



Economic Impact Summary

Cost of conducting NCS outweighed by economic benefits associated with reducing the incidence and prevalence of priority health outcomes

Estimated annual disease burden from 10 selected health outcomes is approximately \$395 billion

Includes direct medical spending and indirect costs from reduced productivity

Estimated annual reduction of \$4.0 – 9.7 billion (1.0 – 2.5%) attributable to the NCS

Estimated annual cost of study: \$0.1 billion
(represents a 40:1 to 97:1 return on investment)

Follow-up research to develop intervention strategies will diminish this ratio



Impact of Research on Health Outcomes

Studies have cited positive impact of medical research on health outcomes

1998 CBO study stated that academic research has “more than paid for itself”

Studies have investigated potential reward from investing in basic medical research

Murphy and Topel (1999) indicate ‘social returns to investment in new medical knowledge are enormous’

Silverstein et al. (1995) documented \$69 billion in annual economic savings resulting from NIH-supported research

NIH Annual Budget = ???



Impact of Research on Health Outcomes: Case Studies

Research findings led to successful prevention/intervention measures

Subsequently led to significant declines in the targeted health outcomes

Case Study	Significant outcome
Sudden Infant Death Syndrome	57% decline in U.S. SIDS rate, 1991-2001
Framingham Heart Study	Mortality rates from cardiovascular disease fell 42%; We estimated 1/3 of decline attributable to Framingham (13 to 20%), and estimate of \$455 billion in annual savings 1970-1990
Lead Poisoning	87% decrease in geometric mean blood lead levels; lifetime economic benefits ranging from \$110 to \$318 billion per annual cohort



Potential NCS Impact on Selected Health Outcomes

Health Outcome	Estimated Annual Economic Burden (in billions of 2003\$)	Range of Potential Reductions Attributable to NCS	Potential Annual Economic Savings from NCS
Diabetes	\$136.6 billion	0.5 – 1.5 %	\$0.7 - 2.1 billion
Asthma	\$14.5	3 – 7 %	\$0.4 – 1.0 billion
Obesity (excl. diabetes)	\$46.3	2 – 4 %	\$0.9 - 1.9 billion
Low Birth Weight	\$13.1	4 – 7 %	\$0.5 - 0.9 billion
Mental Retardation	\$51.2	2 – 5 %	\$1.0 - 2.6 billion
Injuries/Deaths from Aggressive Behavior:			\$0.07 – 0.16 billion
Motor Vehicle Accidents	\$19.0	0.15 – 0.35 %	\$0.03 - 0.07 billion
Violence	\$24.3	0.15 – 0.35 %	\$0.04 – 0.09 billion
Impaired Cognitive Ability (1 IQ point) from:			\$0.19 – 0.46 billion
Mercury Exposure	\$0.8 (60,000 at-risk newborns or 1.5% of total)	5 - 15 % of at-risk newborns (3,000 - 9,000, 0.08 - 0.15% of total)	\$0.04 - 0.12 billion
Nonpersistent Pesticide Exposure	\$49.0 (90 percent of births)	0.3 – 0.7 %	\$0.15 - 0.34 billion
Autism	\$40.6	0.5 – 1.5 %	\$0.2 - 0.6 billion
Total	\$395.4 billion		\$4.0 - 9.7 billion



Conservative Estimates of Potential Reductions

Not all cases are 'in-scope'

Prevalence/incidence reductions may be attributable to other factors, not just those investigated in NCS core hypotheses

Not all hypotheses will be validated

Entire reduction not attributable to NCS because other research studies being conducted

Reductions from current levels of disease burden as opposed to future levels (see Figure)

