

CDC Editorial Note: Previous analyses have indicated that poor mental health is more prevalent among certain racial/ethnic minority populations. These differences might be associated with multiple factors.^{2,6} In this analysis, SES was strongly associated with FMD among all racial/ethnic populations, a finding consistent with previous studies relating SES to poor mental health.^{4,6-8} SES shapes a person's exposure to psychosocial, environmental, behavioral, and biomedical risk factors that directly and indirectly affect mental health.⁹

The findings in this report also indicate that racial/ethnic differences in FMD prevalence persisted during 1993-2001. AI/ANs reported the highest prevalence of FMD, whereas A/PIs reported the lowest. The pattern for these two populations persisted after adjustments for age, sex, and the other variables in the model. Non-Hispanic blacks and Hispanics had higher unadjusted FMD percentages than whites; however, whites had higher FMD percentages after multivariable adjustment, suggesting that socioeconomic and other factors accounted for the unadjusted differences.

Among AI/ANs, unhealthy behaviors and comorbidity (e.g., alcoholism and other substance abuse), physical and social environment (e.g., social disadvantage, inadequate schools, and violence), psychosocial and historical factors (e.g., racism, discrimination, and disenfranchisement), and other unmeasured sociodemographic factors might contribute to the disproportionate burden of FMD.² Among A/PIs, protective factors attenuating FMD and cultural norms and perceptions of stigma inhibiting disclosure of FMD might partly explain lower unadjusted and multivariable-adjusted FMD prevalence.² Among all populations, cultural and social contexts can influence mental health and alter the types of mental health services persons seek and receive.^{2,6}

Although physiologic and social factors unique to women (e.g., pregnancy, care giving, and social roles)

might affect FMD in women, men's reluctance to disclose psychological distress also might account for the difference in FMD by sex.² Moreover, unique social and cultural influences relevant to A/PIs and AI/ANs or low statistical power because of small numbers of respondents might explain the similar FMD prevalence among men and women in these two populations.

The findings in this report are subject to at least five limitations. First, because BRFSS surveys include only non-institutionalized adults with telephones, persons in institutions and in households without telephones (i.e., populations that might have worse mental health than others) are excluded.⁶ Because certain racial/ethnic minorities are disproportionately represented in these vulnerable populations, their overall FMD prevalence likely is underestimated. Second, because states commonly use only English- or Spanish-language surveys, persons who speak another primary language are excluded. Third, because BRFSS is a cross-sectional survey, whether the characteristics studied (e.g., SES and marital status) affect FMD or whether FMD affects these characteristics is uncertain. Fourth, although the characteristics studied explained some of the variability in FMD among racial/ethnic populations, risk behaviors, physical and social environment, psychosocial factors, health conditions, stressful life events, unmeasured socioeconomic factors, and cultural factors might account for additional FMD differences among racial/ethnic populations. Finally, the BRFSS mental health measure was not validated for detection of mental illness with clinical psychiatric examinations.

Unfavorable socioeconomic factors were associated with increased self-reported FMD in all racial/ethnic populations. However, the proportion of persons with low SES differed among racial/ethnic populations. Targeting adverse socioeconomic risk factors, improving access to culturally competent mental health services and social

services (e.g., job training programs and educational programs that address stigma), and promoting supportive relationships and social cohesion could decrease FMD among all adults and reduce racial/ethnic disparities in FMD prevalence.

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9 available

*According to the methodology of the Council of American Survey Research Organizations, the response rate includes the number of completed interviews in the numerator and an estimate of the number of all eligible interviewees and those whose eligibility is undetermined in the denominator.

†Includes persons who did not identify as one of the following racial/ethnic populations: white, non-Hispanic; black, non-Hispanic; Hispanic; Asian/Pacific Islander; or American Indian/Alaska Native. These persons might be of multiple race/ethnicity.

Transmission of Primary and Secondary Syphilis by Oral Sex—Chicago, Illinois, 1998-2002

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2 figures, 1 table omitted

DURING 1998-2002, THE STD/HIV PREVENTION and Care Program of the Chicago Department of Public Health (CDPH) recorded 1,582 cases of primary and secondary (P&S) syphilis, the most of any U.S. city.¹ Although case numbers and overall rates remained stable in Chicago during this period, patterns of transmission changed substantially. Throughout most of the 1990s, P&S syphilis was reported almost exclusively among heterosexuals. During 1998-2000, however, men who have sex with men (MSM) accounted for approximately 15% of Chicago's P&S syphilis morbidity. Since

2001, MSM have accounted for nearly 60% of patients with P&S syphilis. During 2000-2002, CDPH conducted interviews with persons with syphilis; some MSM reported they had engaged in only oral sex and were surprised to have acquired syphilis. In response, CDPH began collecting information on oral sex from persons with syphilis. To assess the role of oral sex in the transmission of P&S syphilis in Chicago, CDPH analyzed surveillance data and interview responses. This report summarizes the results of these analyses, which suggested that a substantial proportion (13.7%) of syphilis cases were attributed to oral sex, particularly among MSM. Persons who are not in a long-term monogamous relationship and who engage in oral sex should use barrier protection (e.g., male condoms or other barrier methods) to reduce the risk for sexually transmitted disease (STD) transmission.

