Ekso Bionics

Analyst Day

December 6, 2016

Objectives

- Present Good Shepherd's overall experience with Ekso GT.

- Explain the underlying motor recovery principles that support the use of lower extremity robotic technologies.

- Present the process used to evaluate new technologies and determine final purchasing decision.

- Present the clinical, strategic, and financial impacts related to Ekso GT

Good Shepherd Rehabilitation Network

- Founded in 1908 in Allentown, Pennsylvania

- Nationally recognized not-for-profit rehabilitation leader

- Modern Healthcare – Ranking of rehab providers by net revenue – GS is 3rd largest NFP and 8th largest overall rehab provider in the country

- More than 60,000 people treated annually at more than 60 locations throughout the Lehigh Valley and Philadelphia regions

- International leader in the use of rehabilitation technology

New Technology Selection Process

- Is the technology clinically effective and does it enhance a patient's ability to recover function?
- Is the technology consistent with Good Shepherd's model of care?
- What is the clinical evidence?
- Does the pro forma demonstrate a satisfactory ROI? What is the projected payback time frame?
- What is the margin impact?
- Will the product under evaluation drive incremental patient volume , contribute to market share growth, and overall strategic plan?
- What is the proposition value for Good Shepherd?

Rehabilitation is Changing

- For the past 75 years, compensation for loss of function was the primary focus of rehabilitation

- The central nervous system was thought to be unresponsive to change and incapable of recovery

- However, research has shown that the brain and spinal cord are indeed plastic and can develop new neuronal interconnections so that new functions can be acquired and restored - **Neuroplasticity**

Neuroplasticity

- It represents the adaptive capacity of the central nervous system to modify its own organization and function.

- It is the ability of neurons in the CNS to respond to changes in their environment.

- The CNS may respond to this stimuli by reorganizing its structure, function, and/or neural connections.

- Neuroplasticity is present in both healthy and damaged CNS.

Neuroplasticity in Healthy CNS

- Musicians – how do I get to Carnegie Hall? "practice, practice, practice".

- Athletes – practice fundamentals – over and over and over.

- Why does this work? Muscles can't think – its the hardwiring of the CNS through repetition of activity that leads to improvement in performance.

Neuroplasticity

Evidence for neuroplasticity has been well demonstrated

- Skill acquisition through **practice** has been demonstrated to be a critically important variable (if not the most important variable) in the learning of motor skills and the promotion of neuroplasticity.
- **Task specificity** - if you want to improve walking, then practice walking.
- Promote body movements performed in a relatively **normal biomechanical** position and manner.
- Utilize techniques that **minimize compensation** and promote use of impaired body segment.
- **Task intensity.**

Evaluation Process –
How and Why Good Shepherd Selected Ekso

- Normalized biomechanical position throughout gait.
    - Reciprocal gait
    - Achieves hip extension – up to 7 degrees
    - Challenges balance recovery
- Variable assistance
- Can be used with multiple diagnoses :
    - SCI (Complete / Incomplete)
    - Stroke
    - Brain Injury

