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Adrienne Biddings Head of Global Policy and Standards, Knowledge & Insights Google LLC 25 Massachusetts Ave, NW Washington, D.C. 20001 USA

Dear Ms. Biddings:

On behalf of the International Society for Stem Cell Research (ISSCR), the leading professional organization of stem cell scientists, I write to share our perspective regarding the July 2022 update to the Google Ads "Speculative and experimental medical treatment, cell therapies, and gene therapies" policy. The ISSCR is the leading professional organization of stem cell researchers and represents more than 4,000 members around the world. Our members are scientists, clinicians, ethicists, and educators dedicated to the responsible advancement of stem cell research and its translation to the clinic.

The ISSCR appreciates Google's prohibition on "advertising for products or services that promote speculative and/or experimental medical treatments," including cell and gene therapies and other forms of regenerative medicine that have not been proven safe and effective or received appropriate regulatory approval. However, the ISSCR is concerned that unscrupulous clinics may misuse the update to Google's policy by promoting unproven therapies under the guise of distributing material that is "exclusively educational or informational in nature." If so, this would harm consumers and public health.

Allowing the promotion of materials advertised as educational, even if about broadly defined classes of

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products or "regenerative medicine" in general, gives the opportunity for unscrupulous stem cell clinics to disseminate misleading and false information designed to encourage patients to consider unproven therapies. Currently, unproven regenerative medicine therapies are marketed largely through online materials such as advertisements, patient videos, and patient testimonials touting positive results. Many clinics offering experimental pay-to-participate "clinical trials" do not have rigorous data supporting the safety or effectiveness of these interventions, as they have not conducted controlled clinical trials. Despite the lack of data, these clinics use misleading advertising techniques to create the impression that their businesses are trustworthy and offering cutting-edge therapies.

One tactic that unscrupulous stem cell clinics use is to supplement their claims with research that is cherry picked from papers published in scientific journals or data that is taken out of context. Citing papers published in peer-reviewed journals is meant to provide a patina of scientific legitimacy to unproven products. Some consumers may perceive the existence of papers in scientific journals as evidence that an unproven therapy is cutting-edge, without realizing that the paper describes a product that is different from the product marketed by the company, for a different indication, or that the early-stage study was not designed to test safety or efficacy. In other cases, the published articles may draw conclusions that are contradicted by more rigorous studies that are not cited. We are concerned that companies that market unproven therapies will attempt to disguise their marketing efforts as "educational" materials that are permissive under Google's new policy and that such misleading efforts could drive consumer interest in unproven therapies.

As has been repeatedly noted by the Food and Drug Administration, unproven stem cell treatments pose a substantial public health problem. These clinics often attract patients with promises of cures for conditions such as diabetes, arthritis, neuropathy, chronic obstructive pulmonary disease, autism, or other disorders. Yet, not only are these claims unsupported by data from controlled clinical trials, the claims are often scientifically implausible based on what we understand about the biology of these conditions. Unproven therapy clinics make many false claims to

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mislead consumers about the science in an effort to recruit patients. Cell therapies and other forms of regenerative medicine have great potential for the development of new treatments when based on sound science and rigorously tested in controlled clinical trials; however, many of these interventions remain experimental and should only be offered to patients through well-regulated clinical trials for narrowly defined indications.

Thank you for considering our concerns. If the ISSCR can clarify any of these views or assist in helping address this loophole, please contact Tyler Lamb, Director of Policy at tlamb@isscr.org or Saliha Moore, Manager of Policy at smoore@isscr.org.

Sincerely,

Haifan Lin, PhD President, ISSCR

Haifan Lin