

Post-Acute Stroke Rehabilitation: Delivering Value and Quality of Life Across the Care Continuum

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Disclosures:

The content of this presentation is mine alone and reflects personal opinion, bias, and conjecture.

I have no commercial interests to disclose.

Post-discharge continuum of care options for stroke rehabilitation patients are often absent or confusing for patients, care givers, and providers. Community resources that effectively address patients' needs along the continuum of care can improve quality of life and functional recovery.

Objective: Be able to describe appropriate elements in the post-discharge continuum of care for stroke rehabilitation patients.

What is the “Triple Aim” anyway?

Basketball → Shoot, Dribble, or Pass

Greek mythology → Zeus, Poseidon, Hades

Stooges → Curly, Mo, Larry



What is the “Triple Aim” anyway?

Health care reform → Better Health, Better Care, Lower Cost

Stroke Patient → Compensate, Restore, Enhance

→ Mind, Body, Spirit

→ Mobility, Self-Care, Social (Relationships, work)

Care System → Patient, Family, Caregivers

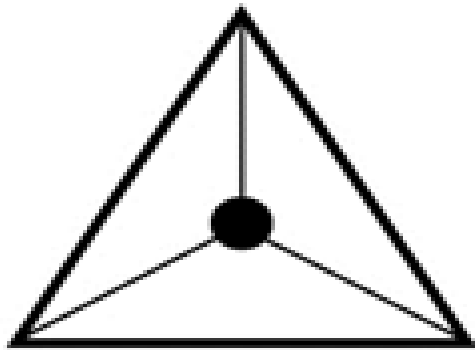
→ Doctors, Nurses, Therapists (PT, OT, SLP, TR, SW)

→ EMS, Acute, Post-Acute

→ IRF, SAR, Outpatient

→ PT, OT, Speech Tx

Health Care Reform



IHI *Triple Aim*

- A System design that is one aim with three dimensions:
 - Improving the health of the populations;
 - Improving the patient experience of care
 - Reducing the per capita cost of health care.

“Volume to Value” reimbursement shift

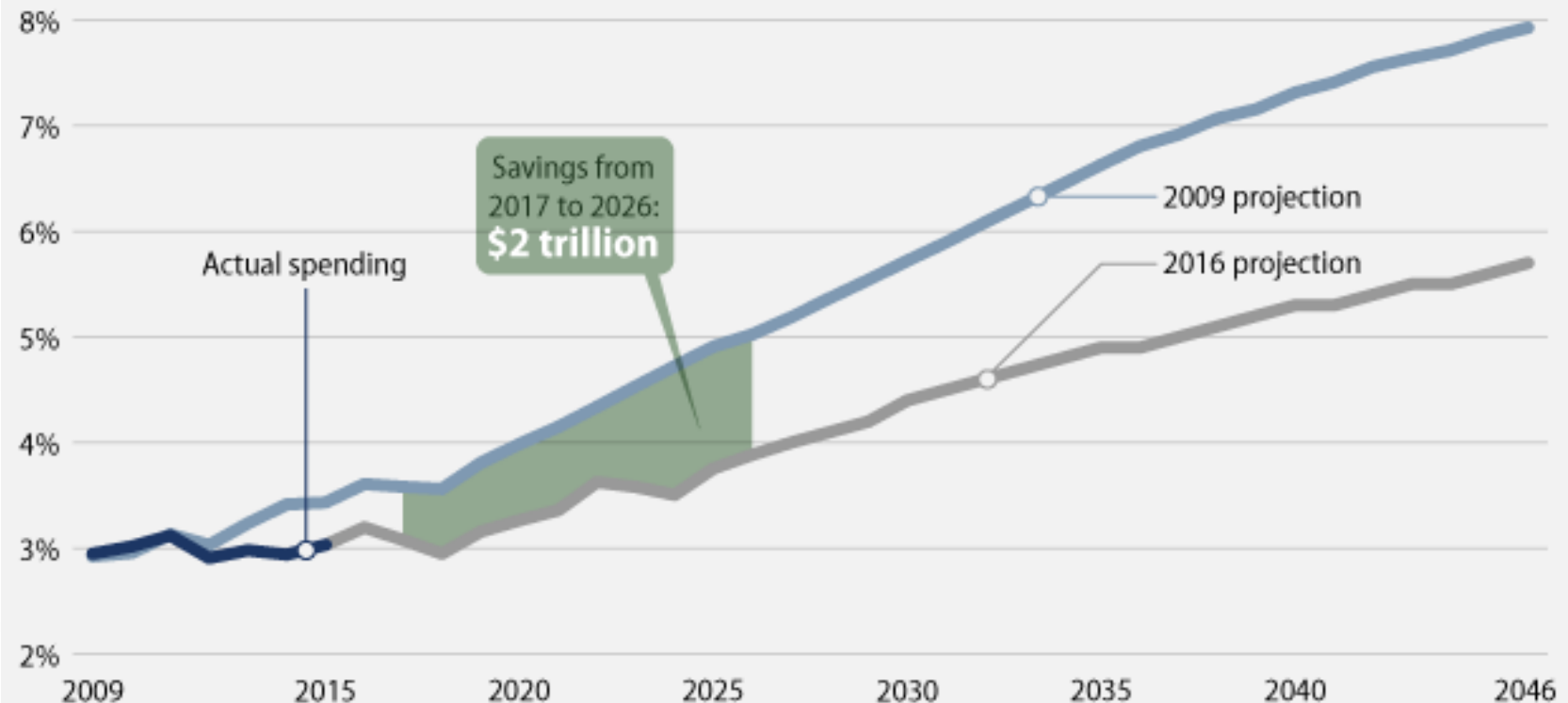
- 1965: Medicare and Medicaid, Reimbursement of Costs + 2%.
Growth rate 13% per year.
- 1983: DRG's, moved from retrospective payments to prospective payments. Growth slowed from 9.9% to 5% per year.
- 2010: Patient Protection and Affordable Care Act (PPACA)
- 2015: Medicare Access and CHIP Reauthorization Act (MACRA)
- 2018: ACO's, Bundled payments, Advanced Payment models

