

116TH CONGRESS  
2D SESSION

**S.** \_\_\_\_\_

To direct the Secretary of Health and Human Services to develop an action plan, make targeted grants, and develop public awareness campaigns with respect to COVID–19 and the disproportionate impact of the COVID–19 pandemic on racial and ethnic minorities and other vulnerable populations.

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IN THE SENATE OF THE UNITED STATES

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Mr. MENENDEZ (for himself, Mr. CARDIN, Ms. WARREN, Mr. VAN HOLLEN, Mr. MARKEY, Ms. SMITH, Mr. BOOKER, Ms. CORTEZ MASTO, Mr. MERKLEY, Ms. HIRONO, Mr. SANDERS, Mrs. SHAHEEN, Mr. BLUMENTHAL, Ms. ROSEN, Ms. HARRIS, Ms. HASSAN, Mr. WARNER, and Ms. KLOBUCHAR) introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**A BILL**

To direct the Secretary of Health and Human Services to develop an action plan, make targeted grants, and develop public awareness campaigns with respect to COVID–19 and the disproportionate impact of the COVID–19 pandemic on racial and ethnic minorities and other vulnerable populations.

1       *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2 (a) SHORT TITLE.—This Act may be cited as the  
3 “COVID–19 Health Disparities Action Act of 2020”.

4 (b) TABLE OF CONTENTS.—The table of contents for  
5 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Health disparity-informed contact tracing grants.
- Sec. 3. COVID–19 health disparities action plan.
- Sec. 4. Federal public awareness campaigns to address health disparities.
- Sec. 5. Grant program for public awareness campaigns to address health disparities.
- Sec. 6. Vaccine safety public awareness campaign.
- Sec. 7. Addendum to testing plans to address disparities.
- Sec. 8. Definitions.

6 **SEC. 2. HEALTH DISPARITY-INFORMED CONTACT TRACING**  
7 **GRANTS.**

8 (a) IN GENERAL.—The Secretary of Health and  
9 Human Services (referred to in this section as the “Sec-  
10 retary”), acting through the Director of the Centers for  
11 Disease Control and Prevention and in coordination with  
12 the Office of Minority Health of the Department of Health  
13 and Human Services, and, as appropriate, in coordination  
14 with the relevant Offices of Minority Health of the Depart-  
15 ment of Health and Human Services, the National Insti-  
16 tute of Minority Health and Health Disparities, and the  
17 Indian Health Service, shall award grants to eligible enti-  
18 ties to conduct contact tracing operations, using amounts  
19 appropriated under the heading “Public Health and Social  
20 Services Emergency Fund” under the heading “Office of  
21 the Secretary” under the heading “Department of Health

1 and Human Services” of title I of division B of the Pay-  
2 check Protection Program and Health Care Enhancement  
3 Act (Public Law 116–139).

4 (b) ELIGIBLE ENTITIES.—

5 (1) IN GENERAL.—To be eligible for a grant  
6 under this section, an entity shall—

7 (A) be a State, local, Tribal, or territorial  
8 health department, a nonprofit community-  
9 based organization, a nonprofit faith-based or-  
10 ganization, an urban Indian organization, a  
11 Tribal organization, or a health care provider,  
12 serving one or more of the grant regions de-  
13 scribed in paragraph (2); and

14 (B) submit an application to the Secretary  
15 at such time, in such manner, and containing  
16 such information as the Secretary may require,  
17 including demographic data on the entity’s em-  
18 ployees or projected hires at the time of submis-  
19 sion.

20 (2) GRANT REGIONS.—The Secretary may  
21 award grants to eligible entities serving one or more  
22 of the following:

23 (A) A State.

24 (B) A territory.

25 (C) An Indian Tribe.

1 (D) A Tribal organization.

2 (E) An urban Indian organization.

3 (F) A county.

4 (G) A metropolitan statistical area.

5 (H) Any other city, town, or other public  
6 body created by, or pursuant to, State law.

