



Sandia National Laboratories

# Sandia National Laboratories

A Campus-Wide Health and Well-Being Promotion Effort

*Building Design + Construction, LEED Campus*

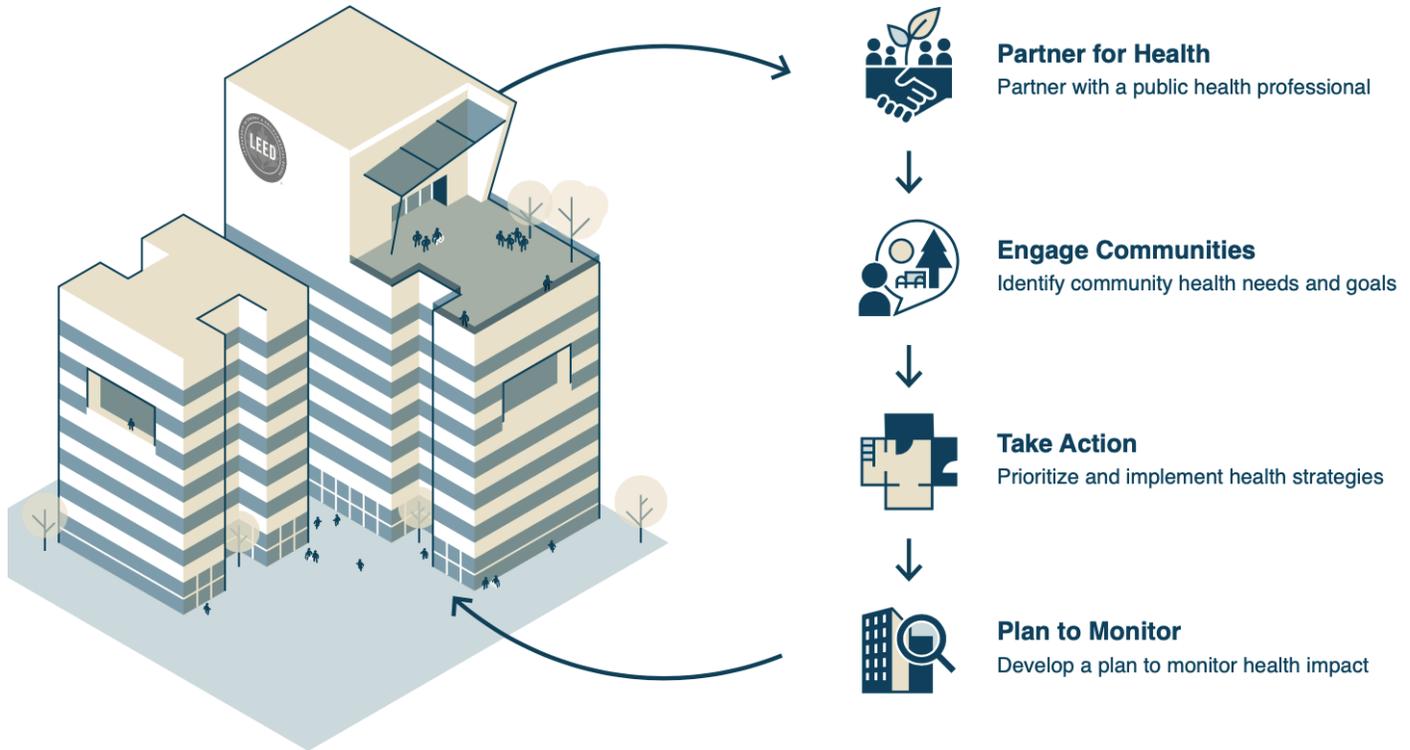
In 2017, Alicia Brown at Sandia National Laboratories engaged Erin Murphy and Noreen Richards of Verdacity to develop a master plan under the LEED Campus umbrella for new building construction.

The team utilized the LEED Health Process to identify and work with Sandia's internal Health, Benefits, and Employee Services group to promote both standard office worker and high security employee population health through campus design, construction, and operation.

