Sexually Transmitted Disease Surveillance 2004 Supplement

Syphilis Surveillance Report

Division of STD Prevention
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Update: U.S. Syphilis Elimination Effort

In October 1999, CDC in collaboration with federal, state, and local partners, launched the National Plan to Eliminate Syphilis from the United States.[1] In the National Plan, CDC identified the key strategies needed for successful elimination of syphilis from the United States: expanded surveillance and outbreak response activities, rapid screening in and out of medical settings, expanded laboratory services, strengthened community involvement and agency partnerships, and enhanced health promotion.

Although rates of reported primary and secondary (P&S) syphilis have been decreasing since the early 1990s, the Syphilis Elimination Effort has further enhanced these gains by sustaining reductions in disease incidence in key groups; raising professional and public awareness of syphilis; increasing financial investment into public STD services; and building local public health and community capacity to fight this devastating disease. Two of the most notable contributions of the Syphilis Elimination Effort have been the sustained reductions in syphilis among women (from 2,777 reported cases in 1999 to 1,255 in 2004) and the continued declines in congenital syphilis (from 580 reported cases in 2000 to 353 in 2004). Other achievements on the road to syphilis elimination include the following:

- Trends in the Black:White rate ratio of P&S syphilis, a key marker of racial disparities in STDs, have decreased from 63.0:1 in 1992; 24.0:1 in 2000; to 5.6:1 in 2004.
- Between 2000 and 2004, the proportion of syphilis-free counties in the United States has consistently exceeded 75%.
- There have been sustained reductions in the rates of P&S syphilis in the Southern United States from 22.9 per 100,000 in 1992; 3.7 in 2000; and 3.6 in 2004.
- There has been substantial additional investment to support syphilis elimination activities in high morbidity areas. This includes financial support to community-based organizations to lead peer-based interventions as well as investment in STD healthcare infrastructure and staff development.

However, new challenges have emerged. After reaching a nadir in 2000, overall diagnoses of P&S syphilis are again on the increase. Today, more than 60% of new infections are diagnosed in men who have sex with men.[2] Syphilis is now increasingly diagnosed in the private sector, presenting concerns about the effectiveness of the identification and management in this setting. Public health services face increasing pressures from rising demand and decreasing financial resources. The social contexts of poverty, racism, homophobia, and classism

continue to drive the concentration of the disease among those with high risk sexual lifestyles and/or poor access to care.

During 2005, the CDC has undertaken a review of the Syphilis Elimination Effort with a view to reframing the National Plan to be more responsive to current and future challenges. A Syphilis Elimination Listening Tour has been undertaken to obtain qualitative feedback from state and local colleagues on the implementation and future reframing of the Syphilis Elimination Effort.[3] This was supported by a Syphilis Elimination Consultation Event in August 2005.[4] Feedback from both activities has informed the redrafting of the National Plan, and a revised action plan is anticipated for release in Spring 2006.

In 1999, the persistence of syphilis in the United States was said to reflect a failure in our public health capacity.[1] Today, population-wide changes in sexual behavior, in turn driven by a number of social and economic factors, may be influencing where next and who next is affected by this disease. Nevertheless, the benefits of elimination -- improvements in health, reductions in healthcare costs, development of public health capacity, and reductions in racial disparities -- remain as pertinent today as ever.

Introduction

This Syphilis Surveillance Report presents adult and congenital syphilis statistics and trends in the United States through 2004. The surveillance information in this report is based on the following sources: case reports from the 65 Sexually Transmitted Disease (STD) project areas, data on the prevalence of reactive serologic tests for syphilis provided by the Corrections STD Prevalence Monitoring Project and state and local health departments, which voluntarily submitted correctional facility screening data to CDC. The STD surveillance systems operated by STD control programs of state and local health departments provide the data on syphilis and are the sources of most of the information in this publication. These systems are an integral part of program management at all levels of STD prevention and control in the United States.

This report consists of two parts: a National Profile, which contains figures that provide an overview of syphilis morbidity in the United States and the State Profiles, which contains figures of syphilis case report trends at the state and county level.

Any comments or suggestions that would improve the usefulness of future publications are appreciated and should be sent to Director, Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, 1600 Clifton Road, Mailstop E-02, Atlanta, Georgia, 30333.

Methods

Sources of Data

Syphilis case report data are used to create the tables and graphics in this report and are from either hardcopy summary reporting forms (monthly, quarterly, and annual) or individual case records transmitted electronically via the National Electronic Telecommunications System for Surveillance (NETSS), which is the system that provides notifiable disease information that is published in the Morbidity and Mortality Weekly Report (MMWR). Project areas have been in the process of converting from hardcopy reporting of STD data to electronic submissions of individual line-listed data since 1996. In 2004, primary and secondary (P&S) syphilis data from hardcopy reports were used from Puerto Rico, Guam, and Virgin Islands. Data on reported cases of P&S syphilis were analyzed for this report because these cases best represent the incidence of infectious syphilis (i.e., newly acquired infections within a specific time period). For congenital syphilis (CS), 29 states and outlying territories used hardcopy

reports. Reports and corrections sent to CDC on hardcopy forms and electronically via NETSS through April 29, 2005, were used to create the line-graphs, bar charts, and county-level maps in this report.

Ten states reported information from syphilis serology data from persons entering correctional facilities as part of the Corrections STD Prevalence Monitoring Project.

Population Denominators and Rate Calculations

Crude incidence rates (new cases/population) were calculated on an annual basis per 100,000 population. In this report, the 2003 and 2004 rates for the nation, states, cities, and outlying areas were calculated by dividing the number of cases reported from each area in 2003 and 2004, respectively, by the estimated area-specific 2003 population. The National Center for Health Statistics (NCHS) released bridged data reports for the 2000-2003 resident population based on the Census 2000 counts. These estimates resulted from bridging the 31 race categories used in Census 2000, as specified in the 1997 Office of Management and Budget (OMB) standards, to four race groups specified under the 1977 OMB standards. The files were prepared under a collaborative arrangement with the U.S. Census Bureau. The population counts for 1990-1999 were also updated to incorporate the bridged single-race estimates of the April 1, 2000, resident population. These files were prepared by the U.S. Census Bureau with support from the National Cancer Institute. **Due to the updated population estimates, rates reported here may be different from those reported in the 2003 Syphilis Surveillance Report.**

Rates of CS for 1989-2004 were calculated using live births from NCHS (Vital Statistics: Natality Tapes 1989-2002 or Vital Statistics Reports, United States 1999, Vol. 48 No.10-Natality). Race-specific rates for 2002-2004 were calculated using live births for 2002. Rates before 1989 were calculated using published live birth data (NCHS; Vital Statistics Report, United States, 1988 [Vol.l-Natality]).

Calculation of Proportion of Reactive Serologic Tests for Syphilis

Serologic test reactivity is expressed as a percentage and was calculated by dividing the number of persons with reactive serologic tests for syphilis by the total number of persons with valid test results for syphilis. The denominator may include more than one test from the same individual if that individual was tested more than once.

Data Limitations

Syphilis data should be interpreted with caution. Case report data are likely to underestimate the true burden of disease in the United States, because of under-reporting of diagnosed cases, infected persons not accessing health care, and persons who are otherwise not screened. The prevalence of reactive serology from persons entering correctional facilities may not reflect the prevalence of syphilis in communities where the facilities are located or where the inmates were living at the time of arrest. Because confirmatory tests were not available for the majority of reactive serologic tests for syphilis, biologic false positive results in these instances could not be determined and thus could not be excluded from the proportion calculations.

Acknowledgements

The publication of this report would not have been possible without the contributions of the State and Territorial Health Departments, the STD Control Programs, which provided state and local surveillance data to CDC, and the participating agencies of the Corrections STD Prevalence Monitoring Project.

This report was prepared by the following staff members of the Surveillance and Special Studies Team of the Epidemiology and Surveillance Branch, the Statistics and Data Management Branch, and the Syphilis Elimination Effort of the Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention: John Beltrami, Susan Bradley, Sharon Clanton, Kevin Fenton, Melinda Flock, Donna Helms, Rose Horsley, Riduan Joesoef, Elvin Magee, Rob Nelson, Emmett Swint, and Hillard Weinstock.

National Profile of Syphilis Surveillance Data

Syphilis, a genital ulcerative disease, causes significant complications if untreated and facilitates the transmission of HIV.[5] Untreated early syphilis during pregnancy results in perinatal death in up to 40% of cases and, if acquired during the four years preceding pregnancy, may lead to infection of the fetus in over 70% of cases.[6]

In recent years, reports of outbreaks and increased numbers of primary and secondary cases among men who have sex with men have been documented and characterized by high rates of HIV co-infection and high-risk sexual behavior.[7-11] Additionally, a substantial proportion of early syphilis cases is from correctional facilities,[12] in which high rates of reactive serologies and disease are known to occur,[13-16] particularly in areas experiencing heterosexual syphilis epidemics.[12-14] Information from both case reports and STD Prevalence Monitoring Projects is important for STD prevention, planning, and evaluation activities.

Overall

- The rate of primary and secondary (P&S) syphilis reported in the United States decreased during the 1990s and in 2000 was the lowest since reporting began in 1941.[17] However, the number of cases of P&S syphilis increased during 2000-2003 and continued to increase from 2003 (7,177 cases) to 2004 (7,980 cases).[18]
- In 2004, P&S syphilis cases reported to CDC increased to 7,980 from 7,177 in 2003, an increase of 11.2% (Figure 1). The rate of P&S syphilis in the United States was 8.0% higher in 2004 than in 2003 (2.7 vs. 2.5 cases per 100,000 population).[18]
- During 2003-2004, the number of cases reported to CDC decreased 7.1% for early latent syphilis (from 8,361 to 7,768), 5.6% for late and late latent syphilis (from 18,319 to 17,300), and 2.6% for the total number of cases of syphilis (P&S, early latent, late and late latent, and congenital syphilis) (from 34,289 to 33,401).[18]

Gender

- The overall increase in primary and secondary (P&S) cases during 2000-2004 was observed primarily among men.[18] During 2003-2004, P&S syphilis reported to CDC increased among men (from 5,956 to 6,722 cases) and women (from 1,217 to 1,255 cases).[18]
- During 2003-2004, the rate of P&S syphilis increased 11.9% among men (from 4.2 cases to 4.7 cases per 100,000 men) and remained the same among women (0.8 cases per 100,000 women) (Figure 2).[18]
- In 2004, the rate of P&S syphilis was highest among women in the 20-24 year-old age group (3.0 cases per 100,000 population) and among men in the 35-39 year-old age group (12.4 cases per 100,000 population) (Figure 3).[18] In 2002 and 2003, the highest rates of syphilis among women and men were in these same respective age groups.

- The male-to-female (M:F) rate ratio for P&S syphilis has risen since 1996 when it was 1.2 (Figure 4), suggesting that syphilis cases among men who have sex with men have increased since that year. During 2003-2004, the M:F rate ratio increased 11.3% (from 5.3 to 5.9).[18] During 2003-2004, the M:F rate ratio increased in 29 states, decreased in 19 states, and stayed the same in 2 states.
- During 2003-2004, the M:F rate ratio for P&S syphilis increased among African-Americans (from 2.7 to 3.3) and Hispanics (from 6.1 to 7.9) but decreased among non-Hispanic whites (from 14.0 to 10.3), Asian/Pacific Islanders (from 19.0 to 11.5), and American Indian/Alaska Natives (from 2.8 to 1.2).[18]

Congenital Syphilis

- During 1991-2004, the average yearly percentage decrease in the rate of primary and secondary (P&S) syphilis reported among women was 19.8% and the average yearly percentage decrease in the congenital syphilis (CS) rate was 17.0%. The continuing decrease in CS likely reflects the substantial reduction in the rate of P&S syphilis among women that has occurred since 1991 (Figure 5).[18]
- Between 2003 and 2004, the overall rate of CS decreased 17.8% in the United States, from 10.7 to 8.8 cases per 100,000 live births,[18] even though the rate of P&S syphilis in women did not change between 2003 and 2004.
- In 2004, 31 states and one outlying area had rates of CS that exceeded the HP2010 target of 1.0 case per 100,000 live births (Figure 6).[18]

Race/Ethnicity

- During 1990-1996, rates of primary and secondary (P&S) syphilis declined among all racial and ethnic groups (Figure 7). From 1997 to 2000, rates of P&S syphilis were fairly stable in all racial and ethnic groups except African-Americans, in whom the rate steadily declined.[18]
- During 2000-2003, the P&S syphilis rate among African-Americans continued to decline (from 12.0 to 7.7 cases per 100,000 population); the rate increased to 9.0 per 100,000 population in 2004. Rates increased each year during 2000-2004 among non-Hispanic whites (from 0.5 to 1.6 cases per 100,000 population), Hispanics (from 1.6 to 3.2 cases per 100,000 population), and Asian/Pacific Islanders (from 0.3 to 1.2 cases per 100,000 population). The rate among American Indian/Alaska Natives increased during 2000-2001 (from 2.2 to 3.8 cases per 100,000 population), declined to 2.1 cases per 100,000 population in 2002, and then increased to 3.2 cases per 100,000 population in 2004.[18]

- In 2004, 40.9% of reported cases of P&S syphilis occurred among African-Americans compared with 39.2% of cases reported in 2003.[18] Although the rate of P&S syphilis remains higher among African-Americans than among non-Hispanic whites, the disparity in rates between the two populations has decreased over time because of the declining rate of P&S syphilis among African-Americans and the increasing rate of infection among non-Hispanic whites. In 2004, the rate of P&S syphilis was 5.6 times higher among African-Americans than among non-Hispanic whites compared with 5.1 times higher in 2003. This is the first increase in the disparity ratio since 1992 when the African-American rate was 62 times that of the non-Hispanic white rate. The increase is due primarily to increases in cases among African-Americans in 2004.
- In 2004, the rates of P&S syphilis were highest among African-American men (14.1 cases per 100,000 population) and women (4.3 cases per 100,000 population) (Figure 8).[18]

Geography

- In 2004, the South continued to have a higher rate of primary and secondary (P&S) syphilis (3.6 cases per 100,000 population) than any other region* in the United States, and cases in the South accounted for 47.5% of total P&S syphilis cases reported.[18]
- During 2003-2004, the P&S rate remained the same in the Midwest (1.6 cases per 100,000 population) but increased 4.8% in the Northeast (from 2.1 to 2.2 cases per 100,000 population), 7.4% in the West (from 2.7 to 2.9 cases per 100,000 population), and 16.1% in the South (from 3.1 to 3.6 cases per 100,000 population). The increases in the South between 2002 and 2004 follow declines each year in this region during 1990-2002. Rates in all regions were greater than the HP2010 target of 0.2 case per 100,000 persons in 2004 (Figure 9).[19]
- M:F P&S rate ratios increased in all regions during 2003-2004; rate ratios increased 10.5% in the South (from 3.8 to 4.2), 8.4% in the Northeast (from 9.5 to 10.3), 19.4% in the Midwest (from 3.6 to 4.3); and 8.2% in the West (from 9.8 to 10.6).[18]
- The increases in M:F P&S rate ratios in selected cities (Table 1) are likely due to increased numbers of P&S syphilis among men who have sex with men.
- In 2004, P&S syphilis rates in only 7 states and outlying areas were less than or equal to the Healthy People 2010 national target of 0.2 case per 100,000 persons (Figure 10).[18]

- In 2004, 2,488 (79.2%) of 3,140 counties in the United States reported no cases of P&S syphilis compared with 2,529 (80.5%) counties reporting no cases in 2003.[18] Of 652 counties reporting at least one case of P&S syphilis in 2004, 6 (0.9%) had rates at or below the Healthy People 2010 target of 0.2 cases per 100,000 population. Rates of P&S syphilis were above the Healthy People 2010 target for 646 counties in 2004 (Figure 11). These 646 counties (20.6% of the total number of counties in the United States) accounted for 99.9% of the total P&S syphilis cases reported in 2004.[18]
- In 2004, half of the total number of P&S syphilis cases were reported from 19 counties and one independent city.[18]

Corrections STD Prevalence Monitoring Project

- The median percentage of reactive syphilis tests by facility was 5.3% (range, 0.0% to 19.0%) for women entering 19 adult corrections facilities and 2.7% (range, 0.2% to 5.9%) for men at 24 adult corrections facilities in 2004 (Table 2).[18] The percentage of reactive syphilis tests varied by facility.

Source of Case Report

- The total proportion of primary and secondary syphilis cases, the proportion among men, and the proportion among women reported from sources other than STD clinics increased during 1999-2003, but decreased slightly in 2004 for all three of these groups (Table 3).

*Northeast=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; Midwest=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; South=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; West=Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

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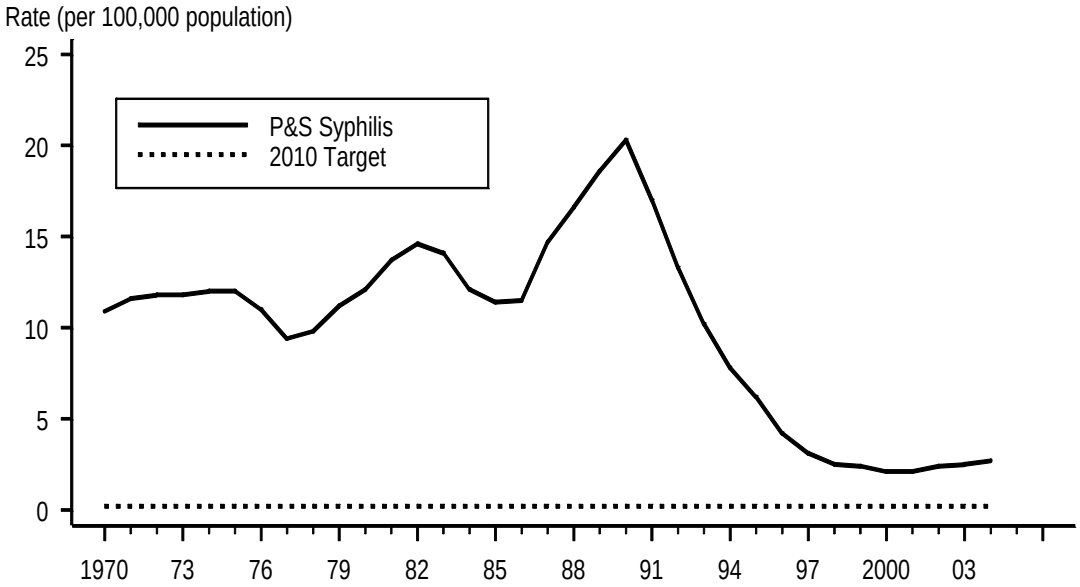
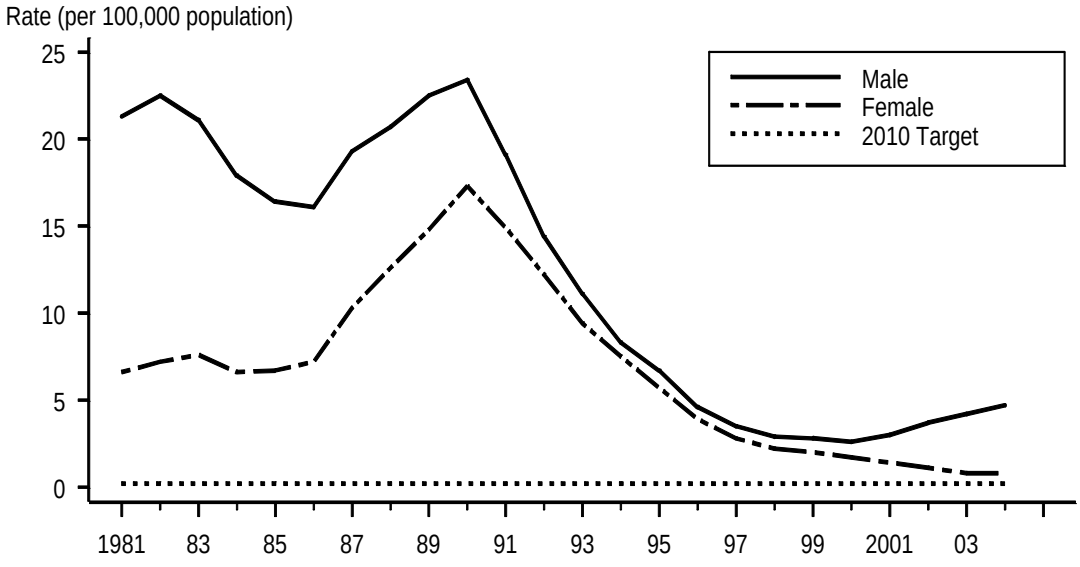
Figure 1. Primary and secondary syphilis — Reported rates: United States, 1970–2004 and the Healthy People year 2010 target



Note: The Healthy People 2010 (HP2010) target for primary and secondary syphilis is 0.2 case per 100,000 population.

Figure 2. Primary and secondary syphilis — Rates by sex: United States, 1981–2004 and the Healthy People year 2010 target



Note: The Healthy People 2010 (HP2010) target for primary and secondary syphilis is 0.2 case per 100,000 population

Figure 3. Primary and secondary syphilis — Age- and sex-specific rates: United States, 2004

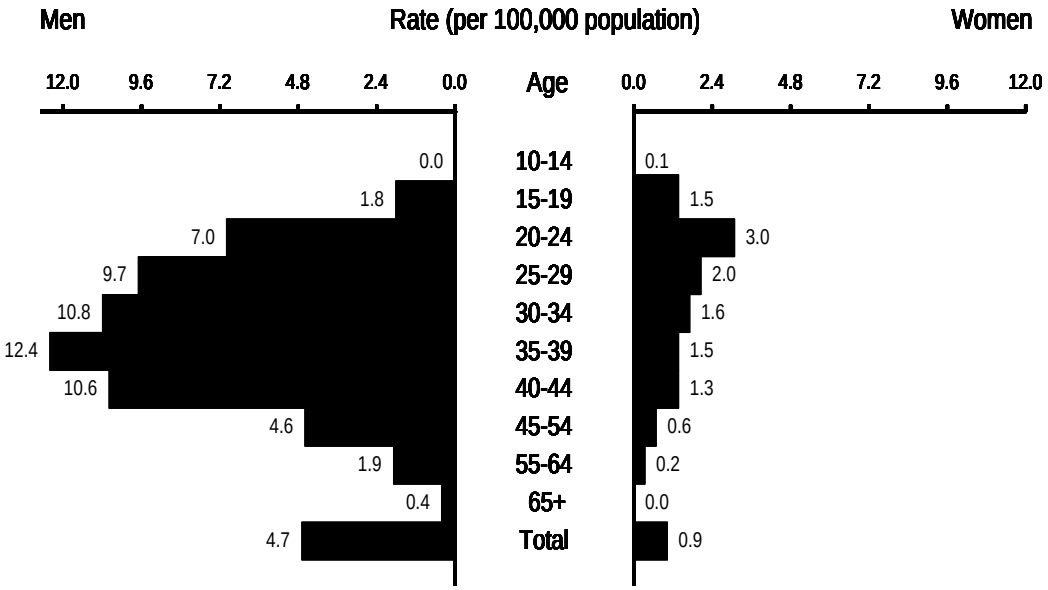
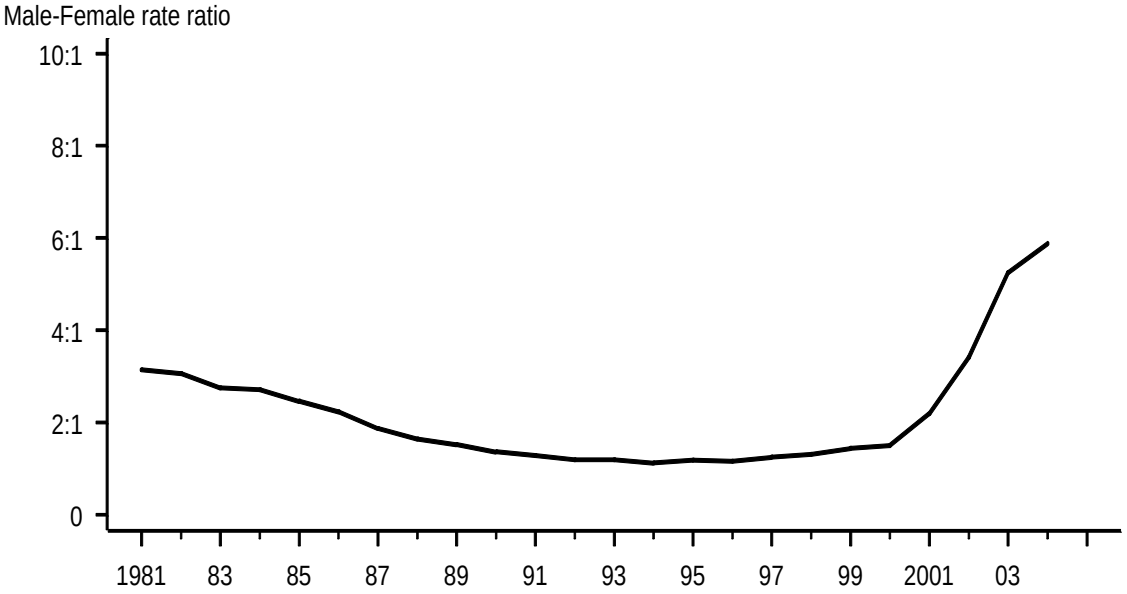
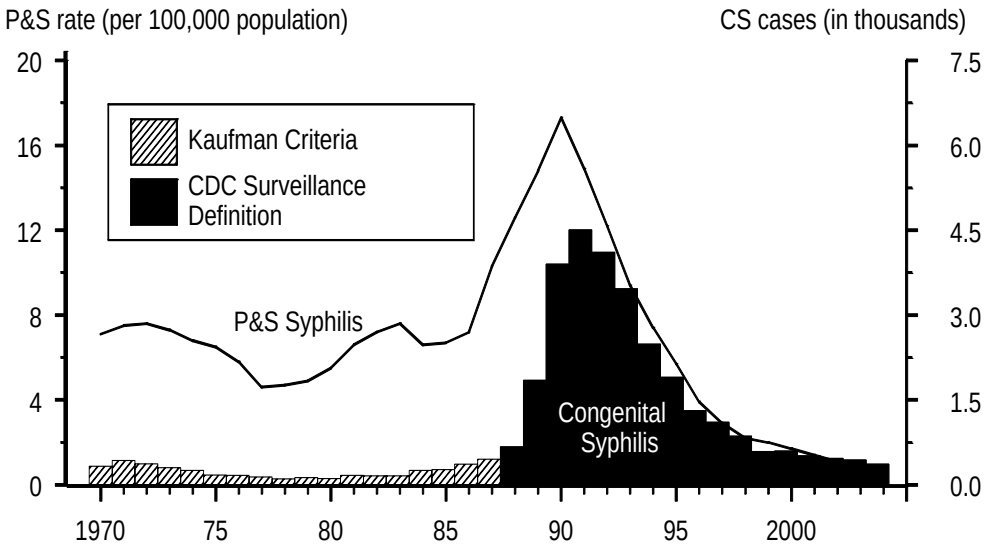


Figure 4. Primary and secondary syphilis — Male-to-female rate ratios: United States 1981–2004



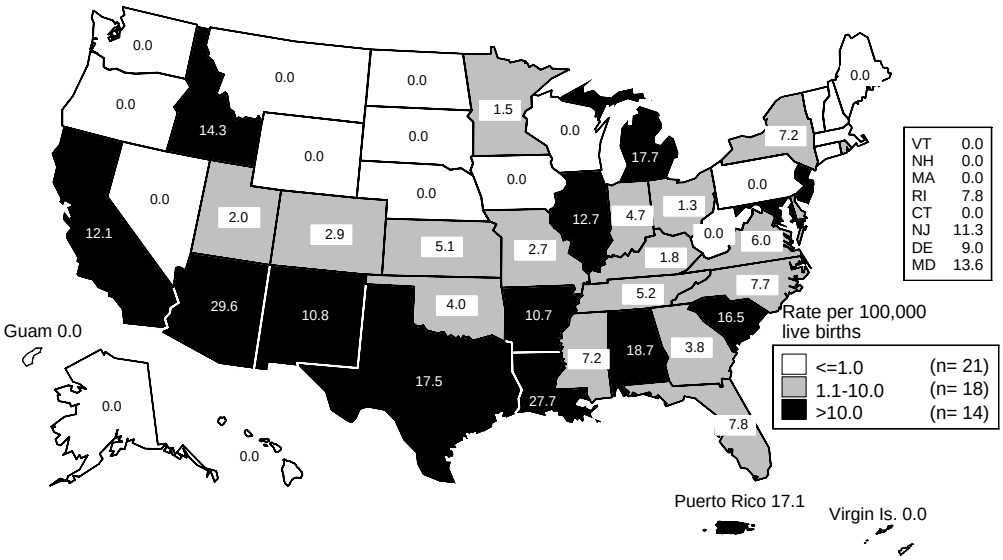
Note: Male-to-female syphilis rate ratios are ratios of the annual rates of syphilis reported among men and women. A male-to-female rate ratio of one means that the rate of reported syphilis infection among men is the same as that among women.

Figure 5. Congenital syphilis — Reported cases for infants <1 year of age and rates of primary and secondary syphilis among women: United States, 1970–2004



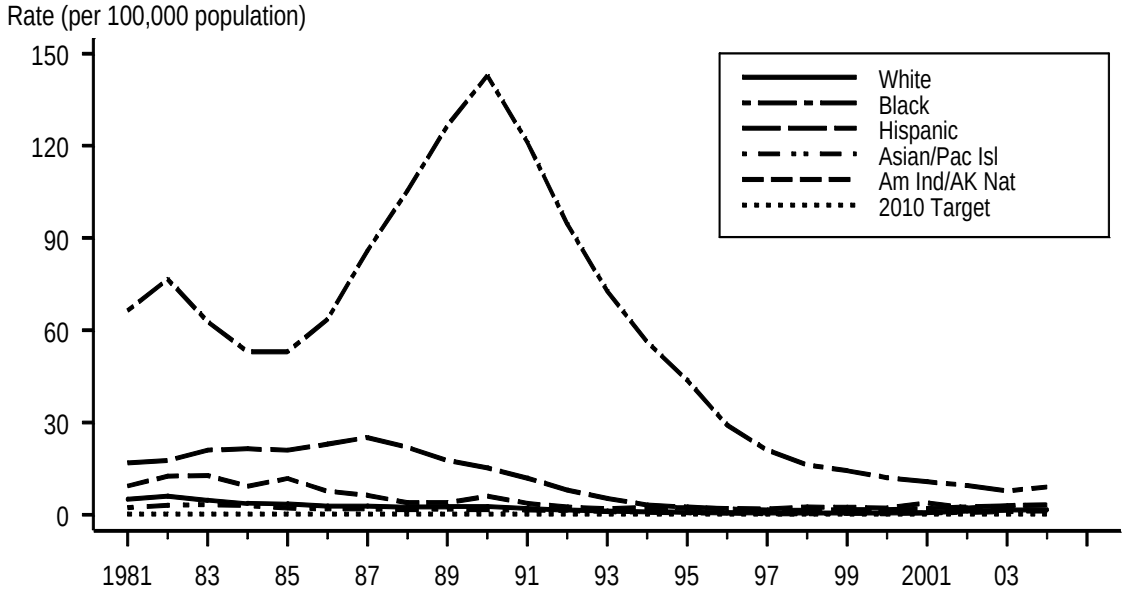
Note: The surveillance case definition for congenital syphilis changed in 1988.

Figure 6. Congenital syphilis — Rates for infants < 1 year of age by state: United States and outlying areas, 2004



Note: The total rate of congenital syphilis for infants < 1 year of age for the United States and outlying areas (Guam, Puerto Rico and Virgin Islands) was 8.9 per 100,000 live births. The Healthy People 2010 target is 1.0 case per 100,000 live births.

Figure 7. Primary and secondary syphilis — Rates by race and ethnicity: United States, 1981–2004 and the Healthy People 2010 target



Note: The Healthy People 2010 (HP2010) target for primary and secondary syphilis is 0.2 case per 100,000 population

Figure 8. Primary and secondary syphilis — Rates by race/ethnicity and sex: United States, 2004

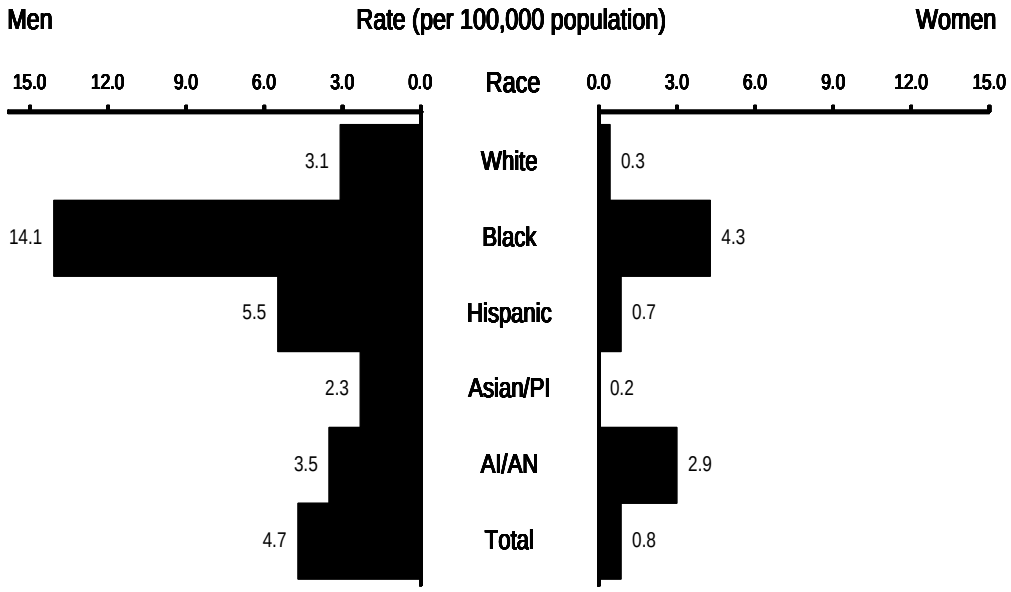
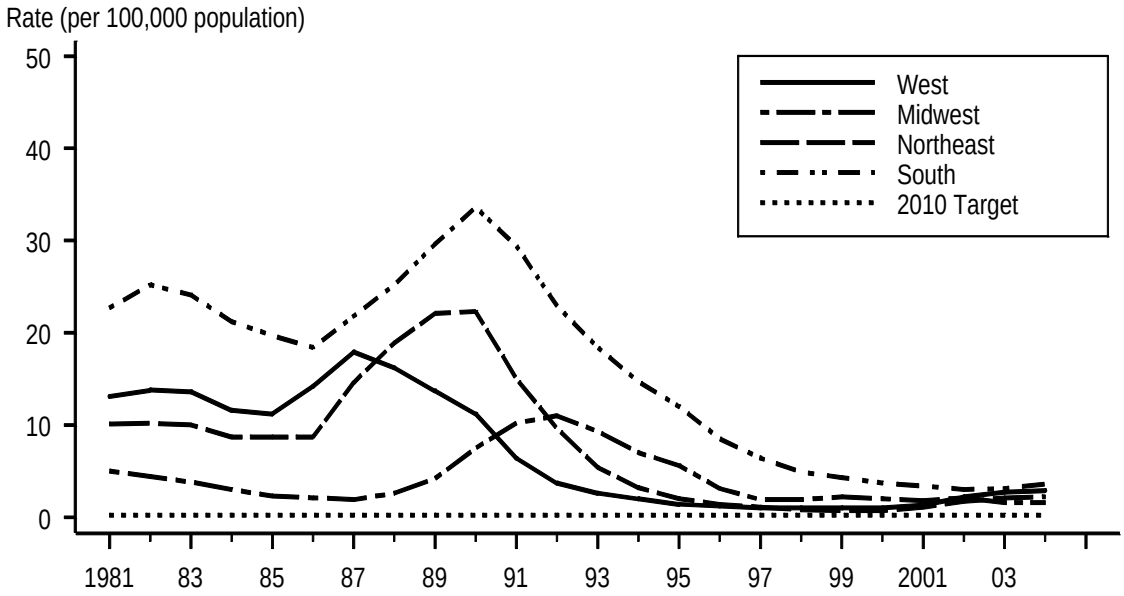
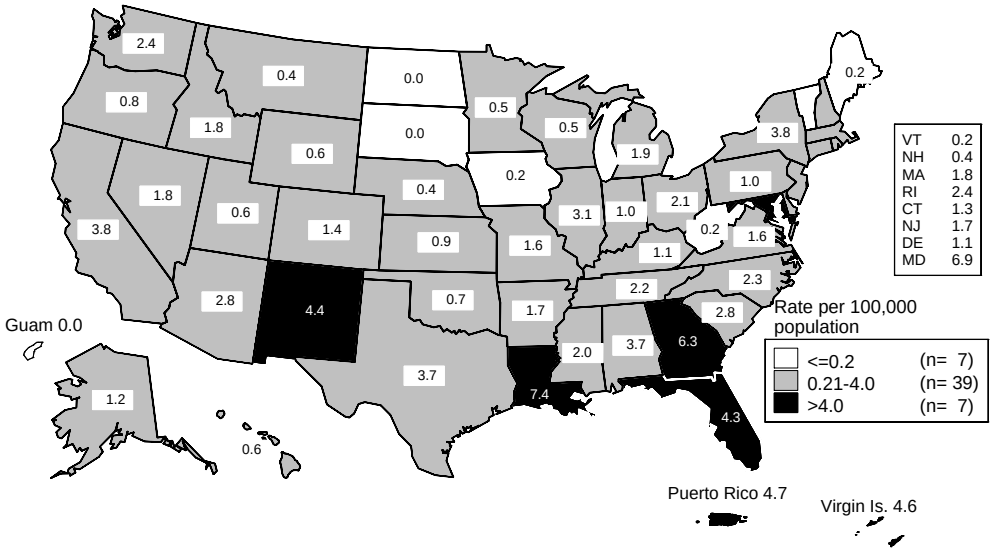


Figure 9. Primary and secondary syphilis — Rates by region: United States, 1981–2004 and the Healthy People 2010 target



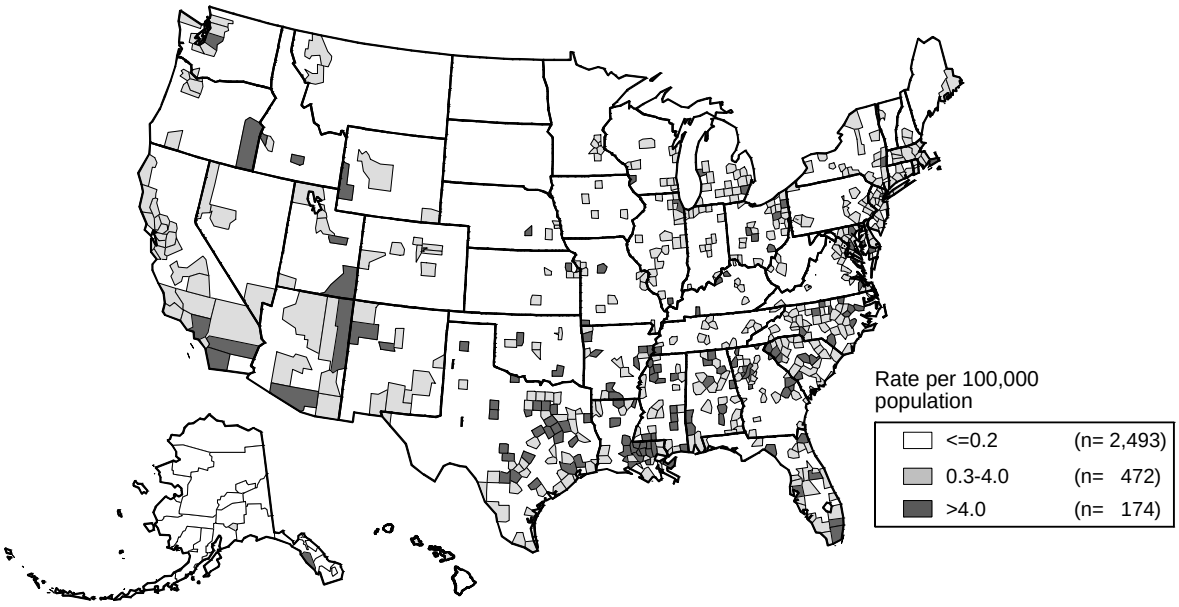
Note: The Healthy People 2010 target for P&S syphilis is 0.2 case per 100,000 population.

Figure 10. Primary and secondary syphilis — Rates by state: United States and outlying areas, 2004



Note: The total rate of P&S syphilis for the United States and outlying areas (Guam, Puerto Rico and Virgin Islands) was 2.8 per 100,000 population. The Healthy People 2010 target is 0.2 case per 100,000 population.

Figure 11. Primary and secondary syphilis — Rates by county: United States, 2004



Note: The Healthy People 2010 target for P&S syphilis is 0.2 case per 100,000 population. In 2004, 2,488 (79.3%) of 3,139 counties in the U.S. reported no cases of P&S syphilis.

Table 1. Primary and secondary syphilis — Reported cases and rates* among men and women and male-to-female rate ratios in selected cities reporting at least 25 cases in 2004: United States, 2003–2004

	Males				Females				Male-to-Female Rate Ratios	
	2003		2004		2003		2004			
Cities	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	2003	2004
Albuquerque, NM	24	8.4	23	8.1	12	4.0	18	6.1	2.1	1.3
Atlanta, GA	259	64.1	260	64.3	39	9.4	23	5.6	6.8	11.5
Austin, TX	26	7.5	49	14.1	2	0.6	3	0.9	12.5	15.7
Baltimore, MD	103	35.2	154	52.6	50	14.9	55	16.4	2.4	3.2
Birmingham, AL	19	6.1	20	6.4	3	0.9	11	3.2	6.8	2.0
Boston, MA	68	23.8	51	17.9	1	0.3	3	1.0	79.3	17.9
Charlotte, NC	14	3.8	29	7.8	2	0.5	10	2,6	7.6	3.0
Chicago, IL	237	15.9	250	16.8	30	1.9	47	3.0	8.4	5.6
Columbus, OH	90	16.9	67	12.6	16	2.9	27	4.8	5.8	2.6
Dallas, TX	83	13.6	106	17.4	48	8.0	35	5.8	1.7	3.0
Denver, CO	24	8.5	36	12.7	1	0.4	5	1.8	21.3	7.1
Detroit, MI	106	24.0	85	19.2	73	14.8	41	8.3	1.6	2.3
Fort Worth, TX	27	9.4	29	10.1	25	8.6	7	2.4	1.1	4.2
Houston, TX	163	16.1	164	16.2	15	1.5	28	2.8	10.7	5.8
Indianapolis, IN	18	4.3	28	6.7	7	1.6	1	0.2	2.7	33.5
Jacksonville, FL	12	3.0	38	9.6	9	2.1	32	7.6	1.4	1.3
Jersey City, NJ	11	9.3	24	20.3	1	0.8	2	1.6	11.6	12.7
Los Angeles, CA	436	9.5	428	9.4	24	0.5	36	0.8	19.0	11.8
Louisville, KY	13	3.9	27	8.0	12	3.3	6	1.7	1.2	4.7
Memphis, TN	50	11.5	61	14.1	26	5.5	26	5.5	2.1	2.5
Miami, FL	171	15.1	186	16.4	23	1.9	27	2.2	7.9	7.5
New Orleans, LA	16	7.3	58	26.3	9	3.6	19	7.6	2.0	3.5
New York City, NY	509	13.2	599	15.6	22	0.5	22	0.5	26.4	31.2
Newark, NJ	31	21.5	14	9.7	26	16.5	12	7.6	1.3	1.3
Oakland, CA	33	4.6	41	5.7	0	0.0	0	0.0	10.2	6.8
Philadelphia, PA	83	12.1	63	9.1	15	1.9	9	1.1	6.4	8.3
Phoenix, AZ	88	5.2	81	4.8	44	2.3	25	1.5	2.0	3.2
San Antonio, TX	46	7.8	89	14.2	6	1.0	18	2.9	7.8	5.2
San Diego, CA	107	7.3	128	8.7	4	0.3	10	0.7	27.3	12.4
San Francisco, CA	328	86.0	344	90.2	3	0.8	0	0.0	107.5	181.4
San Jose, CA	52	6.1	52	6.1	4	0.5	4	0.6	12.2	12.2
Seattle, WA	59	6.7	118	13.4	1	0.1	5	0.6	67.0	22.3
St Louis, MO	15	9.6	39	24.9	3	1.7	8	4.5	5.6	5.5
St Petersburg, FL	50	11.3	36	8.1	1	0.2	1	0.2	56.5	40.5
Tampa, FL	38	7.2	45	8.5	5	0.9	2	0.4	8.0	21.3
Tucson, AZ	23	5.3	27	6.2	17	3.7	11	2.4	1.4	2.6
Washington, DC	45	16.9	65	24.4	3	1.0	4	1.3	16.9	18.8

*Cases per 100,000 population

Note: For calculating male-to-female rate ratios in instances of 0.0 rates among women, 0.5 was added to both the male and female rates, before dividing the male rate by the female rate.

