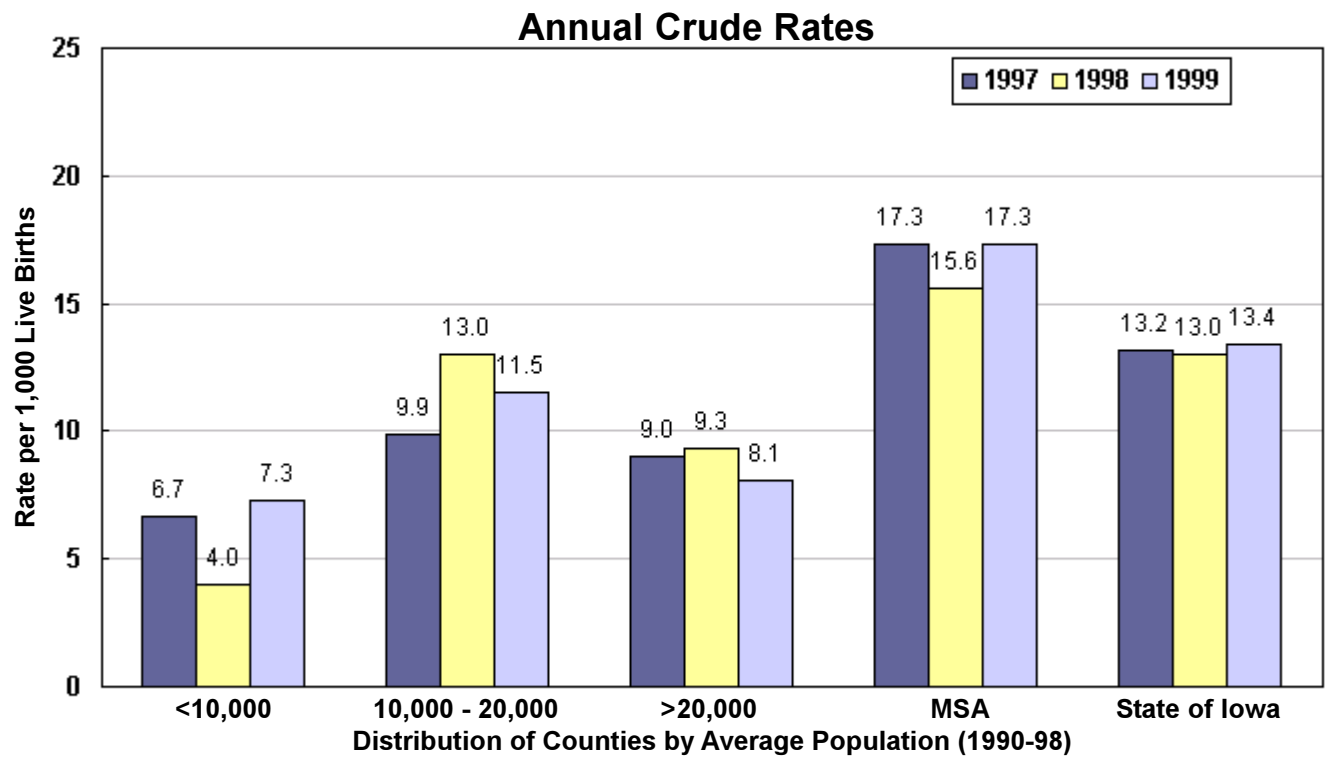
	County	Number	Crude	County	Number	Crude
MSA Counties	Black Hawk	37	7.7	Polk	321	18.3
	Dallas	18	11.9	Pottawattamie	30	8.4
	Dubuque	39	11.3	Scott	136	20.1
	Johnson	41	10.6	Warren	13	8.7
	Linn	268	33.7	Woodbury	33	6.6
	<u>Group Totals</u>					
Number:	936					
Crude:	16.7					

¹Rates per 1,000 live births

*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Mothers Who Drank During Pregnancy 1997-1999



Fetal Deaths 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	648	5.8

	County	Number	Crude ¹		County	Number	Crude ¹
Counties with Average Population <10,000	Adair	*	*	Counties with Average Population 10,000 to 20,000	Lucas	*	*
	Adams	*	*		Monroe	*	*
	Audubon	*	*		Osceola	*	*
	Clarke	*	*		Pocahontas	*	*
	Davis	3	9.3		Ringgold	3	16.6
	Decatur	*	*		Taylor	*	*
	Fremont	*	*		Van Buren	*	*
	Howard	*	*		Wayne	*	*
	Ida	*	*		Worth	*	*
	Group Totals						
Number:	25						
Crude:	5.6						

	County	Number	Crude		County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	3	5.7	Counties with Average Population >20,000	Henry	8	10.9
	Appanoose	3	6.6		Humboldt	*	*
	Buena Vista	5	6.7		Iowa	*	*
	Butler	*	*		Jefferson	3	6.1
	Calhoun	*	*		Jones	3	5.1
	Cass	*	*		Keokuk	6	15.2
	Cedar	7	12.4		Kossuth	5	9.8
	Cherokee	*	*		Louisa	*	*
	Chickasaw	*	*		Lyon	*	*
	Clay	*	*		Madison	10	19.2
	Clayton	4	6.7		Mills	*	*
	Crawford	4	6.6		Mitchell	3	7.7
	Delaware	11	16.9		Monona	*	*
	Dickinson	*	*		Montgomery	6	14.6
	Emmet	*	*		O'Brien	4	7.5
	Floyd	*	*		Page	4	7.2
	Franklin	3	8.3		Palo Alto	*	*
	Greene	3	8.7		Poweshiek	*	*
	Grundy	*	*		Sac	4	10.8
	Guthrie	4	10.3		Shelby	*	*
Hamilton	*	*	Tama	6	8.5		
Hancock	3	7.7	Union	*	*		
Hardin	*	*	Winnebago	*	*		
Harrison	*	*	Wright	3	6.4		
Group Totals							
Number:	144						
Crude:	6.2						

	County	Number	Crude		County	Number	Crude		
Counties with Average Population >20,000	Benton	8	9.2	MSA Counties	Mahaska	3	3.6		
	Boone	4	4.4		Marion	*	*		
	Bremer	6	9.0		Marshall	7	4.5		
	Buchanan	8	9.0		Muscatine	18	10.0		
	Carroll	*	*		Plymouth	6	6.5		
	Cerro Gordo	5	3.1		Sioux	6	5.0		
	Clinton	12	6.2		Story	16	6.2		
	Des Moines	13	8.2		Wapello	*	*		
	Fayette	3	4.1		Washington	7	8.3		
	Jackson	6	8.4		Webster	11	7.2		
	Jasper	8	6.1		Winneshiek	*	*		
	Lee	14	10.3						
	Group Totals								
	Number:	169							
Crude:	6.1								