7 (3) PROHIBITION ON DISCRIMINATION.—Pro-  
8 grams funded under this section shall not discrimi-  
9 nate on the basis of actual or perceived sex, race,  
10 color, ethnicity, national origin, disability, sexual ori-  
11 entation, gender identity, or religion. Nothing in this  
12 section shall be construed to invalidate or limit  
13 rights, remedies, procedures, or legal standards  
14 available under any other Federal law or any law of  
15 a State or a political subdivision of a State, includ-  
16 ing the Civil Rights Act of 1964 (42 U.S.C. 2000a  
17 et seq.), title IX of the Education Amendments of  
18 1972 (20 U.S.C. 1681 et seq.), section 504 of the  
19 Rehabilitation Act of 1973 (29 U.S.C. 794), the  
20 Americans with Disabilities Act of 1990 (42 U.S.C.  
21 12101 et seq.), and section 1557 of the Patient Pro-  
22 tection and Affordable Care Act (42 U.S.C. 18116).

23 (c) PRIORITIZATION.—In awarding grants under sub-  
24 section (a), the Secretary shall give special consideration  
25 to eligible entities that have demonstrated a commitment

1 to recruiting and retaining employees who are racial and  
2 ethnic minorities representative of the demographic  
3 groups of a grant area served by the entity, which may  
4 include entities that employ, or plan to employ, community  
5 health workers, as defined in section 2113(f)(4) of the So-  
6 cial Security Act (42 U.S.C. 1397mm(f)(4)).

7 (d) REPORTING.—

8 (1) BY ENTITIES.—An eligible entity receiving  
9 a grant under this section shall report to the Sec-  
10 retary demographic information of employees di-  
11 rectly involved in contact tracing operations sup-  
12 ported by such grant not later than 60 days after  
13 receipt of such grant.

14 (2) BY THE SECRETARY.—Beginning not later  
15 than 90 days after the date on which the first grant  
16 is awarded under this section, the Secretary, in co-  
17 ordination with the Deputy Assistant Secretary for  
18 Minority Health, the Director of the Centers for  
19 Disease Control and Prevention, and the Director of  
20 the Office of Minority Health and Health Equity at  
21 the Centers for Disease Control and Prevention,  
22 shall make public the data reported under paragraph  
23 (1).

1 **SEC. 3. COVID-19 HEALTH DISPARITIES ACTION PLAN.**

2 (a) IN GENERAL.—The Secretary, acting through the  
3 Director of the Office of Minority Health of the Depart-  
4 ment of Health and Human Services, shall develop an evi-  
5 dence-based action plan (referred to in this section as the  
6 “action plan”) for addressing health disparities related to  
7 COVID-19 testing, infections, hospitalizations, ICU ad-  
8 missions, and deaths among racial and ethnic minority,  
9 rural, and other vulnerable populations.

10 (b) COORDINATION.—In developing the action plan  
11 described in subsection (a), the Director of the Office of  
12 Minority Health shall coordinate with—

13 (1) the Director of the Office of Minority  
14 Health and Health Equity of the Centers for Dis-  
15 ease Control and Prevention;

16 (2) the Director of the Office of Extramural  
17 Research, Education, and Priority Populations of  
18 the Agency for Healthcare Research and Quality;

19 (3) the Director of the Office of Minority  
20 Health of the Centers for Medicare & Medicaid Serv-  
21 ices;

22 (4) the Director of the Office of Minority  
23 Health and Health Equity of the Food and Drug  
24 Administration;

1           (5) the Director of the Office of Health Equity  
2 of the Health Resources and Services Administra-  
3 tion;

4           (6) the Director of the Office of Behavioral  
5 Health Equity of the Substance Abuse and Mental  
6 Health Services Administration;

7           (7) the Director of the National Institute of Mi-  
8 nority Health and Health Disparities; and

9           (8) the Director of the Indian Health Service.

10       (c) LITERATURE REVIEW AND CONSULTATION.—In  
11 developing the action plan described in subsection (a), the  
12 Secretary shall—

13           (1) review peer-reviewed literature to identify  
14 evidence-informed and evidence-based best practices  
15 for addressing health disparities among racial and  
16 ethnic minority, rural, and other vulnerable popu-  
17 lations; and

18           (2) consult with—

19               (A) community-based organizations with  
20 expertise in addressing health disparities that  
21 affect racial and ethnic minority, rural, and  
22 other vulnerable populations; and

23               (B) State, local, Tribal, and territorial  
24 health officials that serve areas with high con-  
25 centrations of racial and ethnic minority, rural,

1           and other vulnerable populations that have been  
2           disproportionately impacted by the COVID–19  
3           pandemic.

