

# About Behavioral and Social Sciences Research

From the National Institutes of Health

The 21<sup>st</sup> century is an exciting time — a revolutionary period for the life sciences. We have learned a lot about the biological parts and systems that make up all living things. We also realize that it is just as important to understand how behavior and society affect health and can help fight disease. Combining information from both biomedical and behavioral and social sciences research will lead to the most effective interventions.

## What is Behavioral and Social Sciences Research?

“Behavioral” is a term that covers a lot of ground. It refers to what people do, as well as what drives them to do things, and it involves psychological processes like emotion. “Social,” on the other hand, reflects how individuals interact with each other: in small groups, families, and communities, as well as within populations and in society.



Behavioral and social sciences research helps predict, prevent, and manage illness — in individuals and in whole populations. This research also helps people change their behaviors, understand treatments, and learn how to stick with them. Society’s role is significant, too: access to health care affects decision making and behavior.

The **Heart Truth**<sup>®</sup> campaign educates women about heart disease. In March 2009, 69 percent of women were aware that heart disease is the leading cause of death among women, up from 34 percent in 2000.

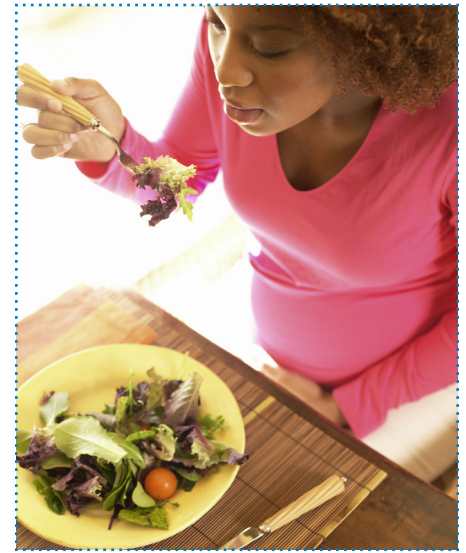
The **Back to Sleep** health awareness campaign that promotes infant back-sleeping cut the incidence of sudden infant death syndrome, or SIDS, by more than 50 percent in a 12-year period.

## What Works?

In recent years, NIH-funded behavioral and social sciences research has led to important wins in the battle against many diseases and conditions that strike Americans throughout life. For example, scientists have learned that:

- ... child-specific household interventions such as mattress covers, air filters, and professional pest control reduce unscheduled clinic visits and medication use in inner-city children with **asthma**.
- ... adults can delay or prevent **type 2 diabetes** through modest lifestyle changes — losing a small amount of weight, eating a healthy diet, and being physically active a total of two and a half hours per week.
- ... increasing condom use, limiting sex partners and delaying sex, increasing acceptance of male circumcision in certain cultures, and increasing access to substance abuse treatment programs reduces the spread of **HIV/AIDS**.

Using social media like text messaging, **Learn the Link** educates young adults about risky behaviors linked to drug abuse, in particular the connection to HIV/AIDS.



**We Can!** behavioral educational programs for children ages 8 to 13 and their families encourage healthy eating, increased physical activity, and reduced screen time.

- ... behavioral therapies help engage people in treatment for **drug abuse**, modify drug-use attitudes and behaviors, and improve life skills to promote recovery.



- ... people who have recently attempted **suicide** were 50 percent less likely to try to kill themselves again within 18 months when they were treated with a certain type of psychotherapy.
- ... a mix of behavioral, economic, social, and public policy interventions has contributed to a dramatic decline in **smoking** among American men: 25 percent now smoke compared to about 50 percent in the mid-1960s.
- ... even moderate **exercise** and physical activity can help improve and maintain physical strength and fitness, as well as manage and prevent some diseases that accompany aging.

## What's the Need?

Unhealthy behaviors like smoking, excessive alcohol consumption, and drug abuse — as well as inactivity and poor diet — raise the risk for many debilitating and costly health problems. Collectively, these behaviors contribute to approximately 40 percent of all deaths in the United States. Behavioral and social sciences research has never been more timely and important, and the NIH sees great opportunities to apply what we have learned toward helping change people's behaviors to improve their health and well-being.

The **Rethinking Drinking** program gives individuals user-friendly, interactive, anonymous tools to measure and modify behaviors related to alcohol consumption.

### Obesity

About one-third of all U.S. adults and nearly one-fifth of the nation's children are obese, raising risk for a variety of health conditions including heart disease, type 2 diabetes, sleep disorders, some cancers, and osteoarthritis.

### Addiction

The annual economic costs of illicit drug use in the United States are about \$181 billion. Yet, as staggering as this number is, it does not reflect the devastating consequences of drug abuse and addiction on individuals, families, communities, and society as a whole.

### HIV/AIDS

More than 20 million people worldwide have died from AIDS-related illnesses, and unsafe sex and substance abuse are major contributing factors.



### Heart Disease

Promoting lifestyle and behavioral changes — increasing physical activity, quitting smoking, and lowering cholesterol and salt — could save thousands of Americans from their number-one killer: heart disease.

### Alcohol Abuse

Alcohol is a factor in about 50 percent of drownings and homicides, 40 percent of burns and motor vehicle crashes, 30 percent of suicides, and half of all sexual assaults.