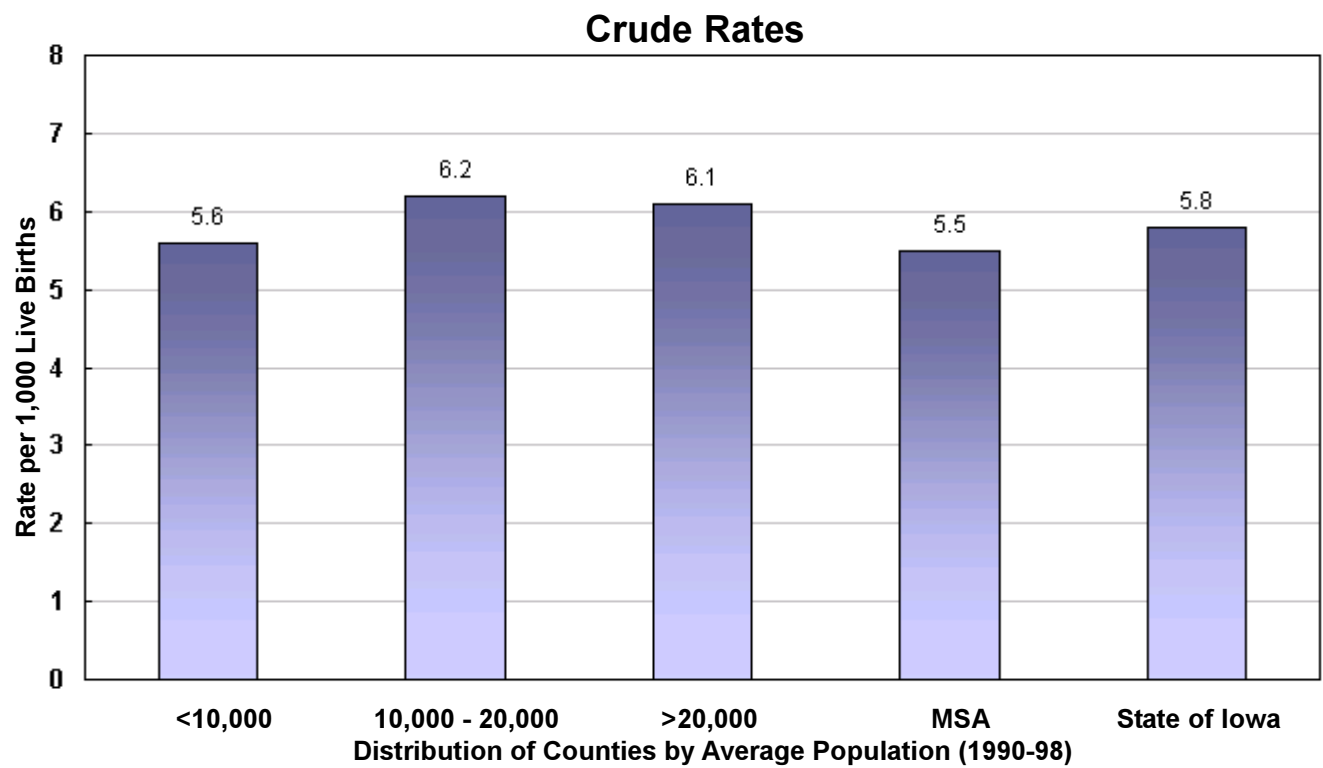
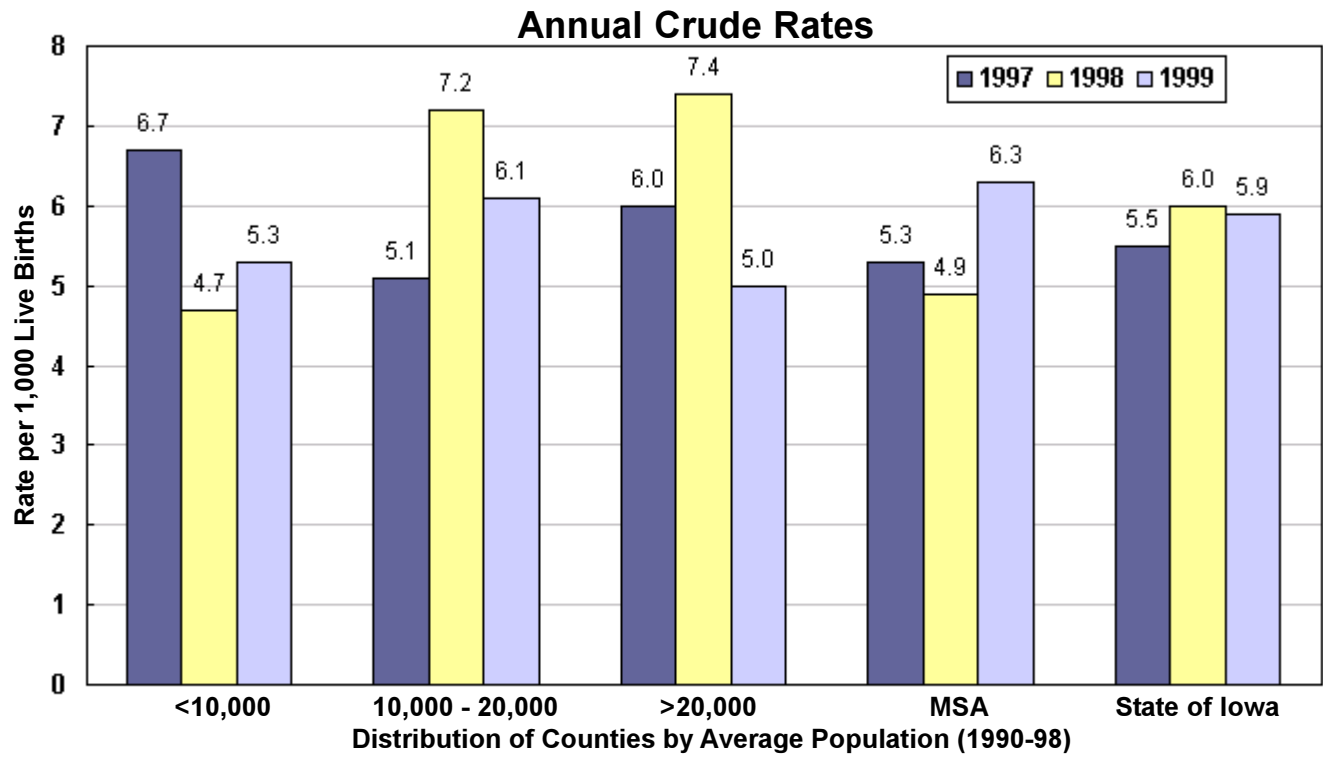
	County	Number	Crude		County	Number	Crude
MSA Counties	Black Hawk	29	6.0	Group Totals	Polk	85	4.8
	Dallas	7	4.6		Pottawattamie	17	4.8
	Dubuque	21	6.1		Scott	36	5.3
	Johnson	25	6.4		Warren	12	8.0
	Linn	50	6.3		Woodbury	28	5.6
Group Totals							
Number:	310						
Crude:	5.5						

¹Rates per 1,000 live births

*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Fetal Deaths 1997-1999



Neonatal Deaths 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	443	4.0

	County	Number	Crude ¹		County	Number	Crude ¹
Counties with Average Population <10,000	Adair	*	*	Counties with Average Population 10,000 to 20,000	Lucas	*	*
	Adams	*	*		Monroe	*	*
	Audubon	*	*		Osceola	*	*
	Clarke	*	*		Pocahontas	*	*
	Davis	*	*		Ringgold	*	*
	Decatur	*	*		Taylor	*	*
	Fremont	*	*		Van Buren	*	*
	Howard	*	*		Wayne	*	*
	Ida	*	*		Worth	*	*
	<u>Group Totals</u>					<u>Group Totals</u>	
Number:	12			Number:	78		
Crude:	2.7			Crude:	3.3		

	County	Number	Crude		County	Number	Crude
Counties with Average Population >20,000	Allamakee	*	*	MSA Counties	Henry	4	5.4
	Appanoose	*	*		Humboldt	*	*
	Buena Vista	4	5.3		Iowa	*	*
	Butler	*	*		Jefferson	*	*
	Calhoun	*	*		Jones	*	*
	Cass	*	*		Keokuk	*	*
	Cedar	*	*		Kossuth	3	5.9
	Cherokee	*	*		Louisa	*	*
	Chickasaw	*	*		Lyon	*	*
	Clay	4	7.0		Madison	*	*
	Clayton	*	*		Mills	*	*
	Crawford	4	6.6		Mitchell	*	*
	Delaware	*	*		Monona	*	*
	Dickinson	*	*		Montgomery	3	7.3
	Emmet	*	*		O'Brien	3	5.6
	Floyd	*	*		Page	5	9.0
	Franklin	*	*		Palo Alto	*	*
	Greene	4	11.6		Poweshiek	*	*
	Grundy	*	*		Sac	4	10.8
	Guthrie	*	*		Shelby	*	*
Hamilton	4	6.3	Tama	4	5.6		
Hancock	*	*	Union	*	*		
Hardin	*	*	Winnebago	*	*		
Harrison	*	*	Wright	*	*		

