

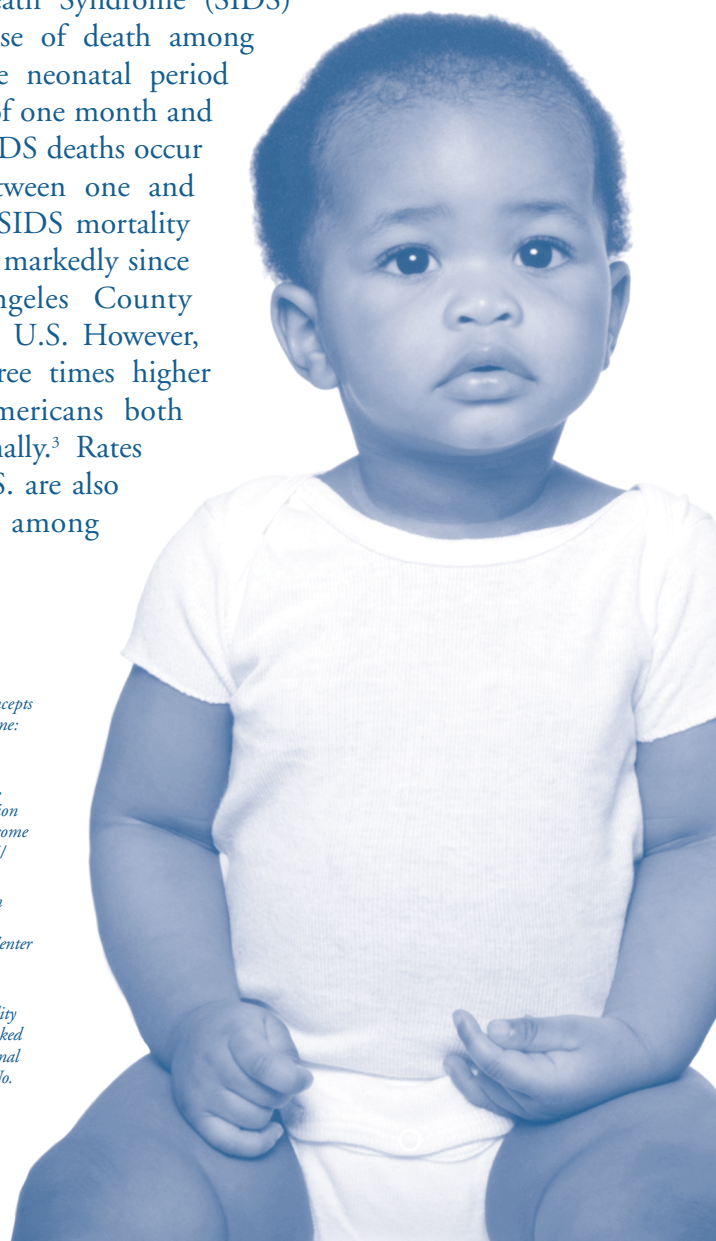
L.A. Health

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PUBLIC HEALTH

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Infant Sleep Position and Sudden Infant Death Syndrome (SIDS) in Los Angeles County

Sudden Infant Death Syndrome (SIDS) is the leading cause of death among infants beyond the neonatal period (between the ages of one month and one year).¹ Most SIDS deaths occur among infants between one and four months old.¹ SIDS mortality rates have declined markedly since 1990 in Los Angeles County (Figure 1) and the U.S. However, SIDS rates are three times higher among African-Americans both locally² and nationally.³ Rates of SIDS in the U.S. are also disparately high among Native Americans.³



The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The most recent survey was conducted for the Department of Health Services (DHS) between September 1999 and April 2000 by Field Research Corporation.

1. Policy Statement: Changing Concepts of Sudden Infant Death Syndrome: Implications for Infant Sleeping Environment and Sleep Position American Academy of Pediatrics, Task Force on Infant Sleep Position and Sudden Infant Death Syndrome Pediatrics March 2000 Vol. 105/ No. 3 (650-656).

