April 5, 2018

The Honorable Alex Azar
Secretary
Department of Health and Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20201

Via email: secretary@hhs.gov

Re: Using the undisclosed NIH funding for patents on eteplirsen (brand name: Exondys 51) as leverage to lower the price

Dear Secretary Azar:

We are writing to ask the Department of Health and Human Services (HHS) to take action to lower the price of eteplirsen, a drug marketed by Sarepta Therapeutics under the brand name Exondys 51 as a treatment for Duchenne muscular dystrophy (DMD).

Specifically, we are asking that HHS exercise its rights, under the Bayh-Dole Act and contractual agreements with funding agencies, to take title to five patents on eteplirsen, as a remedy to a failure to disclose NIH funding of the inventions, and to use the ownership of those patents as leverage to obtain lower prices.

There is a strong case to be made for changes in legislation to address drug pricing concerns more generally, but even without new legislation, your office has opportunities to address excessive pricing for some products, including Exondys 51, due to the federal government's role in funding the research for the patented inventions.

The mechanism that we highlight in this letter addresses one set of circumstances that give HHS such leverage -- a failure by inventors to disclose federal research funding for patented inventions, which renders them subject to possible sanctions by the funding agency.

In the past, the federal government has, on several occasions, asked recipients of federal grants and contracts to correct failures to disclose federal funding of the inventions, but has not exercised its rights to take the title of such patents for purposes of influencing drug prices. In this respect, we recognize that we are asking HHS to do something new.

The attached memorandum titled, "Undisclosed NIH funding for patents on eteplirsen (brand name: Exondys 51)," identifies five patents that failed to disclose NIH funding, including three patents listed in the FDA Orange Book for Exondys 51. This failure would represent a violation of the Bayh-Dole Act, attendant regulations, and HHS guidance.

Exondys 51 is expensive. The annual cost of treatment is $750,000 to $1.5 million for some patients. As was reported in a moving 2017 article and video published in the New York Times, the high price has limited access to the treatment.[1]

The development of Exondys 51 has been subsidized by research grants provided by the National Institutes of Health, charities, and governments in Europe and Australia, including eight NIH-funded projects awarded to the University of Western Australia (UWA) and several NIH funded projects where Patrick Iversen (a Sarepta affiliated researcher) was the principal investigator. In addition, Sarepta has benefited from a variety of other federal government subsidies, including grants from the federal government's Qualifying Therapeutic Discovery Project (QTDP) program, the Orphan Drug Tax Credit, and a priority review voucher which Sarepta sold to Gilead for $125 million. In addition, the European Commission, the UK government, and other government research agencies have funded key elements of the development of this drug.

The key trial used to approve Exondys 51 only involved 12 patients. The small size of the pre-approval trials, combined with the significant public sector research grants, tax credits and subsidies for development of the drug, as well as the award of a priority review voucher, are relevant to evaluating the need to address the excessive price.

Exondys 51 has orphan drug exclusivity until September 19, 2023, and there are two patents in the FDA Orange Book for which we have not identified federal funding. However, because several patents did have NIH funding and failed to disclose such funding, HHS has leverage it can exercise if willing to do so.

As the Secretary of HHS, you have the authority to take title to at least five of Exondys 51's patents as a remedy for the failure to disclose federal funding in the inventions.

If HHS obtains title to the five patents, it can at a minimum seek damages for infringement of the patents. HHS is also in a negotiating position to facilitate earlier competition, both in the United States[2] and in the European Union[3], and Sarepta must consider these potential consequences.

In the past, the NIH has asked grant recipients to correct the disclosures, but normally has not sought to impose sanctions for the past failures, such as taking title to the patents, despite a

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[1] Katie Thomas, Insurers Battle Families Over Costly Drug for Fatal Disease, *New York Times*, June 22, 2017.
[2] For the U.S. market, the government could use 28 USC § 1498 to overcome any patents that do not have established rights pursuant to the Bayh-Dole Act, because the compensation for that patent would be considerably less if the United States retained title to or held a royalty-free right in the other NIH-funded eteplirsen patents.
[3] The U.S. could make a credible threat to shorten the monopoly in Europe, where orphan drug exclusivity can be revoked after six years upon a showing that the incentive was not necessary, and where governments in Europe may have similar rights a patent assigned to Academisch Ziekenhuis Leiden,in the Netherlands. See also, REGULATION (EC) No 141/2000 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 1999 on orphan medicinal products. Article 8. Market exclusivity. "2. This period may however be reduced to six years if, at the end of the fifth year, it is established, in respect of the medicinal product concerned, that the criteria laid down in Article 3 are no longer met, inter alia, where it is shown on the basis of available evidence that the product is sufficiently profitable not to justify maintenance of market exclusivity."

history of unfortunate non-compliance by grant recipients.[4] Clearly we are asking for HHS to take stronger measures in this case. Given the orphan drug exclusivity for Exondys 51, the stronger measures are necessary for HHS to have leverage to lower the excessive and access-restricting price.

We respectfully ask for a meeting with your staff to further discuss this issue, noting that as a practical matter, if the decisions are delegated solely to the NIH OTT staff it is highly unlikely any action will be taken to moderate the price of this drug.

Sincerely,

Health GAP
Knowledge Ecology International
Patients for Affordable Drugs
People of Faith for Access to Medicines
Social Security Works
Universities Allied for Essential Medicines

Cc: The Honorable Daniel R. Levinson, Dan.Levinson@oig.hhs.gov; Director Ann Hammersla, hammerslaa@mail.nih.gov

[4] See, for example: United States General Accounting Office. Technology Transfer Reporting Requirements for Federally Sponsored Inventions Need Revision. Report to the Chairman, Committee on the Judiciary, U.S. Senate. GAO/RCED-99-242. August 1999.