In 2017, Sandia National Laboratories (Sandia), a high-security, government-contracted research facility, kicked off a process to consider the connections between their facility design and employee health. Spanning over 900 acres in the high desert of Albuquerque, New Mexico, the Sandia campus consists of data centers, office spaces, and specialized laboratories that cater to over 10,000 employees and 2,000 contractors every day. When the opportunity to design new buildings within the campus boundary presented itself, Sandia sought out sustainability consultants at Verdacity who placed a similar value on health and well-being.

Project owners and their associated stakeholders set out to utilize the LEED Integrative Process for Health Promotion (LEED Health Process) pilot credit in their pursuit of both LEED v4 Gold certification and a LEED v4 Campus masterplan certification for any new projects to be developed within the campus boundary. The process complimented Sandia's sustainability plans, provided a mechanism for Sandia to receive recognition for their existing health efforts and offered a framework for Sandia to prioritize health strategies in the context of unique project constraints.

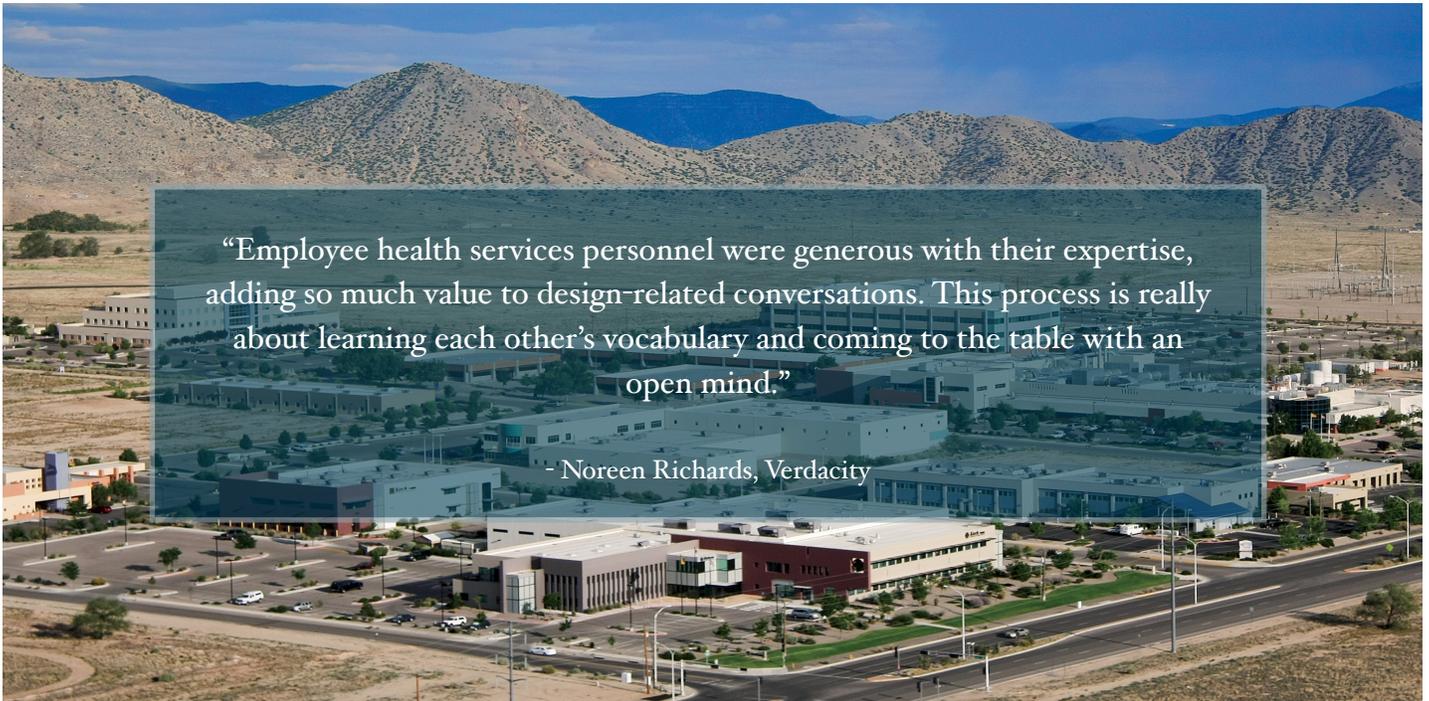
# The LEED Health Process



The LEED Health Process helps built environment project teams consider and promote population health and well-being as a formal part of their green building strategy.