2. Public Health Information System Death Files, State of California, Department of Health Services, Center for Health Statistics.

3. Mathews, T.J., Curtin, S. C. & MacDorman, M.F. Infant mortality statistics from the 1998 period linked birth/infant death data set. National Vital Statistics Reports; Vol. 48/ No. 12. Hyattsville, Maryland: National Center for Health Statistics, 2000.

The 1999–2000 survey collected information on a random sample of 8,354 adults and 6,016 children. Interviews were offered in English, Spanish, Cantonese, Mandarin, Korean, and Vietnamese. Among households contacted and eligible for participation, the response rate was 55%. To adjust for differential rates of participation, results were weighted by selected demographic variables using 1998 census projections for the Los Angeles County population.

The findings in this report are subject to several limitations. In any survey that includes sampling, some degree of error (referred to as “sampling error”) is introduced by chance alone, even when the sample is chosen randomly. In the present survey, if 50% of the overall sample of adults answered “yes” to a specific question, the sampling error would be plus or minus 1.2 percentage points at the 95% confidence level. This means that if all adults in the population were asked the above question, there is a 95% chance that the result would be between 48.8% and 51.2%. Because the sample sizes of subgroups are smaller than the overall sample, results for these subgroups have larger sampling errors and wider confidence levels. For all results presented in this report, confidence levels are available.

There are a number of other possible sources of error in any survey. For example, questions may be misunderstood, respondents may not provide accurate information, and errors may occur in the processing of data. In addition, surveys administered by telephone miss those who are homeless and others without telephone service. The survey professionals working on this study made every effort to minimize these sources of error.

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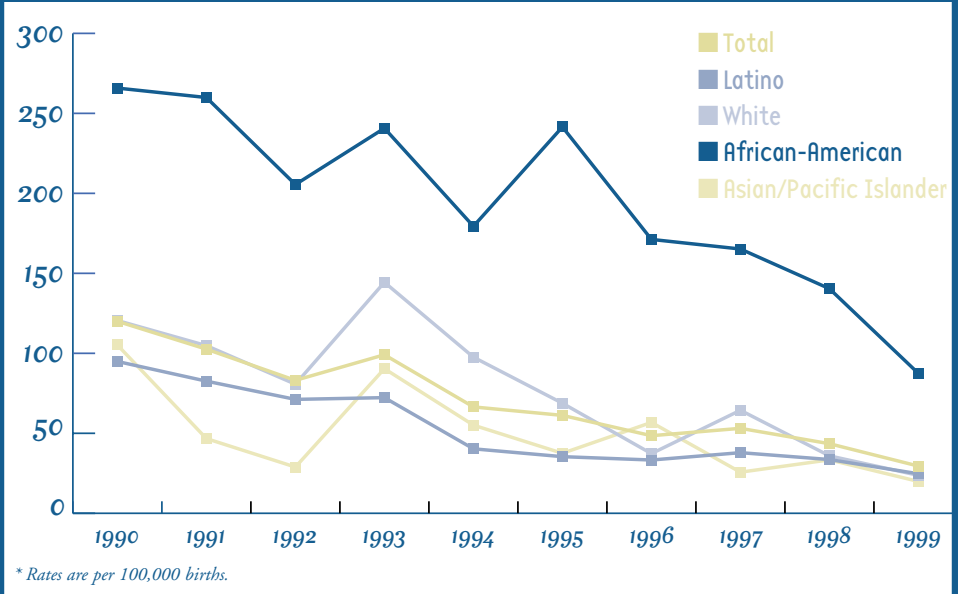
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Zev Yaroslavsky
Don Knabe
Michael D. Antonovich

L. A. County Department of Health Services

Thomas L. Garthwaite, MD
Director and Chief Medical Officer
Jonathan Fielding, MD, MPH
Director of Public Health and Health Officer

313 North Figueroa Street, Room 127
Los Angeles, CA 90012
Phone: 213/240-7785
Web site: www.lapublichealth.org/ha

Figure 1. Rates* of SIDS Deaths Among Infants (Less than One Year) by Ethnicity, Los Angeles County, 1990–1999



