Shaping the Future of Research
The NHLBI Strategic Plan

Elizabeth G. Nabel

With the extensive involvement of the communities it serves, the NHLBI has just completed development of a scientific working plan to guide its activities and initiatives in the near future. *Shaping the Future of Research: A Strategic Plan for the National Heart, Lung, and Blood Institute* is accessible on the NHLBI Web site at http://apps.nhlbi.nih.gov/strategicplan/.

The Planning Process
The plan is the outcome of an inclusive “bottom-up” approach that called on the wisdom and expertise of more than 600 individuals, including researchers, representatives of patient-advocacy groups and professional societies, and other members of the scientific and lay communities. The initial step (Level One) comprised 23 thematic meetings held during the spring and summer of 2006. Participants were asked to identify scientific areas that the NHLBI could and should play a major role in advancing and to recommend operational policies to facilitate conduct of high-priority scientific research.

In October 2006, a Level Two meeting brought together members of the National Heart, Lung, and Blood Advisory Council, chairpersons of the Level One meetings, and other leaders from the research community. Their task was to review the reports of the Level One meetings, synthesize and prioritize objectives and strategies, determine methods for measuring progress toward achieving objectives, and recommend approaches for fostering development of the research workforce.

Level Three, which was completed in February 2007, entailed development of a draft plan to reflect the vision of the research community. Comments on the draft were widely solicited from the Institute’s diverse stakeholders and incorporated, as appropriate, into the final version.

The Content of the Plan
The plan is structured around three goals that reflect the successive movement of scientific discovery—from “form to function,” “function to causes,” and “causes to cures”—and inform and complement one another. This crosscutting, versus disease specific, approach highlights areas where the NHLBI is well positioned to make major contributions through investigator-initiated research and through programs that enable and complement investigator-initiated activities.

The plan identifies a number of basic research areas of focus with the intent of delineating normal and pathological biological mechanisms and exploiting the emerging understanding of these mechanisms to identify biomarkers of disease. Such biomarkers—broadly defined as measurable indicators of genotype, biological or pathological processes, or responses to therapeutic intervention—will facilitate identification of disease subtypes and point the way toward new molecular targets for prevention, diagnosis, and treatment.

The clinical and translational research goal of the plan emphasizes transmission of knowledge between basic and clinical research so that findings in one arena rapidly inform and stimulate research in the other. More precise methods of risk-stratification and diagnosis are expected to arise from application of new approaches (eg, noninvasive imaging, biomarkers) from basic science laboratories. A critical challenge will be to develop personalized preventive and therapeutic regimens based on genetic makeup in combination with developmental and environmental exposures. Insights are already emerging, but robust and efficient means of validating both individualized and population-based treatments will be needed to establish an evidence base to guide medical practice.

The plan acknowledges the need to enhance understanding of the processes involved in translating research into practice and to use that understanding to enable improvements in public health and stimulate further scientific discovery. It places particular emphasis on conducting research in primary prevention and identifying interventions that work in the practice communities that will ultimately constitute the targets for translation and education. As well, continued development and evaluation of new approaches to communicate research advances to the public is an important priority.

Next Steps
The plan is intended to provide the NHLBI with a guide for its research and training programs over the next 5 to 10 years. It presents broad strategies that the NHLBI will use to facilitate the conduct of research; enhance interdisciplinary work; speed early-stage translation of basic discoveries; ensure cross-fertilization of basic, clinical, and epidemiologic discoveries; and maximize the resultant public health benefit of the information created. Specific measures to implement the plan will now be developed in consultation with the National Heart, Lung, and Blood Advisory Council and the scientific community. Investigator-initiated research has long constituted the largest share of the NHLBI research portfolio, and we fully expect that much of the plan will be realized.
through continued support of such research. Institute-initiated investments guided by the plan will be directed largely toward programs that either enable or complement investigator-initiated activities.

As the challenges identified in the plan are met and as new ones emerge, the NHLBI will identify and embrace new strategies. The Institute also will continue to look to its Advisory Council and to the larger research community for guidance to ensure that these strategies are updated as needed to reflect the rapidly changing environments of research and public health issues.

The plan is ambitious and far-reaching, but we have every confidence in its ultimate success. We hope the community will join us in the important work of achieving its vision.

**Disclosures**

None.
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Circ Res. 2007;101:849-850
doi: 10.1161/CIRCRESAHA.107.164582

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