	County	Number	Crude		County	Number	Crude
Counties with Average Population >20,000	Benton	6	6.9	MSA Counties	Mahaska	*	*
	Boone	*	*		Marion	6	5.1
	Bremer	*	*		Marshall	5	3.2
	Buchanan	5	5.6		Muscatine	4	2.2
	Carroll	*	*		Plymouth	*	*
	Cerro Gordo	3	1.9		Sioux	6	5.0
	Clinton	5	2.6		Story	12	4.6
	Des Moines	5	3.2		Wapello	6	5.0
	Fayette	*	*		Washington	7	8.3
	Jackson	4	5.6		Webster	6	3.9
	Jasper	11	8.4		Winneshiek	3	5.1
	Lee	9	6.6				

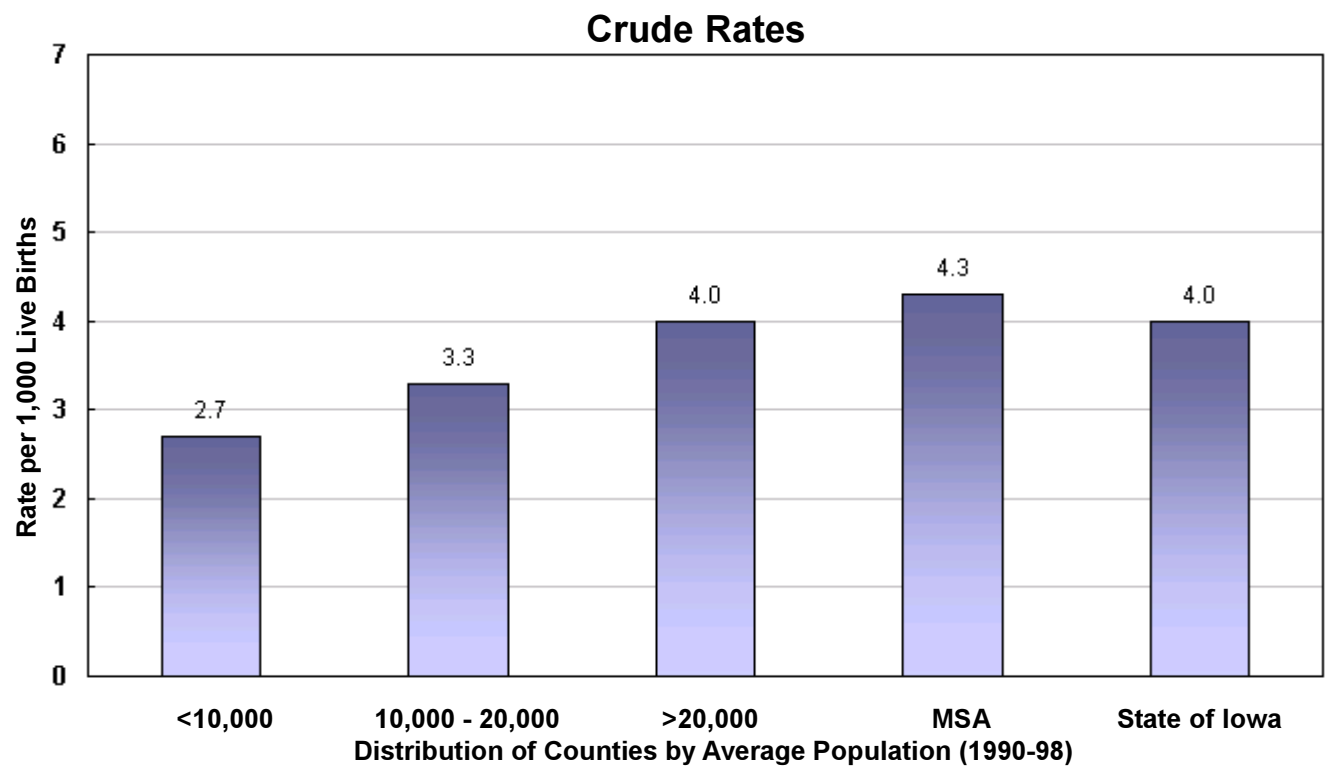
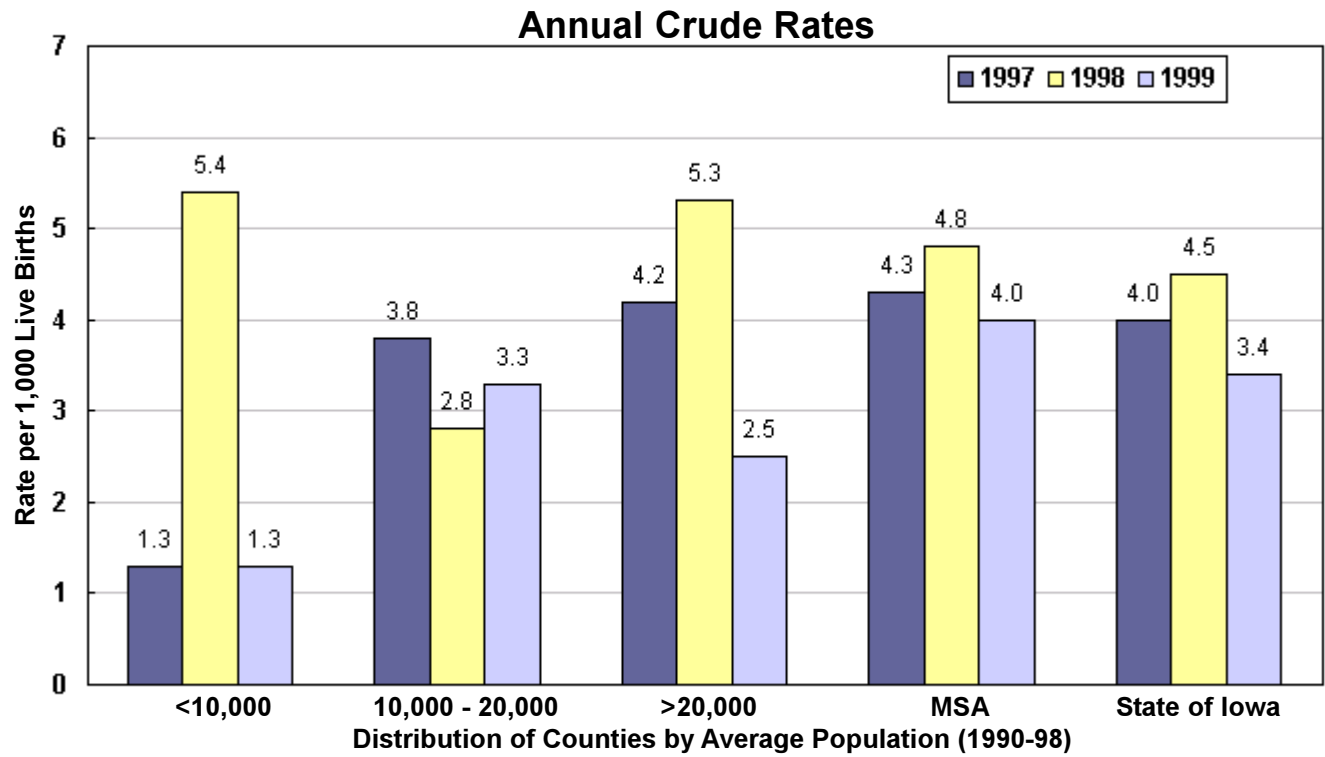
	County	Number	Crude		County	Number	Crude
MSA Counties	Black Hawk	19	3.9	MSA Counties	Polk	82	4.7
	Dallas	3	2.0		Pottawattamie	15	4.2
	Dubuque	8	2.3		Scott	32	4.7
	Johnson	17	4.4		Warren	9	6.0
	Linn	32	4.0		Woodbury	26	5.2
	<u>Group Totals</u>					<u>Group Totals</u>	
Number:	243			Number:	243		
Crude:	4.3			Crude:	4.3		

¹Rates per 1,000 live births

*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Neonatal Deaths 1997-1999



Perinatal Deaths 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	1,091	9.8

	County	Number	Crude ¹	County	Number	Crude ¹
Counties with Average Population <10,000	Adair	*	*	Lucas	3	9.8
	Adams	*	*	Monroe	3	11.0
	Audubon	*	*	Osceola	3	13.1
	Clarke	3	10.4	Pocahontas	*	*
	Davis	3	9.3	Ringgold	5	27.6
	Decatur	*	*	Taylor	*	*
	Fremont	4	14.2	Van Buren	*	*
	Howard	*	*	Wayne	*	*
	Ida	*	*	Worth	*	*
	<u>Group Totals</u>					
Number:	37					
Crude:	8.2					