Source: 1999 Birth and Death Linked Files

Sleeping in the prone position (stomach) was identified as an important modifiable risk factor for SIDS.¹ As a result, the *Back To Sleep* campaign was launched in 1994 by leading child health organizations (including the National Institute for Child Health, the U.S. Public Health Service, the American Academy of Pediatrics, and the SIDS Alliance) to encourage parents to place their babies to sleep on their backs. Since its inception, the rate of infant mortality due to SIDS in the U.S. has declined by 15%.⁴ In addition to sleeping position, other modifiable factors are associated with SIDS. These include exposure to tobacco smoke in utero (maternal smoking during pregnancy elevates the risk of SIDS threefold), and exposure to environmental tobacco smoke in the home, which doubles the risk for SIDS⁵ (see Sidebar on page 6 for actions to lower the risk of SIDS).

This report presents findings from the 1999–2000 Los Angeles County Health Survey on infant sleeping position. The results are based on information provided by parents (or legal guardians) on a random countywide sample of 2,174 children birth through five years of age. Parents were asked in what sleeping position they placed their children from birth to six months of age (back, stomach, or side).

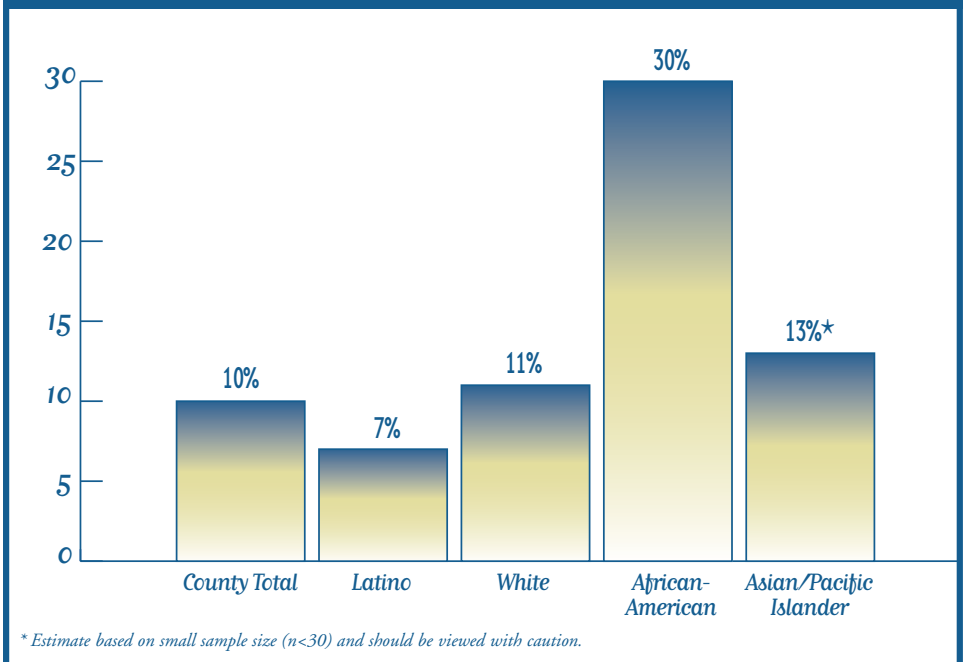
4. Findings presented at the annual Society for Pediatrics meeting, Washington, D.C., May 5, 1997.

5. Dwyer, T., Ponsonby, A., & Couper, D. (1999) Tobacco Smoke Exposure at One Month of Age & Subsequent Risk of SIDS - A Prospective Study. *American Journal of Epidemiology*, 149(7), 593-602.

