

# DECLARATION OF MITRA AKHTARI

The Honorable James L. Robart

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF WASHINGTON**

STATE OF WASHINGTON and  
STATE OF MINNESOTA,

Plaintiffs,

v.

CIVIL ACTION NO. 2:17-cv-00141-JLR

DONALD TRUMP, in his official  
capacity as President of the United  
States; U.S. DEPARTMENT OF  
HOMELAND SECURITY; JOHN F.  
KELLY, in his official capacity as  
Secretary of the Department of  
Homeland Security; REX W.  
TILLERSON, in his official capacity  
as Acting Secretary of State; and the  
UNITED STATES OF AMERICA,

Defendants.

Pursuant to 28 U.S.C. § 1746(2), I, Mitra Akhtari, hereby declare as follows:

1. I am a 6th year Ph.D. candidate in economics at Harvard University. I received my B.A. in applied mathematics and economics from the University of California, Berkeley. My teaching and research fields are labor economics, political economy, development economics, and public finance. I am an affiliate of the Weatherhead Center for International Affairs, the largest international science center within Harvard’s Faculty of Arts and Sciences. I am also affiliated with the Institute for Quantitative Social Science, Harvard’s largest social science research center. I have personal knowledge of the facts set forth in this declaration, and I am competent to testify about them.
2. I am one of the founding members of the Immigrant Doctors Project, as well one of the researchers. The Project comprises ten economists and doctoral candidates in economics

1 at Harvard, the Massachusetts Institute of Technology, and the University of Chicago.

2 3. I have reviewed the Executive Order titled “Protecting the Nation from Foreign Terrorist  
3 Entry Into the United States,” signed by the President on March 6, 2017 (hereinafter, “the  
4 Second Executive Order”). I am aware that the Order purports to temporarily bar entry  
5 into this country by nationals from Iran, Libya, Somalia, Sudan, Syria, and Yemen.

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7 4. The Immigrant Doctors Project was formed to analyze the impact of the President’s  
8 Executive Orders on the provision of health care in the United States.

9 5. Our work shows that the Second Executive Order is likely to hurt the health of millions of  
10 Americans—including New Yorkers—who rely on physicians trained in Iran, Libya,  
11 Somalia, Sudan, Syria, and Yemen.

12 6. The data underlying our results comes from Doximity, an online networking site for  
13 doctors. Doximity assembles the data from a variety of sources, including the American  
14 Board of Medical Specialties, specialty societies, state licensing boards, and collaborating  
15 hospitals and medical schools. Doximity data has been verified to be highly reliable and  
16 has been used in research published in leading peer-reviewed journals, such as the Journal  
17 of the American Medical Association.<sup>1</sup>

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19 7. The Doximity data is comprehensive, covering 1,005,419 physicians—virtually all  
20 practicing physicians in the United States. (It includes every doctor assigned a National  
21 Provider Identifier by the Centers for Medicare and Medicaid Services.) We restrict our  
22 analysis to the subset of observations in the Doximity data with both current zip code and  
23 country of medical school information, leaving us with a final sample of 827,522 doctors.

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25 <sup>1</sup> See, e.g., Anumpam B. Jena, M.D., Ph.D. et al., *Sex Differences in Academic Rank in US Medical Schools*  
26 *in 2014*, *Journal of the Am. Med. Ass’n*, 314(11):1149-1158 (Sept. 15, 2015).

- 1 8. Doctors are classified as immigrants from one of the six designated countries based on the  
2 country in which they attended medical school. Although this is not a perfect measure of  
3 citizenship, it is a useful—and even conservative—estimate for the total number of  
4 affected doctors.
- 5  
6 9. We count 7,000 doctors presently working in America who attended medical school in  
7 one of the designated countries. We believe that our count underestimates the total number  
8 of doctors who immigrated to the United States from the six countries named in the  
9 Second Executive Order. In practice, many citizens of these countries attend medical  
10 school in the United States or other non-designated countries. Others are among the 18%  
11 of doctors excluded from our counts because they we do not know their up-to-date zip  
12 code or the country in which they attended medical school. These factors would cause us  
13 to undercount the number of affected doctors.
- 14  
15 10. One factor that could cause us to overcount the number of affected doctors would be if a  
16 citizen of a non-designated country (e.g., Egypt) attended medical school in a designated  
17 country (e.g., Syria). Since we observe only the country in which the doctor attended  
18 medical school we would be counting that person as affected. However, we believe that  
19 this number is likely exceeded by the number of doctors we exclude from our count (e.g.,  
20 doctors from the designated countries who trained in the United States). An analysis by  
21 Medicus using country-of-birth information contained in licensing data supports this  
22 conclusion.
- 23  
24 11. Doximity contains data on the address of a doctor's practice. We group doctors based on  
25 the commuting zone of their practice address. Commuting zones are groups of adjacent  
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1 counties that have close economic ties; for instance, seven counties in the eastern part of  
2 Massachusetts make up the Boston commuting zone.