	County	Number	Crude	County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	4	7.6	Henry	12	16.3
	Appanoose	4	8.8	Humboldt	*	*
	Buena Vista	9	12.0	Iowa	4	7.9
	Butler	*	*	Jefferson	4	8.1
	Calhoun	*	*	Jones	3	5.1
	Cass	*	*	Keokuk	7	17.8
	Cedar	9	16.0	Kossuth	8	15.7
	Cherokee	*	*	Louisa	3	5.7
	Chickasaw	*	*	Lyon	3	6.8
	Clay	4	7.0	Madison	12	23.0
	Clayton	4	6.7	Mills	*	*
	Crawford	8	13.1	Mitchell	3	7.7
	Delaware	13	20.0	Monona	*	*
	Dickinson	*	*	Montgomery	9	22.0
	Emmet	*	*	O'Brien	7	13.2
	Floyd	*	*	Page	9	16.2
	Franklin	3	8.3	Palo Alto	4	12.0
	Greene	7	20.3	Poweshiek	*	*
	Grundy	*	*	Sac	8	21.6
	Guthrie	4	10.3	Shelby	3	7.1
Hamilton	5	7.9	Tama	10	14.1	
Hancock	3	7.7	Union	3	6.9	
Hardin	4	6.3	Winnebago	3	7.8	
Harrison	4	7.6	Wright	4	8.6	

	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000	Benton	14	16.1	Mahaska	3	3.6
	Boone	6	6.7	Marion	8	6.8
	Bremer	8	12.0	Marshall	12	7.7
	Buchanan	13	14.6	Muscatine	22	12.2
	Carroll	*	*	Plymouth	8	8.7
	Cerro Gordo	8	5.0	Sioux	12	9.9
	Clinton	17	8.8	Story	28	10.8
	Des Moines	18	11.4	Wapello	8	6.6
	Fayette	4	5.5	Washington	14	16.6
	Jackson	10	14.0	Webster	17	11.1
	Jasper	19	14.5	Winneshiek	5	8.4
	Lee	23	16.9			

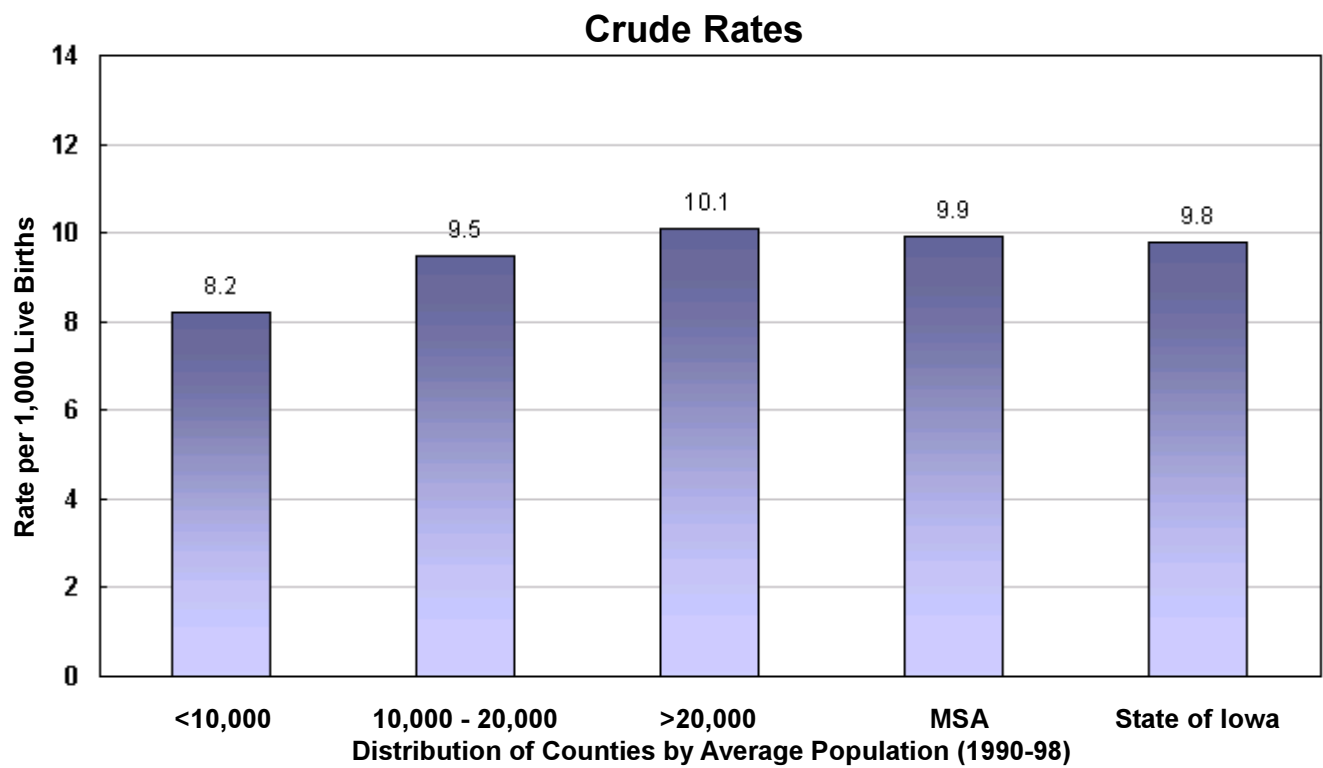
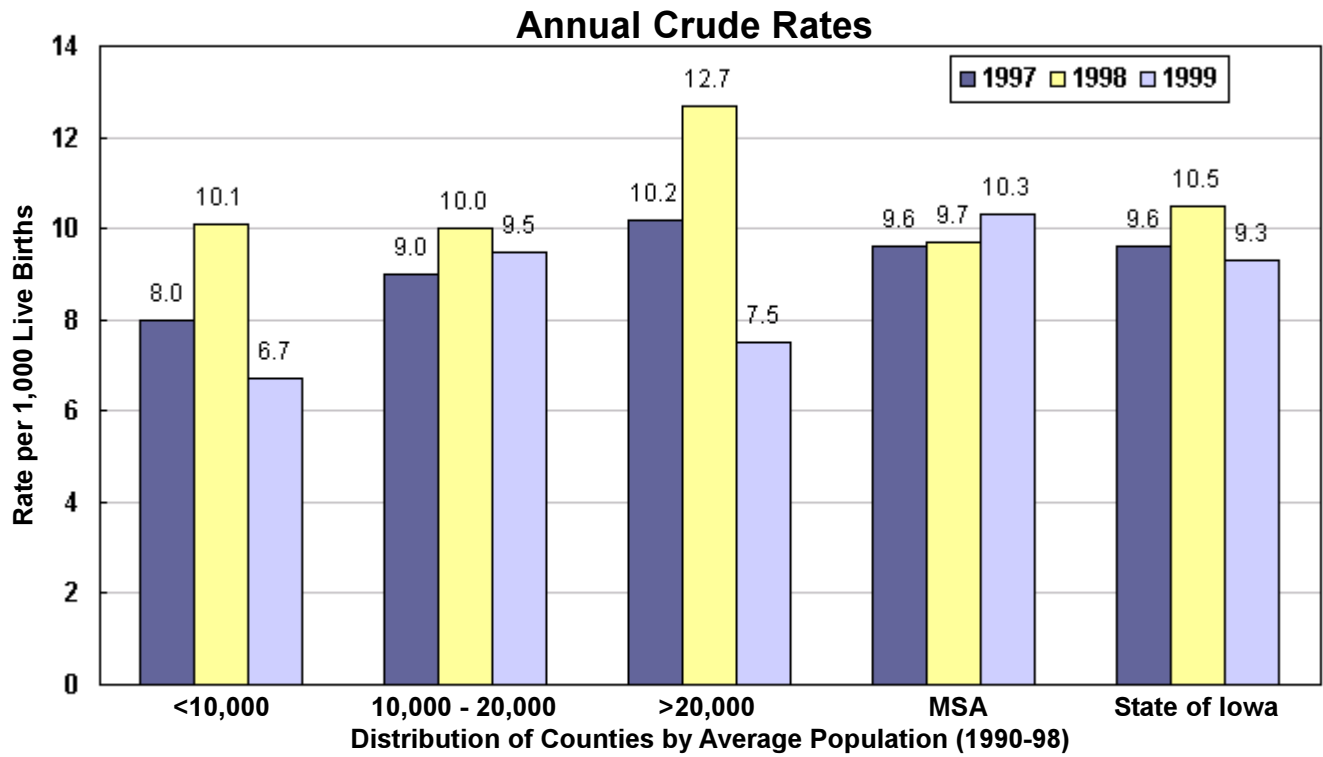
	County	Number	Crude	County	Number	Crude
MSA Counties	Black Hawk	48	10.0	Polk	167	9.5
	Dallas	10	6.6	Pottawattamie	32	9.0
	Dubuque	29	8.4	Scott	68	10.0
	Johnson	42	10.8	Warren	21	14.0
	Linn	82	10.3	Woodbury	54	10.8
	<u>Group Totals</u>					
Number:	553					
Crude:	9.9					

