

Report Findings

Based On A National Survey of Adults

Conducted On Behalf Of:

**The Woodrow Wilson International Center for Scholars
Project on Emerging Nanotechnologies**

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From August 23 to August 27, 2006, Peter D. Hart Research Associates, Inc., conducted a nationwide survey among 1,014 adults. At the 95% confidence level, the data's margin of error is ± 3.1 percentage points.

Overview

The American public is familiar with three federal agencies—the FDA, EPA, and USDA—that have the potential to play critical roles in nanotechnology oversight and regulation.

While the FDA's and the EPA's job approval ratings have dipped in recent years, the public is more comfortable with the federal government taking on the oversight and regulation of scientific and technological advancements than with private companies or industry self-regulating these advancements.

While nanotechnology awareness is increasing, the large majority of Americans still have heard little or nothing about it. Furthermore, among those willing to voice an opinion about the risks versus the benefits based on what they know today, they are twice as likely to think that the risks will outweigh the benefits than to believe that the benefits will outweigh the risks.

A large proportion of the public does not have an opinion of the trade-offs between risks and benefits, however. In fact, some of the demographic groups most likely to use cosmetics and skin care products (women, especially women over 50) are the least informed and therefore the most reluctant even to have an opinion about nanotechnology at this point.

The current lack of awareness of nanotechnology presents an opportunity for the government and industry to establish confidence in nanotechnology-enabled products. Now is the time to focus on increasing public awareness and understanding of nanotechnology and establish a level of trust that nanotechnology's benefits will be realized and its risks will be minimized. It will be critical to provide the public with clear and understandable information about nanotechnology—what it is, what the potential benefits are, what the potential risks are, and how these risks are being managed by government and industry—before misinformation and skepticism have the chance to take root.

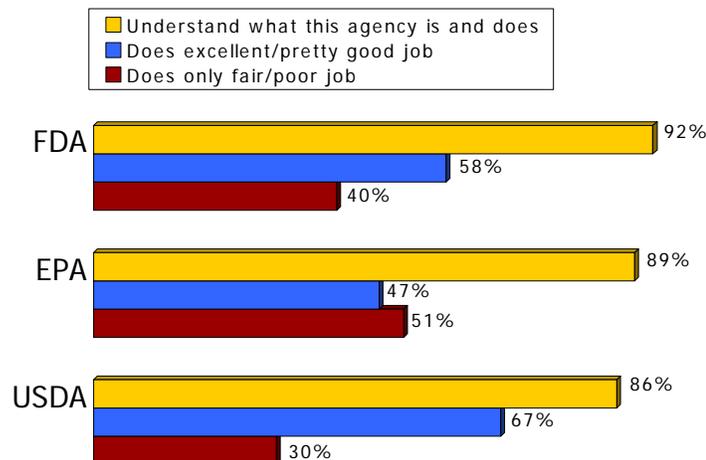
Key Findings

Large majorities of Americans say that they understand what the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), and the U.S. Department of Agriculture (USDA) do. The public's job approval ratings of these three federal agencies that may be involved in regulating nanotechnologies vary notably.

While the public believes that it has a firm understanding of what the FDA, the EPA, and the USDA do, it is most familiar with the FDA, with 92% of the public stating that it understands what the FDA is and what it does. Familiarity with the EPA (89%) and USDA (86%) also is high.

Job approval ratings of the FDA, EPA, and USDA vary considerably. Among adults who say they understand what the USDA does, more than two-thirds (67%) rate it as doing a pretty good or excellent job. This represents a slight decline of two percentage points from the public's approval rating of the USDA in 2005¹ but it remains the highest approval rating of all three agencies. Today, three in ten Americans think that the USDA is doing an only fair or poor job.

Familiarity And Approval Ratings For Government Agencies



There has been a fairly steady erosion of the public's FDA approval ratings over the past five years. During this period, the proportion of the public rating the FDA as doing a pretty good or excellent job has steadily declined from 68% in 2003² to the current low of 58%, which has been consistent for the past two years³. The FDA's negative job rating is at the highest level

¹ Harvard School of Public Health, 2005.

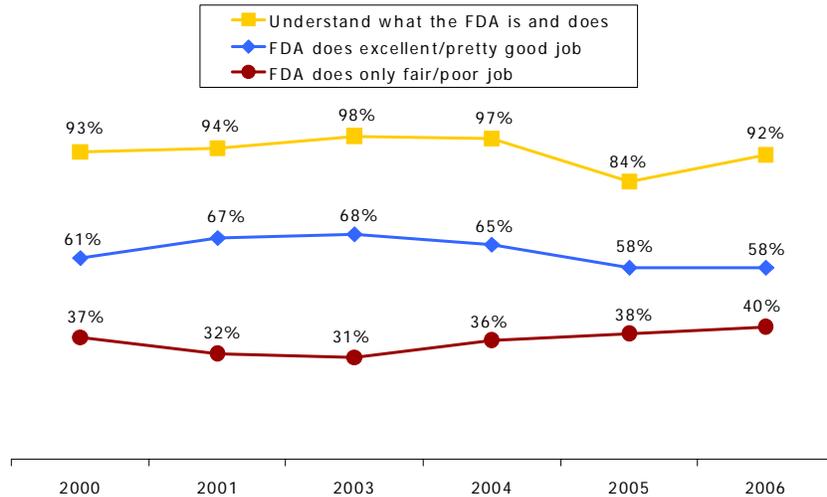
² Harris Interactive, 2003.