Table 2. Syphilis serology results among men and women in adult corrections facilities, 2004

	Men			Women		
State	*No. of Sites*	*No. of Tests*	*Median % Reactive (Range)*	*No. of Sites*	*No. of Tests*	*Median % Reactive (Range)*
California	1	1,262	4.3	1	595	3.9
Maryland	1	14,984	2.2	1	3,583	10.0
Massachusetts	1	3,442	1.3	1	528	1.9
Mississippi	5	2,594	3.8 (2.6-5.9)	0	0	0
North Carolina	7	16,997	2.9 (1.7-4.5)	7	3,611	8.3 (5.3-12.4)
Ohio	3	30,131	0.6 (0.2-1.1)	3	5,012	1.4 (0.0-2.5)
Pennsylvania	1	22,647	5.7	1	4,433	0.2
Tennessee	3	24,002	2.5 (2.0-4.2)	3	5,623	6.6 (1.2-19.0)
Texas	1	63,768	3.3	1	19,210	7.3
Wisconsin	1	1,252	1.8	1	711	5.2
Total	**24**	**181,079**	**2.7 (0.2-5.9)**	**19**	**43,306**	**5.3 (0.0-19.0)**

Table 3. Primary and secondary syphilis — Reported cases by sex and reporting source: United States, 1999-2004

	Primary and Secondary Syphilis											
	Male				*Female*				*Total**			
	Non-STD Source		*STD Source*		*Non-STD Source*		*STD Source*		*Non-STD Source*		*STD Source*	
Year	*Cases*	*Percent*	*Cases*	*Percent*	*Cases*	*Percent*	*Cases*	*Percent*	*Cases*	*Percent*	*Cases*	*Percent*
1999	1,610	42	2,224	58	1,352	49	1,425	51	2,964	45	3,652	55
2000	1,565	44	1,967	56	1,193	49	1,252	51	2,758	46	3,221	54
2001	2,099	51	2,035	49	1,025	52	942	48	3,125	51	2,978	49
2002	3,132	59	2,135	41	869	55	725	45	4,001	58	2,861	42
2003	3,979	68	1,886	32	741	63	444	37	4,722	67	2,331	33
2004	4,374	66	2,244	34	762	62	477	38	5,137	65	2,722	35

*The sum of male and female cases may not equal total cases because of some male or female cases with missing information for reporting source. Sex was not identified for <1% of P&S syphilis cases during 1999-2004.

STATE PROFILES

Alabama — 2004

Figure A. P&S syphilis rates among men, 1984—2004

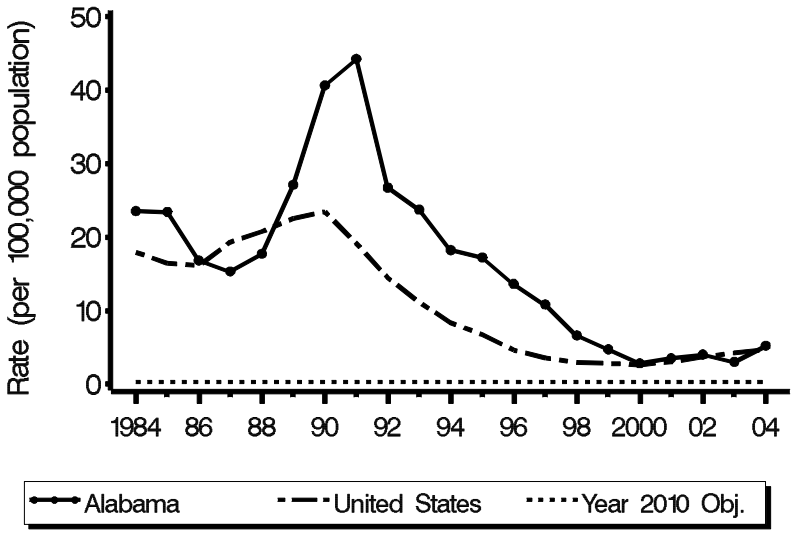


Figure B. P&S syphilis rates among women, 1984—2004

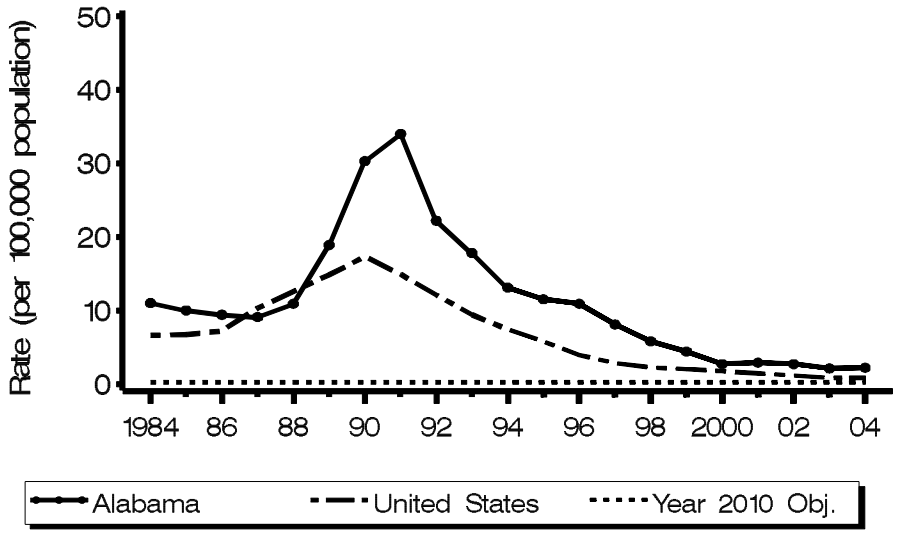


Figure C. P&S syphilis county rates, 2004

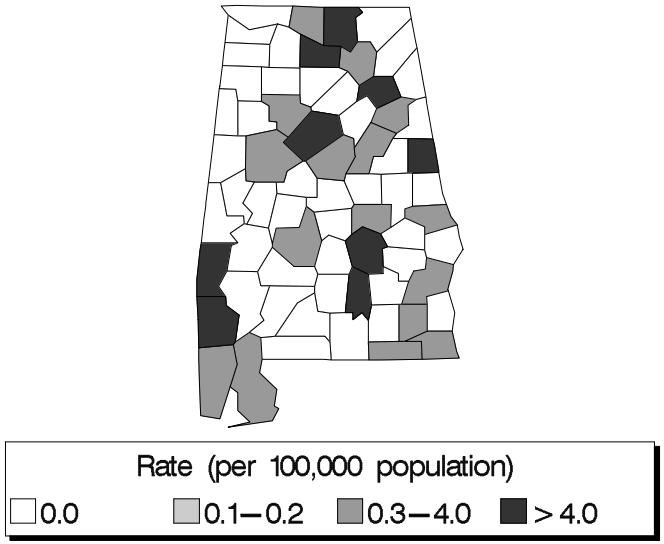
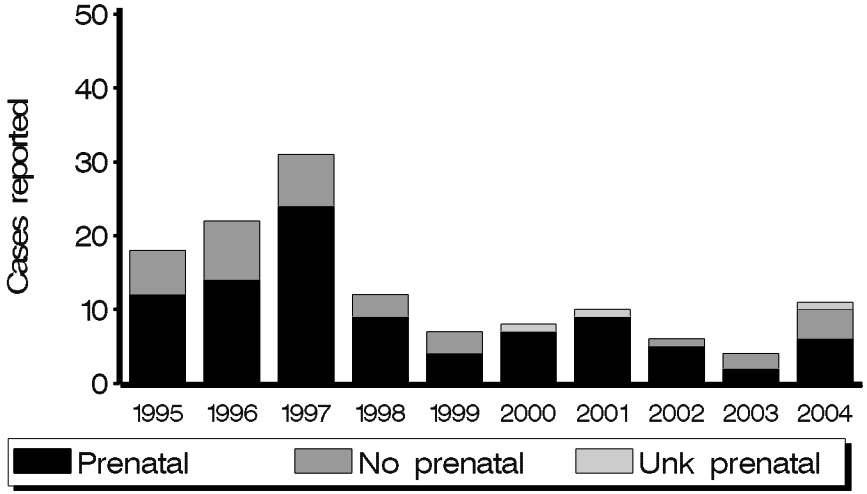


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Alaska — 2004

Figure A. P&S syphilis rates among men, 1984—2004

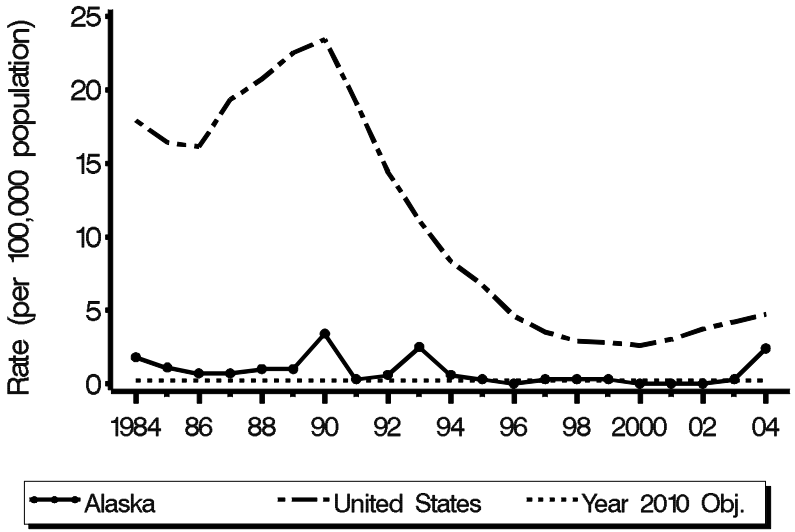


Figure B. P&S syphilis rates among women, 1984—2004

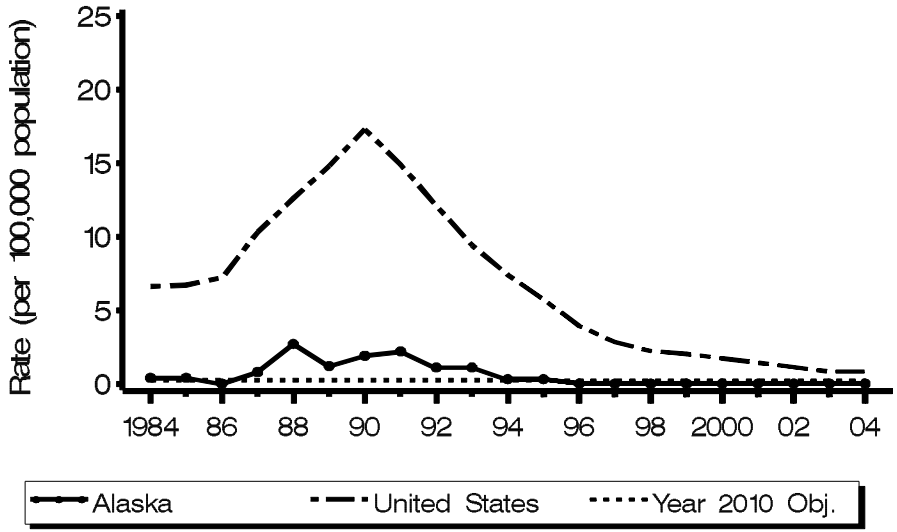


Figure C. P&S syphilis county rates, 2004

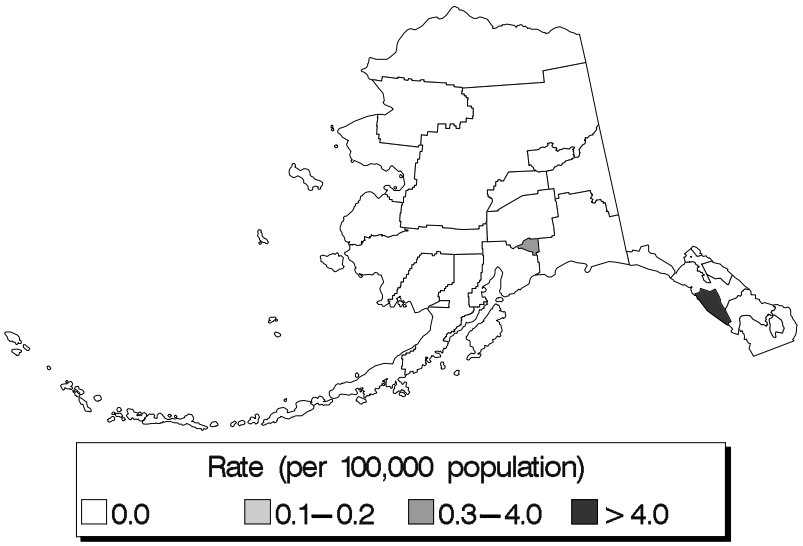
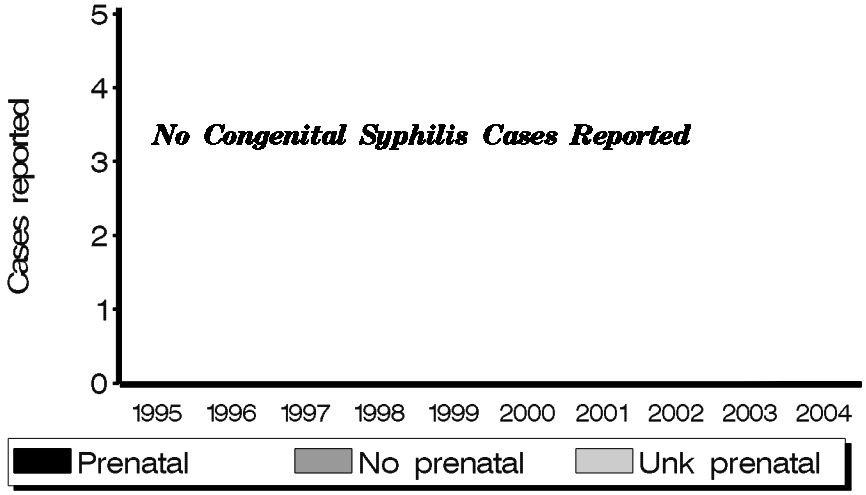


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Arizona — 2004

Figure A. P&S syphilis rates among men, 1984—2004

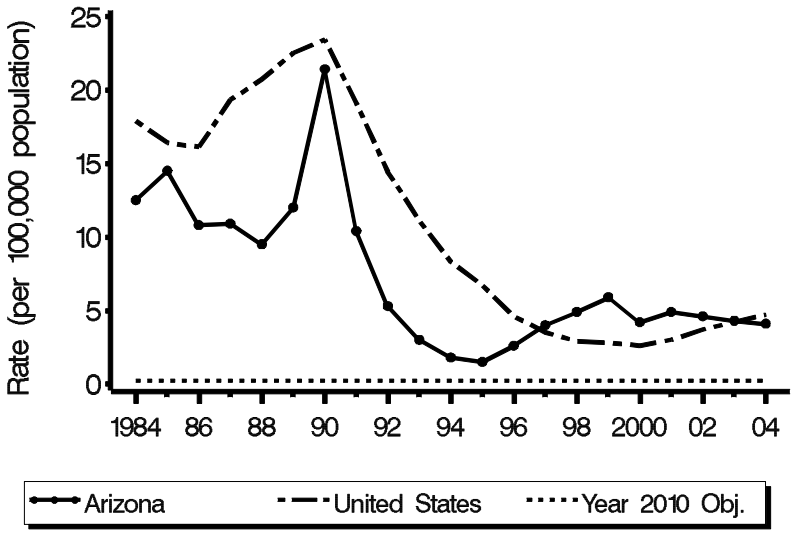


Figure B. P&S syphilis rates among women, 1984—2004

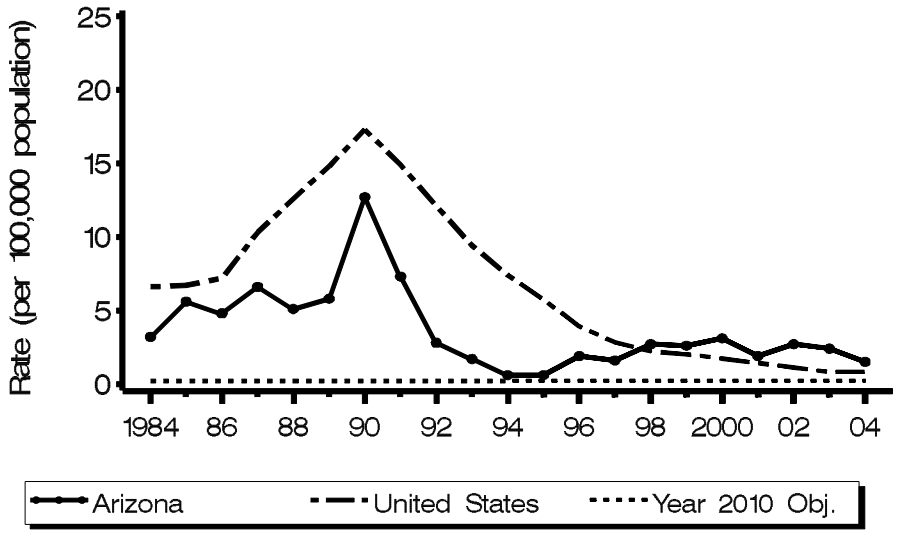


Figure C. P&S syphilis county rates, 2004

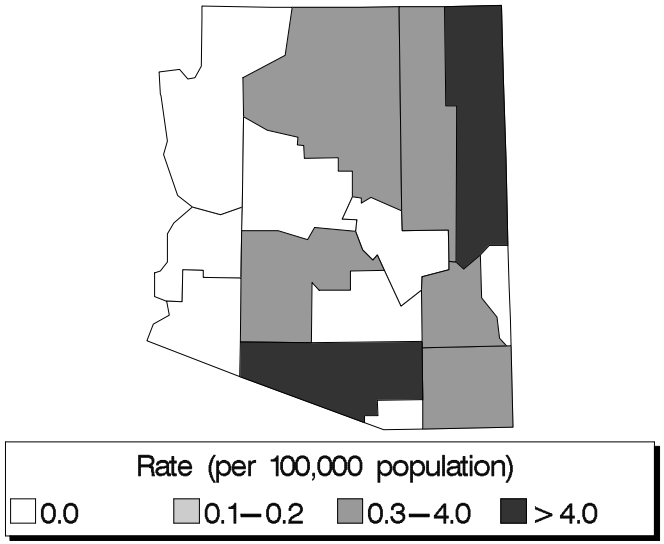
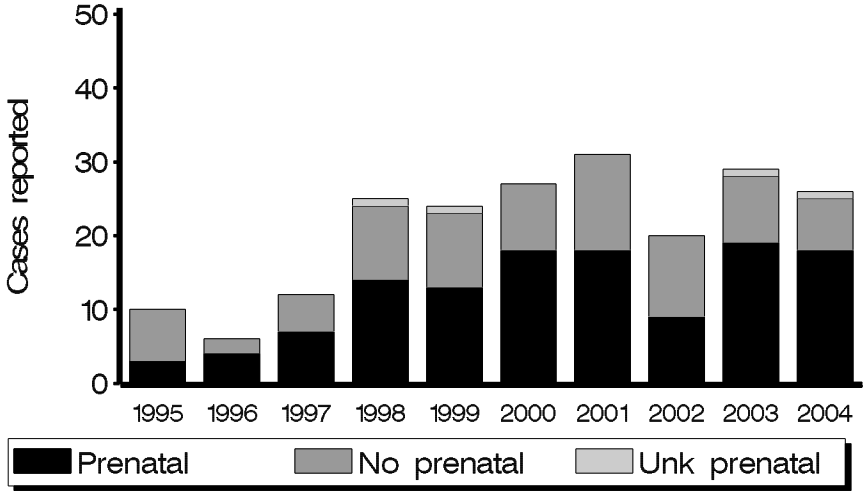


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Arkansas — 2004

Figure A. P&S syphilis rates among men, 1984—2004

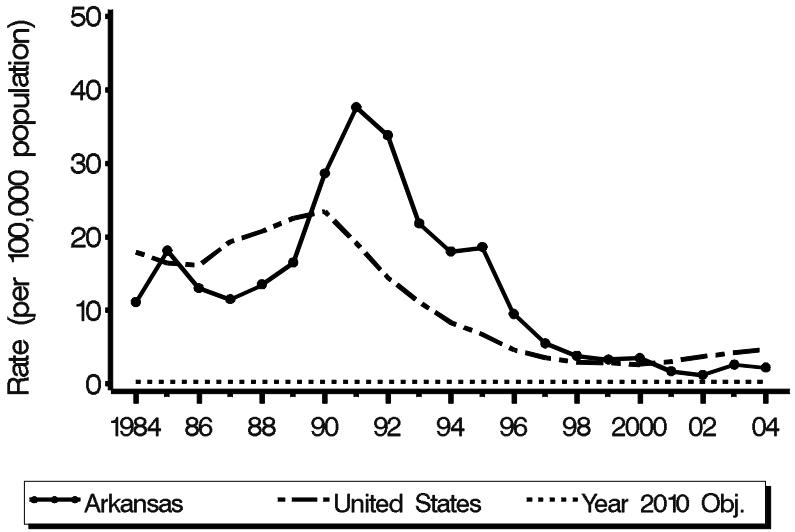


Figure B. P&S syphilis rates among women, 1984—2004

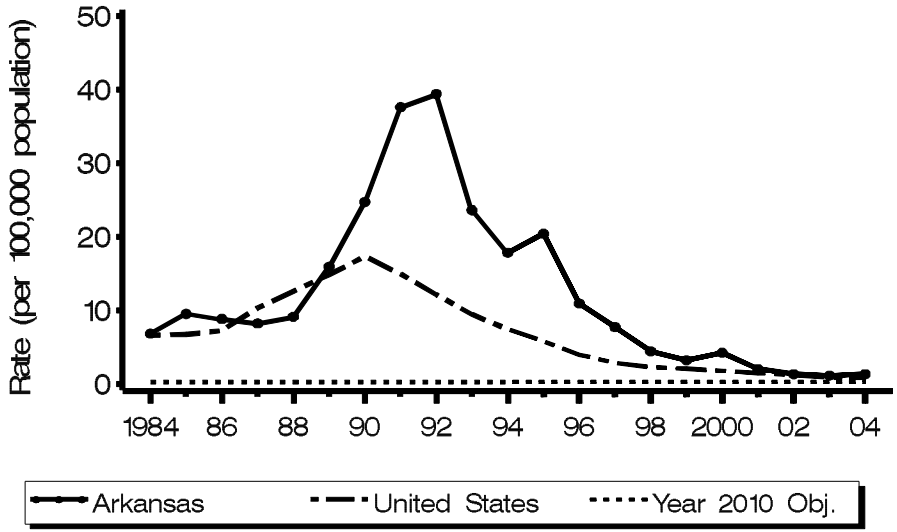


Figure C. P&S syphilis county rates, 2004

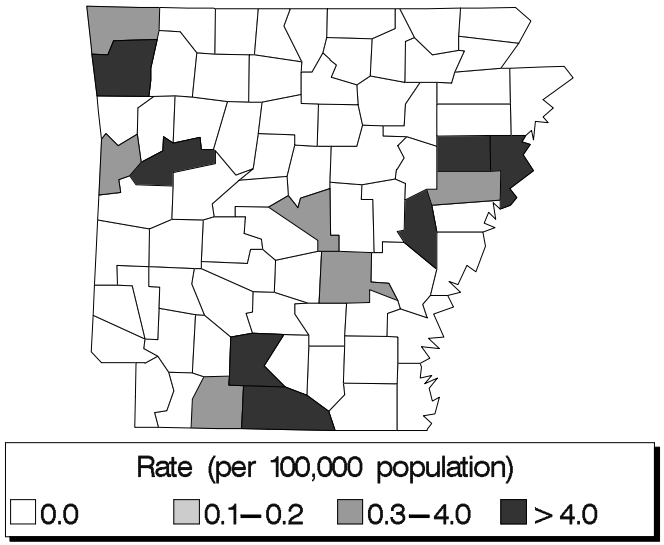
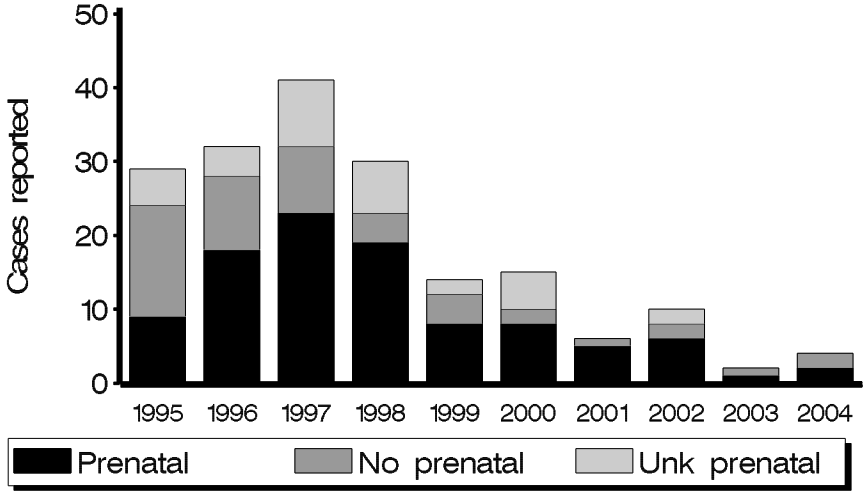


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



California — 2004

Figure A. P&S syphilis rates among men, 1984—2004

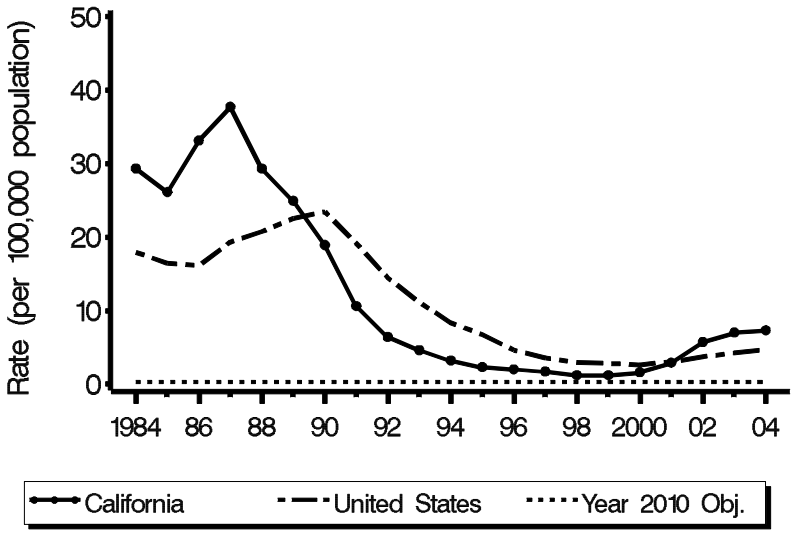


Figure B. P&S syphilis rates among women, 1984—2004

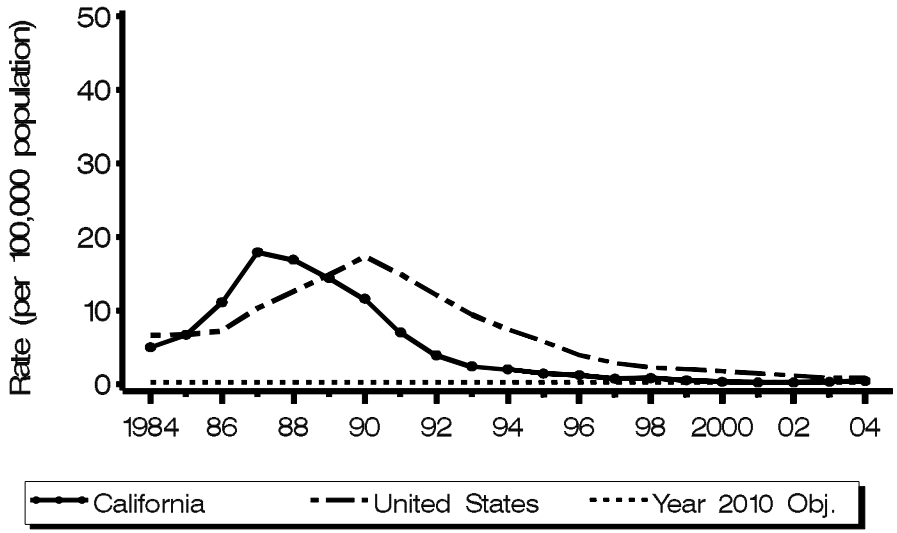


Figure C. P&S syphilis county rates, 2004

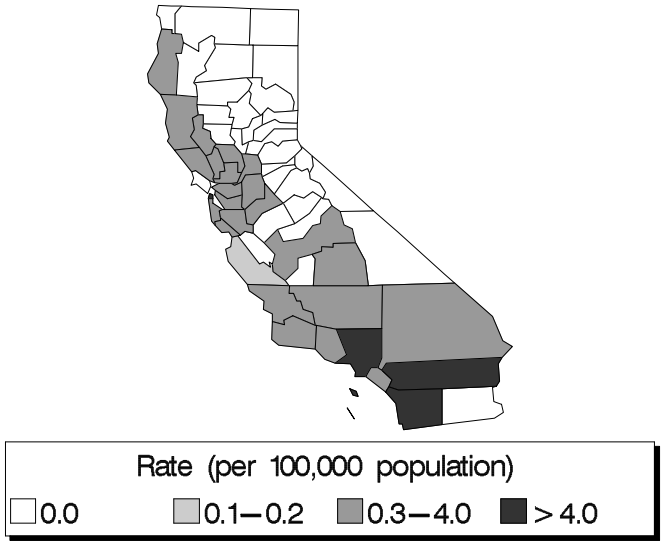
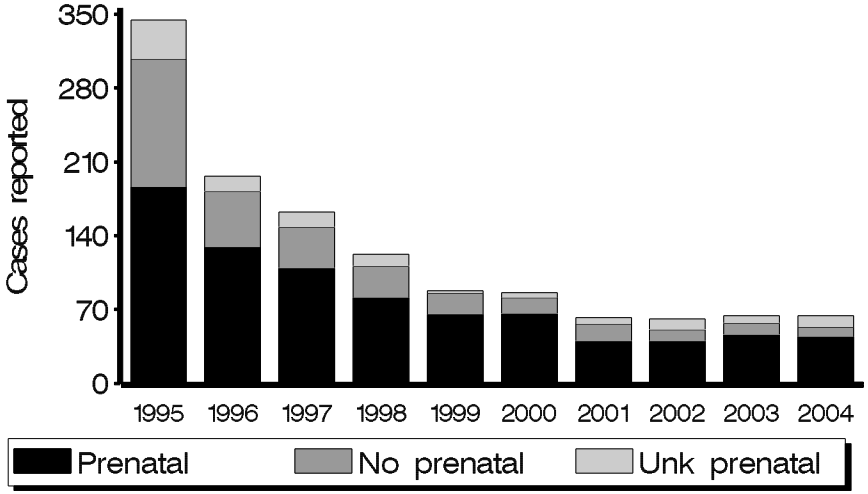


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Colorado — 2004

Figure A. P&S syphilis rates among men, 1984—2004

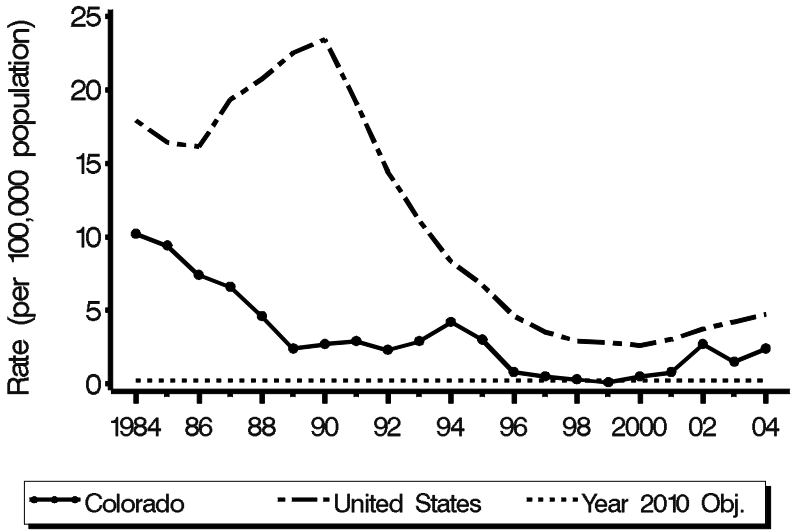


Figure B. P&S syphilis rates among women, 1984—2004

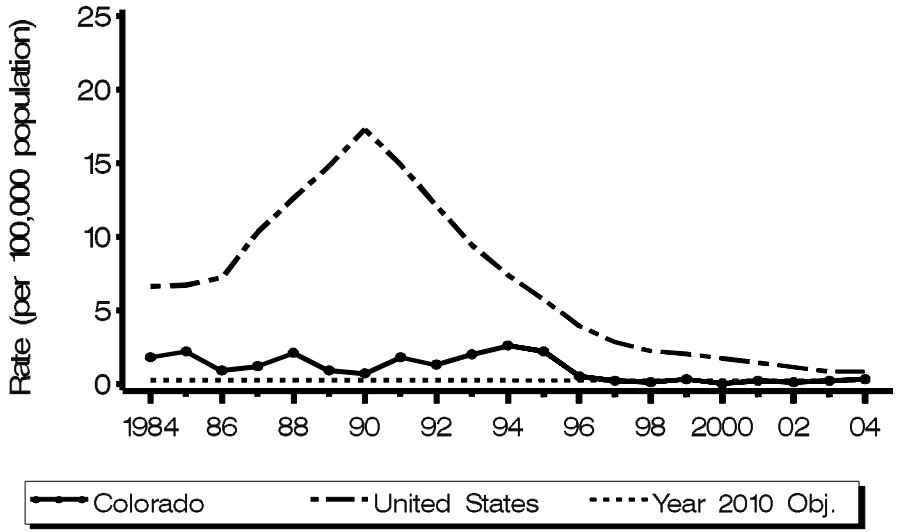


Figure C. P&S syphilis county rates, 2004

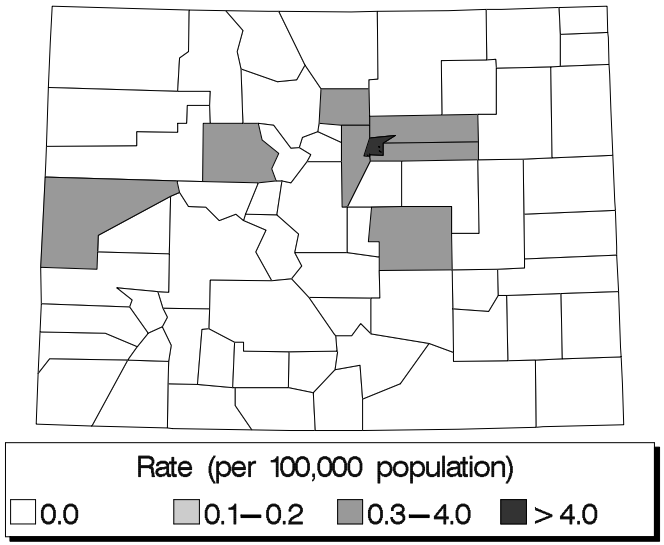
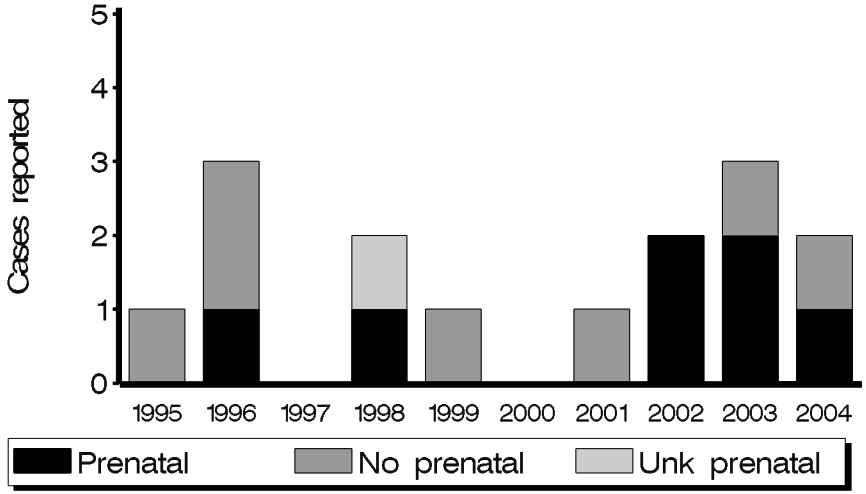


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Connecticut — 2004

Figure A. P&S syphilis rates among men, 1984—2004

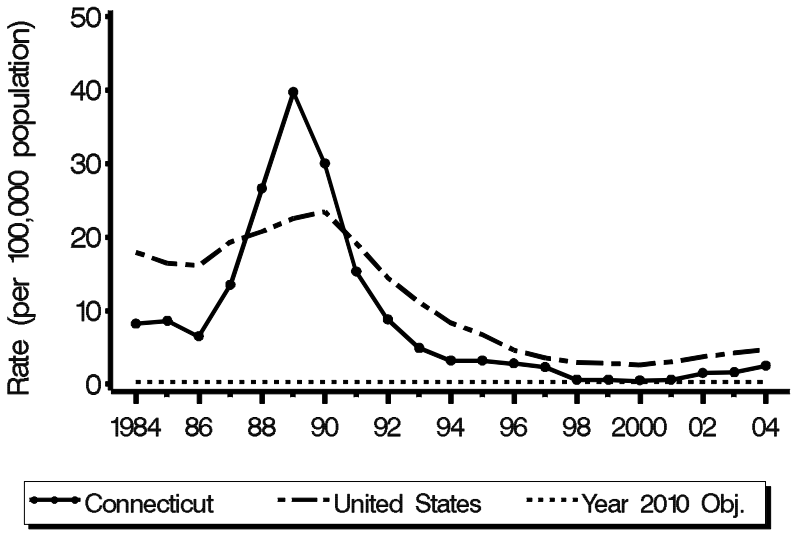


Figure B. P&S syphilis rates among women, 1984—2004

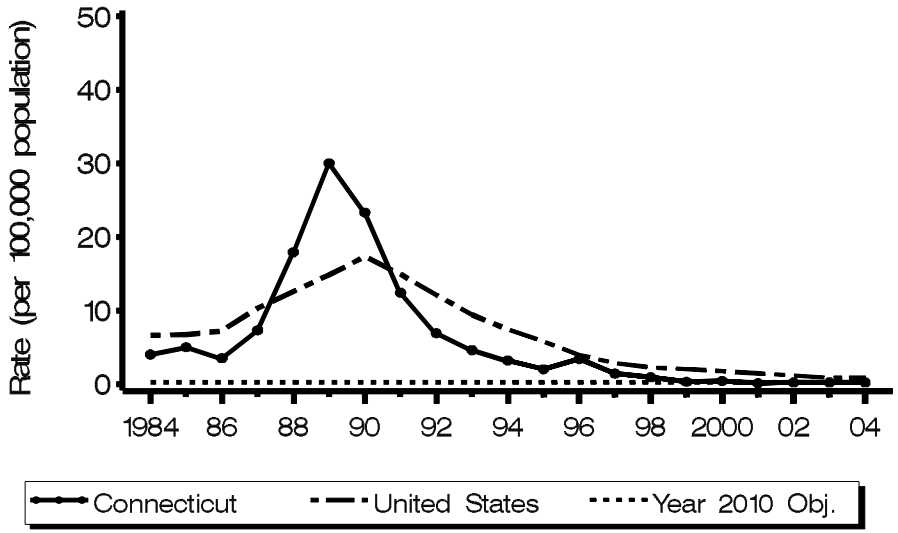
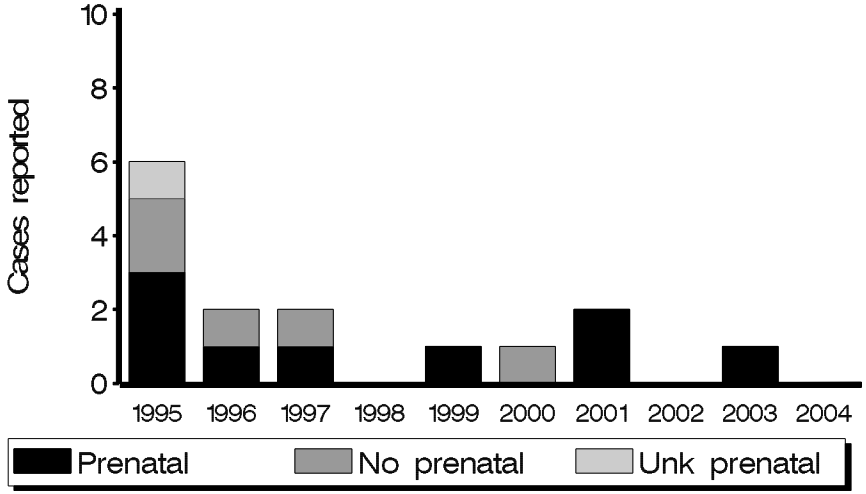


