

ADAPT Substance Use Prevention  
Technical Webinar Series

# The Value of Prevention: Demystifying the Cost-Benefit Analysis

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Improve Lives



RESOURCE SUPPLEMENT

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## **ADAPT: A Division for Advancing Prevention & Treatment**

### **Mission**

ADAPT is a division within the Center for Drug Policy and Prevention at the University of Baltimore. The mission of ADAPT is to advance knowledge, skills, and quality outcomes in the field of substance use prevention while supporting successful integration of evidence-based strategies into communities.

### **Goals**

1. Advance substance use prevention strategies through essential training and technical assistance services and resources.
2. Promote public health and public safety partnerships in substance use prevention.
3. Prepare the future public health and public safety workforces through student engagement in ADAPT operations and projects.

### **HIDTA Prevention**

ADAPT supports the National High Intensity Drug Trafficking Area (HIDTA) Program by operationalizing the National HIDTA Prevention Strategy. ADAPT assists HIDTAs with implementing and evaluating substance use prevention practices within their unique communities. ADAPT also keeps HIDTA communities up to date with advances in prevention science. A variety of trainings and technical webinars to cultivate, nurture, and support hospitable systems for implementation are offered throughout the year.




### **Technical Assistance**

Technical assistance is available to all HIDTA communities in the following domains:

1. Identification of Best Practices in Substance Use Prevention
2. Training
3. Implementation
4. Evaluation
5. Finance/Budgeting
6. Sustainability

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For frequent updates from ADAPT, be sure to *follow* and *like* us on the platforms below. These platforms provide an opportunity to share resources and connect with each other.

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For more information, email us at [adapt@wb.hidta.org](mailto:adapt@wb.hidta.org).

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# ADAPT Upcoming Events

Concept Addressed	Technical Webinars (1.5 hours)	Date
Program Planning	Program Planning Fundamentals	2/18/21 Archived on YouTube
Program Evaluation	Program Evaluation: Getting to Outcomes	3/4/21 Archived on YouTube
Risk Factors	Interventions to Reduce Risk Factors for Substance Use	3/23/21 Archived on YouTube
Protective Factors	Interventions to Promote Protective Factors for Substance Use	4/8/21 Archived on YouTube
Persuasive Messaging	Persuasive Message Strategies in Substance Use Prevention	5/6/21 Archived on YouTube
Persuasive Messaging Part II	EQUIP: A Model to Guide You in Constructing Persuasive Prevention Messages	6/3/21 Archived on YouTube
Value Analysis	The Value of Prevention: Demystifying the Cost-Benefit Analysis	6/15/21 2:30-4:00pm EST
Appraising Evidence	Understanding Emerging, Promising, & Best Prevention Practices	6/23/21 2:30-4:00pm EST
Youth Engagement	Ways of Being with Youth	TBD

For each webinar, a corresponding 10-15 minute **Prevention Pearl** will be released.

Subscribe [here](#) for event announcements, including our upcoming **Evidence Based Practice Spotlight** series.





National Prevention Science Coalition

*to improve lives*

The National Prevention Science Coalition to Improve Lives (NPSC) was formed as a vehicle to facilitate the use of prevention science findings and evidence-based practices to improve social conditions that otherwise contribute to poor mental, behavioral and physical health. The NPSC is composed of over 700 scientists (representing over 75 universities and organizations), educators, clinicians, practitioners, communications specialists, policymakers and advocates. Domains of interest include inequalities and disparities, mental health, substance misuse, poverty, juvenile justice, child development and welfare, violence, and police-community relations, just to name a few.

Over the past 30 years, prevention science has identified key environmental and social factors that harm health and wellbeing, along with several programs, practices, and policies shown to reduce harm. The Institute of Medicine issued a report in 2009 about what prevention science has achieved. It noted that society now has the knowledge to ensure that virtually every young person arrives at adulthood with the skills, interests, values, and health habits they need to lead productive lives in caring relationships with others. We formed the NPSC to help convey this knowledge to the public and policy arenas.