³ Harvard School of Public Health, 2005.

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measured in five years; the proportion of the public rating the FDA as doing an only fair or poor job has increased from 31% in 2003⁴ to 40% in 2006.

Familiarity And Approval Ratings For The FDA Over Time



Among these three agencies, the public awards the EPA its lowest job approval rating, with 47% rating the EPA as doing a pretty good or excellent job and just more than half (51%) rating the EPA as doing only fair or poor. Public approval ratings of the EPA also have been on a steady decline over the past five years, falling from almost two-thirds (65%) of the public giving them marks of pretty good or excellent in 2001⁵.

The public has greater confidence in the USDA, the FDA, and the EPA than it does in business and companies to maximize benefits and minimize risks associated with scientific and technological advancements.

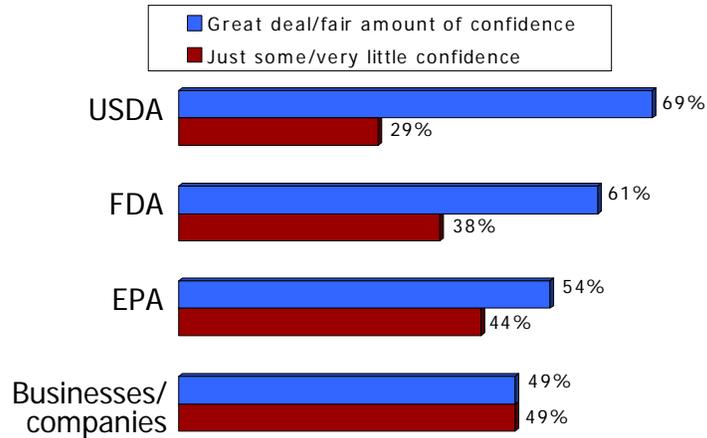
While public approval ratings for all three agencies have declined in recent years, the majority of the public has a fair amount or a great deal of confidence in the USDA, the FDA, and the EPA to maximize benefits and minimize risks associated with scientific and technological advancements in the industries they monitor.

⁴ Harris Interactive, 2003.

⁵ Harris Interactive, 2001.

Public Confidence In Agencies/Business

Confidence in Each to Maximize Benefits & Minimize Risks of Scientific/Technological Advancements

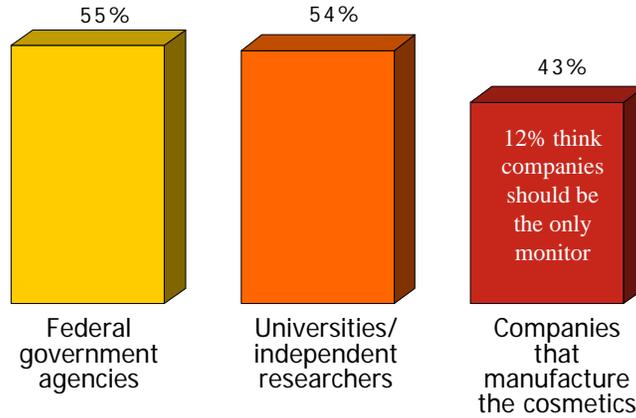


Fewer than half (49%) of the American public has the same confidence in businesses and companies to maximize benefits and minimize risks of new products and technologies they produce.

A majority of Americans believe that the federal government and universities or independent researchers should have a role in monitoring non-prescription over-the-counter (OTC) cosmetics and skin care products. Very few Americans think that companies should do so exclusively.

When asked who should monitor non-prescription OTC cosmetics and skin care products, 55% believe that the government should have some role, 54% believe that universities and independent researchers should have some monitoring role, and 43% think that companies that manufacture these products should play a role. Only 12% of the public believes that the role of monitoring OTC cosmetics and skin care products should be the *exclusive* responsibility of the companies that manufacture those products. The sentiment that the federal government and independent researchers are better suited to monitor cosmetics and skin care products crosses political boundaries. Fifty-five percent of independents and 56% of both Republicans and Democrats believe the federal government should be involved in monitoring these products.

Who Should Monitor Cosmetics For Safety And Effectiveness?



