tobacco control. The laboratories for this great experiment are the states and local communities; the studies are being conducted by health advocates using tools of advocacy and media.

Now is the time to continue those studies. Now is the time for the National Cancer Institute to build on the foundation of ASSIST and move to the next level of tobacco control research.

HARMON EYRE
American Cancer Society, 1599 Clifton Road, NE, Atlanta, Georgia 30329, USA; email: helye@cancer.org

The future of NCI’s smoking research agenda

Stan Glantz has joined a small chorus beseeching the National Institutes of Health in general and the NCI in particular to greatly expand its tobacco control research agenda. As usual, Glantz does it provocatively and articulately and puts forth his own proposed agenda.

Glantz is correct in asserting that the NCI has not had a programmatic tobacco research programme since the Smoking and Tobacco Control Program developed by Joe Cullen culminated in the ASSIST programme. It is also hard to avoid the implications of the huge discrepancy Glantz noted between the impact of tobacco on cancer morbidity and mortality and the proportion of the NCI’s budget devoted to tobacco control research. The NCI may well feel that, given the relatively large expenditures for the COMMIT and ASSIST community and state-level trials, tobacco research has been taken care of and it is time to move on to other risk factors. I strongly agree with Glantz’s argument that such a move would be greatly premature and unfortunate. There are major gaps in our knowledge about tobacco control that need to be addressed via research. Given the size of its budget and its prior history, the NCI should take the lead in developing a plan for tobacco research.

Glantz’s particular “wrinkle” is to argue for large population studies that would take off from the accomplishments of ASSIST and capitalise on variation in state activities—which exist in part because some states are now engaged in tobacco control funded by dedicated tax monies—to learn about the relative effectiveness of population-level tobacco control interventions. Glantz has, in effect, drafted the essentials of a persuasive Request for Proposals (RFP) that the NCI might issue. It is an RFP that would likely have an expensive price tag attached. Such research would be worth paying for, given the mortality and morbidity stakes that are involved. Some of the elements in Glantz’s RFP are consistent with research directions that I proposed in a paper that was commissioned by the NCI. Both Glantz’s recommendations and mine could and should be addressed through investigator-initiated proposals. I would urge investigators to take on portions of Glantz’s agenda. Building upon the accomplishments of ASSIST, however, requires that ASSIST submit its methods and results for review by the science community. As Glantz notes, the CDC has important evaluation expertise to contribute, and state health divisions are getting into the act as they monitor the smoking control programmes supported by dedicated tax monies. But the NCI retains primary responsibility for advancing the science of population-based tobacco control. Glantz is correct in noting that innovative methodologies will be needed to tease out causation in population studies where experimental control may be quite limited. Let us hope that NCI’s newly reorganised Division of Cancer Control and Population Science takes the latter part of its new name seriously.

EDWARD LICHENSTEIN
Oregon Research Institute, 1715 Franklin Boulevard, Eugene, Oregon 97403-1983, USA; email: ed@ori.org


Tobacco control in the United States: the next generation of demonstration and research projects

As noted in the above commentary by Glantz, the landscape for tobacco control in the United States is changing dramatically due to unprecedented leadership in our national government, state-based efforts to increase tobacco taxes and to sue tobacco companies and local measures to restrict the use of and access to tobacco. Based largely on the favourable evaluation results of the NCI’s ASSIST trial, Glantz calls for a new NCI-coordinated programme (SCIENCE) for tobacco control research and development.

It is worth noting that the primary goal of ASSIST is to “reduce smoking prevalence
among adults to 17 percent in ASSIST states by 1998\textsuperscript{22} (from a baseline of 24.1% in 1992–
1993). This indicator is being measured by surveys at baseline (1992–1993), midpoint (1995–1996), and endpoint (1998–1999). To support his recommendation to launch SCIENCE, Glantz relies mainly on the work of Manley et al\textsuperscript{24} examining per capita cigarette consumption in ASSIST states, compared with non-ASSIST states. This research showed a promising 7% difference in consumption between intervention and comparison states.\textsuperscript{44} Despite this suggestive evidence, final data on the main outcome endpoint noted above will not be available for two to three years. As observed earlier in COMMIT,\textsuperscript{33,34} secular (decreasing) trends in comparison states’ smoking rates may lessen the likelihood that differences in smoking patterns between ASSIST and non-ASSIST states will be detected.

In light of these issues, does the evidence suggest that we should wait several years before deciding whether dissemination or a new round of demonstration and research trials, or both, are warranted? On this point, we agree with Glantz that the answer is emphatically “No”. Plans for further work in this area should be developed with great urgency.

In conjunction with this urgency, consideration of strategic planning issues is needed. Glantz contends that “The issues of NCI’s future research agenda for large-scale tobacco control interventions and the CDC’s future expansion are fundamentally different questions which need to be addressed independently.” However, we suggest it is essentially impossible to “un-couple” these issues—resources are always finite and public health efforts to control tobacco use relate to numerous federal agencies. The follow up to ASSIST should be a strategic national initiative in tobacco prevention and control, initially coordinated at the level of the US Secretary of Health and Human Services (HHS). Major input is essential from the Surgeon General, the relevant federal agencies, policy makers, academic researchers, public health practitioners (within and outside state and local public health agencies), and other community health advocates. Planning should consider numerous factors and programmes currently in the field, including ASSIST, COMMIT, the CDC’s IMPACT programme, and the Robert Wood Johnson Foundation’s Smokeless Statewide programme. The Secretary of HHS should articulate an agenda of explicit research questions that clearly outline the complementary roles of NCI and CDC. For example, the NIH and the CDC are jointly supporting a series of focused, competitive grants within the Community Prevention Study of the Women’s Health Initiative.\textsuperscript{37} A similar model should be considered for the present issues in tobacco control.