Effective strategies for preventing behavioral and health problems come from the accumulated research about the risk factors that lead to problems, and the protective factors that prevent them. Prominent among these risk factors are deleterious environmental conditions such as poverty, economic inequality, and discrimination, conditions that increase stress, conflict, and coercive relationships. Neuroscience, epigenetics and behavioral science converge in showing that stress and conflict contribute to the development of most of the psychological and behavioral problems that reduce quality of life and contribute directly to inflammatory processes that lead to poor health and premature death.

With this knowledge, prevention scientists developed programs and policies to prevent multiple problems. At least 16 family-based programs have been shown to significantly improve the quality of family life and prevent many problems (e.g., antisocial behavior, anxiety, depression, alcohol and other substance misuse, risky sexual behavior, school absences, and academic performance). Numerous tested and effective school-based interventions can prevent multiple problems, from early childhood into adulthood. In addition, more than 40 policies have proven benefits in increasing families' economic and social stability.

Extensive analyses of the costs and benefits of these programs indicate that most cost far less than reactive approaches and they save in reduced healthcare, criminal justice, and educational costs, and in increased income to recipients. And perhaps of greatest importance is the potential for the principles that underlie effective interventions, once infused into our mindsets and daily practices, to have an enduring impact on subsequent generations.

We know the science exists to improve lives on a population level. The challenge is to make this knowledge accessible to the public, as well as to policymakers and administrators in federal, state, and municipal agencies that can use it to improve public policy. Few are aware of the wealth of rigorous and replicated research findings generated by prevention science. The NPSC is committed to informing policymakers and the public about the need to widely implement effective preventive interventions and fully embrace their principles by applying them in our daily interactions with children and youth.

### **NPSC Closes the Gaps**

NPSC addresses the major obstacles that often discourage policymakers from drawing on prevention science to formulate effective policies. Major barriers include:

- Prevention research is captured in academic journals where findings are presented in technical language. NPSC educates policymakers and the public through briefings, policy papers, op-eds, fact sheets, and other means that report the science in an accessible format;
- The volume and complexity of new research is daunting. NPSC helps policymakers to distill and analyze key research, making it relevant to conditions in the districts they represent or regions over which they have jurisdiction;
- Policy makers often lack access to scientists who can interpret new research on prevention science and

draw connections to public policy. NPSC members include internationally prominent experts on the prevention of many of the most common and costly problems our nation contends with. We make ourselves available to policy makers and their staff for consultation and advice;

- Members of Congress and their staff lack personal relationships with researchers, which studies have found is an impediment to the use of research by policymakers. NPSC works to promote relationships between policy makers and researchers based on mutual trust, respect and responsiveness;
- Research findings often remain in silo'd disciplines such as neuroscience or social psychology. NPSC grants policy makers access to interdisciplinary teams who can draw on various fields of study, analyze the best data, and make recommendations to strengthen specific policy proposals; and
- Policy makers have limited access to objective, non-partisan sources of information and analysis on policy. Policymakers embrace NPSC as a source of nonpartisan information and advice which is transparent, honest, impartial, and free of any preconceived policy agenda.
- There are many settings that present opportunities for “knowledge mobilization”, one of 3 key goals for NPSC. We offer resources, informational materials, and expertise to governing bodies, school districts, community groups and stakeholders, primary care settings, foundations, and others that play a role in the nurturance of our children and youth.

## Accomplishments

Since its creation in 2013, the NPSC has made significant progress in advancing the case for prevention. It has:

- Created a coalition of over 700 members and more than 60 nationally prominent organizations to promote prevention. A list of these organizations is available at <http://www.npscoalition.org/affiliations>.
- Formed the Congressional Prevention Policy Caucus to make the science accessible on Capitol Hill.
- Provided training to increase the capacity of NPSC members and scientists to advocate for prevention. We conduct workshops, trainings and resources useful for bridging science and policy.
- Hosted 20 [congressional briefings](#). Topics include school violence, child poverty, prevention of violence against women, childhood poverty, home visiting, police-community relations, budgeting for evidence-based prevention, and the prevention of human trafficking.
- Published numerous essays in outlets such as the *New York Times*, *Huffington Post*, *Baltimore Sun*, *JAMA*, *This View of Life*, and others, plus scholarly papers and books designed to promote greater use of prevention science.
- Provided consultation and technical assistance to the federal Evidence-Based Policy Making Commission and to state and local governments and healthcare and human services agencies regarding implementation of evidence-based prevention.

