Date: April 20, 2022
To: Vermont House Human Services Committee
From: Paul Mehta, MD, Principal Investigator
Re: Overview of the National Amyotrophic Lateral Sclerosis (ALS) Registry

Dear Members of the Human Services Committee:

I want to thank you for the opportunity to testify today. My name is Dr. Paul Mehta and I am the Principal Investigator of the United States National Amyotrophic Lateral Sclerosis (ALS) Registry which is housed at the Centers for Disease Control and Prevention and the Agency for Toxic Substances Disease Registry (CDC/ATSDR). In response to your request, I'd like to give you an overview of our Registry and focus on some major points including background, data collection, operations, research, and other important facets of the Registry and of course, answer any questions you may have.

The National ALS Registry launched over 10 years ago and is the only population-based ALS registry for the entire U.S. Its purpose is to better understand who gets ALS and why. This is done by determining the epidemiology of ALS in the U.S. and evaluating risk factors as well.

The Registry largely does this by: (**Figure 1** is a graphic display of the many facets of the Registry)

- funding research to understand the causes and risk factors of ALS;
- supporting recruitment for clinical trials and epidemiological studies to provide information to inform the work of pharmaceutical companies, ALS referral centers, and universities;
- collecting blood and tissue for the associated National ALS Biorepository to support and conduct research in the areas of genetics analyses, biomarker identification, and disease progression; and
- better defining the epidemiology of ALS in the United States and determining how this information can be used to evaluate the public health burden of the disease.

Figure 1. Facets of the National ALS Registry
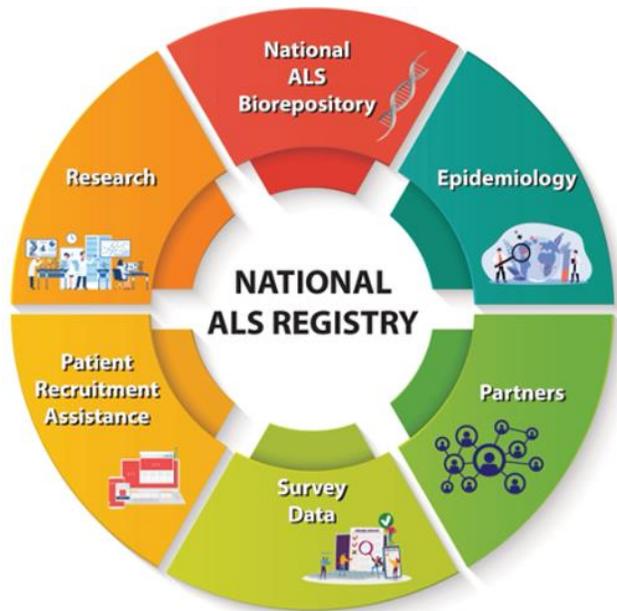
ALS, like most non-communicable diseases, is not a notifiable condition in the U.S. As such, the Registry uses a novel, two-pronged approach to identify ALS cases. The first component applies a pilot-tested algorithm that includes elements such as diagnostic and billing codes (i.e., the International Classification of Diseases code for ALS), frequency of visits to a neurologist, and prescription drug use to three large national databases (Medicare, Veterans Health Administration, and Veterans Benefits Administration). The second component comprises a secure web portal to allow persons with ALS to self-register to facilitate identification of cases not collected through the first component. (**Figure 2** graphically captures the methodology).

