

Theory, Science, and Statistics in the Use of Benefit-Cost Analysis

OCTOBER 20-21, 2011 • L'ENFANT PLAZA HOTEL, WASHINGTON, D.C.

Welcome from the Benefit-Cost Analysis Center

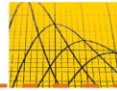
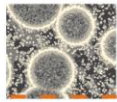
On behalf of the Benefit-Cost Analysis Center (the Center), it is my pleasure to welcome you to *Theory, Science, and Statistics in the Use of Benefit-Cost Analysis*, the final in a series of three annual conferences generously funded by the John D. and Catherine T. MacArthur Foundation (the Foundation) as part of the Power of Measuring Social Benefits project. As in our previous conferences, it is our hope that this final program will continue to encourage ideas and collaborative scholarship and to generate ideas and proposals for the continued development of the field.

This year's theme, *Theory, Science, and Statistics in the Use of Benefit-Cost Analysis*, represents the use of science and benefit-cost analysis (BCA) of social programs and brings together academics, government officials, theorists, and experts throughout the field of benefit-cost analysis. Panels include value of life discussions through different agencies, children at risk, the use of BCA in making educational decisions, and synthesizing data in evidence-based decision-making. It is our intent that both the panel topics and diverse perspectives of audience members will serve to further the links among benefit-cost theory, empirical research, and social policy-making.

The Foundation and Center are dedicated to improving the understanding and use of benefit-cost analysis as a decision-making tool. Our goals include strengthening relationships between institutions that use BCA, improving and standardizing methodology, and expanding use of BCA when appropriate.

In addition to hosting this conference and continuing research in benefit-cost analysis, the Center is currently engaged in three major projects:

- **Furthering Principles and Standards:** An ongoing multi-year project, the final report compiles commissioned white papers written by leading benefit-cost scholars across sectors. This report is available via our website.
- **Benefit-Cost Analysis Website:** The Center has continued to develop new tools and online communities for sharing papers and comments. A shared workspace to promote collaboration and peer-editing and community-driven content is in production, and the site will soon include job postings within the field. It is our hope that this site will grow to be a strong interactive space for benefit-cost analysis experts to gather.
- **Working with Society for Benefit-Cost Analysis (the Society):** We have provided support during the founding and initial years of the Society, an international group of practitioners, academics, and others working to



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improve the theory and application of the tools of BCA. Among other activities, the Society presents an annual conference, and produces the acclaimed *Journal of Benefit-Cost Analysis*.

Again, thank you for joining us.

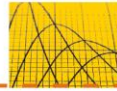
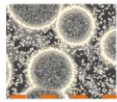
Sincerely,

Richard O. Zerbe, Jr.

Director, Benefit-Cost Analysis Center

Daniel J. Evans Distinguished Professor of Public Affairs

University of Washington Evans School of Public Affairs

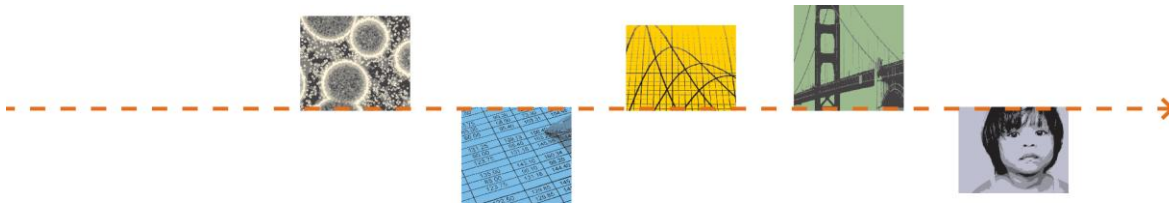


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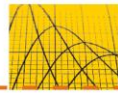
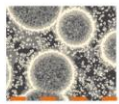
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About this Summary

This summary was prepared by Benefit-Cost Analysis Center staff based on notes taken during the conference. It is intended to reflect the tenor and salient points of the conference rather than to serve as a complete transcript of events and proceedings.

The conference was sponsored by the Benefit-Cost Analysis Center at the Evans School of Public Affairs at the University of Washington, and funded by The John D. and Catherine T. MacArthur Foundation



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Panel I: Government Use of Benefit-Cost Analysis in the Trenches

Carol Bray, senior economist at the U.S. Government Accountability Office, introduced and moderated a panel discussing how BCA is understood and practiced in government.

*Chair: Carol Bray
U.S. Government
Accounting Office*

*Harold Alderman
World Bank*

*Charles Griffiths
U.S. Environmental
Protection Agency*

*John Morral
George Mason
University*

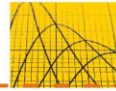
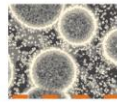
*James Simon
Department of
Transportation*

James Simons started the first panel of the conference with a presentation on how the National Highway Traffic Safety Administration (HTSA) uses BCA to evaluate proposed safety regulations. He discussed the standards the HTSA uses to gauge safety, the performance standard being foremost among them. The performance standard does not mandate a particular safety feature, but mandates an outcome that any combination of safety designs may achieve.

Simons explained that the HTSA uses BCA to aid in planning priorities and determining the administration's future trajectory. He then noted the types of data that are considered in the administration's calculations: six levels of injuries, property damage, the added cost to car manufacturers of a safety feature, and the stream of benefits accumulated due to lower risk of injury. Simons' organization has an interesting practice of calculating "equivalent lives" by converting injuries into fractions of fatalities, and clarified this approach using an example involving automatic windows as a risk to children. Simons also explained more about the HTSA's data, highlighting his office's statistical analysis of its many crash surveys. An advantage of HTSA's large datasets was illustrated in the work his office did on the effectiveness of traction control.

Simons discussed the challenges of new technology and issues collecting information from small business. He concluded with a look at a BCA focus on Corporate Average Fuel Economy (CAFÉ) regulations. There is a tradeoff between fuel economy and safety, since the size of a vehicle has a direct effect on both.

Next to speak was **Harold Alderman**, a consultant at the World Bank. He presented on calculating the cost of a poor start to life, looking at data that illustrates the cognitive development differences between well-fed children and malnourished children. While the data he worked with had some limitations in sample size and in geographic extent, he highlighted how



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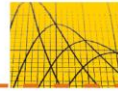
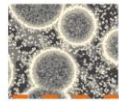
reducing malnutrition lowers child mortality. Lowering child malnutrition also reduces other social costs related to health care costs and stunting.

Benefit-cost analysis can help to compare improvements in malnutrition with other ways to lower child mortality. This analysis is complicated by the contested nature of the economic value of human life, the challenges of collating benefits and costs across time, and the distinction between social and private benefits. Alderman looked at these issues in the context of a study on low birth weight in Bangladesh. The study focused mostly on productivity gains, since other types of benefits that accrue with improving low birth weight are hard to account for, but can only improve the ratio in a fully developed BCA. Alderman went with the lower of any options available in the study, because he would “rather use low estimates and say that the true figure is even higher, than the other way around.”

Alderman went on to discuss the Copenhagen Consensus of 2004 and of 2008. This international understanding of the effectiveness of various interventions to improve life in the developing world determined that nutrition improvements are proven to be effective. Whether the consensus of experts and the mounting evidence of nutrition interventions is leading to new investments is still an open question that touches on distributional motives and economic justice. Alderman concluded with the observation that nutrition’s connection with long-run economic gains is no longer in dispute. The question, to him, is what is the social value of achieving those gains?

The third speaker in the panel was **Charles Griffiths**, a senior economist at the National Center for Environmental Economics at the U.S. Environmental Protection Agency (EPA). He presented three viewpoints on BCA “in the trenches.” He first noted that economic analyses are one of a wide variety of inputs that feed into a decision, along with political, technical, ethical, and other considerations. While some, especially newer, colleagues think that rules must be cost-beneficial, this is not the case; rules can have other sound justifications.

The first observation was that it is often difficult to communicate with other disciplines on how to use the conclusions of a BCA. Griffiths cited the EPA’s efforts around mercury as an example. The EPA needed coal combustion experts to understand mercury in the atmosphere, marine experts to understand mercury in waterways and oceans, and nutritional experts to understand human exposure to the element. It is clearly a challenge to tie the breadth of subject matter expertise into one study.



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Griffiths secondly discussed the challenges in interacting with other organizations, especially the Office of Management and Budget (OMB). Users of the BCAs that are created by EPA ask for the best analysis possible, but the reports have underlying assumptions that clients may not agree with. While many observers think that the EPA and OMB are hostile, this is not the full picture. An example is the “senior death discount,” which revolved around the OMB’s misunderstanding of the EPA’s analysis methods.