Figure C. P&S syphilis county rates, 2004

Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Delaware — 2004

Figure A. P&S syphilis rates among men, 1984—2004

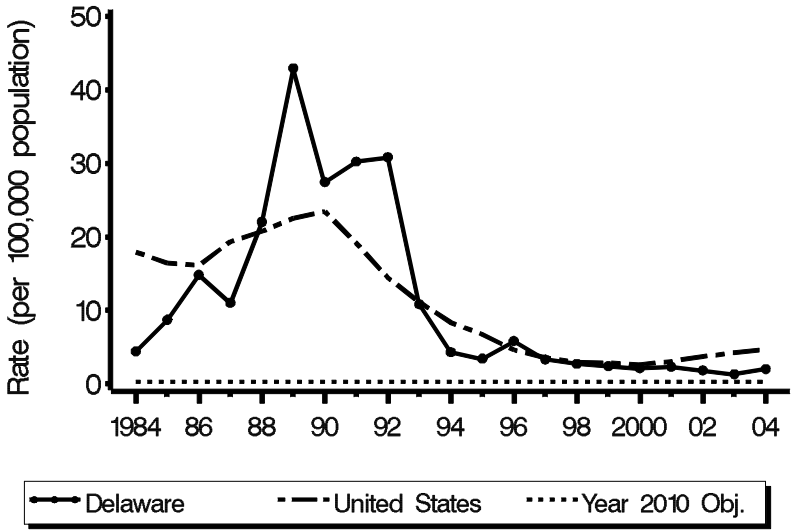


Figure B. P&S syphilis rates among women, 1984—2004

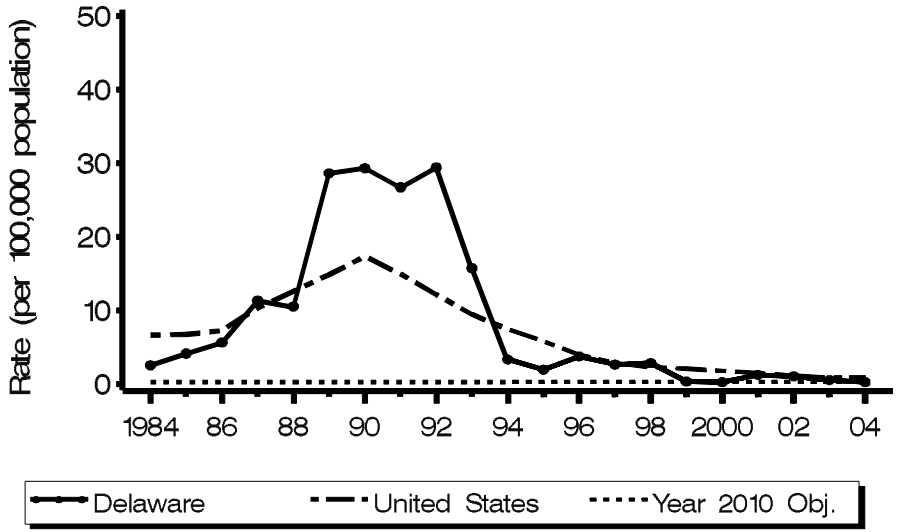


Figure C. P&S syphilis county rates, 2004

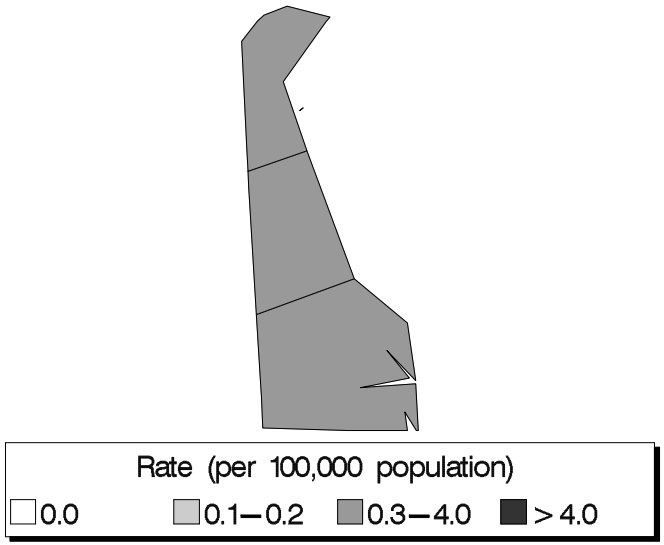
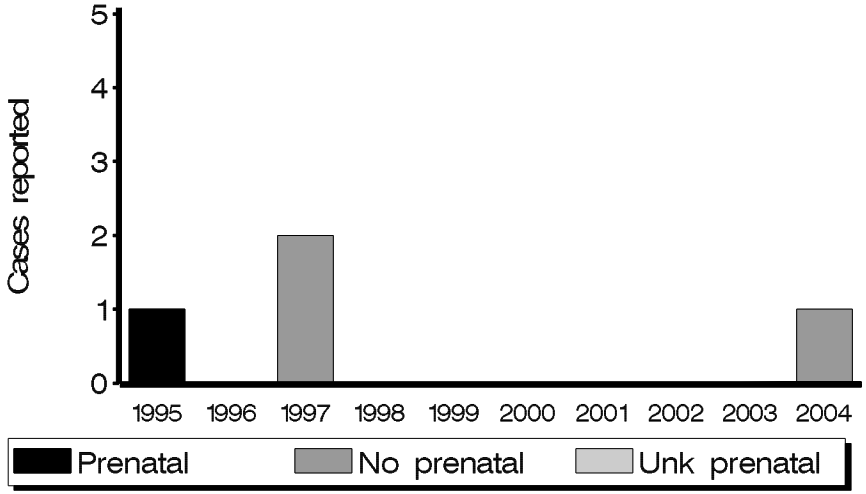


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



District of Columbia — 2004

Figure A. P&S syphilis rates among men, 1984—2004

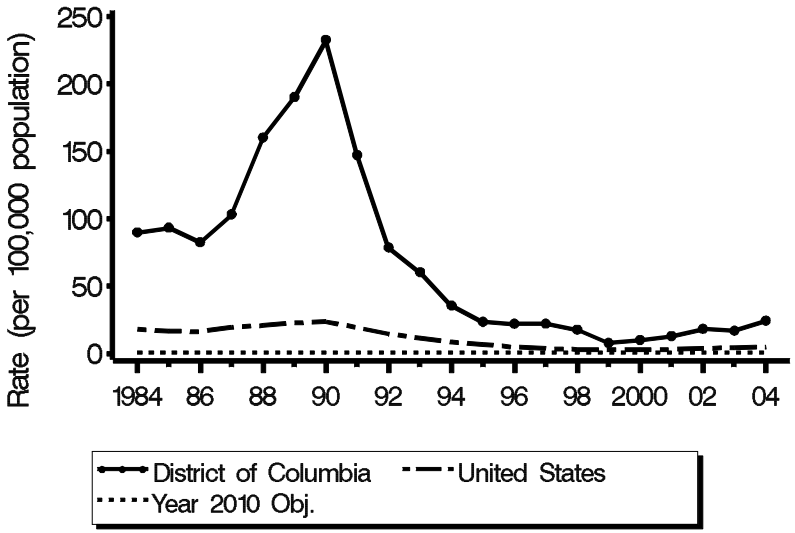


Figure B. P&S syphilis rates among women, 1984—2004

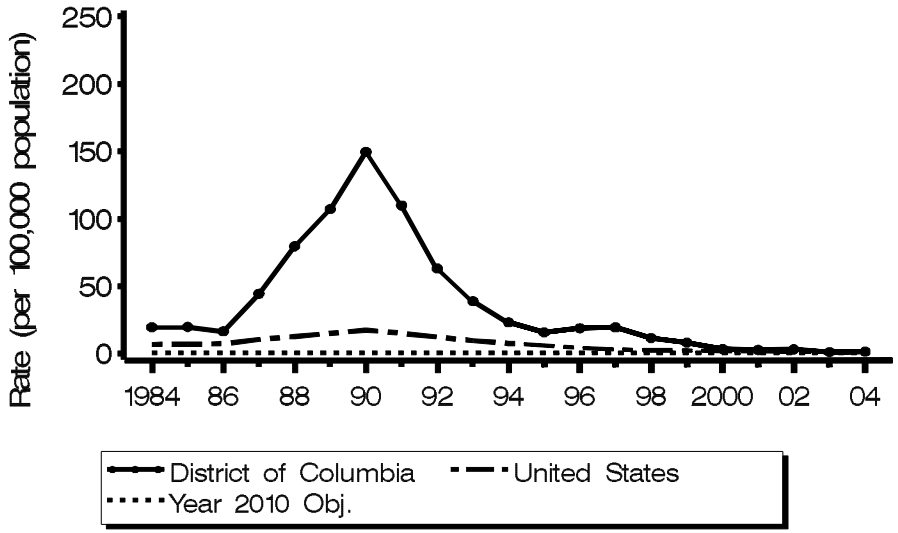


Figure C. P&S syphilis county rates, 2004

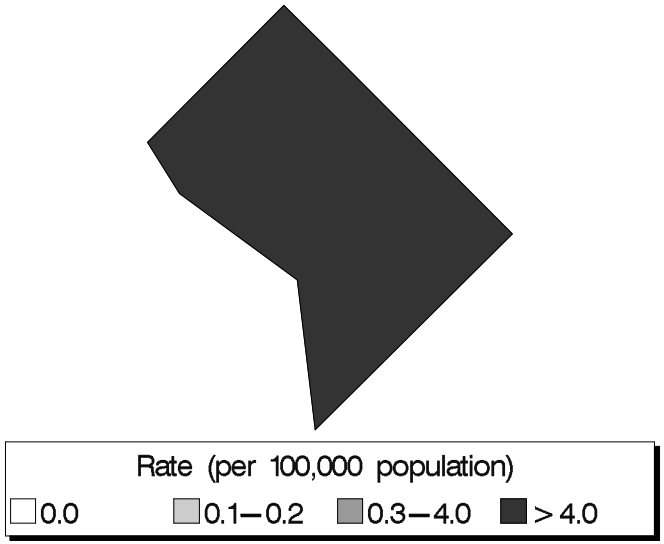
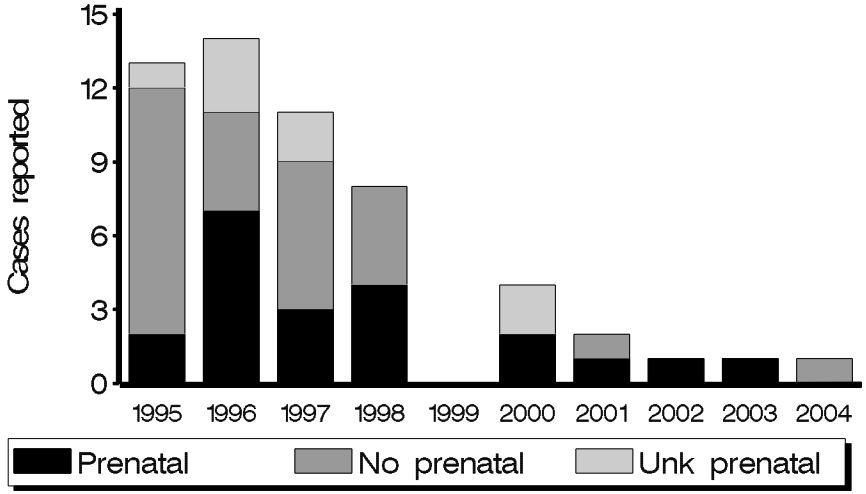


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Florida — 2004

Figure A. P&S syphilis rates among men, 1984—2004

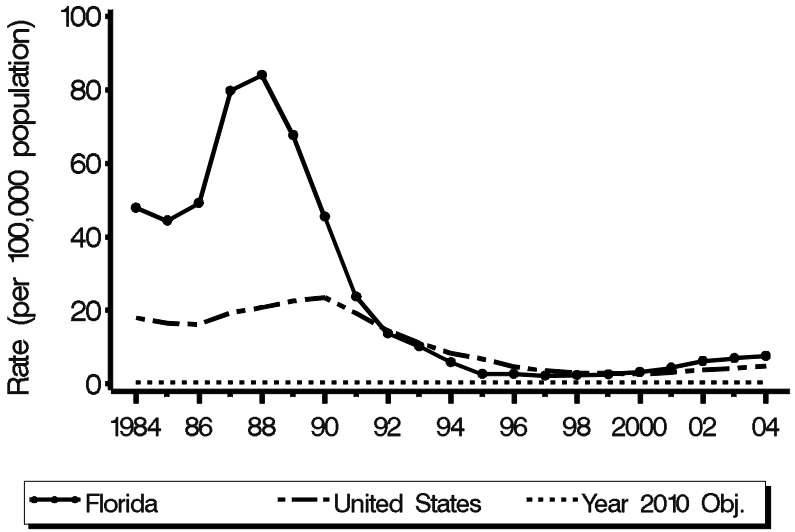


Figure B. P&S syphilis rates among women, 1984—2004

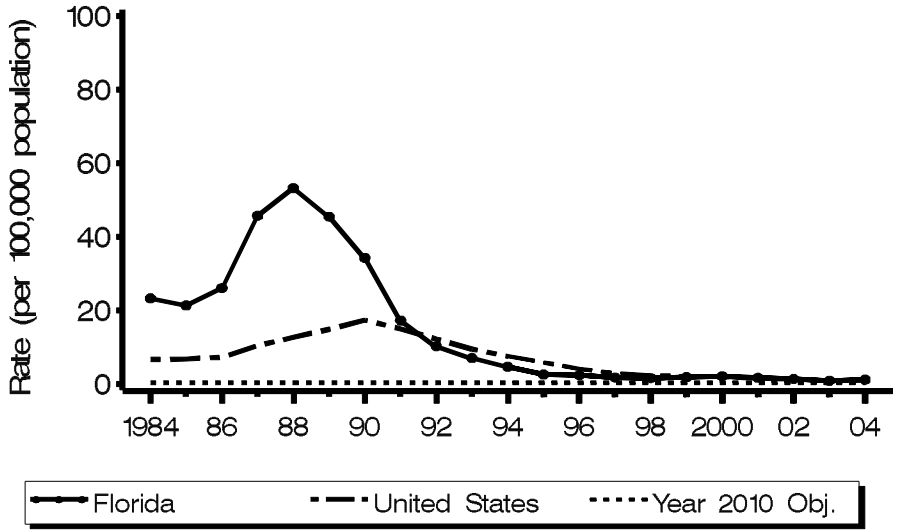


Figure C. P&S syphilis county rates, 2004

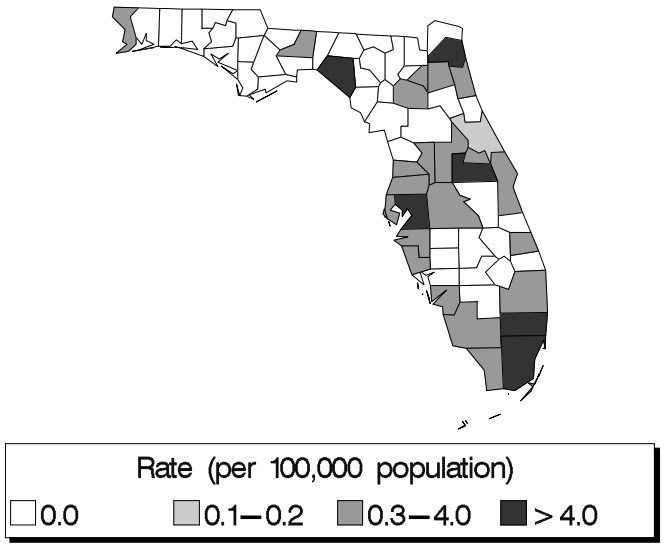
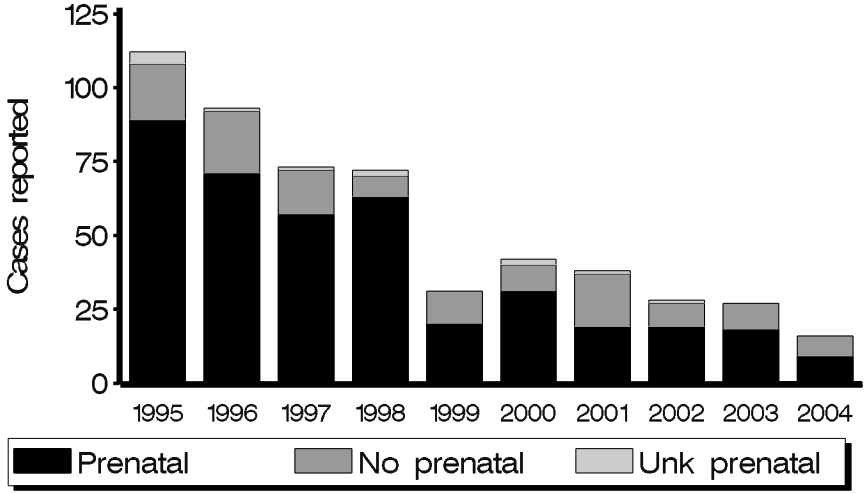


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Georgia — 2004

Figure A. P&S syphilis rates among men, 1984—2004

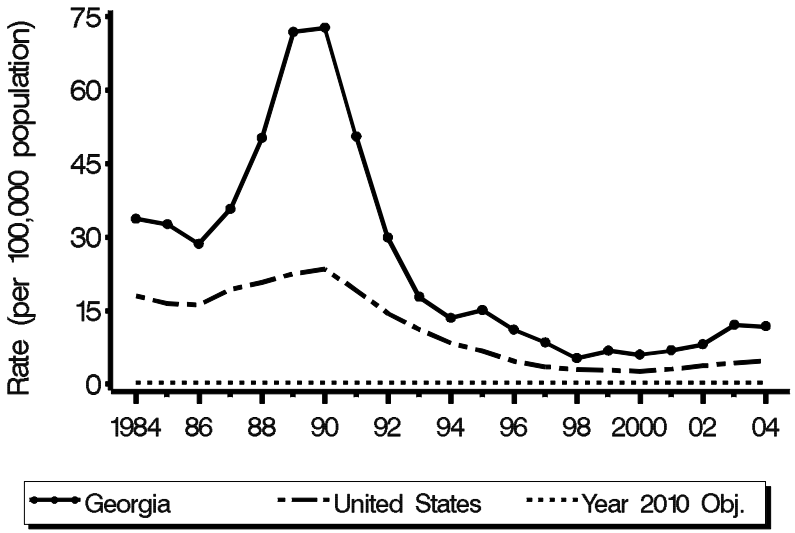


Figure B. P&S syphilis rates among women, 1984—2004

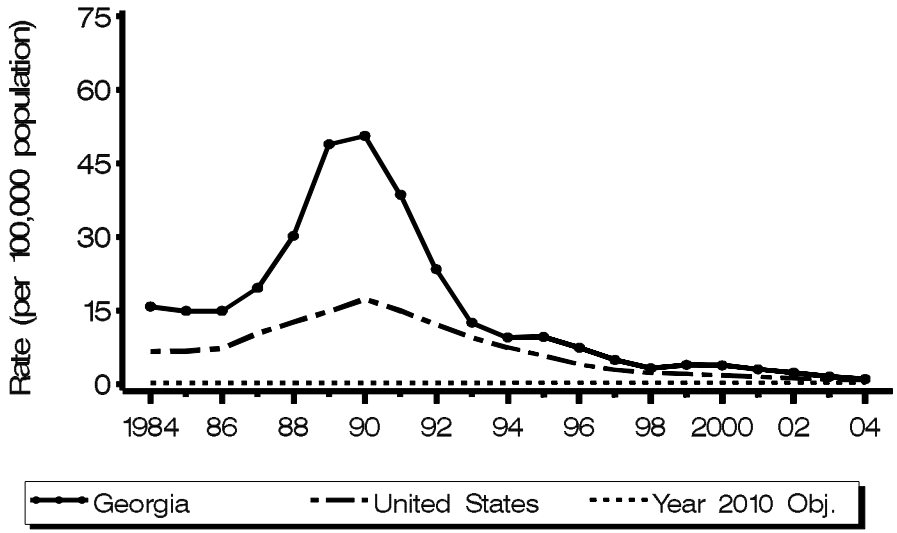


Figure C. P&S syphilis county rates, 2004

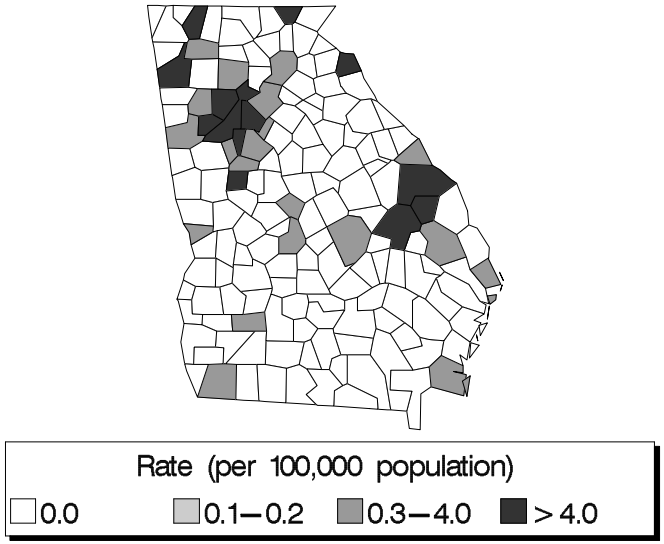
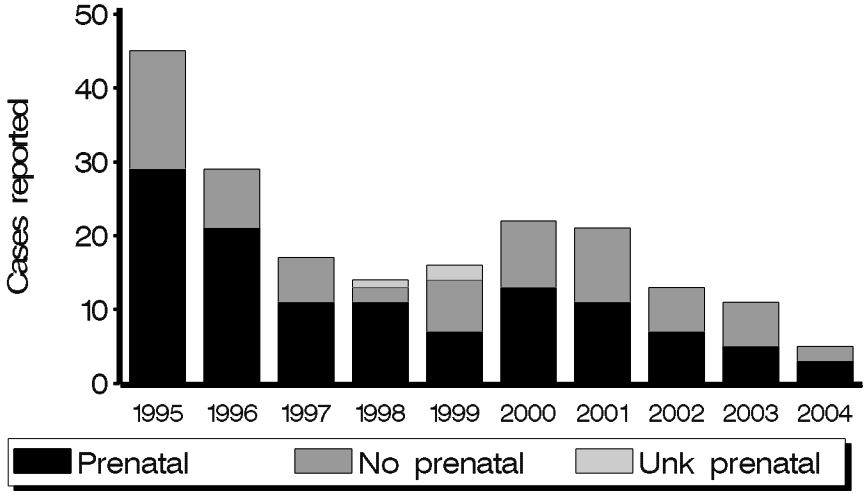


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Guam — 2004

Figure A. P&S syphilis rates among men, 1984—2004

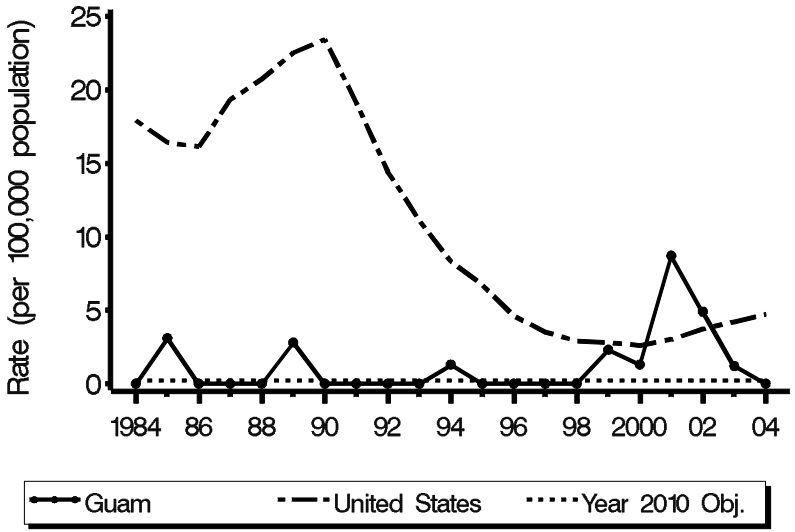


Figure B. P&S syphilis rates among women, 1984—2004

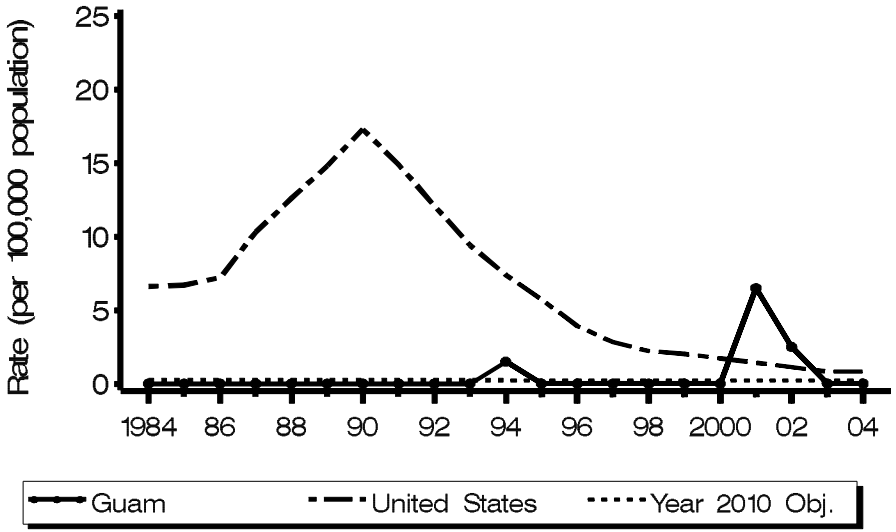
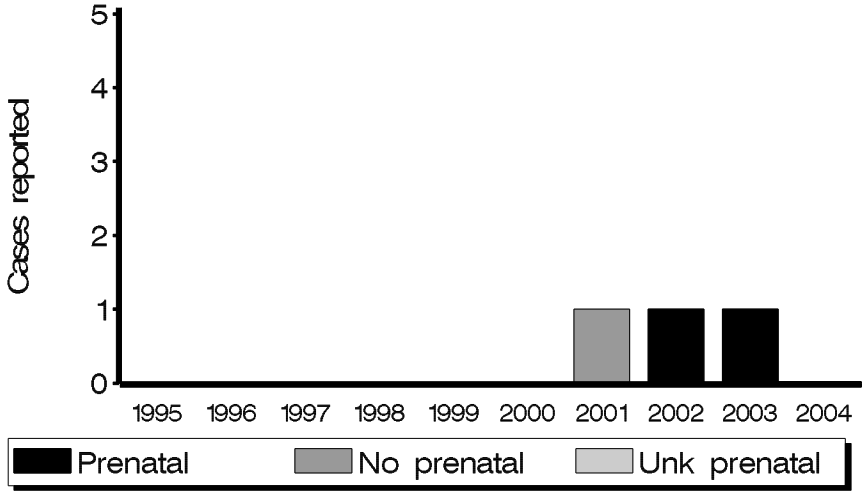


Figure C. P&S syphilis county rates, 2004

Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Hawaii — 2004

Figure A. P&S syphilis rates among men, 1984—2004

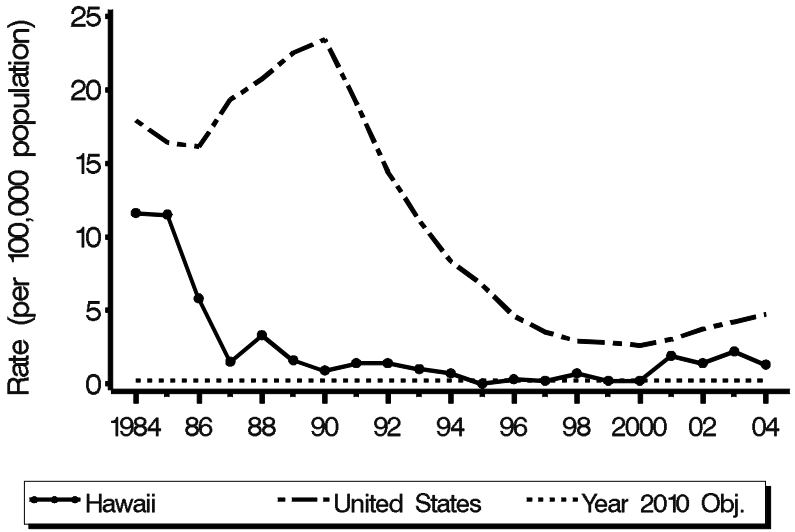


Figure B. P&S syphilis rates among women, 1984—2004

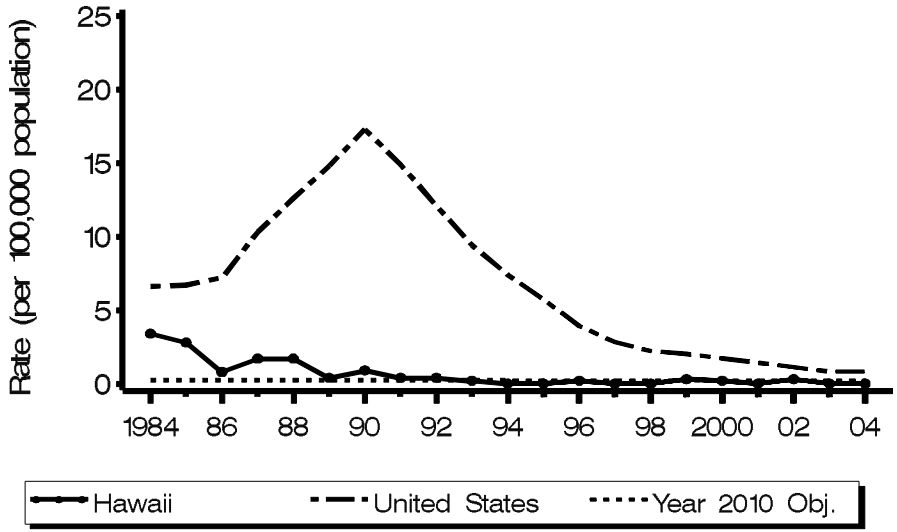


Figure C. P&S syphilis county rates, 2004

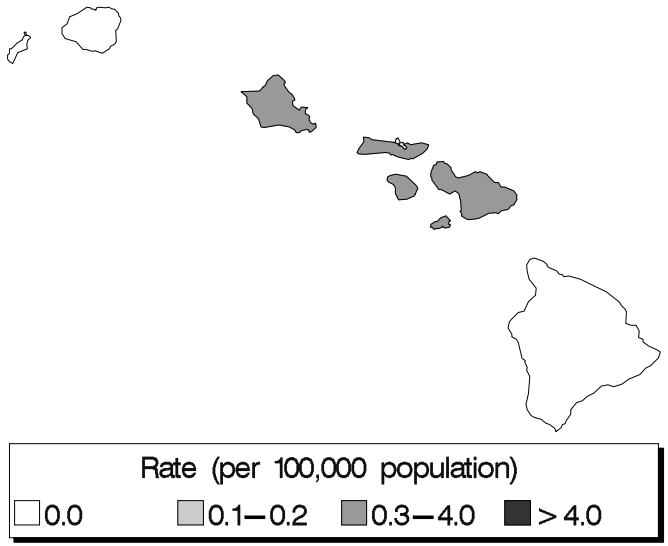
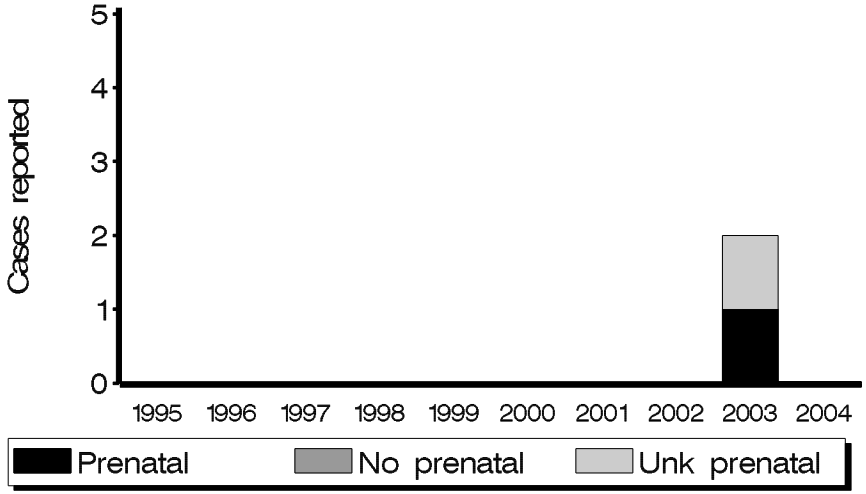


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Idaho — 2004

Figure A. P&S syphilis rates among men, 1984—2004

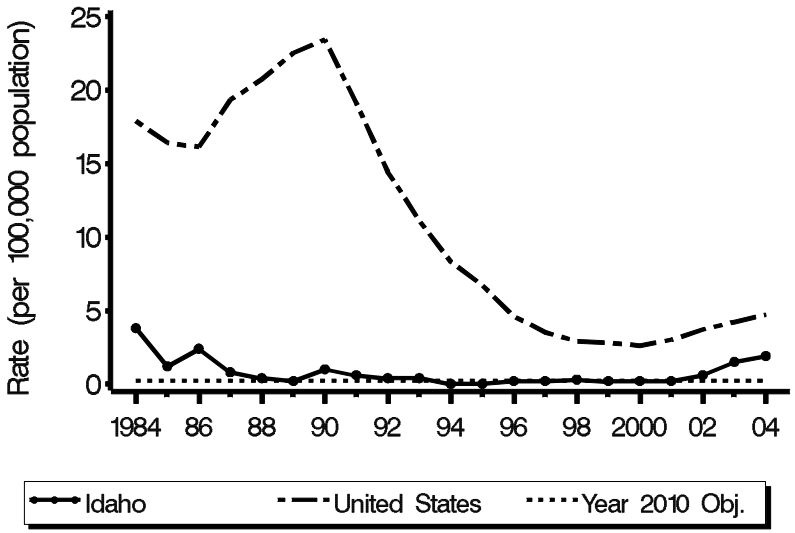


Figure B. P&S syphilis rates among women, 1984—2004

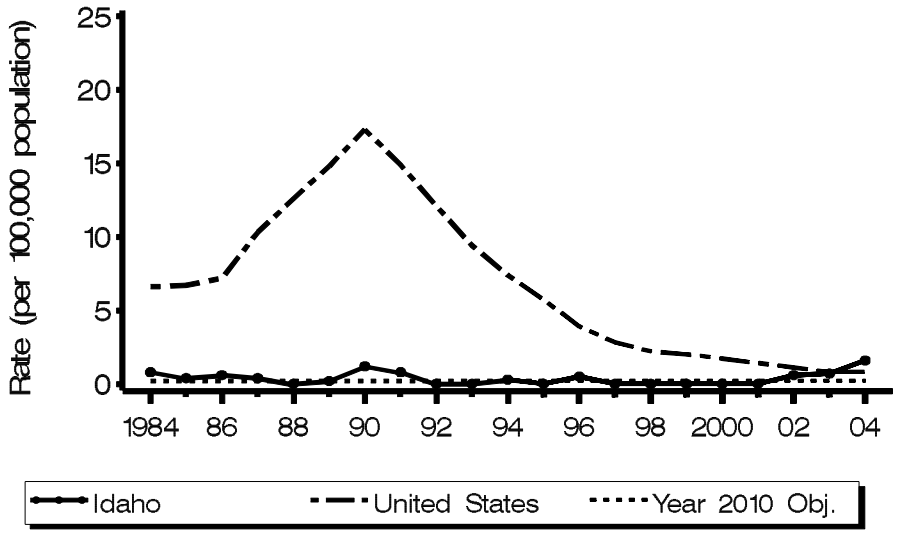


Figure C. P&S syphilis county rates, 2004

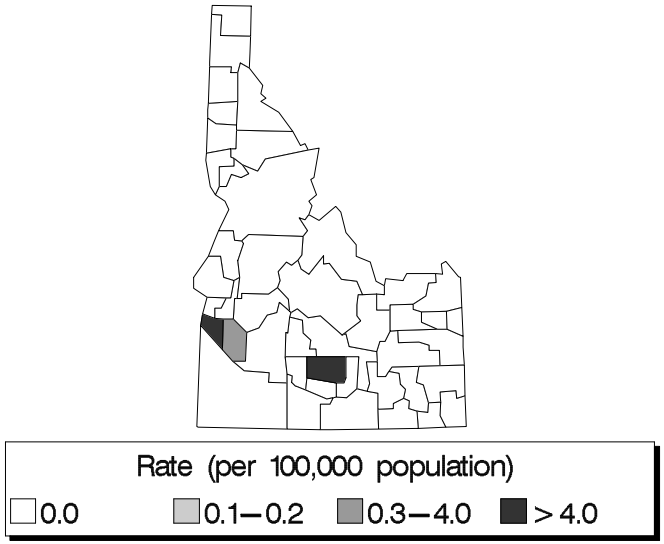
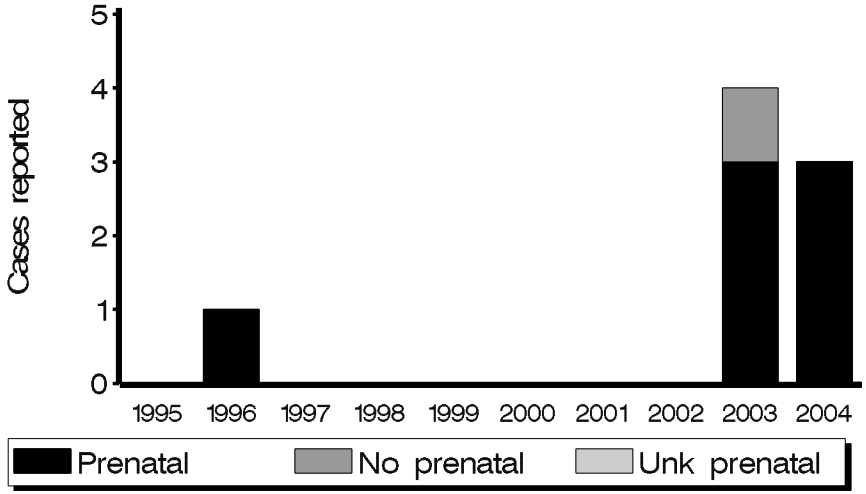


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Illinois — 2004

Figure A. P&S syphilis rates among men, 1984—2004

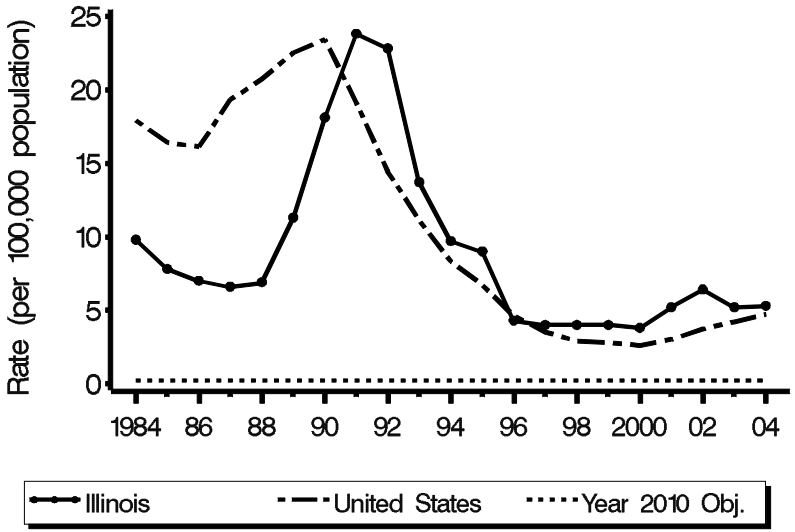


Figure B. P&S syphilis rates among women, 1984—2004

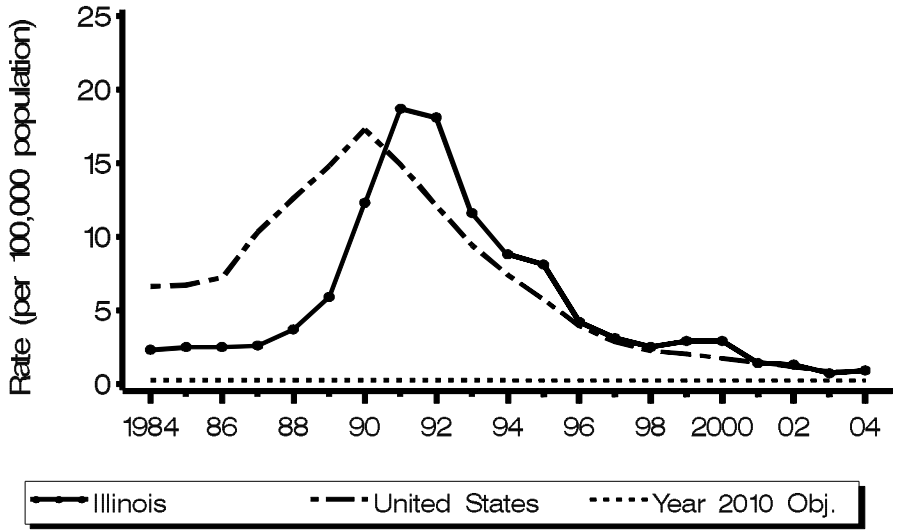


Figure C. P&S syphilis county rates, 2004

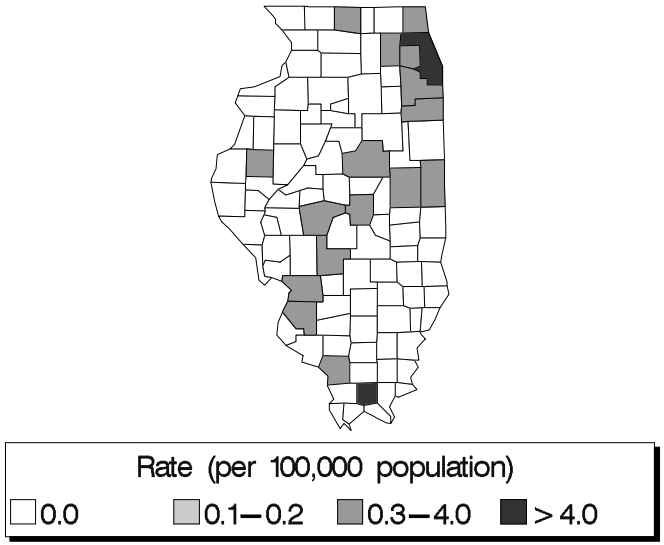
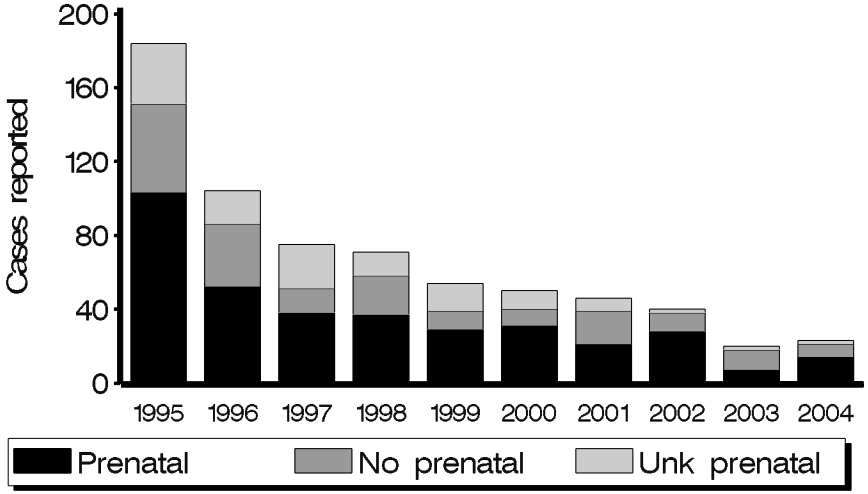