## Strengthening Our Impact

Scientific evidence of what works holds the key to preventing problems that can ruin lives and devastate communities. Prevention science, which aims to eliminate problems before they take root, has the ability to place children and youth on the track to lead productive and healthy lives. The extensive expertise of NPSC members across multiple disciplines enables us to advise foundations and policymakers regarding implementation of effective practices and policies with potential to prevent the entire range of mental and behavioral problems.

## For more information, contact:

- Diana Fishbein, Ph.D., Research Faculty at Pennsylvania State University, Director of Translational Neuro-Prevention Research at UNC, and Co-Director of the NPSC. [dfishbein@psu.edu](mailto:dfishbein@psu.edu)
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[www.npscoalition.org](http://www.npscoalition.org)

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National Prevention Science Coalition

*to improve lives*

### **WHAT IS PREVENTION SCIENCE?**

#### **Summary:**

For 50 years, Prevention Science has generated practices that improve countless lives by strengthening the conditions for individuals, families, and communities to thrive. A wide range of effective programs and policies are now available to achieve these results. Strategies have been identified that fully support widespread scale-up, increase effective supports, and foster nurturing environments across all communities. By leveraging the policymaking process, we can ensure that the benefits of these advances reach all communities across our country.

#### **Description:**

Prevention science focuses on the development of evidence-based strategies that reduce risk factors and enhance protective factors to improve the health and wellbeing of individuals, families, and communities. Prevention science draws from a diverse range of disciplines—including the epidemiological, social, psychological, behavioral, medical, and neurobiological sciences—to understand the determinants of societal, community and individual level problems (e.g., trauma, poverty, maltreatment). A central tenet of prevention science is the promotion of health equity and reduction of disparities by studying how social, economic and racial inequalities and discrimination influence healthy development and wellbeing. For well over 50 years, prevention science has generated practices and policies that have improved countless lives throughout the lifespan by avoiding negative health and social outcomes (e.g., addiction, academic failure, violence, mental illness) and strengthening conditions that enable individuals, families, and communities to thrive.

The policies, programs, and practices generated by the field have been shown to reduce the incidence and prevalence of individual and community vulnerabilities and to promote healthy lifestyles, including:

- 1) Promoting daily physical activity to protect against chronic disease;
- 2) Disrupting pathways to substance use, abuse and addiction across the lifespan;
- 3) Improving academic and behavioral outcomes with the expansion of high-quality childcare and early learning and development, and promoting positive and supportive school environments;
- 4) Enhancing community-wide capacity to attenuate detrimental conditions and increase access to supportive services;
- 5) Increasing resilience, social competency and self-regulation in order to reduce impulsive, aggressive and off-task behavior; and
- 6) Supporting the development of healthy relationships to reduce interpersonal and domestic violence.

Moreover, evidence-based prevention strategies that address systemic and structural inequalities in neighborhoods, educational, and criminal justice practices have been developed and implemented.



The application of well-tested practices, strategies and policies generated by prevention science can lead to substantial cost-savings by investing in upstream strategies to avoid downstream costs. Examples of these investments include programs that prevent drug use in adolescents, reform educational practices, and support families to reduce the financial and human burden to communities. An integrated delivery system of comprehensive evidence-based prevention strategies that crosses many public sectors (e.g. education, child welfare, juvenile justice, health) is most cost-efficient and exerts wide scale benefits. Providing scientifically-based guidance and resources to legislative and administrative decision-makers will facilitate the integration of best practices from prevention science into policy.

A wide range of effective, well-tested programs and policies are available to achieve these results. Moreover, the field continues to harness the potential for prevention science to improve lives on a population level by further expanding upon the evidence-base. The impact on individual lives, systems (e.g., schools, child welfare), communities, and society can increase exponentially with additional investment of resources and systems to support the development, evaluation, and implementation of evidence-based programs and policies.

