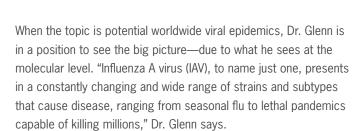
INFECTIOUS DISEASE

THE RUSH TO PREVENT

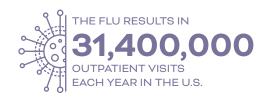
A PANDEMIC

FOCUS: Developing a universal therapeutic that can prevent as well as treat all strains of influenza A.



Moreover, strains can quickly develop resistance to neuraminidase inhibitors (NAIs) such as Tamiflu. But there's an even more alarming prospect to consider. "Strains can now be easily designed to cause disease—in fact, my graduate student could design an influenza virus that could kill 100,000,000 people, and vaccines offer no protection against such threats," Dr. Glenn says.

To target viruses and prevent virus drug resistance, Dr. Glenn has focused on RNA secondary structures, which are formed when RNA genetic material folds on itself into specific shapes.



"Often in viruses, the secondary structures encode critical regulatory signals," he says. "Secondary structures are often highly conserved; so I thought that if a drug could be designed to target an essential RNA secondary structure, the structure would have limited ability to mutate and escape from the drug. If so, this could translate to a high barrier to the development of resistance to the drug."

Harrington Discovery Institute is helping Dr. Glenn pinpoint the optimal target, develop a potent, long-lasting compound, and help develop the compound into a new drug for the clinic.



JEFFREY S. GLENN, MD, PhD

Professor of Medicine (Gastroenterology and Hepatology) and of Microbiology and Immunology Stanford University School of Medicine 2018 Harrington Scholar-Innovator

IMPACT WISH:

"To finally have a way of preventing and treating diseases that each year afflict large populations, young and old, as well as having an effective means of stopping the next pandemic in its tracks."

Harrington Discovery Institute

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