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Indiana — 2004

Figure A. P&S syphilis rates among men, 1984—2004

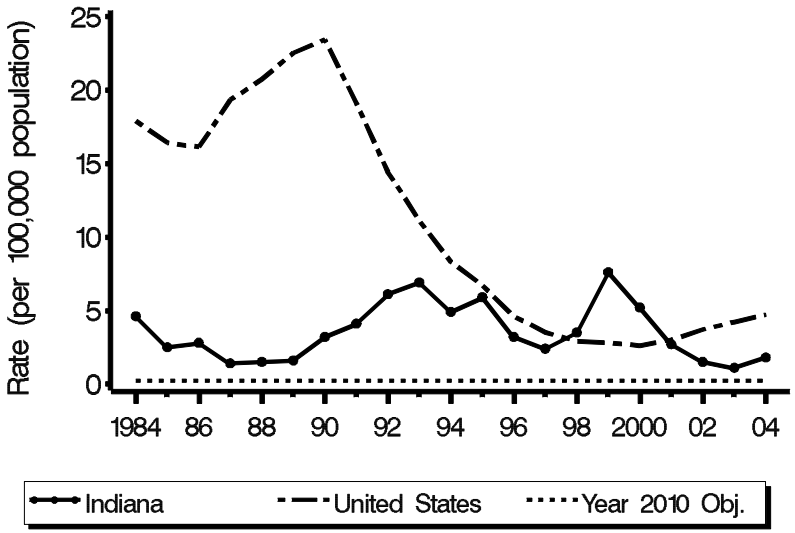


Figure B. P&S syphilis rates among women, 1984—2004

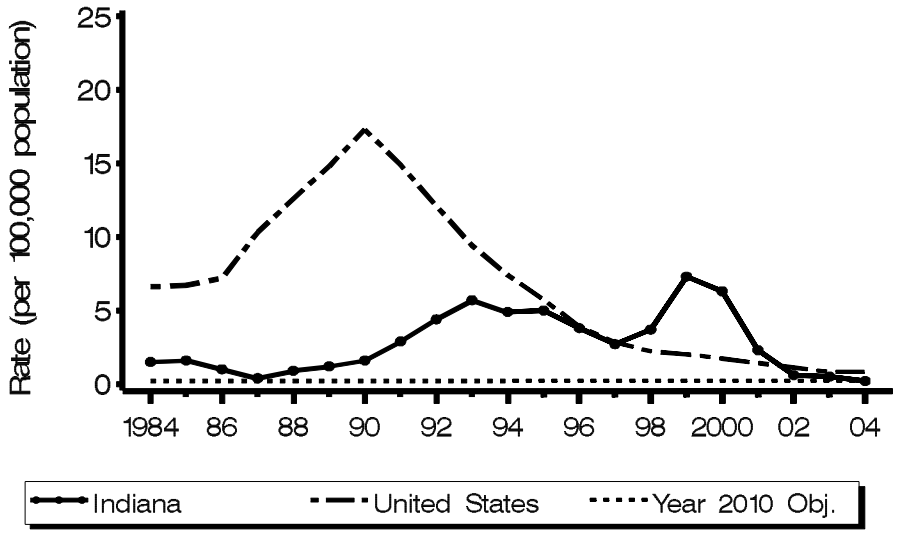


Figure C. P&S syphilis county rates, 2004

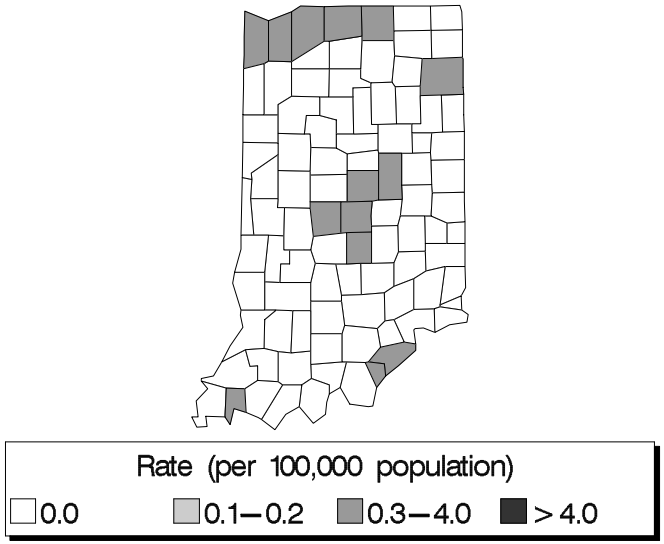
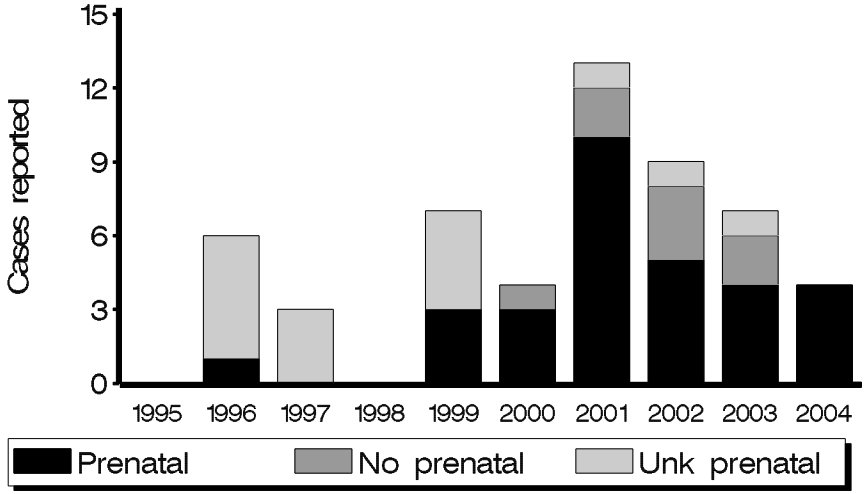


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Iowa — 2004

Figure A. P&S syphilis rates among men, 1984—2004

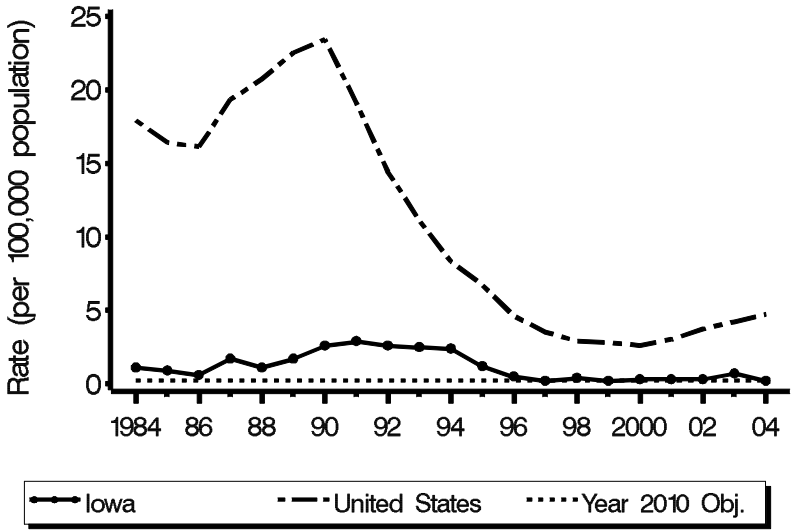


Figure B. P&S syphilis rates among women, 1984—2004

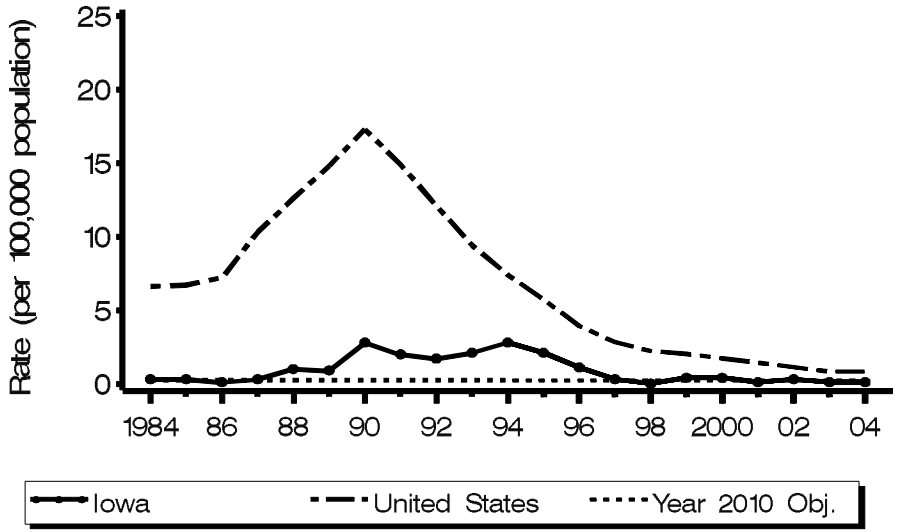


Figure C. P&S syphilis county rates, 2004

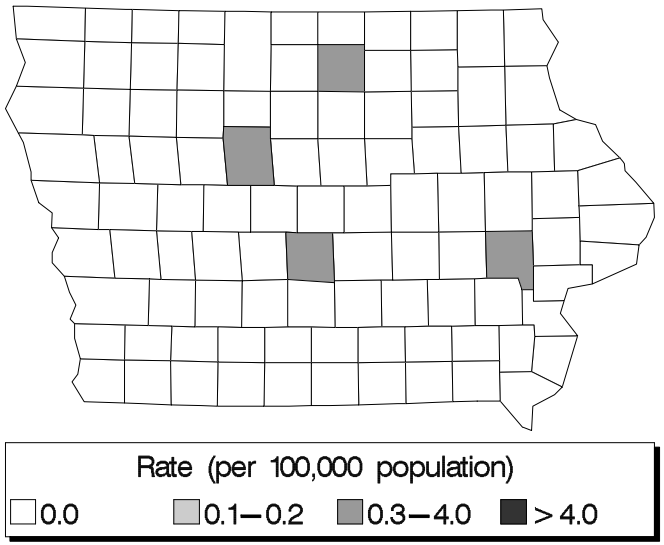
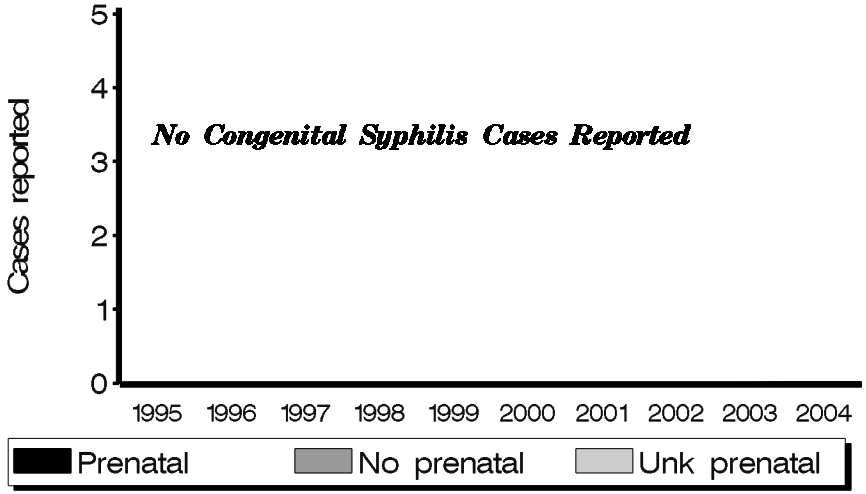


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Kansas — 2004

Figure A. P&S syphilis rates among men, 1984—2004

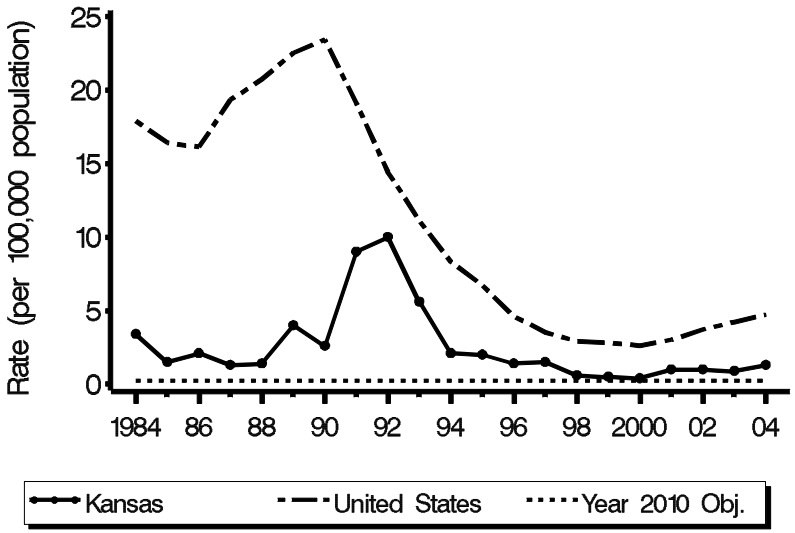


Figure B. P&S syphilis rates among women, 1984—2004

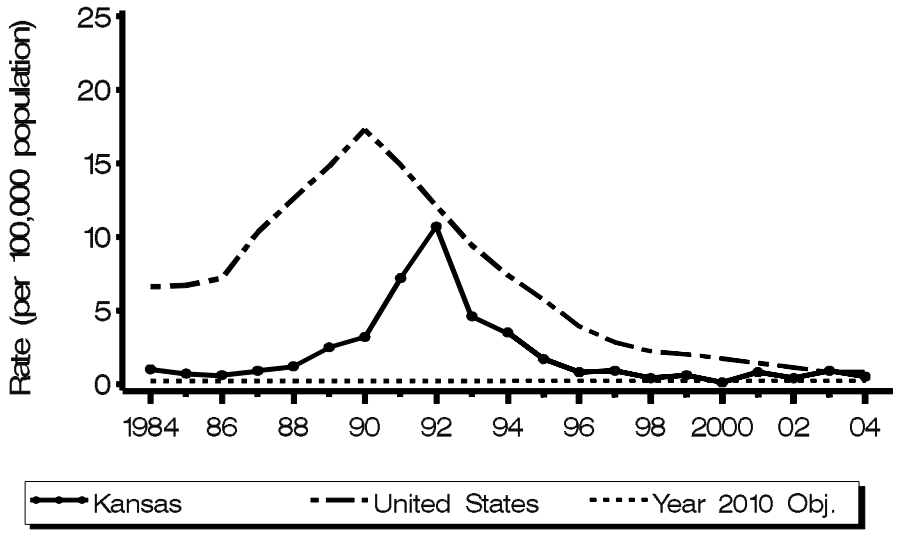


Figure C. P&S syphilis county rates, 2004

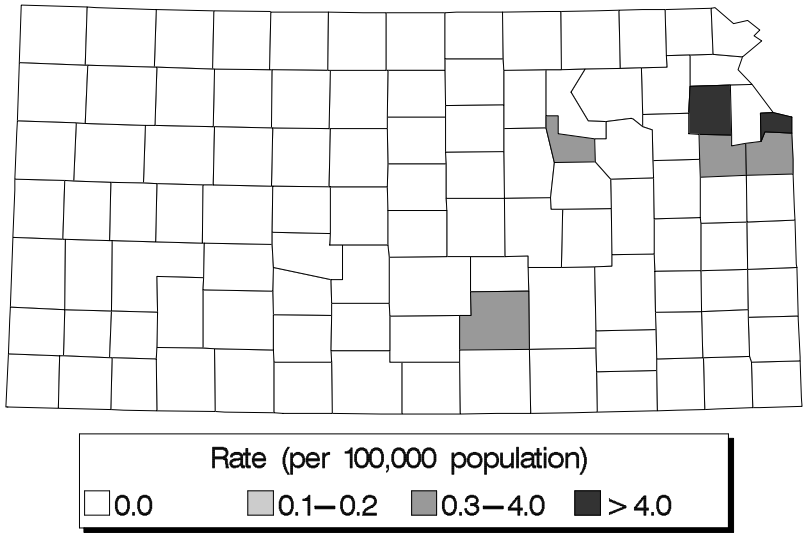
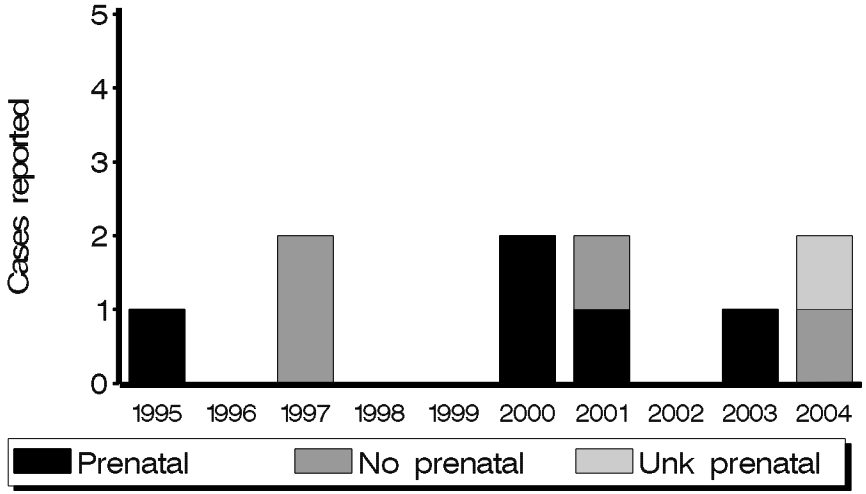


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Kentucky — 2004

Figure A. P&S syphilis rates among men, 1984—2004

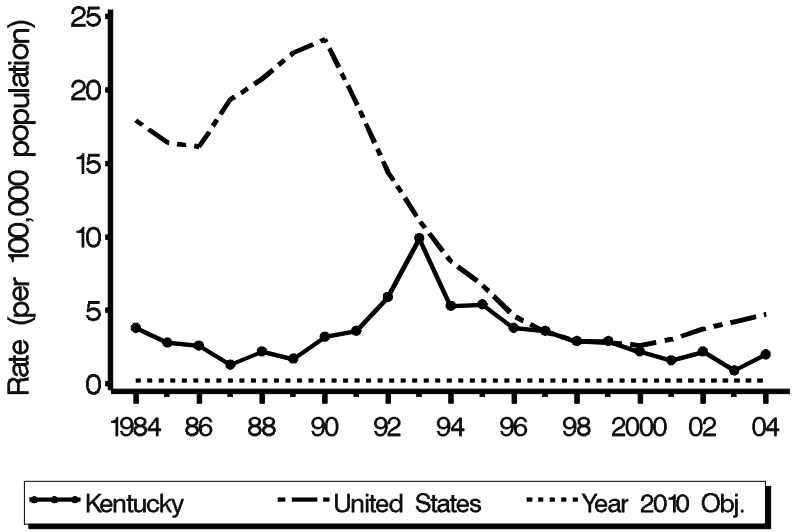


Figure B. P&S syphilis rates among women, 1984—2004

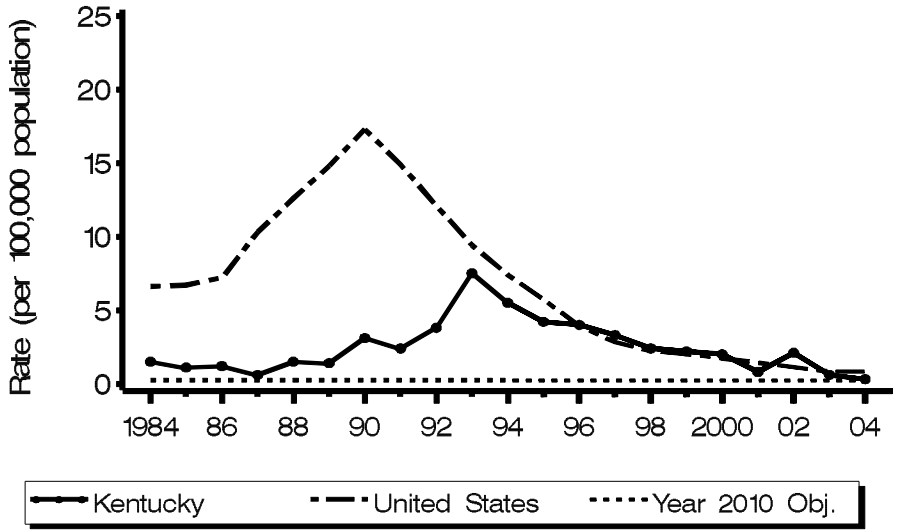


Figure C. P&S syphilis county rates, 2004

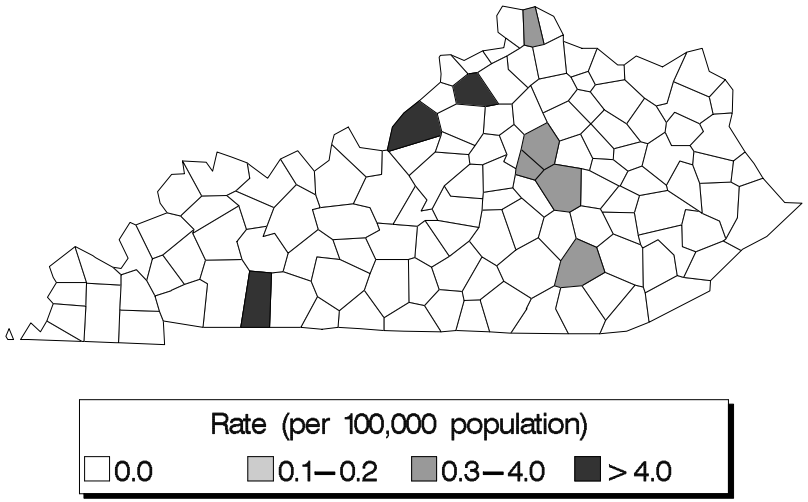
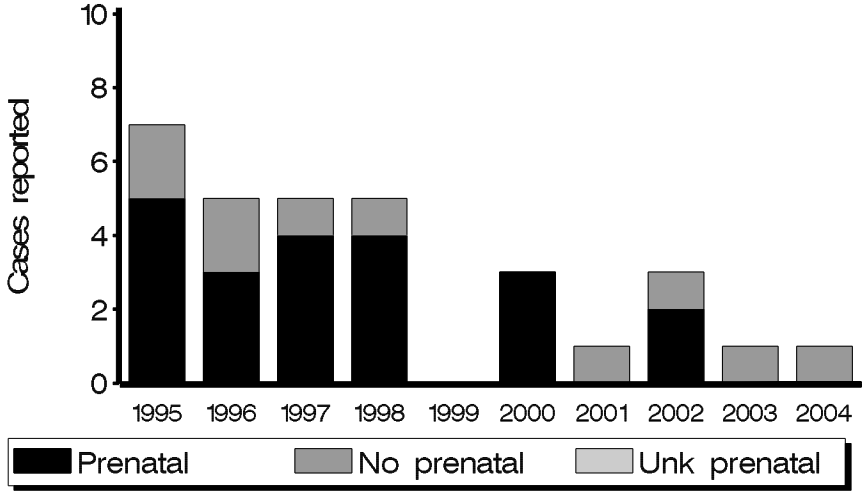


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Louisiana — 2004

Figure A. P&S syphilis rates among men, 1984—2004

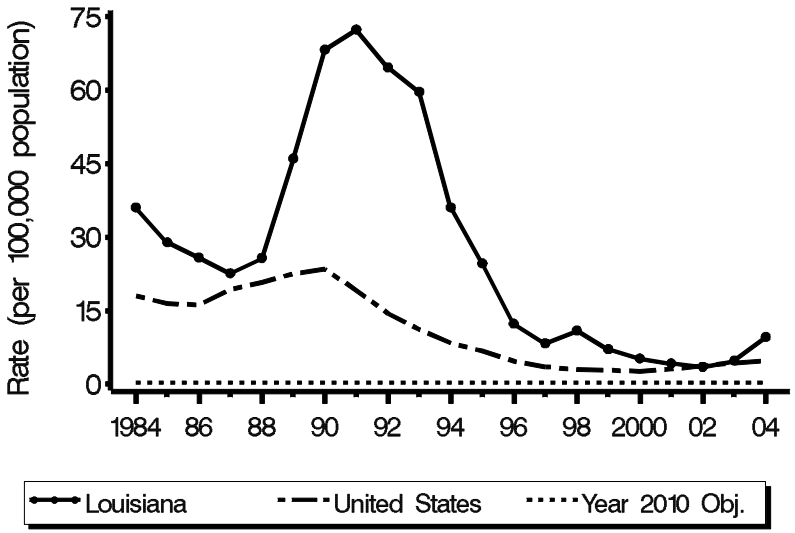


Figure B. P&S syphilis rates among women, 1984—2004

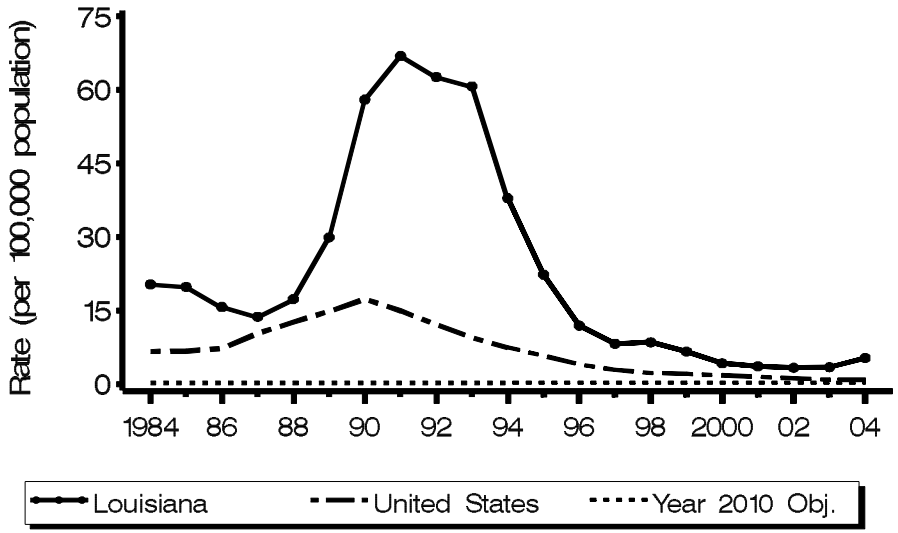


Figure C. P&S syphilis county rates, 2004

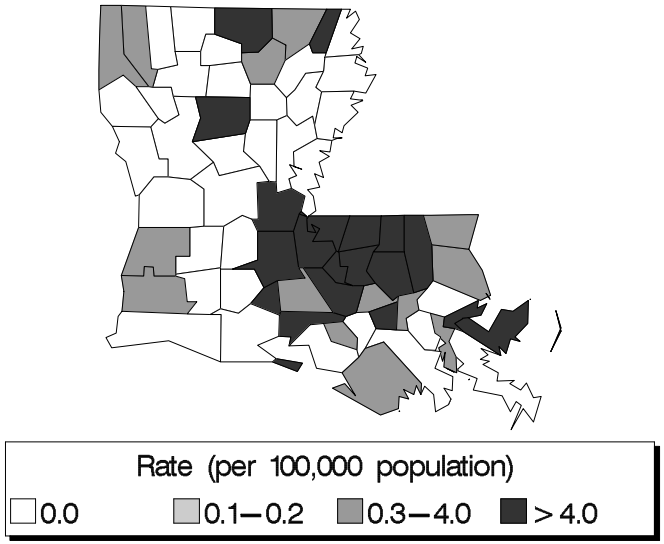
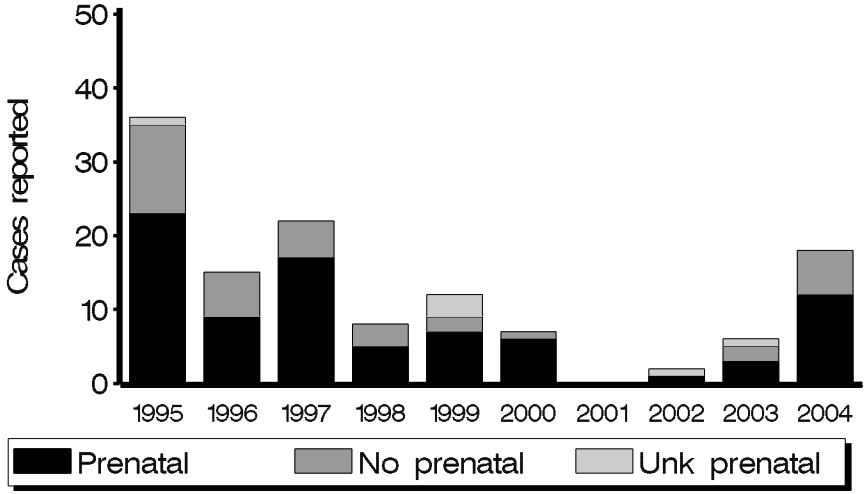


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Maine — 2004

Figure A. P&S syphilis rates among men, 1984—2004

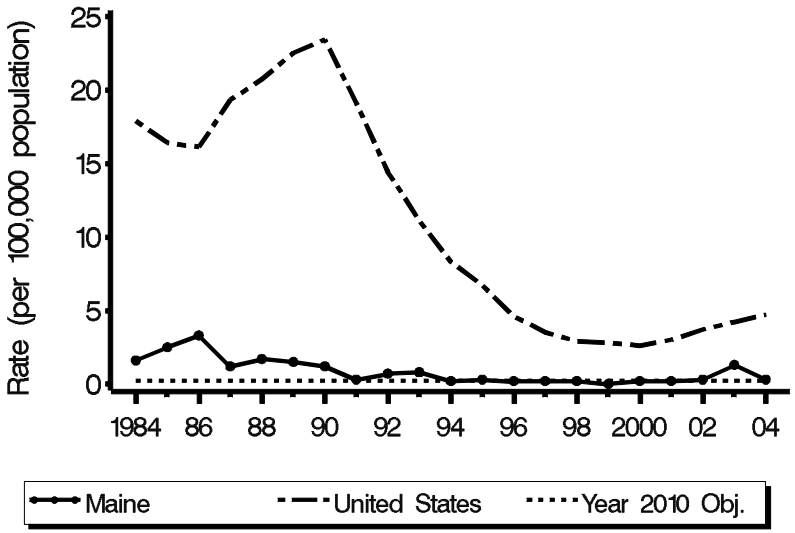


Figure B. P&S syphilis rates among women, 1984—2004

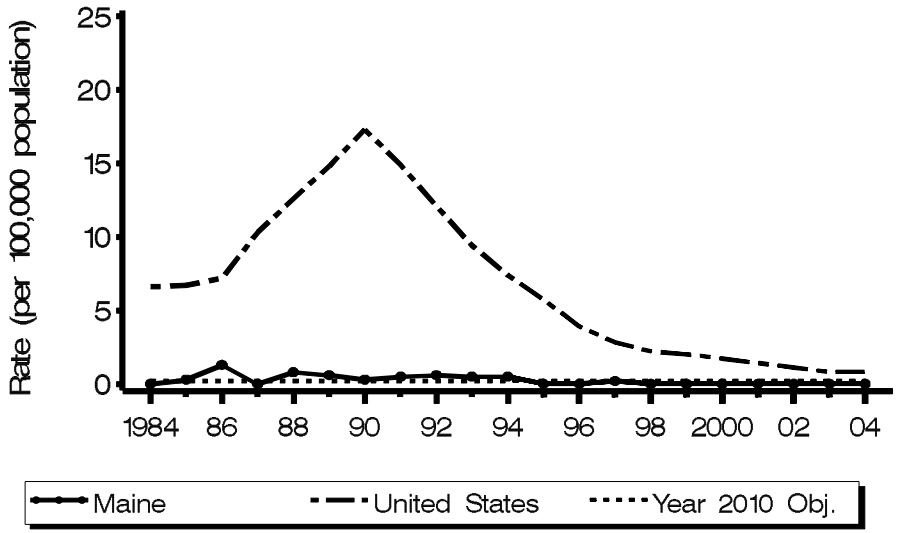


Figure C. P&S syphilis county rates, 2004

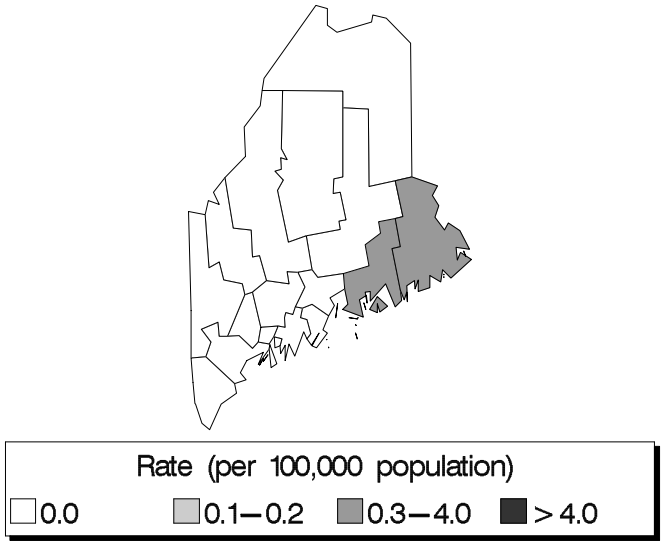
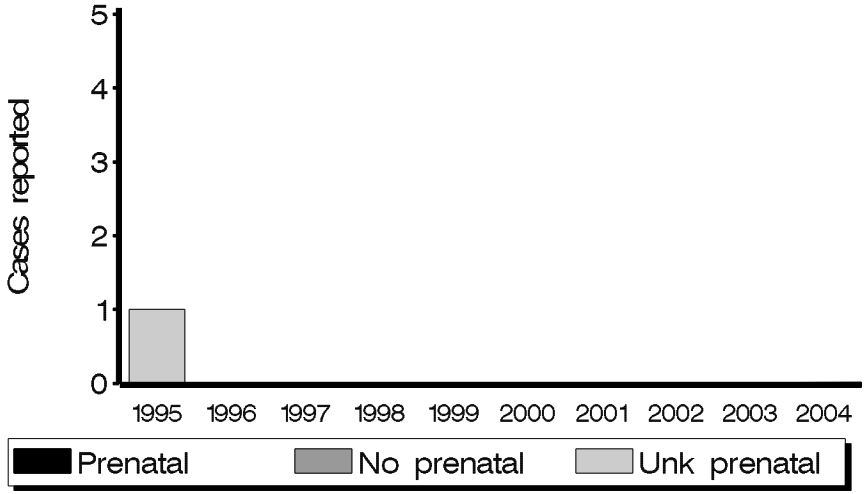


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Maryland — 2004

Figure A. P&S syphilis rates among men, 1984—2004

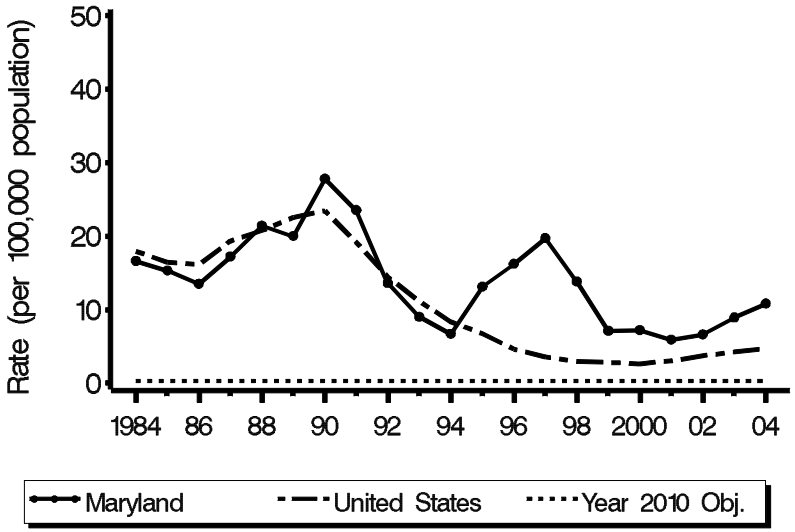


Figure B. P&S syphilis rates among women, 1984—2004

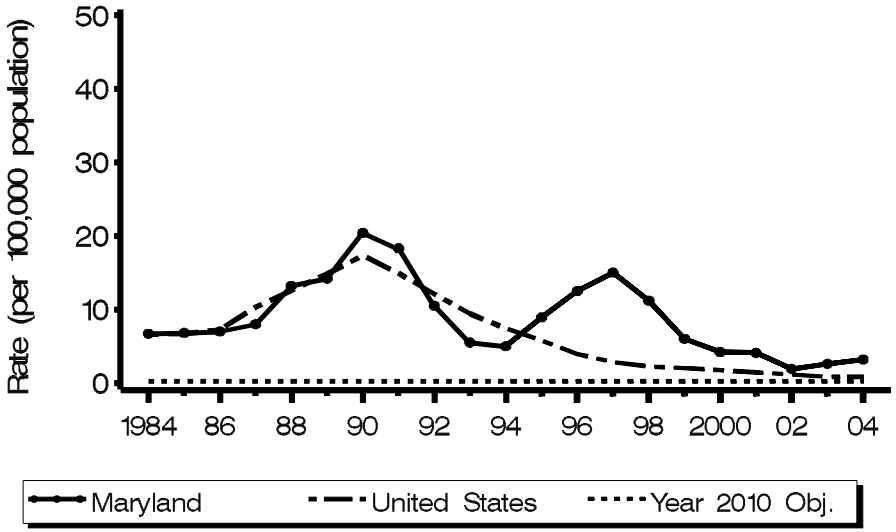
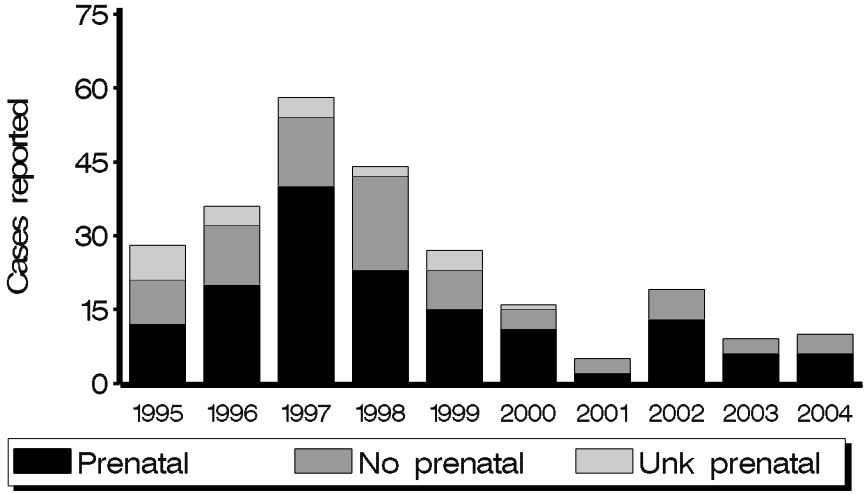


Figure C. P&S syphilis county rates, 2004

Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Massachusetts — 2004

Figure A. P&S syphilis rates among men, 1984—2004

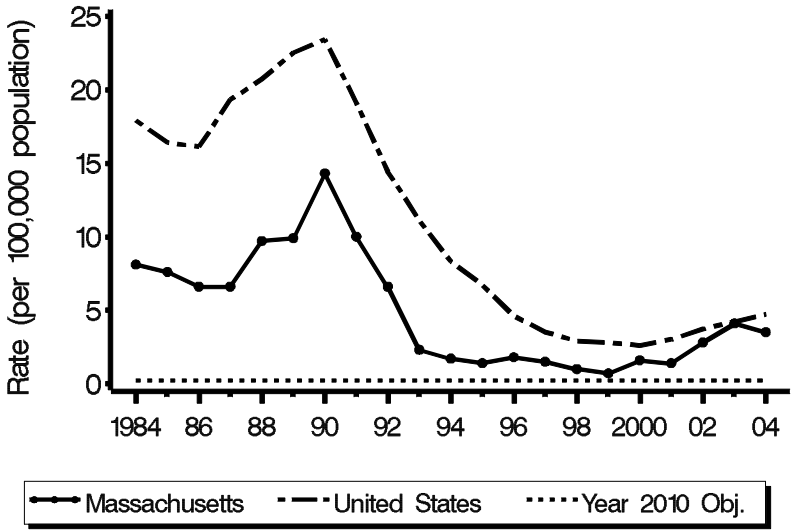


Figure B. P&S syphilis rates among women, 1984—2004

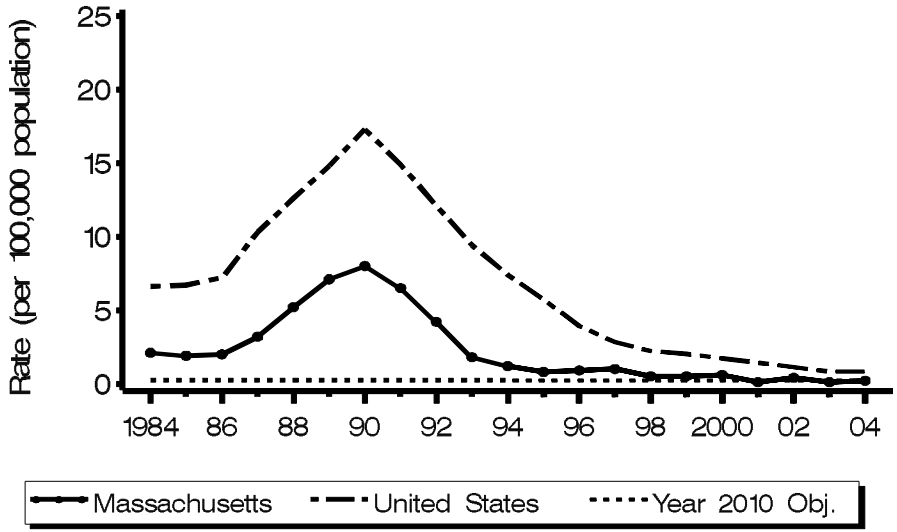


Figure C. P&S syphilis county rates, 2004

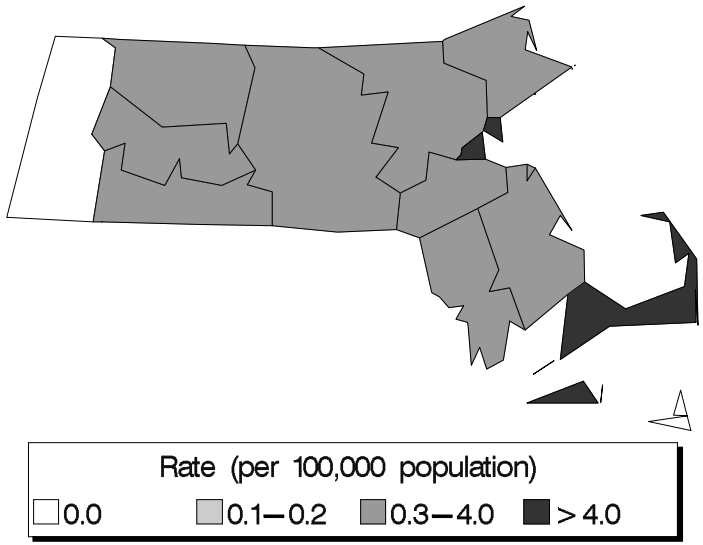
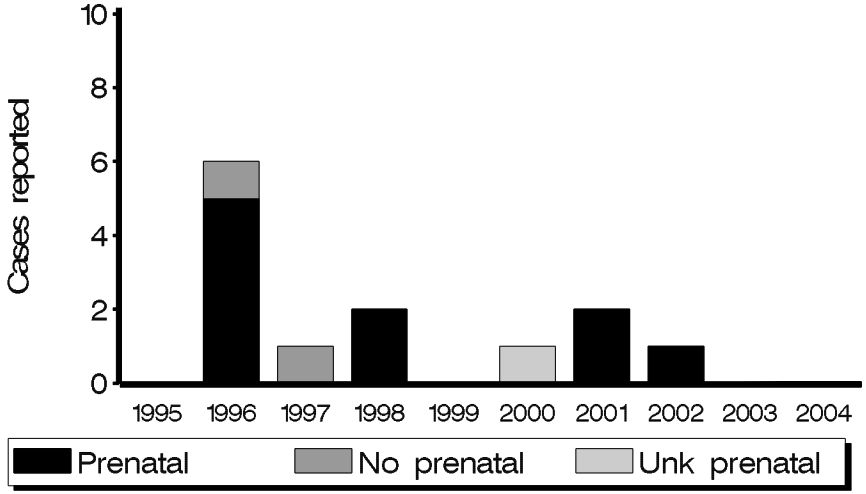


