The Center for Nanotechnology in Society
ARIZONA STATE UNIVERSITY

Citizens' Report Addresses Nanotechnologies Used for Human Enhancement, April 2009

A new area of technological change has been emerging: the "converging technologies" of nanotechnology, biotechnology, information technologies, and cognitive science (NBIC). Many observers believe that these new technologies could lead to radical and pervasive enhancements of human abilities. Both supporters and critics of NBIC technologies acknowledge that their continued development portends dramatic social and cultural challenges.

Stakeholders see a need for *informed citizen input* early in the process of developing such technologies. The National Citizens' Technology Forum (NCTF) was one such effort at public input on the topic of NBIC technologies used for human enhancement.

The Center for Nanotechnology in Society at Arizona State University and its collaborators at North Carolina State University have released the final NCTF report (#R08-0002) discussing findings from reports of the six panels of citizens from across the nation who participated in the forum, as well as results from surveys of the participants before and after their deliberations.

The citizens' reports detail:

- concern over the effectiveness of regulations for NBIC technologies and support for developing international safety standards for them;
- desire for public information, including more public deliberative activities and K-12 education, about NBIC technologies;
- concern for the equitable distribution of NBIC technologies; and
- preference for *therapeutic* over *enhancement* research.

The surveys show:

- significant learning, and formation and changes of opinion among the participants;
- extensive hope and increased worry about new NBIC technologies; and
- opposition to a number of hypothetical enhancement technologies described in the background literature.

The report concludes that average citizens want to be involved in the technological decisions that shape their lives. After learning and deliberating about NBIC, citizens remained strongly supportive of research that could produce transformational technologies, provided they had access to reliable information about it and there was trustworthy oversight of its development. With access to accurate and varied sources of information, including experts' opinions, citizens are capable of generating thoughtful, informed and deliberative analyses that deserve the attention of decision-makers.

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