# NATIONAL PREVENTION SCIENCE COALITION TO IMPROVE LIVES

## Weblinks

### 1. **The National Prevention Science Coalition to Improve Lives (NPSC)**

[www.npscoalition.org](http://www.npscoalition.org)

The NPSC envisions a society that fosters nurturing environments and caring relationships for the well-being of all. This page highlights the evidence-based productions and projects used to protect individuals and their societies, including recent publications and congressional briefings.

### 2. **The Impact Center at the Frank Porter Graham (FPG) Child Development Institute**

<https://impact.fpg.unc.edu>

The Impact Center at the University of North Carolina at Chapel Hill focuses on how effective prevention strategies are implemented to improve the wellbeing of individuals up to large scale communities. The three focus areas include Implementation Support, Quality and Outcome Monitoring, and Media and Networking.

### 3. **Program for Translational Research on Adversity and Neurodevelopment**

[www.p-tran.com](http://www.p-tran.com)

The Program for Translational Research on Adversity and Neurodevelopment at Pennsylvania State University uses a neuroscientific approach to understand, and therefore prevent, behavioral health issues. The goal of this program is to utilize applied research to impact child development, families, and communities.

### 4. **The Coalition for the Promotion of Behavioral Health**

<https://www.coalitionforbehavioralhealth.org/training-modules/>

The Coalition for the Promotion of Behavioral Health offers four different training modules for students, professionals, and the public created by coalition members. These include: 1) Introduction to Prevention Theory and Concepts, 2) Direct Practice in Prevention, 3) Community Prevention Practice, and 4) Policy Prevention Practice.

### 5. **Life Skills Training Shields Teens From Prescription Opioid Misuse**

<https://archives.drugabuse.gov/news-events/nida-notes/2015/12/life-skills-training-shields-teens-prescription-opioid-misuse>

This article summarizes three interventions given to 7<sup>th</sup> grade students from the PROSPER prevention program (or PROMoting School-community-university Partnerships to Enhance Resilience): 1) Life Skills Training, 2) All Starts, and 3) Project Alert. This overview outlines findings from a four-year follow up, notably a decrease in the use of drugs and/or alcohol.

# Substance Use Prevention Fundamentals Webinar: The Value of Prevention

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## Housekeeping

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https://gotowebcasts.com/viewer/event.jsp?e=1434231&wp\_key=d204c73419

ADAPT  
A Division for Advancing  
Prevention & Treatment  
CULTIVATING PREVENTION

### Community Engagement for HIDTA Prevention

New England HIDTA (Stephanie Thompson & Jack Foster)  
West Texas HIDTA (Mary Ellen Hernandez)  
San Diego and Imperial Valley HIDTA (Aimee Hendle)  
The ADAPT Team

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## Overview

1. What is the Value of Prevention and Why is it so Undervalued?
2. What Value does Cost-Benefit Analysis add to Decision-Making?
3. How to add Cost-Benefit Analysis to your Evidence Toolkit.

1. What is the Value of Prevention and Why is it so Undervalued?

## 1. What is the Value of Prevention

In the last decade, there has been a recognition that governments alone, nonprofits alone, and markets alone cannot address the social ills that are still all too common features of life in America.

- Social ills are not hurdles on the way to a better life—they are impervious barriers to human achievement.
- The root cause is the lack of mobility caused by an opportunity deficit.
- Prevention changes the trajectory of opportunity

### 1A. The Opportunity Gap.

- The lack of opportunity does not result from one thing, it results from many things, and they are insidiously interrelated.
  - Damage begins in childhood when people are hurt by their early experiences.
  - Stress-related to childhood experiences of poverty, instability, and trauma interfere with children's ability to develop needed academic, social, and emotional skills.
  - Cascading patterns of lack of attachment to school, social isolation, and risky behavior including drinking and drug use.