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Michigan — 2004

Figure A. P&S syphilis rates among men, 1984—2004

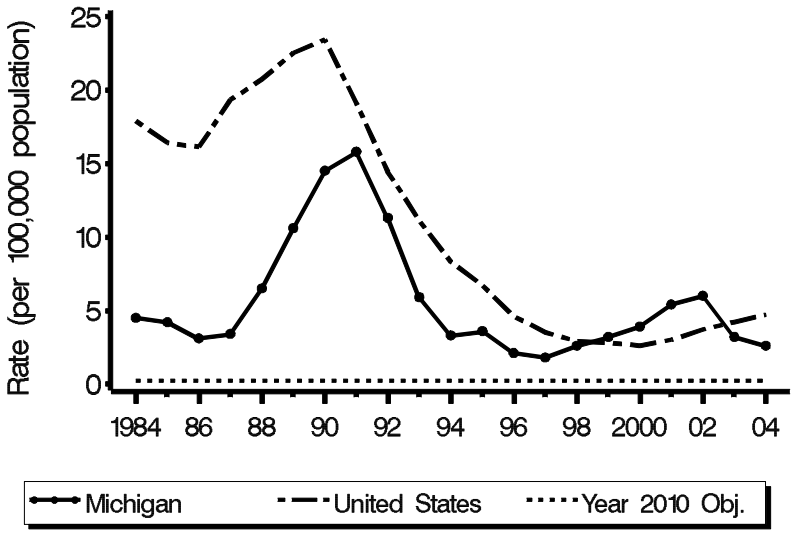


Figure B. P&S syphilis rates among women, 1984—2004

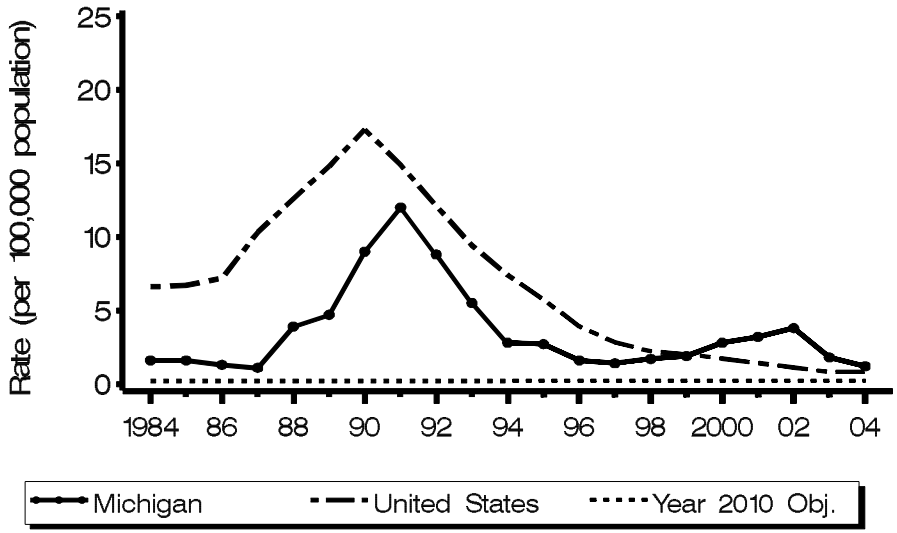


Figure C. P&S syphilis county rates, 2004

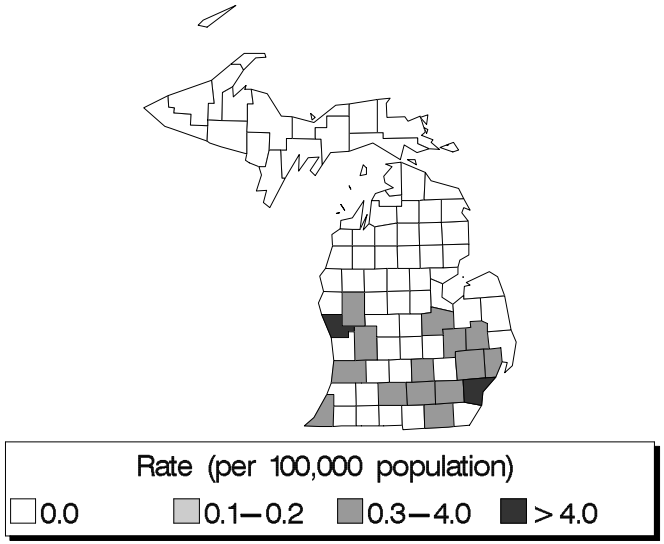
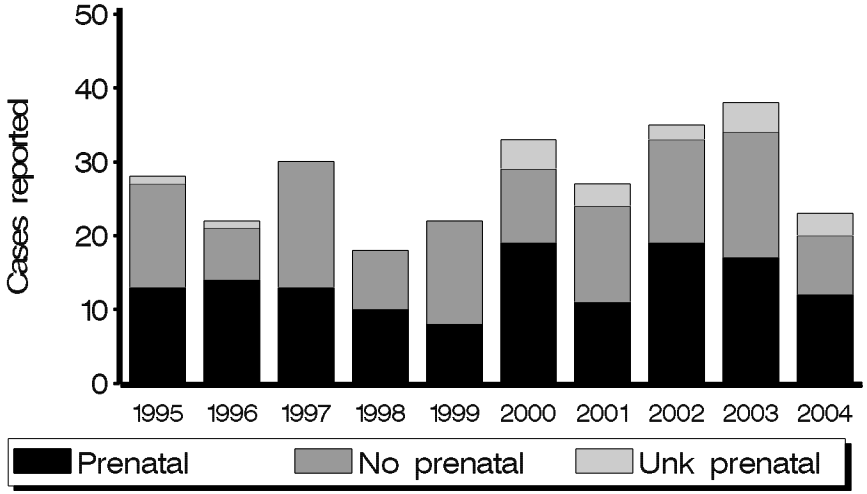


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Minnesota — 2004

Figure A. P&S syphilis rates among men, 1984—2004

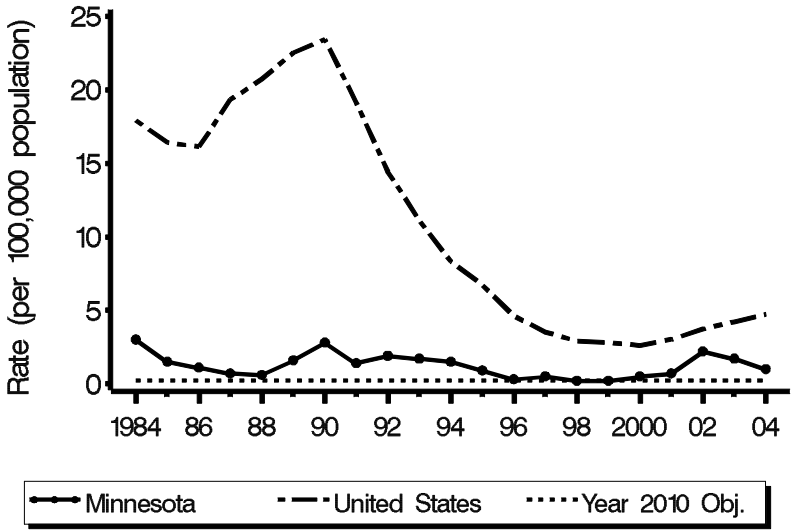


Figure B. P&S syphilis rates among women, 1984—2004

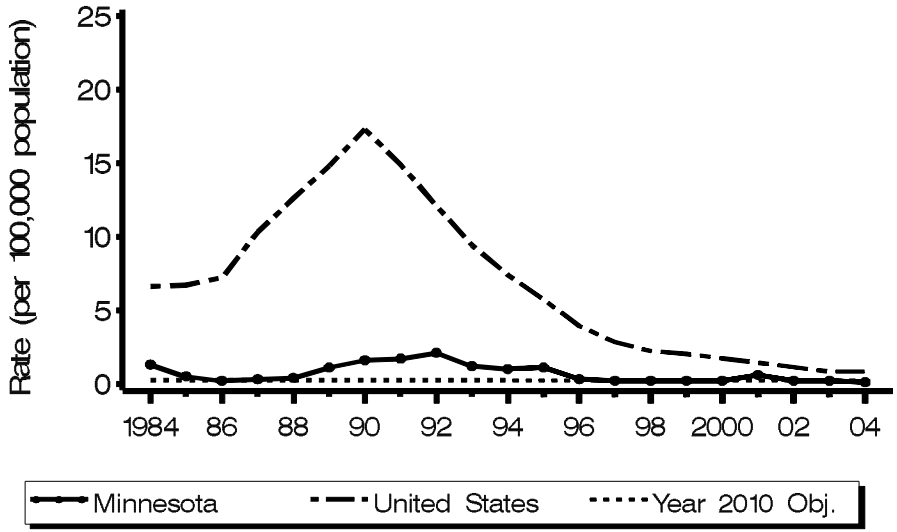


Figure C. P&S syphilis county rates, 2004

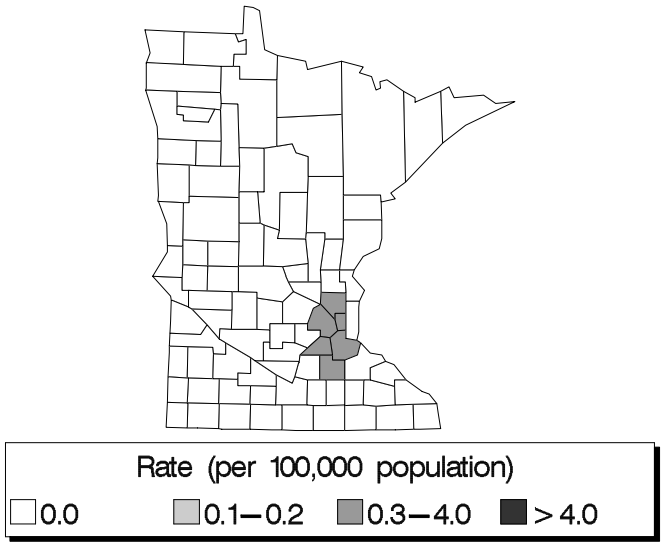
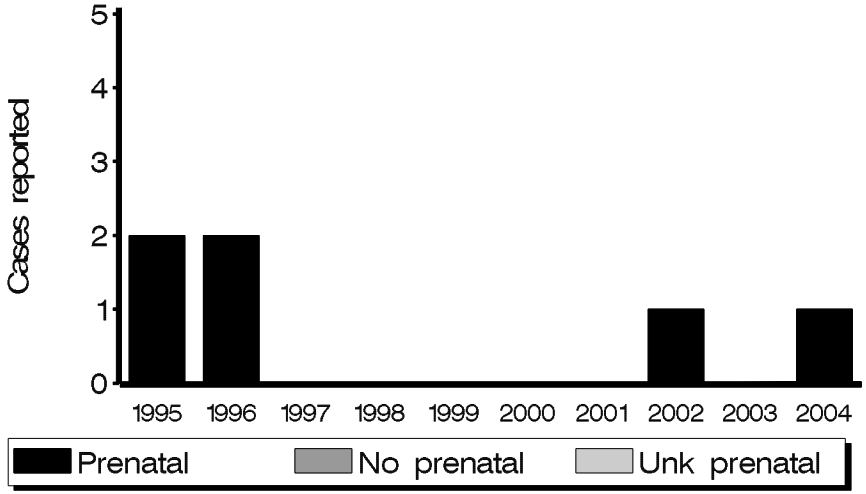


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Mississippi — 2004

Figure A. P&S syphilis rates among men, 1984—2004

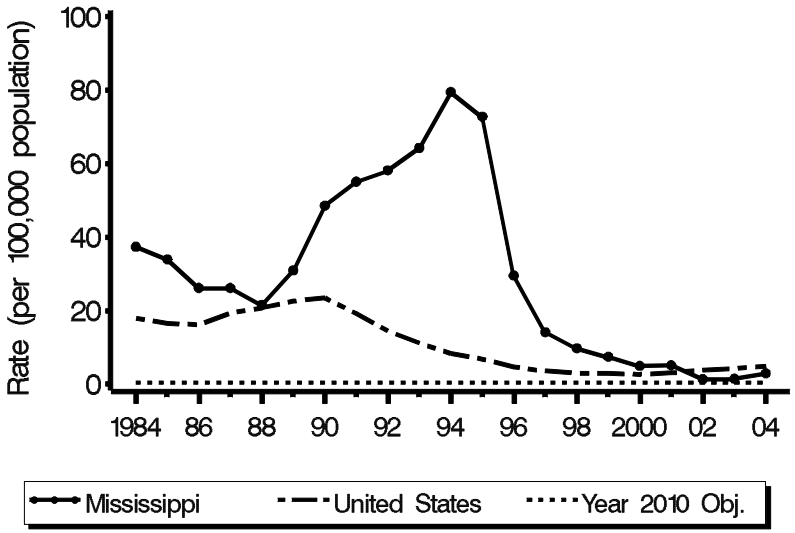


Figure B. P&S syphilis rates among women, 1984—2004

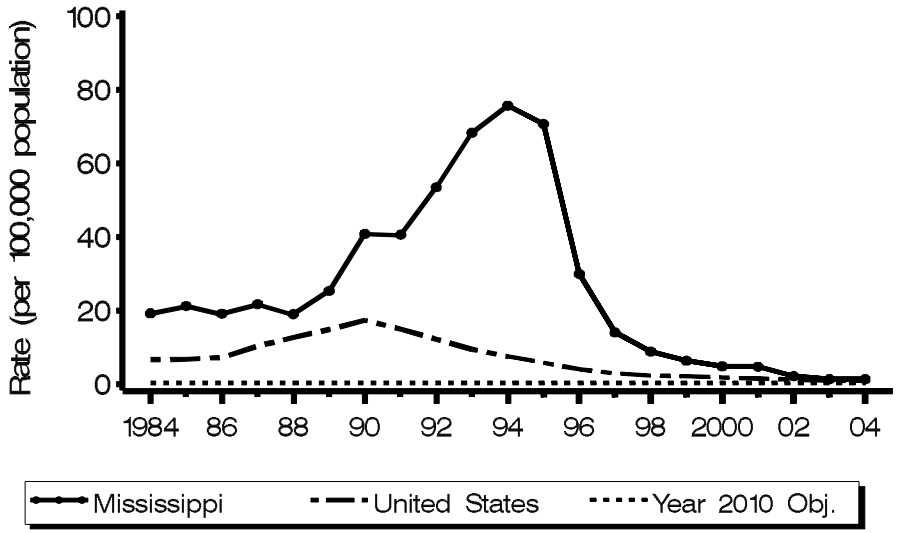


Figure C. P&S syphilis county rates, 2004

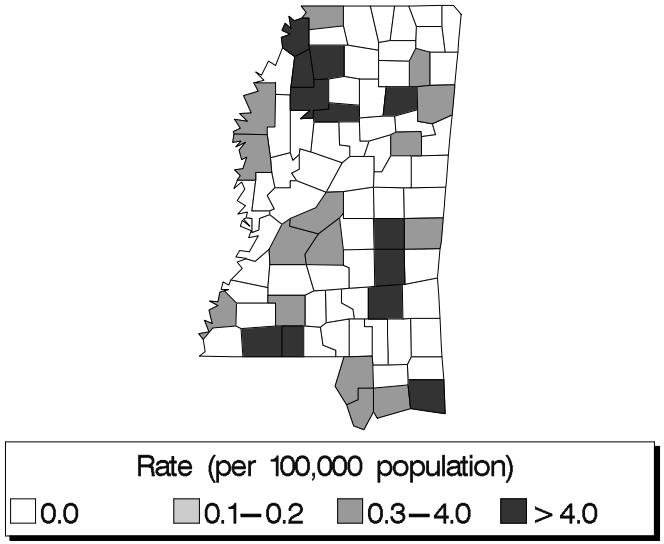
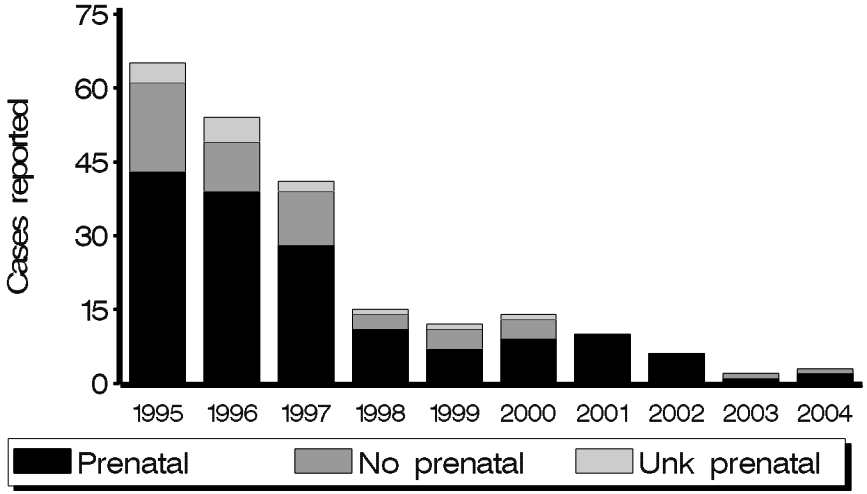


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Missouri — 2004

Figure A. P&S syphilis rates among men, 1984—2004

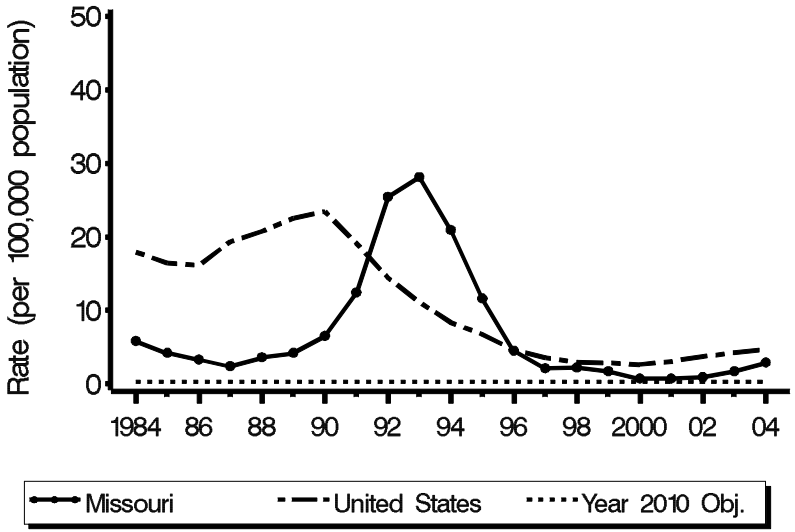


Figure B. P&S syphilis rates among women, 1984—2004

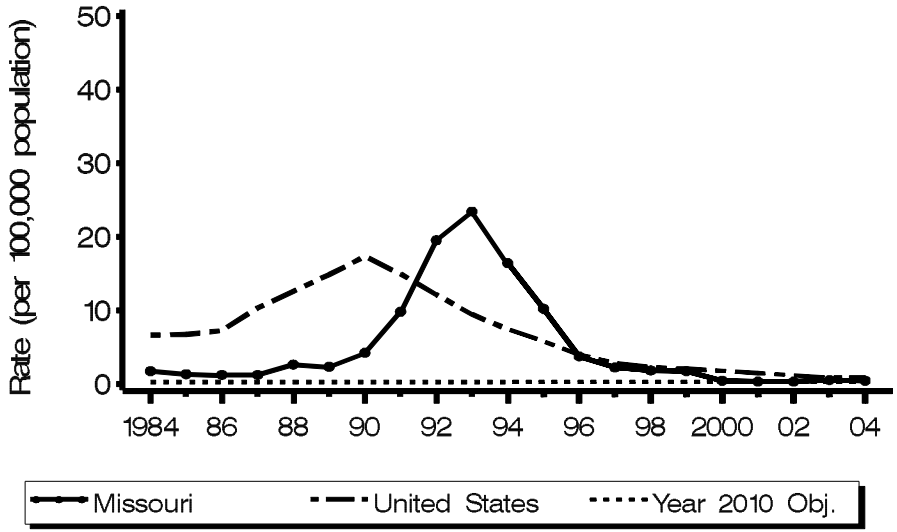


Figure C. P&S syphilis county rates, 2004

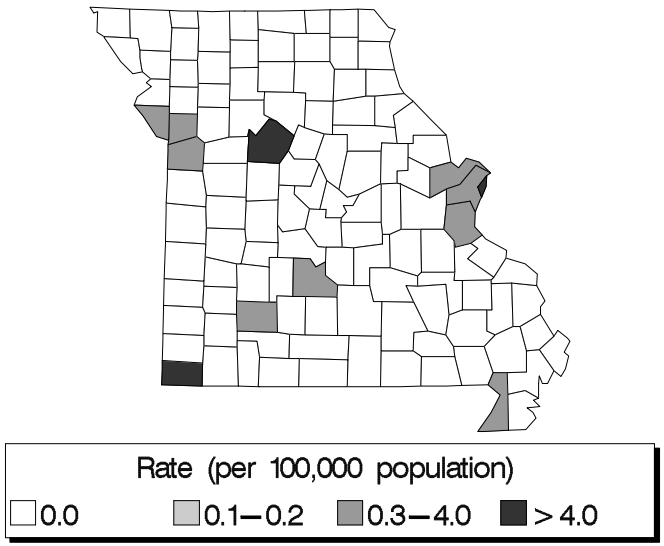
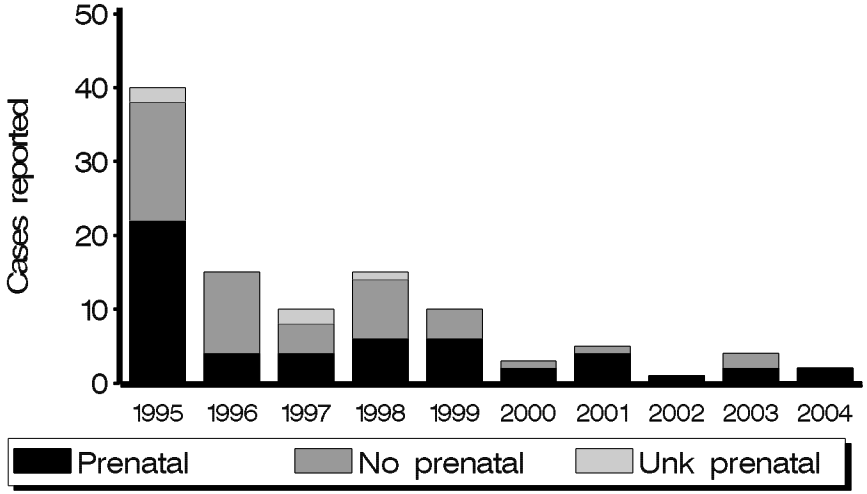


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Montana — 2004

Figure A. P&S syphilis rates among men, 1984—2004

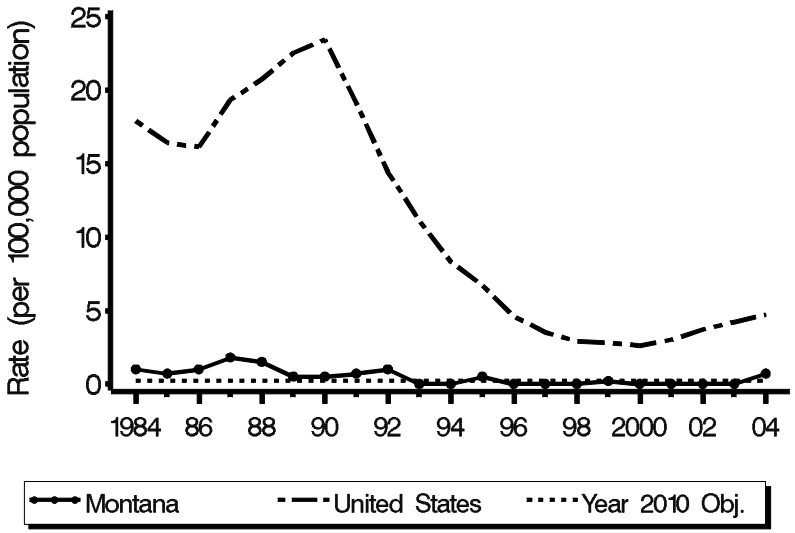


Figure B. P&S syphilis rates among women, 1984—2004

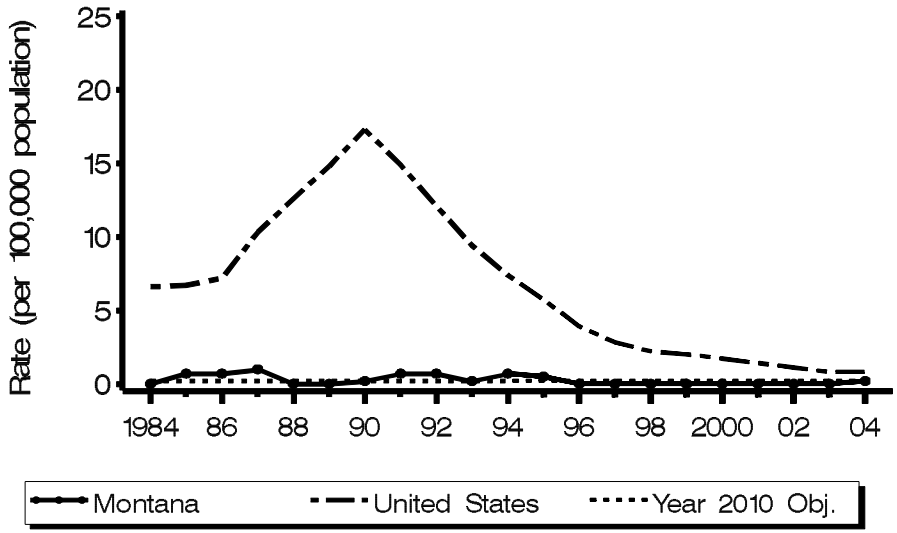


Figure C. P&S syphilis county rates, 2004

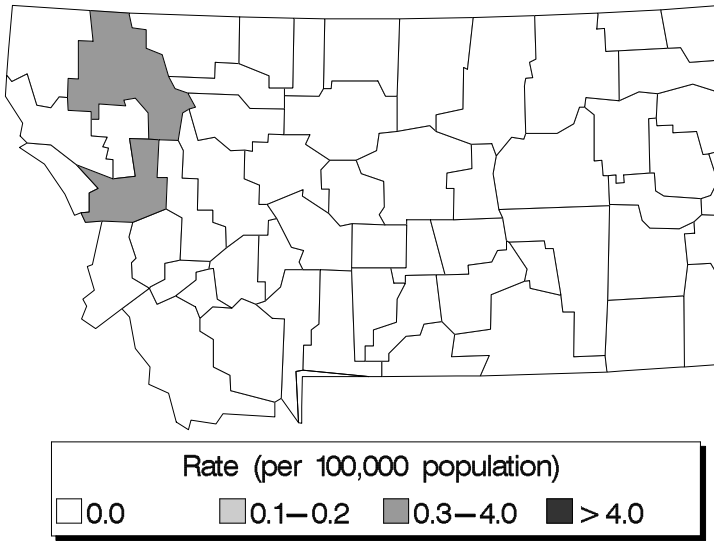
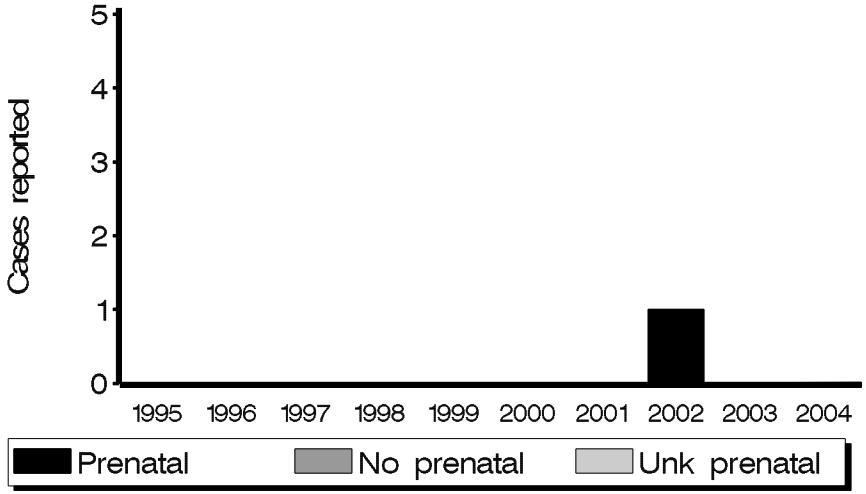


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Nebraska — 2004

Figure A. P&S syphilis rates among men, 1984—2004

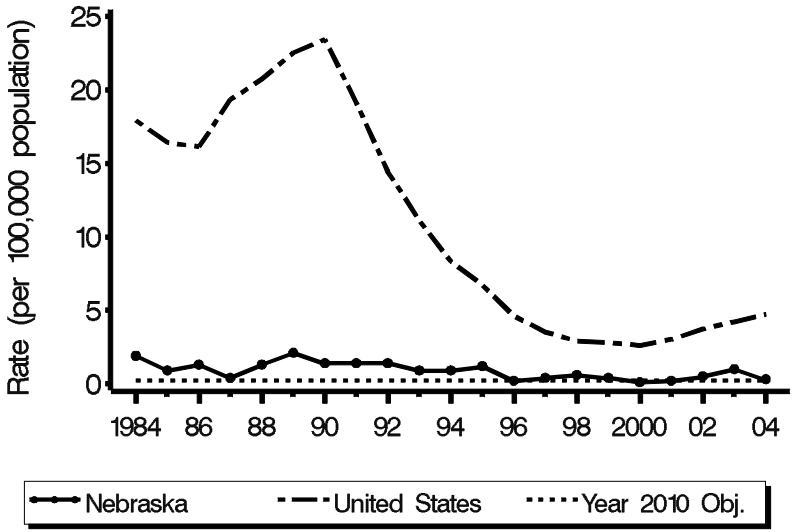


Figure B. P&S syphilis rates among women, 1984—2004

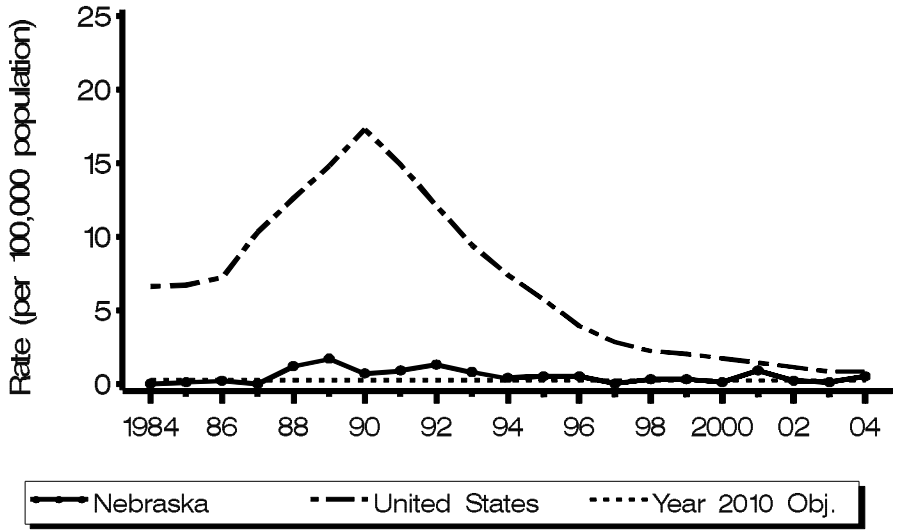


Figure C. P&S syphilis county rates, 2004

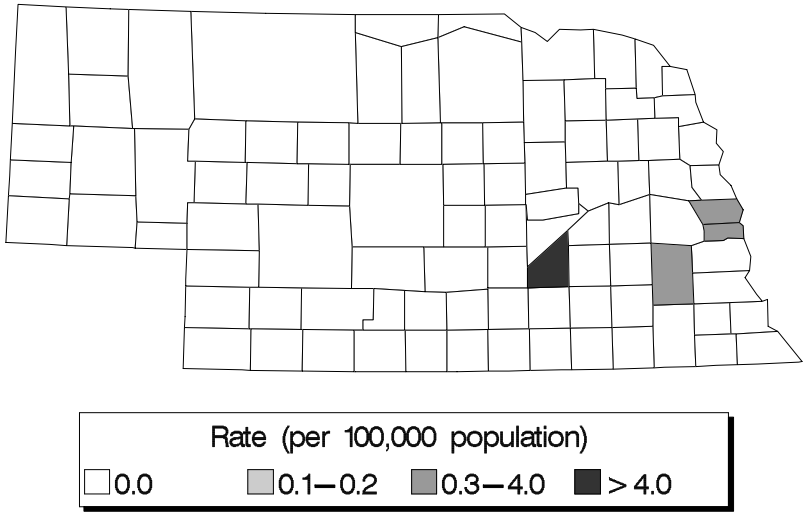
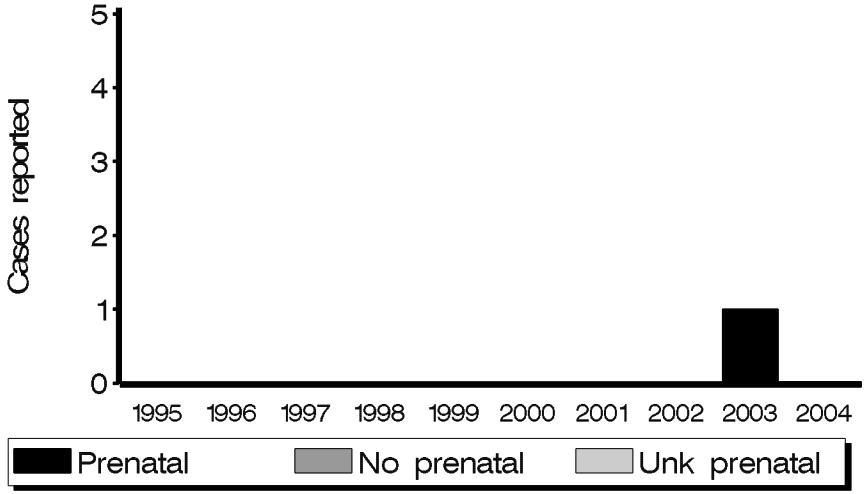


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Nevada — 2004

Figure A. P&S syphilis rates among men, 1984—2004

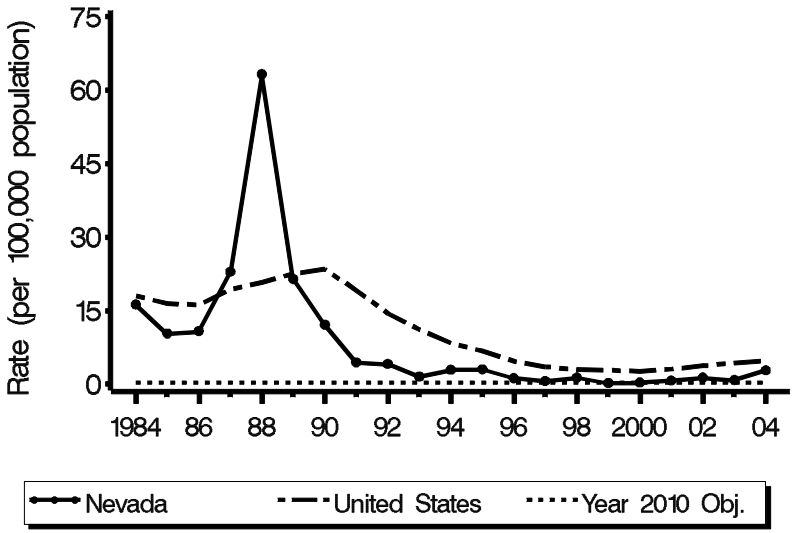


Figure B. P&S syphilis rates among women, 1984—2004

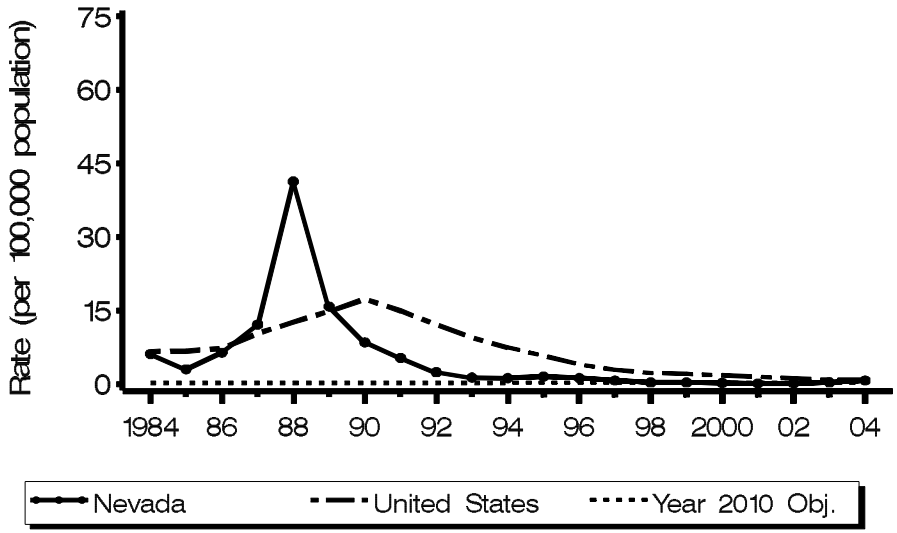


Figure C. P&S syphilis county rates, 2004

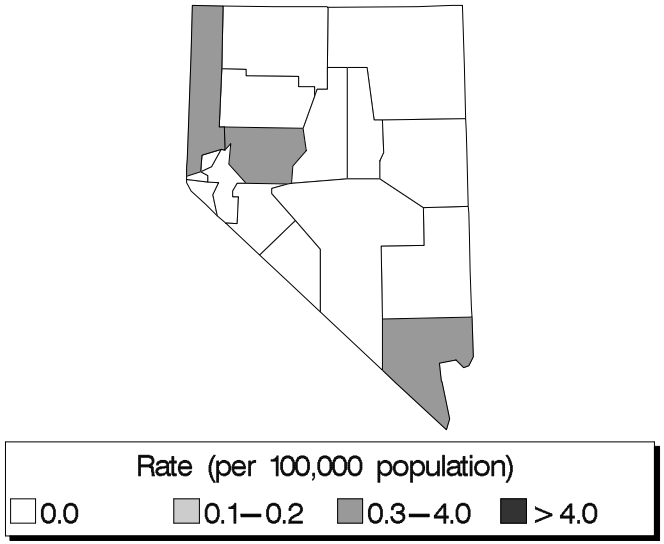
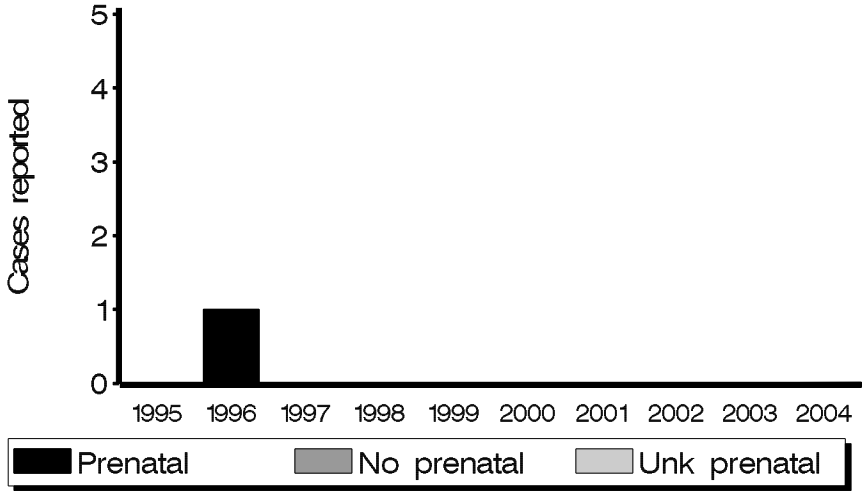


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



New Hampshire — 2004

Figure A. P&S syphilis rates among men, 1984—2004

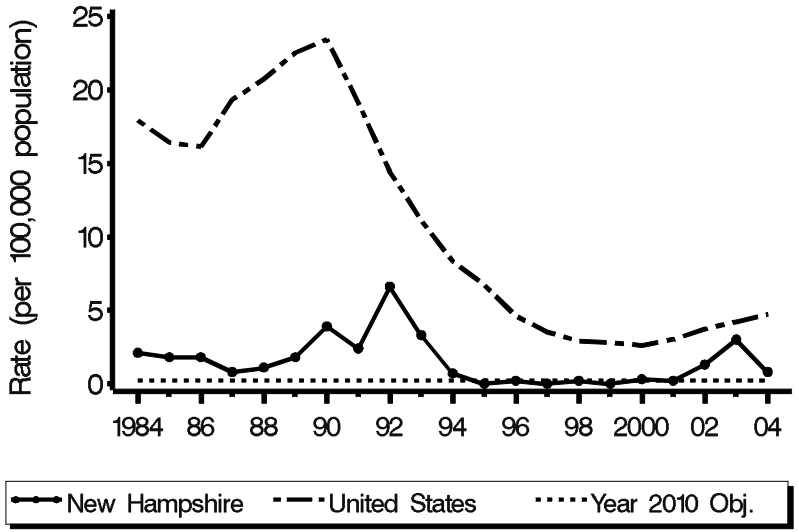


Figure B. P&S syphilis rates among women, 1984—2004

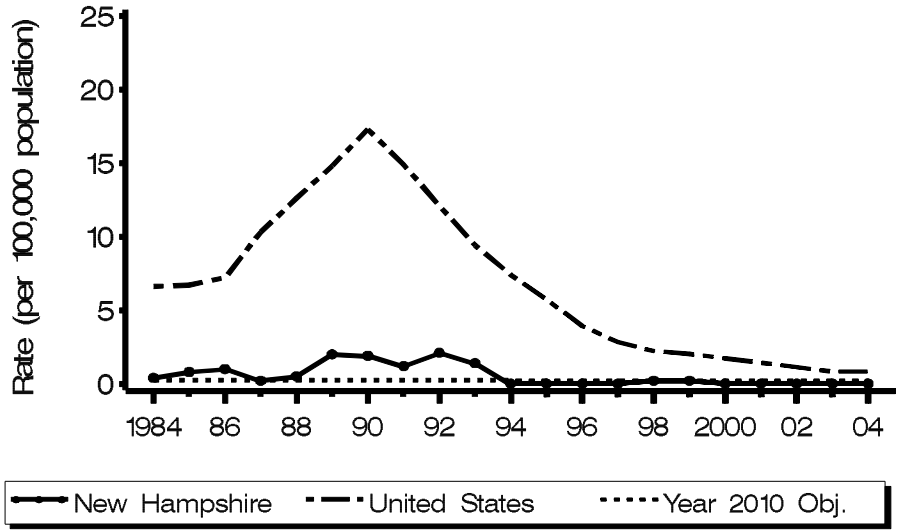


Figure C. P&S syphilis county rates, 2004

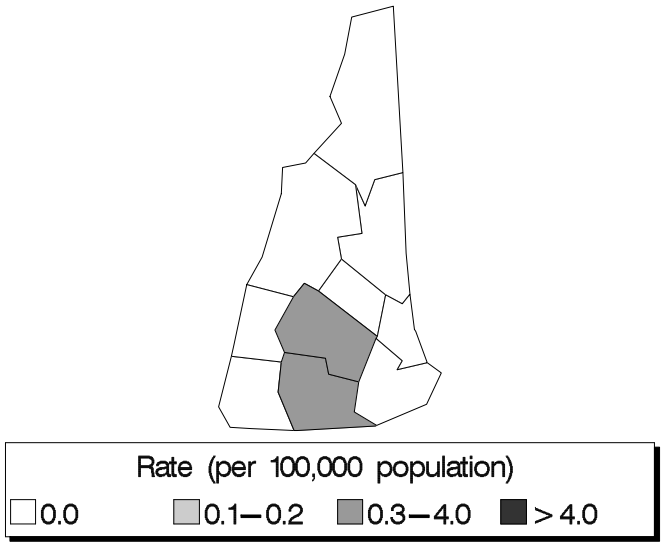
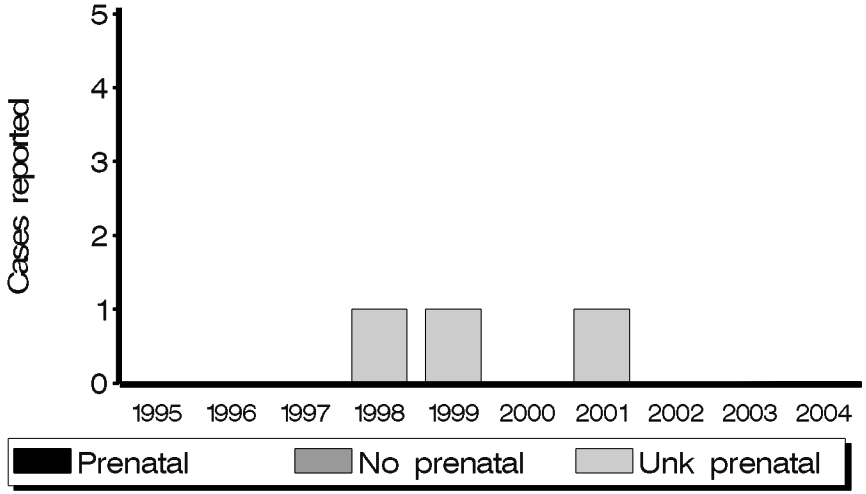