Good Shepherd's Results with Ekso GT
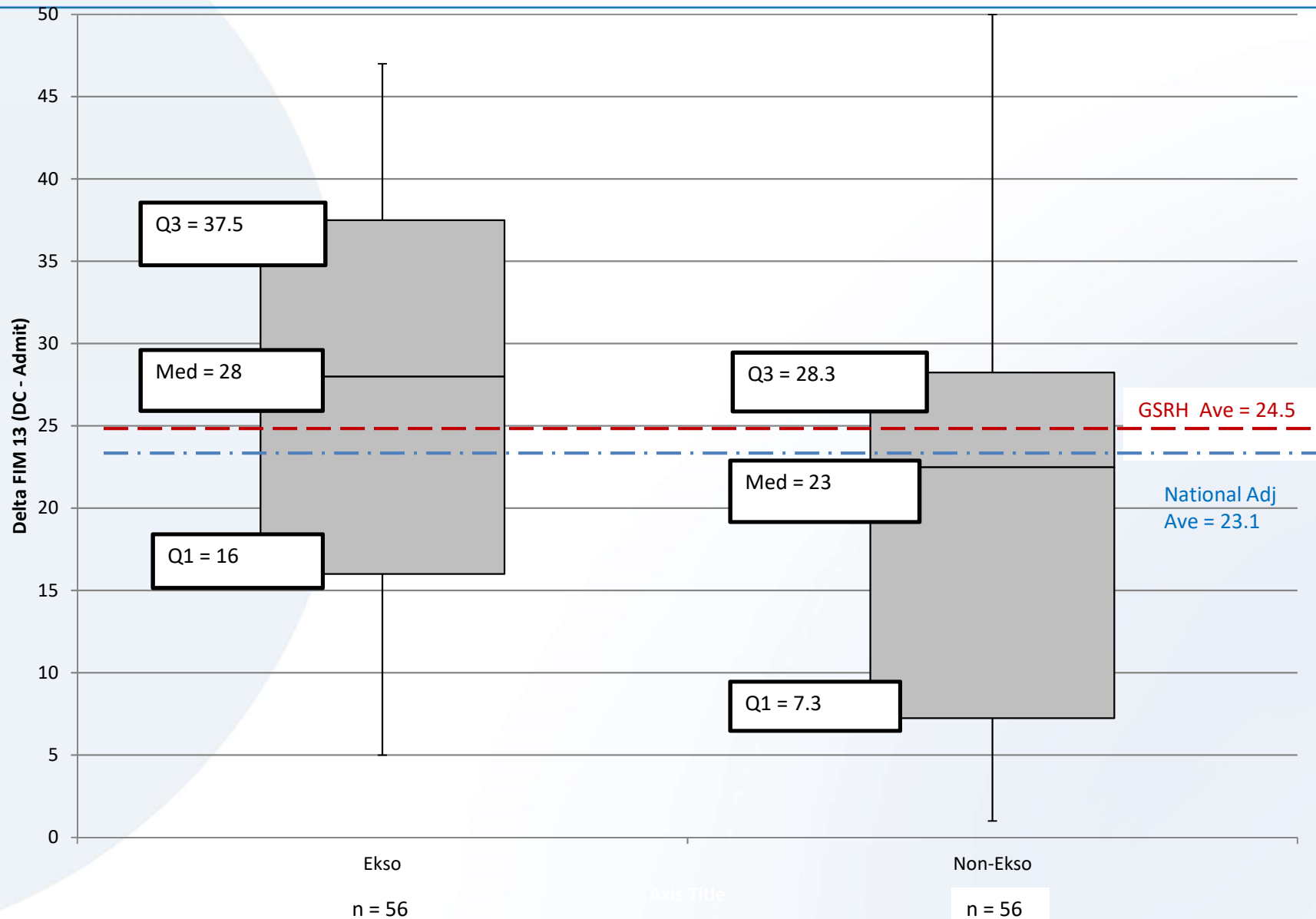
- Clinical
- Strategic
- Financial

Results - Clinical

- Good Shepherd has three Ekso GT – 2 designated for outpatient use; 1 dedicated for inpatients

- IP - used primarily for stroke

- OP – used for SCI; Stroke; Brain Injury; MS

- Each Ekso GT is used approximately 7 hours daily

- Clinically – Ekso GT has been a major success

- Great enhancement to our functional recovery model of care.

- Ekso GT is not an end product, but a therapy tool that enables patients to maximize their recovery and ability to walk unaided or with as little assistance as possible

Title: Recovery rates of motor functioning for acute rehabilitation inpatients with stroke who received exoskeleton-assisted locomotor training compared to historical controls