### Mental Illness

Major mental disorders like depression and anxiety affect about one in four American adults in a given year and are the leading cause of disability among people ages 15 to 44 in the United States and Canada.





## How Do Scientists Study Behavior and Society?



Behavioral and social sciences researchers use a range of methods. Understanding how and why individuals behave — and how they interact with each other and their environment — relies on many different approaches and types of measurement.

### Real-Time Data

Studying people where they are, in real life, is key. Using a method called ecological momentary assessment, or EMA, scientists collect real-time or near-real time data during the course of a participant's daily life. This technique is valuable because it doesn't rely on people remembering what they did and helps control for accuracy in reporting.

### Community-Based Participatory Research

Language and cultural barriers often block effective prevention messages from reaching people at risk. By partnering with community members, researchers are better informed about community needs and can learn the best ways to tailor the delivery of information and interventions.

### Animal Models

Scientists use a range of animal models to learn about human behavior. Fundamental studies in honeybees, fish, and hamsters have taught us about social behavior, for instance, and genetic research with fruit flies has helped explain circadian rhythms and why people need sleep.

### Sociocultural Approaches

Effective prevention and treatment of HIV/AIDS, hepatitis, and sexually transmitted diseases is enhanced by evidence-based understanding of various behavioral, social, and cultural factors — including stigma and what motivates behavior change.



### Genome Scans

Identifying reliable risk factors is a key component of effective prevention. Behavioral researchers team with geneticists to unravel relationships between genes and lifestyle, since both contribute to our health.



### Computer Models

Computer software can help researchers study problems not easily examined in real life, by simulating behaviors of individuals and groups living in real locations. This approach allows scientists to watch what happens as an epidemic spreads through a population, for example, and then predict how different interventions might stop it.

### Brain Imaging

Modern technology allows us to see inside the living brain to understand how behaviors influence brain activity, how individual differences in brain structure and function affect disease, and even how people receive and remember health promotion messages.

## How Does NIH Research on Behavioral and Social Issues Help Americans?

All research funded by the NIH is carefully evaluated by scientific experts to assure that it is high-quality and safe, and that it answers questions related to the mission of the NIH. Whether the research occurs in the United States or in an international setting, what we learn from carefully constructed scientific studies often benefits Americans. The goal of this research is to understand behaviors that contribute to increased health risks, as well as how they can be changed in real-world settings.



## Questions About a Grant?

The NIH posts brief summaries of all funded research projects. Simply visit the NIH RePORTER Web site (<http://projectreporter.nih.gov/reporter.cfm>), type in a key word, scientist name, grant number, or grantee institution, and retrieve a summary of the project. This data is continually updated and open to the public.

The **National Diabetes Education Program** translates the latest science and spreads the word that diabetes is serious, common, and costly, yet controllable — and, for type 2 diabetes — preventable.

## What's Next?

In November 2009, the NIH launched the Basic Behavioral and Social Science Opportunity Network (<http://oppnet.nih.gov/>), a trans-NIH initiative to expand the agency's funding of basic behavioral and social sciences research. Because behavioral research studies are important across all areas of health and disease, most of the NIH will participate in supporting this important initiative, using pooled NIH funds.

In addition, the NIH Roadmap for Medical Research (<http://nihroadmap.nih.gov/behaviorchange>) has begun a Science of Behavior Change (<http://nihroadmap.nih.gov/behaviorchange>) program to improve our understanding of human behavior change across a broad range of health-related behaviors. This research aims to weave together basic and translational science, cutting across many areas of science and medicine.



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## Learn More

Aim for a Healthy Weight: Assess Your Risk

[http://www.nhlbi.nih.gov/health/public/heart/obesity/lose\\_wt/risk.htm](http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/risk.htm)

Back to Sleep Public Education Campaign

<http://www.nichd.nih.gov/sids/>

Basic Behavioral and Social Science Opportunity Network

<http://oppnet.nih.gov/index.asp>

Exercise and Physical Activity for Older Adults

<http://nihseniorhealth.gov/exerciseforolderadults/toc.html>

Health Behaviors of Adults, United States, 2005-2007, CDC

[http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_245.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_245.pdf)

Heart Truth® Campaign

<http://www.nhlbi.nih.gov/educational/hearttruth/>

Learn the Link

<http://hiv.drugabuse.gov/index.html>

Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. JAMA. 2004;291(10):1238-45

[http://jama.ama-assn.org/cgi/content/abstract/291/10/1238?ijkey=34e68b6b32dfaaf67802d7a9408d97a912f17cd5&keytype=tf\\_ipsecsha](http://jama.ama-assn.org/cgi/content/abstract/291/10/1238?ijkey=34e68b6b32dfaaf67802d7a9408d97a912f17cd5&keytype=tf_ipsecsha)

Models of Infectious Disease Agent Study

<http://www.nigms.nih.gov/Initiatives/MIDAS/>

National Diabetes Education Program

<http://ndep.nih.gov/>

NIDA for Teens: the Science Behind Drug Abuse

<http://teens.drugabuse.gov/>

NIH RePORTER

<http://projectreporter.nih.gov/reporter.cfm>

Office of Behavioral and Social Sciences Research

<http://obssr.od.nih.gov/index.aspx>

Rethinking Drinking

<http://rethinkingdrinking.niaaa.nih.gov/>

Ways to Enhance Children's Activity & Nutrition

<http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/index.htm>