¹Rates per 1,000 live births

*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Perinatal Deaths 1997-1999



Infant Deaths 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	685	6.1

	Counties with Average Population <10,000			Counties with Average Population 10,000 to 20,000		
	County	Number	Crude ¹	County	Number	Crude ¹
Counties with Average Population <10,000 Group Totals Number: 23 Crude: 5.1	Adair	*	*	Lucas	*	*
	Adams	*	*	Monroe	*	*
	Audubon	*	*	Osceola	*	*
	Clarke	*	*	Pocahontas	*	*
	Davis	*	*	Ringgold	*	*
	Decatur	*	*	Taylor	*	*
	Fremont	3	10.7	Van Buren	*	*
	Howard	3	8.5	Wayne	*	*
	Ida	*	*	Worth	*	*

	Counties with Average Population >20,000			MSA Counties		
	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000 Group Totals Number: 125 Crude: 5.3	Allamakee	4	7.6	Henry	6	8.1
	Appanoose	*	*	Humboldt	*	*
	Buena Vista	4	5.3	Iowa	4	7.9
	Butler	*	*	Jefferson	*	*
	Calhoun	*	*	Jones	*	*
	Cass	*	*	Keokuk	*	*
	Cedar	*	*	Kossuth	5	9.8
	Cherokee	3	7.4	Louisa	3	5.7
	Chickasaw	*	*	Lyon	3	6.8
	Clay	4	7.0	Madison	4	7.7
	Clayton	*	*	Mills	*	*
	Crawford	5	8.2	Mitchell	*	*
	Delaware	4	6.1	Monona	*	*
	Dickinson	*	*	Montgomery	6	14.6
	Emmet	*	*	O'Brien	5	9.4
	Floyd	*	*	Page	6	10.8
	Franklin	*	*	Palo Alto	*	*
	Greene	5	14.5	Poweshiek	*	*
	Grundy	*	*	Sac	4	10.8
	Guthrie	*	*	Shelby	3	7.1
Hamilton	4	6.3	Tama	8	11.3	
Hancock	*	*	Union	*	*	
Hardin	*	*	Winnebago	3	7.8	
Harrison	*	*	Wright	*	*	

	Counties with Average Population >20,000			MSA Counties		
	County	Number	Crude	County	Number	Crude
Counties with Average Population >20,000 Group Totals Number: 159 Crude: 5.8	Benton	8	9.2	Mahaska	4	4.7
	Boone	4	4.4	Marion	7	6.0
	Bremer	*	*	Marshall	6	3.9
	Buchanan	6	6.7	Muscatine	5	2.8
	Carroll	*	*	Plymouth	4	4.3
	Cerro Gordo	7	4.4	Sioux	6	5.0
	Clinton	12	6.2	Story	15	5.8
	Des Moines	6	3.8	Wapello	9	7.4
	Fayette	*	*	Washington	11	13.0
	Jackson	4	5.6	Webster	11	7.2
	Jasper	12	9.1	Winneshiek	4	6.7
	Lee	12	8.8			

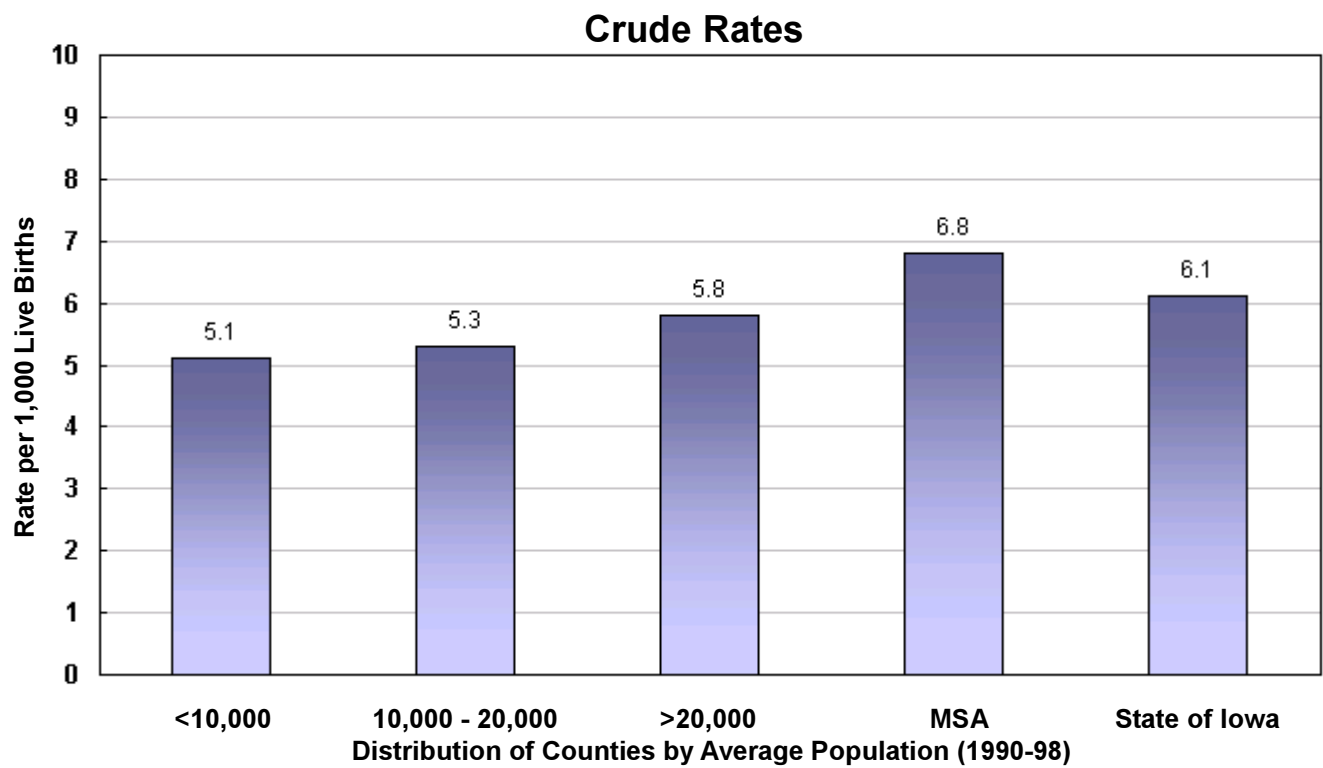
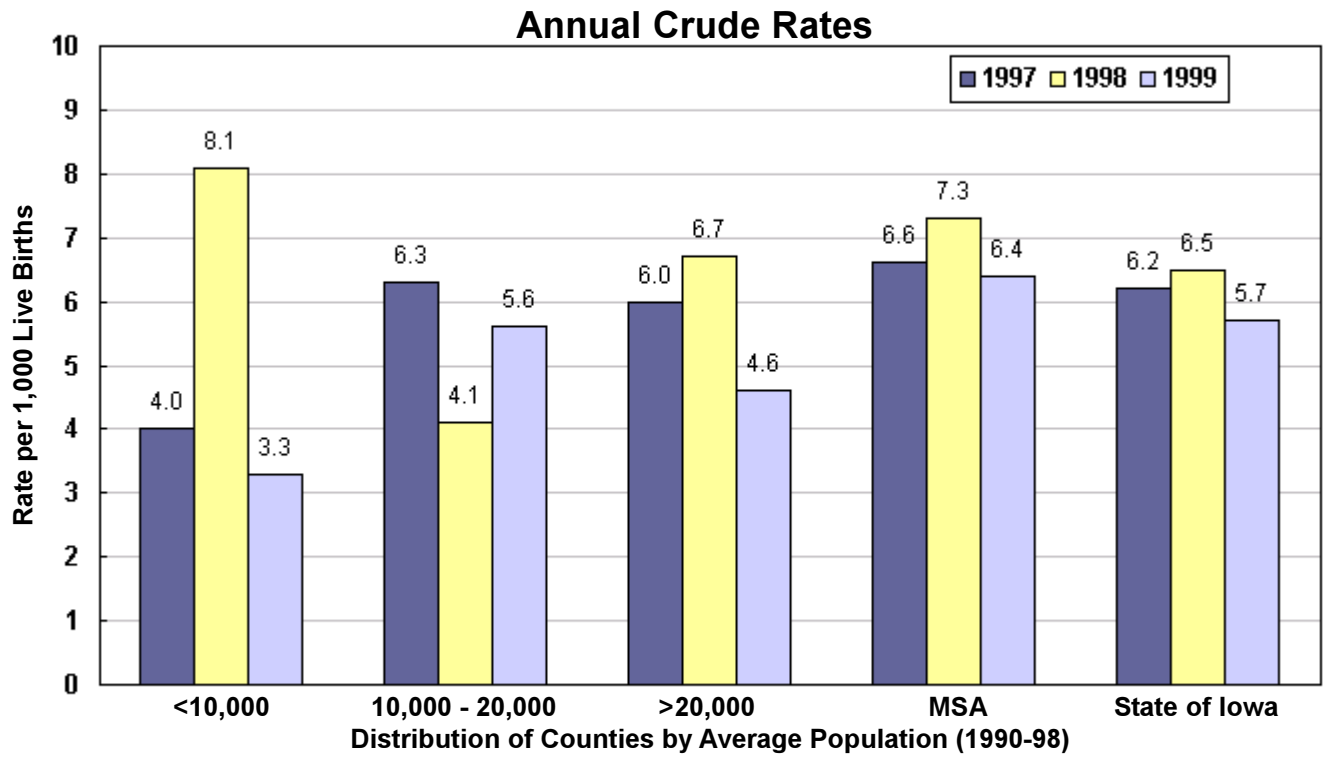
	MSA Counties			MSA Counties		
	County	Number	Crude	County	Number	Crude
MSA Counties Group Totals Number: 378 Crude: 6.8	Black Hawk	33	6.8	Polk	124	7.1
	Dallas	6	4.0	Pottawattamie	28	7.9
	Dubuque	14	4.1	Scott	49	7.2
	Johnson	27	7.0	Warren	11	7.3
	Linn	43	5.4	Woodbury	43	8.6

