Mr. Chairman and Members of the Committee:

It is a privilege to present to you the President's Budget request for the newly established National Center for Advancing Translational Sciences (NCATS) for fiscal year (FY) 2013. The FY 2013 budget of $639,033,000 includes $64,320,000 over the comparable FY 2012 level of $574,713,000. We are thankful for your support for this new Center and look forward to sharing progress with you as the Center evolves.

Our mission is to catalyze the generation of innovative methods and technologies that enhance the development, testing, and implementation of diagnostics and therapeutics across a wide range of human diseases and conditions. As such, NCATS will focus on addressing scientific and technical challenges in order to reduce, remove, or bypass significant hurdles across the continuum of translational research. These advances will enable others in both the public and private sectors to develop drugs and diagnostics more efficiently for any number of human diseases— ultimately accelerating the pace in which new therapeutics are delivered to the patients who need them.

## FULFILLING OUR MISSION

In achieving its aims, NCATS activities will be guided by three important principles: 1) facilitate—not duplicate — other translational research activities supported by NIH; 2) complement — not compete with — efforts already underway in the private sector; and 3) reinforce—not reduce—NIH's commitment to basic research. These guiding principles underscore the role of NCATS as a catalytic hub for evidence-based research on the *process* of translating avgtinic diaoveries into new diagnostics and therapeutics.

Key to the success of the NCATS mission is identifying, studying, and reducing significant bottlenecks in the process of translation, which will require gxgensive consultation with 1p4(x)2(g)perts across disciplines and sectors. To this end, NIH has held numerous workshops for stakeholders to solicit ideas for the NCATS research agenda. A working group of several NIH Institute and Center directors, including those most involved in translational research, clarified the need for a new effort focused on the discipline of

translation, providing tools and resources that could facilitate research across NIH. A working group of the NIH Advisory Committee to the Director, comprised of experts from industry, private equity firms, non-profits, and academia identified the need for NCATS to catalyze, invigorate and streamline translational sciences nationally and globally. Many areas of priority were identified, including research on biomarkers, predictive toxicity, target validation, regulatory science and de-risking the pipeline. The perspectives of both of these working groups are reflected in several of the NCATS initiatives being pursued, ensuring that NCATS is not duplicating other efforts at NIH or competing with efforts in industry.

NCATS is currently assembling an advisory structure comprising both the NCATS Advisory Council and the Cures Acceleration Network (CAN) Review Board. These individuals will span many sectors, from patient advocacy organizations to pharmaceutical industry and private equity firms, along with renowned experts in translational science and regulatory review.

**CATALYZ**

volunteers for research studies and enables researchers to find the "right match" to participate in studies.

In 2013 we will be launching CTSA 2.0, the next phase of this program building on the successes of the past six years. While CTSA 1.0 established homes for translational research, CTSA 2.0 can create neighborhoods, networks of centers with shared resources to accelerate research on rare diseases and new therapeutics. Going forward, the CTSAs can have an even broader role on translational science, supporting the entire pipeline of development from bench to bedside, bedside to practice, and beyond practice to public health policy.

## CATALYZING INNOVATION IN THERAPEUTICS

Drug development is expensive, slow, and failure prone. Approximately 90% of compounds that advance to clinical testing fail to reach the market.[1] While NCATS will not create an industrial drug development pipeline, it can experiment on the process, identifying solutions for specific problems in drug development.

For instance, one of the most common concerns we heard from industry, patient groups, and FDA, was the need for detecting toxicity early in the drug development process. Roughly one third of the failures of new medications can be attributed to toxicity not predicted from preclinical (animal or in vitro) studies. nt

(drug rescue) and drugs that are already approved (drug repurposing) are probably the most rapid and cost effective approaches to new therapies. As industry holds many of the assets and data required for efficient rescue and repurposing, many institutes at NIH have been interested in working with companies to access specific compounds. Rather than creating 26 different approaches, NCATS is working with industry to provide a single, comprehensive mechanism with several companies for drug rescuing. This will permit investigators and small businesses to apply for NIH funding to conduct research on new indications using compounds from industry-provided drug collections.

NCATS is also innovating the process of drug repurposing. Through the NCATS Pharmaceutical Collection, we have developed a comprehensive database of 3,800 approved and investigational drugs to permit NCATS to screen all existing medications for novel effects that might be therapeutic for a new indication. With this approach, we discovered that a drug approved for rheumatoid arthritis could be a novel treatment for leukemia. Rather than requiring 6 - 8 years for the usual preclinical research and development, we moved this approved compound into a leukemia trial (in a CTSA institution) within 9 months. Continued funding of this program in FY 2013 will contribute to the NIH effort of decreasing the time, cost, and attrition rate in therapeutic development, to bring more promising new therapies to the public.

**SUPPORT FOR RARE AND NEGLECTED DISEASES**

There are more than 6,000 rare diseases, affecting an estimated 25 million Americans. Fewer than 250 of these rare diseases have treatments, according to data from the Online Inheritance in Man Database, Orphanet, and FDA. It is clear that efforts need to be directed to increasing the number of treatments either through new or repurposed drugs. The Therapeutics for Rare and Neglected Diseases (TRND) program within NCATS develops treatments for rare diseases, with 20 projects currently underway. But TRND is not a typical drug development effort – the projects are selected as experiments on the pipeline of drug development. That is, each project is an attempt to re-engineer the process in addition to addressing a medical need. For instance, a project on sickle cell disease has introduced a new class of molecules not previously considered as medications for any disease. Moreover, the study of rare

diseases, including many single gene disorders (Niemann-Pick Type C and Hereditary Inclusion Body Myopathy), is also giving us new insights into fundamental biology. This process, sometimes called reverse translation because it moves from “bedside to bench”, is one of the ways that NCATS is reinforcing rather than reducing NIH’s commitment to basic research.

## INVESTING IN PEOPLE

NCATS fosters the training of clinicians and researchers in an environment of innovation and collaboration, encouraging the next generation of leaders in translational sciences. For example, the CTSAs are currently supporting over 900 trainees across a wide array of disciplines. NCATS will pro38383838