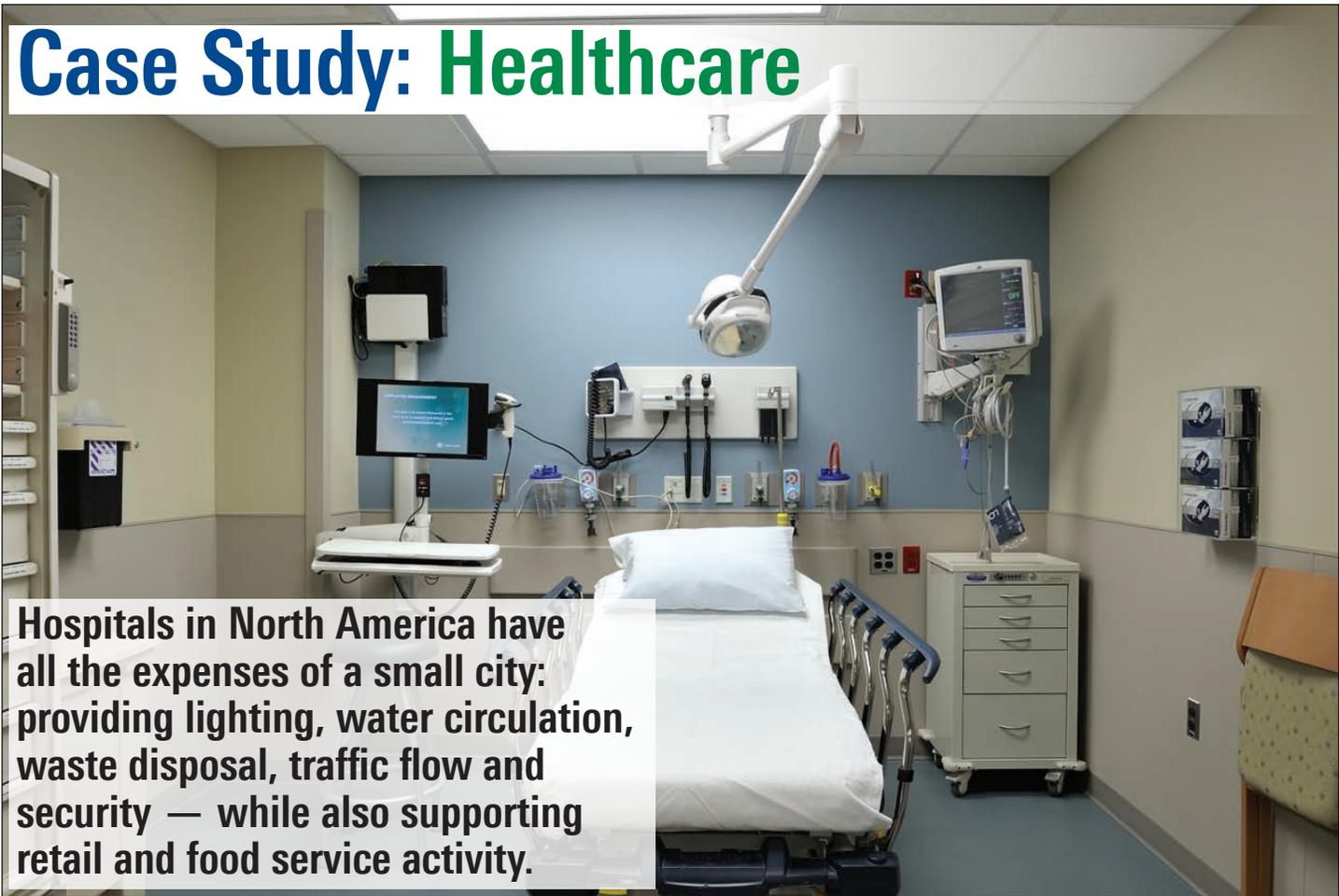




Case Study: Healthcare



Hospitals in North America have all the expenses of a small city: providing lighting, water circulation, waste disposal, traffic flow and security — while also supporting retail and food service activity.

