

THE FUTURE OF UIHC REHABILITATION SERVICES: DEFINING AND MEASURING QUALITY REHABILITATION SERVICES

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INTRODUCTION TO UIHC REHABILITATION PHYSICIAN SERVICES

The Carver College of Medicine and the UIHC have integrated many operations. The integration of rehabilitation physician and hospital services should follow naturally. The Department of Rehabilitation Therapies employs many talented entry-level therapy providers, but has lacked a physician champion advocating for quality outcomes in rehabilitation services. UIHC has never established an inpatient rehabilitation unit but because of the efforts of our four physical medicine and rehabilitation faculty, UIHC has developed excellent working relationships with local rehabilitation physicians and units across Iowa. Dr. Chen was appointed Medical Director of Rehabilitation Services in 2004 and has led the UI Spine Center to become a regionally recognized disease management program providing interdisciplinary spine care for Iowans with chronic spine pain. This program follows national evidence-based guidelines for the treatment of chronic back pain. The development of additional interdisciplinary disease management programs for Iowans with chronic musculoskeletal or neurological conditions can accomplish health care cost savings and improve patient access to quality care and satisfaction.

It is commonly accepted that when quality is improved, costs are also reduced. An integrated team of rehabilitation specialists led by the rehabilitation physicians will develop and direct the structure, process, and outcomes of rehabilitation care at UIHC using evidence-based medicine, process improvement, and outcomes management.

Clinical practice guidelines for chronic musculoskeletal and neurological disease management conditions can be developed to measure and improve under-utilization, reduce over-utilization and inappropriate utilization of rehabilitation services.

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DEFINING REHABILITATION SERVICES

Rehabilitation services can be provided by a therapist alone, a physician alone, or together as a part of a comprehensive team. Most physicians are not specifically board-certified in rehabilitation, but may work with rehabilitation therapists for their orthopaedic, or neurologically-impaired patients. When more complicated services and interventions are required as a part of a comprehensive rehabilitation team, these services are typically coordinated by a board-certified physical medicine and rehabilitation physician or physiatrist. Rehabilitation treatment interventions should be an integration of medical, psychosocial, and functional interventions.

Physical medicine and rehabilitation providers are direct service providers as well as a supportive and consultative service that provides management of neuromuscular and musculoskeletal disorders that alter functional status. This treating specialty places emphasis on the restoration and optimization of function through physical modalities, therapeutic exercise and interventions, adaptive equipment, modification of the environment, education, and assistive devices. Rehabilitation services are provided along a continuum from wellness preventative or occupational settings, acute care hospital settings, comprehensive inpatient rehabilitation units, outpatient rehabilitation centers, and long-term self-care management.

Leadership of physical medicine and rehabilitation services vary among across the country depending on hospital size, scope, and affiliation. Larger programs in most academic medical centers especially those with rehabilitation bed units, are typically housed in a Department of Physical Medicine & Rehabilitation with a complement of 10-40 faculty of various ranks.* These Departments have individual rehabilitation therapy staff numbering over 100 physical therapy, occupational therapy, psychology, rehabilitation nursing, and social work staff and assistants.

*Examples include: Northwestern University (58 physiatrists), Mayo College of Medicine (37), Indiana University (14), University of Minnesota (8), University of Kansas (12), University of Nebraska (15), Cleveland Clinic (17); University of Rochester (16); University of New Jersey (75), University of Washington (38), New York Presbyterian (12)

“Recent trends in health care have emphasized the importance of comprehensive rehabilitation for individuals with disabilities. The Department of Veterans Affairs has reorganized Physical Medicine and Rehabilitation Service leadership structures in order to assist facility leadership in establishing, maintaining, and improving programs in PM&RS by establishing principles in planning, administering, and improving care provided to patients with disabilities.”

VA 2007 PM&R HANDBOOK

The population served by physical medicine and rehabilitation services ranges from child, to adult, to geriatric, with a wide spectrum of neurological, surgical, medical, psychiatric and surgical conditions including the special populations of stroke, brain dysfunction/traumatic brain injury, and amputation.

BENEFITS OF COMBINED PHYSICIAN AND HOSPITAL REHABILITATION SERVICES

This rehabilitation physician consultation service is already being performed for selected spinal cord injury, polytrauma, and burn patients who require coordination of care, durable medical equipment needs, exercise therapy, and management of permanent impairment or disability determination managed by a physiatrist. Early-supported discharge¹ will shorten length of stay and follow-up with outpatient physiatry visits and rehabilitation therapies at UIHC will increase revenues. Patient populations including amputee, stroke, polytrauma patients have complicated medical and physical function require coordination of prosthetic/equipment prescription, gait training exercise with therapy, and coordination of medical complications by the physiatrist.

In some cases, rehabilitation physician involvement may not directly shorten length of stay, but early consultation may prevent or decrease complications of immobility (JCAHO “never” events), educate patient and family about the rehabilitation process, and improve patient-centered care and satisfaction following devastating injuries requiring hospitalization.