While nanotechnology awareness has increased over the past two years, the majority of the public still has heard little or nothing about it.

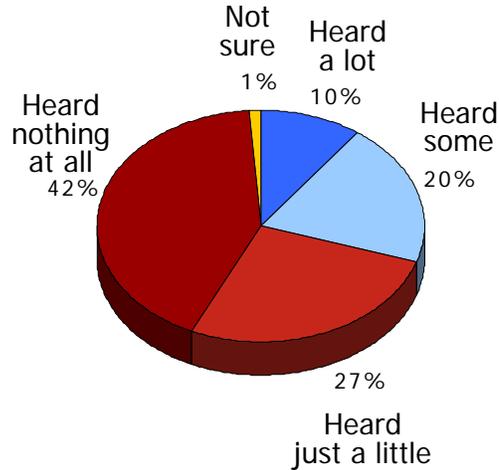
Public awareness of nanotechnology is increasing, as the proportion of Americans who say they have heard a lot or some about nanotechnology has nearly doubled from 16% in 2004⁶ to 30% today.

One in ten Americans says that they have heard a lot about nanotechnology, and 20% say they have heard some. However, fully 69% recall hearing just a little or nothing about nanotechnology. Indeed, a large segment of the public, 42%, has heard nothing at all about nanotechnology.

⁶ Cobb and Macoubrie 2004.

Public Awareness Of Nanotechnology

How much have you heard about nanotechnology?

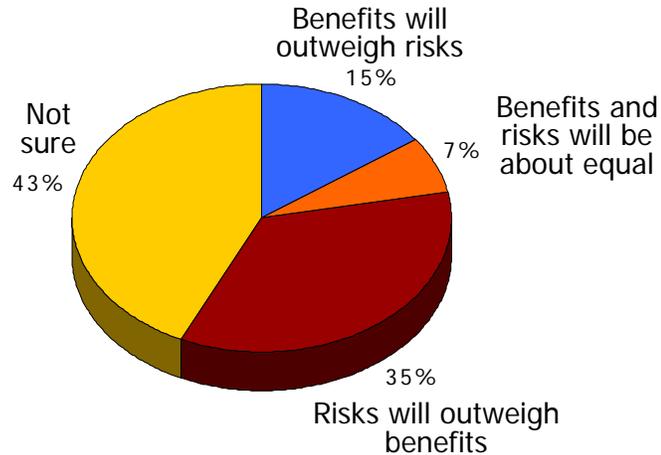


Eighteen- to 49-year-old men, adults with at least a college education, and adults with higher incomes are more likely than average to have heard at least some about nanotechnology. Older Americans and women are the least likely to be familiar with nanotechnology. Only 12% of men and women age 65 and over have heard some or a lot about nanotechnology and 59% have heard nothing at all. Only 17% of women age 50 and over have heard at least some about nanotechnology, with only 1% reporting that they have heard a lot.

The public is initially skeptical of the trade-offs between the risks and benefits of nanotechnology. A substantial portion, however, is too unsure to make a judgment at all.

When asked for their unaided evaluation of the trade-offs between the risks and benefits of nanotechnology, more than one-third (35%) of the public believes that the risks will outweigh benefits, 15% think the benefits will outweigh risks, and 7% say that the risks and benefits will be about equal. However, a large segment of the public has no initial impression of nanotechnology, with 43% indicating they are not sure.

Initial Impression Of Risks And Benefits Of Nanotechnology



A clear association can be made between nanotechnology familiarity and impressions about its risks and benefits.

Individuals who have heard more about nanotechnology are more likely to think that the benefits will outweigh the risks. As familiarity with nanotechnology decreases, concern about risks increasingly takes priority over the potential benefits. Of those who have heard a lot about nanotechnology, 46% feel that benefits will outweigh risks and 37% feel risks will outweigh benefits. Of those who have heard some about nanotechnology, 32% feel that benefits will outweigh risks and 42% believe risks will outweigh benefits. For those who have heard just a little, 13% feel that benefits will outweigh risks and 52% feel risks will outweigh benefits. For those who have heard nothing at all about nanotechnology, only one-quarter (26%) are willing to make a judgment about the trade-offs between risks and benefits—2% feel benefits will outweigh risks, 20% believe risks will outweigh benefits, 4% believe risks and benefits will be equal, and a large majority (73%) are not sure. (See detailed results in table on page 9.)

Among all major demographic groups, those willing to take a position on nanotechnology are more likely to think that the risks will outweigh the benefits than that the benefits will outweigh the risks.

Women are significantly more likely than are their male counterparts to be unsure about the trade-offs between the risks and benefits of nanotechnology. More than half (52%) of all women are not sure about the trade-offs (compared with 34% of men) and 58% of women age 50 and over are not sure (compared with 42% of men the same age).

