

Perinatal Period - Births, Preterm, and Low Weight
Summary of Methods and Data for Estimate of Costs of Illness

1. Estimated Total Economic Cost	Not Available
Estimated Direct Cost	\$ 2.0 billion+
Estimated Indirect Cost	Not Available
Reference Year	1994
IC Providing the Estimate	NICHD
Direct Costs Include: Other related nonhealth costs	No
Indirect Costs Include:	
Mortality costs	No
Morbidity costs: Lost workdays of the patient	No
Morbidity costs: Reduced productivity of the patient	No
Lost earnings of unpaid care givers	No
Other related nonhealth costs	No
Interest Rate Used to Discount Out-Year Costs	Not Available
2. Category code(s) from the International Classification of Diseases, 9th Revision, Clinical Modification,(ICD-9-CM) for all diseases whose costs are included in this estimate: <u>765.1.</u>	
3. Estimate Includes Costs:	
Of related conditions beyond primary, strictly coded ICD-9-CM category	No
Attributable to the subject disease as a secondary diagnosis	No
Of conditions for which the subject disease is an underlying cause	No
4. Population Base for Cost Estimate (Total U.S. pop or other)	Total U.S. pop.
5. Annual (prevalence model) or Lifetime (incidence model) Cost:	Annual
6. Perspective of Cost Estimate (Total society, Federal budget, or Other)	Total Society
7. Approach to Estimation of Indirect Costs	Not applicable

8. Source of Cost Estimate:

A historical estimate derived by program staff was recently used as a conservative benchmark in a brochure developed for the NIH Consensus Development Conference on the Effects of Corticosteroids for Fetal Maturation on Outcomes, March 1994. This reported amount has since been reviewed by an economist.

9. Other Indicators of Burden of Disease:

In 1995, the number of infant deaths from disorders related to premature birth and unspecified low birth weight was 3,827 making this set of disorders the 2nd leading cause of death among U.S. infants. (CDC, MVS, Oct 4, 1996, Vol.45(3(s)2). Although the total number of deaths in this category is slightly down from 3,870 in 1994 to 3,827 in 1995, the infant death rate in this category is slightly up from about 97.6 (prov.) in 1994 to 98.1 (prov.) in 1995. (CDC, MVS, Oct 23, 1995, Vol 43 (13).

10. Commentary:

The brochure states that "U.S. preterm births are associated with *more than* \$2 billion in health

care costs annually." It was clear that the estimate did not include several economic considerations and therefore reflected a low estimate for direct medical costs. The estimate only included hospital costs and nominal physician payments. Mean hospital charges for a preterm or low birth weight infant requiring a stay in the NICU (neonatal intensive care unit) ranged from \$9,800-19,600 based on a variety of state and national discharge data. Hospital costs were calculated at a cost-to-charge ratio of 0.61. Physician payments were estimated to equal 20% of hospital costs and actual physician payments received were estimated to equal 80% of this later amount. Estimated costs per infant totaled \$6,942 in initial direct medical costs due to hospital costs and physician payments.

To derive the total U.S. health care cost associated with preterm/low weight births, the incidence of preterm/low weight births referenced from the *National Center for Health Statistics 1991* was multiplied by the average cost per infant born preterm. The total amount reported did not reflect: 1) hospital charges (which are higher than hospital costs), 2) the full range of costs for neonatal care in the NICU, 3) and the full charge for professional services, 4) costs associated with second hospitalizations even though 30-40% of low birth weight infants are at risk for second hospitalizations, 5) indirect costs accrued for non-medical services during the hospital stay, and 6) long-term direct or indirect costs despite the potential for long-term sequelae associated with preterm birth.