Decrease costs and improved efficiency through defining and measuring quality rehabilitation outcomes through disease management programs like that currently in the UI Spine Center.

Hospitalized patients with stroke, brain injury, or medical complex patients now being seen only by rehabilitation therapists through only PT/OT/ST referral and in the absence of PM&R consultation, would return to UIHC for the completion of their rehabilitation continuum through outpatient physiatry and rehabilitation clinics, rather than being left to follow-up with non-UIHC providers as they are currently leading to missed opportunities for outpatient revenue.

Physical therapists are working diligently to achieve the degree of professional autonomy that physicians have held. Physicians now understand that more important than autonomy is that the public health care systems wish to hold all professionals accountable for high quality outcomes. A health care team of rehabilitation specialists led by rehabilitation physicians will mutually increase the autonomy for which physical therapists strive and enhance the accountability of quality rehabilitation outcomes that the public demands.

Advantages in marketing and community advocacy of both physician and therapy services as a package, dramatically increasing utilization of UIHC Rehabilitation services, with new development of Institute of Orthopaedics, Sports Medicine & Rehabilitation as well as River Landing project.

Potential for collaboration in translational research as new medications and devices are developed to aid patients with neuromuscular, orthopaedic, rheumatologic, or other impairments, functional limitations, or disabilities.

Education of medical students and entry-level physical therapists, and ongoing professional development would benefit from integrated clinical and educational rounds that span the continuum of rehabilitation services.

Development of Clinical Practice Guidelines to decrease variability of care among patients, a current significant opportunity for improvement. Guidelines and algorithms would be used to determine the best interventions and steps of care for patients to optimize healthcare utilization and achieve optimal outcomes. Although guidelines would facilitate, not replace, clinical judgment, they would notably enhance coordination of care, benefiting patients and the institution. Practice parameters/guidelines can eliminate much of the costly variation in rehabilitation care, but will not eliminate innovation in care delivery. Eventually care maps or case management can be performed after such parameters have been vetted by all those professionals involved in the patients' care.

DEFINING QUALITY REHABILITATION SERVICES

Quality in medicine has been difficult to define and even harder to measure. The Institute of Medicine defined “quality” in 1991 as “The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”

In rehabilitation, efforts to measure the quality of rehabilitation services have lagged behind objective measures for medical or surgical outcomes. Newer randomized controlled trials of rehabilitation interventions

for spinal cord injury, brain injury, stroke, and musculoskeletal impairments are beginning to be performed.

The traditional Donabedian tripod of quality involves structure, process, and outcomes. Structure involves something that one can touch, see, or feel. In a rehabilitation setting, this includes the number of nurses, physical therapists, occupational therapists, presence of state of art equipment, physical plant and beds. The process of rehabilitation involves whether an organization follows agreed upon methods of care such as standing orders for patients with stroke, spinal cord injury, or brain injury. In traditional medical units such as for cardiology patients, such a process measures include the number of patients with an acute myocardial infarction who get who get TPA in less than 4 hrs, or door to balloon time. Medical and surgical outcomes are generally easier to measure and include morbidity/mortality rate, unexpected return to OR, post-operative infections, average LVEF of patients who present within 4 hrs of chest pain. In rehabilitation patients, outcomes could involve the number of stage 3-4 pressure sores that develop in inpatients or any other desired health outcome such as an improvement in functional status (improved ability to return to work or perform recreational activities measured by valid and reliable instruments such as SF-36 or other tools), reduced impairment, and decrease or elimination of pain.

As evidence based-medicine has come to become more meaningful, the traditional quality tripod has been revised to focus on evidence-based medicine methods of measuring structure, process improvement, and outcomes management. This has been refined to include the evidence for best practices for staffing ratios, number of operating rooms, clinical expertise, and patient values towards a host of process improvement actions including shared decision making, electronic decision support for physicians, to finally involving outcomes management. Good outcomes without good processes may represent luck or result from random interactions. However, good processes without good outcomes do not improve the quality of patient care. Only good outcomes linked to good processes are likely to be real and sustainable.

The Institute of Medicine's "Crossing the Quality Chasm," focus is placed on 6 domains of patient care goals in order of importance: These include safe, effective, efficient, personalized, timely, and equitable health care. Even within standard medical/surgical patients, there have been few identifiable "roadmaps" to show healthcare organizations how to address the changes in the structure or process that lead to improvements in outcomes. Based upon these patient care domains, healthcare organizations are focusing on 10 principles that traditionally rehabilitation providers have been using in practice for decades.

Care is based on continuous healing relationships. When spinal cord injury patients are treated with a rehabilitation team, their medical treatment, physical therapy and equipment needs, and psychosocial support needs are constantly being addressed by the entire team throughout the rest of their lives.

Care is customized according to patient needs and values. Concepts of shared decision making and shared goal setting are already tenets in rehabilitation practices. Issues related to mobility and functional goals, neurogenic bowel management and need for colostomy, management of bladder incontinence and sexuality have been tailored to individual patients needs and values.