### 1A. The Opportunity Gap, continued.

- The problems compound as individuals grow into adulthood and new barriers emerge
  - Chronic poor health, obesity and disability, low educational attainment, use disorders, and a weak attachment to the labor market where jobs are worked rather than careers being pursued.
  - Chronic diseases such as heart disease and diabetes are caused or exacerbated by
  - Lifestyle risk factors but also
  - Limits on access to healthy food and opportunities for exercise, and,
  - Physiological changes wrought by the stress experienced in childhood.

### 1A. The Opportunity Gap, continued.

These experiences impact the next generation.

- Histories of maltreatment and the chronic stress of poverty and discrimination can interfere with parent's ability to nurture their children.
  - Recent studies suggest that trauma can have effects on gene expression that can be passed on even to generations that do not directly experience the trauma.
  - In other words, the potentially devastating impact of our societal failures may harm future generations at a genetic level.
- Thus, the opportunity gap persists indefinitely.

## 1B. Prevention is a Mechanism for Shared Prosperity.

The prevention literature includes evidence-based, data-driven solutions to create opportunities and reduce risk.

- There is little controversy that evidence-based prevention policies and practices can reduce costs and improve outcomes at the population-level as compared to current remediation-based public policy.
- An ounce of prevention is indeed worth a pound of cure-- high-quality implementation of evidence-based prevention programs can produce large benefit to cost ratios (see Washington State Institute of Public Policy).

### Juvenile Justice

For questions on benefit-cost results relating to Juvenile Justice, contact [Lauren Koob](#).

Program name <small>(click on the program name for more detail)</small>	Date of last literature review	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Functional Family Therapy (FFT) for youth post-release	Mar. 2019	\$146,271	\$34,067	\$114,203	(\$7,910)	\$140,361	\$18.75	100 %
Dialectical behavior therapy (DBT) for youth in state institutions	Jun. 2019	\$49,333	\$10,385	\$38,949	(\$1,514)	\$47,819	\$32.59	93 %
Intensive supervision for court-involved youth (vs. confinement in state institutions)	Jul. 2019	\$17,190	\$865	\$16,325	\$25,968	\$43,179	n/a	100 %
Other (non-name brand) family-based therapies for court-involved youth	Jul. 2019	\$40,878	\$10,667	\$30,211	(\$2,996)	\$37,882	\$13.64	92 %
Parenting with Love and Limits (PLL) for court-involved/post-release youth	Jul. 2019	\$31,451	\$7,624	\$23,826	\$2,770	\$34,221	n/a	100 %
Multidimensional Treatment Foster Care (MTFC) (vs. group homes) for court-involved youth	Jun. 2019	\$40,534	\$11,437	\$29,097	(\$9,442)	\$31,092	\$4.29	90 %
Therapeutic communities for youth in state institutions with substance use disorder	Aug. 2017	\$35,996	\$8,554	\$27,442	(\$4,959)	\$31,037	\$7.26	99 %
Mentoring for youth post-release (including volunteer costs)	Jun. 2019	\$33,294	\$7,564	\$25,731	(\$3,548)	\$29,746	\$9.38	93 %
Other (non-therapeutic communities) substance use disorder treatment for youth in state institutions	Aug. 2017	\$29,131	\$6,414	\$22,717	(\$3,415)	\$25,716	\$8.53	72 %
Step Up for court-involved youth	Feb. 2019	\$24,697	\$6,338	\$18,359	(\$1,389)	\$23,308	\$17.78	83 %
Adolescent Diversion Project (ADP) (vs. traditional juvenile court processing)	Jun. 2019	\$22,799	\$5,855	\$16,944	\$352	\$23,151	n/a	100 %
Education and Employment Training (EET, King County) for court-involved youth	Feb. 2019	\$25,608	\$7,036	\$18,571	(\$3,044)	\$22,563	\$8.41	99 %
Teaching-Family Model group homes (vs. other group homes) for court-involved youth	Mar. 2019	\$26,332	\$6,804	\$19,438	(\$4,978)	\$21,355	\$5.29	88 %
Mentoring for court-involved youth (including volunteer costs)	Jun. 2019	\$22,264	\$6,482	\$15,782	(\$2,736)	\$19,528	\$8.14	85 %
Multisystemic Therapy (MST) for court-involved/post-release youth	May. 2019	\$25,554	\$7,217	\$18,336	(\$8,471)	\$17,083	\$3.02	99 %
Cognitive behavioral therapy (CBT) for youth in state institutions	Jul. 2019	\$16,532	\$3,597	\$12,935	(\$314)	\$16,217	\$32.59	68 %
Functional Family Probation and Parole (FFP) for court-involved/post-release youth	Aug. 2019	\$18,672	\$4,609	\$14,063	(\$4,141)	\$14,531	\$4.51	74 %

### 1C. Why is Evidence so Undervalued?

To understand how prevention is valued by government, must first understand procurement.

