

Junum Case Study

April 2020

Driving Margin and Mission Through Better Nutrition

Summary

Malnutrition is a growing issue in healthcare and is associated with higher infection rates, longer lengths of stay, and increased risk of patient mortality—all of which can have a devastating impact on a hospital's revenue and overall patient outcomes. Lafayette General Health (LGH), a hospital system based in Lafayette, LA, knew that malnutrition was an issue but had been unable to address it on its own.

Approximately 20-50% of patients are at risk for malnutrition in the hospital setting, yet LGH was diagnosing less than 7% of patients, leaving a significant amount of revenue on the table. In 2017, LGH partnered with the digital health startup, Junum, to develop a digital health tool, Malnutrition CDS, to improve malnutrition patient care in the acute setting. Over the course of three years, the partnership led to an increase in malnutrition diagnosis rates and improved nutrition care that resulted in approximately \$1.9 million in additional revenue.

Background

Malnutrition is a physical state of unbalanced nutrition that makes caring for patients more difficult. Even patients with a high BMI are at risk, as undernourishment can be common in obese patients. Malnutrition is extremely common in elderly patients and is billed as a comorbidity (CC/MCC) secondary to the patient's primary diagnosis and ranges in severity.

The presence of malnutrition and severity of the diagnosis directly reflects the acuity of a patient and can impact a hospital's overall case mix index (CMI) for reimbursement purposes. Although registered dietitians (RD) are largely responsible for assessing a patient's malnutrition status, the malnutrition diagnosis and billing must be done by a physician. If a physician does not have easy access to the RD's assessment and recommendations, the malnutrition status may not be factored into care plans and documentation.

LGH, like many hospitals, developed templates and alerts to assist clinicians with malnutrition care and utilize back-end review processes (i.e., queries, CDI audits) to trigger the physician to include a malnutrition diagnosis before a claim is submitted. While this was helpful for improving documentation and preventing lost revenue, it did not provide care teams with the information necessary to support clinical decision-making on the front-end or provide structured data that could be used to quantify and measure performance.

LGH's Medicare Shared Savings Program (MSSP) contracts offered a significant financial incentive if they could find a way to bring malnutrition insights to physicians at the point of care to improve the overall diagnosis rates, as well as the accuracy of diagnosis to reflect the true acuity of their patient population.

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Identifying the Problem

Junum worked with LGH clinicians and administrators to reveal that a core issue was physicians not diagnosing malnutrition because they were not aware of a patient's malnutrition status after the RD had assessed the patient. This is especially the case for patients seen by multiple physicians where it is unclear which physician is responsible for adding the malnutrition diagnosis in the patient's record.

Malnutrition often develops before a patient is admitted, therefore nurses are expected to screen all patients for malnutrition as part of their initial intake, then send patients deemed at-risk for malnutrition to RDs for evaluation. The RD conducts a detailed evaluation of the patient to recommend a diagnosis, determine the severity, and recommend a nutrition intervention for the physician to review. LGH used the standardized malnutrition risk screening tool (MST) for nursing as well as templates and flowsheets for RDs to document malnutrition care plans but the information was not easily accessible, which means

malnutrition is often "out of sight, out of mind".

Furthermore, less than 30% of medical schools provide the recommended nutrition education to physicians, which could mean physicians are not aware if and when they should even be looking for malnutrition information. LGH's previous malnutrition quality improvement (QI) initiatives had been helpful yet the diagnosis rate remained around 6% annually even though RDs were assessing malnutrition. In order to fully understand and manage malnutrition care, they needed better technology.

Junum's Solution

Junum designed the Malnutrition CDS tool to integrate directly with the hospital EHR (Cerner) and use clinical information that was already being captured as a trigger for the Junum's Malnutrition CDS workflow to begin. Malnutrition CDS operates from within the EHR to capture the information necessary to diagnose and bill for malnutrition care, while at the same time present insights from the RD to the physician and nursing staff to support care processes.

Junum worked with leadership to establish a set of KPIs that could be used to establish a baseline for financial and clinical performance then tracked and reported on a quarterly basis to measure the impact of the solution, including diagnosis rates, CMI, and alignment of the RD's recommendations and the MD's diagnosis.

Malnutrition CDS Launch

Junum launched a pilot on a single medical/surgical floor at LGH's main hospital. The pilot floor had approximately 200 discharges per month. Prior to the launch, Junum established clinical best practice workflows and prepared training and education materials for end-users.