- **Objective:** The aim of this study was to describe the group recovery trajectory for persons with stroke who received inpatient locomotor training with a powered exoskeleton **(Ekso - GT)** compared to historical controls who received other methods of locomotor training.
- **Research Question:**
- Does the rate of change of motor FIM score differ by locomotor training group?
- Does the **Ekso-GT** robotic device contribute significantly to enhanced motor and functional recovery in the inpatient rehabilitation setting for individuals who have sustained a stroke?
- **Participants:** Acute rehabilitation hospital inpatients with acute stroke.
- **Interventions:** Locomotor training with a powered exoskeleton versus conventional methods which include over-ground training with and without body-weight support.
- **Main Outcome Measures:** Functional change from admission to discharge as measured by the 13-item Motor subscale of the FIM™ System.
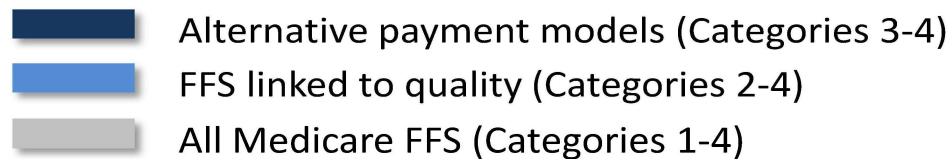
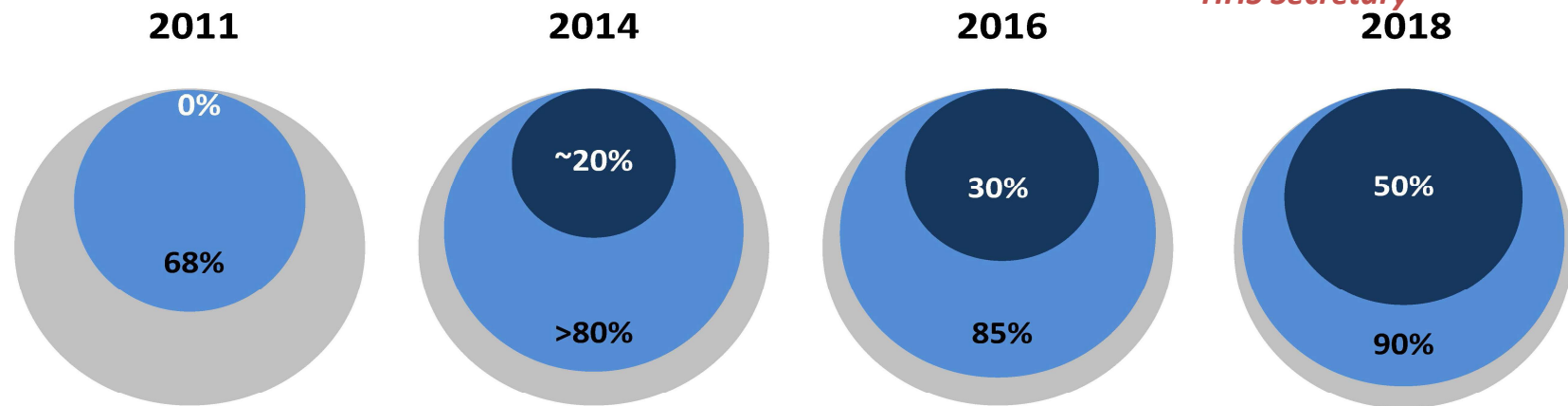GSRH Motor FIM 13 Change - Stroke Inpatients
Ekso vs. Non-Ekso

GOOD SHEPHERD
REHABILITATION ®

Delta FIM 13 (DC - Admit)

Q3 = 37.5

Med = 28

Q1 = 16

Q3 = 28.3

Med = 23

Q1 = 7.3

GSRH Ave = 24.5

National Adj
Ave = 23.1

Ekso

n = 56

Non-Ekso

n = 56

Axis Title

Results - Strategic

Impact of Healthcare Transformation on Post Acute Services

- Bundled payment and ACO incentives are moving post-acute patients to lowest cost setting (equation = lowest episode spend and readmissions)

  o Pressure on post acute rehab cases to lower Length of Stay.

- Strong demand for high acuity rehab will continue requiring niche expertise and technologies - - anticipate industry consolidation over time and destination centers emerging for:

  o Spinal Cord

  o Severe Stroke

  o Traumatic Brain Injury

  o Major Multiple Trauma

- Health systems looking to more tightly manage episodes via care continuum alignment.