The LEED Health Process is available as the **LEED v4 Integrative Process for Health Promotion pilot credit** and within the LEED v4.1 Integrative Process credit. The process is also aligned with 2020 Enterprise Green Communities Criterion 1.5, Design for Health and Well-Being. The Green Health Partnership, an initiative of the University of Virginia School of Medicine and the U.S. Green Building Council, developed the process in collaboration with Enterprise Community Partners and the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.





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**Partner for Health.** As an organization that highly values the health and well-being of its employees, contractors, and their families, Sandia already had health experts on staff. The Health, Benefits, and Employee Services (HBE) team - an internal group of highly-qualified health professionals including physicians, nurse practitioners, psychologists, public health professionals, and dietitians - is primarily responsible for promoting employee health and well-being by maintaining an understanding of population health status and operating health services and wellness programs. Using the LEED Health Process allowed the facilities team to leverage the HBE team’s understanding of employee health and well-being to guide the design, construction and operation of the campus buildings to promote employee health.

The Sandia facilities team hadn’t previously worked with the HBE team in this manner. To facilitate action-oriented collaboration, GHP helped the sustainability consultants lead an icebreaker exercise during the internal health goal setting workshop. This exercise provided space for the HBE and facility teams to develop a shared definition of health and a collective understanding about the relationship between facilities and health promotion. Through working with the HBE team, the Sandia facilities team developed an understanding of the socio-cultural drivers of health and how these are influenced by the physical environment.

**SANDIA NATIONAL LABORATORIES PROJECT STATISTICS**

LOCATION	PROJECT TYPE	CERTIFICATIONS	SITE USERS	SQ. FOOTAGE	SUSTAINABILITY
Albuquerque, NM	LEED Campus, New Construction	LEED v4 Campus Gold, LEED Health Process	~ 10,000 Employees and ~ 2,000 Contractors	N/A (Secure Campus)	Verdacity

**Engage Communities.** Well-equipped with the expertise of the HBE team, design professionals, and sustainability consultants, the project team began to collect and analyze data to assess the most pressing health needs of its population and to inform design and programmatic health goals. Members of the HBE team created a site-wide health needs assessment to understand baseline health status of the Sandia population and consider the relationship between population health and campus design.

The campus community was split into two distinct populations: standard office workers and high security employees. In both populations, many people who worked on the remote and secure location of the Albuquerque campus experienced a high prevalence of smoking, adult asthma, cardiovascular issues, obesity and low rates of physical activity and healthcare coverage. High-security employees also reported experiencing increased levels of stress and lack of connection with peers due to their uniquely secretive work environment.

