

The National Cost of Birth Defects

One in 33 babies is born with structural birth defects—the leading cause of infant death and childhood disability. This study—the most comprehensive to date—estimates lifetime costs for 17 common birth defects and/or

cerebral palsy in children born in the United States in a single year. (About 22% of those with birth defects will have one of these conditions.) The combined estimated lifetime cost of these conditions is **\$8.0 billion**.

LIFETIME COSTS BY CONDITION, UNITED STATES, 1992 DOLLARS

"Correctable" Conditions	Medical Costs	Total Costs	Cost/Case
Diaphragmatic hernia	\$62,772,000	\$364,348,000	\$250,000
Urinary tract obstruction	46,285,000	343,214,000	84,000
Colorectal/anal atresia	57,213,000	219,262,000	123,000
Tracheo-esophageal fistula	61,558,000	165,002,000	145,000
Omphalocele	27,871,000	132,004,000	176,000
Small intestine atresia	63,156,000	110,061,000	75,000
Gastroschisis	54,520,000	108,763,000	108,000
Disabling Conditions	Medical Costs	Total Costs	Cost/Case
Cerebral palsy	\$851,809,000	\$2,425,781,000	\$503,000
Down syndrome	278,696,000	1,847,752,000	451,000
Cleft lip/palate	97,126,000	696,501,000	101,000
Transposition of the great vessels	166,334,000	514,529,000	267,000
Spina bifida	204,512,000	489,289,000	294,000
Renal agenesis/dysgenesis	24,713,000	424,159,000	250,000
Tetralogy of Fallot	185,122,000	360,486,000	262,000
Truncus arteriosus	107,578,000	209,676,000	505,000
Single ventricle	61,659,000	172,631,000	344,000
Upper limb reduction defect	11,138,000	170,036,000	99,000
Lower limb reduction defect	16,560,000	167,067,000	199,000
TOTAL	\$2,104,419,000	\$8,030,672,000	N/A

Figures are based on lifetime cost estimates for 1988 California births, adjusted for differences in births and costs between California and the nation as well as for cost inflation between 1988 and 1992.

Total Costs: Lifetime medical and other treatment costs, plus lost productivity.

"Correctable" Conditions: Medical costs estimated through age 2 except for colorectal atresia, estimated through age 17.

Disabling Conditions: Medical costs estimated through age 65.

Totals: About 10% of children have more than one listed condition. Row totals are less than column sums because total cost estimates are adjusted to avoid double counting.

1988 BIRTHS USED

Rates of birth defects came from the California Birth Defects Monitoring Program registry. The study looked at 1988 California births, adjusted to reflect the total number of births nationwide.

DIRECT AND INDIRECT COSTS EXAMINED

Using a standard cost-of-illness model, resources spent for education, medical treatment, and other needs are viewed as an investment toward eventual earnings. Total lifetime costs include:

- **Direct medical costs.**
- **Other direct costs:** developmental services, special education.
- **Indirect costs:** lost productivity, including wages, due to early death or occupational limitations.

Cost information comes from many sources, including MediCal, Developmental Disabilities, and special education enrollment/expenditure records. Costs beyond the first year of life are discounted back to 1988 at 5%. The study includes only expenses beyond those of “average” persons.

The estimates, adjusted for differences in the cost of services between California and the nation, are expressed in 1992 dollars.

LIFETIME COSTS PROFILED

Estimates incorporate costs at each stage of life, reflecting the usual treatment, survival, and disability rate for each condition.

- **“Correctable” conditions:** Although 10%-50% of these infants die from medical complications or other birth defects, with early care and successful surgery, survivors will likely have

relatively normal lifespan and functioning.

Medical expenses are high the first year of life but subsequent costs are low.

- **Disabling conditions:** Medical treatment and nonmedical costs extend beyond age 1. These birth defects often have below normal survival beyond infancy and/or result in lifelong disability. Affected individuals need repeated surgeries or continued medical care. Many have physical handicaps or require special education or other developmental services.

People with birth defects often have related problems (additional defects, low birth weight, developmental disability). The estimates include the extra costs for treating associated problems in affected persons, not just the specific birth defects.

CONSERVATIVE ESTIMATES USED

These costs underestimate the total economic burden of birth defects. For example, calculations do not include lost wages of family members caring for those with birth defects and psychosocial costs.

*REFERENCES: NJ Waitzman, PS Romano, RM Scheffler. Estimates of the economic costs of birth defects. **Inquiry** 1994; 31:188-205.*

*NJ Waitzman, PS Romano, RM Scheffler, JA Harris. Economic costs of congenital anomalies. **Morbidity and Mortality Weekly Report** 1995; 44(37), (September 22).*

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