4       (d) REQUIREMENTS.—The action plan shall in-  
5       clude—

6           (1) a quantitative and qualitative analysis of  
7           the current barriers to complete and accurate data  
8           collection on health disparities related to COVID–19  
9           testing, infections, hospitalizations, ICU admissions,  
10          and deaths among racial and ethnic minority, rural,  
11          and other vulnerable populations;

12          (2) a description of the health disparities that  
13          have been identified with current data related to  
14          COVID–19 testing, infections, hospitalizations, ICU  
15          admissions, and deaths among racial and ethnic mi-  
16          nority, rural, and other vulnerable populations, using  
17          existing metrics where possible;

18          (3) a description of the actions that the Sec-  
19          retary will take to address the barriers to complete  
20          and accurate data collection on health disparities re-  
21          lated to COVID–19 testing, infections, hospitaliza-  
22          tions, ICU admissions, and deaths among racial and  
23          ethnic minority, rural, and other vulnerable popu-  
24          lations, including specific dates by when such actions



1 will be completed and the metrics that will be used  
2 to evaluate the impact of such actions;

3 (4) the actions that the Secretary will take to  
4 address the health disparities that have been identi-  
5 fied with current data related to COVID–19 testing,  
6 infections, hospitalizations, ICU admissions, and  
7 deaths among racial and ethnic minority, rural, and  
8 other vulnerable populations, including specific dates  
9 by when such actions will be taken and completed  
10 and the metrics that will be used to evaluate the im-  
11 pact of such actions; and

12 (5) a summary of any additional resources that  
13 the Secretary requires in order to fully identify and  
14 address health disparities related to COVID–19 test-  
15 ing, infections, hospitalizations, ICU admissions, and  
16 deaths among racial and ethnic minority, rural, and  
17 other vulnerable populations.

18 (e) SUBMISSION OF ACTION PLAN AND REPORTS ON  
19 THE ACTION PLAN.—

20 (1) INITIAL ACTION PLAN.—Not later than 30  
21 days after the date of enactment of this Act, the  
22 Secretary shall submit the action plan to the Com-  
23 mittee on Health, Education, Labor, and Pensions  
24 and the Committee on Finance of the Senate and  
25 the Committee on Energy and Commerce and the

1 Committee on Ways and Means of the House of  
2 Representatives, and make such plan publically  
3 available on the internet website of the Department  
4 of Health and Human Services.

5 (2) UPDATES.—Not later than 30 days after  
6 the date of publication of the initial action plan  
7 under paragraph (1), and at least every 30 days  
8 thereafter until the date that is 6 months after the  
9 COVID–19 public health emergency has ended, the  
10 Secretary shall submit updates to the action plan to  
11 Congress. Each such update shall provide updates  
12 on the Secretary’s actions and the relevant evalua-  
13 tion metrics, and shall include any actions that the  
14 Secretary has identified since issuance of the initial  
15 action plan under paragraph (1) and any previous  
16 updates under this paragraph, as necessary to ad-  
17 dress health disparities related to COVID–19 test-  
18 ing, infections, hospitalizations, ICU admissions, and  
19 deaths among racial and ethnic minority, rural, and  
20 other vulnerable populations. The Secretary shall  
21 make each update publically available on the inter-  
22 net website of the Department of Health and  
23 Human Services.

24 (3) FINAL REPORT ON ACTION PLANS.—Not  
25 later than 1 year after the end of the COVID–19

1 public health emergency, the Secretary shall submit  
2 to Congress a final report analyzing the health dis-  
3 parities related to COVID–19 testing, infections,  
4 hospitalizations, ICU admissions, and deaths among  
5 racial and ethnic minority, rural, and other vulner-  
6 able populations, including an analysis of the social  
7 determinants of health and the underlying causes of  
8 health disparities. The report shall include—

9 (A) the Secretary’s long-term plan for ad-  
10 dressing racial and ethnic health disparities, in-  
11 cluding an assessment of any additional re-  
12 sources that may be required for the Office of  
13 Minority Health of the Department of Health  
14 and Human Services, or such department in  
15 general, to sustain long-term initiatives to ad-  
16 dress racial and ethnic health disparities; and

17 (B) recommendations for Congress to ad-  
18 dress the underlying causes and prevent health  
19 disparities among racial and ethnic minority,  
20 rural, and other vulnerable populations during  
21 future public health emergencies.

