



# **Analysis of the Transition to Physician led Patient Care Conference in Inpatient Rehabilitation**

**Anand Pooleri, M.D., ECU PM&R PGY-3**

**Matthew Parker, M.D., ECU PM&R Clinical Assistant Professor**

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# Background & Introduction

- Inpatient rehabilitation (IPR) consists of the attending physician, resident physician, nursing staff, therapy staff (physical therapy, speech therapy, occupational therapy, recreational therapy, respiratory therapy) and case managers.
- The purpose of inpatient rehabilitation is to further manage medically stable patients that have outstanding clinical needs while addressing their functional impairments, such that their activities of daily living are addressed prior to discharge (ideally to the home setting).
- Per the Commission on Accreditation of Rehabilitation Facilities (CARF) guidelines, patients need to have their case discussed once a week to identify patient care issues that limit therapies and advancement.
- Previously, patient care conferences (PCC) were led by varied members of the multidisciplinary team resulting in inefficiencies that affected patient care outcomes.

# Collaborative Team Members

- Matthew Parker, M.D., ECU PM&R Clinical Assistant Professor, Director of our Neurology and General Rehabilitation II services
- Raymundo Millan, M.D., ECU PM&R Clinical Assistant Professor, Director of our Spinal Cord Injury Service
- Hannah Florida, M.D., Director of our General Rehabilitation I service
- Clinton Faulk, M.D., Chair of Inpatient Rehabilitation
- Debra Jefferson & Missy Moore, Neurology & Brain Injury Therapy Managers
- Cindy Clements & Paula Morris, General Rehabilitation and Spinal Cord Injury Therapy Managers
- Felicia Collins, Inpatient Rehabilitation Clinical Nurse Manager
- Case Managers: Raven Bullock (Neuro), Charlonda Brown (GRII), Brittany Burch (SCI), Latoya Ward (GRI)

# Aim Statement

Streamline patient care conferences to increase organization and efficiency amongst the multidisciplinary staff, to improve therapy advancement & outcomes for patients while admitted to inpatient rehabilitation

# How will we know this change is an improvement?

Improvement will be measured pre and post intervention using the following outcome measures:

- Average length of stay per patient
- Average efficiency in which self-care and mobility therapy goals are met over their stay
- Average efficiency in which self-care and mobility therapy goals are met per day

# Improvement Strategies Employed

Establish an order for each interdisciplinary member to present, role adjustment, have the resident physician present to better supplement education:

- Physician: etiology based functional impairments and medical issues
- CM: social discharge barriers, arrange appropriate level of care post discharge
- RN: pain control, wounds, DVT prophylaxis, bowel/bladder function
- PT/OT/SLP: goals, progress, barriers to advancement
- Conclusion: MD establishes a discharge date after reconciling these concerns

# Methods

- Change was implemented in the Neuro-IPR service on 02/01/2021.
- Three other services (general rehabilitation one, general rehabilitation two, spinal cord injury) made the change on 5/1/2021.
- The general rehabilitation services were tabulated together, while the spinal cord injury service had its own data collection subset consisting of traumatic as well as non-traumatic spinal cord injury patients.
- Scorecards that tabulate eRehabData, which delivers clinical outcomes based on information provided from the IPR-Patient Assessment Instrument, were analyzed retrospectively for FY2020-2021. Assessments range from 1-6, scoring various self-care/mobility tasks.
- Pre and post-intervention data points would be analyzed four months before and after the change.