Results

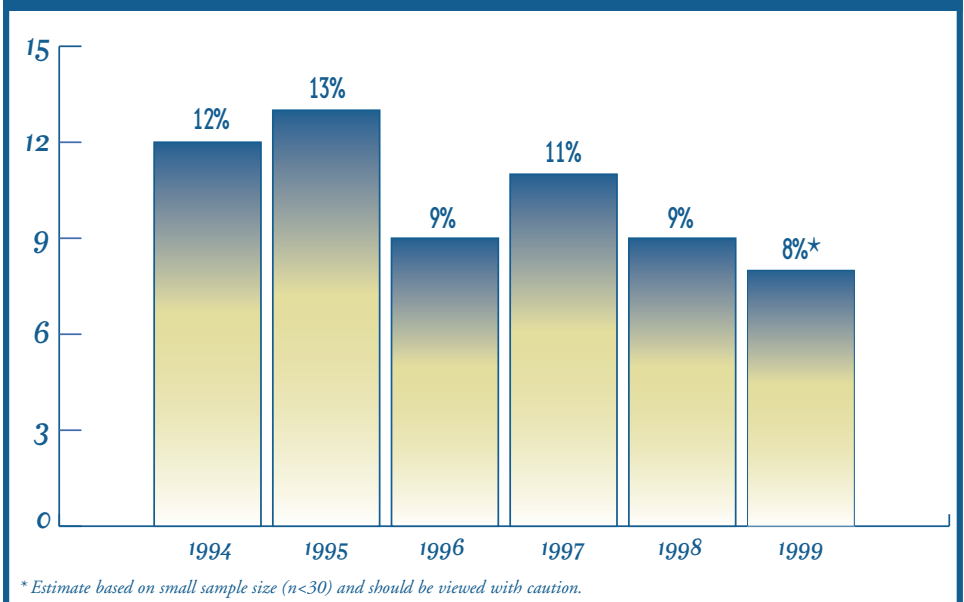
- 10% of parents in Los Angeles County reported that they placed their infants to sleep on their stomachs, while the remaining 90% indicated placing their infants to sleep on their backs or sides (Table 1).
- 30% of African-American infants were placed to sleep on their stomachs compared to 13%* of Asian/Pacific Islander infants, 11% of White infants, and 7% of Latino infants (Figure 2).
- The percentage of infants placed to sleep on their stomachs did not vary significantly by their parents' education level [less than high school (8%), high school graduate (11%), some college/trade school (13%), or college graduate/post graduate degree (13%)].
- African-American parents were more likely to place their infants to sleep on their stomachs regardless of education level and regardless of the current age of their children.*
- The percentage of infants placed to sleep on their stomachs did not vary significantly by their parents' household income. (Table 1).
- In the County's eight Service Planning Areas (SPAs), the percentage of infants placed to sleep on their stomachs ranged from 8%* in SPA 4 (Metro) to 15% in SPA 8 (South Bay) (Table 1).

Figure 2. Percentage of Infants (Birth to Six Months) Placed to Sleep on Their Stomachs by Race/Ethnicity, Los Angeles County, 1994–1999



Source: Los Angeles County Health Survey

Figure 3. Percentage of Infants (Birth to Six Months) Placed to Sleep on Their Stomachs by Year of Birth, Los Angeles County, 1994–1999



Source: Los Angeles County Health Survey

* Estimate based on small sample size (n<30) and should be viewed with caution.

Trends in Infant Sleep Position: 1994–1999

- The percentage of infants placed to sleep on their stomachs by year of birth decreased from 12% of those infants born in 1994 to 8%* of those born in 1999 (Figure 3). However, these changes were not statistically significant.

Table 1. Percentage of Infants Placed to Sleep on Their Stomachs by Selected Characteristics, Los Angeles County, 1999–2000

	Percentage	±95% CI	Estimate
Los Angeles County	10%	±1	110,000
<i>Race/Ethnicity</i>			
Latino	7%	±1	47,000
White	11%	±3	21,000
African-American	30%	±7	29,000
Asian/Pacific Islander	13%*	±6	12,000
<i>Federal Poverty Level</i>			
Less than 100% FPL	9%	±2	33,000
100% to < 200% FPL	12%	±2	37,000
200% to < 300% FPL	11%	±3	21,000
300% FPL or More	10%	±3	19,000
<i>SPA</i>			
Antelope Valley	9%*	±6	3,000
San Fernando	9%	±3	17,000
San Gabriel	10%	±3	20,000
Metro	8%*	±3	10,000
West	13%*	±6	6,000
South	11%	±4	16,000
East	9%	±3	15,000
South Bay	15%	±4	24,000

* Estimate based on small sample size (n<30) and should be viewed with caution.