Patient Placement Matters More Than Ever Before

Patient Placement Impacts:

- Length of stay/Medicare profitability

- Lowering "Episode" cost for success under growing bundle arrangements and VBP metrics

- Increased revenue to owned PAC assets (e.g., Home Health, Rehab Units)

- Reducing readmission and penalties

- Building strategic relationships for success under payment transformation (Medicare, Medicaid, private payor bundles)

The Impact of Change is Always

OVERESTIMATED
in the

SHORT TERM

AND

UNDERESTIMATED
in the

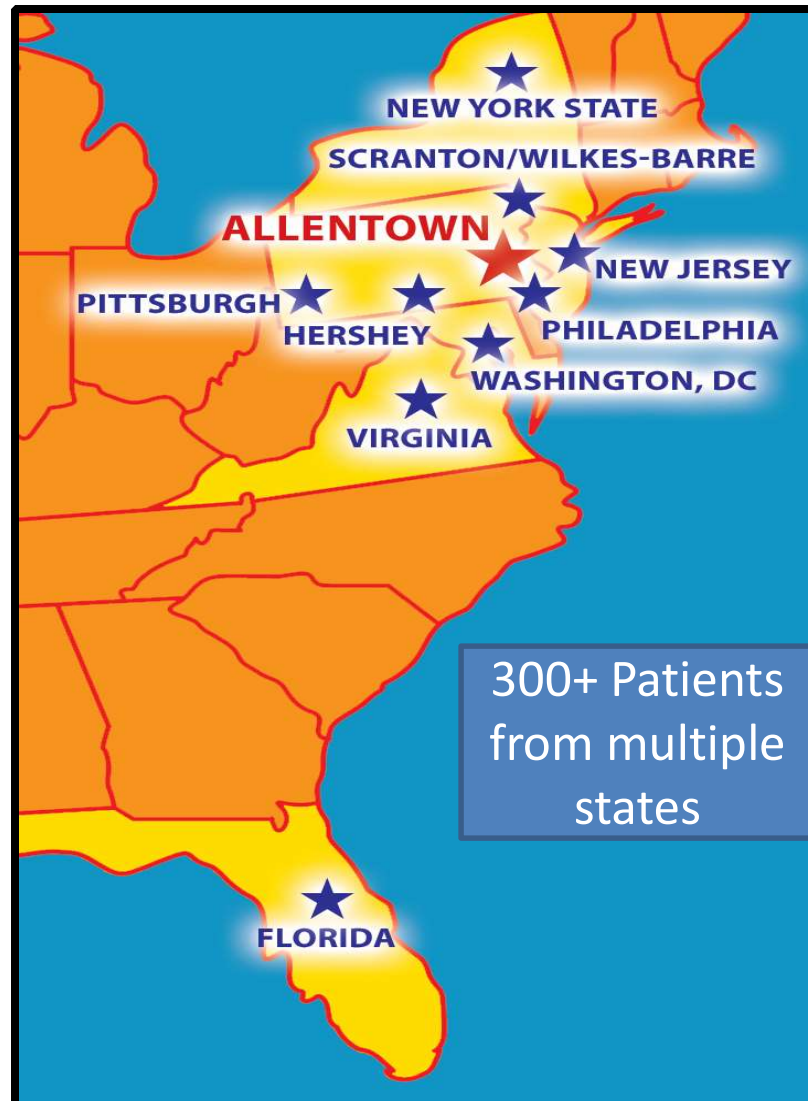**LONG TERM**

Results - Strategic

- Challenge faced by Good Shepherd
    - rehabilitation very competitive locally
- Developed strategic plan to differentiate by focusing on catastrophic rehabilitation – SCI/Stroke/Brain Injury
- Goal was to become a destination center for catastrophic rehabilitation
- Goal was to increase Good Shepherd's market service area from local to regional / national
- Ekso GT is one of several innovative technologies that Good Shepherd uses to drive functional recovery
- Ekso GT is the cornerstone of the Locomotor Training Program

The Ekso Has Taken Good Shepherd's Patients
BEYONDLIMITS.
3,000,000 Steps and Counting

GOOD SHEPHERD
REHABILITATION

Taking
Matt Ficarra
**BEYOND
LIMITS**

Spinal Cord
Injury

Results - Strategic

NEW YORK STATE
SCRANTON/WILKES-BARRE
ALLENTOWN
PITTSBURGH
HERSHEY
NEW JERSEY
PHILADELPHIA
WASHINGTON, DC
VIRGINIA
FLORIDA

300+ Patients from multiple states

Results – Financial
5 Year Financial Performance / Per Ekso

Total Capital Investment	$ 150,000
5 Year Contribution Margin / EBITDA	$ 513,342
5 Year Net Income	$ 394,839
Pay Back Period - Undiscounted	2 Years
Net Present Value	$ 466,478
IRR	53%

THANK YOU