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With the increasing use of nanotechnology to create new cosmetic and skin care products, these findings indicate the need to provide more information to the groups most likely to use these products—women, especially women over 50.

After being provided information about nanotechnology's potential risks and benefits, the proportion of Americans who believe that the benefits outweigh the risks increases; however, an even greater increase exists in the proportion who believe the risks outweigh the benefits.

Adults were read the following information about nanotechnology, and then were asked again to decide whether the benefits of nanotechnology will outweigh the risks, the risks will outweigh the benefits, or will the risks and benefits be about equal.

Nanotechnology is the ability to measure, see, predict, and make things on the extremely small scale of atoms and molecules. Materials created at the nanoscale are called nanomaterials, and they often can be made to exhibit very different physical, chemical, and biological properties than their normal-sized counterparts.

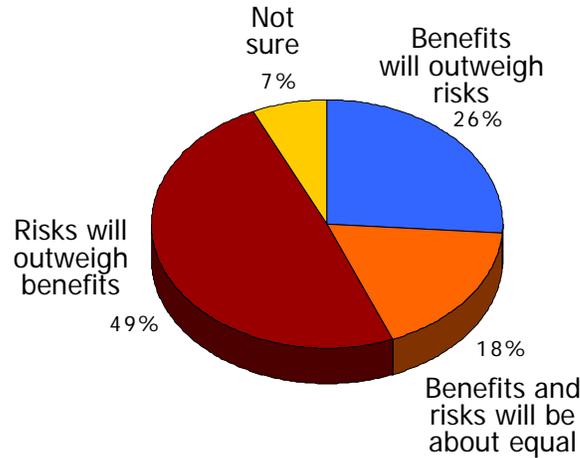
I would like to read you statements about the potential benefits and potential risks of nanotechnology and get your reaction.

The potential BENEFITS of nanotechnology include the use of nanomaterials in products to make them stronger, lighter, and more effective. Some examples are food containers that kill bacteria, stain-resistant clothing, high-performance sporting goods, faster, smaller computers, and more effective skin care products and sunscreens. Nanotechnology also has the potential to provide new and better ways to treat disease, clean up the environment, enhance national security, and provide cheaper energy.

While there has not been conclusive research on the potential RISKS of nanotechnology, there are concerns that some of the same properties that make nanomaterials useful might make them harmful. It is thought that some nanomaterials may be harmful to humans if they are breathed in and might cause harm to the environment. There also are concerns that invisible, nanotechnology-based monitoring devices could pose a threat to national security and personal privacy.

When asked again about the trade-offs between the risks and benefits of nanotechnology, after being provided this additional information, nearly half (49%) of the public indicates risks will outweigh benefits, which is a 14-point increase; 26% indicate benefits will outweigh risks, an 11-point increase; and 18% think risks and benefits will be about equal, an 11-point increase.

Informed Impression Of Risks And Benefits Of Nanotechnology



Adults with prior nanotechnology familiarity remain more likely than average to feel that benefits will outweigh risks. Among adults who have heard a lot about nanotechnology, the gap between those who feel benefits outweigh risks (53%) and those who feel risks outweigh benefits (34%) widens. Only for this group, however, does the proportion feeling risks will outweigh benefits decrease. For all other groups it remains steady or increases.

Initial And Informed Impressions Of Nanotechnology

	Initial Impressions		Informed Impressions	
	Benefits Outweigh Risks	Risks Outweigh Benefits	Benefits Outweigh Risks	Risks Outweigh Benefits
All adults	16	35	26	49
Men	21	39	34	45
Women	10	31	19	53
Age 18 to 34	20	41	31	45
Age 35 to 49	18	34	25	53
Age 50 to 64	15	36	25	52
Age 65 and older	7	26	20	47
Men 18 to 49	25	40	35	44
Men 50 and over	17	36	32	47
Women 18 to 49	12	35	21	54
Women 50 and over	8	28	16	52
Less than \$30,000	11	38	21	48
\$30,000-50,000	11	34	21	56
\$50,000-\$75,000	16	39	26	53
More than \$75,000	26	34	38	41
Heard a lot	46	37	53	34
Heard some	32	42	35	48
Heard just a little	13	52	25	52
Heard nothing	2	20	16	52

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For some segments of the public, the shift toward risks is substantial (see table). For example, for women age 50 and over, the proportion indicating risks will outweigh benefits increases from 28% to 52%. Older Americans and middle-income individuals also show a significant increase in the proportion indicating that risks will outweigh benefits.

Perhaps the biggest area of concern for those involved in the public discourse about regulatory oversight of nanotechnologies lies in the large segment of the American public who has no familiarity with nanotechnologies. For this subgroup, there is significant movement toward the perspective that risks will outweigh benefits after providing just a little information, with the proportion increasing 32 points from 20% to 52%.