

Integrated Care Stories: Environmental Stewardship

Kaiser Permanente's value-based, integrated care and coverage model differs from much of the United States health care system, which relies on disconnected clinical practices paid through fee-for-service. These disconnected approaches typically result in highly fragmented care, a focus on quantity of services with less focus on ensuring high-quality care, and an emphasis on acute care rather than long-term investments in population and community health.

Kaiser Permanente achieves better outcomes through a combination of care coordination, comprehensive data collection and use, and aligned incentives that all promote affordable, high-quality care. This case study, part of our [Integrated Care Stories series](#), highlights the benefits of Kaiser Permanente's approach.

The challenge

Climate change poses a growing environmental and health threat. As the planet warms, violent weather poses physical dangers during and after natural disasters, and drastic weather variability can increase risks of acute, infectious, and chronic diseases. Rising temperatures trigger more incidents of heatstroke. Flooding leads to waterborne diseases. Wildfires worsen lung and heart functioning. Increasing ground-level ozone triggers more asthma attacks. And droughts make food more expensive and less accessible.¹

Low-income communities and communities of color are disproportionately affected by these risks, with more people living and

working in areas with greater heat extremes, worse air quality, and increased risks of flooding and droughts.² Climate change can also worsen existing health inequities caused by systemic racism and other forms of discrimination.



Greenhouse gas emissions, principally carbon dioxide, are the primary driver of climate change.³ The United States represents 14% of global GHG emissions, even though the U.S. makes up only 4% of the worldwide population.⁴ The health care industry is responsible for 8.5% of U.S. gas emissions, so health systems and hospitals have the opportunity to play important roles in addressing climate change.⁵

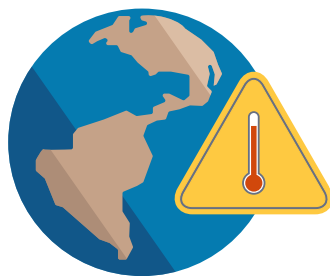
Health systems have other impacts on the environment too. In the United States, hospitals produce 14,000 tons of waste a day,⁶ and health systems and hospitals often use products that are not environmentally sustainable or that contain harmful chemicals that could impair the health of their patients.

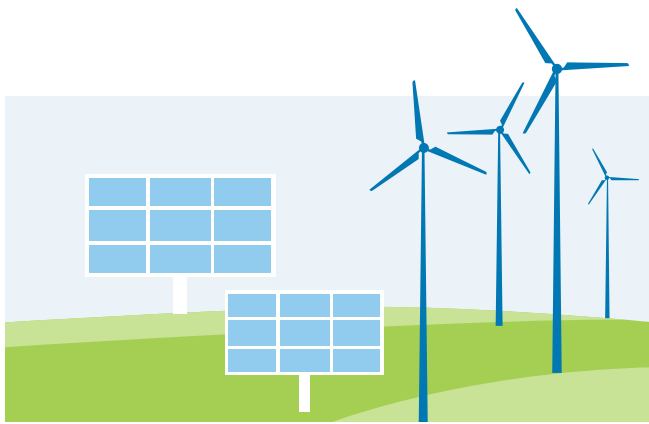
The integrated care and coverage solution

Kaiser Permanente has long invested in environmentally-friendly approaches that both improve environmental sustainability and promote health and well-being. We focus on:

Low-carbon, sustainable operations

- **Renewable energy:** Through investments in renewable energy, such as wind and solar power, we have decreased our greenhouse gas emissions even as our membership and





footprint have grown. More than 100 of our facilities host on-site solar panels, and we provide more than 700 vehicle charging stations for our members and employees.

- **Energy efficiency:** We have invested in energy efficiency monitoring and management capabilities. This has helped us reduce energy intensity, a measure of energy use relative to services provided, by 8% since 2013.
- **Resource conservation:** We have reduced water usage in our buildings by 16% since 2013, and we reuse, recycle, or compost 51% of all nonhazardous waste we generate. Our investments in [telehealth](#) are reducing our patients' need to commute to medical buildings, and we promote telecommuting for many of our office workers.
- **Green buildings:** We develop buildings that reduce carbon emissions, conserve resources, and ensure good indoor air quality. The Green Building Council, focused on improving how buildings are developed and operated through the [LEED](#) (Leadership in Energy and Environmental Design) building certification program, identified Kaiser Permanente as the health care organization with the most LEED-certified buildings in the world.⁷



- **Green products:** We purchase compostable and recyclable products made from renewable resources, from accredited sellers who do not use harmful chemicals in their products. In 2021, 26% of our purchased products met environmentally preferable purchasing criteria.
- **Carbon offsets:** We invest in sustainability initiatives and carbon offsets to compensate for GHG emissions that cannot yet be eliminated. Investment examples include promoting fuel-efficient cookstoves in Guatemala, preserving peatland that stores large amounts of carbon in Indonesia, developing LEED-certified buildings that reduce energy consumption in the U.S., and others.

Healthy, equitable, and sustainable communities

Investments and partnerships: We [partner](#) with community leaders to provide assistance during extreme climate events like wildfires, support active transportation like biking and walking, strengthen local food systems, and promote environmental justice to advance health equity.