It's working... which means more to come!

FIGURE 1

Long-term Medicare spending projections have fallen dramatically

The CBO's Medicare spending projections from 2009 and 2016, as a share of GDP



Notes: These projections measure net Medicare spending as reduced by offsetting receipts. The long-term projections from 2016 do not include macroeconomic feedback, which is consistent with the approach used in the CBO's 2009 long-term projections. In order to control for the effects of revisions to GDP projections and concepts between 2009 and 2016, all actual and projected spending is presented as a share of actual GDP or the GDP projections from the CBO's 2016 Long-Term Budget Outlook.

Sources: Authors' calculations are based on OMB and CBO data. See the Methodology section for more information.

System Changes

1. Community and population health management structures: ACO's, CIN's, APM's, PCMH, Medicare Advantage Programs
2. Data analytics tools (risk, outcomes, cost-benefit, value):
 - Readmission rates
 - FIM efficiency
 - Costing
3. Prospective utilization reviews— Waiting by the phone....
“Denied!” “Justification?” “NO!” “Why????”
4. Growing gap between expectations and resources

Impacts on Rehab

- Shorter lengths of stay and higher acuity
- Need to demonstrate quality/outcomes
- Fewer resources (tighter margins, FTE and Capital squeeze)
- Prior authorizations (more delays and denials)
- Concurrent reviews and 3rd party benefit administrators
- Mounting pressure to move patients to lower levels of care
- Bundled payments and lower reimbursements
- Shifting costs to patients with higher copays
- Growing consumerism/retail mindset
- Narrow networks, ACO's, CIN's
- Redirecting patients from IPR to SAR/ECF risks increased readmission rates, higher complications, reduced functional recovery, and lower quality of life.

Opportunities

- Integrate Subacute Rehab (SNF) and Home Care models
- Expand and leverage Telemedicine and Navigator support
- Embrace consumerism and value (price/cost/value transparency)
- Focus on “Patient-centered Care” and Population Health
- Emphasize restoration over compensation
(e.g. Miami Project, Shirley Ryan Ability Lab, Utah Neilsen Rehab Center)
- Technological advancements: Predictive analytics with machine learning and A.I.; Robotics; Stem Cells; Assistive and Adaptive technologies; Neural interfaces; VR and gaming apps

Historical Perspective

- Medicare/Medicaid legislation passes in 1965
- Amended in 1982 by TEFRA act, which limited payment to IRF's, while SNF remained cost-based
- Both programs excluded from hospital DRG payment system
- In 1997 the HCFA/CMS published criteria for Prospective Payment Systems (PPS) for IRF's and SNF's
- In 1998 the Final Rule for SNF PPS was published
- In 2001 the Final Rule for IRF's was published

CMS 8 Criteria for IRF

1. Close medical supervision by physician with specialized training
2. Twenty-four hour rehabilitation nursing
3. Relatively intense level of rehabilitation services (3 hour rule)
4. Multidisciplinary team approach
5. Coordinated program of care
6. Significant practical improvement (is anticipated)
7. Realistic goals
8. Length of rehabilitation program (is appropriate)

“60% rule” for maintaining “exempt” status

“Medical Necessity” rules – Interqual, etc.