¹Rates per 1,000 live births

*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Infant Deaths 1997-1999



Congenital Malformations 1997-1999

TOTAL	Number	Crude ¹
State of Iowa	1,298	11.6

	County	Number	Crude ¹		County	Number	Crude ¹
Counties with Average Population <10,000	Adair	*	*	Counties with Average Population >20,000	Lucas	*	*
	Adams	4	30.8		Monroe	6	22.1
	Audubon	4	18.0		Osceola	4	17.5
	Clarke	*	*		Pocahontas	*	*
	Davis	3	9.3		Ringgold	6	33.1
	Decatur	3	10.7		Taylor	3	14.2
	Fremont	6	21.4		Van Buren	3	11.1
	Howard	7	19.8		Wayne	3	16.0
	Ida	*	*		Worth	4	16.6
	Group Totals				Group Totals		
Number: 66				Number: 365			
Crude: 14.7				Crude: 15.6			

	County	Number	Crude		County	Number	Crude
Counties with Average Population 10,000 to 20,000	Allamakee	9	17.2	Counties with Average Population >20,000	Henry	24	32.6
	Appanoose	7	15.5		Humboldt	6	16.4
	Buena Vista	8	10.7		Iowa	7	13.8
	Butler	*	*		Jefferson	9	18.3
	Calhoun	*	*		Jones	10	16.9
	Cass	7	15.3		Keokuk	*	*
	Cedar	9	16.0		Kossuth	8	15.7
	Cherokee	10	24.6		Louisa	9	17.1
	Chickasaw	7	16.6		Lyon	9	20.5
	Clay	13	22.8		Madison	*	*
	Clayton	8	13.4		Mills	10	19.6
	Crawford	10	16.4		Mitchell	5	12.9
	Delaware	15	23.0		Monona	3	9.3
	Dickinson	4	7.7		Montgomery	12	29.3
	Emmet	7	19.0		O'Brien	7	13.2
	Floyd	14	23.5		Page	9	16.2
	Franklin	9	24.9		Palo Alto	8	24.0
	Greene	6	17.4		Poweshiek	8	14.2
	Grundy	*	*		Sac	4	10.8
	Guthrie	*	*		Shelby	14	33.1
Hamilton	6	9.5	Tama	7	9.9		
Hancock	4	10.3	Union	9	20.8		
Hardin	5	7.9	Winnebago	4	10.4		
Harrison	7	13.4	Wright	10	21.5		

	County	Number	Crude		County	Number	Crude
Counties with Average Population >20,000	Benton	8	9.2	MSA Counties	Mahaska	12	14.2
	Boone	11	12.2		Marion	14	12.0
	Bremer	5	7.5		Marshall	15	9.6
	Buchanan	9	10.1		Muscatine	25	13.9
	Carroll	11	14.9		Plymouth	14	15.2
	Cerro Gordo	23	14.4		Sioux	17	14.0
	Clinton	25	12.9		Story	17	6.6
	Des Moines	25	15.8		Wapello	21	17.3
	Fayette	14	19.3		Washington	15	17.8
	Jackson	10	14.0		Webster	12	7.8
	Jasper	15	11.4		Winneshiek	14	23.6
	Lee	23	16.9				