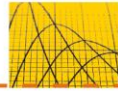
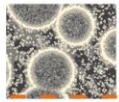
Lastly, Griffiths talked about the challenge of communicating BCA’s approach to the general public. An example is the value of a statistical life, which is a contentious term and varies greatly from agency to agency; the Consumer Product Safety Commission uses \$5 million, where OSHA uses \$7.5 million. He cites a potentially positive example of calculating the social cost of carbon, where a cross-organizational approach would necessitate a standardized value across the federal government.

The last to speak was **John Morrall**, a senior scholar at the Mercatus Center at George Mason University. He started his talk with three conclusions for the community of BCA professionals to work towards.

1. It is important to improve the quality of BCA.
2. Important to improve objectivity of BCA.
3. It is important to ensure that policymakers pay attention.

Morrall thought that the first goal has seen some success, but that the objectivity and usefulness goal need further work. It is almost impossible to find statistical evidence that the use of BCA has improved efficiency; however, Morrall has seen it work himself, and has heard of anecdotal success.

Morrall put forward what he called the “wide open government” approach, wherein one part of the government openly criticizes another with the idea that public pressure and appeals to common sense would improve policies and process. With the advent of the Reagan administration, there was a move to a “half open government,” wherein governmental agencies don’t so vocally critique each other. An example is the OMB, which has a useful mission that is furthered by the fact that it cannot give its whole opinion directly to the public. The downside is that only half of the story is told, and others have more ability to frame debates.



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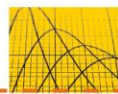
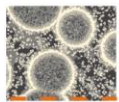
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One example towards the end of Morrall's career highlights the handicap of the half open government model. Industries wanted an FDA sticker on their dietary supplements, and the only group opposed to the new rule was the Office of Information and Regulatory Affairs (OIRA). By defining victory as a defeat deferred, the agency was able to hold off FDA regulation for 10 years, resulting in \$130 million in benefits. This outcome may have been different had OMB had the ability discuss why they did not approve of the new rule.

Morrall concludes by discussing the challenge of policy-maker attention. He discusses OSHA's attempt to implement rules on ergonomic injuries were another example of when public debate about the BCA assumptions short-circuited plans that could have saved society resources. An eventually positive example was the effort to regulate trans-fatty acids. The program had huge benefits and small costs associated only with labeling, but was hobbled by multiple administrations. Morrall suggested that a solution could be an independent third-party organization modeled after the Federal Trade Commission. He contended that the OMB is necessary, but not sufficient to get the public on the side of BCA.

After Morrall concluded, the panel took questions from the audience. The panels responded to the first question on how to handle uncertainty when communicating with decision-makers. Morrall said that the OMB requires probabilistic analysis, but that administrators don't care about what the analysis says. Another panelist noted that decision-makers often don't know how to understand uncertainty, but there are tools to help them. Another conference attendee asked about how to rectify the lack of control a BCA analyst has on a BCA report when it goes out the door. Dr. Zerbe interjected, describing a study of his and Dwight Dively's that looked at larger cities and BCA practices. Most cities that did not use BCAs said that this was because BCA interfered with the politics that influence their decisions.

The last questioner asked about how to account for complexity—long timelines, who receives benefits, etc.—for local decision-makers. Griffiths said that it's mostly a question of standing. Most BCAs don't count harms or benefits to, for example, Canada, with the exception being climate change policies. Morrall noted that politicians are looking to get reelected. These decision-makers vote based on the distribution of income and the size of the pie that's being split.



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Panel II: How Integrated Data Systems Can Be Used for Benefit-Cost Analysis

Chair **Dennis Culhane** introduced a panel of state and county officials, and an analyst from an academic background, in addition to moderator David Stevens of the University of Baltimore.

*Chair: **Dennis Culhane**
University of Pennsylvania*

*Moderator: **David Stevens**
University of Baltimore*

***Diane Haynes**
University of South Florida*

***Manuel Moreno**
Los Angeles County*

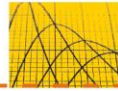
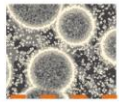
***Rob Surber**
State of Michigan*

Rob Surber, of the Office of Shared Solutions at the State of Michigan, began the panel with a discussion of the Michigan budget crisis. The Department of Human Services, which manages a budget of \$5 billion, uses a data warehouse with information about community health, human services, corrections and the State Treasury. The goal that Mr. Surber's office works towards is to find new ways to cross-cut information. As employee resources are reduced, it is important to determine how to do more with less labor. The answer, according to Mr. Surber, is integrating data. Integrating data will benefit both providers and program recipients. He mentioned benefit program providers and recipients, tax and wage, unemployment claims, national food assistance, and smaller internal programs as all being strong options for integrated data systems.

Integrated data systems are also effective ways to find fraud. A reserve data match can connect inappropriate and illegal activities; for example, a grandmother hiring her daughter to care for the daughter's own children. Geo-analytic tools can also be useful. The example used was to match addresses to the nearest store; if residents regularly bypass the closest store to go to a different location, something may be amiss. This perspective can also help with reviewing information technology projects, an area many government departments overlook and do not critically review.

The results of the OMB effort show that while the program cost \$2 million for the Department of Human Services to set up, with an additional \$.5 million cost per year, the benefits are also at \$3.3 million in the first year. Through the first two years, the benefits were \$17.3 million. The largest benefit is cost avoidance. Rob Surber finished his discussion with brief mentions to other uses for data cross-connections: a study of the well-being of children in assisted housing programs, and a bill in the House matching public assistance recipients with warrants.

Manuel Moreno, a service integration research director with the office of the Chief Executive of Los Angeles County, California, discussed the



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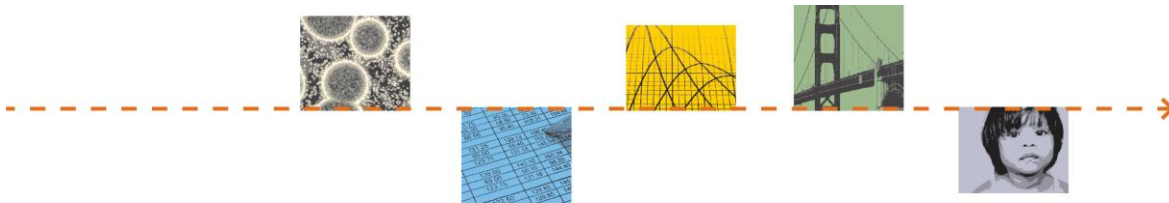
importance of integrated data systems in his area of government. He spoke about a pilot project providing general relief housing subsidies, and a case management pilot project. His office quickly realized the difficulty of conducting effective evaluations due to database silos and a lack of information sharing between related projects.

Mr. Moreno also outlined the details of the general housing relief assistance effort. A pilot program was started to test whether assisting the homeless general relief population with a rent subsidy and coordinating access to other necessary services reduces homelessness while increasing independence. Researchers tracked employment, Social Security Insurance eligibility (which moved costs away from the county), and homelessness prevention. The results showed that 85% of the population submitted Social Security Insurance applications, compared to 33% of the control group. The costs for the pilot group were also three times lower than the control group costs. Further cost avoidance savings continued after the yearlong program. As a result, the program will be expanded to provide subsidies for 10,000 homeless by 2014.

To conclude, Mr. Moreno pointed out that the study would never have worked without an integrated data system; in this case, using integrated data provided a way to do evidence-based policy research and to see how pilot programs (and other, larger programs) were effective over time. He remarked that it is critical for Los Angeles County to continue to do more work with fewer resources. Data can be provided by hundreds of agencies and offices; being able to share the information in one integrated data system is now essential.

Diane Haynes, a statistical analyst from the University of South Florida, put data access into the context of adult arrests; juvenile justice data; Medicaid, mental health, and substance abuse events; child welfare; and birth and death data.

The primary task of this data, Ms. Haynes remarked, is to help counties use their data to proactively reduce harmful events such as jail time. This can include pre-arrest diversion programs. These voluntary alternatives to incarceration and inappropriate emergency room utilization can be useful for smalltime missteps. The population primarily impacted is mostly male, mostly white, older than most of the jailed population, and includes more U.S. military veterans than the general jail population. A comparison of those who used jail alternatives for an extended period versus those who used it

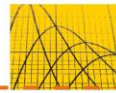
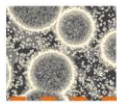


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briefly, then left, shows that triage is less expensive than jail, and that triage helps get homeless the services they need.

