

# Return on Innovation



Global health R&D delivers for South Dakota



US government (USG) investment in global health R&D has delivered

**\$1.2** million to South Dakota research institutions\*

South Dakota's top global health R&D institution by USG funding\*



South Dakota State University

## Global health R&D at work in the Mount Rushmore State



PATH/Aaron Joel Santos

Researchers at South Dakota State University are part of a consortium of global organizations working to develop a vaccine against enterotoxigenic *E. coli*, or ETEC, a deadly diarrheal disease. The scientists altered the toxins produced by a form of *E. coli* and genetically fused this non-poisonous "toxoid" to a protein known to evoke an immune response. The resulting "fusion protein" could be used to develop a vaccine. Besides causing diarrheal illness in farm animals, ETEC is a main source of bacterial-induced diarrhea in low-income countries and is the chief cause of traveler's diarrhea. Unsafe water sources and lack of adequate sanitation increase the risk of contracting ETEC. The World Health Organization estimates that ETEC causes approximately 210 million cases of illness in humans and 380,000 deaths each year, most of whom are young children.

## Neglected diseases in South Dakota†

West Nile cases	<b>683</b>
HIV diagnoses	<b>250</b>
Tuberculosis cases	<b>129</b>
Malaria cases	<b>24</b>
Dengue cases	<b>10</b>

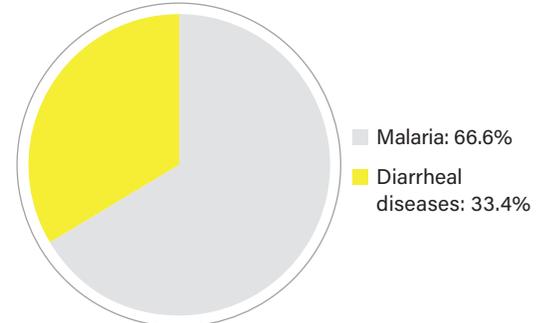
## South Dakota industry in global health R&D

**Auratus Bio:** Canton

**Medgene Labs:** Brookings

**SAB Biotherapeutics:** Sioux Falls

## South Dakota's top areas of global health R&D by USG funding\*



## GLOBAL HEALTH R&D IS A SMART INVESTMENT FOR THE UNITED STATES§

**89¢** of every dollar the USG invests in global health R&D stays within the United States, **supporting the domestic economy.**

USG investment in global health R&D between 2007 and 2015 **generated an estimated:**

**200K** new US jobs

**\$33 BILLION** in US economic growth.

\*Authors' analysis of USG investment data from the G-FINDER survey, including funding for R&D for neglected diseases from 2007-2015 and for Ebola and select viral hemorrhagic fevers from 2014-2015. Reflects USG funding received by entities in state including academic and research institutions, product development partnerships, other nonprofits, select corporations, and government research institutions, as well as self-funding or other federal agency transfers received by federal agencies located in state; but excludes pharmaceutical industry data which is aggregated and anonymized in the survey for confidentiality purposes. See [www.ghtcoalition.org](http://www.ghtcoalition.org) for full methodology.

†Based on previous analysis of the economic impact of National Institutes of Health R&D funding and author's analysis described above. See [www.ghtcoalition.org](http://www.ghtcoalition.org) for additional details.

‡Centers for Disease Control and Prevention: West Nile virus disease cases 2008-2016, HIV diagnoses 2008-2016, Tuberculosis cases 2008-2016, Malaria cases 2008-2014, Dengue virus infection cases 2010-2016.

§Source: Policy Cures Research, Global Health Technologies Coalition. Return on innovation: Why global health R&D is a smart investment for the United States. 2017.