

Increase investment in patient outcomes by maximizing operational efficiency

Powering a sustainable future for the healthcare market



The percentage of healthcare respondents who cited managing rising costs and providing a comfortable care environment as the joint number one challenges for the next 12 months¹

The frontline payback from tackling 'back room' inefficiencies

Pressure on healthcare budgets is at an all-time high. Rising input costs – particularly pharmaceuticals and wages – alongside funding shortages and changing payment models are making it difficult to finance new investments.

The necessary focus on frontline patient care has inevitably resulted in back room operations being treated as a low priority. In many cases this has led to growing inefficiency and energy waste, creating a vicious circle of spiraling costs.

But tackling energy efficiency head on actually cuts costs, and can even lead to new sources of income that further relieve financial pressure. And it can be done with very low – even zero – upfront capital investment.

We believe healthcare providers need to take this opportunity to reduce costs and improve the care environment, while freeing funds to invest in improving patient outcomes.

Pressure points

The drivers raising demand for healthcare services range from aging populations and more chronic conditions, to costly new treatments, increased levels of employment and improved access to healthcare insurance.

Even though government health funding continues to grow, the average annual increase has actually slowed down. The bottom line is that funding is not enough to keep pace with growing demand.

Recent years have seen a notable reduction in the growth of Medicare spending, both overall and per beneficiary. Average annual growth in Medicare per capita spending growth was 1.3% between 2010 and 2016, down from 7.4% between 2000 and 2010.²

In addition, reimbursement under Medicare and Medicaid is moving away from the fee-for-service model towards payment based on the quality of service given, how valuable it is to the patient and whether the treatment has been successfully performed. This is starting to negatively impact revenue growth.

At the same time, input costs are spiraling. The US now spends twice as much on health as 10 other high-income countries.³ Wage inflation has rocketed due to skilled staff shortages. Many hospitals are consolidating to cut costs and build negotiating power with suppliers and payers.

With the move to outcome-based insurance payment models and increasing competition, the focus on the quality – not just the quantity – of healthcare and the broader patient experience is also increasing. Aging infrastructure can put this quality at significant risk. But with limited capital expenditure available to invest in the physical plant, many hospitals are relying on aging equipment and hoping it holds together.

The healthcare industry must offset today's systematic underinvestment by finding efficiencies that can divert funding to frontline care.



The percentage of American adults who now live with at least one chronic condition – 42% have more than one – accounting for hundreds of billions of dollars in healthcare spending every year⁴



The percentage drop in the average annual spending growth of Medicare per capita, from 2000–2010 to 2010–2016⁵



The US now spends twice as much on health as 10 other high-income countries, with the high cost of care attributed to nearly every sector – from drug companies to hospitals and health insurers⁶



The estimated shortfall in primary care physicians in the US by 2025⁷



The percentage of healthcare respondents who listed addressing a shortage of appropriately qualified clinicians/care specialists as among the biggest challenges facing their organization in the next 12 months⁸

Getting better: energy fixes that free up funds

With budgets under such intense pressure, we believe it is essential that healthcare providers eliminate avoidable spend and optimize operational performance. This not only cuts costs, but also enables more resources to be directed to the frontline.

Healthcare sites with aging and inefficient energy infrastructures are particularly prone to unnecessary waste and high costs. In large facilities, the biggest users of energy – heating, ventilation and air-conditioning – have often been added to or upgraded in piecemeal fashion over many years.

In addition, skills and resource gaps in operational functions mean that many physical plants are not being effectively managed. In a recent survey by Centrica Business Solutions, 58% of healthcare respondents agreed that “we do not have enough internal expertise to monitor and implement efficiency improvements.”⁹

Energy efficiency quick wins

Energy waste can often be reduced by implementing some relatively simple fixes:

Accurate monitoring and control enables precise temperature settings – less than 34°F of overheating can increase hospital fuel costs by around 8%¹⁰

Automated sensors can achieve savings of up to 30% on lighting, compared to manual interventions¹¹

Regular maintenance is key – a regularly serviced boiler, for example, can save as much as 10% on annual heating costs¹²

New technology, new savings

Taking advantage of more efficient technologies and new approaches to managing energy is an imperative for improving operational efficiency and reducing energy costs. On-site generation, such as combined heat and power (CHP) and solar, for example, can deliver significant cost savings over traditional energy sources. Facility improvement and energy conservation measures, such as HVAC, lighting and controls, also enable substantial reductions in energy consumption and costs.