22 (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
23 authorized to be appropriated to carry out this section  
24 \$1,000,000 for fiscal year 2020.

1 **SEC. 4. FEDERAL PUBLIC AWARENESS CAMPAIGNS TO AD-**  
2 **DRESS HEALTH DISPARITIES.**

3 (a) IN GENERAL.—The Secretary, acting through the  
4 Director of the Centers for Disease Control and Preven-  
5 tion and in coordination with the Office of Minority  
6 Health and, as appropriate, in coordination with the rel-  
7 evant Offices of Minority Health in the Department of  
8 Health and Human Services, the National Institute of Mi-  
9 nority Health and Health Disparities, and the Indian  
10 Health Service, shall develop and implement accessible,  
11 multilingual and culturally competent public awareness  
12 campaigns about COVID–19 directed at racial and ethnic  
13 minority, rural, and other vulnerable populations that  
14 have experienced health disparities during the COVID–19  
15 public health emergency related to testing, infections, hos-  
16 pitalizations, ICU admissions, and deaths.

17 (b) REQUIREMENTS.—The public awareness cam-  
18 paigns under this section shall—

19 (1) prioritize communities where the greatest  
20 health disparities have been identified with respect  
21 to testing access and rates of infections, hospitaliza-  
22 tions, and deaths related to COVID–19;

23 (2)(A) provide information, based on scientific  
24 evidence, about the benefits of being tested for  
25 COVID–19, the availability of COVID–19 testing  
26 with no cost-sharing for most United States resi-

1 dents, and the actions that individuals can take to  
2 protect themselves from COVID–19, including mask-  
3 ing and social distancing; and

4 (B) dispel misinformation about COVID–19  
5 symptoms, testing, or treatment; and

6 (3) use print, radio, or internet media, or other  
7 forms of public communication, including local, inde-  
8 pendent, or community-based written news and elec-  
9 tronic publications.

10 (c) COORDINATION.—The public awareness cam-  
11 paigns under this section shall be complementary to, and  
12 coordinated with, any other Federal, State, and local ef-  
13 forts, including the action plan described in section 3, as  
14 appropriate.

15 (d) REPORT TO CONGRESS.—Not later than 45 days  
16 after the date on which appropriated funds are made avail-  
17 able to the Secretary under this section, the Secretary  
18 shall submit to Congress a report on how such funds have  
19 been used during such 45-day period and a plan for using  
20 any remaining funds within the next 45 days.

21 (e) AUTHORIZATION OF APPROPRIATIONS.—There is  
22 authorized to be appropriated to carry out this section  
23 \$10,000,000 for fiscal year 2020.

1 **SEC. 5. GRANT PROGRAM FOR PUBLIC AWARENESS CAM-**  
2 **PAIGNS TO ADDRESS HEALTH DISPARITIES.**

3 (a) **IN GENERAL.**—The Secretary, acting through the  
4 Director of the Centers for Disease Control and Preven-  
5 tion and in coordination with the Office of Minority  
6 Health, and, as appropriate, in coordination with the rel-  
7 evant Offices of Minority Health in the Department of  
8 Health and Human Services, the National Institute of Mi-  
9 nority Health and Health Disparities, and the Indian  
10 Health Service, shall award competitive grants to eligible  
11 entities to support such entities in developing and imple-  
12 menting accessible, multilingual, and culturally competent  
13 public awareness campaigns about COVID–19 directed at  
14 racial and ethnic minority, rural, and other vulnerable  
15 populations that have experienced health disparities dur-  
16 ing the COVID–19 public health emergency related to  
17 testing, infections, hospitalizations, ICU admissions, and  
18 deaths.

19 (b) **ELIGIBLE ENTITIES.**—To be eligible to receive a  
20 grant under this section, an entity shall be a State, local,  
21 Tribal, or territorial health department, a nonprofit com-  
22 munity-based organization, a Tribal organization, an  
23 urban Indian organization, or a health care provider, or  
24 a nonprofit faith-based organization.