The **question and answer period** was a lively discussion between panelists and audience members. The panel responded to Kim Thompson's question about data quality and access by agreeing that data must be depersonalized, all data sharing agreements agreed on by agency lawyers, and it is important to follow a clearly delineated process. When asked about how data can sometimes not accurately reflect the facts on the ground, Mr. Moreno replied that it is important to check integrated data system use in building focus groups, for example, and that most fraud is from organized crime rings, not sympathetic figures. Most other questions revolved around specific study practices, difficulties, or choices.



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Panel III: Value of Life by Different Agencies

Kip Viscusi, professor of law at Vanderbilt University, chaired and moderated the panel. He introduced all of the speakers, starting with Mr. McGartland.

Al McGartland, office director at National Center for Environmental Economics in the U.S. EPA, presented on the value of a statistical life (VSL) in the EPA. He joked that new administrators, when first exposed to the concept of VSL, want to set the VSL themselves. McGartland is proud that the Kaldor-Hicks theorization has stayed firm. He described the long process of revising the EPA's current VSL, which stands at \$7.4 million in 2006 dollars. The EPA was planning on redoing the study, then considered a meta-analysis, but decided against it when the experts they consulted guided them away from the idea. As it stands, a new panel is re-examining the meta-analysis approach.

McGartland then discussed some of the challenges in using a VSL. First among them is whether peoples' valuation changes with income changes. Some research says elasticity is less than one, while Dr. Viscusi's work suggests that income elasticity for VSL is greater than one. There's also the question of what valuation method is used to determine a VSL; the Hedonic method could be appropriate, but it is unclear. Also no small matter is the public perception of VSL and whether there's a better name to encapsulate VSL's concept. Some alternatives are VS(R)R, value of mortality (risk) reduction, or MRR, mortality risk reduction.

McGartland also discussed the complexities of the health risks that EPA regulates and how they may be factored into a BCA. For example, the cancer risk for smoking goes down with time, while the risk for asbestos goes up. Considering VSL in terms of life-years may be a viable alternative, but it assumes that each year is equal in value to society and to the individual, which may not be the case.

Jack Wells, a chief economist with the U.S. Department of Transportation (DOT), was second to present. He discussed how DOT uses VSL and BCA methods, which is most often in safety regulations, infrastructure investment, and research. For infrastructure investment, the methodology was derived from the old U.S. Corps of Engineers. Now, many grants, such as grants

*Chair: Kip Viscusi
Vanderbilt University*

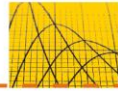
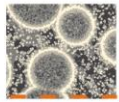
*Susan Dudley
George Washington
University*

*Al McGartland
U.S. Environmental
Protection Agency*

*Lisa Robinson
Independent
Consultant*

*Elena Ryan
U.S. Department of
Homeland Security*

*Jack Wells
U.S. Department of
Transportation*



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from the current administration and the TIGER grants, require applicants to perform a BCA.

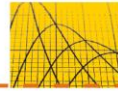
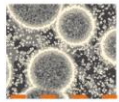
Wells reports that the DOT's currently-used VSL is \$6.2 million, which has been revised multiple times since the first VSL valuation of \$2.5 million in 1993. The figure is updated annually based on the Employment Cost Index and the Consumer Price Index. DOT uses an income elasticity of .55. Wells couldn't say that the VSL is not influenced by the political powers-that-be. The VSL valuation does not vary with age, income or mode of transit, but guidance on actually using VSL does change depending on mode, distance, and whether the trip is for business or leisure. Interestingly, the DOT gives future years more weight due to an anticipated increase in real income.

Wells concluded with noting some limitations and barriers inherent in the DOT's VSL approach. Some believe that VSL should vary with mode-specific factors, and others think that particularly horrific accidents and accidents involving children merit extra weight. Also, the current valuation does not use a willingness-to-pay basis for injury valuations. He noted that the politics surrounding VSL are there, but that the industries impacted have generally accepted the figure.

Third on the panel list was **Elena Ryan**, chief of the Economic Impact Analysis Branch for U.S. Customs and Border Protection (CBP), which is now part of the Department of Homeland Security. She began her talk with some background and history on U.S. Customs, which started in 1789 and didn't perform CBAs for another 215 years. In 2003, Customs and Border Protection were merged into one organization. Most economists in CBP have experience at DOT and TSA; VSL is used almost exclusively for regulatory review because, culturally, the organization lacks an understanding and an interest in assimilating the BCA approach into other parts of what it does.

The CBP's VSL is based on a review of only two studies, Lisa Robinson's 2005 review and Dr. Viscusi's 2004 study. The 2004 study included trauma deaths, which is important as deaths from terrorist acts are intuitively viewed as different from normal deaths. There was some motivation to double the VSL to account for the "dread factor" created by terrorism, but this idea found pushback within and outside the organization.

Ryan concluded her talk with by noting the difference in perspectives of her agency and many of the others represented at the conference. The CBP is primarily a law enforcement agency, markedly different from research bodies



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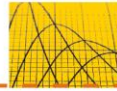
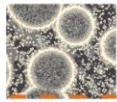
and regulatory organizations. As such, considerations about VSL are not prioritized in the CBP, since activities that involve the VSL are not the core mission of the CBP.

The fourth speaker of the panel was **Susan Dudley**, director of the Regulatory Studies Center at George Washington University. She began her talk with the contention that the trend in valuation techniques encourages regressive regulatory policies that shorten lives rather than lengthen them. She cited the example of the DOT, where real income growth is “baked in” their VSL estimation. This is temporally regressive, Dudley said, because it requires poor people of today to value future people more than themselves.

She continued with more critiques on the way VSL is applied in practice, starting with the observation that all agencies—DOT, EPA, CBP—value their particular type of risk more than other types of risk. Dudley seemed to question the premise that some risks of mortality are “more horrible” than others. She concludes by noting that measuring lives saved measures the wrong goal. It would be better to measure life years saved, because life-years are more aligned with what most in society want. This, however, does not imply that all years are the same.

The last panelist to speak was **Lisa Robinson**, currently an independent consultant. She started her talk by laying out a definition for what VSR is (or should be): an individual’s willingness to pay for a 1-in-10,000 reduction in mortality risk over one year. She notes that the U.S. Customs and Border Protection is different from many agencies in its use of an academic work to guide it. Agencies usually look for best practices, while academics often want to innovate and push the envelope. Viscusi’s work is unique in doing both, firstly describing the best practices of how to do a valuation of VSL, and then following those best practices to come up with a well-honed valuation.

Robinson then talked about why VSL years are not used. Since data from different places don’t tell consistent a story, it forces those writing a BCA to make a normative decision. Falling back on the normal VSL understanding sidesteps this choice. She finds it interesting that there is so much differentiation among the VSL valuations used by different agencies, since there is no data showing society’s preferences and risk aversion for different types of death. She concludes by airing a concern that no rigorous thought has yet been given to how equity can be folded into VSL valuation. If this could be done, it would benefit the practice.



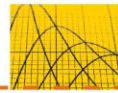
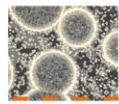
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Questions followed the five panelists, with Dr. Vescusi also present at the panelists' table. The first question was on parents' WTP to avoid risks for their kids, and whether a study on this could influence regulation. McGartland said that, all things being equal, most would prefer to save a child over a 70-year-old. Considering this, though, opens a door for politicians to distort BCA to fit their policy ideas. Dudley thought that BCA is inherently not positive, but necessarily has to be at least somewhat normative.

David Weimer posited a hypothetical hospital opening up a homeless health clinic to cut down on ER use. He then asked the panelists how to measure gains for the homeless. McGartland advocated using one figure, while Robinson noted that with a very small, discrete population, it may be possible to get a more accurate figure through means other than extrapolating a socially aggregated VSL. Another conference attendee was curious about whether it's fair to compare a VSL derived from a Department of Defense budget decisions and comparing that to other agencies and programs. Ryan couldn't speak to what other agencies might do, but said that the Dept. of Homeland Security looks at only their own programs.

One of the last questions centered on the philosophical discomfort with "putting a price on human life." McGartland said that everyone always takes risks that could end in death; taking the DC Metro to get to the conference constitutes a risk. Hence, just being at the conference means attendees' lives are not priceless, per se. VSL is not a price on human life, but a way of conceptualizing minuscule mortality risks.



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Panel IV: Children at Risk

The fourth panel, titled “Children at Risk,” was moderated by **Kim Thompson**, founder and president of Rid Risk, Inc. and included both government agency economists and a policy-oriented academic.