### SANDIA NATIONAL LABORATORIES PROJECT TEAM

**OWNER.** Sandia Internal Facilities Team, Sandia National Laboratories.

**SUSTAINABILITY.** Verdacity.

**HEALTH PARTNER.** Sandia Health, Benefits, and Employee Services Team.

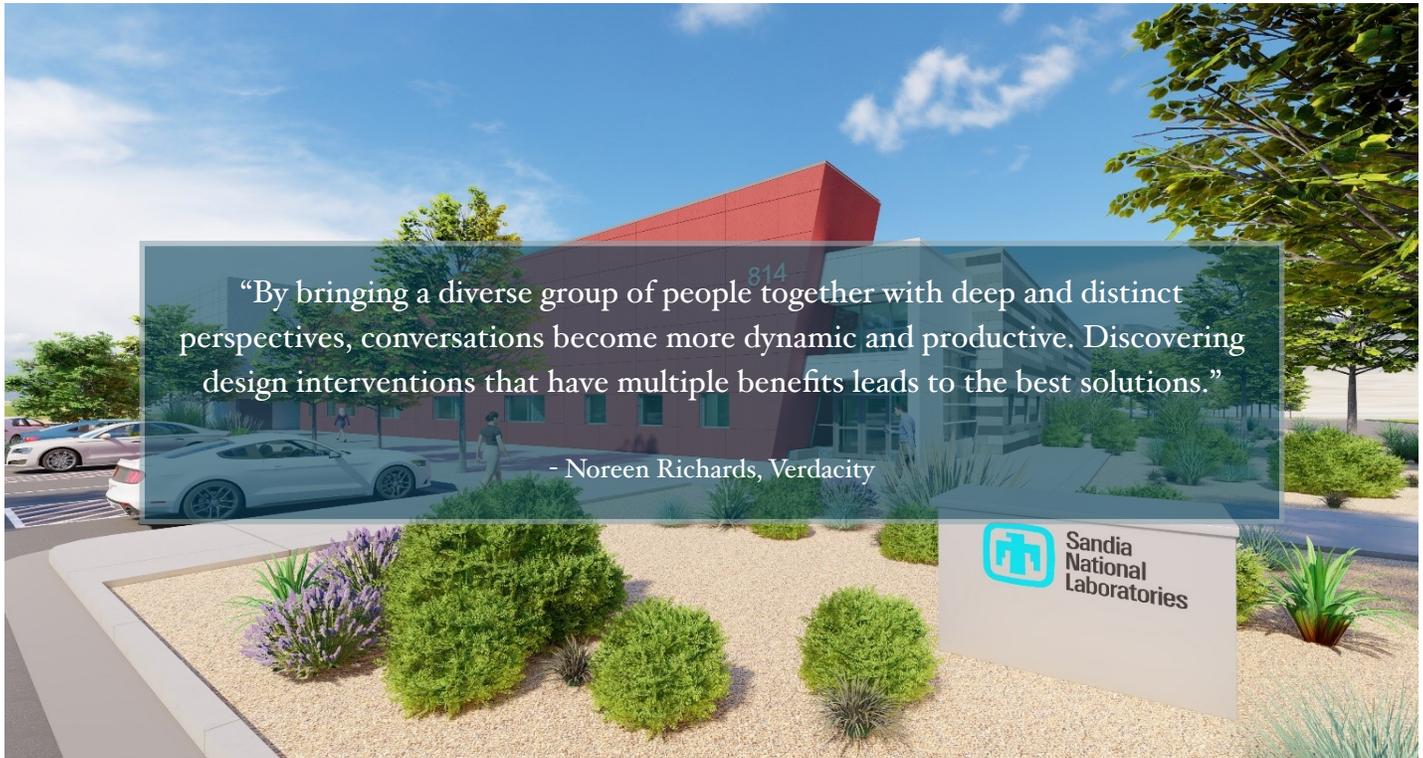
Based on these research and observation findings from the involved health stakeholders, Sandia established a number of health goals for their new spaces: maintaining a healthy weight and blood pressure, managing stress levels, increasing access to healthy foods, increasing connection with peers without compromising security, and combating sedentary work environments. The team also prioritized the following sustainability goals congruent with the LEED campus requirements: increasing energy efficiency and reducing waste.

### SANDIA NATIONAL LABORATORIES HEALTH GOALS

- Maintain a healthy weight and blood pressure for employees and contractors.
- Manage stress levels due to the highly-secretive nature of employee and contractor work.
- Increase access to healthy foods on campus.
- Increase social connection among peers, without compromising security.
- Combat sedentary work environments and boost physical activity and movement.
- Provide access to mental health counseling, including support groups during the COVID-19 pandemic.
- Provide maximum telework posture during the COVID-19 pandemic; only essential employees on site.

“Integrating health promotion with LEED design and construction principles on a campus-wide basis acknowledges Sandia’s commitment toward a healthier, more sustainable work environment.”

- Alicia Brown, Sandia National Laboratories



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**Take Action.** Once community-informed health goals were developed for office and high-security employees, the Sandia project team came together to prioritize specific actions to address the established goals. While prioritizing strategies, the project team considered urgency, employee preference and the team’s level of control over a campus condition.

Some of the prioritized design strategies for employees included active elements for physical fitness opportunities like energy hubs (break rooms with movement-encouraging elements and activities), campus walking trails, and bicycle infrastructure. Although the campus is both large and secluded, accessibility to healthy foods was addressed through the introduction of break rooms with healthy food storage. Stress levels were approached both programmatically and through creative design strategies like artificial daylight and sound therapy in some of the most secluded buildings on the campus.