Source: Los Angeles County Health Survey

Discussion

Results from the Los Angeles County Health Survey show that one-in-ten infants are being placed to sleep on their stomachs, a practice that is declining locally and nationally. However, African-American parents were three times more likely than other ethnic groups to place their infants to sleep on their stomachs. In addition, African-Americans experience higher rates of low birth weight and late prenatal care, and lower rates of breastfeeding.⁶ These findings highlight the importance of delivering the *Back to Sleep* message to all parents, especially to African-American parents, as part of comprehensive initiatives to improve prenatal care and infant health.

The occurrence of SIDS in Los Angeles County is relatively rare, and has declined markedly over the past decade. The American Academy of Pediatrics suggests four likely hypotheses to explain why SIDS is more likely to occur in those infants who are placed on their stomachs. These include airway obstruction, re-breathing, thermal stress, and reduced cerebral blood flow. Although placing infants to sleep on their backs will not prevent *all* cases of SIDS, it would likely reduce SIDS rates in all racial/ethnic groups.

The Department of Health Services (DHS) works to improve health outcomes among all infants through the *Maternal, Child, and Adolescent Health Program* (see Sidebar at right). In addition, DHS also strives to reduce smoking rates among the county's population (an estimated 6% of young children ages 0 to 5 are regularly exposed to tobacco smoke at home⁷). This is important for reducing the rates of SIDS, as well as improving other smoking-related health outcomes in adults and children.

These findings are subject to at least four limitations. First, data on infant sleep position were based on parent recollection of behavior when their children were infants. Parents of older children may not have accurately remembered the sleeping position of their child several years ago. Second, parents may have given responses that they perceived to be socially desirable, based on their prior knowledge of the *Back to Sleep* campaign. Since data on infant sleep position are not routinely collected at the national or state level, comparisons to other cities or states are difficult to make. Third, the sample size of Native American parents was too small to provide any reliable information for this important risk group. Finally, because the survey was limited to households with telephones, information was not collected on a segment of the population that may be at increased risk of SIDS.

The Healthy People 2010 objectives include national objectives to reduce and prevent infant mortality from SIDS, and to increase the percentage of healthy, full-term infants who are placed to sleep on their backs.⁸ Local initiatives targeted to African-Americans would

AVAILABLE PROGRAMS

THE MATERNAL, CHILD, AND ADOLESCENT HEALTH (MCAH) PROGRAM in the Department of Health Services–Public Health, works to promote healthy pregnancies, protect infant health, and assure that pregnant women and their children can obtain quality maternal and child health services.

THE BLACK INFANT HEALTH (BIH) AND THE SIDS PROGRAMS sponsor many activities aimed at preventing and reducing the risk of SIDS by providing information and education to families, and local health and community institutions. BIH aims to reduce the number of African-American babies who die due to SIDS by: 1) Canvassing communities to identify and to enroll pregnant and parenting African-American women at-risk for poor birth outcomes, 2) Assisting participants in accessing needed perinatal and support services, 3) Providing health education on SIDS via one-on-one or group presentations, 4) Assessing and monitoring newborn sleeping patterns, and 5) Discussing the importance of “Back to Sleep” with mothers/family members. In addition to grief counseling and support, the SIDS Program: 1) Develops policy recommendations for preventing SIDS after reviewing infant death cases, including a special focus on preventing African-American infant deaths due to SIDS, and 2) Conducts trainings and education services.

For information, please call (213) 639-6435 (BIH) or (213) 639-6440 (SIDS), or visit our Web site at www.lapublichealth.org/mch.