Definitions of Skilled and IRF Care

Definition of Rehabilitation Care

The Inpatient Rehabilitation Facility (IRF) provides services to an inpatient who needs a relatively intense rehabilitation program that requires a multidisciplinary coordinated team approach to upgrade his functional ability. □

Definition of the Skilled Nursing Care:

The SNF provides intermittent and/or daily skilled care services. These services are provided by professional nurses and/ or rehabilitation professionals.

Head-to-head Comparison

Acute Inpatient Rehab (Hospital)	Subacute Skilled Nursing Facility (Nursing Home)
Close medical supervision by physician with specialized training	Physician interaction once or twice a week; specialized training not required
24-hour rehabilitation nursing	Not required
Multidisciplinary team of physicians, nurses, case managers, therapists	Not required
3 hours of rehab therapy daily	Not required
Physical, occupational and/or speech therapy	Not required

Table 1. Post-acute Care Settings^a


	Subacute Care	IRF	LTACH
Type of Care Provided	Skilled nursing services or skilled rehabilitation services for the short term on a daily basis in an inpatient setting after an inpatient stay of 3 or more days	Intensive rehabilitation therapy in an inpatient hospital environment; patient requires and is expected to benefit from 3 hours or more of therapy at least 5 days per week	Continued hospital level of care
Typical Medical Conditions Treated	<ul style="list-style-type: none">• Heart failure and shock• Hip and femur procedures• Joint replacement• Kidney and urinary tract infections• Septicemia	<ul style="list-style-type: none">• Brain injury• Lower extremity fracture• Major joint replacement• Neurological disorders• Stroke	<ul style="list-style-type: none">• Complex medical conditions• Complex wound/burns• Mechanical vent weaning
Daily Therapy Requirements per Patient	1–1.5 hours	>3 hours	N/A
Average Length of Stay	27 days	13.1 days	26.6 days
Average Cost of Care per Patient	\$10,808	\$17,085	\$38,582

IRF, inpatient rehabilitation facility; LTACH, long-term acute care hospital; N/A, not available.

Compare Acute IRF vs Subacute SAR

- 0.4% vs 4% mortality
- Lower Readmission rates
- Shorter Lengths of Stays (13.1 vs. 27)
- More likely to discharge home
- More costly up front (\$17,000 vs \$11,000)
- Access to botulinum toxin, medical specialists, psychology and neuropsychology
- Greater patient-family satisfaction
- Discharge experience less favorable for IRF → SAR → Home

