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OFFICE OF MANAGEMENT AND BUDGET  
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ADMINISTRATOR  
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INFORMATION AND  
REGULATORY AFFAIRS

MEMORANDUM TO THE PRESIDENT'S MANAGEMENT COUNCIL

FROM: John D. Graham, Ph.D. *JDG*  
Administrator

SUBJECT: Benefit-Cost Methods and Lifesaving Rules

Benefit-cost analysis is an evolving discipline, but one which the Administration believes provides important insight into the design of smart regulations. There is widespread agreement on many of the core principles and methods, but some issues continue to be debated in the academic literature. One such issue that I would like to bring to your attention is the use of an age-adjustment factor in the evaluation of health and safety benefits.

During the previous Administration, an age-adjustment factor was first introduced in a secondary benefits analysis supporting EPA's 2000 rule to curb diesel exhaust from highway engines. This factor was continued in this Administration as part of "alternative" benefit analyses released in conjunction with the Clear Skies Initiative and several EPA rulemakings. EPA's "base" estimate of benefit has applied the same economic value of lifesaving at all ages.

Surveys in the United Kingdom and Canada had found that seniors are willing to pay less money for safety improvements than younger adults. Subsequently, several experts raised questions about the validity of the UK and Canadian data, and a recent survey of Americans analyzed by Resources for the Future has not replicated the age-adjustment factor derived from the UK data. In light of these developments, I advised EPA to discontinue use of this factor as an adjustment to the economic value of a statistical life (VSL). The VSL would thus be the same for people of all ages. I am also advising analysts at other agencies that such a factor should not be used in VSL analysis.

Moreover, several federal agencies have been presenting benefit estimates using the economic value of a statistical life year (VSLY) instead of – or in addition to – the VSL method. The VSLY method rests on the sensible premise that preserving 10 years of life is more valuable than saving 1 year of life.

However, economic theory and the available evidence on individual preferences do not support a simple VSLY method (i.e., saving 10 life years is not necessarily ten times more valuable than saving 1 life year). OMB is concerned that a simple VSLY approach could underestimate benefits significantly when applied to rules that primarily or significantly benefit

senior citizens.\* Consequently, OMB recommends that agency analysts, when performing benefit-cost analysis, present results using both the VSL and VSLY methods. When benefit estimates based on the VSLY method are presented, as OMB has encouraged since 1996, I recommend that agencies present analyses with larger VSLY estimates for senior citizens. EPA presented one such approach in its most recent regulatory analysis of measures to curb exhaust from off-road diesel engines.\*\* OMB plans to address these matters in more technical detail in our forthcoming final guidance document on regulatory analysis.

OMB's final guidance document will also promote cost-effectiveness analysis. An advantage of cost-effectiveness analysis is that it does not require the analyst to determine the monetary values of lifesaving; it reserves that judgment for accountable policy officials in the process of weighing intangible as well as quantified factors under the prevailing statutory standards. However, agency analysts are currently using different effectiveness measures, such as lives saved, life-years saved, and, to take into account morbidity improvements, "quality-adjusted" life years saved and "equivalent" lives saved. There are sensitive technical and ethical issues associated with choosing one or more of these measures for use throughout the federal government. OMB intends to ask the Institute of Medicine (IOM) to assemble a panel of specialists in cost-effectiveness analysis and bioethics to evaluate the advantages and disadvantages of these different measures and other measures that have been suggested in the academic literature. We believe that the IOM guidance will provide federal agencies and OMB useful insight into how to improve the measurement of effectiveness of health and safety regulations.

Please share this memorandum with appropriate program managers and analysts in your agency.

\*The VSLY for seniors is likely to be larger than for younger adults because seniors face larger overall health risks from all causes and because they have accumulated savings and liquid assets to expend on protection of their health and safety.

\*\* EPA's most recent VSLY estimates are \$434,000 per life-year saved for persons over age 65 and \$172,000 per life-year saved for those under age 65. These figures are not known with precision. More research is needed to provide a complete picture of how VSLY varies over the lifespan.