Research on the effects of minimum wages on well-being is thin compared to evaluations on general effects on employment. This study examines the relationship between minimum wages and suicide in Japan using vital statistics data from 2000 to 2016. Our difference-in-differences framework exploits a natural experiment from a minimum wage reform in Japan that was implemented in 2008, where a higher exogenous growth rate in the minimum wage was observed among prefectures that had a minimum wage set lower than their living wage. We find a large reduction in the suicide rate that is concentrated among men and age groups that are likely to earn a minimum wage. A supplementary analysis of the Comprehensive Survey of Living Conditions (2004-2016) suggests that wage growth among low-wage earners in the absence of a sizable unemployment effect could be an important mechanism driving these results.