JDRF IMPROVING LIVES. CURING TYPE 1 DIABETES.

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Centers for Disease Control and Prevention
Advisory Committee on Immunization Practices
Docket No. CDC-2020-0124
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To Whom It May Concern:

Thank you for the opportunity to submit comments to the Advisory Committee on Immunization Practices. Your recommendations have the potential to help save many lives and reduce the risks of COVID-19 and we appreciate the ability to share our thoughts on this process on behalf of the 1.6 million Americans with type 1 diabetes (T1D).

JDRF is the leading global organization funding T1D research. Our mission is to accelerate life-changing breakthroughs to cure, prevent and treat T1D and its complications and we collaborate with a wide spectrum of partners in the community to achieve this mission.

We are concerned that T1D is classified as a comorbid condition that "**might** be at an increased risk", and not one that "**is** at increased risk" for serious illness. Data, both from this summer and more recently, summarized below shows that people with T1D are at higher risk of hospitalization and mortality from COVID-19 compared to general population and should be considered as having a similar increased risk as people with type 2 diabetes (T2D). Based on the evidence, we urge you to include both T1D and T2D in the highest priority comorbidity category.

Data on Morbidity and Mortality in T1D

Data have shown that people with T1D are at higher morbidity and mortality risk, especially when hospitalized with COVID-19. Recent data, published in Diabetes Care in December 2020, shows that people with diabetes—type 1 and type 2—are more likely to have serious complications from COVID-19. This study shows that people who get COVID-19 and have diabetes, whether type 1 or type 2, have three to four times higher risk of severe illness and hospitalization. Per this study, hypertension, race, recent diabetic ketoacidosis, health insurance status, and less diabetes technology use were significantly associated with illness severity. Those at greatest risk are people with consistently elevated blood-sugar levels and those with a second comorbidity (such as obesity or heart, kidney, or lung disease)[1].

[1] Gregory, J. M., Slaughter, J. C., Duffus, S. H., Smith, T. J., LeStourgeon, L. M., Jaser, S. S., McCoy, A. B., Luther, J. M., Giovannetti, E. R., Boeder, S., Pettus, J. H., & Moore, D. J. (2020). COVID-19 Severity Is Tripled in the Diabetes Community: A

In August 2020, a study published in Lancet Diabetes & Endocrinology showed that COVID-19 hospital mortality was 3.3 times higher for people with T1D in the United Kingdom, and two times higher for people T2D compared to other people without diabetes hospitalized with COVID-19[2]. While there is some anecdotal evidence that higher mortality is tied to poor hospital care and not COVID-19 itself, keeping people with T1D out of the hospital at this time should be a goal. Doing so through vaccination will reduce overall risk of morbidity and mortality during this pandemic.

Burden of T1D on Health Care System

Further, T1D is a disease with significant disease burden requiring moment to moment intense management and is dependent on appropriately titrated insulin dosing. Most hospital and emergency care facilities are neither trained nor have the opportunity during the current pandemic to get the necessary training to handle complex device-based diabetes management, which exacerbates the complications when an individual with T1D is admitted to the hospital due to COVID-19 infection.

Another factor that influences outcomes in COVID-19 for people with T1D is glucose control. People with and without diabetes who have high blood glucose levels – as an independent risk factor – upon admission for COVID-19 have higher mortality than those who did not[3] [4]. Most Americans with T1D have poor glucose control; only 21% of adults and 17% of people <18 years have an HbA1c at goal for their age group[5]. Of note, this data was derived from the minority of T1D patients who receive care from endocrinologists and large hospital systems, and not the majority of people with T1D who see primary care providers for diabetes care, making it highly likely that the overall status of glycemic control among people with T1D is worse than reported by this research. Consequently, the majority of people with T1D in the United States are at higher risk of mortality if they contract COVID-19 due to the fact that they likely have high blood glucose levels.

For these reasons, T1D as an underlying condition puts people at significantly higher risk of severe illness, hospitalization and death from COVID-19. We urge you to review the data and include both T1D and T2D in the highest priority comorbidity category.

Once again, thank you for this commenting opportunity. If you have any additional questions, please contact Campbell Hutton, JDRF, Vice President, Regulatory and Health Policy, at chutton@jdrf.org or 202-309-2221.

Prospective Analysis of the Pandemic's Impact in Type 1 and Type 2 Diabetes. *Diabetes care*, dc202260. Advance online publication. https://doi.org/10.2337/dc20-2260.

[2] Barron E, Bakhai C, Kar P, et al. Associations of type 1 and type 2 diabetes with COVID-19-related mortality in England: a whole-population study [published online ahead of print, 2020 Aug 13]. *Lancet Diabetes Endocrinol*. 2020;S2213-8587(20)30272-2. doi:10.1016/S2213-8587(20)30272-2.

[3] Wang S, Ma P, Zhang S, et al. Fasting blood glucose at admission is an independent predictor for 28-day mortality in patients with COVID-19 without previous diagnosis of diabetes: a multi-centre retrospective study [published online ahead of print, 2020 Jul 10]. *Diabetologia*. 2020;1-10. doi:10.1007/s00125-020-05209-1.

[4] Sardu C, D'Onofrio N, Balestrieri ML, et al. Hyperglycaemia on admission to hospital and COVID-19 [published online ahead of print, 2020 Jul 6]. *Diabetologia*. 2020;1-2. doi:10.1007/s00125-020-05216-2

[5] Foster NC, Beck RW, Miller KM, et al. State of Type 1 Diabetes Management and Outcomes from the T1D Exchange in 2016-2018 [published correction appears in Diabetes Technol Ther. 2019 Apr;21(4):230]. *Diabetes Technol Ther*. 2019;21(2):66-72. doi:10.1089/dia.2018.0384.