



# THE NEW JEWISH HOME

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The LeadingAge Center for Aging Services Technologies (CAST) is focused on accelerating the development, evaluation and adoption of emerging technologies that will transform the aging experience. As an international coalition of more than 400 technology companies, aging-services organizations, businesses, research universities and government representatives, CAST works under the auspices of LeadingAge, an association of 6,000 not-for-profit organizations dedicated to expanding the world of possibilities for aging.

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## Reducing Rehospitalization by Increasing Rehab Intensity with Functional Assessment and Activity Monitoring Technology

**Category:**

- Improving Function
  - o Improving Ambulation, Gait, Balance and Reducing Fall Risk
- Improving Quality of Life/Satisfaction with Care
- Improving staff efficiencies
- Reducing Healthcare Utilization, including Hospitalization and Hospital Readmissions
- Cost of Care and Return on investment (ROI) to:
  - o Payers

**Organization Name**

The New Jewish Home (TNJH)

**Organization Types**

Home Health/Home Care, Post-Acute Rehab, Long-term Care, Skilled Nursing

**Organization Description**

With more than 160 years of experience as a not-for-profit rehabilitation provider based in New York City, The New Jewish Home (TNJH) strives to deliver innovative new approaches to eldercare. Its network provides a broad spectrum of post-acute and long-term care at three campuses as well as home care.

**Other partners**

TNJH features two specialty rehab centers: the Cardiac Rehabilitation Center, affiliated with NYU Langone Medical Center, and the Center for Advanced Rehabilitation Medicine, affiliated with Mount Sinai Hospital. Both NYU Langone and Mount Sinai Hospital are under the CMMI pilot bundle program for Orthopedic and Cardiac conditions, and are seeking interventions to reduce rate of readmission.

## *Project Description*

TNJH implemented Jintronix, a motion capture rehab exercise and assessment technology, in their Manhattan campus' Orthopedic and Cardiac rehab floors. Jintronix therapy-focused exercises were incorporated into patients' rehab program in two ways:

- During regular therapy sessions with their PT/OT, and
- Outside regular therapy time, with the help of an aide.

## *Functional Assessment and Activity Monitoring System Type from the Assessed Patient & User Perspective*

From the patient's perspective, Jintronix is a kiosk that includes a TV screen, a mini computer, and an optical motion-tracking sensor called the Microsoft Kinect. Patients engage with Jintronix in the form of therapy-focused games and coach-guided exercises, which provide interactive feedback and challenge patients to achieve therapeutic objectives.

Each patient has a unique profile with their own rehab program customized by their therapist. As patients play, Jintronix monitors their physical movement and collects objective outcome data automatically. Therapists can access and review patient outcome data from any computer and export progress reports to Excel or PDF.

## *Functional Assessment and Activity Monitoring Single/Multi User Type*

Jintronix is a multi-user system, with the capacity to distinguish between users. Each clinician can create their own account, and each patient has their own profile and unique rehab program assigned to them.

## *Business Model*

ROI through reduced rate of rehospitalization under the bundled payment program.

## *Implementation Approach*

TNJH implemented two Jintronix kiosks on the Cardiac and Orthopedic therapy floors. The facility provided training to staff, and assembled an interdisciplinary team to oversee the project. Throughout the implementation, the team met weekly to review compliance, identify and resolve challenges, and share best practices. They also solicited feedback from all staff, and nurtured champions informally.

Patients were referred to Jintronix at admission on the basis of relevant diagnosis (Orthopedic, Cardiac and Stroke). An evaluating therapist assessed each patient to determine eligibility. Patients with limited English-speaking skill, low cognitive skill, or visual impairment were excluded from the study. For all other patients, Jintronix was included in their plan of care. In total, 139 patients were recruited to use Jintronix. Of these, 58 had orthopedic conditions (hip, knee, and shoulder) and 36 had cardiac conditions.

During scheduled rehab hours, patients used Jintronix as one of the modalities with their therapist. Outside of scheduled rehab hours, patients spent additional time engaging with Jintronix with the help of an aide.

On a regular basis, patient outcome data, which were automatically measured by Jintronix, were reviewed by therapists, and exercise programs were adjusted according to the patients' level of function.

## *Outcomes*

- The rate of rehospitalization for the total of 139 patients who used Jintronix was reduced to 5%, compared to a rate of 11% for patients who met the same inclusion criteria but did not use Jintronix between Jan-Sept 2015.
- The rate of rehospitalization for the 58 patients with orthopedic conditions was reduced to 0%, compared to a rate of 4.8% for patients who met the same inclusion criteria but did not use Jintronix between Jan-Sept 2015.
- The rate of rehospitalization for the 36 patients with cardiac conditions was reduced to 11%, compared to a rate of 15% for patients with who met the same inclusion criteria but did not use Jintronix between Jan-Sept 2015.

## *Challenges and Pitfalls to Avoid*

Two important challenges were staff training and recruitment of patients. Initial trainings are provided by Jintronix staff, however it is critical for each organization to develop internal training capacity. Since staff turnover is common, frequent retraining and demonstration was needed. Leveraging informal champions was an effective way to maintain staff engagement.

Additionally, patients tend to be less eager to participate when the technology is introduced to them by non-clinical staff, away from the therapy floor. Patient compliance and motivation increased when patients were

introduced to the technology by a trusted clinical source, and the intervention was integrated directly into their plan of care.

### *Lessons Learned/Advice to Share with Others*

As an early adopter of Jintronix, TNJH committed itself to iterating and adapting at an organizational level in order to leverage the value of the new technology. Along the way, the facility learned a few valuable lessons:

- **Identify and nurture champions.** Therapists were encouraged but not obligated to use Jintronix with patients. This voluntary participation created positive feelings around the project. Several therapists emerged in the early stages as champions, learning as much as they could about the technology, and sharing their knowledge with others. One champion was formally recognized as the “point person”. She was invited to join project meetings, and was allotted one hour per day to provide support to other therapy staff, as well as to review patient outcomes and customize their rehab programs.
- **Create a clear pathway to care.** Organizations must establish a clear process to ensure that each patient who may benefit from Jintronix is given access to the technology. At TNJH, patients were first referred to Jintronix during the admission process on the basis of relevant diagnosis. The patient’s evaluating therapist then assessed patients based on the acceptance criteria (English language and cognitive skill). For patients that met the criteria, Jintronix was added their plan of care, and they were given an information sheet on the technology.

Compliance and patient engagement could be further improved by formalizing the integration through a “contract of accountability”, committing the patient to using the technology outside of regular therapy hours several times per week.

- **Remain flexible and focused.** Weekly calls that included a team of staff drawn from across the organization were used to identify barriers and opportunities. For example, the referral process was done at admission. Some patients, particularly those with cerebrovascular accident (CVA) diagnosis were excluded at admission due to low levels of function, but became suitable candidates for Jintronix as their function improved. In these cases, cross-organizational communication and flexibility were critical to facilitate a patient benefiting from the intervention.

- **Leverage existing resources to improve patient outcomes and experience.** Consistent with standard, TNJH patients receive about two hours of rehab per day. Using Jintronix, TNJH provided opportunity for additional therapeutic exercise. Certified Nursing Assistants visit patients throughout the day and encourage them to leave their bed for 15 minute sessions of Jintronix. To overcome inertia and low levels of motivation, staff need to be persistent. However, some patients need no such motivation. For example, one patient, well-known within the hospital, arrived ready to exercise with Jintronix every morning at 7am.