*Chair: Kim Thompson
Rid Risk, Inc.*

*Fumie Griego
Office of Management
and Budget*

*Clark Nadinelli
U.S. Food and Drug
Administration*

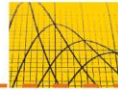
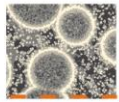
*Richard Williams
George Mason
University*

Fumie Griego, an economist with OMB, began the presentations by discussing the impact of Federal regulations. This investigation is driven by Executive Order, requiring that agencies must provide a regulatory impact analysis (RIA) for programs over \$100 million dollars, based on several triggers, the most salient being whether the policy is economically significant. The Office of Management and budget reviewed over 900 economically significant rules since 1992. Of those, just over 200 have associated BCAs, and fewer than a dozen focus on risks to children.

Ms. Griego presented two cases as examples. In her first example, the Department of Transportation proposed a rule published in 2010 to prevent a specific type of car accident (a backover). Good information exists about the problem, which mostly occur in cars without a clear rear view that are less than five years old. The benefits were estimated at \$.6 billion; the benefits at \$1.9 billion. If it passes, this would be the largest negative RIA ever. Her second case, preventing crib entrapments, involved a consumer product safety commission final rule published in 2010, meant to reduce injuries from drop-side ribs. Changing the regulations would require a \$387 million one-time cost for small businesses and non-profits to replace cribs. Ms. Griego concluded by remarking that the take away from this analysis was that agencies do not always complete robust analyses.

Clark Nadinelli, an economist with the U.S. Food and Drug Administration, discussed the difficulty of determining correct population values for children. The answer is to carry out BCA in the normal way, without any amendments to the process. As with other BCAs, the goal in BCAs dealing with children is to make information as useful as possible to decision makers.

However, bringing children into BCA can be more complicated. This approach tends to ignore the importance of early childhood health, self-productivity, and dynamic complementarity of investments in health (the idea that healthy kids make healthy adults), and the role of parents. Mr. Nardinelli then laid out the definition followed by children with different illnesses, and



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asked if the definition should change with different regulations if different age groups react in different ways for a given health risk.

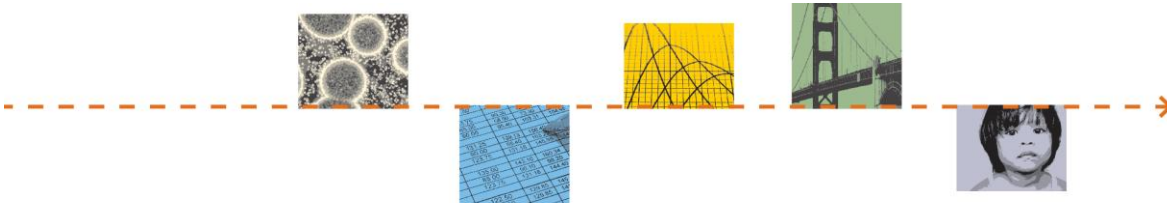
Mr. Nardinelli concluded his conversation with a discussion of the challenges faced in determining population values for children. Perspective is important. The tendency is to default to the parental perspective, but important to consider both society's perspective and the child's own perspective.

Richard Williams, Director of Policy Research at George Mason University, closed the panel with a discussion of childhood obesity, a growing problem in American. He opened by remarking that the magnitude of this problem makes dispassionate analysis critical. The primary question asked needs to be not of blame, but of solutions.

Kids on Medicaid are six times more likely to be obese—this is not causation, but an interesting correlation nonetheless. Is this a market failure? Dr. Williams thinks not. Fighting global malnourishment and creating increased free time is a positive in almost all other markets, but within the U.S. leads to obesity. Is this a failure of information? With increased efforts by USDA, labeling is becoming increasingly helpful. Is this a personal failure? If so, this brings behavioral economics into the paradigm of moralistic paternalism, and means that market solutions are probably inappropriate. If 80% of people are making efficient decisions, introducing market regulations will make those decisions inefficient.

Kim Thompson, the Director of Kid Risk, Inc., closed the panel with a discussion of polio. The conversation straddles two worlds: cost-effectiveness, and ending a deadly and debilitating illness. Her discussion started with a brief history of polio in America. Polio was ravaging the United States in the 1920s until the release of two vaccines. When these were released, polio rates dropped dramatically. Attenuated virus can cause polio in very small numbers of the population; although the United States moved to a safe version of the vaccine, it still would not pass. Polio is now eradicated in the Americas, and shrinking in the rest of the world.

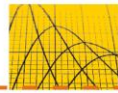
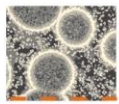
Many additional papers about polio can be found at kidrisk.org. Methods of examining polio include economics, decisions, risks, system dynamics, and game theory. Math modeling tools can also help highlight unknown areas of research or information. Benefit-cost analysis is a critical component of this research, but it is necessary to have BCAs be correct.



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In addition to the obvious end of the disease in human populations, there are many benefits by preventing polio, including the positive externalities created by frequent clinic visits (such as increased access to vitamins). Ms. Thompson concluded by saying that the post-eradication policy would be increasingly effective if it was not “pay-as-you-go.”



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Panel V: The Use of BCA in Making Educational Decisions

Professor **Mark Long** at the University of Washington's Evans School of Public affairs moderated this panel on BCA in the educational realm. He introduced each of the four speakers. Dr. Long noted that the timeline for this panel was crunched some, and offered hope that there could be questions after all panelists spoke.

The first presenter was **Glen Blomquist**, a professor of economics and public policy at the University of Kentucky. He started off his presentation by pointing out how economics has been instrumental in making clear how education is valuable in developing human capital, which is as important as other forms of capital. Education creates positive externalities as well as private returns—monetary and non-market—on an individual's investment of time and money. Spillover effects include a lower mortality rate, lower crime, and better public governance. Most research has focused on the external benefits to growth and productivity, but no study has fully answered this question.

Blomquist then laid out how to value the social benefit of education by tracking the changes in private earnings, in private gains in quality of life, in external productivity gains, and in external quality of life gains. These are all very challenging steps that are rife with opportunities for error. Another holistic approach could be the questionnaire method, because stated preference data yielded by surveys may be better than doing nothing, especially if they can be combined with revealed preference. The rationale behind this approach is that survey respondents consider the total social value—direct and indirect value to themselves and other residents—when giving their responses.

He then concluded with an example measuring willingness-to-pay for community and technical colleges in Kentucky. One common critique of examples such as the one he cites is that contingent valuation assumes that people will do what they say they would do in the survey, an assumption that could be unfounded. To counter this argument, Blomquist highlighted a study on contingent valuation accuracy. The study shows that the survey approach actually can closely match real behavior.

The second panelist was **Seong Moon**, research fellow at the University of Chicago. He presented on the importance of early childhood. The science

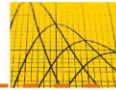
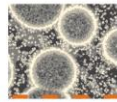
Chair: Mark Long
University of Washington

Glen Blomquist
University of Kentucky

Helen Ladd
Duke University

Seong Moon
University of Chicago

Phil Oreopoulos
University of Toronto



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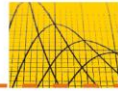
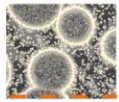
backing the importance of this age period for brain development is clear, and studies affirm that return to capital for money spent on development during this age is quite high, with some showing that poor children have an even higher return than more affluent children. The question then becomes how best to improve these childhood outcomes, or, what intervention program is best?

Moon said that the problems plaguing most randomized trials are small sample size and compromising of randomization due to non-compliance and non-response. Moon cites a few examples of studies in the 1960s and 70s that have these corruptions. One study that was very well-executed was the Perry Preschool Program, which showed substantial effects through the span of the participants' lives.

Moon concluded by discussing a new random trial called the Preschool Curriculum Comparison Study that attempts to recreate and the Perry Preschool Program's success and compare it to other interventions and other modified versions of the Perry-type program. The results, however, were inconclusive; no statistically significant difference was found between the three curricula tested. Moon's next steps will be to continue analyzing these programs and attempting to find ways to account for various issues in the data.

The third speaker was **Phil Oreopoulos**, associate professor at the University of Toronto. He discussed an H&R Block program to help lower-income individuals to overcome the complexity of the Free Application for Federal Student Aid, or the FAFSA. The intervention approach relies on the fact that the FAFSA asks for information that must be gathered to do one's taxes anyhow, so completing the FAFSA right after one's taxes makes the process much less daunting.

Oreopoulos then reviewed the experiment design. The intervention targeted high school graduates in roughly their mid-20s that did not go to college. Three groups were randomly assigned to three interventions: a control group got a pamphlet; another group received an estimate for how much help the FAFSA could provide; the last group received the full FAFSA walkthrough. The results, to Oreopoulos, were not surprising but were substantial: Those receiving the full treatment saw an 8% increase in next-year college enrollment. Follow-ups showed that these new college students tended to stay around, highlighting a persistent treatment effect.