CMS: Inpatient Rehabilitation vs. Skilled Nursing

 48486	Federal Register / Vol. 76, No. 152 / Monday, August 8, 2011 / Rules and Regulations	
DEPARTMENT OF HEALTH AND HUMAN SERVICES	B. Requirements of the Balanced Budget Act of 1997 (BBA) for Updating the	G. Consolidated Billing H. Application of the SNF PPS to SNF
Centers for Medicare & Medicaid Services		
42 CFR Part 413 [CMS-1351-F] RIN 0938-AQ29		
Medicare Program; Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities; FY 2012		
AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS. ACTION: Final rule.		
SUMMARY: This final rule updates the payment rates used under the prospective payment system for skilled nursing facilities (SNFs) for fiscal year 2012. In addition, it recalibrates the case-mix indexes so that they more accurately reflect parity in expenditure between RUG-IV and the previous mix classification system. It also includes a discussion of a Non-Therapy Ancillary component currently under development within CMS. In addition, this final rule discusses the impact of certain provisions of the Affordable Care Act, and reduces the SNF market basket percentage by the multi-factor productivity adjustment. This rule also implements certain changes relating to the payment of group therapy services	<p>“... MedPAC's analysis of recent quality measure data related to rehospitalizations suggests that quality of care within SNFs has not been improving ... Since 2000, one outcome measure (the risk-adjusted rate of rehospitalization for any of five care-sensitive conditions) exhibited almost no change ...</p> <p>... shifting IRF patients toward SNF care does not necessarily improve the quality of care provided to the beneficiaries. A March 2005 report in the Archives of Physical Medicine and Rehabilitation found that 81.1 percent of IRF patients were discharged to home, compared to 45.5 percent of SNF residents. Additionally, IRF patients appeared to have shorter lengths of stay, averaging approximately a 13-day stay, compared to the average 36-day stay for a SNF resident. Finally, when patients discharged from each setting were reviewed 24 weeks after discharge, IRF patients had consistently better outcomes and displayed a faster rate of recovery.”</p> <p>“Given these findings, we do not agree with those commenters who would assume that shifting patients from the IRF setting to a SNF setting is necessarily more beneficial to the patient or the Medicare Trust Fund.”</p>	
	3. Wage Index Adjustment to Federal Rates 4. Updates to Federal Rates 5. Relationship of RUG-IV Case-Mix Classification System to Existing Skilled Nursing Facility Level-of-Care Criteria 6. Example of Computation of Adjusted	Processing BBA Balanced Budget Act of 1997, Public Law 105-33 BBRA Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999.

Source: <http://www.gpo.gov/fdsys/pkg/FR-2011-08-08/pdf/2011-19544.pdf>

Independent Research Concludes IRFs are a Better Rehabilitation Option for Stroke Patients than SNFs

Winters et al. *Guidelines for Adult Stroke Rehabilitation and Recovery*
After conducting a study over 10 years to review the evidence on clinical practice, practice, and rehabilitation in stroke patients and their ability to participate in rehabilitation, the authors concluded that the use of inpatient rehabilitation is the preferred practice for stroke patients.

AHA/ASA Guideline

Guidelines for Adult Stroke Rehabilitation and Recovery A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

Endorsed by the American Academy of Physical Medicine and Rehabilitation and the American Society of Neurorehabilitation

The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists and the American Congress of Rehabilitation Medicine also affirms the educational value of these guidelines for its members.

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Richard D. Zimmer, MD, on behalf of the American Heart Association Stroke Council, Council
on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on
Quality of Care and Outcomes Research

Purpose: The aim of this guideline is to provide a synopsis of best clinical practice in the rehabilitative care of adults recovering from stroke.

Methods: Writing group members were recruited by the committee chair on the basis of their previous work in relevant topic areas and were approved by the American Heart Association (AHA) Stroke Council's Scientific Statement Oversight Committee and the AHA's Manuscript Oversight Committee. The panel assessed relevant evidence on stroke using comprehensive searches of the medical literature through JCI. The evidence is organized within the context of the AHA framework and is classified according to the joint AHA/American College of Cardiology and interventional AHA method (classifying the level of certainty and the strength of evidence). The document includes a summary, AHA statement and internal peer review, Stroke Council Leadership review, and Scientific Statement Oversight Committee review before submission and approval by the AHA Science Advisory and Coordinating Committee.

Results: Stroke rehabilitation requires a coordinated and coordinated effort from a large team, including the patient and his or her goals, family and friends, other caregivers (eg, personal care attendants, physicians, nurses, physical and occupational therapists, speech language pathologists, neuropsychologists, psychologists, nutritionists, social workers, and others). Coordination and communication among these stakeholders are paramount to maximizing the effectiveness and efficiency of rehabilitation and meeting the care goals. Without coordination and communication, isolated efforts to rehabilitate the stroke survivor are unlikely to achieve their full potential.

The American Heart Association makes no effort to protect or assert intellectual property of any kind in a scientific statement or a clinical practice guideline. Scientifically, all members of the writing group are required to complete and submit a Statement of Interest form of all intellectual property rights to patent or trademark claims.

This guideline was approved by the American Heart Association Science and Research Council (meeting on January 1, 2016) and by the American Heart Association's Board of Governors (meeting on February 1, 2016). A copy of the document is available at <http://stroke.heart.org/stroke-rehabilitation>.

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103 of the Company's IRFs hold the Joint Commission's Disease-Specific Care Certification in Stroke Rehabilitation.

"Whenever possible, the American Stroke Association strongly recommends that stroke patients be treated at an inpatient rehabilitation facility rather than a skilled nursing facility.

