



PHILIPS

Healthcare

Transformation Services



Reducing avoidable readmissions using predictive analytics

Regional medical center discovers the value of working together with Philips Healthcare Transformation Services

Who/where

Large regional medical center in the northeast, USA.

Challenge

Reduce patient readmission rates and associated annual financial penalties from Medicare.

Solution

The Philips Healthcare Transformation Services team conducted extensive stakeholder interviews, analyzed readmissions data, and applied advanced, predictive analytics and modeling to develop a comprehensive readmissions reduction strategy engaging a broad network of community care providers.

Results

Our client has successfully launched a readmissions reduction initiative based on the Philips recommendations. Similar strategies are being embraced and employed by connected community providers – hospitals, long-term care providers, referral physicians, and others – to lower 30-day readmissions across the entire care system.

A large, regional referral center has been delivering exemplary patient care for decades but new demands for readmissions reduction confronted them with a situation of potential penalties and adverse publicity. They needed to understand what changes were required to adapt to the new healthcare landscape while continuing to deliver quality patient care across the community.

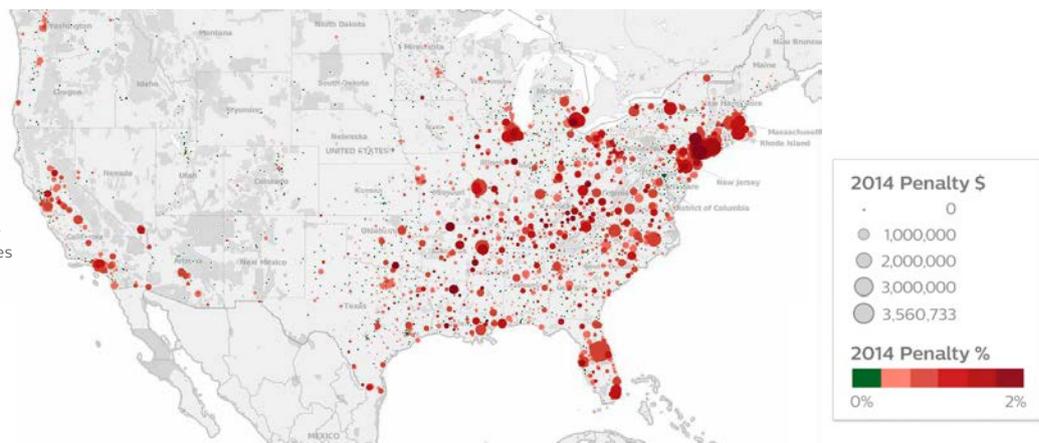
They turned to Philips for insight and guidance in helping to lower readmission rates, avoid CMS penalties, and improve coordinated care across the community.

The challenge

Our client needed to understand what changes were needed in order to lower readmission rates to improve patient satisfaction and avoid impending financial penalties. Adding to the complexity of the project was the need to measure and monitor readmissions to both this regional referral center and the many associated community hospitals in the local area. Patients discharged from the regional referral center, then readmitted to one of its associated community hospitals or care facilities, had a direct impact on our client's overall readmissions performance. They needed to improve the care coordination across the community.

2014 Hospital Readmissions Penalties

Data gathered from Centers for Medicare and Medicaid Services (cms.gov).



A collaborative approach

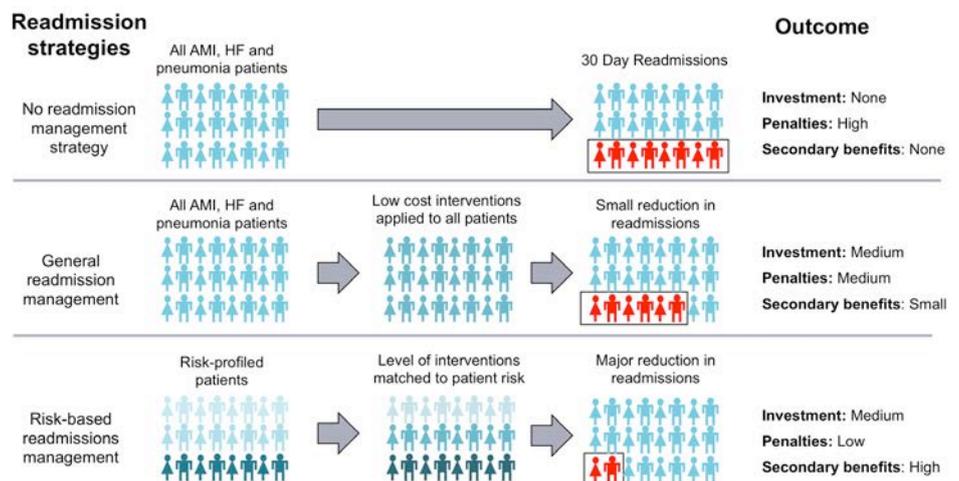
Philips believes a collaborative approach is most effective in developing a comprehensive readmissions strategy. Our consultants worked closely with the regional medical center's clinical and administrative staff across multiple departments and care facilities to help them:

- Measure readmissions rates
- Identify root causes of readmissions
- Generate predictive algorithms to detect high-risk patients
- Develop a comprehensive readmissions reduction strategy
- Manage patient care across the community

In-depth stakeholder interviews

Successful implementation of a broad readmissions improvement strategy requires extensive interviews with all the potential stakeholders across the continuum of care – both within the regional care center and beyond. The Philips team spoke one-on-one with many of the client's team members. This included members of the front line clinical staff to the executive team to facilitate a strong understanding of the challenges they were facing. They discussed the patient journey, from pre-treatment education to admission, from treatment and transitions to discharge. They also discussed initiatives already underway that might be leveraged as part of an end-to-end readmissions reduction strategy.

Predictive modeling can help to plan for and manage readmissions risk



Advanced research and analysis

The Philips consulting team recognized that designing a comprehensive readmissions solution requires a high level of expertise in big data collection and advanced data analysis. To that end, they tapped the resources of Philips Research, a global leader in innovation for over 100 years, to help with this challenging task.

Philips data scientists and statisticians joined the project team to research and gather an extensive array of public readmissions data for the entire state using a myriad of sources. They then worked with the consulting team to create a detailed analysis of inpatient claims over a multi-year period, identifying all patients who were discharged from the regional referral center, then readmitted to one of the local community hospitals within 30 days.

The team determined almost 60% of the readmissions subject to Medicare penalties were for treatment at community hospitals, not the regional tertiary and quaternary care center.

Interpreting the findings

Since Medicare includes readmissions to other associated hospitals and care facilities in its performance measures, it was important to address the complete readmission picture.

In order to develop the right readmission reduction strategy, our consultants also took into account the following:

- Aligning and coordinating care across all community providers to implement a cohesive readmissions strategy
- Pinpointing the reasons for and range of interventions requiring readmission
- Predicting patient risk and matching the right level of intervention
- Addressing potential issues across the patient flow process that might contribute to readmissions including:
 - Pre-hospital triage
 - Emergency department admissions
 - Inpatient unit transitions
 - Patient and family education
 - Patient discharge planning
 - Post-discharge follow-up and post-acute care

Recommendations

Based upon the collected historical patient readmissions data, the Philips team developed predictive models that could forecast not only whether a patient was likely to readmit, but if they were likely to return to the regional referral center or a community hospital for their next hospitalization.

In close collaboration with the client, the team leveraged utilization data, benchmarks, and best practices to identify the root causes of readmissions and opportunities for improvement. They also used advanced predictive algorithms to develop patient risk profiles to create the best possible readmission reduction solutions.

Next they conducted a prospective analysis of past data to simulate the cost and impact of the new readmissions reduction solutions including increased patient education, enhanced discharge planning, and timely clinical follow-up and interventions. The Philips data expertise and approach enabled the client to prioritize the solutions according to their level of investment.

The team's analysis led to a further recommendation that the readmissions reduction project be expanded from a penalty avoidance initiative to an enterprise-wide patient and community provider engagement strategy with an enhanced financial outlook.

Results

The client successfully launched a readmissions reduction initiative which has been embraced and employed by connected community providers – hospitals, long-term care providers, referral physicians, and others – to lower 30-day readmissions across the entire care system.

Philips subject-matter experts, including physicians, nurses and former hospital administrators, continue to work with this regional referral center to help facilitate alignment across providers and healthcare organizations to accelerate the implementation of the project recommendations.

Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions.

“The Philips team completed a comprehensive analysis of the community and state patient data. They provided change recommendations based on best practices and what would be best for the hospital.”

Roger Weems
Vice President and Partner
Philips Healthcare Transformation Services

Learn more

Philips Healthcare Transformation Services provide end-to-end, patient-centric solutions across the care continuum. Our customized consulting and education services are designed to improve clinical care and operational effectiveness while contributing to the financial stability of your enterprise. For more information, please visit www.philips.com/healthcareconsulting.

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www.philips.com/healthcare
healthcare@philips.com
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