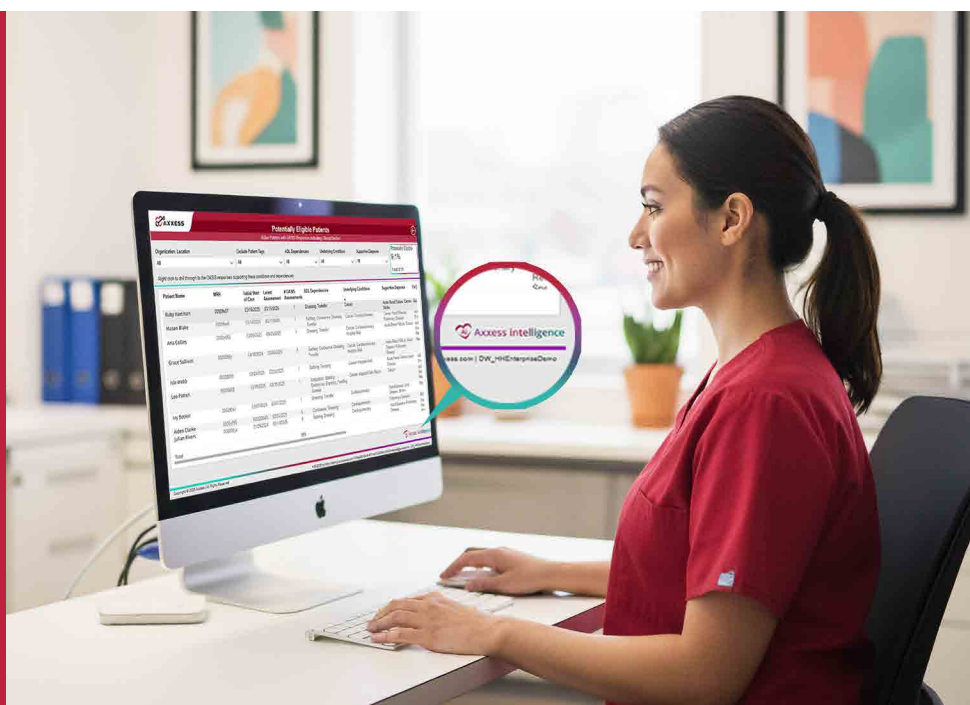


Predicting Hospitalization Risk in Home Health Using Axxess intelligence™





Predicting Hospitalization Risk in Home Health Using Axxess intelligence™

Hospitalizations are one of the biggest cost drivers in Medicare, and they're often preventable. That's why value-based care programs are putting more pressure on providers to reduce hospital visits and improve outcomes. For home health organizations, this means having the right tools to spot patients who are at risk and intervene early.

At Axxess, we've developed a predictive model using Axxess intelligence™ that helps home health teams do just that, with up to 85% accuracy.



What We Did

We analyzed nearly 800,000 patient records from 2024, focusing on key OASIS assessments like Start of Care, Resumption of Care and Transfer records. Using CMS-defined indicators, we identified hospitalizations and readmissions, then built a model to predict which patients were most likely to be hospitalized.

We trained the model on 60% of the data and tested it on the remaining 40%, using 84 patient-level risk factors based on CMS' Discharge Function Score model.



What We Found

The model was highly effective at identifying patients at risk. In fact, most hospitalizations in our testing data occurred in the top 40% of predicted risk scores. We also created an “At Most Risk” category to flag patients who need the most attention.

Here's what we saw: _____

63%

63% of patients in the “At Most Risk” group were hospitalized, compared to just 15% in the rest of the sample.

40%

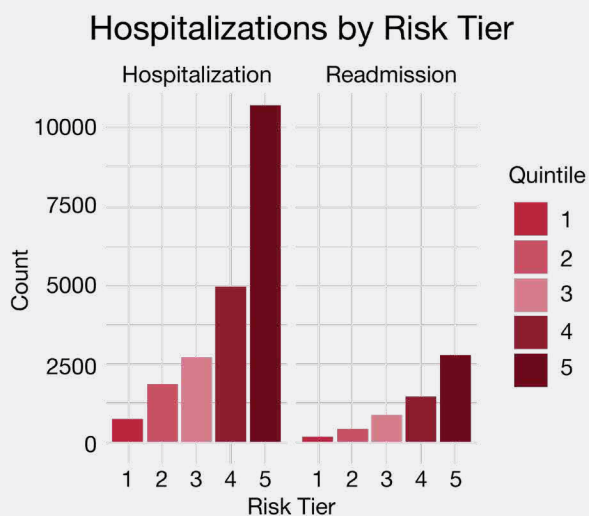
40% of patients in the “At Most Risk” group were readmitted within 30 days, compared to 11% in others.

Overall, the model achieved 85% accuracy for predicting readmissions and 83% for hospitalizations.

Why It Matters

This model gives home health teams a powerful way to prioritize care and allocate resources. It's easy to interpret and can be used as a tiered risk score to guide interventions. While we're continuing

to refine the model by optimizing our statistical methods, it's already proving to be a valuable tool in the shift toward proactive, data-driven care.



Authors

Jaime Carlson, Senior Vice President of Business Intelligence

Biju Philips, Associate Vice President of Technology and BI

Arbin Ulak, Senior Manager of Business Intelligence

Dr. Phil Gigliotti, Senior Data Scientist

Stacy Witt, Senior Lead Data Analyst

Allan Minor, Lead Engineer

Shefali Batra, Power BI Engineer III