# Length of Stay

## Average Length of Stay

	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	FY21
GR1	13.42	13.30	13.28	13.42	12.26	11.12	11.56	11.89	11.68	9.04	13.67	12.76	12.16
GR2	10.59	11.55	11.08	11.84	12.77	11.45	11.37	10.6	12.26	10.67	12.95	11.32	11.54
SCI	12.95	14.05	14.76	11.84	12.89	17.45	11.27	13.52	12.5	17.42	9.63	14.81	13.68
Neuro	13.08	13.52	13.04	14.8	13.63	12.76	11.12	13.75	14.18	13.38	12.29	12.62	13.11



# Neuro-rehabilitation Self-Care and Mobility Measures

<b>Self-Care Admission to Discharge</b>													
	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	FY21
Stroke	6.00	5.38	5.91	5.69	7.13	5.81	5.39	6.52	8.31	7.14	8.29	6.91	6.50
<b>Self-Care Change Per Day</b>													
Stroke	0.58	0.42	0.37	0.36	0.49	0.46	0.49	0.47	0.67	0.64	0.72	0.58	0.51
<b>Mobility Admission to Discharge</b>													
Stroke	5.82	4.92	7.53	5.08	7.10	6.30	6.57	8.13	7.38	6.25	8.16	7.86	6.74
<b>Mobility Change Per Day</b>													
Stroke	0.44	0.37	0.53	0.29	0.47	0.51	0.61	0.57	0.59	0.65	0.78	0.69	0.54

# General Rehabilitation Self-Care and Mobility Measures

<b>Self-Care Admission to Discharge</b>													
	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	FY21
Orthopedic Group	7.96	9.17	10.15	9.55	7.38	9.05	7.65	9.58	9.00	10.94	11.31	10.31	9.29
General Rehab/Medical	7.52	8.73	7.59	7.30	6.03	8.63	10.89	8.32	9.54	8.64	9.55	9.26	8.39
<b>Self-Care Change Per Day</b>													
Orthopedic Group	0.79	0.75	0.90	0.76	0.73	0.89	0.86	0.99	0.85	1.00	1.32	1.04	0.9
General Rehab/Medical	0.77	0.78	0.70	0.73	0.51	0.98	1.12	0.85	0.91	1.10	1.02	0.87	0.85
<b>Mobility Admission to Discharge</b>													
Orthopedic Group	9.30	12.72	13.35	12.80	12.76	13.79	9.88	13.63	9.94	11.38	12.92	14.50	12.27
General Rehab/Medical	9.22	9.33	10.14	11.40	9.50	10.44	11.85	9.50	10.26	8.44	13.90	10.09	10.19
<b>Mobility Change Per Day</b>													
Orthopedic Group	0.91	1.07	1.19	1.1	1.24	1.24	1.01	1.39	1.06	0.99	1.58	1.51	1.19
General Rehab/Medical	1.02	0.89	0.94	1.18	0.84	1.16	1.11	0.93	0.96	0.96	1.44	0.94	1.01

# Spinal Cord Injury Rehabilitation Self-Care and Mobility Measures

Self-Care Admission to Discharge	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	FY21
Traumatic spinal cord	0.00	0.00	5.00	11.00	0.00	17.25	10.57	12.83	3.00	6.83	11.00	8.29	8.72
Nontraumatic spinal cord	6.25	8.00	10.23	14.50	6.67	9.89	7.00	9.67	11.57	10.57	10.50	8.11	9.03
<b>Self-Care Change Per Day</b>													
Traumatic spinal cord	0.00	0.00	0.33	0.63	0.00	0.75	0.95	0.73	0.43	0.33	1.57	0.53	0.56
Nontraumatic spinal cord	0.62	0.55	1.02	2.44	0.57	0.61	0.68	0.98	0.75	0.93	0.68	0.61	0.77
<b>Mobility Admission</b>													
Traumatic spinal cord	7.00	11.67	11.43	18.33	7.50	8.75	18.43	14.00	25.00	11.33	28.00	11.71	13.67
Nontraumatic spinal cord	15.62	20.40	18.15	24.50	23.00	17.33	17.75	20.44	17.14	19.29	19.50	18.11	18.68
<b>Mobility Admission to Discharge</b>													
Traumatic spinal cord	1.00	0.00	6.29	16.33	0.50	25.25	7.00	9.83	15.00	11.67	14.00	10.00	10.28
Nontraumatic spinal cord	7.12	9.10	11.77	7.00	14.67	13.44	8.25	13.56	10.57	11.00	14.50	11.00	10.84
<b>Mobility Change Per Day</b>													
Traumatic spinal cord	0.04	0.00	0.48	1.01	0.01	1.15	0.62	0.75	2.14	0.71	2.00	0.63	0.71
Nontraumatic spinal cord	0.62	0.68	1.19	1.40	1.21	0.85	0.87	1.37	0.81	0.79	0.88	0.94	0.92