**Health Need**

**Improving Physical Health**

**Increasing Movement**

**Managing Stress**

**Health Solution**

**Design for Healthy Behaviors**

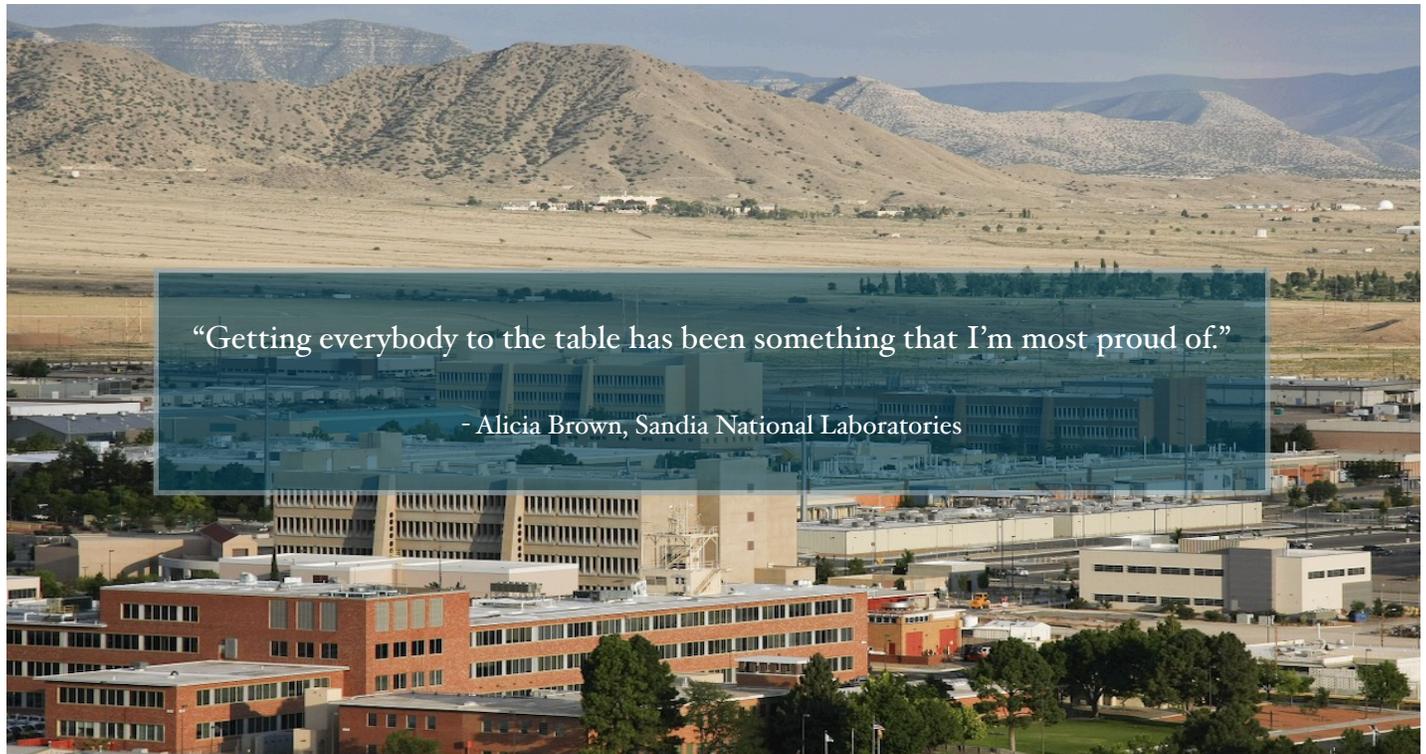
A key health need for Sandia’s population was improving physical health indicators like blood pressure and weight, so access to healthy food options on the secure campus was prioritized.

**Design for Activity**

Mobility was limited for employees in high-security and isolated office environments. Many design strategies (like energy hubs, walking trails, and bicycle infrastructure, challenges, and online fitness classes) focused on creating opportunities for activity on the campus.

**Design for Connection and Respite**

Employees and contractors needed a way to cope with the stressful nature of their work and to connect with others without discussing confidential projects or information. Designers and health partners advocated for strategies for connection, but also creatively introduced simulated daylight and natural sounds in secluded spaces and provided mental health counseling and support groups during the pandemic.



“Getting everybody to the table has been something that I’m most proud of.”