3 12. To estimate the number of appointments provided to patients each year by doctors from  
4 the designated countries, we multiply the number of doctors by 2,000. This estimate is  
5 based on research by Hannah Neprash, who finds that an average doctor serves just over  
6 40 appointments per week (40 appointments/week x 50 weeks worked = 2,000  
7 appointments/year).<sup>2</sup> Estimates from other sources, such as the 2016 Survey of America's  
8 Physicians, generate similar estimates.<sup>3</sup>

9 13. We characterize commuting zones as having a shortage of doctors if the population of the  
10 commuting zone is more than 3,500 times the number of doctors with an internal medicine  
11 specialty in the commuting zone. This definition corresponds closely with one of the main  
12 criteria used in the federal Health Professional Shortage Area (HPSA) designation:  
13 whether the ratio of the population to primary care providers exceeds 3,500. Population  
14 information is obtained from the 2015 American Community Survey, conducted by the  
15 U.S. Census Bureau.

16 14. In New York State, about 550 doctors trained in the six designated countries offer 1.1  
17 million medical appointments each year. In New York City alone, there are about 400  
18 doctors who trained in the six designated countries; they offer about 800,000  
19 appointments each year.  
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23 <sup>2</sup> See Hannah T. Neprash, *Better Late than Never? Physician Response to Schedule Disruptions* (Nov.  
24 15, 2016), available at [http://scholar.harvard.edu/files/hannahneprash/files/neprash\\_jmp\\_november2016.pdf](http://scholar.harvard.edu/files/hannahneprash/files/neprash_jmp_november2016.pdf).

25 <sup>3</sup> See The Physicians Foundation, *2016 Survey of America's Physicians: Practice Patterns &*  
26 *Perspectives* (Sept. 2016), available at [http://www.physiciansfoundation.org/uploads/default/Biennial\\_Physician\\_Survey\\_2016.pdf](http://www.physiciansfoundation.org/uploads/default/Biennial_Physician_Survey_2016.pdf).

1 15. There are 741 commuting zones in the United States. Three of New York’s commuting  
2 zones—Syracuse, Poughkeepsie, and Buffalo—are among the top 20 commuting zones in  
3 in terms of the percentage of doctors who trained in the six designated countries:

4 a. In Buffalo, there are about 60 doctors who trained in the six designated countries;  
5 they offer about 120,000 appointments each year.

6 b. In Syracuse, there are about 30 doctors who trained in the six designated countries;  
7 they offer about 60,000 appointments each year.

8 c. In Poughkeepsie, there are about 30 doctors who trained in the six designated  
9 countries; they offer about 60,000 appointments each year.

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11 16. Even smaller commuting zones are affected by the Second Executive Order. For example,  
12 both Olean and Watertown, NY are medically underserved commuting zones. Although  
13 they each have less than ten physicians from the designated countries, they stand to lose as  
14 many as 20,000 appointments each year.

15  
16 17. In rural and medically underserved areas like Olean and Watertown, the shortage of  
17 doctors can have a devastating impact on the health of residents. Cardiology and  
18 neurology are two of the three specialties with the highest share of doctors from the six  
19 designated countries. Proximity to cardiologists and neurologists is critical to the survival  
20 and recovery of patients suffering from heart attacks and strokes. In these cases, there is a  
21 short window—the so-called “golden hour”—during which immediate treatment can  
22 prevent permanent damage to the heart or brain. Longer drives to the nearest specialist  
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1 mean higher rates of permanent disability and death.<sup>4</sup> Beyond emergency situations, long  
2 distances can prevent patients from seeking routine, but essential care.<sup>5</sup>  
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5 I declare under penalty of perjury that the foregoing is true and correct.

6 Executed on this \_11th\_ day of March, 2017  
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Mitra Akhtari  
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22 <sup>4</sup> A 2002 survey found that increased distances from medical care in rural areas contributed to higher  
fatalities from car accidents. *See* U.S. Dep't of Agriculture, *Health Care Status and Health Care Access of Farm  
and Rural Populations* 31 (Aug. 2009), [https://www.ers.usda.gov/webdocs/publications/eib57/9371\\_eib57\\_1\\_.pdf](https://www.ers.usda.gov/webdocs/publications/eib57/9371_eib57_1_.pdf)  
(footnote omitted).

23 <sup>5</sup> *See, e.g.*, William F. Rayburn M.D. et al., *Drive Times to Hospitals with Perinatal Care in the United  
States*, *Obstetrics & Gynecology*, 119(3):611-616 (March 2012) (evaluating driving times to hospitals offering  
perinatal services in the United States); Laura-Mae Baldwin, M.D. MPH et al., *Low Birth Weight Rates in the  
Rural United States, 2005*, Rural Health Research Center, Univ. of Wash. (Oct. 2013),  
24 [http://depts.washington.edu/uwrhrc/uploads/RHRC\\_PB138\\_Baldwin.pdf](http://depts.washington.edu/uwrhrc/uploads/RHRC_PB138_Baldwin.pdf) (explaining that barriers to low-birth weight  
25 prevention include insufficient provider supply and longer distances to provider offices).  
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