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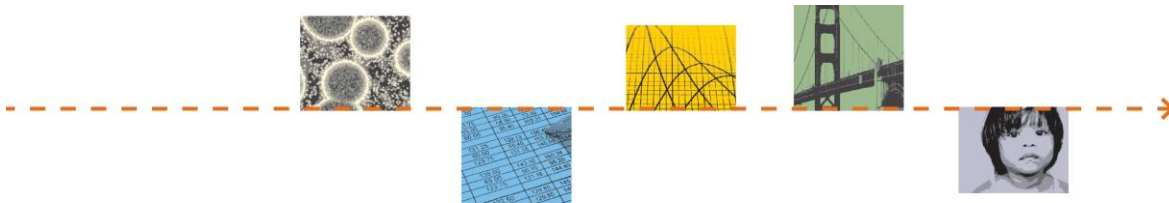
Oreopoulos noted that, while behavioral interventions are fairly inexpensive, H&R Block decided not to implement the program nationally. He was also pessimistic about the possibility of using tax money to incentivize H&R Block to expand the program, or of the government starting its own intervention. He concluded by acknowledging that other interventions, such as “Life After High School,” could be even more effective in increasing college attendance.

The last speaker was **Helen Ladd**, professor of public policy and economics at Duke University. She discussed the use of BCA in making educational decisions through the lens of the presentations made by her fellow panelists. She started her talk with an overview of the history and development of contingent valuation. Crutilla’s 1967 introduction of *existence value* culminated in the 1992 NOAA panel developing standards on performing a well-executed contingent valuation study. While these standards gave some foundation for contingent valuation, economists still hesitated because they preferred revealed preference and got nervous about the validity of even basic surveys.

Ladd turned her attention to the community college valuation study discussed by Blomquist. It is a complex challenge to pinpoint the benefits of community college, institutions that are multi-faceted service providers. To get there, a study must ask about participants’ willingness-to-pay very carefully. For example, the NOAA guidelines recommend personal interviews wherein the interviewer can gauge how well a respondent understands the question being asked. By contrast, the community college survey was done through web and mail surveys, and the response rate was fairly low.

Ladd then moved on to the H&R Block FAFSA trial discussed by Oreopoulos, noting that one of the fundamental strengths of BCA is in providing a framework for thinking about how programs add value. BCA provides a toolkit for separating true benefits and true costs from transfers. Ladd thought that the accounting of costs and benefits to the different groups in the study was unclear.

Ladd concluded by discussing the early childhood intervention studies presented by Moon. While no one contests that knowing which curriculum is most effective would be very useful, Ladd had concerns with the experiment as executed. As Moon mentioned, these randomized trials suffer from small sample size. Ladd points out that the new study suffers the same debilitation, with 68 students split among three curricula. She also noted that the lessons

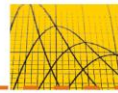
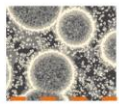


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learned from Perry Preschool Program study are likely outdated since most mothers work now. Ladd mentioned a different study that uses a natural experiment approach, the Smart Start cohort study in North Carolina.

Time was short, and hence Dr. Long invited interested conference attendees to approach the panelists after the group dismissed.



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Panel VI: Statistics and Benefit-Cost Analysis

The sixth panel of the conference was chaired by **David Weimer** of the University of Wisconsin-Madison. Panelists were from academia, the private sector, and a think tank.

Jaque Mallender, the chief executive of the Matrix Knowledge Group, began the panel with a discussion of the Cochrane and Campbell Economics Methods Group (CCEMG). CCEMG is an international network with interest and expertise in approaches to evidence synthesis that combine economics and systemic review methods. The goals are to support consideration of economics, communication with regards to policy-makers and end users, promote CCEMG reviews, and to develop economic methods. The aims are to do empirical research, to link reviewers and economists, to review validity and quality of research, and to work with other, similar groups. The organization's priorities are to collaborate with developing countries.

Mr. Mallender discussed an upcoming book with a focus on how economics can be relevant to decision-makers. The key topics of interest, generated by a large list of contributors, include evidence-based decisions and economics, with an emphasis on reflecting back to economics, being open to looking beyond the field of economics, critical use of existing evidence, building and using decision models, making efficient decisions, and assessing the distribution of costs and benefits (especially for projects in the developing world).

The presentation closed with remarks about one specific chapter of the book, which includes an agenda for research. Areas of importance will be systematic reviews of economic analysis, including getting better source materials and dealing with very specific contexts in materials, and getting evidence in broader health and social interventions.

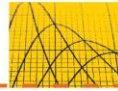
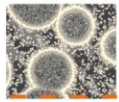
Jeffrey Valentine, a professor at the University of Louisville, discussed universal versus targeted programs for the prevention of adolescent depression. His work is an attempt to build and develop a framework for understanding the cost-effectiveness of some intervention programs and models. He gave some background on the problem: 1 in 5 adults suffer from depression, a disease with staggering costs. Adolescence is the most common

*Chair: David Weimer
University of
Wisconsin-Madison*

*Steve Aos
Washington State
Institute for Public
Policy*

*Jaque Mallender
Matrix Knowledge
Group*

*Jeffrey Valentine
University of
Louisville*



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developmental place for depression to start, making adolescence a good place to start prevention measures.

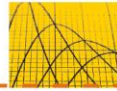
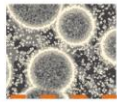
Dr. Valentine compared universal (everyone in the class gets therapy) programs to targeted programs (only those seen as high-risk get therapy). Although both types of programs were consistent, targeted programs were more effective. Universal programs tend to require less clinical expertise, require less training and supervision, be run in larger groups, and require fewer recruitment efforts. The end result is that universal programs are almost always cheaper than targeted programs.

The target decision-maker for the study will be the district administrator or principal; part of what this study did was attempt to anticipate what issues this decision-maker would consider. Often, published studies do not prioritize cost information, yet this information is critical when making real-world decisions. Dr. Valentine discussed methods for implementing costs before discussing his approach to each study in more detail. As data points are less likely for social scientists to think about, the papers reviewed were less likely to include the information most useful to practitioners in the field. He went back and asked authors to fill in the relevant gaps in the work and to include confidence intervals with this new information

Dr. Valentine concluded by suggesting that in the future, norms should be created that recognize studies without implementation costs as incomplete.

Steve Aos, the director of the Washington State Institute for Public Policy, began by describing his role as an adviser to legislators. For the past 15 years, the Washington State Legislature has used WSIPP findings to determine a larger share of the Washington state budget.

Mr. Aos discussed his organization's approach to benefit-cost analysis. BCA is reviewed for each study, and WSIPP alters the basic formula by changing the delta-Q to effect the size of each study. For example, when working with a program involving functional family therapy, WSIPP analysts read every study they could find, filtering out those that were not persuasive or had poor study practices, and tied the results of the remaining eight studies together using meta-analytic statistical tools. Analysts calculated the mean and standard error of effect size for the therapy, then took that effectiveness and matched it to the benefits. Meta-analyses can also be used to estimate secondary relationships, for example, the expected effect of crime on high school graduation probability. If a theory reduces juvenile crime, and if juvenile crime reduces a youth's likelihood of graduation, then a therapy's



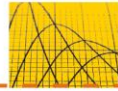
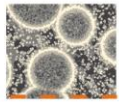
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added benefit can be valued in terms of the avoided cost of lower high school graduation. Bringing multiple saving effects, such as these, allows for more determination of specific savings.

The advantages of this type of meta-analysis is that it summarizes a full body of research, not just one favorite study, provides standard errors for repeated applications, and can provide insights into effect size adjustments. For example, if a program director conducts a study, he or she can chance the effect size to account for the statistically significant trend that program developer studies show effects that are uniformly higher than third party studies.

The panel concluded with a **discussion** among panelists and audience members. Many of the questions were specific points about Mr. Aos's work in Washington state. One audience member asked about the apparent conflict between Mr. Aos's work and Dr. Valentine's work; WSIPP seems to take cost as a given, while cost is the main issues in Dr. Valentine's work. Both panelists responded, Mr. Aos saying that he was able to offer specifics about the cost of family functional therapy because this is currently a program in Washington state. Dr. Valentine responded by remarking that studies of specific programs often include more cost details, whereas larger, more general approach studies are broader and hence often miss costs.



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Panel VII: Synthesizing Data for Evidence-Based Decision-making

Lisa Robinson chaired and moderated this panel.