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



New Jersey — 2004

Figure A. P&S syphilis rates among men, 1984—2004

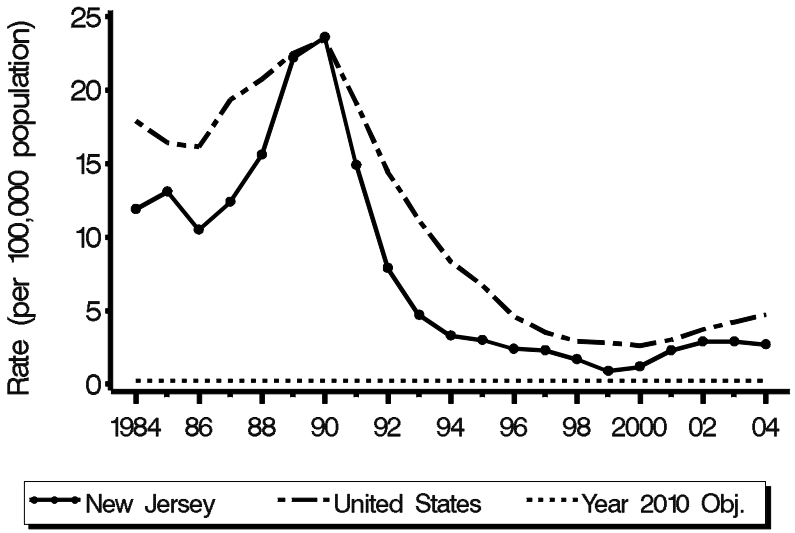


Figure B. P&S syphilis rates among women, 1984—2004

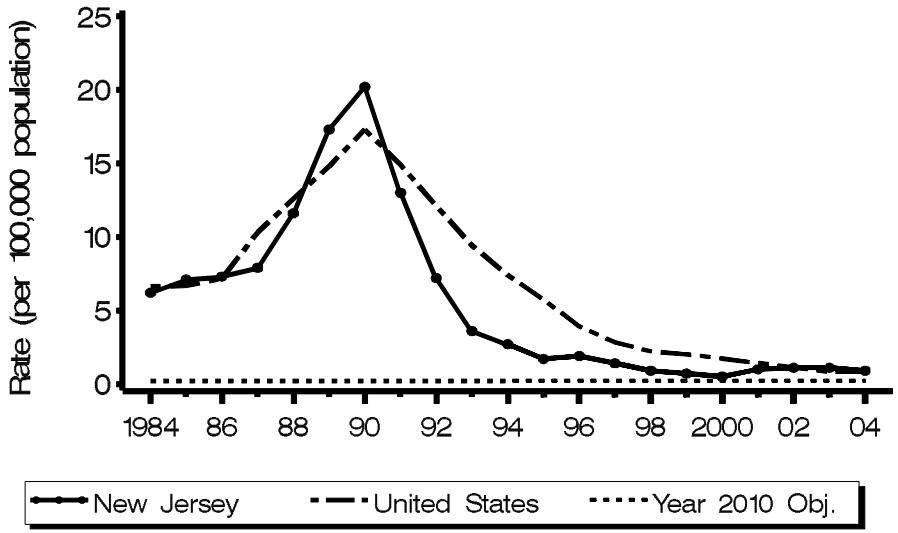
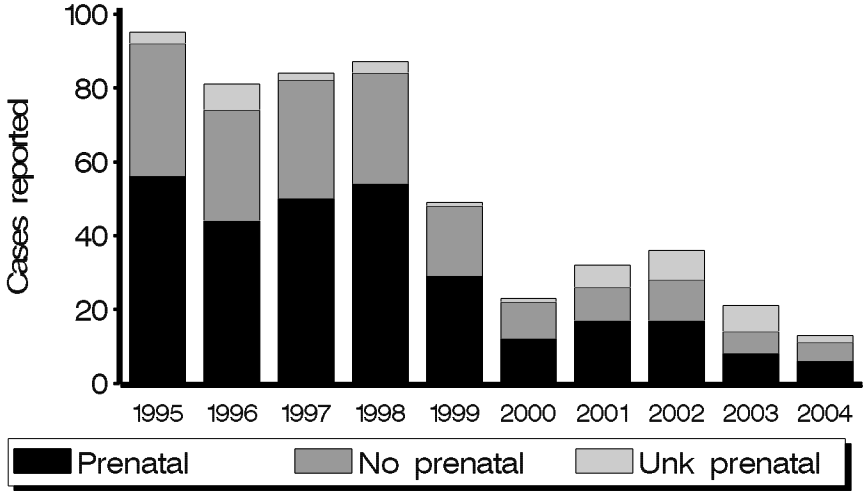


Figure C. P&S syphilis county rates, 2004

Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



New Mexico — 2004

Figure A. P&S syphilis rates among men, 1984—2004

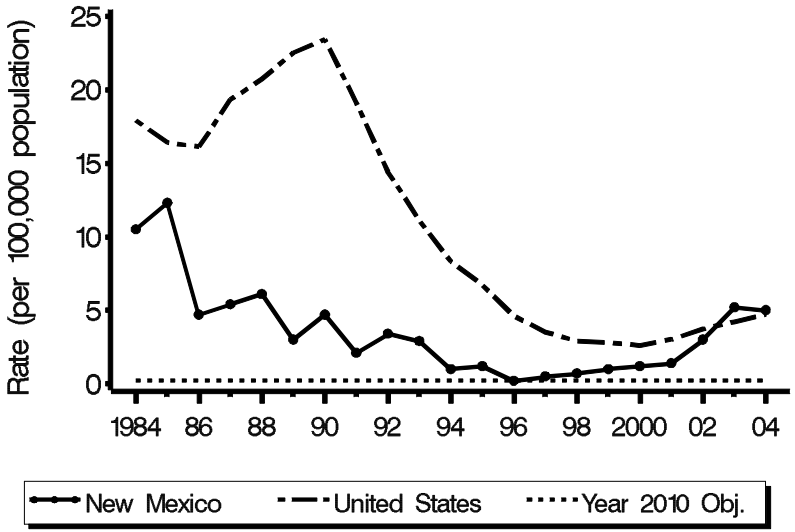


Figure B. P&S syphilis rates among women, 1984—2004

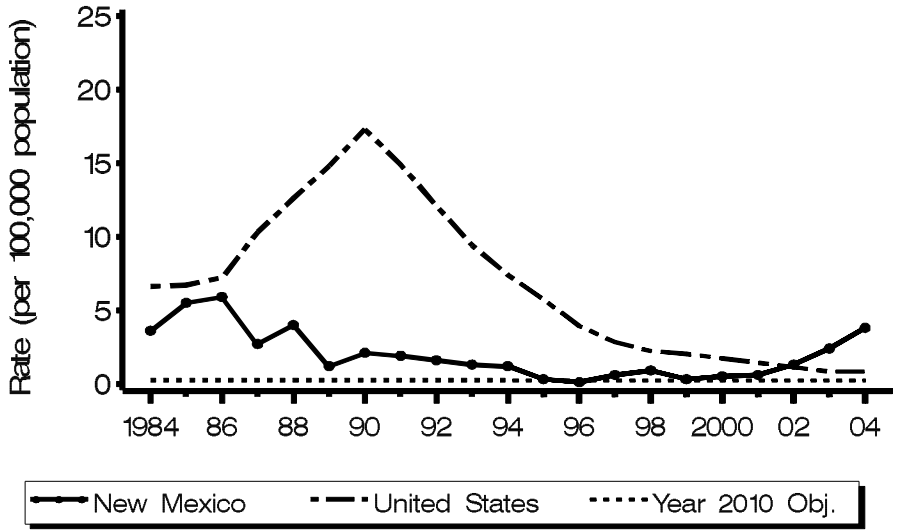


Figure C. P&S syphilis county rates, 2004

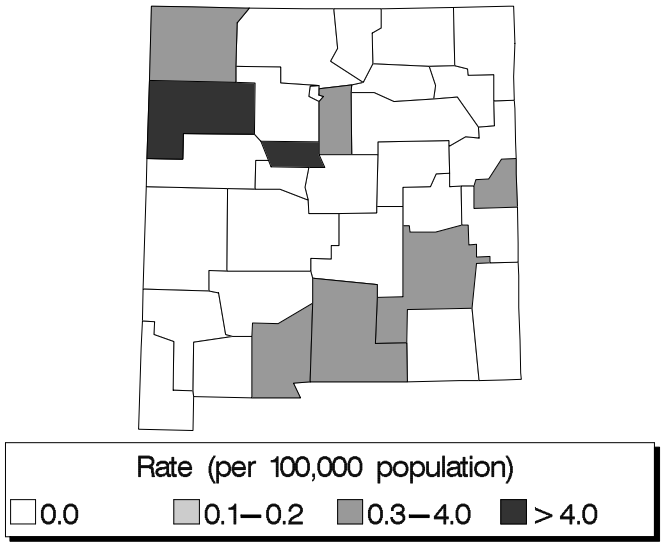
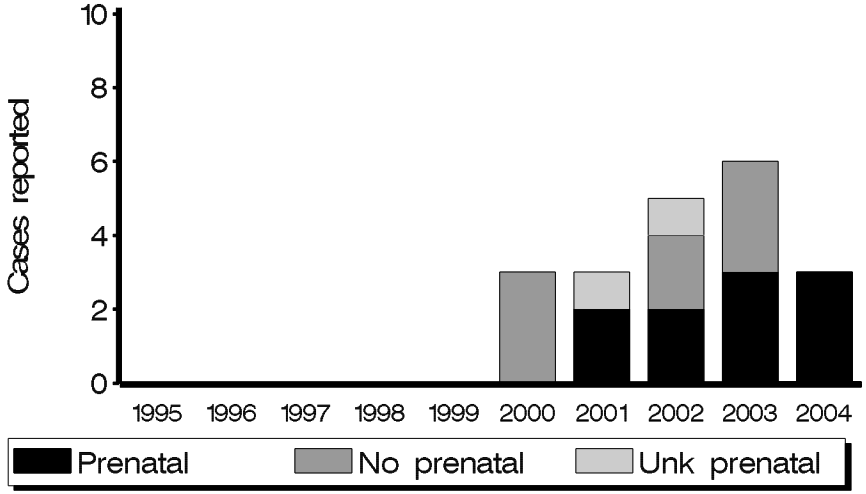


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



New York — 2004

Figure A. P&S syphilis rates among men, 1984—2004

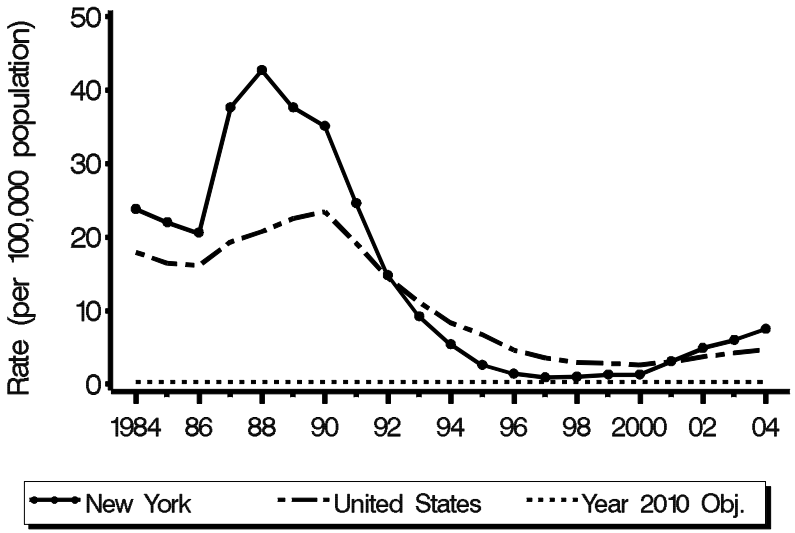


Figure B. P&S syphilis rates among women, 1984—2004

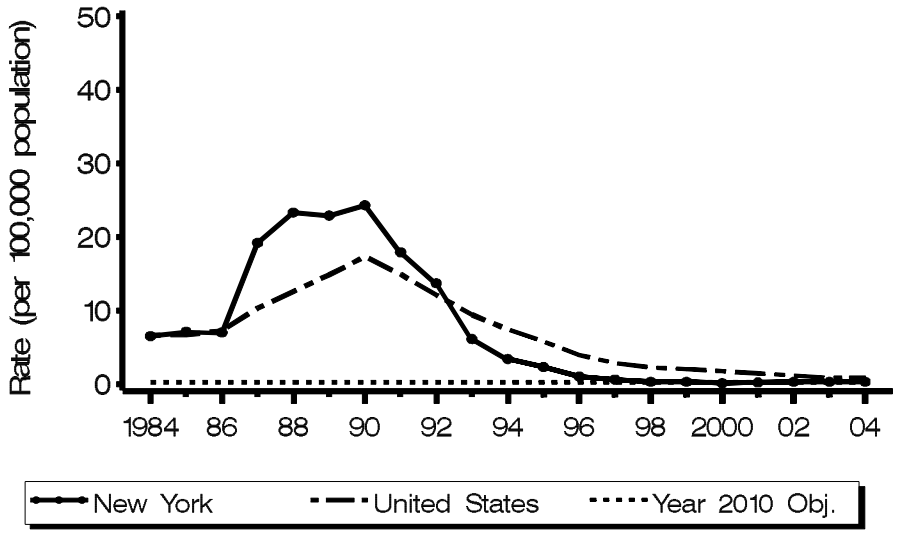


Figure C. P&S syphilis county rates, 2004

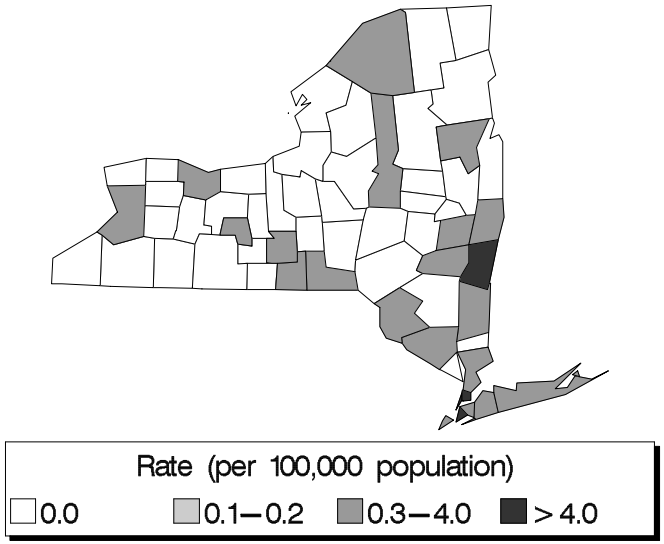
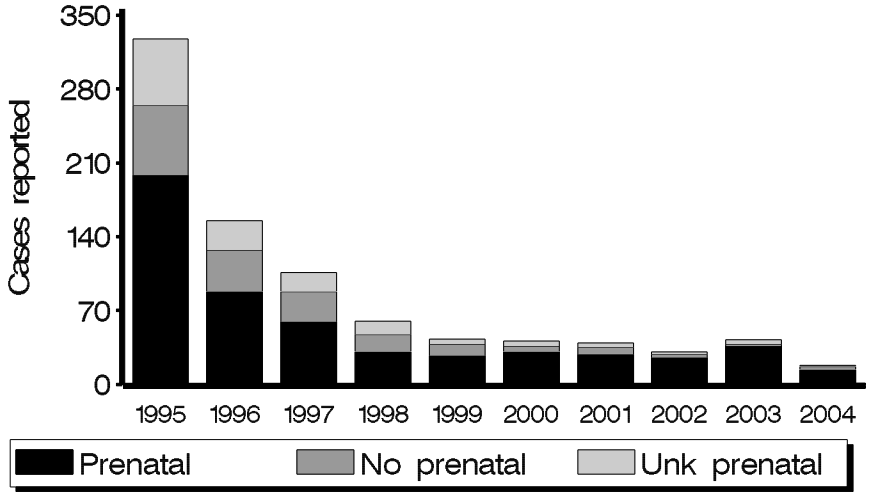


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



North Carolina — 2004

Figure A. P&S syphilis rates among men, 1984—2004

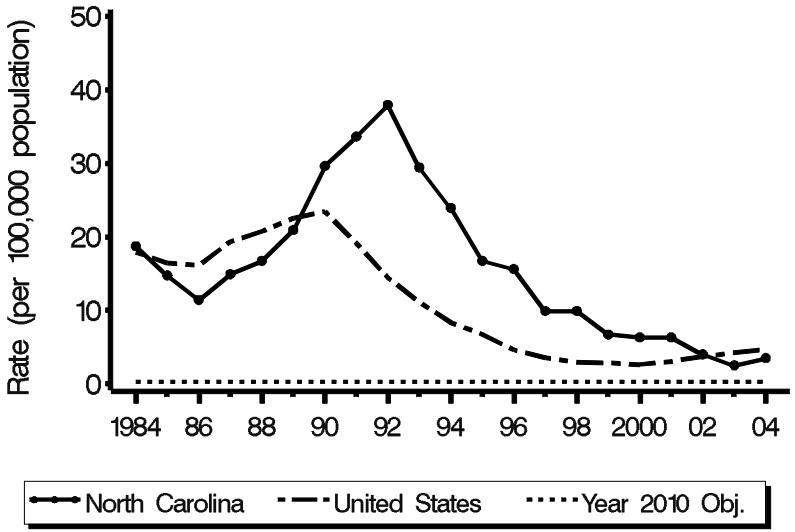


Figure B. P&S syphilis rates among women, 1984—2004

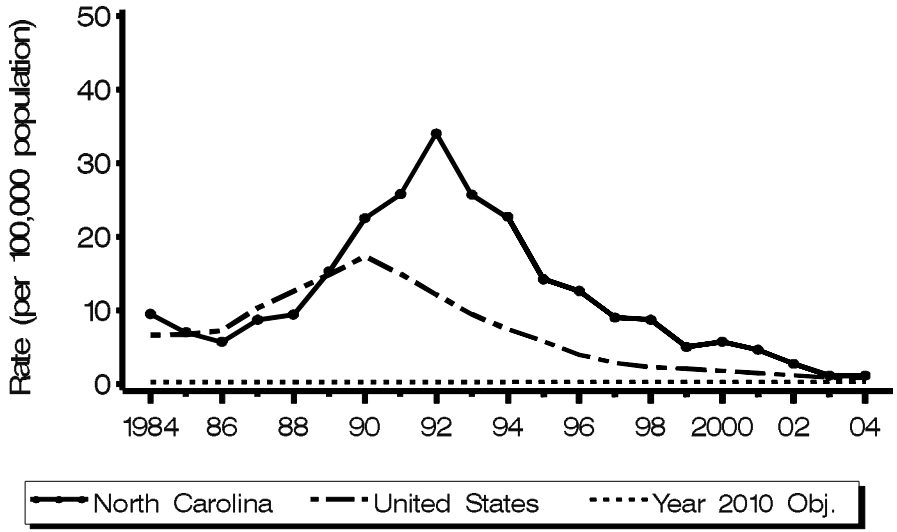


Figure C. P&S syphilis county rates, 2004

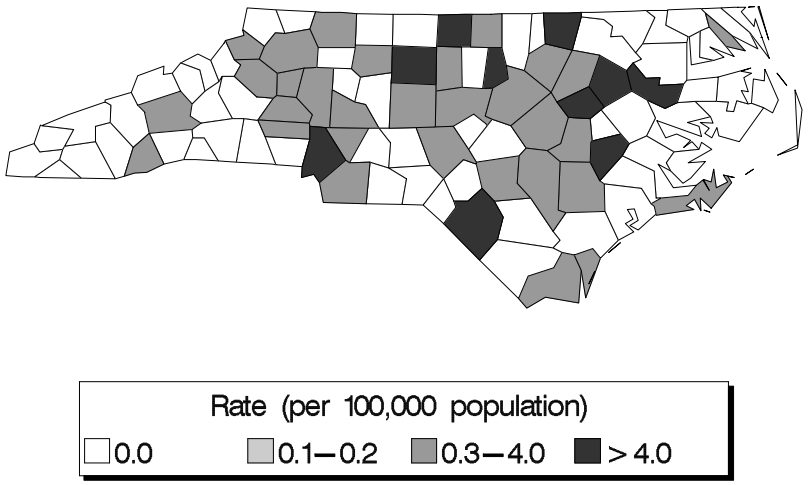
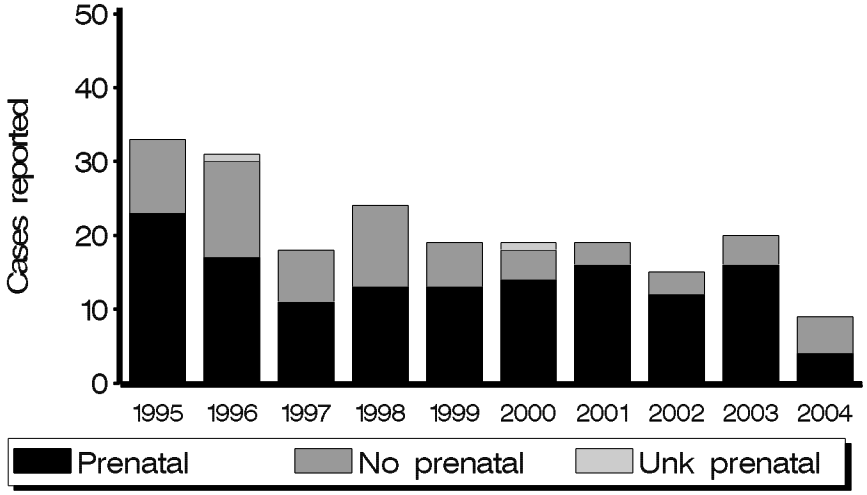


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



North Dakota — 2004

Figure A. P&S syphilis rates among men, 1984—2004

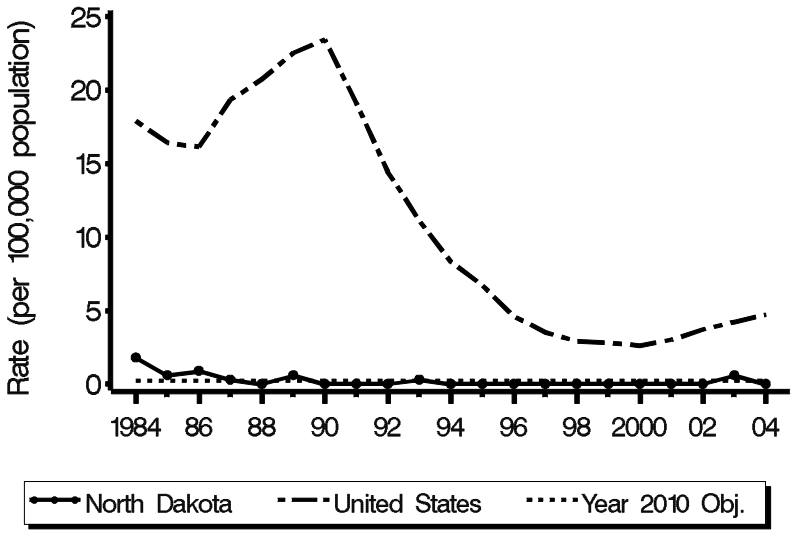


Figure B. P&S syphilis rates among women, 1984—2004

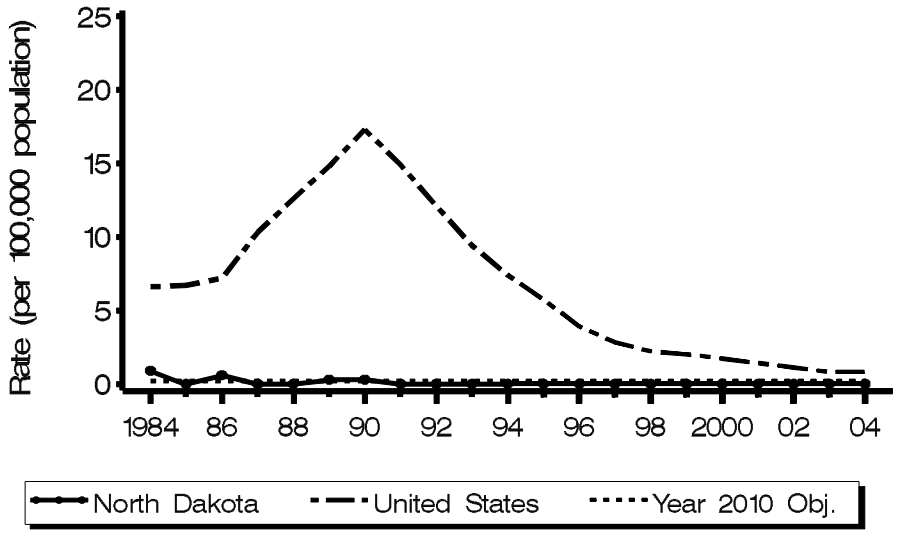


Figure C. P&S syphilis county rates, 2004

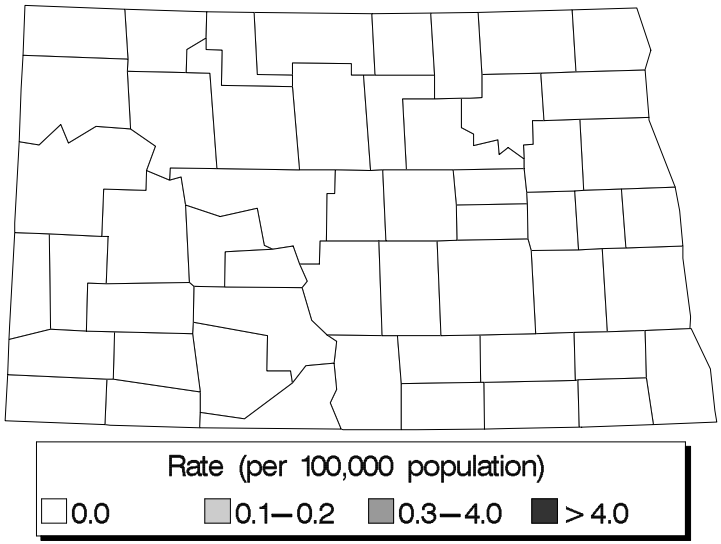
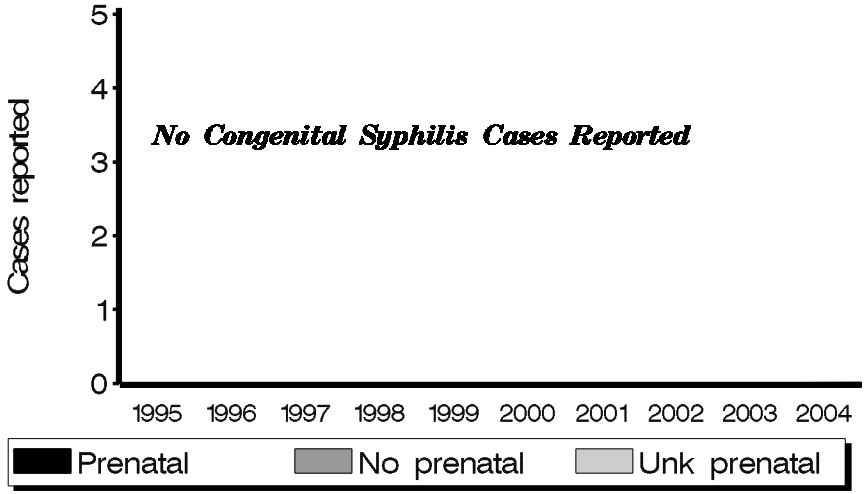


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Ohio — 2004

Figure A. P&S syphilis rates among men, 1984—2004

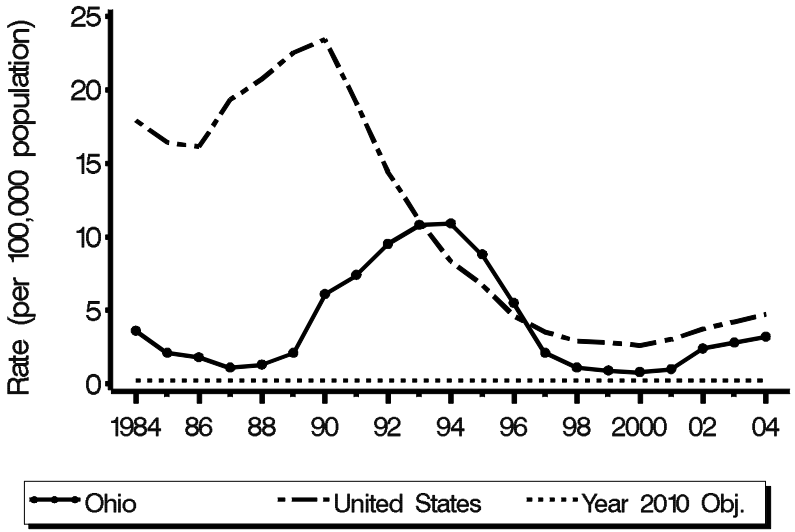


Figure B. P&S syphilis rates among women, 1984—2004

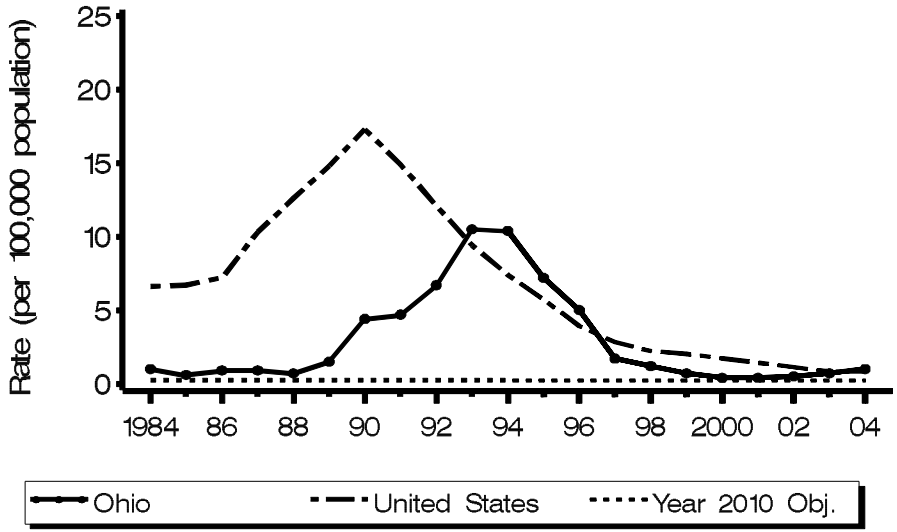


Figure C. P&S syphilis county rates, 2004

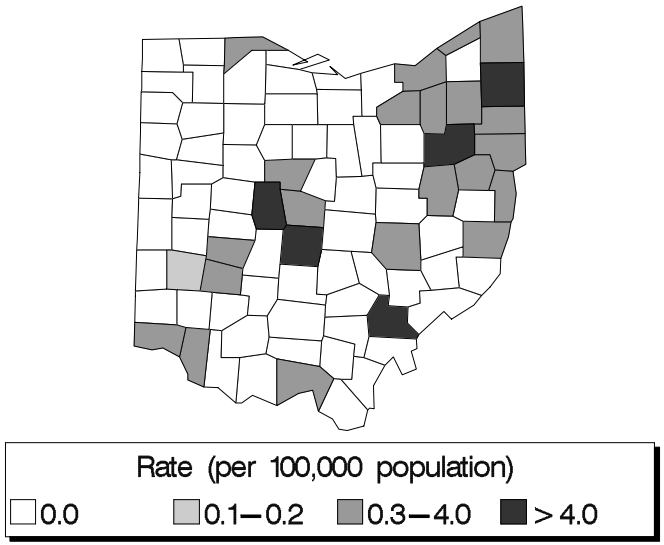
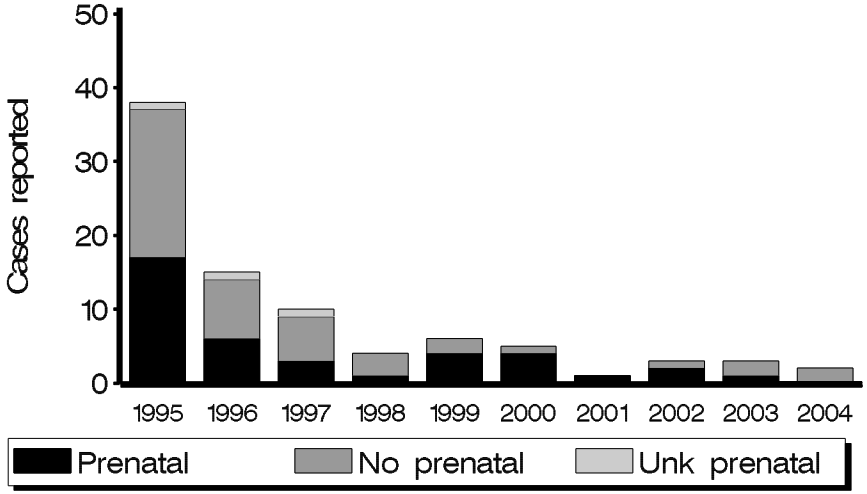


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Oklahoma — 2004

Figure A. P&S syphilis rates among men, 1984—2004

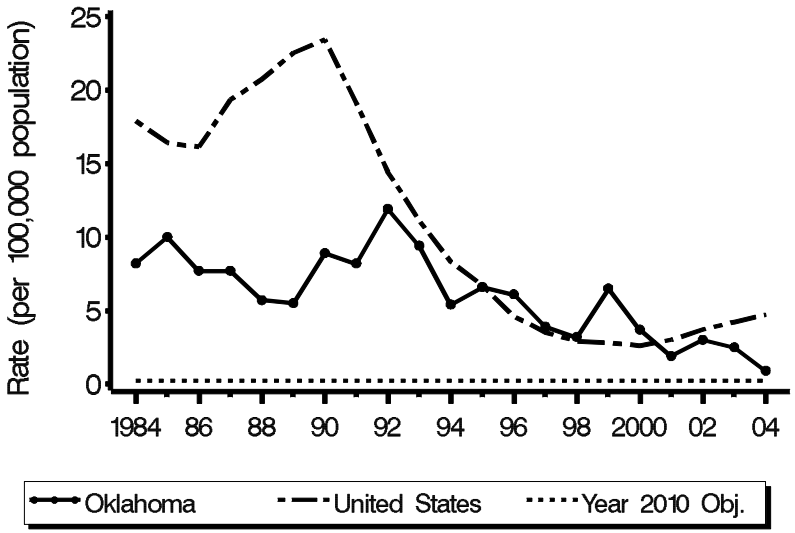


Figure B. P&S syphilis rates among women, 1984—2004

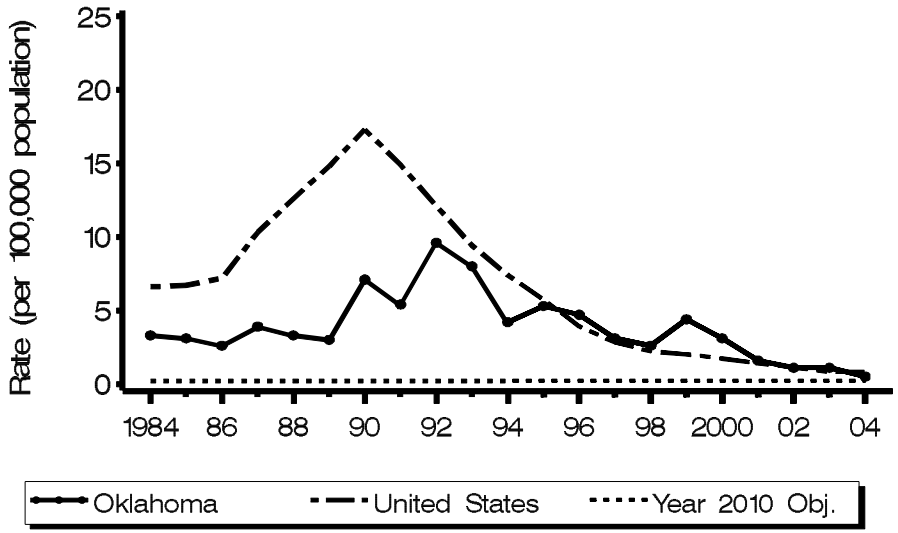


Figure C. P&S syphilis county rates, 2004

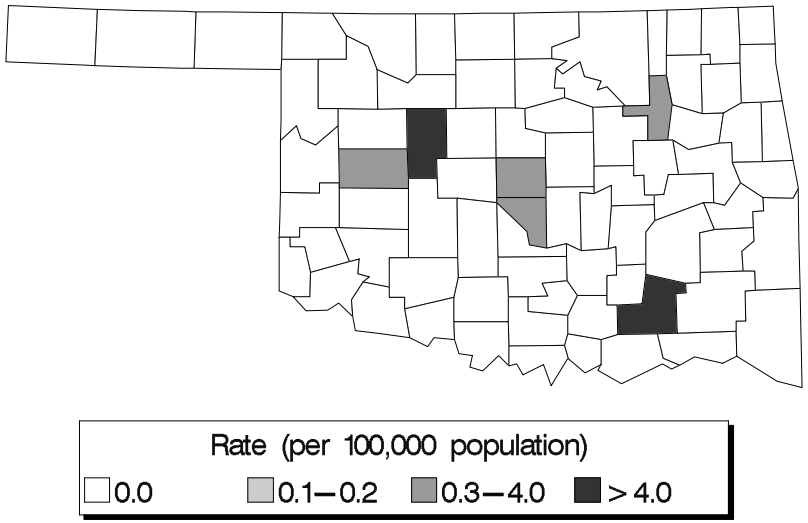
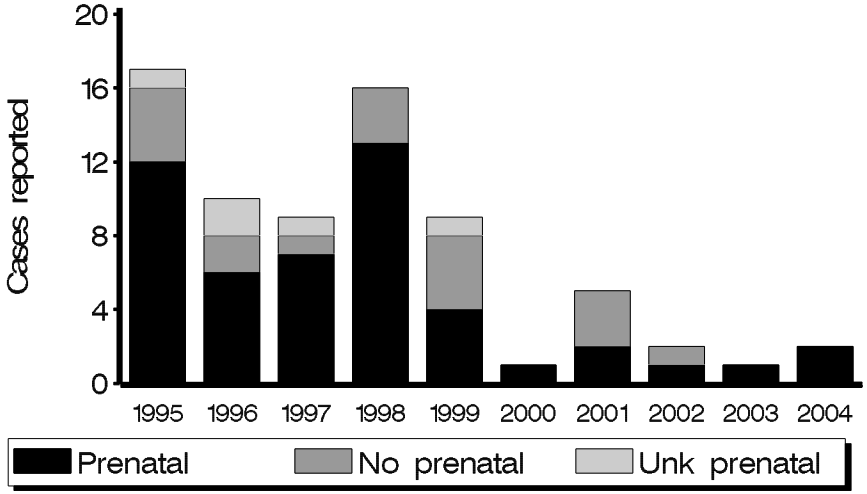


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Oregon — 2004

Figure A. P&S syphilis rates among men, 1984—2004

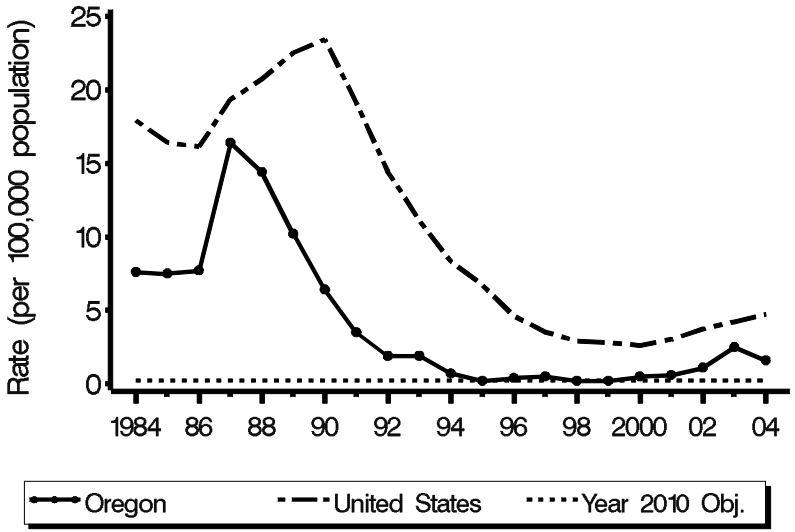


Figure B. P&S syphilis rates among women, 1984—2004

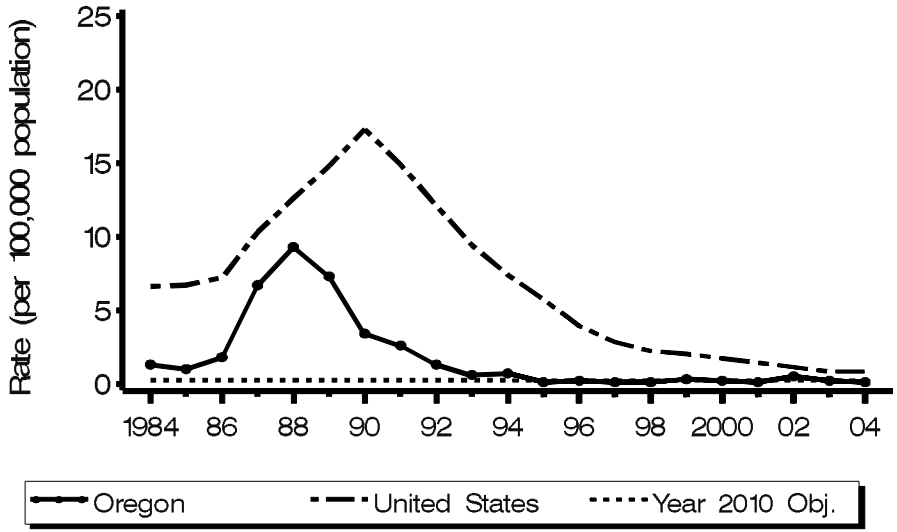


Figure C. P&S syphilis county rates, 2004

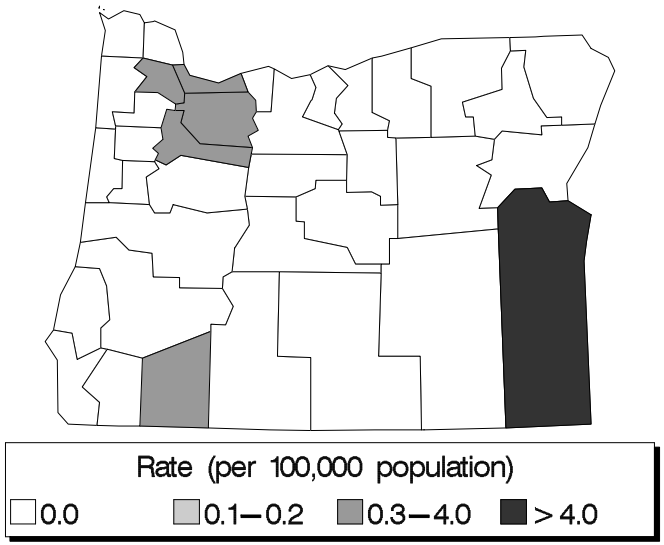
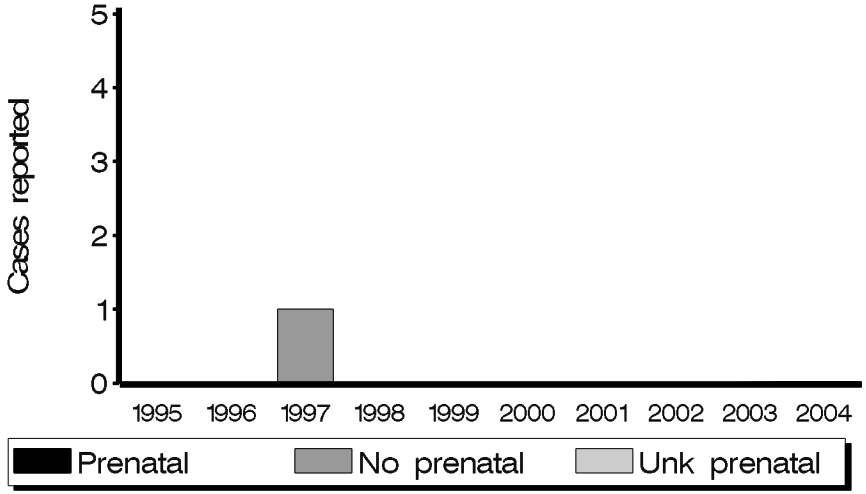