25 (c) **PRIORITIZATION.**—When awarding grants under  
26 this section, the Secretary shall prioritize entities serving

1 communities where the greatest health disparities exist  
2 with respect to testing access, infections, hospitalizations,  
3 and deaths related to COVID–19, impacting racial and  
4 ethnic minority, rural, and other vulnerable populations.

5 (d) REQUIREMENTS.— An entity awarded a grant  
6 under this section shall conduct a public awareness cam-  
7 paign that—

8 (1)(A) provides to the public information, based  
9 on scientific evidence, about the benefits of being  
10 tested for COVID–19, the availability of COVID–19  
11 testing with no cost-sharing for most United States  
12 residents, and the actions that individuals can take  
13 to protect themselves from COVID–19, including  
14 masking and social distancing; and

15 (B) dispels misinformation about COVID–19  
16 symptoms, testing, or treatment;

17 (2) uses print, radio, or internet media, or  
18 other forms of public communication; and

19 (3) communicates in the language or languages  
20 necessary to reach racial and ethnic minority, rural,  
21 and other vulnerable populations in the applicable  
22 region that have experienced health disparities dur-  
23 ing the COVID–19 public health emergency related  
24 to testing, infections, hospitalizations, ICU admis-  
25 sions, and deaths.

1 (e) COORDINATION.—The public health campaigns  
2 supported by grants awarded under this section shall be  
3 complementary to, and coordinated with, any other Fed-  
4 eral, State, or local efforts, including the action plan de-  
5 scribed in section 3, as appropriate.

6 (f) TIMING.—The Secretary shall award the grants  
7 under this section not later than 60 days after the date  
8 of enactment of this Act.

9 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
10 authorized to be appropriated to carry out this section  
11 \$10,000,000 for fiscal year 2020.

12 **SEC. 6. VACCINE SAFETY PUBLIC AWARENESS CAMPAIGN.**

13 (a) IN GENERAL.—The Secretary, acting through the  
14 Director of the Centers for Disease Control and Preven-  
15 tion and in coordination with the Office of Minority  
16 Health, and, as appropriate, the relevant Offices of Minor-  
17 ity Health in the Department of Health and Human Serv-  
18 ices, the National Institute of Minority Health and Health  
19 Disparities, and the Indian Health Service, shall establish  
20 grant funding opportunities for eligible entities to dissemi-  
21 nate COVID–19 vaccination information.

22 (b) ELIGIBLE ENTITIES.—To be eligible to receive a  
23 grant under this section, an entity shall be a State, local,  
24 Tribal, or territorial health department, an urban Indian



1 organization, a nonprofit community-based organization,  
2 or a nonprofit faith-based organization.

3 (c) USE OF FUNDS.—

4 (1) IN GENERAL.—Entities receiving a grant  
5 under this section shall use such grant funds to—

6 (A) increase awareness to the benefit of re-  
7 ceiving a COVID–19 vaccine, and include infor-  
8 mation on where the vaccine can be obtained;  
9 and

10 (B) create and disseminate culturally and  
11 linguistically appropriate messaging.

12 (2) ADDITIONAL GRANT FUNDS.—The Sec-  
13 retary shall have discretion to award additional  
14 grant funding under this section to broaden the  
15 grant recipient’s vaccine public safety awareness  
16 campaign to include routine immunizations and gen-  
17 eral influenza vaccine messaging.

18 (d) PRIORITIZATION.—In awarding grants under this  
19 section, the Secretary shall give priority to eligible entities  
20 in either urban or rural communities (or a combination  
21 of urban and rural communities) that serve vulnerable  
22 populations, including ethnic minority populations, which  
23 may include low-income, uninsured, and medically under-  
24 served individuals or populations with historically low  
25 rates of receiving vaccines.

1 (e) TIMING.—The Secretary shall awards the grants  
2 under this section not later than 60 days after the date  
3 on the earlier of the date on which the Food and Drug  
4 Administration licenses a COVID–19 vaccine under sec-  
5 tion 351 of the Public Health Service Act (42 U.S.C. 262)  
6 or the date on which a manufacturer begins to distribute  
7 a COVID–19 vaccine to public or private entities pursuant  
8 to an emergency use authorization under section 564 of  
9 the Federal Food, Drug, and Cosmetic Act (21 U.S.C.  
10 360bbb–3).