First to speak was **Lorenz Rhomberg**, a principal at Gradient Corp., an environmental and risk science consulting firm. He presented on how to deal with uncertainties in the inputs that inform a BCA. A good starting point is knowing the nature of the uncertainties present in the study. The response of many BCA studies regarding uncertainty is to be conservative. A hypothetical example of a child eating soil at a Superfund site shows how the worst-case scenario, if sufficiently plausible, is treated as if it is real. This leads to extrapolations of exposure scenarios that are far from the likely reality. The result is that risks are systemically over-estimated, and hence that benefits from risk reduction are likely also over-estimated.

Rhomberg went on to discuss how to better understand and describe risk mitigation by exposure reduction. Three models of uncertainty—dose/response models, low-dose extrapolation, and interspecies toxicologic equivalency—are generally understood and can be augmented by pooling data and using meta-analysis tools. There are other wild cards, like whether a risk is applicable to humans, that can complicate matters.

Rhomberg concluded by discussing different methods of statistical modeling that can introduce confidence where there may not be. He described an evidence-based toxicology that asks for proof and uses randomized trials, but is rarely practiced. He said he hopes to eventually see a structured process that gets information out to the community and encourages honest discussion, which would hopefully mitigate the tendency to attack the motivations of those who look into these issues.

Harris Cooper, professor and chair of Psychology at Duke University, presented next on the components of a research synthesis. Cooper's presentation laid out a way to apply the rigor that is expected of original research to those that perform meta-analyses. He focused on an example of a meta-analysis of kindergarten interventions. Through this lens, he highlighted the steps taken for this project. Before starting the hunt for other studies, researchers defined what a kindergarten is, defined impacts and interventions, and made criteria for the inclusion of studies into the meta-analysis.

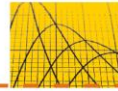
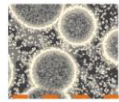
*Chair: Lisa Robinson
Independent
Consultant*

*Kevin Boyle
Virginia Tech*

*Roger Cooke
Resources for the
Future*

*Harris Cooper
Duke University*

*Jonathan Nash
Emory University*



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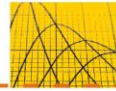
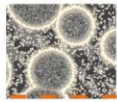
Cooper then explored the many stumbling blocks that could compromise a research synthesis such as the kindergarten interventions meta-analysis. Search bias could mean that the meta-analysis is unintentionally including only a certain type of study. To avoid this, spelling out the search procedures taken to find studies is key. Other issues like coder reliability, lack of independence among studies, and dependency among outcomes hard to solve but must be considered.

Handling missing data can be especially problematic; in reaching out to the authors of studies that he would like to include, Cooper found that “lots of dogs have eaten lots of homework.” Finally, Cooper concluded with approaches to standardization of data formatting and data cleaning. He found that the Journal Article Reporting Standards could have a positive role to play in meta-analysis.

Professor **Kevin Boyle**, head of the Department of Agricultural and Applied Economics at Virginia Tech, presented after Cooper. He discussed the non-market application of environmental valuations and benefits transfers. The EPA’s guidelines for preparing economic analyses hold that the most common way to measure benefits and costs in a regulatory impact study is in looking at benefits transfers. Unfortunately, just how these transfers can be determined is not clear, as there is no overall consensus in the academic literature.

The question then becomes not only how accurate are benefits transfer estimates, but also what can be learned from this? Boyle’s work is a meta-analysis to see how accurate studies are in calculating benefit transfers. Typically, the studies analyzed were done before a policy is in place, as well as after. This provided Boyle with a dataset of many pairs of studies, the first of which estimates the benefits transfer, and the second of which observes this transfer. There were also 40 validity studies that examine these studies closely.

After providing an overview of the statistical methodology, Boyle dives into the results of his meta-analysis. Boyle spent some time parsing the data and showing how different analysis approaches highlighted interesting things about the meta-analysis itself. The upshot to the research was that qualitative benefits transfers were less accurate than quantitative transfers, and that geographic area discrepancies have a lot of explanatory power. Boyle also found that pulling data from multiple studies will improve the accuracy of results. As with Cooper, Boyle found that validity studies that look at groups



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of original studies weren't nearly as careful in their approach as those who perform original studies.

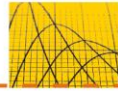
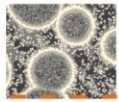
The last panelist of this panel and of the conference was **Roger Cooke**, the Chauncey Star Chair for Risk Analysis at the nonprofit environmental and climate research center Resources for the Future. He started his talk by noting that risk analysis is a challenge because the background situation changes every time something bad happens. Cooke contended that uncertainty is an expert's job, ambiguity is an analyst's job, and indecision is the problem owner's job. This means that there is a high need for legitimization, a need to know that decisions are based on sound information. This is why experts are relied upon.

Cooke then walked the audience through a unique study called the Assessment of Expert Estimation. In this experiment, each subject matter expert is asked their opinion on something that will be knowable soon. Each expert's response became a data point, and these data are compared with what actually happened. The results of the assessment showed that expert confidence doesn't match up with accuracy of estimates, and that experts in the same field can often provide very different answers.

This point is further driven home by a Robert Wood Johnson Foundation study that asked experts to give a confidence range for a similar type of questioning approach. The selected experts were well respected in their fields, and yet at times even their 90% confidence bounds did not overlap.

Cooke concluded by highlighting the eruption of the Montserrat volcano as an example highlighting how experts can disagree. While stakes were high, experts could not agree on what to recommend, which caused decision-makers to pay less and less attention. The situation did not improve until a mathematical integration of the experts' opinions was developed; they called this a consensus approach. Cooke's example illustrated how reliance on experts can come with its own set of uncertainties.

Again, time was too limited for questions.



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Keynote Address: What Counts? What Doesn't? Does It Matter? The Accounting Stance in Benefit-Cost

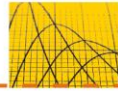
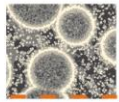
Robert Haveman, Professor Emeritus of Public Affairs and Economics and Faculty Affiliate, Institute for Research on Poverty, University of Wisconsin-Madison, delivered the keynote speech during a joint luncheon bringing the MacArthur Foundation's Benefit-Cost Analysis Conference together with the attendees of this year's conference for the Society for Benefit-Cost Analysis.

Haveman's talk focused on perhaps the biggest **issue** in benefit-cost analysis, as well as one of the field's more important contributions: the well-reasoned valuation and accounting of all impacts of a potential action or program. Haveman said that the identification of the full range of impacts is challenging but necessary. A good benefit-cost analysis (BCA) would include *all* outcomes—in the short and long run, and among all relevant parties. If any impact is not included, it is assumed to be zero, which reduced the accuracy and hence relevance of a BCA.

Haveman established the **setting** by fleshing out the history of accounting benefits and cost in the field. While some costs are easily counted, others are a substantial challenge. To determine costs and benefits, BCA professionals follow a set of steps. Analysts firstly identify all relevant impacts, then specify a counterfactual to compare these impacts, then measure or estimate the impacts, and finally evaluate them based on social opportunity cost and willingness to pay.

These steps were improved as studies in water resources in the 1950s and 1960s advanced the study by clarifying what the counterfactual should be. The accounting became more sophisticated, with improvements in estimating future effects and in defining relevant discount rates. All the while, the accounting stance expanded.

Havemen then spent some time highlighting **examples** of some archetypal studies, which had notable positive qualities, but also lacked the full accounting that he advocates. He considered a 1981 study by Weisbrod to be a landmark study in its clarity and its breadth of considerations of costs. He noted, though, that while many costs are quantified in the study, only one large benefit was quantified. Havemen went on to illustrate how the Job Corps studies exemplify an evolution in the field, with more quantified



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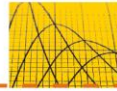
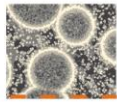
benefits. The studies also tackled questions of moral valuation. While costs and benefits were well-quantified, the studies had room for improvement. A recent BCA on the Section 8 program provides, in Haveman's estimation, the most comprehensive of accounting stances thus far, but even this study missed some possible impacts.

Haveman used studies from the MDRC as examples of a **standard accounting stance**, which he argued was rather narrow. He hesitated to put any names on this, since MDRC and like organizations have made good contributions to the field. A standard accounting stance is naturally expressed in dollars, said Haveman. As such, studies that adopt this stance tend to include some costs and benefits to society, government and individuals, but avoid "non-monetary" effects that Haveman contended could be monetized.

Havemen then reviewed the landmark BCA studies, comparing what the studies would have looked like with a **wider accounting stance**. He concludes that Weisbrod's study and the Section 8 analyses would have passed the comparison of benefits to costs had they included other key impacts; the Jobs Corps studies passed this comparison even with their standard accounting stance, but inclusion of other impacts would have increased both the social benefits and the social costs. Clearly, Havemen said, the accounting stance matters, especially when considering individual benefits. He noted that wider accounting stances have little impact on the costs and benefits allocated to government.