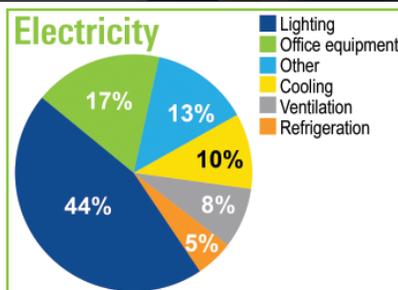
But they have the obvious added challenge of providing core medical and patient care while also delivering these ancillary services.

That means not only providing state-of-the-art medical facilities, but also a working and living environment conducive to the health and well-being of their workforce and patients.

And do it all while controlling costs and ensuring that the needs of the communities they serve are met.

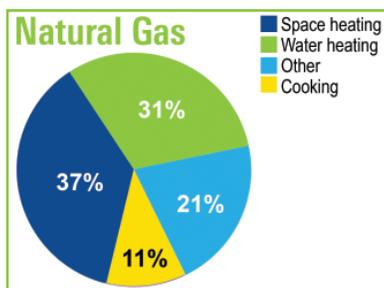
To provide all of these services, hospitals in North America spend an average of \$2.84 for electricity and \$0.94 for natural gas per square foot of space.

In a typical healthcare facility,



These charts illustrate the energy use breakdown at a typical healthcare facility.*

*Usages are based on industry averages reported by U.S. Energy Information Administration.



lighting, space heating and water heating represent more than 70% of total energy used.

And with increased technology now the norm in American healthcare, the cost of running that technology — computers and other systems — has added to the mix of operator overhead.

To help offset the costs of some of these technologies, hospitals across Michigan have turned to DTE Energy for assistance.

Inside, you'll read about two southeastern Michigan healthcare systems — **Oakwood** and **McLaren** — that used cash incentives from DTE's **Energy Efficiency Program for Business** to install lighting and air handling upgrades in their facilities.



How 2 healthcare systems used DTE Energy's program to save energy, offset costs

Exterior lighting was focus of latest updates at McLaren's Macomb site

The history of **McLaren Health Care's Macomb** facility reaches back to 1944 when 12 physicians and community leaders took steps to establish a hospital suitable for labor and delivery and surgery.

The group used its own money and appealed to the community to raise the necessary funds to renovate a building on Macomb Street in downtown Mount Clemens.

On Feb. 10, 1945, Mount Clemens General Hospital officially opened with 40 beds and 17 physicians.

In 1956, a new 104-bed hospital opened at its current site — followed by a series of expansions over the next 50 years, including construction of a medical building south of the hospital and two expansions of the main hospital.

By 2002, officials decided it was time to address the parking shortage on its campus, so that November, construction began on a new six-level parking deck with the capacity for 900 vehicles.

More than a decade later, however, lighting technologies had eclipsed the first generation High Intensity Discharge (HID) and T8 fluorescent lamps that were originally installed — forcing officials to look for energy-saving

upgrades.

That meant replacing the lamps with more than 400 LED lamps and fixtures.

Those upgrades resulted in:

- An estimated 500,000 kWh in annual savings.
- An estimated \$35,500 in annual energy savings.



The original Mount Clemens General Hospital opened in this building on Feb. 10, 1945

To help offset the initial \$250,000 cost of the project, McLaren applied for and received nearly \$20,000 in incentives from DTE Energy.

Because of the impact of the rebates and the long-term savings, "we were able to show our executive team a positive return on investment," said Joe Saldivar, manager of Plant Operations at the hospital.

As a result, he has recommended the DTE program to his sister hospitals in the McLaren group.

Besides saving energy, Saldivar said there was an added benefit to installing the LEDs in the parking areas: Safety. "The visibility is much more clear when



Upgrading the lighting system in their 900-spot parking garage was a major project for McLaren officials

looking at a recording with our security cameras," he said.

Not surprisingly, Saldivar said the hospital staff likes the increased brightness — and he said plans are now under way to convert all the lighting at the hospital to LEDs.

So, what would Saldivar tell other businesses? "Take advantage of the rebate program; it's been beneficial for us at McLaren."