- Biden, “show me your budget, and I will show you your values.” Policy is about how \$ are distributed across programs.
- Program funding is about who is deemed eligible/qualified to deliver services.
- Services describe what the programs cost and who they benefit.
- Governments contract with programs and buy outputs not outcomes.

### 1C. Why is Evidence so Undervalued?

Historically, government knows what it spends but not what it buys.

- Obama Budget Director Peter Orzag famously noted that less than 1% of government programs are evidence-based.
- Governments are not risk-averse—they have no idea what outcomes most programs can deliver.
- And, there is a misconception that successful programs can grow into full-fledged evidence-based policies.
  - They will not.



### 1D. Why will Evidence become more Valued?

The marginal cost of data is declining and will eventually approach zero.

- More data is created every two years than in the entirety of human history
- The marginal cost of analysis is declining rapidly (Moore's Law).
- Government is (finally) getting hip to this change
  - The Evidence-Based Policymaking Act of 2018 creates Chief Data Officers in every federal agency.
  - The National Secure Data Service is coming and leverages the Evidence Act.
- Evidence will rapidly begin to accumulate on outcomes and causal mechanisms.

### 1E. Will Prevention become more Valued?

Prevention is massively underfunded, but there are big challenges.

- Prevention is funded through operating budgets, not capital budgets
- Two- and four-year political cycles favor:
  - Narrow interventions over population-level interventions
  - Short-term outputs over long-term outcomes
- This can change with an accumulation of evidence
  - Must measure direct effects and externalities at the population-level
  - Must causally link inputs and impacts
  - Must be translated into dollars for easy consumption by the budget folks.

## 2. What Value does Cost-Benefit Analysis add to Decision-Making?

Cost-benefit analysis is a second-generation evaluation tool for prevention

- Moves beyond the question "Can social problems be prevented?" to more sophisticated questions
  - "Where and when is prevention most efficient?", or,
  - "What factors allow prevention to maximize the net social benefit that it can produce?".
- Expanding both the conceptualization and use of cost-benefit analysis is a critical next step in developing effective prevention policy and programming

## 2A. What Value does Cost-Benefit Analysis add to Decision-Making?

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- Expanding both the conceptualization and use of cost-benefit analysis is a critical next step in developing effective prevention policy and programming

## 2B. Why Cost-Benefit Analysis and not Cost-XXX Analysis?

Cost-benefit analysis puts all of the good and bad into a single metric—dollars. It assumes both sides of the ledger are equivalent.

- Cost-effectiveness analysis only quantifies costs
  - Benefits are measured in terms of outcomes or impacts
  - Creates false negatives—costs are measured precisely, benefits are vague
- Return on Investment (ROI) assumes government exists to profit taxpayers by creating returns to the Treasury
  - This is not the actual purpose of government which is to solve market failures.
- CBA is infinitely flexible, as flexible as the inferential statistician or data scientist can conceptualize

## 2C. What is the Real Role of CBA in Decision-Making?

Governments may not know what they buy, but they know what they spend and they use an implicit CBA to make their spending choices.

- Government may have chosen to invest in education, health, education and crime control instead of transportation infrastructure.
- The decision between competing priorities is one of resource allocation: money is allocated to each up to the point where the perceived marginal costs and benefits are equal, i.e., where an extra dollar spent on more of it — the marginal cost — would give less extra or marginal benefit than spending the dollar on an alternative option, within their given resource constraints.
- In their implicit cost-benefit calculations, governments compare the estimated costs with political realities and often imperfect knowledge or beliefs.
- Governments at all levels make similar decisions in resource allocation between competing social policy priorities

## 2D. Externalities and CBA in Decision-Making

CBA explicitly introduces two critical ideas into decision-making: **externalities** and **opportunity costs**. For population-level prevention, externalities, including spillovers, are critical to understanding the effects of government policy, but are nowhere else included in decision-making.