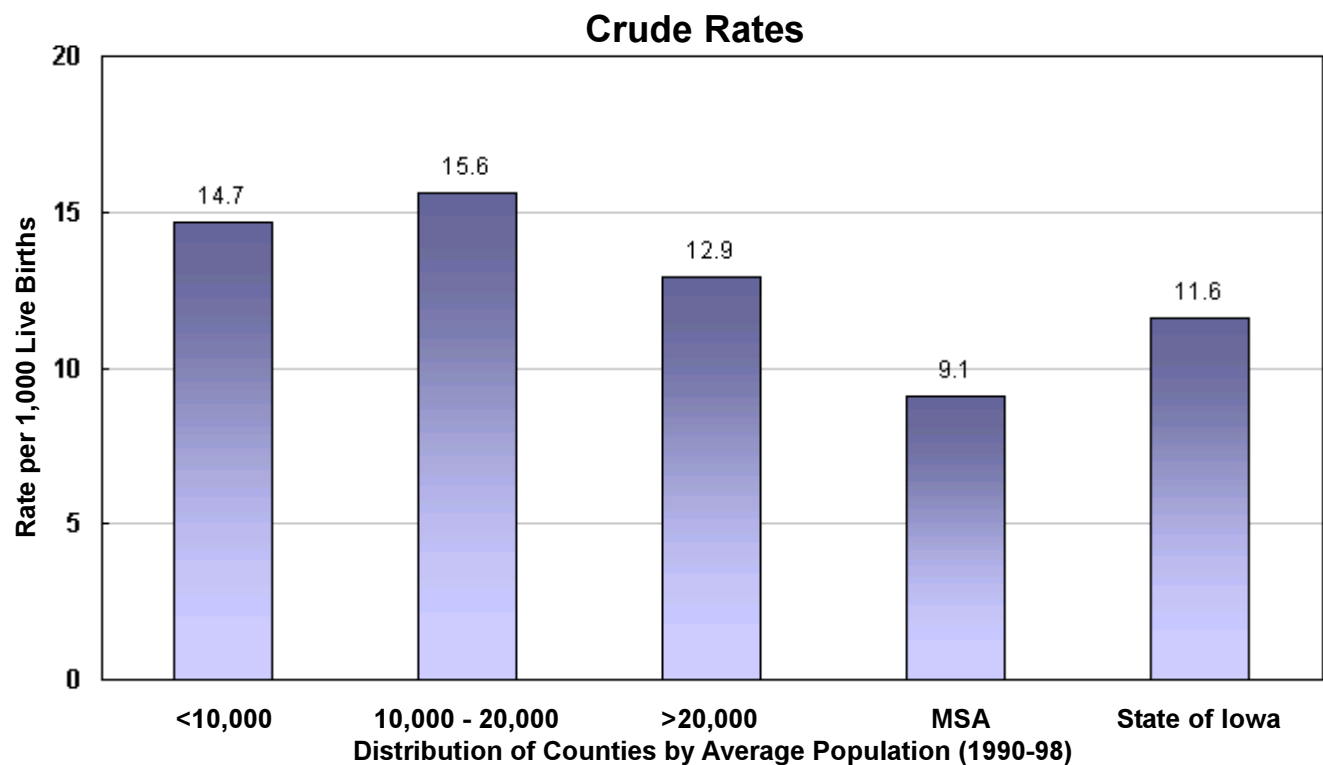
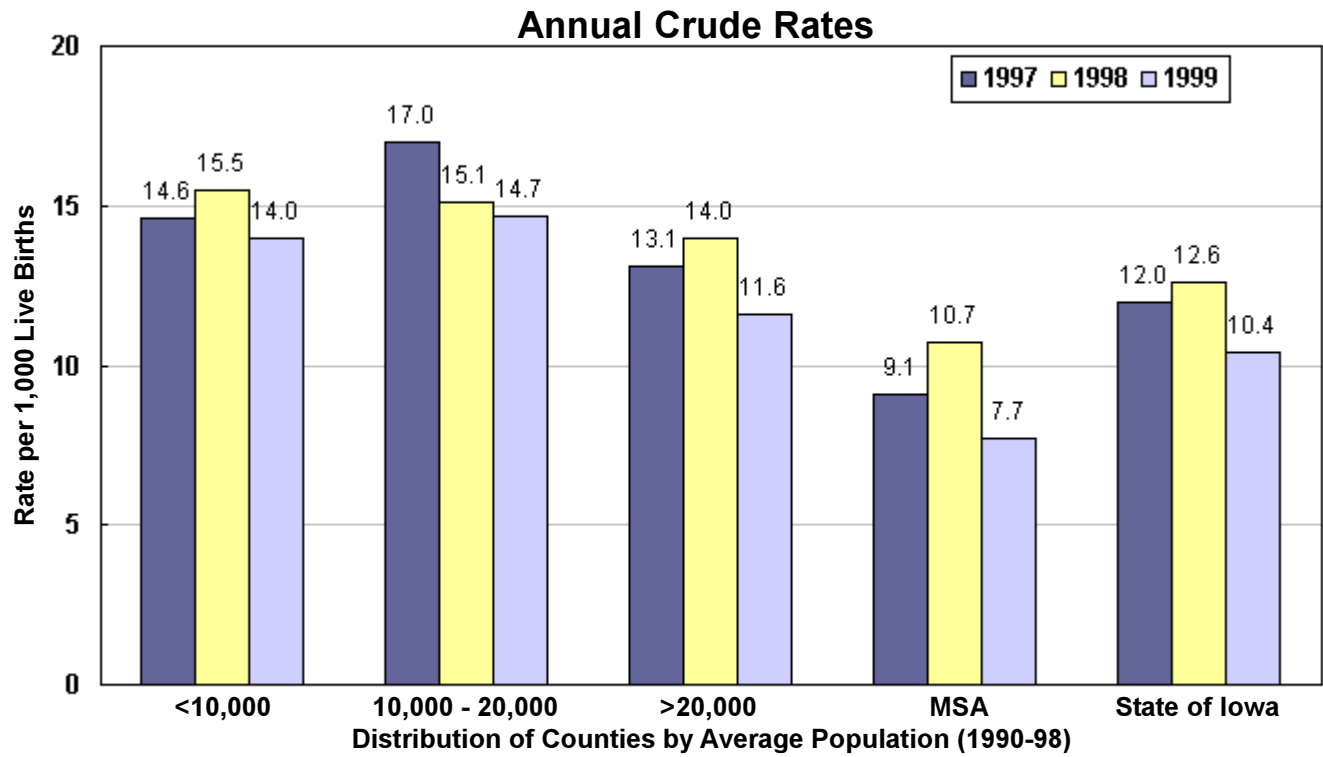
	County	Number	Crude		County	Number	Crude
MSA Counties	Black Hawk	43	8.9	Group Totals	Polk	118	6.7
	Dallas	7	4.6		Pottawattamie	66	18.5
	Dubuque	22	6.4		Scott	88	13.0
	Johnson	57	14.7		Warren	3	2.0
	Linn	76	9.5		Woodbury	32	6.4