CDPH staff interviewed persons with syphilis to ensure adequacy of treatment for patients and their sex partners and to provide STD/human immunodeficiency virus (HIV) education and other testing and treatment services. Interviewers obtained demographic data (i.e., sex, age, race/ethnicity, and sexual orientation) and risk-behavior information (i.e., sexual behavior, number and sex of sex partners, venues for meeting partners, and self-reported HIV status). During the interviews, CDPH staff determined whether oral sex was the only sexual exposure the patient reported during the period of syphilis acquisition. Persons were asked about the type of sexual contact during the interval in which they likely acquired syphilis. This period usually is considered to be 3 months before treatment for primary syphilis and 6 months for secondary syphilis.

Surveillance Data

During 1998-2002, the number of reported cases of P&S syphilis in Chicago ranged from 338 to 353 cases annually; overall rates per 100,000 population ranged from 11.8 to 12.2.

Rates declined 68% among women, from 9.2 to 2.9, and increased 50% among men, from 14.7 to 22.1. Of the 1,582 persons with P&S syphilis, 948 (60%) were heterosexuals, and 524 (33%) were MSM. Approximately 90% of heterosexuals were non-Hispanic black. An estimated 54% of MSM were non-Hispanic white, 26% were non-Hispanic black, and 13% were Hispanic. Rates declined by 31% among non-Hispanic black men and by 67% among non-Hispanic black, non-Hispanic white, and Hispanic women; rates increased among non-Hispanic white and Hispanic men (469% and 462%, respectively).

HIV-infection rates for persons with syphilis varied by sex and sexual orientation. In 2001 and 2002, among persons with P&S syphilis, less than 10% of heterosexuals and approximately half of MSM were HIV infected.

Interview Data

During 2000-2002, of 962 persons with P&S syphilis, data were available for 627 (65.2%); 325 (51.8%) were MSM, 157 (25.0%) were heterosexual men, and 145 (23.1%) were heterosexual women. Overall, 86 (13.7%) persons indicated that oral sex was their only sexual exposure during the period they likely acquired syphilis: 66 (20.3%) of 325 MSM, 10 (6.4%) of 157 heterosexual men, and 10 (6.9%) of 145 heterosexual women ($p < 0.0001$).

During the period of syphilis acquisition among the 325 MSM, oral sex was the only sexual exposure reported by 18 (22.7%) of 79 with primary syphilis, 48 (19.5%) of 246 with secondary syphilis, 36 (21.6%) of 167 with HIV infection, nine (19.6%) of 46 without HIV infection, and 21 (18.7%) of 112 with unknown HIV status. Thirty-three (17.2%) of 192 non-Hispanic white MSM, 16 (30.2%) of 53 Hispanic MSM, and 14 (19.4%) of 72 non-Hispanic black MSM reported having only oral sex during the period in which they likely acquired syphilis. When compared with heterosexual men and women, respectively, MSM were 3.8

and 3.4 times more likely to report only oral sex during the period of syphilis acquisition.

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CDC Editorial Note: The findings in this report suggest that during 2000-2002, 13.7% of P&S syphilis cases in Chicago were attributed to oral sex, including 20.3% of cases among MSM. Other reports also have associated oral sex with transmission of syphilis²; one third of MSM who were involved in syphilis outbreaks in Brighton and Manchester, United Kingdom, acquired syphilis through oral sex.³ Syphilitic lesions develop at the site of syphilis infection within 10-90 days (median: 21 days), and lesions on the lips, tongue, and oral mucosa have been commonly described. During the secondary stage of syphilis, mucous patches, which have high concentrations of *Treponema pallidum* and are extremely infectious, might develop in the mouth. Syphilis in the oral cavity often is asymptomatic or subclinical and can be mistaken by patients for aphthous ulcers or herpes, thereby delaying curative treatment and allowing ongoing transmission.