11 (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
12 authorized to be appropriated to carry out this section  
13 \$5,000,000 for fiscal year 2020.

14 **SEC. 7. ADDENDUM TO TESTING PLANS TO ADDRESS DIS-**  
15 **PARITIES.**

16 (a) IN GENERAL.—The Secretary, acting through the  
17 Director of the Centers for Disease Control and Preven-  
18 tion, shall report to the Committee on Appropriations and  
19 the Committee on Health, Education, Labor, and Pen-  
20 sions of the Senate, and the Committee on Appropriations  
21 and the Committee on Energy and Commerce of the  
22 House of Representatives, on State testing plans referred  
23 to under the heading “Public Health and Social Services  
24 Emergency Fund” under the heading “Office of the Sec-  
25 retary” under the heading “Department of Health and

1 Human Services” of title I of division B of the Paycheck  
2 Protection Program and Health Care Enhancement Act  
3 (Public Law 116–139).

4 (b) REQUIREMENT TO DEVELOP ADDENDUM.—

5 (1) IN GENERAL.—The Secretary shall solicit  
6 States, territories, and Indian tribes to develop an  
7 addendum to testing plans described in subsection  
8 (a), to specifically address testing plans for racial  
9 and ethnic minority, rural, and other vulnerable pop-  
10 ulations experiencing health disparities related to  
11 COVID–19 testing, infections, hospitalizations, ICU  
12 admissions, or deaths. The Secretary shall model  
13 questions for the addendum based on the original  
14 testing plans.

15 (2) FUNDING.—To carry out this subsection,  
16 the Secretary shall use amounts appropriated under  
17 the heading “Public Health and Social Services  
18 Emergency Fund” under the heading “Office of the  
19 Secretary” under the heading “Department of  
20 Health and Human Services” of title I of division B  
21 of the Paycheck Protection Program and Health  
22 Care Enhancement Act (Public Law 116–139).

23 **SEC. 8. DEFINITIONS.**

24 In this Act—

1           (1) the term “COVID–19 public health emer-  
2           gency” means the public health emergency first de-  
3           clared by the Secretary of Health and Human Serv-  
4           ices under section 319 of the Public Health Service  
5           Act (42 U.S.C. 247d) on January 31, 2020, with re-  
6           spect to COVID–19;

7           (2) the term “ICU” means intensive care unit;

8           (3) the terms “racial and ethnic minority  
9           group” and “racial and ethnic minority” have the  
10          meaning given the term “racial and ethnic minority  
11          group” in section 1707(g) of the Public Health Serv-  
12          ice Act (42 U.S.C. 300u–6(g));

13          (4) the term “relevant Offices of Minority  
14          Health in the Department of Health and Human  
15          Services” may include—

16                (A) the Office of Extramural Research,  
17                Education, and Priority Populations of the  
18                Agency for Healthcare Research and Quality;

19                (B) the Office of Minority Health and  
20                Health Equity of the Centers for Disease Con-  
21                trol and Prevention;

22                (C) the Office of Minority Health of the  
23                Centers for Medicare & Medicaid Services;

1 (D) the Office of Minority Health and  
2 Health Equity of the Food and Drug Adminis-  
3 tration;

4 (E) the Office of Health Equity of the  
5 Health Resources and Services Administration;  
6 and

7 (F) the Office of Behavioral Health Equity  
8 of the Substance Abuse and Mental Health  
9 Services Administration; and

10 (5) the term “Secretary”, unless indicated oth-  
11 erwise, means the Secretary of Health and Human  
12 Services

13 (6) the terms “Indian Tribe” and “Tribal orga-  
14 nization” have the meanings given the terms “In-  
15 dian tribe” and “tribal organization” in section 4 of  
16 the Indian Self-Determination and Education Assist-  
17 ance Act (25 U.S.C. 5304); and

18 (7) the term “urban Indian organization” has  
19 the meaning given the term in section 4 of the In-  
20 dian Health Care Improvement Act (25 U.S.C.  
21 1603).