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## Requests for Abortion in Latin America Related to Concern about Zika Virus Exposure

**TO THE EDITOR:** On November 17, 2015, the Pan American Health Organization (PAHO) issued an epidemiologic alert regarding Zika virus in Latin America.<sup>1</sup> Several countries subsequently issued health advisories, including cautions about microcephaly, declarations of national emergency, and unprecedented warnings urging women to avoid pregnancy. Yet in most Latin American countries, abortion is illegal or highly restricted,<sup>2</sup> leaving pregnant women with few options.

For several years, one such option for women in Latin America has been Women on Web (WoW), a nonprofit organization that provides access to abortion medications (mifepristone and misoprostol) outside the formal health care setting through online telemedicine in countries where safe abortion is not universally available.<sup>3</sup> We analyzed data with respect to requests for abortion through WoW between January 1, 2010, and March 2, 2016, in 19 Latin American countries. Using a regression-discontinuity design, we assessed whether requests for abortion increased after the PAHO alert, as compared with preannouncement trends.

We classified requests according to self-reported country of origin and divided countries into three groups: group A, with autochthonous Zika transmission, legally restricted abortion, and national public advisories to pregnant women; group B, with no autochthonous Zika transmission and legally restricted abortion; and group C, with autochthonous Zika transmission, legally restricted abortion, and no national advisories. We also included three control countries — Chile, Poland, and Uruguay — in which

no increase in requests related to Zika virus infection was expected. (Details are provided in the Supplementary Appendix, available with the full text of this letter at NEJM.org.) During the final 3 study weeks, women were asked specifically if they were seeking abortion because of concern about Zika virus infection. In their response, women did not confirm whether they had received a diagnosis of such infection.

In all group A countries except Jamaica, there were statistically significant increases of 36 to 108% over baseline in requests for abortion through WoW after the PAHO announcement (Table 1, and Fig. S3 in the Supplementary Appendix). In group B, small increases were observed in two countries, Argentina and Peru. In the latter, officials sparked concern about Zika virus infection by asking the government to declare a preemptive state of emergency.<sup>4</sup> No significant increases were observed in group C or in any control countries. We cannot definitively attribute the rapid acceleration in requests in group A to concern about Zika virus exposure. However, the percentage of women in each country who reported such concern as their reason for seeking abortion correlates with the observed country-specific increases in requests over baseline trends (Table S1 in the Supplementary Appendix).

In Latin American countries that issued warnings to pregnant women about complications associated with Zika virus infection, requests for abortion through WoW increased significantly. Our approach may underestimate the effect of the advisories on demand for abortion, since many women may have used an un-

**Table 1. Number of Online Requests for Abortion Medications after the PAHO Alert Regarding Zika Virus Exposure, According to Country.\***

Country	Actual Requests	Expected Requests	Relative Change between Actual and Expected Requests	P Value
	<i>number</i>		%	
Group A: autochthonous Zika virus transmission, legally restricted abortion, and national pregnancy advisory				
Brazil	1210	581.7	108.0	<0.001
Colombia	141	101.7	38.7	<0.001
Costa Rica	67	49.2	36.1	0.04
El Salvador	24	17.7	35.6	0.01
Ecuador	71	34.2	107.7	<0.001
Honduras	36	20.5	75.7	<0.001
Jamaica	25	37.2	-32.9	0.65
Venezuela	86	44.5	93.3	<0.001
Group B: No autochthonous Zika virus transmission, legally restricted abortion				
Argentina	270	221.7	21.8	0.004
Bahamas	15	10.5	42.8	0.28
Peru	81	67.2	20.5	0.04
Trinidad and Tobago	12	10.0	20.6	0.70
Group C: autochthonous Zika virus transmission, legally restricted abortion, no national pregnancy advisory				
Bolivia	21	12.5	68.4	0.17
Dominican Republic	17	21.2	-20.0	0.61
Guatemala	32	29.5	8.4	0.65
Mexico†	172	184.4	-6.7	0.98
Nicaragua	11	8.8	24.3	0.81
Panama	21	17.3	21.3	0.12
Paraguay	16	12.8	24.5	0.36
Control group				
Chile	442	463.4	-4.6	0.98
Uruguay	5	5.1	-1.0	0.85
Poland	1574	1487.7	5.8	0.73

\* Actual requests are cumulative counts for the period from November 17, 2015, when the Pan American Health Organization (PAHO) issued an epidemiologic alert regarding Zika virus in Latin America, to March 2, 2016. Expected requests were obtained as forecasts on the basis of the null model for each country on the assumption that there would be no discontinuity after the PAHO announcement. P values were calculated by means of a likelihood-ratio test of the regression-discontinuity model versus the null model of no discontinuity.

† Abortion is highly restricted in Mexico except in the capital, the Federal District, where first-trimester abortion was decriminalized in 2007.

safe method, accessed misoprostol from local pharmacies or the black market, or visited local underground providers. But accurate data on these choices are difficult to obtain.<sup>5</sup> Thus, our data provide a window on how concern about Zika virus infection may have affected the lives of pregnant women in Latin America.

Models that were developed by the World Health Organization predict that 3 million to 4 million persons across the Americas (including North America, Central America, South America, and the Caribbean) will contract Zika virus infection through early 2017, and the virus will inevitably spread to other countries where access to safe abortion is restricted. Official information and advice about potential exposure to the Zika virus should be accompanied by efforts to ensure that all reproductive choices are safe, legal, and accessible.

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