Because the risk for HIV transmission through oral sex is much lower than the risk through anal or vaginal sex,⁴ persons might mistakenly consider unprotected oral sex (i.e., without a condom) to be a safe or no-risk sexual practice and adopt oral sex as a replacement for higher-risk behaviors. Condoms rarely are used for oral sex. Of an estimated 1,000 MSM in Chicago who stated that they had engaged in oral sex during the preceding 60 days, more than 75% never used condoms for either oral insertive or oral receptive sex (CDPH, unpublished data, 2003). Oral syphilitic lesions disrupt the protective epithelial barrier and recruit HIV target cells, increasing the risk for HIV transmission.⁵ Although oral sex might carry a lower risk for transmitting HIV than other forms of sex, re-

peated unprotected exposures, especially in the presence of syphilitic lesions, represent a substantial risk for HIV transmission. Syphilis might also increase progression of HIV disease.^{6,7}

The findings in this report are subject to at least one limitation. The data might underestimate the role of oral sex in syphilis transmission because most persons who reported engaging in anal and vaginal sex also reported engaging in oral sex. Transmission was attributed to oral sex in only the 14% of cases in which oral sex was the only sexual exposure reported during the interval when syphilis likely was acquired.

Some men who engaged in only oral sex believed that they were practicing safe sex and were surprised when they received a syphilis diagnosis. These data underscore the need for educating sexually active persons regarding the risk for syphilis transmission through oral sex. That syphilis might hasten the progression of HIV disease should provide a further motivation for MSM, especially HIV-infected MSM, to avoid syphilis acquisition. Persons who are not in a long-term monogamous relationship and who engage in oral sex should use barrier protection (e.g., male condoms or other barrier methods) to reduce the risk for STD and HIV transmission.

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Racial/Ethnic Disparities in Neonatal Mortality—United States, 1989-2001

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2 tables omitted

NEONATAL MORTALITY (I.E., DEATH AT age <28 days) accounts for approximately two thirds of infant deaths in the United States. During 1989-2001, neonatal mortality rates (NMRs) declined; however, 2002 preliminary data indicated an increase. To characterize trends in neonatal mortality by gestational age and race/ethnicity, CDC analyzed linked birth/infant death data sets for 1989-1991 and 1995-2001 (2002 linked data were not available). This report summarizes the results of that analysis, which indicated that (1) extremely preterm infants (i.e., born at <28 weeks' gestation) accounted for 49%-58% of neonatal deaths during 1989-2001 and (2) racial/ethnic disparities persisted despite NMR declines among infants of all gestational ages. Public health practitioners, researchers, and clinicians can use these results to determine the efficacy of prevention programs at a national level and consider new studies and programs aimed at reducing preterm births and NMR disparities among racial/ethnic populations.

The number of neonatal deaths was obtained from linked birth/infant death data sets for 1989-1991 and 1995-2001 from CDC's National Center for Health Statistics.¹ These data sets link birth- and death-certificate files for infants aged <1 year who died in the United States.*

NMRs (i.e., deaths at age <28 days per 1,000 live births) among births to U.S. residents were stratified by gesta-

tional age and maternal race/ethnicity. Period of gestation was measured on the birth certificate from the first day of the last normal menstrual period to the day of birth. Births with unknown gestational age or implausible birth-weight/gestational age combinations² accounted for <3% of births annually and were excluded from the gestational age-specific analysis. Births at <37 weeks' gestation were classified as preterm and further classified into <28, 28-31, and 32-36 weeks' gestation. Ethnicity was based on the mother's origin as Hispanic or non-Hispanic. For this report, whites, blacks, American Indians/Alaska Natives (AI/ANs), and Asians/Pacific Islanders (A/Pis) are all non-Hispanic. Log-linear-weighted least squares regression was used to estimate the average annual percentage change in mortality during 1989-2001 for gestational age and race/ethnicity.

During 1989-2001, neonatal mortality in the United States declined 25%, from 6.0 deaths per 1,000 live births to 4.5. In 1989 and 2001, NMRs were highest for blacks (11.5 and 8.9, respectively) and lowest for A/Pis (4.3 and 3.1, respectively). In 2001, the NMR for AI/ANs was 4.1; whites, 3.8; and Hispanics, 3.6. Average annual percentage decline in NMRs during 1989-2001 ranged from 1.9% (A/Pis) to 3.0% (AI/ANs).

In 1989 and 2001, preterm infants accounted for approximately 70% of all neonatal deaths. In 2001, preterm infants accounted for 84% of black neonatal deaths and 72%-75% of deaths among infants of other races/ethnicities. Extremely preterm infants accounted for 49% of neonatal deaths overall in 1989 and 58% in 2001. In addition, in 2001, extremely preterm infants accounted for 50%-54% of neonatal deaths among all racial/ethnic populations, except blacks, for whom they comprised 70% of neonatal deaths.

Among extremely preterm infants, NMRs were highest for AI/ANs in 1989 and whites in 2001. Among infants born at 28-31 weeks' gestation, NMRs were highest for whites. NMRs for whites also