- Alicia Brown, Sandia National Laboratories

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**Plan to Monitor.** The Sandia project team will leverage its HBE staff and utilize the WELL Starter Kit pilot credit to develop a plan to evaluate and monitor the impact of their health and well-being strategies. The organization is uniquely positioned to objectively assess their health-promoting design strategies and programs, as the HBE team has detailed access to the health data of employees, contractors, and their family members. While assessing and planning for health promotion is a core function of the HBE team, their expertise hadn’t previously been utilized to analyze the relationship between facilities and employee health.

**Conclusion.** In recognition of the team’s leadership, Sandia National Labs became the first corporate campus to receive the USGBC Building Health Leadership Award, a celebration of green building projects that focus on health promotion. By setting intentional and health-centric goals aligned with the health-promoting mission of the organization, Sandia was able to promote employee health and well-being without sacrificing their original focus - to become an efficient and sustainable LEED v4 Campus.

For the first time at Sandia, sustainability, design and public health professionals worked together to make informed decisions on health and the built environment. The health and well-being needs of the

organization’s diverse community of employees and contractors drove the focus of these conversations. Health assessments conducted by the HBE team allowed the Sandia project team to gain a deeper insight into the physical, cultural, and behavioral factors that influence the health of their community.

The collaborative efforts encouraged by the LEED Health Process also helped develop a guidance document that will inform the design and programming process for any additional projects within Sandia’s campus boundary. The information gathered during the monitoring and evaluation process will help staff make decisions on how to best incorporate health promotion strategies into the design and operation of new buildings in Albuquerque and on the California campus.

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Near the end of the campus planning process, Verdacity and Sandia hosted a public workshop to share lessons learned from Sandia’s experience with the LEED Health Process. The event brought together leaders from New Mexico’s planning and public health communities to explore links between the built environment and health and encourage cross-disciplinary partnership. Sandia strives to interact with and benefit the broader Albuquerque community by taking action beyond its campus boundary.

# Sandia’s Application of the LEED Health Process

## PROJECT TEAM

The interdisciplinary BPUY team included stakeholders from the following departments and disciplines:

- **OWNER.** Sandia National Laboratories - Internal Facilities Team.
- **SUSTAINABILITY.** Verdacity.
- **HEALTH PARTNER.** Sandia’s Health, Benefits, and Employee Services Team.



**Partner for Health.** With a deep understanding of the affected populations, Sandia called upon their own Health, Benefits, and Employee Services team to serve as their health partners.



**Engage Communities.** The project team set health and well-being goals for Sandia based on the needs of employees and contractors. Movement, stress management, and connection were priorities.



**Take Action.** The team selected design and programmatic strategies - like physical activity-promoting features, energy hubs, simulated daylight, and counseling services - that would address the health needs of employees and contractors.



**Plan to Monitor.** The team at Sandia will continue to monitor the effectiveness of their chosen strategies throughout the life of the campus. The health process will help them reassess their priorities in the face of new health challenges.

## TIMELINE OF EVENTS

2017, SPRING	2017, SUMMER	2017, JULY	2017, SEPTEMBER	2017, SEPTEMBER	2018, JUNE	2019, YEAR-ROUND	2020, SPRING
Sandia recruits Verdacity Sustainability Consultants for the development of their new LEED campus building plans.	The project team enlists the Sandia National Labs Health, Benefits, and Employee Services (HBE) team as their health partner.	Preliminary health goal-setting workshop takes place with the integrated team including design, sustainability and health practitioners as well as GHP.	Discussions regarding implementation, monitoring and evaluation, and future plans.	Sandia is granted permission to certify as a LEED campus project.	Verdacity and Sandia host a public workshop for the Albuquerque building community to share their experience using the LEED Health Process.	Construction on several Sandia projects begin, with plans for additional building spaces on both the Albuquerque and California campuses.	Construction pauses for team to re-assess office space requirements (if telework is permanent).



## Who we are

Founded in 2013, the Green Health Partnership (GHP) is an academic research and development group between the University of Virginia School of Medicine and the U.S. Green Building Council with funding from the Robert Wood Johnson Foundation. GHP utilizes the green building movement as a platform and blueprint for creating a self-sustaining, scalable market for health promotion within the real estate industry.

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## Acknowledgements

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