- Underfunding of prevention is a market failure.
- To understand the magnitude of the investment necessary to optimally fund prevention and correct the market failure, it is necessary to measure all costs and benefits
- This includes costs of current policies that are underestimated and benefits of new policies that omit key benefits

## 2D. Externalities in the Opioid Market

In economics jargon, the market failure resulting in an externality occurs when the actions of one actor affect the welfare of others, but there is no market price for that effect.

- Imagine that a synthetic substitute for heroin was sold by a pharmaceutical company
- Imagine further that the price of one unit of the synthetic drug only reflected the cost of manufacturing and a profit;
- Imagine that consumption of that synthetic led its users to:
  - Lose their jobs
  - Fail to care for their children and family
  - Become sick and require uncompensated medical care
  - Commit crimes
  - Die or become permanently disabled

## 2D. Externalities in the Opioid Market

None of the costs of those harms were included in the price of the prescription

- Some of the harms accrued to the user, some to their community of family and friends, and some to the community at large
- We can now estimate those costs from expert estimates of the costs of mitigation that have emerged from court proceedings. But,
- Shouldn't those harms have been included in the original price? Wouldn't that have effected decision-making?
- Shouldn't the same logic be applied to structural barriers to opportunity?

## 2D. Externalities from Prevention

Fortunately, most of the externalities of prevention are not unintended consequences, but rather (positive) spillovers.

- Multiplier effects for employment
- Productivity from better health
- Harm reduction from reduced victimization
- Inter-generational effects
- Community effects, including economic development
- Quality of life from stable families and communities.

Prevention is generally a public good.

## 2E. Opportunity Costs

Most current CBA studies take an accounting approach, simply summing costs and benefits much like Benjamin Franklin made decisions in the 18<sup>th</sup> century.

- Misses the important idea of the counterfactual.
- A resource, when used for one purpose, cannot simultaneously be used for another purpose, no matter how complementary.
- The most common omitted opportunity cost is time.

## 2E. Opportunity Costs (continued)

A CBA explicitly considers the opportunity cost of the use of a resource, by valuing it in terms of its next best use.

- In our daily lives we apply this in our choices between work and leisure.
  - For 40 hours a week, we value the opportunity cost of an hour of work as greater than an hour of leisure
  - After 40 hours, the value of an hour of leisure exceeds the value of a paycheck for an hour's work.
  - Your experience may vary.

## 2E. Opportunity Costs (continued)

Opportunity Costs are critical because they implicitly consider productivity

- On one hand, a new intervention which increases responsibility will result in lower productivity for each task, as shown in reduced benefits.
- On the other, opportunity cost is valuable to understanding prevention, by explicitly **requiring that the value of business as usual practices are quantified.**
  - In a typical evaluation, the ‘counterfactual’ is simply the baseline from which a new policy or program is expected to show improvement
  - In the CBA framework, the counterfactual must, in essence, defend its value by showing the outcomes it achieves so that they can be compared to the outcomes prevention achieves.

## 3. How to add Cost-Benefit Analysis to your Evidence Toolkit.

- What is a cost-benefit analysis?
- How do we undertake a CBA?

### 3A. Conceptually, what is Cost-Benefit Analysis?

Cost-Benefit Analysis is a way of reporting heterogeneous outcomes using a common measure (generally dollars). CBAs have three steps:

- First, count the cost of all program inputs from all stakeholders. To be complete, this must include all government and non-governmental resources used in the intervention, including in-kind donations and volunteers.
- Second, identify all of the outcomes that changed due to the intervention and whether the program was responsible for that change; and
- Third, translate all of those outcomes into dollars.

