



Case Study:
EVERGREEN HEALTH

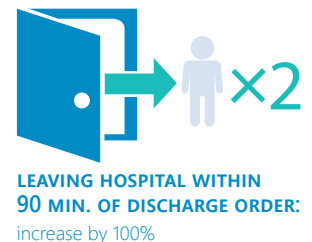
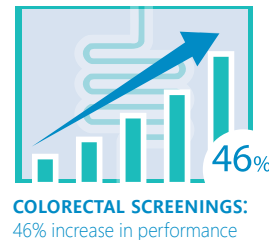
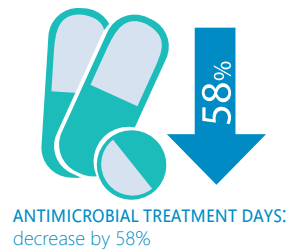
Reducing Antimicrobial Treatment Days
by 58% with Diver

Quick Facts

Organization: EvergreenHealth
Industry: Healthcare
Location: Kirkland, Wash.
Revenue: \$1.98 billion
Beds: 318
EHR: Cerner
Employees: 3,000
Customer since: 2011
Website: www.evergreenhealth.com
Solution: Diver Platform

KEY TAKEAWAYS

- ❑ *EvergreenHealth has used Diver to decrease the average number of antimicrobial treatment days by 58%.*
- ❑ *Diver has also helped the health system improve the number of patients seen for colorectal screenings, with a 46% increase in performance over the past 2 years.*
- ❑ *EvergreenHealth has been able to double the percentage of patients who are able to leave the hospital within 90 minutes of receiving a discharge order.*



BACKGROUND

EvergreenHealth is based in Kirkland, Wash., 15 miles northeast of Seattle. The health system has two hospitals—one in Kirkland and one in Monroe—as well as several primary care clinics, specialty care clinics, urgent care centers, and a freestanding emergency department.

The organization is committed to “ensuring each and every patient at EvergreenHealth receives the best clinical outcomes, absolute safety, and exceptional service—resulting in exceptional value.” It is also part of the newly created Eastside Health Alliance, a joint venture between EvergreenHealth and nearby Overlake Medical Center to improve the health of citizens who live on the east side of Lake Washington.



Jessica Foy, Manager of Analytics, EvergreenHealth

THE CHALLENGE

EvergreenHealth is committed to achieving the “Quadruple Aim” in healthcare: improving population health, improving patient care, reducing the per capita cost of care, and improving the work life of its providers and staff. As a part of this, the organization has recently focused on what its leadership calls the “cost and revenue imperative.” In this initiative, departments are tasked with examining their processes and costs in order to figure out where they could potentially save money in their operations.

One of the initiatives that has grown out of this directive is called care optimization. As a part of that, the health system is focusing on length of stay—examining where it is in relation to its peers, and where there are outliers that the organization could work to improve. Are there certain diagnosis categories that are staying longer than they should? Are there parts of the care management process they could improve upon?

In addition, various departments in the hospital see the value in the data they have, and want to turn this data into actionable information that they can use to improve patient care, outcomes, and cost. This will especially help the organization as it moves to more risk-based contracts and bundled payments.

THE GOAL

EvergreenHealth sought to implement a healthcare analytics solution that would:

- Help departments throughout the organization make more data-driven decisions.*
- Improve clinical decision-making so as to improve patient care and outcomes.*
- Provide insight to help the hospital reduce length of stay throughout the organization.*

THE SOLUTION

EvergreenHealth implemented Dimensional Insight's Diver Platform in 2011 to gain insight from its data that would translate to better decisions. Over several years, the Diver implementation grew with the needs of the health system; it now supports departments throughout the organization.

EvergreenHealth currently has 600-700 Diver users across the health system. It is currently pulling together data from several systems, including the health system's Cerner EHR, as well as its home health EHR, family maternity center database, labor and attendance platform, cost and accounting platform, as well as other data sources such as its server for heart rate monitors.

Jessica Foy, EvergreenHealth's analytics manager says, "We're continuing to grow incrementally as more and more requests come in and as more and more need for advanced analytics comes down the road. This will really help us focus our efforts in the right area and shine that light on where it is that we can see some opportunities for improvement."

In order to help the health system prioritize analytics projects that will have the most impact, EvergreenHealth has set up an analytics steering committee. This committee

is made up of leaders throughout the organization and is chaired by the chief medical officer for the hospital and the chief medical doctor for the ambulatory group.

The team vets project requests by scoring them on criteria such as: How does this impact finances? How does this impact quality, safety, regulatory? The scores help the committee prioritize projects for the analytics team so their resources are going towards the projects that will make the most difference.