Haveman then responded to **potential reservations**, the first of which is the difficulty in estimating these non-standard benefits and costs. This challenge could cause study costs to balloon. Havemen said that this does not have to be the case since a literature review can be sufficient. He also contended that the extensive use of proxy shadow costs do not have to add unwarranted uncertainty because that uncertainty can be conglomerated using Monte Carlo techniques. He also disagreed with the idea that an estimated effect and reliance on the reader to gauge whether this effect is valid is enough. Discerning readers will ignore unsupported impacts, which subverts the point of a wider accounting stance.

Haveman **concluded** by observing that it may be the case that decision-makers care mostly about budget impacts to government; if accounting stances do not impact government decision-makers, then there is little impetus to change. If this perception is accurate, Haveman said, then the Society for Benefit-Cost Analysis should agitate for comprehensive



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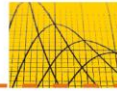
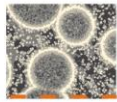
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accounting. He ended on a positive note, exhorting conference attendees to not get discouraged.

After his talk, Haveman took **questions and comments**, and there were many. The first commenter theorized that perhaps a decision-maker disregards BCA exactly because what a BCA study considers often does not include what the decision-maker believes is important. Another question considered the distinction between state and federal government in asking what should be considered “society” for the purposes of a BCA. Haveman thought that the question is both an accounting stance issue and an issue of standing; if the core question of a BCA is directed at state policy-makers (i.e., AOS and WSIPP), then Haveman breaks out the impacts for state citizenry. While this creates an intermediate step and adds some to the workload, it is necessary.

Another questioner asked Haveman to parse the difficulty in defending any accounting stance, since standard stances are critiqued because they lack some impacts, while wider stances are attacked because of their reliance on less-established shadow value and CV pricing. Haveman recommended that a BCA analyst make clear that the study is a best effort, and that the identified impact cannot be ignored. A second comment pushed back against the Monte Carlo method because it obfuscates the source of its input distributions, creating a front of certainty (or known uncertainty) where it may not appropriate.

A representative from MDRC noted that his organization is under pressure to get just one number, which means that MDRC’s work is geared towards that end. He also noted that efforts to expand the view to all of society should be an uphill battle, because people should define their society as a city/state/etc. unless convinced otherwise. Another conference attendee noted that, after reading hundreds of academic studies in education and recognizing only a few of them as fully-fledged BCAs, it seems that the cost calculation and valuation process is already so daunting as to scare people off. He asked Haveman if the field will lose something if a wider accounting stance makes this already difficult process even more complex. Haveman recognizes that economics has become more technical and more narrow, making it more challenging to innovate. Ideally, to the extent that BCA is a profession, it should be distinct from economics in this regard. But, Haveman recognized that this may not be the case, which is regrettable.



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Appendix A: Conference Program

AGENDA

Thursday, October 20

8: 00 – 9:00 a.m.

Registration/Check-In and Continental Breakfast
Monet Foyer

9:00 – 9:15 a.m.

Welcome Remarks
Monet Ballroom

9:15 – 10:45 a.m.

Panel 1: Government and Benefit-Cost Analysis in the Trenches
Monet Ballroom

Chair: Carol Bray, Senior Economist, U.S. Government
Accountability Office

1. James Simons, Director, Office of Regulatory Analysis and Evaluation, National Highway Traffic Safety Administration, U.S. Department of Transportation
2. Harold Alderman, Consultant, World Bank
3. Charles Griffiths, Senior Economist, National Center for Environmental Economics, U.S. Environmental Protection Agency
4. John Morrall, Senior Scholar, Mercatus Center, George Mason University

10:45 – 11:00 a.m.

Break
Monet Foyer

11:00 a.m. – 12:30 p.m.

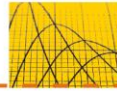
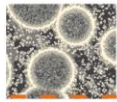
Panel 2: How Integrated Data Systems Can Be Used for Benefit-Cost Analysis
Monet Ballroom

Chair: Dennis Culhane, Dana and Andrew Stone Professor of Social

Policy, University of Pennsylvania

Moderator: David Stevens, Director, Jacob France Institute,
University of Baltimore

1. Rob Surber, Director, Office of Shared Solutions, State of Michigan
2. Manuel Moreno, Service Integration Research Director, Office of the Chief Executive of Los Angeles County



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3. Diane Haynes, Statistical Data Analyst, University of South Florida

12:30 p.m. – 1:45 p.m.

Lunch
Solarium

1:45 p.m. – 3:15 p.m.

Panel 3: Value of Life by Different Agencies
Monet Ballroom

Chair: W. Kip Viscusi, University Distinguished Professor of Law, Vanderbilt University

1. Al McGartland, Office Director, U.S. Environmental Protection Agency
2. Jack Wells, Chief Economist, U.S. Department of Transportation
3. Elena D. Ryan, Chief, Economic Impact Analysis Branch, U.S. Customs and Border Protection
4. Susan Dudley, Director, Regulatory Studies Center, The George Washington University
5. Lisa Robinson, Independent Consultant

3:15 p.m. – 3:30 p.m.

Break
Monet Foyer

3:30 p.m. – 5:00 p.m.

Panel 4: Children At Risk
Monet Ballroom

Chair: Kim Thompson, Founder and President, Kid Risk, Inc.

1. Fumie Griego, Economist, U.S. Office of Management and Budget
2. Richard Williams, Director of Policy Research, George Mason University
3. Clark Nardinelli, Economist, U.S. Food and Drug Administration

Please join us for dinner at 6:00 p.m. at Charlie Palmer Steakhouse. Transportation will be provided. Shuttle runs between the Hotel and the Steakhouse from 5:30 p.m. to 9:30 p.m. Please meet in the hotel lobby for pickup.

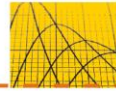
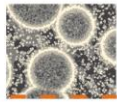
Friday, October 21

8:00 a.m. – 8:30 a.m.

Check-In and Continental Breakfast
Monet Foyer

8:30 a.m. – 9:45 a.m.

Panel 5: The Use of BCA in Making Educational Decisions
Monet Ballroom



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Chair: Mark Long, Associate Professor, University of Washington

1. Glenn Blomquist, Carl F. Pollard Professor of Health Economics, Professor of Economics and Public Policy, University of Kentucky
2. Helen Ladd, Edgar T. Thompson Professor of Public Policy Studies and Professor of Economics, Duke University
3. Seong Moon, Research Fellow, Economics Research Center, University of Chicago
4. Phil Oreopoulos, Associate Professor, University of Toronto

9:45 – 10:00 a.m.

Break
Monet Foyer

10:00 a.m. – 11:15 a.m.

Panel 6: Statistics and Benefit-Cost Analysis
Monet Ballroom

Chair: Dave Weimer, Professor, University of Wisconsin -Madison

1. Jeffrey C. Valentine, Professor, University of Louisville
2. Steve Aos, Director, Washington State Institute for Public Policy
3. Jacque Mallender, Chief Executive, The Matrix Knowledge Group

11:15 – 12:30 p.m.

Panel 7: Synthesizing Data for Evidence-Based Decisionmaking
Monet Ballroom

Chair: Lisa A. Robinson, Independent Consultant

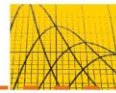
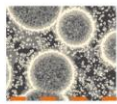
1. Lorenz Rhomberg, Principal, Gradient Corporation
2. Harris Cooper, Professor and Chair of Psychology, Duke University
3. Kevin Boyle, Professor and Head, Virginia Tech, Department of Agricultural and Applied Economics
4. Roger Cooke, Chauncey Starr Chair for Risk Analysis, Resources for the Future

12:30 p.m. – 2:00 p.m.