# Results

## Neuro

5.87% average length of stay decrease. Self-care: 7.41% improvement in average advancement admission to discharge, 10.41% improvement in average change per day. Mobility: 16.93% improvement average advancement admission to discharge, 3.70% improvement in average change per day.

## General Rehabilitation

3.16% average length of stay decrease. Self-care: 15.6% improvement in average advancement admission to discharge, 26.4% improvement in average change per day. Mobility: -2.65% decrease average advancement admission to discharge, 3.83% improvement in average change per day.

## Spinal Cord Injury

0.71% average length of stay decrease. Self-care: -1.18% decrease in average advancement admission to discharge, -3.47% improvement in average change per day. Mobility: 8.32% improvement average advancement admission to discharge, 32.72% improvement in average change per day.

# Results Analysis

## Neuro

Improvement in all five metrics

## General Rehabilitation

Improvement in four out of five metrics, with a decrease in mobility advancement over the course of their stay while increasing the change per day. This paroxysmal change could be due to the decreased number of days spent in inpatient rehabilitation, while functional gains could be achieved further in the outpatient setting.

## Spinal Cord Injury

Improvement in 3 out of five metrics; self-care tasks demonstrated a decline however as it pertains to spinal cord injury patients, especially traumatic paraplegics or quadriplegics, advancement in regards to this is limited and IPR is beneficial more so for caregiver education to address these needs. The rapid change mobility is in reference to wheelchair mobility, as these populations are educated and trained for alternate mobility modalities (manual wheelchair, power wheelchair) during their inpatient rehabilitation stay.

# Ancillary Results

- Improved adherence to start times
- Modified/tailored therapy & medical treatment plans
- Faster awareness of barriers to progress and discharge
- Improved interdisciplinary communication with the primary medical team
- Time per patient (PCC)
  - Previous 10-15 minutes (50-65 minutes)
  - Current 5-8 minutes (35-40 minutes)

# Discussion

Our overall aim for improving outcomes within inpatient rehabilitation because of changing our patient care conference format was achieved. While there were decreased metrics in regards to our general rehabilitation patients mobility on admission to discharge as well as overall self-care outcomes for spinal cord injury patients, all the services that underwent the change did result in a decrease length of stay and conversely showed improvement in other measures.



# Challenges

- Interdisciplinary team; there was initial concern as a result of the change from the interdisciplinary team, as they had been accustomed to the previous format despite review of CARF accreditation guidelines that motivated the change to increase compliance.
- Establishment of procedures in which to abide by when running the patient care conferences themselves.
- Data analysis: eRehab data generation procedures remains unclear, and can be impacted by significant variables.
  - The impact of increased patient comorbidity as it pertains to predicted versus expected functional values.
  - Variability as to the manner in which data is initially inputted and how they are tracked over time.
  - Are outcomes dictated by documentation of the aforementioned considerations versus actual patient performance.



# Lessons Learned

## Successes

- Improved patient outcomes
- Streamlined conference sessions
- Improved adherence to medical management as it pertains to rehabilitation specific outcomes

## Areas of improvement

- Initial resistance to change
- In depth communication to ensure all parties involved comprehensively understood the reason for the change

## Next Steps

- Transition of the Traumatic Brain Injury Service to physician led PCC took place on 10/1/2022. Results of this change are still pending.
- Analysis of the eRehabData for the most recent fiscal year to determine if the change was sustained.
- Ensure improved outcomes are maintained in the midst of possible inpatient rehabilitation census increases.

# Questions?

Anand Pooleri, M.D.  
ECU Health Department of Physical Medicine and Rehabilitation  
Pooleria20@ecu.edu