### 3B. What are the Requirements for a Cost-Benefit Analysis?

In addition to those three accounting practices, CBA requires:

- That a counterfactual is specified and the opportunity costs of the counterfactual are measured and monetized.
- That all costs and benefits, intended or unintended are measured and monetized; and
- That these are all considered jointly, in a single model.



### 3C. How is a Cost-Benefit Analysis Conducted?

Much of the important work in a CBA has already be done before any data is collected:

- Each of the steps above are conceptual in nature and can be accomplished by thinking hard about the prevention initiative under study.
- Other steps common to CBA are unnecessary for prevention:
  - All prevention CBAs, since they are population-level and intentionally have spillover effects, are measured in terms of their impact on social welfare. No special attention needs to be given to the government or participants.
  - All persons have standing in a prevention CBA.
  - Time horizons are as long as reasonable, not artificially truncated to a year or two.

### 3C. How is a Cost-Benefit Analysis Conducted?

The most practical way to conduct a CBA is to answer these conceptual questions as your undertake an impact evaluation.

- The impact evaluation will include a study design that purposively isolates the effect of the prevention initiative.
- The impact evaluation will measure the programs effect.
- The CBA simply reweights the outcome(s) of the impact study in a common metric dollars.
- The best CBA include ignores costs and benefits (usually as harms) where something bad has a negative sign

### 3C. How is a Cost-Benefit Analysis Conducted?

And the secret sauce.

The best Cost-Benefit Analyses ignores costs and benefits

- Outcomes are simply measured in terms of the resources they consume, or the resources they create
- Resource consumption has a negative sign and resource creation a positive sign.
- Each event is summed across the appropriate unit (a person or a place) and regressed on receipt of the prevention initiative (r not) exactly as it was done to estimate the program effect in the impact evaluation.
- The result is an average effect on resource consumption (in dollars) with a confidence interval reflecting the studies uncertainty.

### 4. The Costs and Benefits of Demand Reduction

There are many approaches to reducing illicit drug use and drug markets

- The central challenges of intervention are:
  - Endogeneity
  - Externalities
  - Opportunity Costs
- Supply and demand are endogenous
  - $Cost = Price \times Quantity$
  - As price goes up, quantity goes down.
    - But price is a reflection of the harm associated with acquiring money for drugs, not clear higher price doesn't bring higher social costs (externalities).
  - Opportunity cost is rarely considered

#### 4. The Costs and Benefits of Demand Reduction

##### School-based demand reduction

- Cost per participant is low
- Endogeneity
  - Shifts the demand curve. Quantity consumed is reduced. But so is price. Elasticity of demand.
- Externalities
  - Positive. Reduces peer influences.
  - Negative. May demystify drugs.
- Opportunity costs.
  - Low. Crowds out some other learning (but can be integrated into the curriculum. Economics lesson?)

## Questions?

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## References

- <https://www.wsipp.wa.gov/BenefitCost>
- <https://www.congress.gov/bill/115th-congress/house-bill/4174>

# The Value of Prevention: Demystifying the Cost-Benefit Analysis

## Additional Web Resources

Organization	Resources
Substance Abuse & Mental Health Services Administration (SAMHSA)	Substance Abuse Prevention Dollar and Cents: A Cost-Benefit Analysis - <a href="https://www.samhsa.gov/sites/default/files/cost-benefits-prevention.pdf">https://www.samhsa.gov/sites/default/files/cost-benefits-prevention.pdf</a>
Office of National Drug Control Policy (ONDCP)	Cost Benefits of Investing Early in Substance Abuse Treatment - <a href="https://obamawhitehouse.archives.gov/sites/default/files/ondcp/Fact_Sheets/investing_in_treatment_5-23-12.pdf">https://obamawhitehouse.archives.gov/sites/default/files/ondcp/Fact_Sheets/investing_in_treatment_5-23-12.pdf</a>
Office of the Assistant Secretary for Planning & Evaluation, US Department of Health and Human Services (HHS)	Guide to Analyzing the Cost-Effectiveness of Community Public Health Prevention Approaches - <a href="https://aspe.hhs.gov/system/files/pdf/74686/report.pdf">https://aspe.hhs.gov/system/files/pdf/74686/report.pdf</a>