Luncheon
Grand Ballroom A and B

What Counts? What Doesn't? Does It Matter? The Accounting Stance in Benefit-Cost

Robert Haveman, Professor Emeritus of Public Affairs and Economics and Faculty Affiliate, Institute for Research on Poverty, University of Wisconsin-Madison

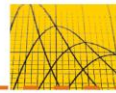
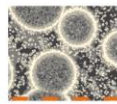


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Appendix B: Conference Participants

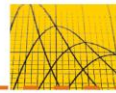
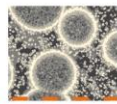
Harold Alderman	(Retired) / Consultant, World Bank
Alberto Alemanno	Associate Professor of Law, HEC Paris
Steve Aos	Director, WA State Institute for Public Policy
Jennifer Baxter	Principal, Industrial Economics, Incorporated
Peter Belenky	Economist, U.S. Department of Transportation
Allen Bellas	Associate Professor, Metropolitan State University
Richard Belzer	President, Regulatory Checkbook
Glenn Blomquist	Professor of Economics and Public Policy, University of Kentucky
Kevin Boyle	Professor and Head, Virginia Tech
Ashley Branca	Associate Research Scientist, Evaluation Division, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance
Carol Bray	Senior Economist, Government Accountability Office
Al Bremser	Manager, Exponent, Inc.
Tim Brennan	Prof., Public Policy and Economics, UMBC/Resources for the Future
John Bronsteen	Associate Professor, Loyola University Chicago School of Law
David Burgess	Professor Emeritus, University of Western Ontario
Trudy Ann Cameron	R.F. Mikesell Professor of Environmental and Resource Economics, University of Oregon
Bruce Carlson	Senior Policy Advisor, U.S. Army Corps of Engineers
Deven Carlson	Graduate Student, University of Wisconsin-Madison
Chava Carter	Research Assistant, University of Maryland Baltimore County
William Cartwright	Health Economist
Michael Caudell-Feagan	Deputy Director, Pew Center of the States
Valerie Chang	Program Officer, MacArthur Foundation
Tony Cheesebrough	Deputy Assistant Director for Risk Analytics, Department of Homeland Security, Office of Risk Management and Analysis
Nimai Chettiar	Advocacy and Policy Counsel, American Civil Liberties Union
Risharng Chiang	Associate Professor, Dept. of Political Science, National Taiwan University
Catherine Claiborne	Program Manager, University of Washington
Roger Cooke	Senior Researcher, Resources for the Future
Harris Cooper	Professor and Chair, Duke University
Daniel Crowley	Prevention & Methodology Fellow, Penn State University
Dennis Culhane	Dana and Andrew Stone Professor of Social Policy, University of Pennsylvania
J. J. Cutuli	Research Director, Intelligence for Social Policy Center, University of Pennsylvania
Victoria Deitch	Technical Research Associate, MDRC



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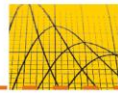
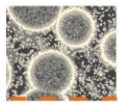
Jim DeMocker	Senior Policy Analyst, US EPA Office of Air and Radiation
Lawrence Deyton	Director, Center for Tobacco Products
Susan Dudley	Director, The George Washington University Regulatory Studies Center
Lawrance Evans	Assistant Director/Economist, Government Accountability Office
Scott Farrow	Professor, UMBC
Victor Flatt	Tom & Elizabeth Taft Distinguished Professor of Environmental Law, University of North Carolina School of Law; Center for Law Environment Adaptation and Resources
Timothy Folkins	Senior Economist, Treasury Board Secretariat of Canada
Katie Foreman	Economist, Department of Homeland Security
Arthur Fraas	Visiting Scholar, Resources for the Future
Elisabeth Gilmore	Assistant Professor, School of Public Policy, University of Maryland
Noel Gollehon	Senior Economist, USDA-Natural Resources Conservation Service
David Greenberg	Professor Emeritus of Economics, UMBC
Victoria Greenfield	Senior Economist, RAND Corporation
Fumie Griego	Economist, OMB
Charles Griffiths	Economist, U.S. Environmental Protection Agency
Anca Grozav	Economic Analyst, NC Office of State Budget and Management
David Haddock	Professor of Law & Economics, Northwestern University
Patricia Hall	Economist, FDA
Arnold C. Harberger	Distinguished Professor of Economics, UCLA
David Harpman	Natural Resource Economist, U.S. Bureau of Reclamation
Glenn Harrison	Director, Georgia State University - Center for the Economic Analysis of Risk
Megan Hatch	PhD Student, The George Washington University
Robert Haveman	Emeritus Professor, La Follette School of Public Affairs
Philip Hawkins	Senior Vice President, Kurchner-Hawkins Associates
Diane Haynes	Statistical Data Analyst, University of South Florida
Christian Henrichson	Senior Policy Analyst, Vera Institute of Justice
Sandra Hoffman	Senior Economist, USDA Economic Research Service
Ted Horbulyk	Associate Professor of Economics, University of Calgary
David Hsu	Assistant Professor, University of Pennsylvania
Glenn Jenkins	Professor of Economics, Queen's University, Canada, Eastern Mediterranean University, Northern Cyprus
Nick Kadochnikov	Market Insights Consultant, IBM
Lynn Karoly	Senior Economist, RAND Corporation
Jack Knetsch	Professor Emeritus, Simon Fraser University
Mary Kokoski	Managing Editor, JBCA
Kerry Krutilla	Associate Professor, School of Public and Environmental Affairs
Helen Ladd	Professor of Public Policy and Economics, Duke University
Cynthia Lamy	Metrics Manager, Robin Hood
Tek-Ang Lim	Health Economist, European Center for Disease Prevention and Control (ECDC)
Peter Linquiti	Lecturer, George Washington University



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Mark Long	Associate Professor, University of Washington
Jacqueline Mallender	Chief Executive, Matrix Knowledge Group
Albert McGartland	Director, EPA-National Center for Environmental Economics
Cristina McLaughlin	Senior Economist, FDA
James McQueen	Senior Economist, Metro Vancouver
Pamela Misuraca	Student, MITRE/Capella University
Seong Hyeok Moon	Research Fellow, Economic Research Center, University of Chicago
Manuel Moreno	Director of Research, Chief Executive Office, Los Angeles County
John Morrall	Affiliated Senior Scholar, Mercatus Center at George Mason University
Clark Nardinelli	Chief Economist, FDA
Steve Newbold	Economist, U.S. EPA
Maureen Norton	Distinguished Market Intelligence Professional, IBM
Philip Oreopoulos	Associate Professor, University of Toronto
Carla Pantanali	Expert Consultant in Monitoring and Evaluation, Argentina Ministry of Health
Richard Peck	Associate Professor, University of Illinois at Chicago
Jonathan Porat	Intern, Office of Information and Regulatory Affairs
John Quiggin	Visiting Professor, Johns Hopkins
Seth Renkema	Senior Economist, US Customs and Border Protection
Lorenz Rhomberg	Principal, Gradient
Lisa Robinson	Independent Consultant
Andrew Rollo	Economist, CBP
Timothy Rudd	Cost Benefit Analyst, MDRC
Elena Ryan	Chief Economist, US Customs and Border Protection
Keith Sargent	Economist, US Environmental Protection Agency
Andrew Schmitz	Eminent Scholar: Ben Hill Griffin Jr. Endowed Chair, University of Florida
Troy Schmitz	Associate Professor, Arizona State University
Amy Schwartz	Professor, New York University
Stuart Shapiro	Associate Professor, Rutgers University
Juha Siikamaki	Fellow, Resources for the Future
Marsha Silverberg	Economist, Evaluation Division, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance
Nathalie Simon	Associate Director, EPA's National Center for Environmental Economics
James Simons	Director, Office of Regulatory Analysis and Evaluation, NHTSA-DOT
Jody Springer	Benefit Cost Program Lead, FEMA
Michael Stegman	Director, Policy and Housing, MacArthur Foundation
Todd Steiner	Chief, Standards Evaluation & Analysis Division (Chief Economist), U.S. Coast Guard



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David Stevens	Director, and Research Professor of Economics, University of Baltimore, The Jacob France Institute
Robert Surber	Director, Office of Shared Solutions / Michigan DTMB
Judy Temple	Associate Professor of Public Affairs and Applied Economics, University of Minnesota
Kimberly Thompson	President, Kid Risk, Inc.
Craig Thornton	Managing Director of Health Research, Mathematica Policy Research
Jeff Valentine	Assoc. Professor, University of Louisville
Kathryn Vesey	Research Associate, GW Regulatory Studies Center
W. Kip Viscusi	University Distinguished Professor, Vanderbilt University
David Weimer	Professor, University of Wisconsin-Madison
Jack Wells	Chief Economist, U.S. Department of Transportation
William Wheeler	Economist, U.S. EPA, NCEE
Richard A Williams	Director for Policy Studies, Mercatus Center at George Mason University
Ryan Wise	Risk Analyst, Department of Homeland Security
Michael Wiseman	Research Prof. of Public Policy, George Washington University
Richard Zerbe	Daniel J. Evans Distinguished Professor, The Evans School, University of Washington
Ting Zhang	Research Assistant Professor, Jacob France Institute, University of Baltimore
David Zorn	Director of Social Sciences, FDA
<i>Please note that this list contains only those names of participants who chose to include their names and were registered by Sept. 14, 2011. This information is printed as provided by each conference participant.</i>	