¹Rates per 1,000 live births

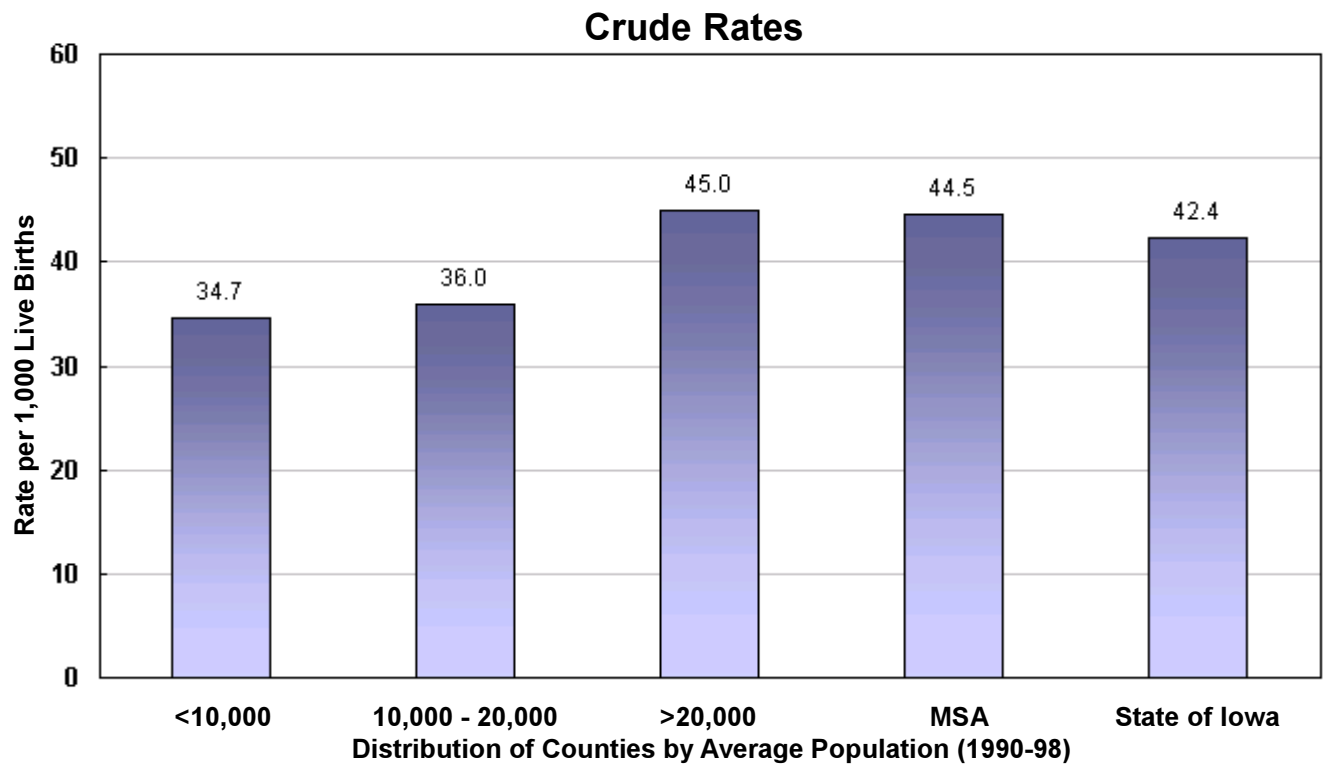
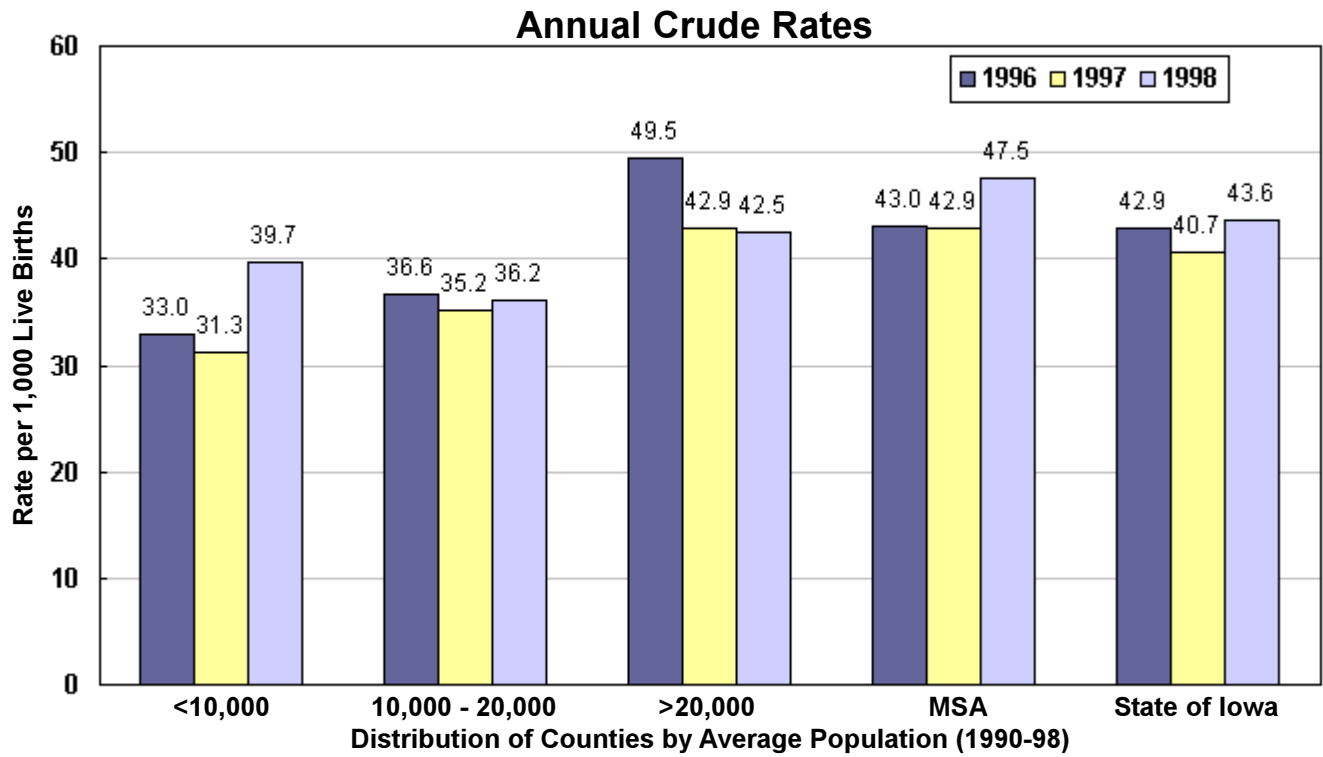
*Number of events is less than 3 and rates are not reported

Source: Iowa Department of Public Health, Vital Statistics

Congenital Malformations 1997-1999



Birth Defects 1996-1998



Selected Birth Defects in Iowa 1995-1998

Defect Name	1995		1996		1997		1998	
	Defects	Crude ¹ Rate	Defects	Crude ¹ Rate	Defects	Crude ¹ Rate	Defects	Crude ¹ Rate
Anencephalus	18	0.49	26	0.70	11	0.30	9	0.24
Anophthalmos Microphthal	9	0.24	7	0.19	6	0.16	9	0.24
Aortic Valve Stenosis and Atresia	39	1.06	42	1.13	34	0.93	45	1.21
Congenital Arthrogyposis	21	0.57	9	0.24	13	0.35	12	0.32
Atrial Septal Defect	131	3.56	161	4.34	165	4.50	266	7.14
Rectal and Intestinal Atresia and Stenosis	14	0.38	25	0.67	20	0.55	18	0.48
Bladder Exstrophy	1	0.03	1	0.03	2	0.05	3	0.08
Cleft Lip	37	1.01	53	1.43	54	1.47	45	1.21
Cleft Palate without Cleft Lip	18	0.49	15	0.40	15	0.41	22	0.59
Club foot without CNS Defect	106	2.88	101	2.72	98	2.67	81	2.17
Coarctation of Aorta	28	0.76	21	0.57	25	0.68	25	0.67
Coloboma Of Eye	1	0.03	10	0.27	3	0.08	2	0.05
Congenital Cataract	14	0.38	12	0.32	10	0.27	13	0.35
Down Syndrome (Trisomy 21)	37	1.01	51	1.37	49	1.34	48	1.29
Endocardial Cushion Defect	9	0.24	26	0.70	20	0.55	19	0.51
Trisomy 18 (Edward's Syndrome)	4	0.11	9	0.24	7	0.19	10	0.27
Encephalocele	4	0.11	4	0.11	5	0.14	3	0.08
Hydrocephalus without Spina Bifida	50	1.36	37	1.00	30	0.82	26	0.70
Hypoplastic Left Heart Syndrome	19	0.52	20	0.54	13	0.35	26	0.70
Lung Agenesis and Hypoplasia	15	0.41	21	0.57	12	0.33	10	0.27
Microcephalus	52	1.41	35	0.94	37	1.01	29	0.78
Pulmonary Artery Anomaly	60	1.63	91	2.45	96	2.62	115	3.09
Trisomy 13 (Patau's Syndrome)	2	0.05	4	0.11	6	0.16	5	0.13
Patent Ductus Arteriosus	117	3.18	127	3.42	130	3.55	157	4.21
Pulmonary Valve Stenosis and Atresia	52	1.41	35	0.94	35	0.96	53	1.42
Reduction Deformity of Upper Limbs	13	0.35	23	0.62	13	0.35	20	0.54
Reduction Deformity of Lower Limbs	8	0.22	7	0.19	6	0.16	12	0.32
Renal Agenesis	23	0.63	22	0.59	13	0.35	17	0.46
Spina Bifida without Anecephalus	21	0.57	23	0.62	21	0.57	14	0.38
Tetralogy of Fallot	11	0.3	13	0.35	18	0.49	11	0.30
Tracheo-Esophageal Anomalies	15	0.41	7	0.19	12	0.33	10	0.27
Transposition of Great Arteries	16	0.43	23	0.62	17	0.46	19	0.51
Tricuspid Valve Stenosis and Atresia	32	0.87	49	1.32	40	1.09	71	1.91
Common Truncus	4	0.11	4	0.11	2	0.05	4	0.11
Ventricular Septal Defect	142	3.86	146	3.93	156	4.26	161	4.32
Aniridia	8	0.22	2	0.05	8	0.22	6	0.16
Conus Arteriosus	30	0.82	37	1.00	35	0.96	34	0.91
Omphalocele	15	0.41	7	0.19	10	0.27	9	0.24
Gastroschisis	12	0.33	8	0.22	12	0.33	20	0.54

¹Crude rates per 1,000 live births

Source: Iowa Birth Defects Registry,
The University of Iowa