Enhancing patient environment was goal of project at Oakwood's Wayne site

When the then-Annapolis Hospital was built in 1957 — as part of the Peoples Community Hospital Authority's creation of five medical facilities in western and Downriver Wayne County — it had the latest environmental systems available at the time.

But when, in 1989, **Oakwood Health Systems** acquired Annapolis and two other former PCHA facilities, it was more than time to begin upgrading systems and services.

Then came the need for upgrades and expansion — which focused in particular on patient health and comfort — while simultaneously reducing energy costs.



Installing VFDs (above) and some new compressors (below) helped increase system performance.



At Annapolis — now known as Oakwood-Wayne — upgrades involved removing one chiller, re-piping existing lines to new and remaining chillers and adding variable frequency drives (VFDs) to the system.

The changes resulted in:

- An estimated 2 million kWh in annual savings.
- An estimated \$170,000 in annual energy savings.

To help offset the initial \$412,000 cost of the project, Oakwood applied for and received more than \$87,000 in incentives from DTE.

According to Matthew Ronan, facility director at the hospital, the need was for "a more reliable chilled water



system, since we can't afford down time and our main focus is our patient's safety and comfort.

"Once we took a look at the cooling system, we realized there was a more efficient way the system could run," he said.

Once the upgrade was done, he said, "not only did we save on energy costs, but also on maintenance costs."

And, Ronan said, "once we identified the need for the project, our administration was very supportive — and the huge energy savings was icing on the cake."

As far as patient comfort, Ronan said that "certain 'trouble' areas have been no trouble at all this year, and we have definitely seen (a positive) impact on comfort."

So what would he advise others?

"That it's possible to improve your system without adding any new cooling units," he said; "that with better flow and better controls, it can be accomplished. It was worth the cost to complete."

Project Overview

Project	kWh savings*	Energy savings*	Project cost	Incentives
Oakwood: Chillers and VFDs	2 million	\$170,000	\$412,000	\$87,000
McLaren: Lights and Fixtures	500,000	\$35,000	\$250,000	\$20,000
	*Estimated	*Estimated		

ENERGY EFFICIENCY PROGRAM FOR BUSINESS

About the Program

Through DTE's **Energy Efficiency Program for Business**, companies like yours — big and small, manufacturing and service, sole proprietorships and corporations — can apply for cash incentives to help offset the cost of energy-saving equipment and technologies.

The **Energy Efficiency Program for Business** offers a comprehensive set of incentives for both electric and natural gas users, helping you invest in energy efficient technologies, saving you energy and money — today and into the future.

Our online Catalog provides specifications about each incentive offered, and our online Application provides step-by-step instructions on how to apply for those incentives.

The incentives fall into three categories:

Prescriptive Incentives

Prescriptive Incentives provide customers with predetermined incentive rebates for the installation of specific energy-efficient equipment — including, but not limited to: lighting, controls, HVAC, refrigeration and food service equipment. Incentives are provided for qualified improvements and equipment commonly installed in a retrofit or equipment replacement situation. Prescriptive incentives are paid based on quantity, size and efficiency of the equipment.

Custom Incentives

When customers cannot find a prescriptive measure that fits their projects, they can apply for **Custom Incentives**. This program provides cash rebates for measures installed in qualified projects that are less common or more complex than prescriptive measures. Custom incentives are paid based on the first year of energy savings (kWh and/or Mcf).

New Construction and Major Renovation Incentives

If a customer is building a new facility, changing the usage of space or adding load, **New Construction and Major Renovation Incentives** are available to assist them with off-setting the cost of energy-efficient upgrades, allowing them to save on operating costs long term. There are three categories of new construction incentives:

- **Systems Approach** incentives are predetermined to optimize the energy efficiency of individual systems.
- **LEED Whole Building Approach** incentives are based on energy savings validated by LEED.
- **LEED Design Review Assistance** is a flat rate incentive designed to encourage LEED certification.

Contact Us

We are available to help you understand the incentive requirements and available resources for this and other energy-efficiency projects. Call to check your eligibility and learn how to make DTE's **Energy Efficiency Program for Business** work for you.

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NOTE: Programs based on availability of funding and may end at any time.