While in an inpatient rehabilitation facility, a patient participates in at least three hours of rehabilitation a day from physical therapists, occupational therapists, and speech therapists. Nurses are continuously available and doctors typically visit daily."

"If the hospital suggests sending your loved one to a skilled nursing facility after a stroke, advocate for the patient to go to an inpatient rehabilitation facility instead..."

"The studies that have compared outcomes in hospitalized stroke patients first discharged to an IRF, a SNF, or a nursing home have generally shown that IRF patients have higher rates of return to community living and greater functional recovery, whereas patients discharged to a SNF or a nursing home have higher rehospitalization rates and substantially poorer survival."

AHA/ASA press release, "Inpatient rehab recommended over nursing homes for Stroke rehab," issued May 4, 2017 (newsroom.heart.org)
"Guidelines for Adult Stroke Rehabilitation and Recovery," issued May, 2016 (stroke.ahajournals.org)

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Rehabilitation Hospitals Deliver Higher Quality Care, Better Results

Patients who need medical rehabilitation often must choose between receiving care at a rehabilitation hospital and nursing home. Although these two settings serve similar patients, rehabilitation hospitals provide a far higher level of care that leads to better outcomes.

	Rehabilitation Hospitals	Nursing Homes
 Close medical supervision by a physician with specialized training in rehabilitation	 Required	 Not Required
 Multidisciplinary team approach that includes 24-hour rehabilitation nursing	 Required	 Not Required
 Three hours of intensive therapy daily	 Required	 Not Required
 Licensed and accredited for hospital level rehabilitation care	 Required	 Not Required

Study Shows Improved Outcomes and Quality of Life

A new study shows that patients treated in rehabilitation hospitals and units have better clinical outcomes and quality of life than those treated in nursing homes. The study compared clinically similar patients over a two year period following discharge from rehabilitation hospitals or nursing homes.

Go Home Earlier

Similar patients treated in rehabilitation hospitals return home **14 DAYS** sooner than those in nursing homes.



Remain Home Longer

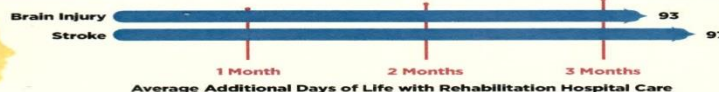
Rehabilitation hospital patients also are able to be at home **51 DAYS** longer and had fewer hospital readmissions.



Live Longer

Patients who receive early, intense, coordinated treatment in a rehabilitation hospital live **52 DAYS** longer.

Patients who experience a brain injury or stroke live more than 3 months longer



**Every
day
matters.
Make the
right
choice.**

© Copyright 2014 AMRPA Assessment of Patient Outcomes of Rehabilitation Care Provided in Inpatient Rehabilitation Facilities (IRFs) and After. Discharge is the most comprehensive national study to date examining the long-term patient outcomes of clinically similar patients treated in inpatient rehabilitation hospitals and nursing homes. The sample is comprised of more than 100,000 matched pairs of clinically similar patients in the two care settings. It was conducted by Dobson DaVanzo & Associates, LLC.



**American
Medical
Rehabilitation
Providers
Association**

Creative Post-Acute Resources

- Integrated Continuum:

Acute care → IRF → SAR → HC → OP → Fitness → Support

- “Stroke Rehab Care Navigation Team”:

PM&R Physician and APP/RN

- Telemedicine: Pharmacist, nurse, doctor, dietician, etc.

- Patient Centered Medical Home Neighborhoods:

PCP-Specialists-Care Navigators

- “Intensive Cardiac Rehab”: intensive risk factor reduction with plant-based nutrition, didactics, exercise, coaching

Examples

- Speech and Hearing Clinic at Eastern Michigan University
- EMU Psychology Clinic
- Aphasia Community Friendship Center
- University of Michigan Aphasia Program
- WCC Health and Fitness Center “Next Steps”
- Ann Arbor Stroke Survivor and Caregiver Support Group

Associates in PM&R

Meet Our Doctors



Doctors left to right: Dr. David P. Steinberg, Dr. Ari Kriswari, Dr. Paul Shapiro, Dr. Adil Ali, Dr. Steven C. Harwood, *Emeritus Dr. Steven N. Gross, Dr. Jennifer E. Doble, Dr. Jon M. Wardner, Dr. Marc L. Strickler, Dr. Owen Z. Periman, Dr. Mala Young

Thanks!