35% savings

One of New Jersey’s largest healthcare systems has saved 35% annually on its electricity cost after implementing a trigeneration system, where a natural gas generator produces electricity for the hospital, while the free by-products of the system (heat) simultaneously produce steam, chilled water and hot water. The hospital now generates 60% of its energy on-site and can reinvest these savings in patient care.

Seeing where energy is being wasted and identifying inefficiencies can be particularly challenging with older physical plants. But today’s energy insight tools can make a significant difference. Advanced sensor solutions pinpoint to device level exactly how energy is being used, and analytics tools identify key areas for improving operational efficiency.

What’s more, ensuring a flexible and reliable energy supply does not just deliver cost savings, it also enables healthcare providers to deliver the optimal environment – including temperature and lighting – for patients.

Outsourcing advantages

While many healthcare providers are already taking advantage of newer energy technologies, there are still significant numbers who are missing out on savings opportunities due to limited resources and conflicting priorities.

By outsourcing energy management to specialist companies, however, providers can access these cost-saving technologies while taking advantage of greater expertise, flexible funding models and economies of scale. For example, establishing a ‘virtual plant’ – provided by specialists such as Centrica Business Solutions – reduces dependence on in-house operational staff and frees up maintenance teams to work on generating new efficiencies, rather than shoring up aging infrastructure.

When New Jersey’s Overlook Medical Center outsourced to access new technology, the facility achieved \$2m+ annual savings by installing a CHP unit. This could pay for two new MRI scanners or 30+ additional nurses.

58%

The percentage of healthcare respondents who agreed that “we do not have enough internal expertise to monitor and implement efficiency improvements”¹⁴

30%

The amount that can be saved on lighting by using automated sensors, compared to manual interventions²

\$2m+

The annual savings made by New Jersey’s Overlook Medical Center by installing a CHP unit

1 Energy Advantage Research, Centrica Business Solutions. Statistics based on a six country survey of more than 1,000 energy decision-makers in large organizations

2 The Facts on Medicare Spending and Financing - The Henry J. Kaiser Family Foundation, July 2017

3 The Guardian referencing the Journal of the American Medical Association, March 2018

4 RAND study, July 2017

5 The Facts on Medicare Spending and Financing - The Henry J. Kaiser Family Foundation, July 2017

6 The Guardian referencing the Journal of the American Medical Association, March 2018

7 Association of American Medical Colleges’ Center for Workforce Studies (AAMC), 2015

8 Energy Advantage Research, Centrica Business Solutions. Statistics based on a six country survey of more than 1,000 energy decision-makers in large organizations

9 Energy Advantage Research, Centrica Business Solutions. Statistics based on a six country survey of more than 1,000 energy decision-makers in large organizations

10 The Carbon Trust Hospitals Sector Overview

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13 Energy Advantage Research, Centrica Business Solutions. Statistics based on a six country survey of more than 1,000 energy decision-makers in large organizations

14 The Carbon Trust Hospitals Sector Overview



\$50k

We helped Excelsa Health to generate \$50k in earnings by monetizing their energy with demand response.



Your priorities

Our experience of working with healthcare providers has highlighted the energy strategies that we believe should be prioritized, enabling more investment on patient outcomes:

- **Improve energy efficiency to reduce costs** and free up opex and capex for increased investment in frontline patient care.
- **Ensure a flexible and reliable energy supply** to create the optimal environment for patients.
- **Reduce reliance on overstretched in-house maintenance teams** to maximize efficiencies and deploy resources where they are most valuable.
- **Explore opportunities to gain more value and new revenue from existing assets** to boost the patient care budget.

Our solutions

Our work with leading healthcare providers means we are ideally placed to help maximize hospital and health systems' operational efficiency. We can help release funding for improving patient care through our end-to-end solutions:

- **Insight and analytics solutions** that help identify opportunities to improve energy efficiency across disparate physical plants.
- **On-site generation (such as CHP and solar), and facility improvement and energy conservation measures (for example HVAC, lighting and controls)**, that enable reductions in energy consumption and costs.
- **Flexible funding models** that remove barriers to deploying new technologies and free up capital to invest in enhancing patient outcomes.
- **End-to-end delivery capability and fully-managed service options** that help alleviate skills and resource shortages, enabling more focus on frontline services.

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