

Calendar No. 344

116TH CONGRESS
1ST SESSION**H. R. 617**

IN THE SENATE OF THE UNITED STATES

JULY 24, 2019

Received; read twice and referred to the Committee on Energy and Natural
Resources

DECEMBER 17, 2019

Reported by Ms. MURKOWSKI, without amendment

AN ACT

To authorize the Department of Energy to conduct collaborative research with the Department of Veterans Affairs in order to improve healthcare services for veterans in the United States, and for other purposes.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Department of Energy
5 Veterans’ Health Initiative Act”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

1 (1) DEPARTMENT.—The term “Department”
2 means the Department of Energy.

3 (2) NATIONAL LABORATORY.—The term “Na-
4 tional Laboratory” has the meaning given that term
5 in section 2 of the Energy Policy Act of 2005 (42
6 U.S.C. 15801).

7 (3) SECRETARY.—The term “Secretary” means
8 the Secretary of Energy.

9 **SEC. 3. PURPOSES.**

10 The purposes of this Act are to advance Department
11 of Energy expertise in artificial intelligence and high-per-
12 formance computing in order to improve health outcomes
13 for veteran populations by—

14 (1) supporting basic research through the appli-
15 cation of artificial intelligence, high-performance
16 computing, modeling and simulation, machine learn-
17 ing, and large-scale data analytics to identify and
18 solve outcome-defined challenges in the health
19 sciences;

20 (2) maximizing the impact of the Department
21 of Veterans Affairs’ health and genomics data
22 housed at the National Laboratories, as well as data
23 from other sources, on science, innovation, and
24 health care outcomes through the use and advance-

1 ment of artificial intelligence and high-performance
2 computing capabilities of the Department of Energy;

3 (3) promoting collaborative research through
4 the establishment of partnerships to improve data
5 sharing between Federal agencies, National Labora-
6 tories, institutions of higher education, and non-
7 profit institutions;

8 (4) establishing multiple scientific computing
9 user facilities to house and provision available data
10 to foster transformational outcomes; and

11 (5) driving the development of technology to im-
12 prove artificial intelligence, high-performance com-
13 puting, and networking relevant to mission applica-
14 tions of the Department of Energy, including mod-
15 eling, simulation, machine learning, and advanced
16 data analytics.

17 **SEC. 4. DEPARTMENT OF ENERGY VETERANS HEALTH RE-**
18 **SEARCH AND DEVELOPMENT.**

19 (a) IN GENERAL.—The Secretary shall establish and
20 carry out a research program in artificial intelligence and
21 high-performance computing, focused on the development
22 of tools to solve big data challenges associated with vet-
23 eran’s healthcare, and to support the efforts of the De-
24 partment of Veterans Affairs to identify potential health
25 risks and challenges utilizing data on long-term health-

1 care, health risks, and genomic data collected from veteran
2 populations. The Secretary shall carry out this program
3 through a competitive, merit-reviewed process, and con-
4 sider applications from National Laboratories, institutions
5 of higher education, multi-institutional collaborations, and
6 other appropriate entities.

7 (b) PROGRAM COMPONENTS.—In carrying out the
8 program established under subsection (a), the Secretary
9 may—

10 (1) conduct basic research in modeling and sim-
11 ulation, machine learning, large-scale data analytics,
12 and predictive analysis in order to develop novel or
13 optimized algorithms for prediction of disease treat-
14 ment and recovery;

15 (2) develop methods to accommodate large data
16 sets with variable quality and scale, and to provide
17 insight and models for complex systems;

18 (3) develop new approaches and maximize the
19 use of algorithms developed through artificial intel-
20 ligence, machine learning, data analytics, natural
21 language processing, modeling and simulation, and
22 develop new algorithms suitable for high-perform-
23 ance computing systems and large biomedical data
24 sets;

1 (4) advance existing and construct new data en-
2 claves capable of securely storing data sets provided
3 by the Department of Veterans Affairs, Department
4 of Defense, and other sources; and

5 (5) promote collaboration and data sharing be-
6 tween National Laboratories, research entities, and
7 user facilities of the Department by providing the
8 necessary access and secure data transfer capabili-
9 ties.

10 (c) COORDINATION.—In carrying out the program re-
11 quired under subsection (a), the Secretary is authorized
12 to—

13 (1) enter into memoranda of understanding in
14 order to carry out reimbursable agreements with the
15 Department of Veterans Affairs and other entities in
16 order to maximize the effectiveness of Department
17 of Energy research and development to improve vet-
18 erans' healthcare;

19 (2) consult with the Department of Veterans
20 Affairs and other Federal agencies as appropriate;
21 and

22 (3) ensure that data storage meets all privacy
23 and security requirements established by the Depart-
24 ment of Veterans Affairs, and that access to data is
25 provided in accordance with relevant Department of

1 Veterans Affairs data access policies, including in-
2 formed consent.

3 (d) REPORT.—Not later than 2 years after the date
4 of the enactment of this Act, the Secretary shall submit
5 to the Committee on Science, Space, and Technology and
6 the Committee on Veterans' Affairs of the House of Rep-
7 resentatives, and the Committee on Energy and Natural
8 Resources and the Committee on Veterans' Affairs of the
9 Senate, a report detailing the effectiveness of—

10 (1) the interagency coordination between each
11 Federal agency involved in the research program
12 carried out under this section;

13 (2) collaborative research achievements of the
14 program; and

15 (3) potential opportunities to expand the tech-
16 nical capabilities of the Department.

17 (e) FUNDING.—There are authorized to be appro-
18 priated to the Secretary of Veterans Affairs to carry out
19 this section \$27,000,000 during the period of fiscal years
20 2020 through 2024.

21 **SEC. 5. INTERAGENCY COLLABORATION.**

22 (a) IN GENERAL.—The Secretary is authorized to
23 carry out research, development, and demonstration activi-
24 ties to develop tools to apply to big data that enable Fed-
25 eral agencies, institutions of higher education, nonprofit

1 research organizations, and industry to better leverage the
2 capabilities of the Department to solve complex, big data
3 challenges. The Secretary shall carry out these activities
4 through a competitive, merit-reviewed process, and con-
5 sider applications from National Laboratories, institutions
6 of higher education, multi-institutional collaborations, and
7 other appropriate entities.

8 (b) ACTIVITIES.—In carrying out the research, devel-
9 opment, and demonstration activities authorized under
10 subsection (a), the Secretary may—

11 (1) utilize all available mechanisms to prevent
12 duplication and coordinate research efforts across
13 the Department;

14 (2) establish multiple user facilities to serve as
15 data enclaves capable of securely storing data sets
16 created by Federal agencies, institutions of higher
17 education, nonprofit organizations, or industry at
18 National Laboratories; and

19 (3) promote collaboration and data sharing be-
20 tween National Laboratories, research entities, and
21 user facilities of the Department by providing the
22 necessary access and secure data transfer capabili-
23 ties.

24 (c) REPORT.—Not later than 2 years after the date
25 of the enactment of this Act, the Secretary shall submit

1 to the Committee on Science, Space, and Technology of
2 the House of Representatives and the Committee on En-
3 ergy and Natural Resources of the Senate a report evalu-
4 ating the effectiveness of the activities authorized under
5 subsection (a).

6 (d) FUNDING.—There are authorized to be appro-
7 priated to the Secretary of Energy to carry out subsection
8 (a) \$15,000,000 for each of the fiscal years 2020 through
9 2023.

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