As manager of the analytics department, Foy is continually bringing back to the steering committee results of analytics projects. This is helping committee members see not only the multitude of projects that the team is supporting, but is also helping them see which projects have been either successful or not successful and why. This feedback helps inform the decision-making process for future projects.

"Diver is really flexible and helps EvergreenHealth transform our data into information and into a story in a really user-friendly way," says Foy. "Diver is a really powerful, easy-to-use tool for the entire spectrum of our organization."

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*—Jessica Foy,
Manager of Analytics*



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THE RESULTS

EvergreenHealth currently has multiple Diver projects throughout the organization. The health system's executive dashboard is tracking several critical measures important to the executive team. Some of these measures include:


- ❑ ***Length of stay***
- ❑ ***Hand hygiene***
- ❑ ***Central line-associated blood stream infections (CLABSI)***
- ❑ ***Catheter-associated urinary tract infections (CAUTI)***
- ❑ ***Various population health metrics***

One of the hospital's key goals is to discharge patients within 90 minutes of when the discharge order was placed. Diver is helping the hospital track the patients' anticipated discharge date, as well as a checklist for nurses to get patients out the door once the doctor has given the discharge order. Through these

efforts, the health system has been able to double the percentage of patients who meet the 90-minute window.

The health system also has other dashboards for specific areas. Some examples are:

Referral orders: This dashboard provides information to leaders on who providers are referring patients to, and whether those referrals are to internal or external providers. As a result of this dashboard, leaders are better able to understand individual providers' referral patterns. It also allows them to determine to which services and specialties more of the external referrals are going. This provides a chance to either intervene and drive a behavior change on the part of the referring provider or consider expanding the in-network services and specialties that EvergreenHealth provides. As a result, the health system overall has improved its internal referral rates and has recently added key services and specialties into the network to better serve the community.



Antimicrobial stewardship: EvergreenHealth is currently required to report its antimicrobial numbers to the Centers for Disease Control (CDC) and the Washington State Hospital Association (WSHA). Diver not only helps with the monthly reporting requirements, but it also provides key data to the health system's Antimicrobial Stewardship Committee. That team reviews the data to see where the health system can stop certain kinds of treatment or convert from an IV antibiotic to an oral version. Because overprescribing antibiotics is 1) expensive, and 2) can lead to adverse effects, such as the development of "super" strains, EvergreenHealth needs to make sure it is prescribing these drugs judiciously. So far, the organization has seen some good success from this program. For example, since EvergreenHealth started this dashboard, it decreased the average number of treatment days for its antimicrobials from 92 days to 39 days, a 58% decrease.

Quality measures for physicians:

EvergreenHealth also provides its physicians with a dashboard so they can see how they are performing on various quality measures. With this dashboard, physicians get an overall picture of how they are doing on measures such as getting patients in for colorectal screenings and mammograms. They can then drill down to the patient level to see which patients haven't been in for an extended period of time and take action from there, such as proactively calling them to make an appointment. With the colorectal cancer screenings in particular, the medical group has seen a 46% increase in performance over the past 2 years.



"The demand for data is continuing to grow exponentially, and being able to respond to the increasing demand is really key for us. Diver has definitely helped us get to where we are and it will help us move into the future."

—Jessica Foy, Manager of Analytics

WHAT'S NEXT

One of the next big initiatives for EvergreenHealth is to use Diver to monitor opioid prescriptions in the health system. While the organization currently does not have any mandates to monitor opioids, federal and state initiatives may be down the road. In addition, monitoring opioids is part of an initiative driven by the Eastside Health Alliance to improve the health of the community.

For example, the health system will be counting the supply of opioid pills per discharge, and it will flag certain prescription patterns that look suspect, utilizing the morphine milligram equivalents (MME) conversion method to see if there are any glaring issues.

In addition, EvergreenHealth is planning to upgrade its Diver implementation to the latest technology, which is built on columnar databases. This will provide the organization with greater speed on large volumes of data.

"We are excited about the upgrade because it will enable us to ingest so much more data and support all of our future initiatives," says Foy.

LESSONS LEARNED

As other Diver customers get up to speed with their implementations, Foy offers a bit of advice. "At first, there might be a bit of resistance within the organization because analytics is something new. So it's important to provide the detail behind what you're doing and explain why it's important and how it will benefit both the hospital and patients. Once people see the value, they are much more willing to engage with analytics and grow the implementation."

She continues, "The demand for data is continuing to grow exponentially, and being able to respond to the increasing demand is really key for us. Diver has definitely helped us get to where we are and it will help us move into the future."



About Dimensional Insight

Dimensional Insight is the leading provider of integrated business intelligence and data management solutions. Our mission is to make organizational data accessible and usable so everyone from analysts to line of business users can get the information they need to make an informed, data-driven decision.



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