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Pennsylvania — 2004

Figure A. P&S syphilis rates among men, 1984—2004

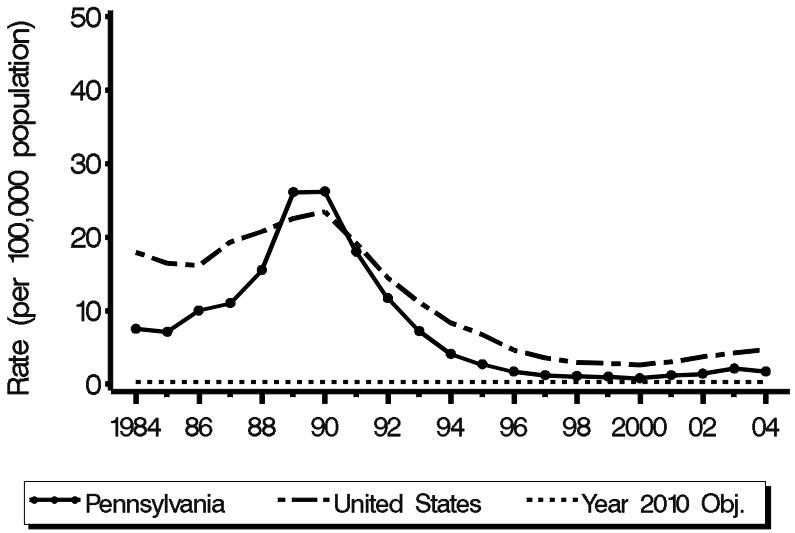


Figure B. P&S syphilis rates among women, 1984—2004

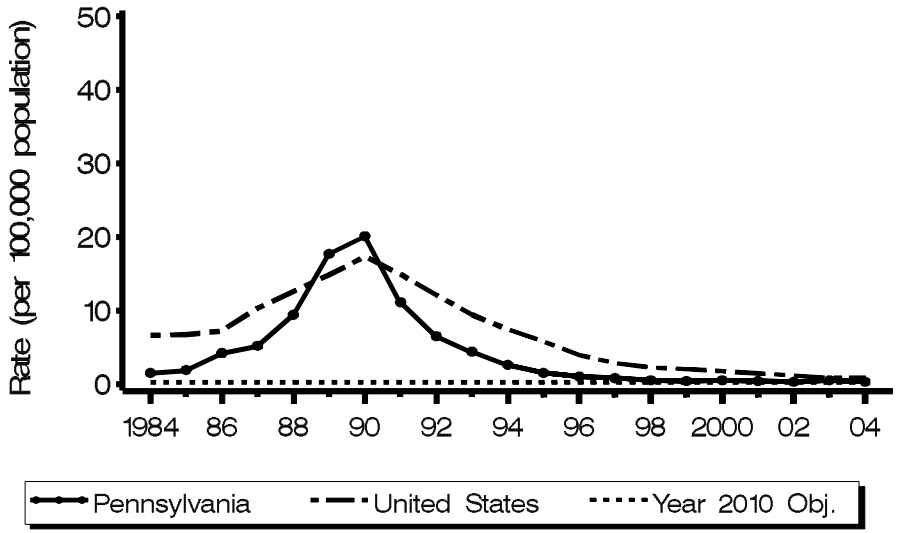


Figure C. P&S syphilis county rates, 2004

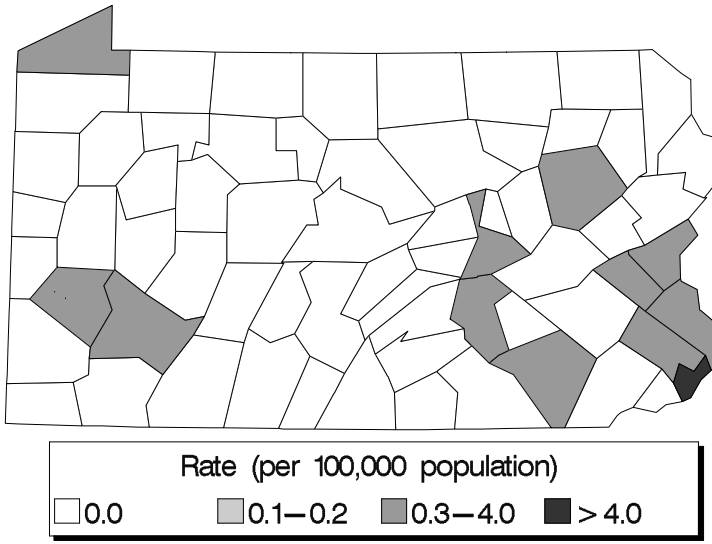
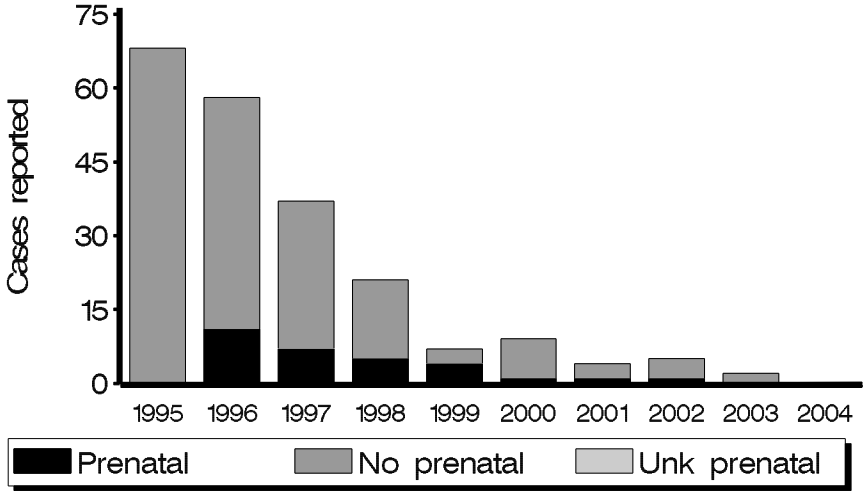


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Puerto Rico — 2004

Figure A. P&S syphilis rates among men, 1984—2004

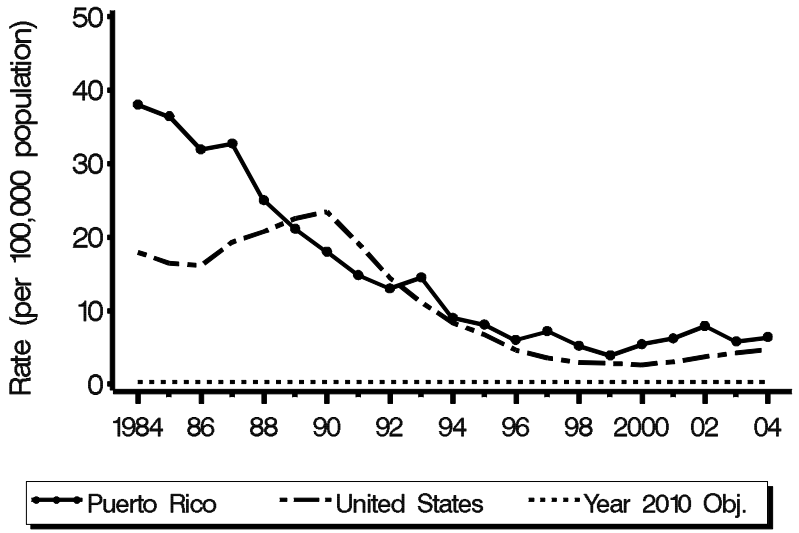


Figure B. P&S syphilis rates among women, 1984—2004

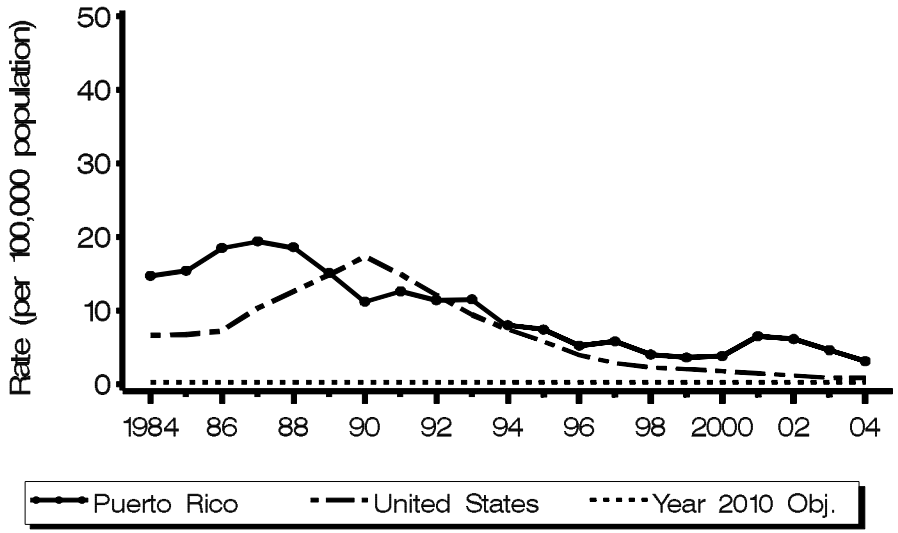


Figure C. P&S syphilis county rates, 2004

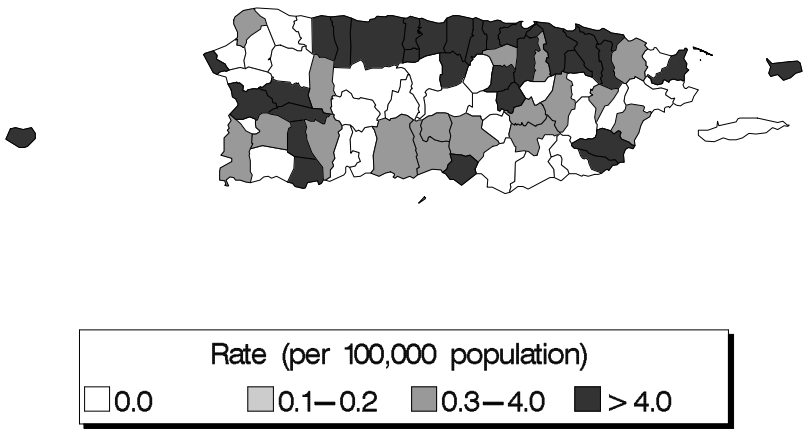
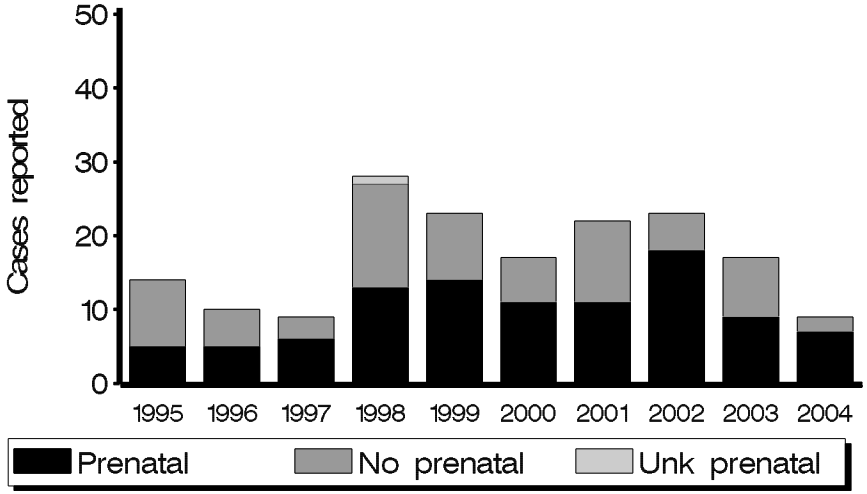


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Rhode Island — 2004

Figure A. P&S syphilis rates among men, 1984—2004

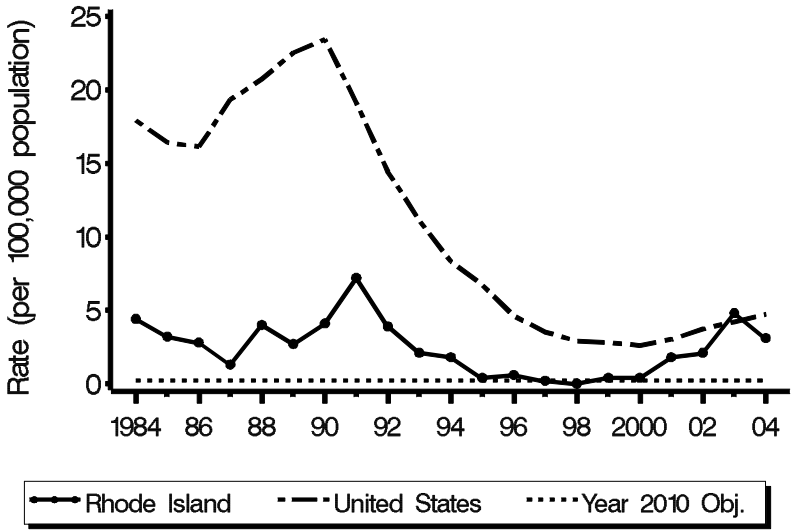


Figure B. P&S syphilis rates among women, 1984—2004

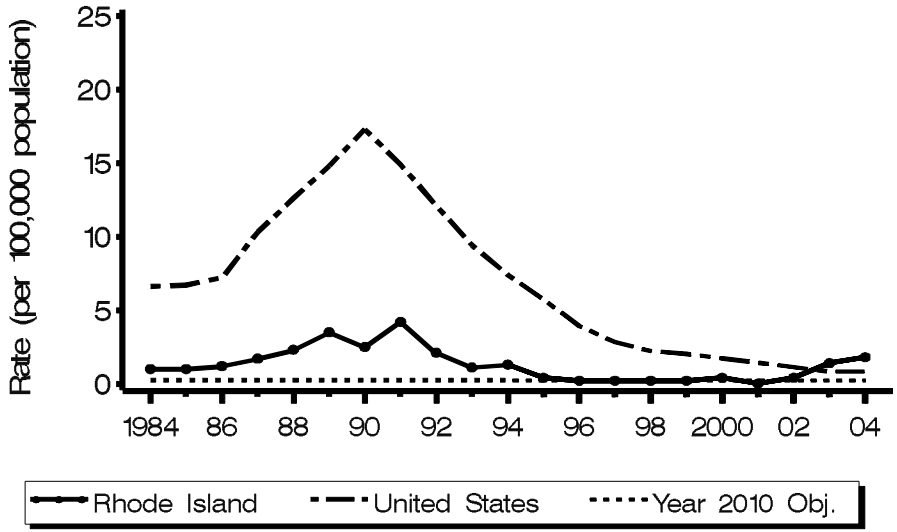


Figure C. P&S syphilis county rates, 2004

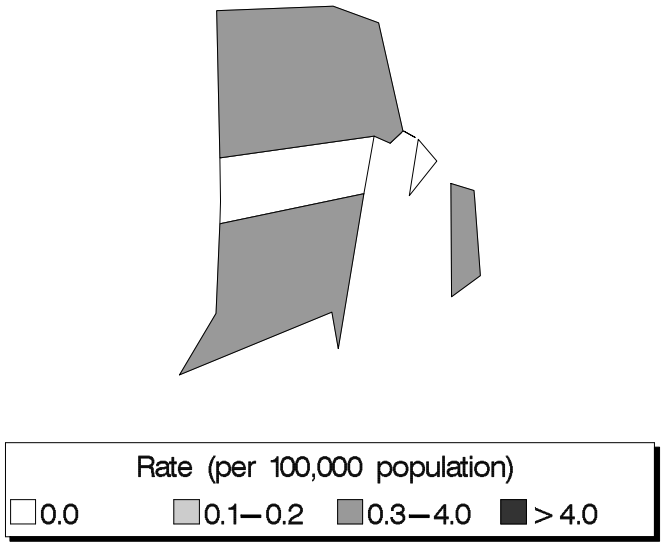
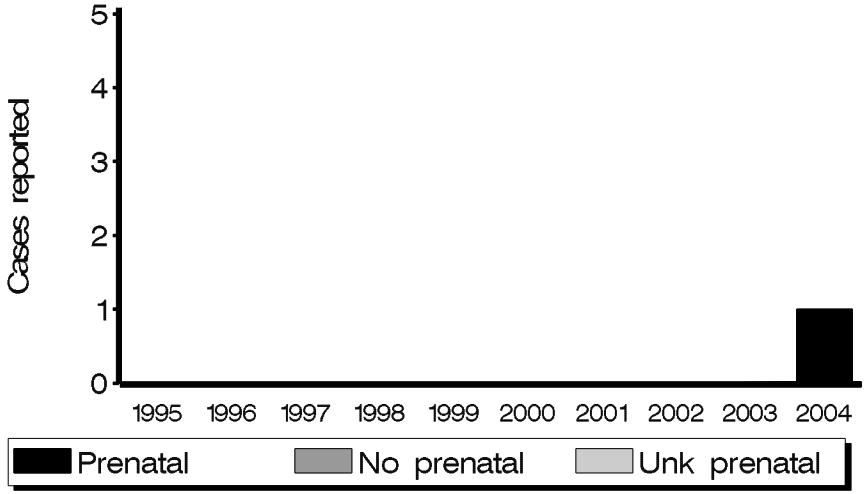


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



South Carolina — 2004

Figure A. P&S syphilis rates among men, 1984—2004

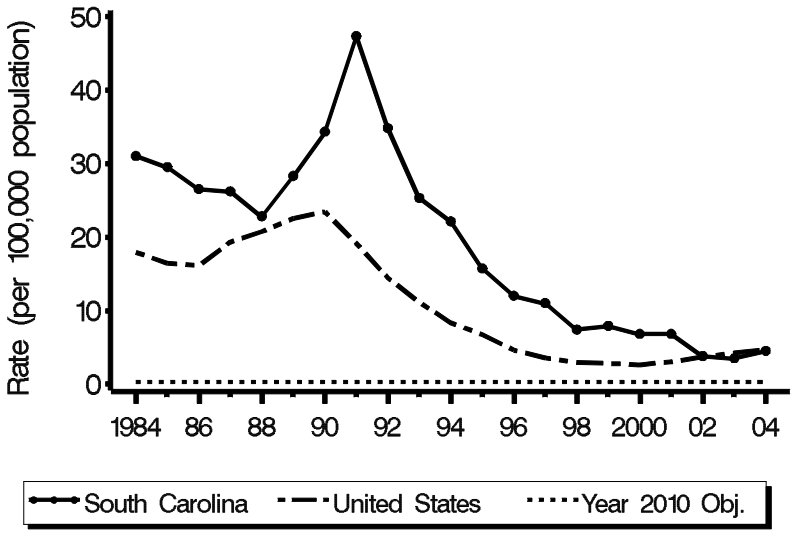


Figure B. P&S syphilis rates among women, 1984—2004

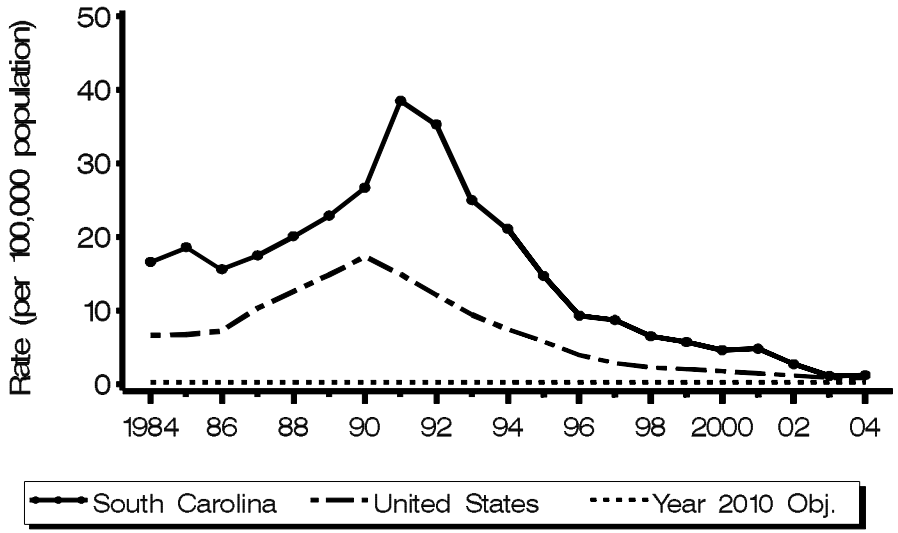


Figure C. P&S syphilis county rates, 2004

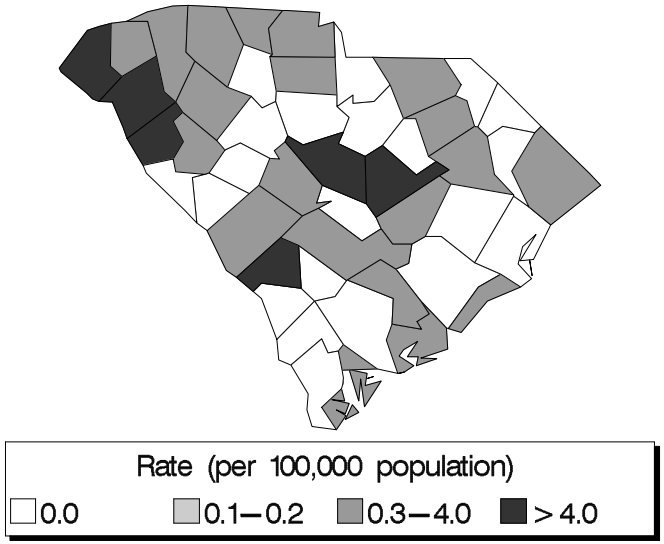
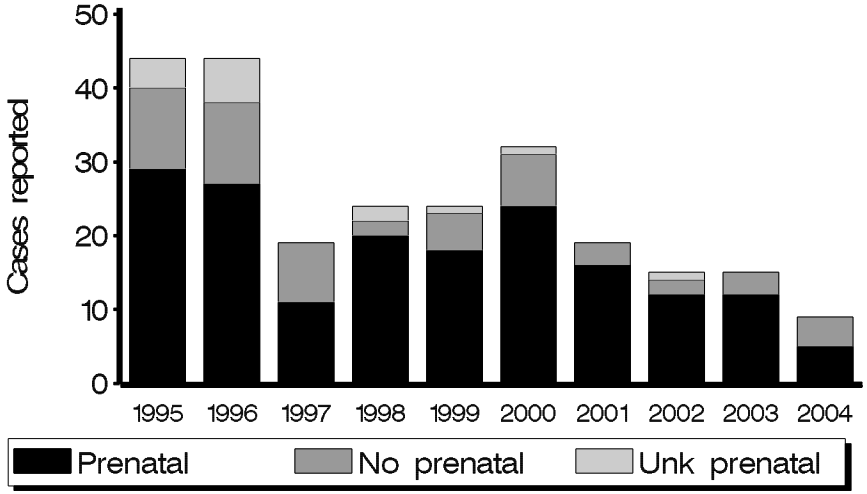


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



South Dakota — 2004

Figure A. P&S syphilis rates among men, 1984—2004

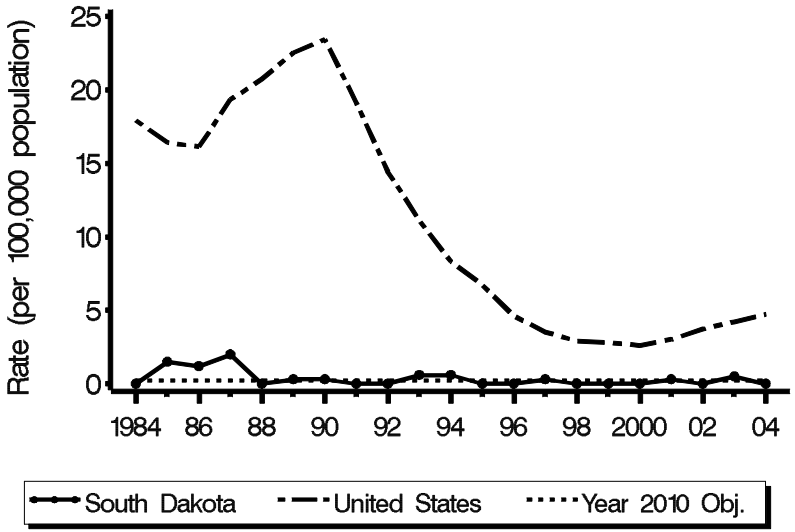


Figure B. P&S syphilis rates among women, 1984—2004

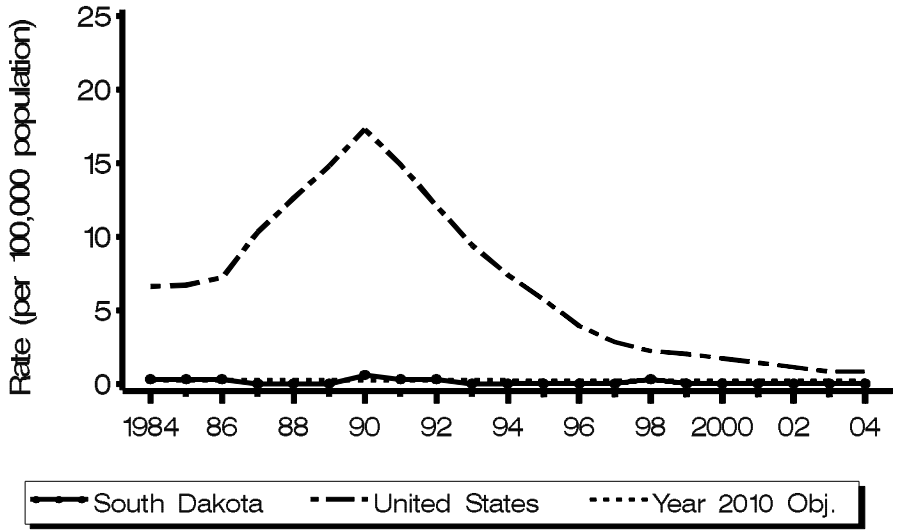


Figure C. P&S syphilis county rates, 2004

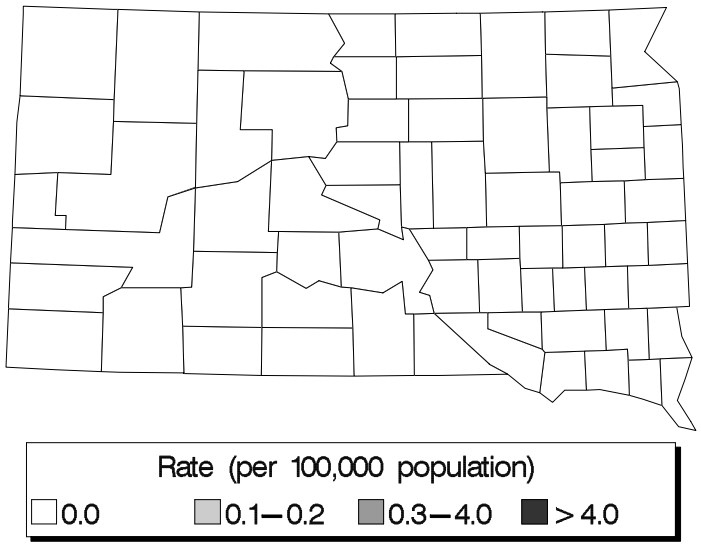
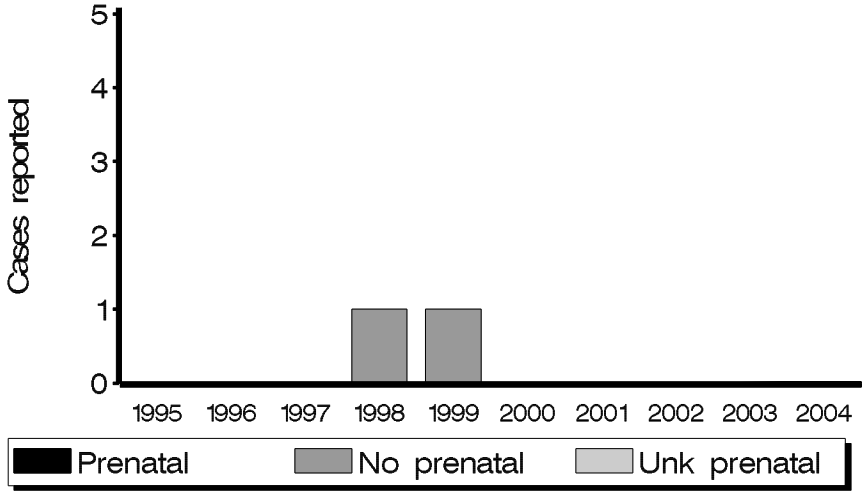


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Tennessee — 2004

Figure A. P&S syphilis rates among men, 1984—2004

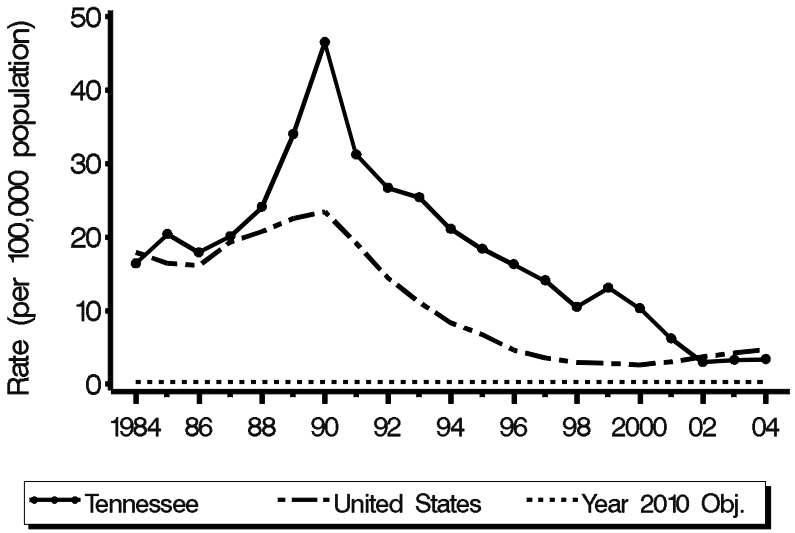


Figure B. P&S syphilis rates among women, 1984—2004

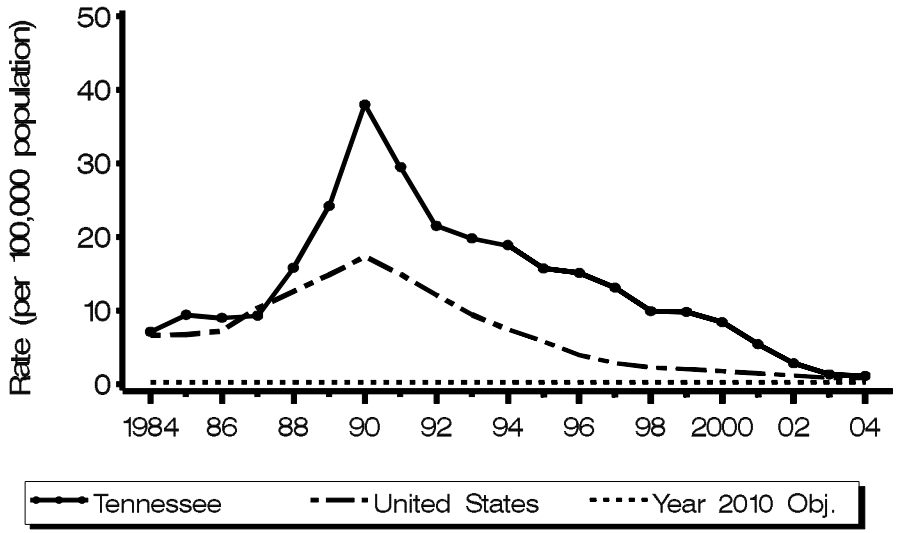


Figure C. P&S syphilis county rates, 2004

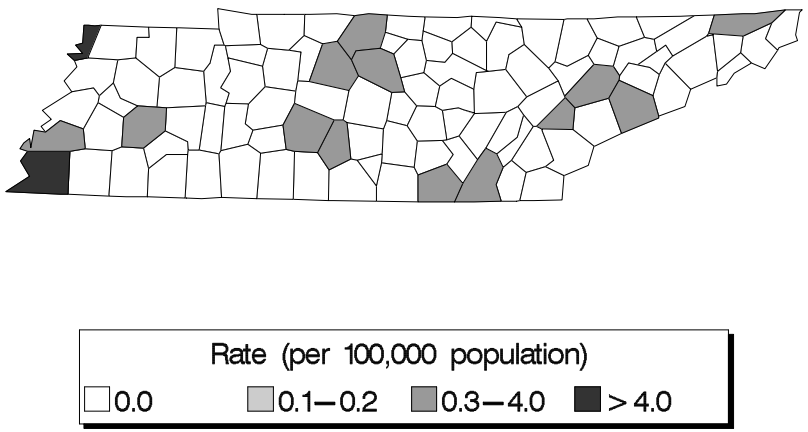
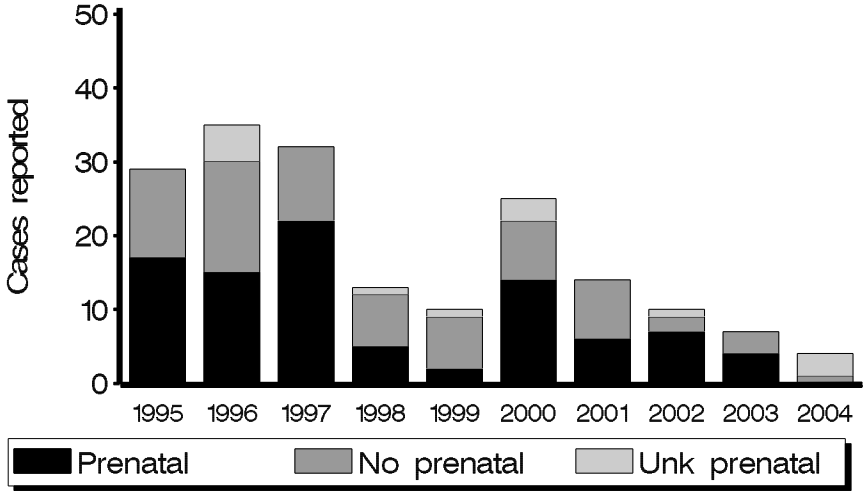


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Texas — 2004

Figure A. P&S syphilis rates among men, 1984—2004

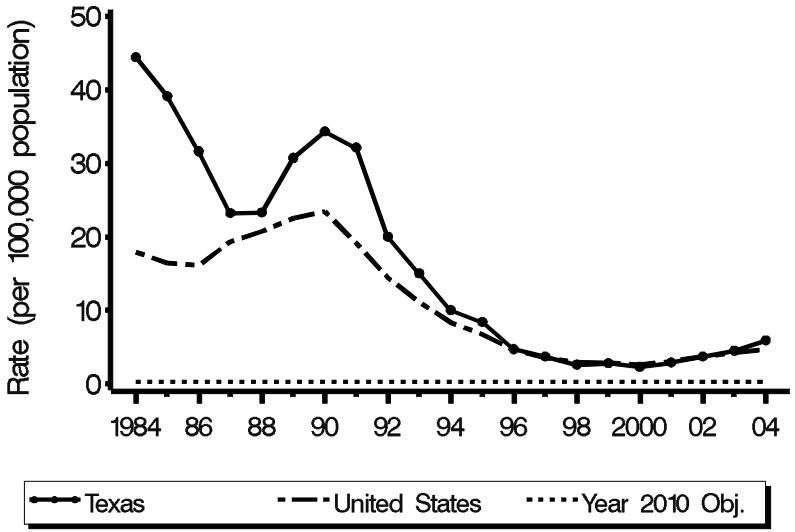


Figure B. P&S syphilis rates among women, 1984—2004

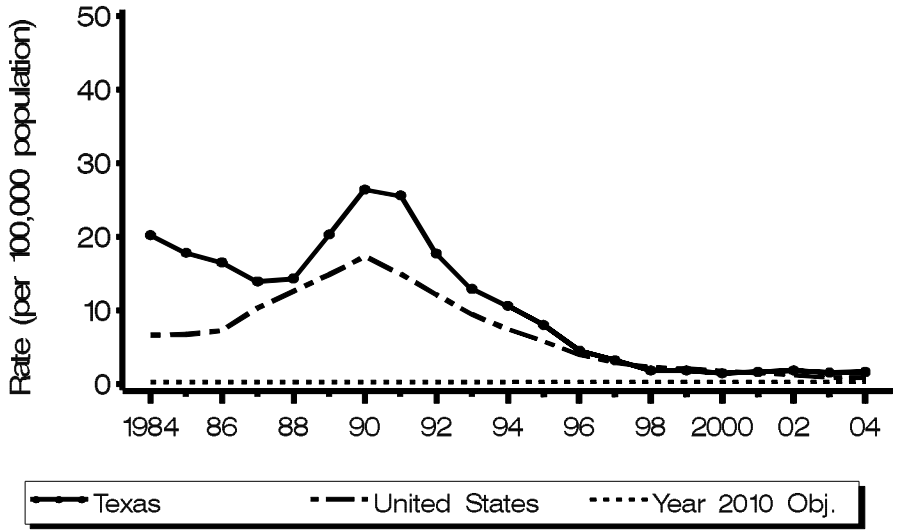


Figure C. P&S syphilis county rates, 2004

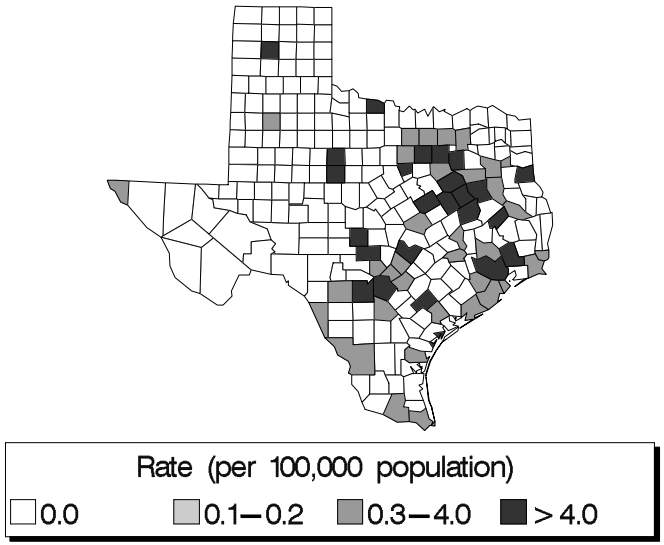
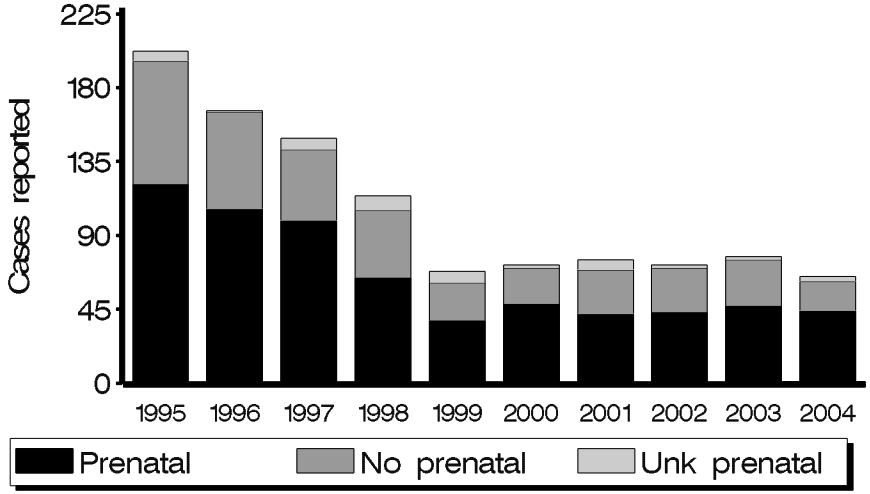


