

# KinexConnect CPM effectively addresses patient compliance and participation and can reduce post-acute care cost

Investigation performed by Kinex Medical Company  
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## OPPORTUNITY

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The Center for Medicare and Medicaid Services (CMS) recently released a new voluntary episode payment model, Bundled Payments for Care Improvement Advanced (BPCI Advanced). The goal of BPCI Advanced is to align incentives among participating health care providers for reducing expenditures and improving quality of care. BPCI qualifies as an Advanced Alternative Payment Model (APM) under the Quality Payment Program.

Bundled payment models are designed to motivate providers to furnish more efficient, better coordinated, and better quality care. Under the BPCI Advanced, providers may realize either a gain or a loss depending on how successfully they manage resources and total costs throughout the episode of care.

Returning patients to the home setting sooner is an important aspect of providing less-costly, more efficient care. Properly managing patients while they are in the home setting is critical to achieving successful outcomes, both for the patient and for the provider.

Monitoring compliance and progression during the at-home rehabilitation period is crucial to avoiding readmissions, controlling costs, and improving outcomes for post-operative total knee arthroplasty (TKA) patients.

Can the KinexConnect tool improve compliance with physician protocols and reduce post-operative TKA expenditures?

## SOLUTION

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We have re-examined the role of the knee CPM, already one of the most cost-effective rehabilitation tools for post-surgical orthopedic patients. Can an intelligent CPM with a wireless connection and handheld tablet provide home monitoring and timely interventions, leading to improved compliance and similar or better outcomes at a lower cost?

Continuous passive motion (CPM) devices have been around for decades. While some recent studies have questioned the effectiveness of knee CPM devices, these analyses were conducted before the advent of programs like BPCI Advanced, and entirely ignored cost as a measure of overall effectiveness.

CPM delivers advantageous home-based rehabilitation. When used appropriately, it is one of the most cost-effective tools for a Medicare TKA, at an average cost of just \$21 per day.

As a medical provider committed to a value-based reimbursement model, our responsibility is to leverage the effectiveness of CPM while giving patients advanced tools that allow them to participate in their own value-based care—with a direct impact on outcomes and costs.

The KinexConnect is a traditional knee CPM machine that can achieve -10° of extension and 125° degrees of flexion. An Android tablet powers the KinexConnect and involves patients in the post-surgical rehabilitation process.

KinexConnect effectively addresses patient compliance and participation—the most significant influencers of successful, cost-effective outcomes—with the following tools and interactive features:

- Tracks utilization and progression
- Connects wirelessly to a custom patient management database
- Initiates timely interventions if protocols are not being followed or milestones are not being reached
- Offers real-time, diagnosis appropriate exercise and rehabilitation videos
- Provides medical survey questions for home monitoring and readmission avoidance

## RESULTS

The KinexConnect knee CPM delivers results-based, cost-effective, high quality patient-centered care that leads to similar or better outcomes than other forms of post-operative rehabilitation.

KinexConnect helps keep patients on track with treatment plans and addresses problems early. Overall costs for the episode of care are reduced, and outcomes are often improved.

### THE STUDY

We collected data on progression, range of motion, and time spent using the CPM device from 984 KinexConnect users. The patients were unaware that their compliance and progress were being tracked.

### THE GOAL

Ascertain how the KinexConnect knee CPM helps to better manage patients who fail to comply with physician protocols after they leave the hospital. Managing patient compliance in the home setting can have a significant impact on costs, outcomes, and the overall success of a BPCI Advanced program.

### THE RESULTS

- 460 patients utilized the CPM an average 72% of the time, or 27 out of the 37 days
- These patients had an average extension of -5.8 degrees, and an average flexion of 113 degrees
- 524 patients utilized the CPM an average of 28% of the time, or 7 out of the 25 days
- These patients had an average extension of -2° degrees, and an flexion of 93°

## CONCLUSION

Nearly half of the patients undergoing post-operative rehabilitation in a home setting are non-compliant with doctor protocols. With an intelligent CPM like the KinexConnect, however, tracking progress and intervening with non-compliant patients can improve outcomes and greatly reduce post-operative expenses for TKA. Patient compliance and achieving almost full flexion and extension can reduce more costly home health care and outpatient physical therapy.

### Improved Range Of Motion Outcomes