The patient is the source of control. Neurologically devastated spinal cord injured patients have lost control of significant bodily functions. Rehabilitation teams attempt to educate and equip such patients to maintain as much control that is physiologically or psychologically possible.

Knowledge is shared freely. Rehabilitation involves all different types of medical and allied health professionals sharing their expertise with the patients and their families.

Decision making is evidence-based. Evidence-based medicine recommendations are typically arranged into Standards or practice that must be done, professional guidelines, clinical protocols, suggested clinical management given certain parameters, or other practice options given best expert consensus. Rehabilitation researchers have developed clinical practice guidelines for stroke, spinal cord injury, venous thrombosis management to reduce the wide variation in care.

Safety is a system property. Rehabilitation does not frequently involve procedural intervention but systemic safety processes for blood transfusion, patient identifiers for medications, or patient elopement while under rehabilitative care are systemic safety issues.

Transparency is necessary. Utilizing physician champions is becoming ever more important to ensure compliance with and compliance with processes. All professionals including therapists, physicians, and nurses should be involved in the development of new process initiatives.

Patient needs are anticipated. Disease management programs in rehabilitation can be utilized for patients with chronic neuromuscular and musculoskeletal conditions. This system of coordinated health care intervention and communication for populations of patients with conditions in which patient self-care efforts for a healthy lifestyle are significant. According to the Disease Management Association of America (DMAA), clinical risk factors are being developed now, but the future will involve identifying and modifying behavioral risk factors.

Data from Healthy People 2020 indicate that more than 50% of global health care costs are related to modifiable behavioral risk factors. Disease management programs support the physician or support practitioner/patient relationship and plan of care, emphasizing prevention of exacerbation and complications, patient empowerment strategies, and evaluate clinical, humanistic and economic outcomes on an ongoing basis with the goal of improving overall health (DMAA.org). A core requirement for a successful disease management program to be effective is an involved, active patient having productive interactions with a prepared, proactive practice team (Wagner et al., 1999 Planned Care Model for Chronic Illness Care). Rehabilitation teams function best with such involved, motivated patients.

Waste is continuously decreased. At a time when Congress is spending nearly \$1 billion dollars per day on Medicare A & B, health care costs and quality must be addressed simultaneously. High health care costs can negatively impact quality. Patients who are losing their insurance coverage have less money to spend on care. Disease management programs can also be helpful in reducing overall health care costs. The Pareto principle indicates that 20% of patients are responsible for 80% of overall costs. Therefore, even 1:1 case management of the highest risk, most severe or highest complexity of patients should decrease costs significantly.

Cooperation among clinicians is a priority. Professional Autonomy and public accountability are viewed by some as a zero sum game. For accountability to increase, autonomy needs to decrease. Few physicians with such autonomy are ready to give up their autonomy but in order to decrease variability and improve public accountability for results, such decrease in autonomy may be necessary. Physical therapists frequently complain about their lack of autonomy. For physicians and physical therapists to work together, therapists can increase their autonomy if the rehabilitation physicians are willing to be held accountable for his/her team's results.

MEASURING QUALITY REHABILITATION SERVICES

National guidelines frequently references for quality databases include www.guidlines.gov, the Institute for Clinical System Improvement www.icsi.org, the Cochrane Library www.informedhealthonline.org, and the Vanderbilt Center for Evidence Based Medicine www.ebm.vanderbilt.edu.

With a change in our electronic documentation to the EPIC system, new documentation and additional clinical decision support may be available for us to establish

a database of all rehabilitation services provided and reference their conformity to national guidelines for therapeutic exercise.

There are many possible outcome measures that can be utilized for acute inpatient hospitalizations. A less than comprehensive list includes:

- development of stage 3-4 pressure sores (JCAHO never events), complications related to patient falls (JCAHO never events), length of stay for acute hospitalization, time to transfer to inpatient rehabilitation, SF-36 measures
- Functional Independence Measure, Hospital anxiety and depression scale
- mini-mental state examination, number of minutes of rehabilitation, number of therapy sessions, and discharge disposition (home, rehabilitation unit, nursing home).

Outpatient quality outcomes can also utilized including: pain visual-analog scale, instruments looking at overall bodily function like the SF-36, Oswestry Disability Index, or selected scales like the Beck Depression Inventory, return to work rates, number of minutes or units of rehabilitation sessions, or patient satisfaction.

SUMMARY

UIHC can be known as a leader in quality of rehabilitation care with the further development of integrated physician and hospital rehabilitation services based upon these principles. We can develop guidelines to be used at UIHC for both inpatient and outpatient care and show that we deliver high quality musculoskeletal rehabilitative care with superior outcomes to the most satisfied patients at the lowest cost.

REFERENCES

1. **Chen, J.J.** A Future Model of Musculoskeletal Rehabilitation at the University of Iowa Hospitals and Clinics: Spanning the Continuum of Care, *Iowa Orthop J.* 2005; 25: 180-186.