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Utah — 2004

Figure A. P&S syphilis rates among men, 1984—2004

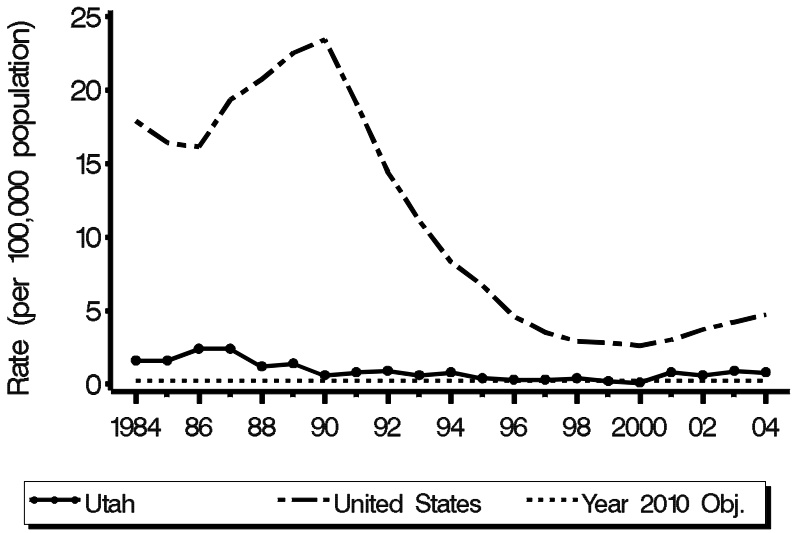


Figure B. P&S syphilis rates among women, 1984—2004

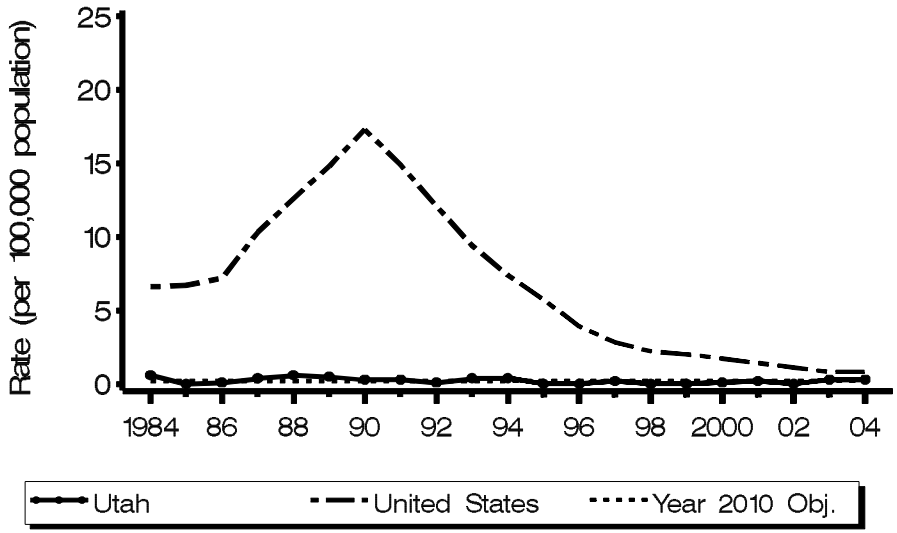


Figure C. P&S syphilis county rates, 2004

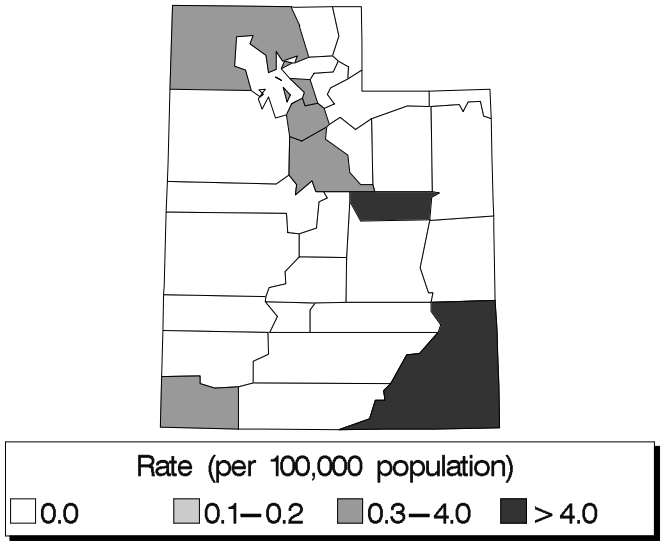
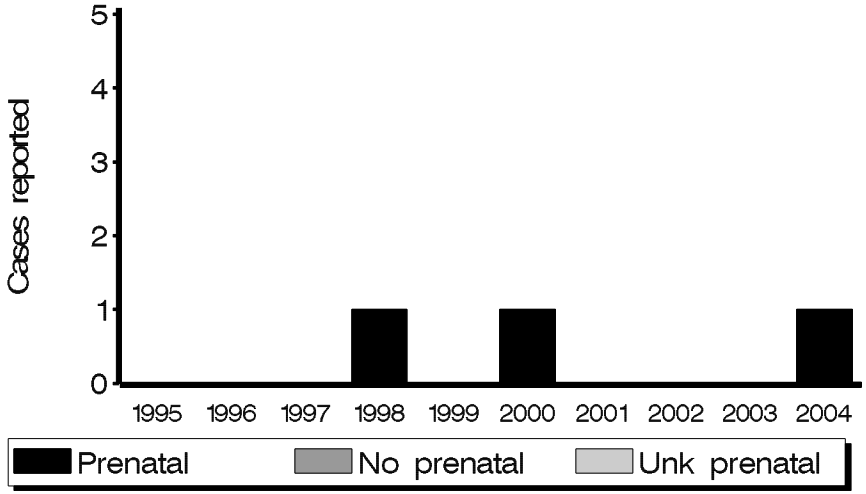


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Vermont — 2004

Figure A. P&S syphilis rates among men, 1984—2004

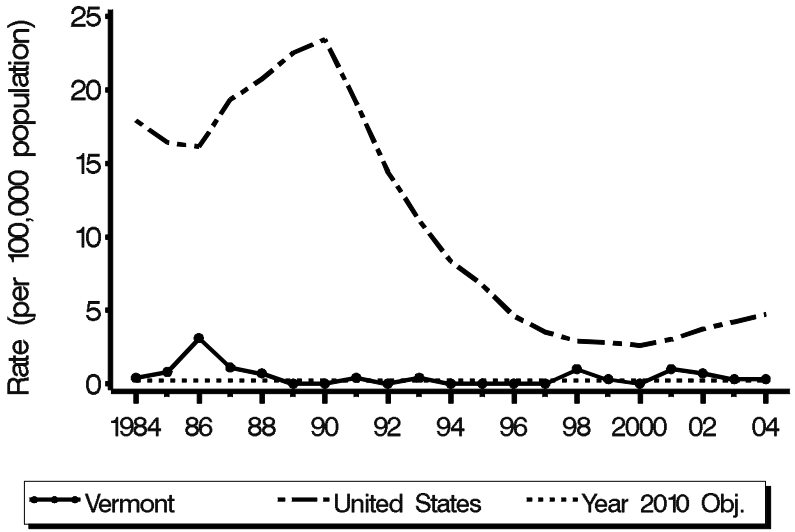


Figure B. P&S syphilis rates among women, 1984—2004

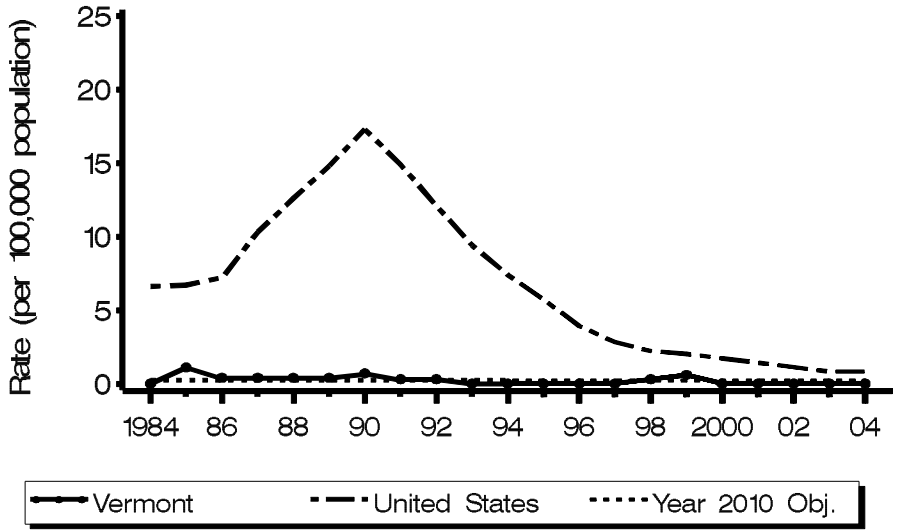


Figure C. P&S syphilis county rates, 2004

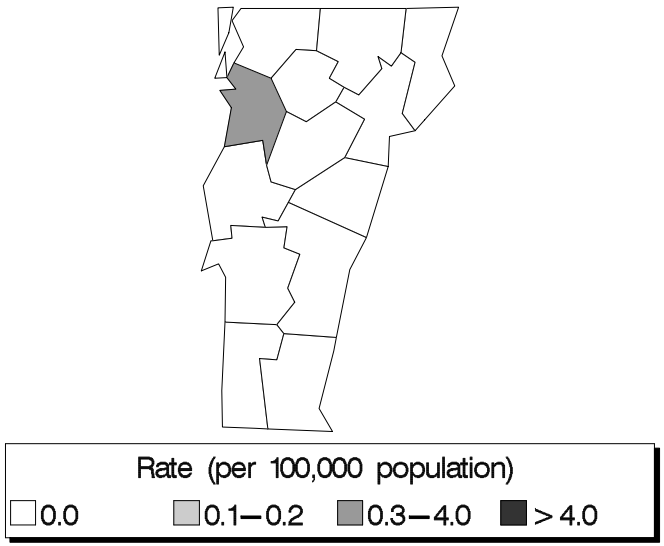
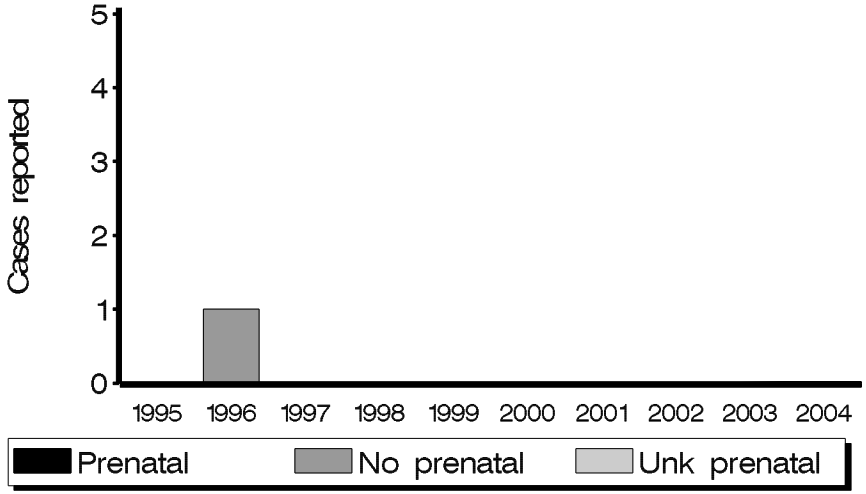


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Virgin Islands — 2004

Figure A. P&S syphilis rates among men, 1984—2004

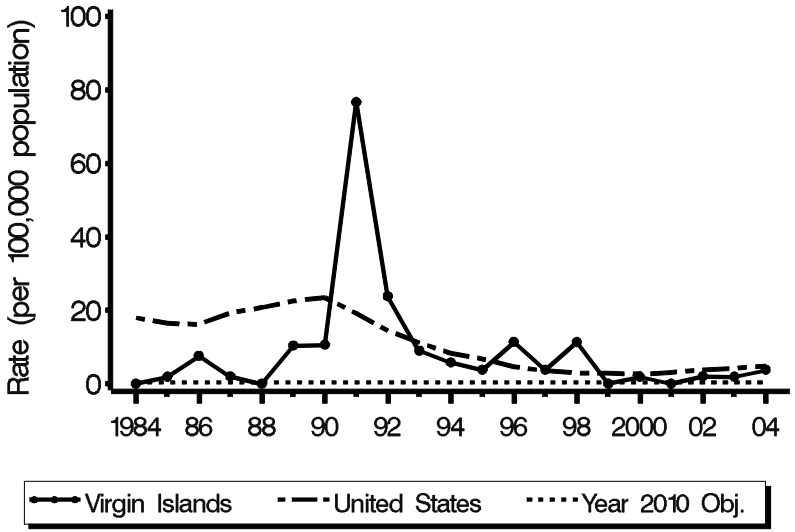


Figure B. P&S syphilis rates among women, 1984—2004

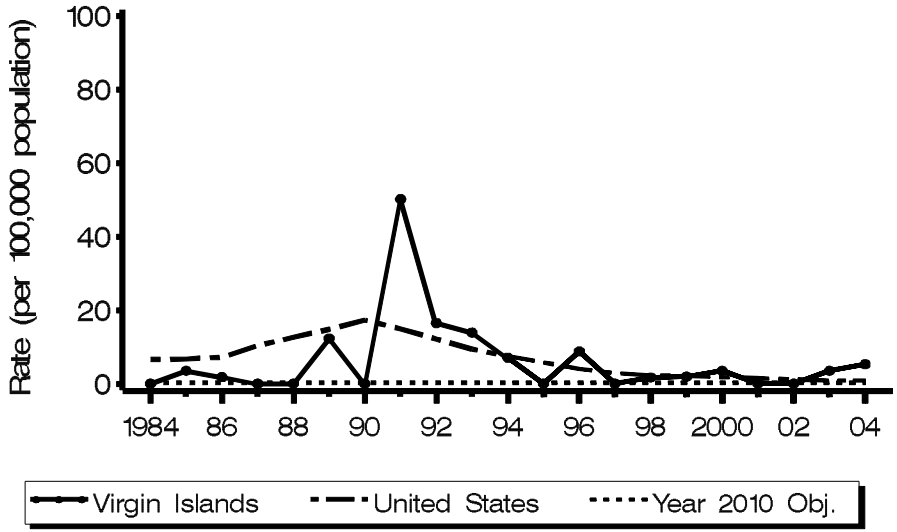


Figure C. P&S syphilis county rates, 2004

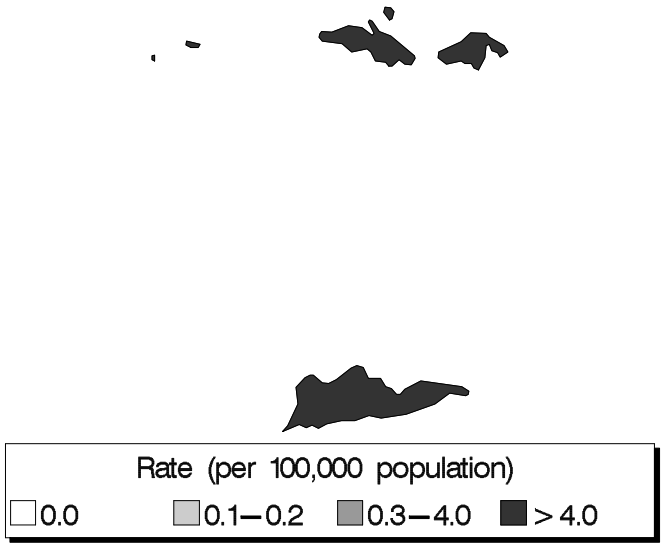
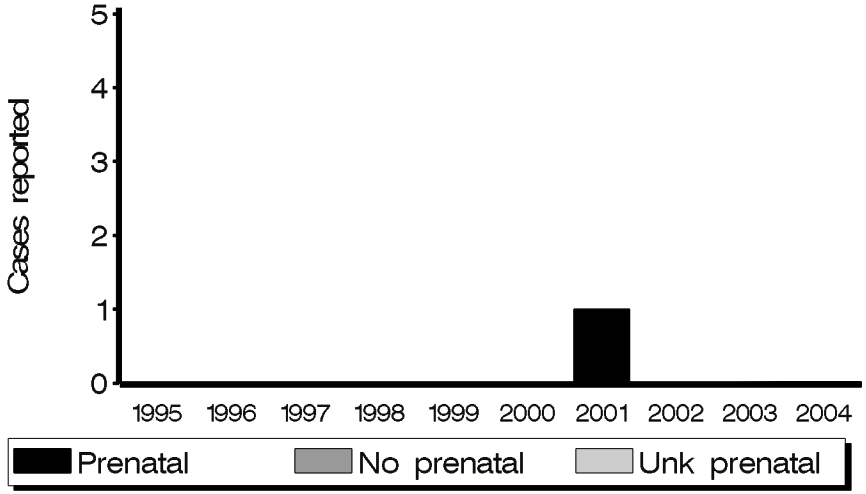


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Virginia — 2004

Figure A. P&S syphilis rates among men, 1984—2004

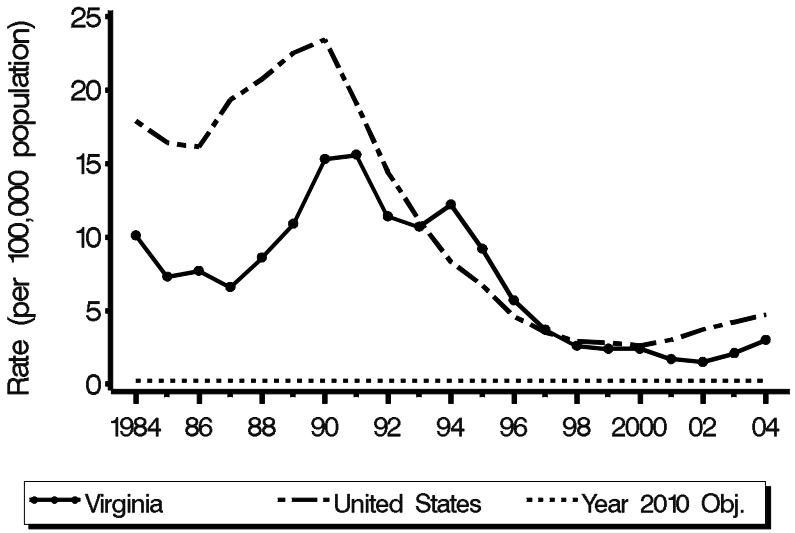


Figure B. P&S syphilis rates among women, 1984—2004

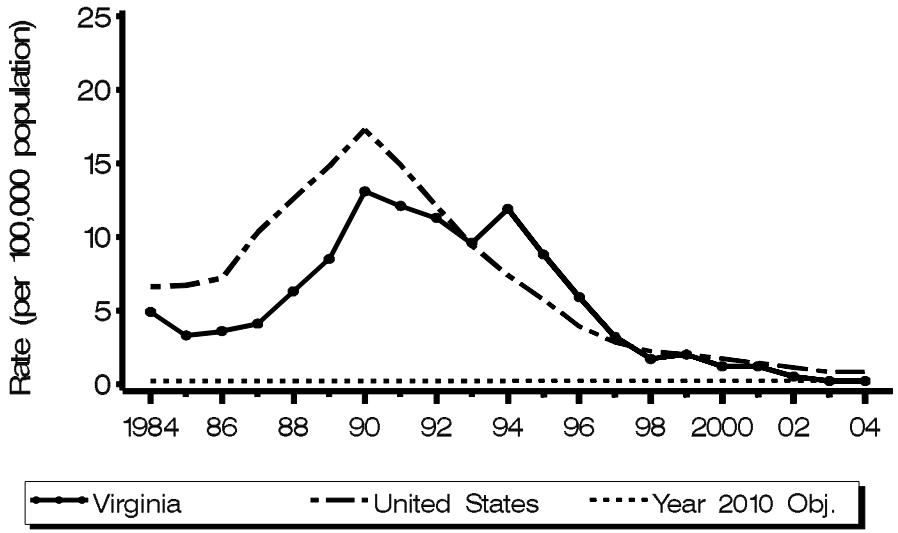


Figure C. P&S syphilis county rates, 2004

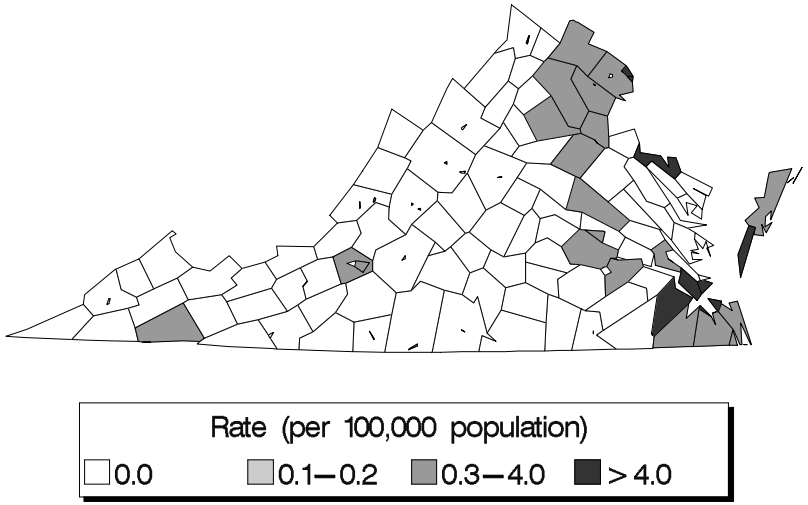
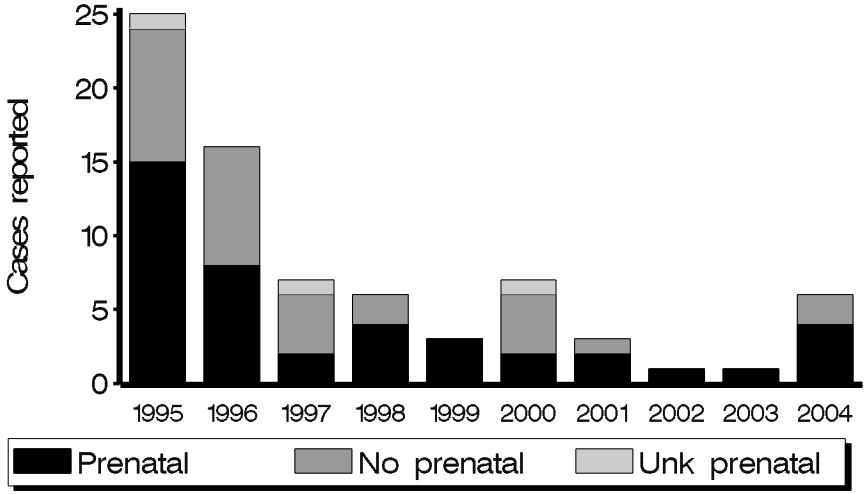


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Washington — 2004

Figure A. P&S syphilis rates among men, 1984—2004

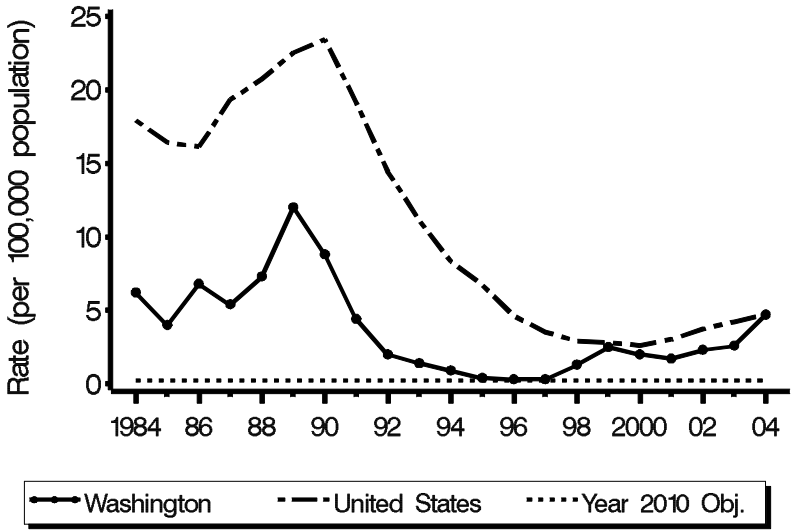


Figure B. P&S syphilis rates among women, 1984—2004

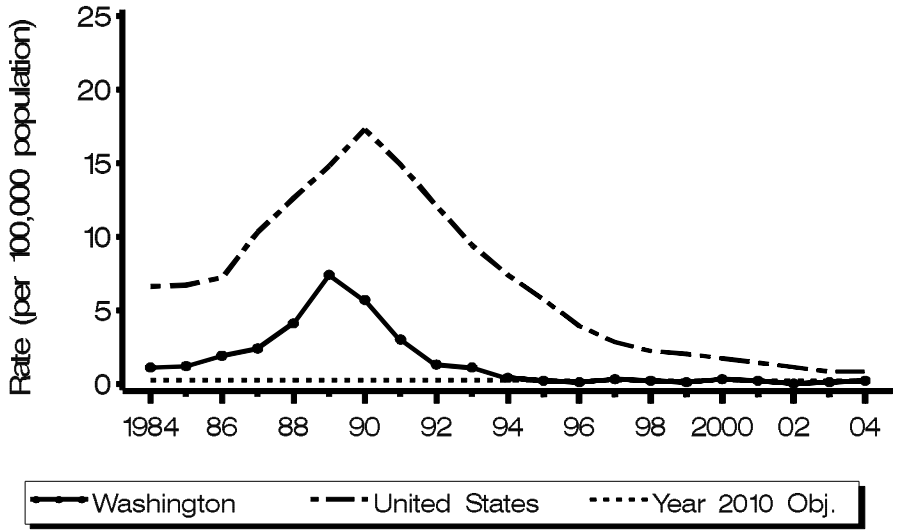


Figure C. P&S syphilis county rates, 2004

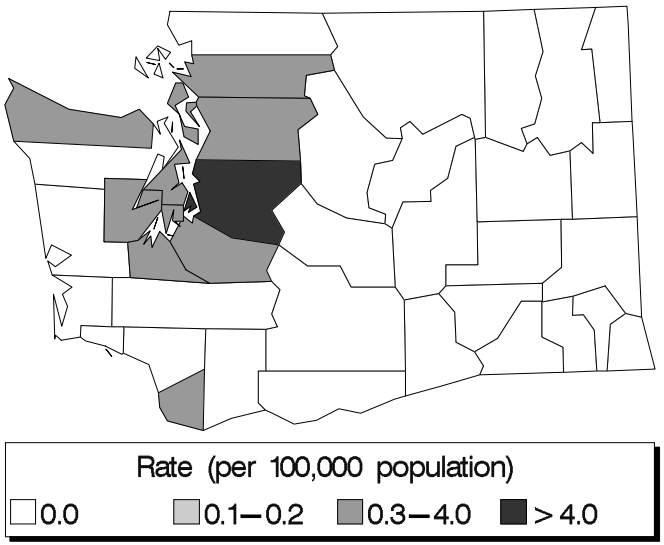
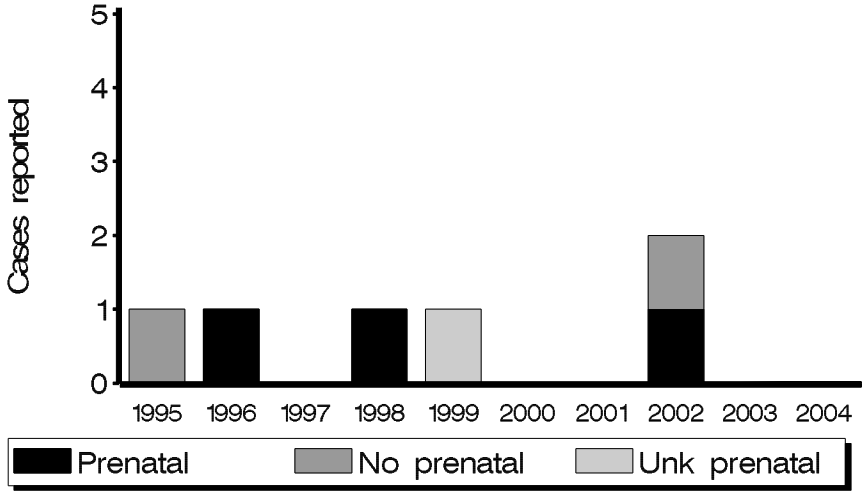


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



West Virginia — 2004

Figure A. P&S syphilis rates among men, 1984—2004

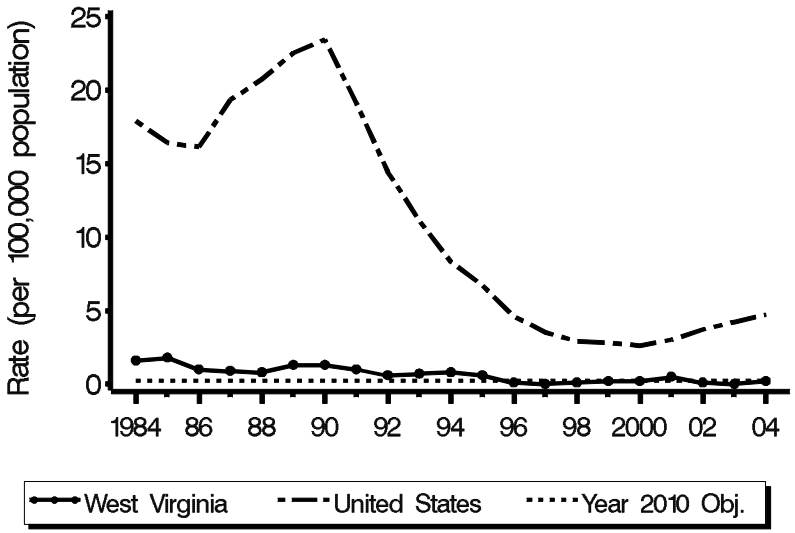


Figure B. P&S syphilis rates among women, 1984—2004

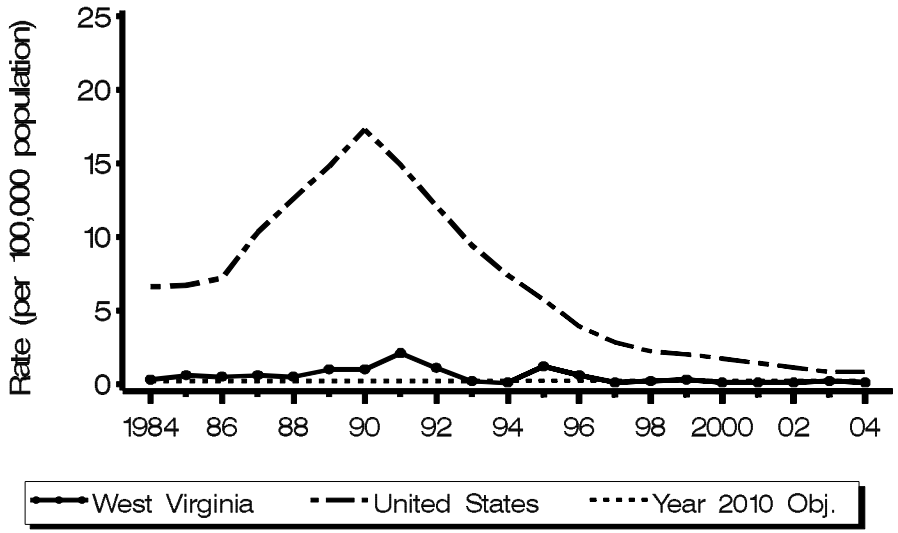


Figure C. P&S syphilis county rates, 2004

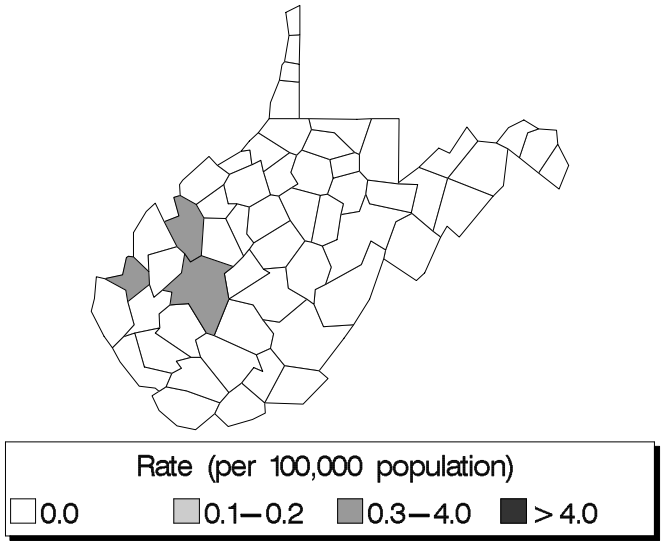
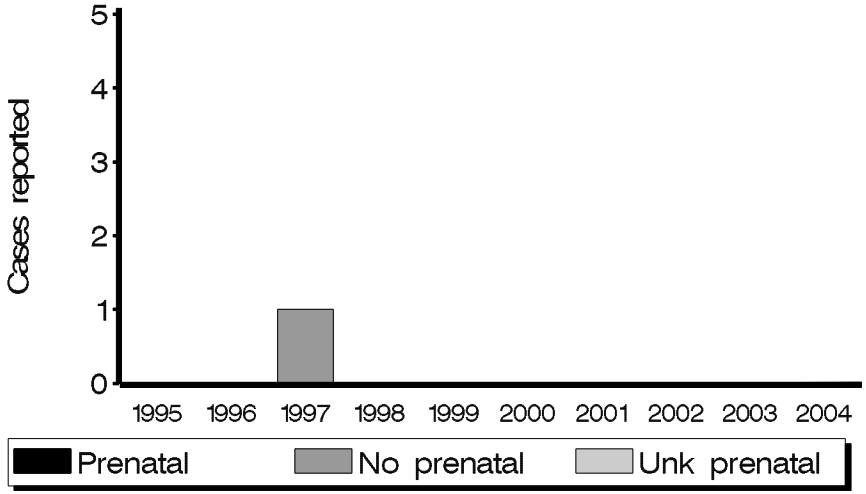


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Wisconsin — 2004

Figure A. P&S syphilis rates among men, 1984—2004

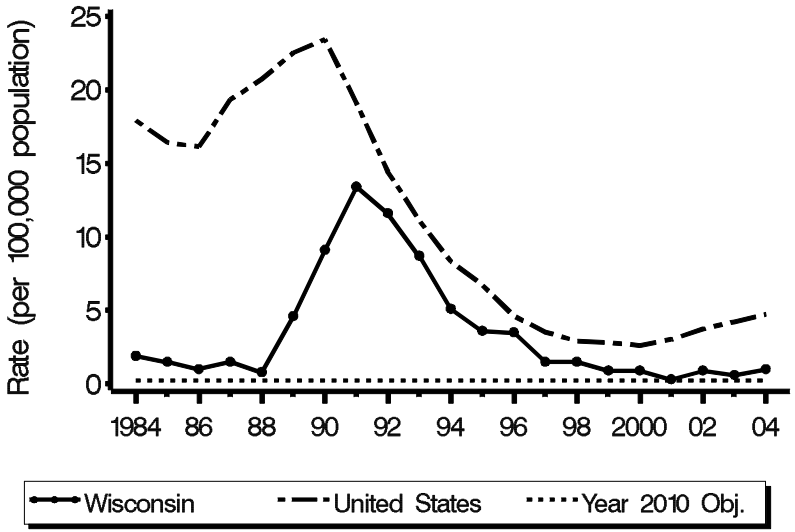


Figure B. P&S syphilis rates among women, 1984—2004

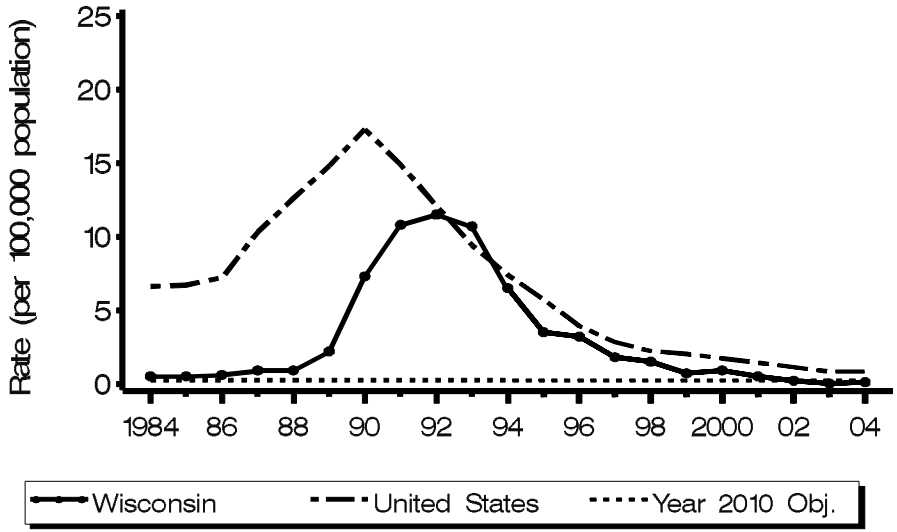


Figure C. P&S syphilis county rates, 2004

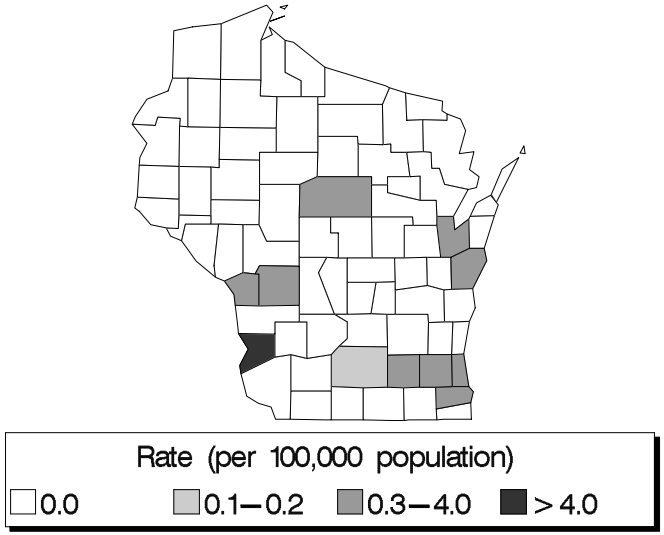
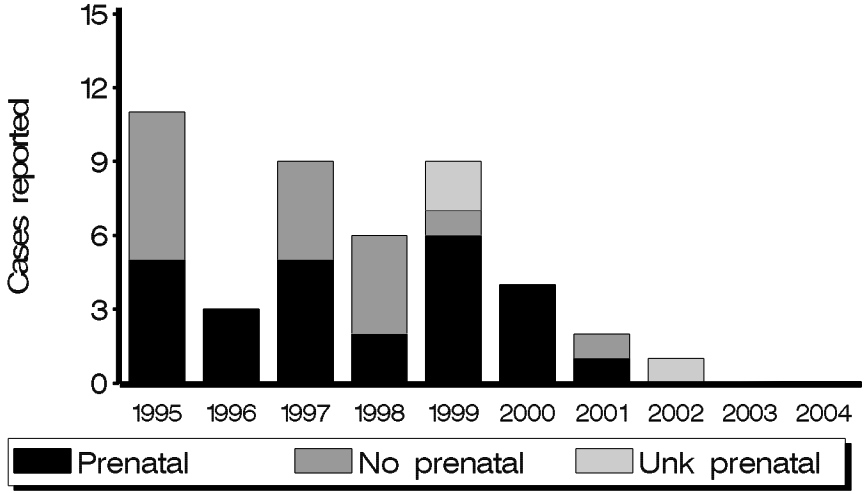


Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004



Wyoming — 2004

Figure A. P&S syphilis rates among men, 1984—2004

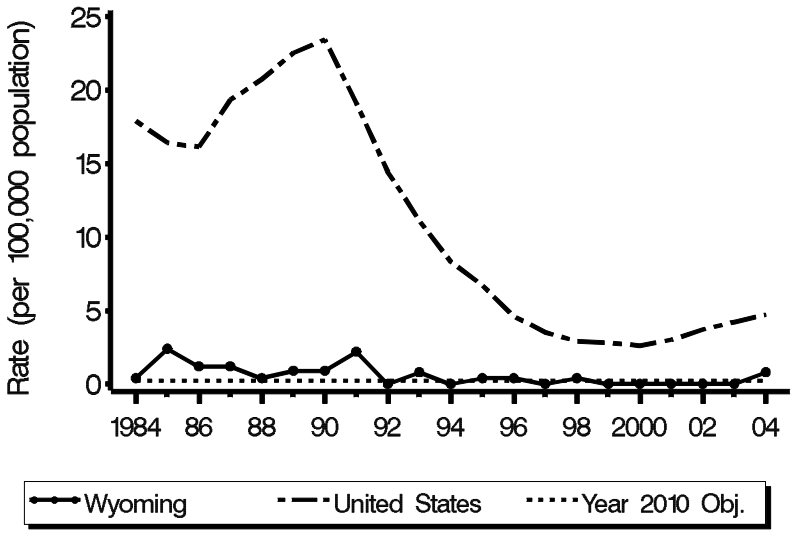


Figure B. P&S syphilis rates among women, 1984—2004

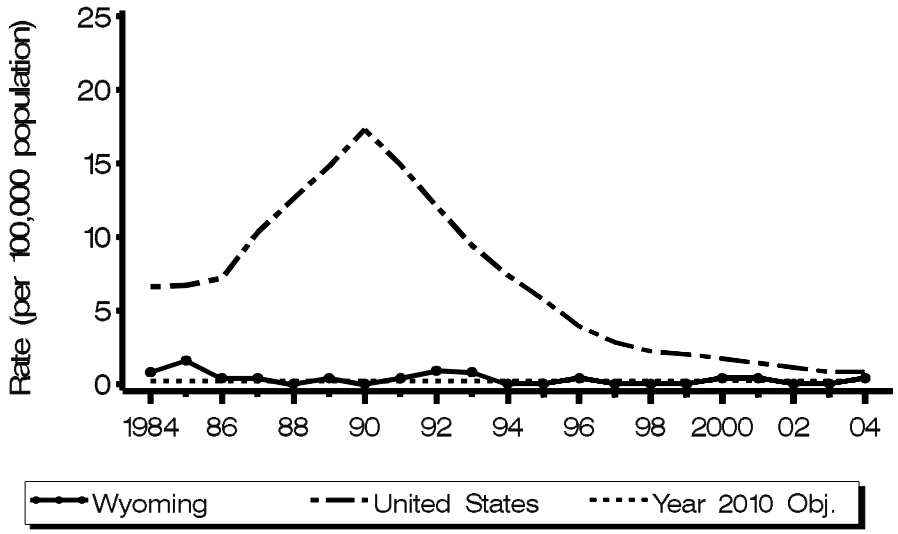


Figure C. P&S syphilis county rates, 2004

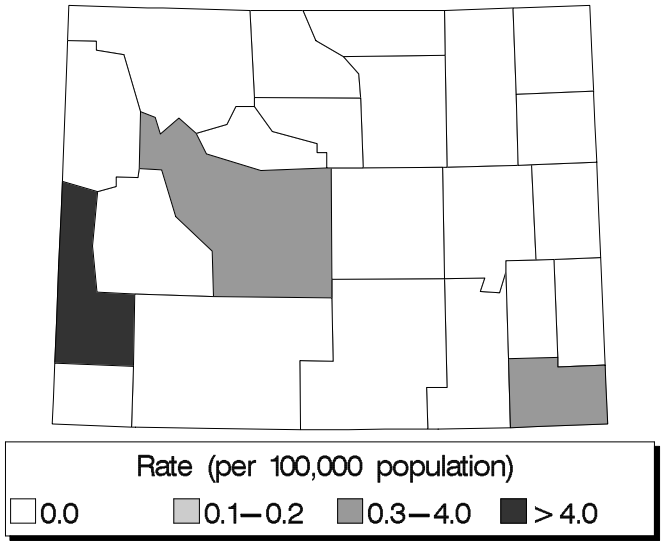
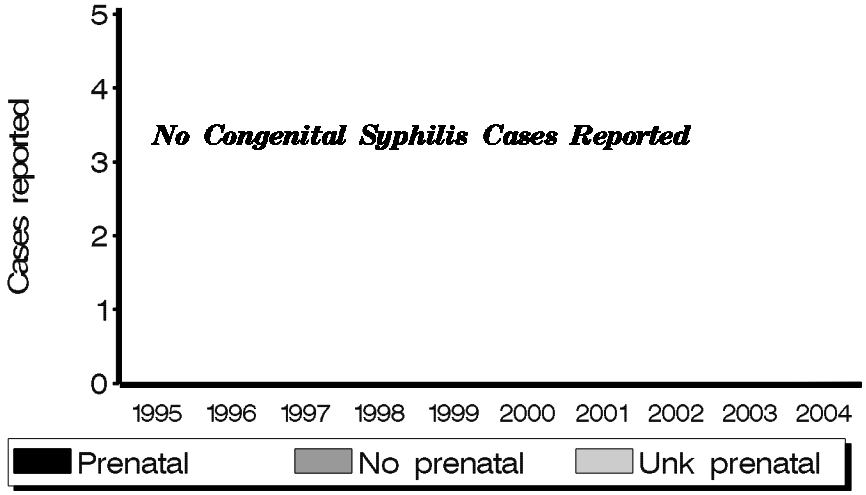



Figure D. Congenital syphilis cases, by prenatal care status, 1995—2004