Figure 2: National ALS Registry Methodology
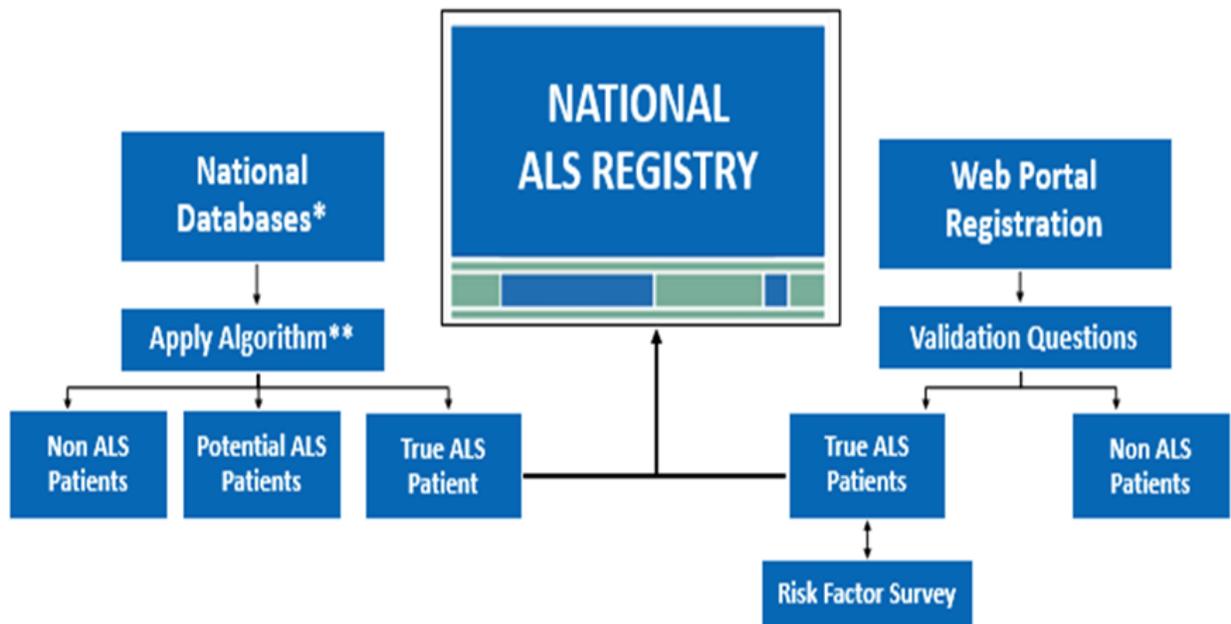
The Registry is continuously searching for ways to improve data collection activities that will expand sources of new ALS cases from current registries, non-profit organizations, and clinics. We feel this will improve case-ascertainment in the future and aid in our understanding of the risk factors associated with the disease.

No one knows what causes ALS yet. There are on average 24,800 Americans living with ALS as of 2017. We know ALS impacts Whites, especially males, more so than any other group. ALS is more common after the age of 50. In fact, one of the Registry's goals is to determine the risk factors for ALS and possible etiologies. This is being accomplished through several mechanisms: patients answering a series of risk factor surveys (n=18) that ask questions about occupational history, military history, hobbies, sports played, traumatic brain injuries, residential history, and other topics; funding academic institutions that conduct etiologic studies; providing recruitment assistance for clinical trials and epidemiologic studies via the Registry's Research Notification Mechanism (RNM); and collecting biospecimens through the National ALS Biorepository. The Registry continues to examine whether environmental factors play a role in ALS pathology.

The Registry also works with state partners in several ways. First, states may contact the Registry for assistance when they suspect elevated ALS in a particular community or setting. Since the etiology of ALS is largely unknown, the Registry provides information on how to join and take part in research activities. Second, the Registry is working with the state of Massachusetts to compare their reported ALS cases to that of the Registry's. Massachusetts is

the only state in the country where ALS is reported to health officials by clinicians. Though, I believe the state of Maine is very close to having their own ALS registry. These data are currently undergoing analyses. Prior to releasing any data, we will ensure the privacy of patients will be protected. The Registry works with state partners to connect residents inquiring about ALS services with advocacy groups and patient education as well as providing technical assistance for enrolling.

The Registry provides funding to academic institutions such as Universities and research organizations to identify, examine, and evaluate potential risk factors for ALS. To date, 21 academic institutions have been funded. These investigator-initiated grants are focused on areas such as environmental exposures to heavy metals and persistent organic pollutants, genetics, identification of biomarkers, and occupational exposures.

More information on the Registry can be found on our website at www.cdc.gov.als.

Thank you very much for inviting me here today talk about the National ALS Registry and I would be glad to answer any questions you may have.

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