Glantz argues for new SCIENCE awards to research institutions and state and local tobacco control coalitions. We believe a clearer distinction is needed between roles in tobacco control demonstration (public health intervention) and those in tobacco control research.

Separate from research needs, tobacco control is a core public health function deserving of more attention from state and local health agencies due to the health burden from tobacco use and the availability of effective interventions.\textsuperscript{28} In all likelihood, research institutions will have less “savvy” about day-to-day policy considerations, and public health agencies will be less inclined to conduct research. Therefore, careful consideration must be given to the design and programmatic structure of new grants and contracts. In a given geographical location (a state or large city), two parallel awards could be provided—one to a public health agency for intervention activities and another to a research institution for evaluation of interventions. Such a funding arrangement should accelerate the diffusion of research to practice. Widespread dissemination is especially appropriate following the completion of ASSIST because it represents the logical next phase after the conclusion of phase V research (demonstration and implementation).\textsuperscript{29}

We will also highlight two related points. First, in developing the next generation of tobacco control demonstrations, it is critical that the array of potential interventions be evidence-based. These should take into account the “lessons learned” to date. For example, Oregon has developed a “toolkit” of best practices in tobacco control that illustrates the increasing sophistication of public health agencies.\textsuperscript{30} A set of guidelines for community preventive services, currently under development, should augment these efforts.\textsuperscript{31} Second, we are supportive of Glantz’s notion to study the potential “dose-response” relationships between the size of various state-based tobacco control programmes and performance indicators. Such an evaluation should also take into account qualitative factors that may predict programme initiation and success.

In summary, we are in the midst of a critical period in the history of tobacco control in United States. We thank Glantz for stimulating more dialogue on future intervention and research in tobacco control—this discussion is critical for ensuring that public health opportunities are not missed.

ROSS C BROWNSON
Department of Community Health and Prevention Research Center,
School of Public Health, University of Mississippi Medical Center,
3663 Lindell Boulevard, St Louis, Missouri 63108–3342, USA; email: brownson@ummc.edu
RANDY SCHWARTZ
Division of Community and Family Health,
Maine Bureau of Health, 11 State House Station, Augusta, Maine 04330, USA; email: hrschwartz@state.me.us

28 Statements by President Bill Clinton and the US Food and Drug Administration on regulations to restrict the marketing, sale, and distribution of tobacco to children. Tobacco Control 1999;4:299–300.
In support of SCIENCE

Americans for Nonsmokers’ Rights (ANR) is the country’s only national organisation representing individuals seeking to enforce their right to breathe clean air, free of the toxins of secondhand smoke. Through its long history, tireless efforts, and continuous application of the trial-and-error method, ANR has learned the important basic rules of how to achieve this goal. We humbly offer that vast body of knowledge and experience as part of our petition for continued federal support of ASSIST-like programs.

The NCI, charged with leading the nation’s war against cancer, spent at least a decade searching for the “safe” cigarette. Then NCI came to understand that it would be much more effective and efficient simply to help people not to smoke. The Institute spent the next 15 years researching effective interventions toward this goal. What that research demonstrated, and what tobacco control advocates everywhere now understand, is that, while we approached tobacco use in the traditional disease model—attempting to “cure” one smoker at a time through cessation programmes, and to forestall initiation through prevention programmes similarly aimed at individuals—we were doomed to fail. With tobacco advertising and promotional expenditures reaching as high as $6 billion per year, we would never be able to “uneconomically” (= nearly as quickly as the industry could sell them).

Great insights have come from our understanding of the limitations of these approaches based on the individual disease model, which ignored the control that tobacco companies maintained over the social environment in which individuals made their decisions whether or not to smoke. Tremendous advances in tobacco control have come from our more recent efforts not to change individuals, but to alter the environments in which individuals make healthy or unhealthy decisions.

For the past seven years, NCI has funded large-scale intervention research, under the acronym ASSIST, that has proven this approach to be effective. ASSIST should be thought of as a clinical trial representing a unique partnership among the NCI, the American Cancer Society (ACS), state health departments, and public and private organisations across the country. ASSIST has applied the body of research on tobacco use prevention and control toward reducing the prevalence of smoking (and incidentally, cleaning the air that non-smokers are also forced to breathe), with amazing success.

Although ASSIST is the largest and most comprehensive tobacco control project ever sponsored by the federal government, and although tobacco control is involved in a third of all cancer deaths, ASSIST comprises only 1% of NCI’s total budget. In fact, the total annual budget of ASSIST is only 0.0062 of the $100 billion in direct healthcare services and lost productivity that tobacco use costs this country each year. Given the incredible reductions in tobacco consumption during the first half of the intervention phase, ASSIST represents one of the greatest, and most cost-effective, successes ever supported by the federal government for improving the health and lives of our citizens.

If ASSIST were a drug or a vaccine, pharmaceutical manufacturers in the private sector would be competing fiercely for the right to conduct further research and development, and then to market it for profit.

However, the ASSIST’ clinical trial is different. Although the profits in selling cigarettes are almost unfathomable, there is no profit in programmes that successfully reduce tobacco use. This is why the federal government’s role in continuing to support research and development of community-based interventions is absolutely indispensable.

The federal government, in particular the NCI, must take what we have learned in ASSIST to the next level by supporting...