During the first week of go-live, Junum was on-site to provide training, education, and at-the-elbow support to clinicians and administrators. This allowed Junum to deploy the solution with minimal disruption to patient care and providers the flexibility to learn and ask questions at their own convenience. The information gathered during the first 90 days was compared with historical information during the same period the previous year. The patient data was controlled for demographics and corresponding diagnostic related groupings (DRGs), including existing

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CC and MCC capture in order to understand the impact of a nutrition-related diagnosis on additional CC or MCCs once the Malnutrition CDS tool was launched.

Impact and Results

Within the first month of the pilot there was an 87% increase in capturing the correct malnutrition diagnosis rate on the final claim for patients discharged from the floor. After three months, the malnutrition diagnosis rates had more than doubled and the hospital decided to expand the use of

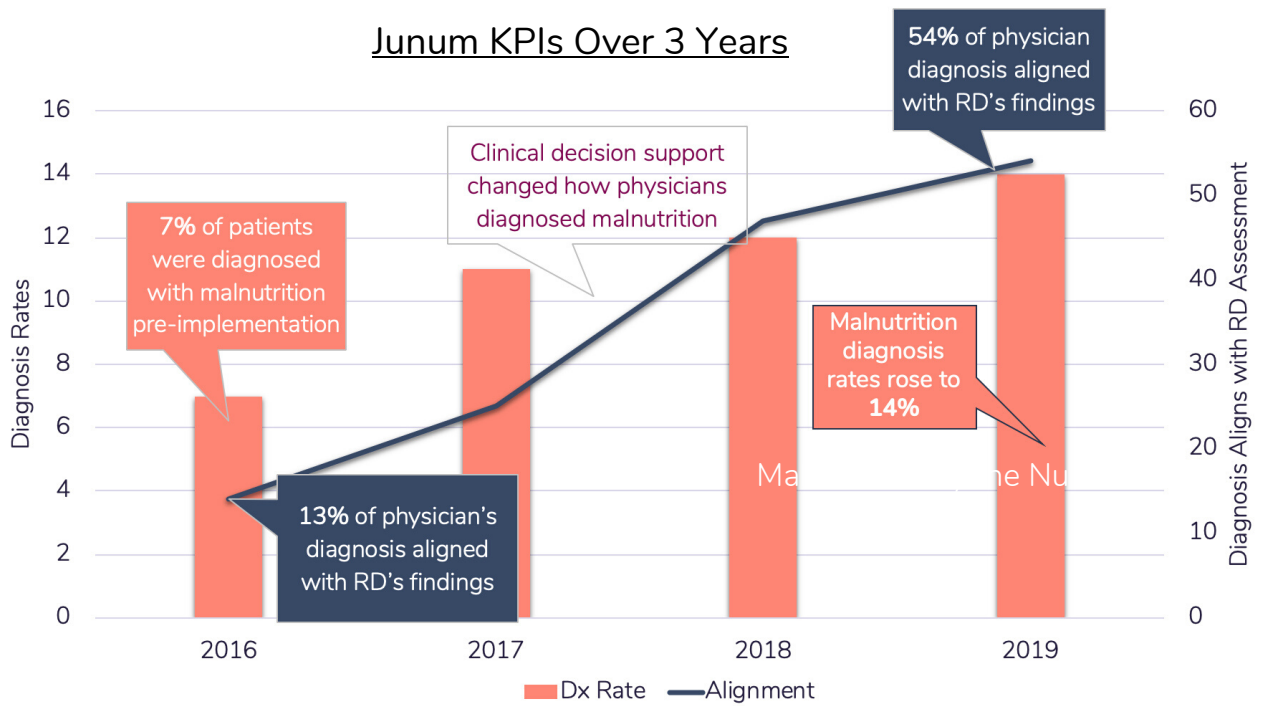
Malnutrition CDS to additional floors that experienced similar improvements in diagnosis rates. After excluding patients that had been diagnosed with malnutrition prior to the pilot, LGH was able to attribute a 0.026 shift in CMI as a direct result of Junum within the first year.

LGH was then able to determine the impact Junum had on revenue by using the CMI shift, annual discharges, and reimbursement rates. This resulted in

\$1.9 million increase in revenue attributed to Junum!

In the year following the pilot, the health system launched Junum Malnutrition CDS at six other community hospitals. Each of the hospitals was able to improve malnutrition diagnosis rates and experience similar benefits.

The hospital-wide improvement in malnutrition documentation led to better reimbursement and decrease risk of audit. The shift in CMI allowed the hospital to deploy resources more effectively.



"We've seen our case mix index improve by a 0.026 shift since installing the MalnutritionCDS solution. As a result, Junum software has provided the hospital a 3-fold ROI within 1-year of the roll out."

- Cian Robinson, Executive Director Innovation Fund, LGH

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