Leadership and collaboration

Thought leadership and advocacy: We collaborate with other organizations and sectors to promote pollution reduction, climate action, and removal of toxins from consumer products. This includes partnerships with LEED, the Health Care Climate Council, Health Care Without Harm, Ceres, the Healthcare Anchor Network, and others.



In 2020, Kaiser Permanente became the first and only large U.S. healthcare system to achieve carbon neutral status. As a carbon neutral organization, we steadily decrease our GHG emissions every year. We aim to achieve net zero emissions by 2050 - with all emissions reduced through abatement or elimination without the need for additional carbon offsets.

A long history of Kaiser Permanente Environmental Leadership



1963

Rachel Carson keynote on overuse of pesticides and pollutants



1977

Build solar water heating installation



2002

Receive award from Project Greenhealth



2012

Commit to GHG emission reductions



2016

Commit to becoming carbon neutral



2019

Earn EPA Green Leadership Award



2020

First health system to achieve carbon neutrality

How Kaiser Permanente's integrated care and coverage model supported this innovation:

Focus on individual and population health:

Our mission, and our long-term perspective – free from investors' focus on short-term returns – motivates us to address individual and community drivers of health. We work to eliminate racial and economic disparities, make community investments, and collaborate with community partners. These investments in individual and population health help us retain our members, and Kaiser Permanente benefits when those long-tenured members and the broader communities we serve realize positive health outcomes.

Through our community partnerships and engagement with other organizations and sectors, we identify [needs](#), innovations, and opportunities, and [collaborate](#) to promote healthy communities and healthy environments.



Neutral

As the first health care organization in the nation to become carbon neutral, we are encouraging others to take similar steps.

We created a guidance document to help others

replicate our successes,⁸ we are co-leading the health care delivery working group of the National Academy of Medicine Action Collaborative on Decarbonizing the U.S. Health Sector,⁹ we collaborated on the design of the LEED-HC (LEED for Health Care) rating system,¹⁰ and we are participating in additional environmental leadership collaboratives.

We also were a founding member of the Healthier Hospitals Initiative, now part of Practice Greenhealth, which provides free tools and resources on Environmental Preferred Purchasing practices. Through EPP, companies buy products that are better for human and environmental health compared to similar products. We were the first health system to establish a standard set of 23 EPP criteria, with suppliers reporting data across the lifecycle of the product, from creation to disposal. Criteria focus on using cleaner energy sources, safer chemicals, stronger natural resource conservation practices, and better waste reduction practices.¹¹

Aligned planning and budgeting: Across the health plan, the medical groups, and the hospitals, leaders work together as they develop budgets for services and facilities. This promotes attention to quality improvement and operating efficiencies. Resource stewardship is seen as everyone's responsibility. Premium dollars should be spent in ways that maximize health value, with a focus on care, interventions, and activities that lead to better health outcomes.

Since early in Kaiser Permanente's history, we have prioritized environmental sustainability and built this into our budget. A dedicated team of more than 40 leaders across the organization who focus on environmental health, environmental safety, community health, government relations, communications, and sustainability help us incorporate environmental innovations into large-scale projects.

The group strategizes on best practices, financial feasibility, and implementation approaches to ensure that these projects advance our health and environmental goals, and the group also supports environmentally sustainable purchasing and operations activities. Kaiser Permanente has constructed 74 LEED-certified buildings, which contribute to fewer GHG emissions thanks to reduced water consumption, waste production, and transportation emissions.¹²

Flexibility within a budget: The Kaiser Foundation Health Plan collects member premiums in advance and then pays delivery system partners for members' care throughout the year. This creates the flexibility within and across the health plan, the hospitals, and the medical groups to deploy those resources to best meet our members' needs and encourages wise use of resources. Instead of relying on revenues generated when patients are sick, we are incentivized to invest in longer-term infrastructure and population health investments that improve long-term outcomes, and to provide timely, effective, and efficient care and service that allow us to retain and expand our membership.

Our investments in energy efficiency have saved almost \$20 million each year, and almost \$3 million each year from reductions in water usage through strategies like low-flow and automatic water fixtures, smart irrigation systems, and drought-tolerant landscaping.¹³

Our investments in green products have also saved millions resulting from greater procurement standardization and efficiencies.¹⁴

To understand the impact of our environmental efforts and our progress in achieving carbon neutral status, we track data across all our facilities. We created a tool to convert electric and gas utility bill data into units of energy, which allows us to identify buildings that would benefit from more aggressive energy efficiency improvements. The tool also helps us track changes in energy use over time and progress on reducing our energy use.¹⁵

Focusing on environmental stewardship can improve member and community health, advance environmental goals, and result in cost savings over time. By investing time, attention, and financial resources to improving our environmental impact, we are promoting healthy people and a healthy climate.

References

This story is part of a series on the value of Kaiser Permanente's integrated care model. For more stories go to <https://www.kpihp.org/blog/integrated-care-stories-series>.

Full citations for this document can be found at: [kpihp.org/references-ics](https://www.kpihp.org/references-ics).