6. LA Health Brief—Breastfeeding Practices in Los Angeles County, February 2001: <http://lapublichealth.org/hal/reports/habriefs/BreastFeed.pdf>

7. Key Indicators of Public Health 1999/2000, Los Angeles County Department of Health Services, Public Health, 2002.

8. Healthy People 2010: Objectives for Improving Health.

MEASURES TO LOWER THE RISK OF SIDS

Although there is no way of predicting which newborns will succumb to SIDS, the overall risk of SIDS is small. There are several measures parents can take to further lower the risk:

- Place your baby on his/her back to sleep. According to the American Academy of Pediatrics, a horizontal position during sleeping, where an infant is completely on his back, carries the lowest risk of SIDS.
- Do not smoke around your baby. A study by the National Center for Health Statistics demonstrated that babies whose mothers smoked during or after pregnancy was at a greater risk for SIDS.
- Use firm bedding materials. Parents are advised to use a firm, flat mattress in a safety-approved crib for their baby's sleep.
- Avoid overheating. Research indicates that overheating, caused by using too much clothing, too heavy bedding, and too warm a room, may increase a baby's risk for SIDS.
- Breast-feed your baby. Studies by the National Institute of Child Health and Human Development show that babies who died of SIDS were less likely to be breast-fed.
- Prenatal care. Get prenatal care during pregnancy and make sure that your baby sees a doctor regularly.

achieve progress toward these objectives by reducing disparities, and improving health outcomes among their infants. In addition, given the elevated rates of SIDS mortality among Native American infants nationally,³ local efforts should also target this group. All efforts need to be comprehensive, and include support services advocating breastfeeding and discouraging maternal smoking. Future surveys planned by the Los Angeles County Department of Health Services will provide further valuable comparison data to assess the effectiveness of efforts towards reducing important risk factors for SIDS.

Acknowledgments

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Series Editors: Paul Simon, MD, MPH; Cheryl Wold, MPH; Jonathan Fielding, MD, MPH; and Anna Long, PhD, MPH.

Data Analysts: Isabel Cardenas, MPH; Benedict Lee, PhD; Amy Lightstone, MPH, ATC; Arun Narayanan, MPH; Cynthia Recio; Zhiwei Waley Zeng, MD, MPH

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For more information or to obtain additional copies of this report, call 213-240-7785 or visit our Web site at www.lapublichealth.org/ha.

RESOURCES FOR PARENTS

■ California Sudden Infant

Death Syndrome Program

5330 Primrose Drive

Suite 231

Fair Oaks, CA 95628-3542

(800) 369-SIDS

(916) 536-0146

(916) 536-0167 fax

e-mail: sidsprogram@sprintmail.com

■ National Sudden Infant Death Syndrome Resource Center (NSRC)

2070 Chain Bridge Road

Suite 450

Vienna, VA 22181

(703) 821-8955

<http://www.sidscenter.org/>

■ National Institute of Child Health and Human Development (NICHD)

Back to Sleep

31 Center Drive, Room 2A32

Bethesda, MD 20892-2425

(800) 505-CRIB

(301) 496-7101 fax

<http://www.nichd.nih.gov/>

■ PEDIATRICS (Professional publication of the American Academy of Pediatrics)

<http://www.pediatrics.org/>





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313 N. Figueroa St., Room 127
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Summary:

LOS ANGELES COUNTY HEALTH SURVEY

Issue 10

- Sleeping in the prone (stomach) position is an important risk factor for Sudden Infant Death Syndrome (SIDS).
- SIDS mortality rates have declined markedly since 1990 in Los Angeles County.
- Overall, 10% of infants in Los Angeles County were placed to sleep on their stomachs.
- 30% of African-American infants were placed to sleep on their stomachs compared to 13%* of Asian/Pacific Islander infants, 11% of White infants, and 7% of Latino infants.
- The percentage of infants placed to sleep on their stomachs by year of birth decreased from 12% of those infants born in 1994 to 8%* of those born in 1999.
- It is important to target *Back to Sleep* messages to African-American parents in Los Angeles County.

* Estimate based on small sample size ($n < 30$) and should be viewed with caution.