ENGELBERG CENTER for
Health Care Reform
at BROOKINGS

"Keeping the Promise: Site of Service Medicare Payment Reforms"
Testimony on the Committee on Energy and Commerce, Subcommittee on Health

Submitted by
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Chairman Pitts, Ranking Member Pallone, and distinguished members of the Committee, thank you for the opportunity to testify today on payment reforms for Medicare post-acute care (PAC). My testimony makes a number of points. First, post-acute care plays a significant role in Medicare expenditures and patient experiences during an episode of care. Almost 40 percent of all Medicare hospital cases are discharged to at least one post-acute care setting; of them, many will use more than one PAC service and about 20 percent will be rehospitalized during that episode of care (**Figure 1: Supplemental Materials**). Second, patients who were in the acute hospital for similar conditions may be discharged to different settings depending on the availability of providers in a local market (Gage, 1999; Gage et al, 2005) but it is unclear whether they differ in terms of medical or functional complexity (**Figure 2**) Third, the standardized assessment items developed as part of the Post-Acute Care Payment Reform Demonstration (PAC PRD) showed that these patients could be measured consistently and reliably across acute and PAC settings, and once done, several questions could be answered, including:

- Was the same type of hospital patient discharged to alternative settings depending on geographic area or did they differ in terms of medical, functional, or cognitive status?
- Did patient outcomes differ depending on the PAC setting used after hospital discharge?

Why should patients be measured in a standard way?

Almost one in five Medicare beneficiaries is admitted to the hospital each year; among them almost 39 percent are discharged from the hospital to at least one PAC sites for additional nursing or therapy treatments (**Figure 1**). These PAC sites include long-term care hospitals (LTCHs), inpatient rehabilitation facilities (IRFs), skilled nursing facilities (SNFs), and home health agencies (HHAs). Many patients continue on to additional

PAC sites after the first service. Among the 37 percent of PAC users who were discharged from the hospital to HHAs, 39 percent continued on to additional services, and of them, the majority were readmitted to the hospital (24 percent of the HHA admissions). SNF admissions also tend to use multiple PAC services. Of the 42 percent of PAC users who were discharged first to a SNF, 77 percent continued on to additional services. About 23 percent of these cases returned to the hospital while another 32 percent were discharged from the SNF to HHAs for additional services during the same episode of care.

The probability and type of PAC service used at hospital discharge can be partially explained by the reason for hospitalization. As shown in **Figure 2**, the types of cases that were most likely to use PAC were patients who had joint replacements or strokes (87 percent and 63 percent, respectively). However, the factors distinguishing what type of PAC setting would be used were less clear; almost equal shares of these patients were discharged to a SNF (37.3 percent) or a HHA (36.7 percent) with another 19 percent discharged to an IRF. Conversely, medical cases such as pneumonia and congestive heart failure were less likely to continue onto PAC (about 33 percent each) but when they went, they were most likely to go to SNF or HH. These analyses were based on claims data which provide very little information on differences in the medical, functional, and cognitive factors that may affect these discharge decisions.

The probability of being readmitted to the hospital also varies by the reason for hospitalization (**Figure 3**). While joint replacements have a very small share being rehospitalized within the 30 day window (14 percent), over 30 percent of the stroke, pneumonia, and heart failure cases will be readmitted during this window. Again, claims data provide very little information to explain these differences in readmission rates. Additional information about patient health status is available from patient assessment data. In the Medicare program, IRFs are required to submit IRF-PAI data; SNFs are required to submit MDS data; HHAs are required to submit OASIS data; and LTCHs are required to submit LTCH-CARE data to CMS. Each of these assessment tools contain the same types of information, including measures of medical status, functional status, and cognitive status as well as social support information collected by discharge planners. This same type of information is collected in acute hospitals as patients are admitted and managed throughout the stay. Despite

these similarities in practice, few of the tools use the same items to measure patient complexity. All are measuring primary and comorbid conditions, pressure ulcer staging, cognitive impairment, mobility and self-care limitations, as well as documenting whether the patient will need assistance at discharge, whether they live alone, and the types of medications they are on at discharge. But without using a common language to measure these characteristics, a patient's progression cannot be measured across the episode of care.

Findings from the Post Acute Care Payment Reform Demonstration

The Post Acute Care Payment Reform Demonstration (PAC PRD) mandated in the Deficit Reduction Act of 2005 required CMS to develop standardized assessment items for use at hospital discharge and at admission and discharge to PAC settings. Standardized assessment items were critical to allowing comparisons of patient acuity across settings. And more importantly, standardized items were needed to examine whether outcomes differed when similar patients were treated in alternative types of PAC settings.

The standardized CARE items were based on the science behind the existing assessment tools, the input of stakeholders from across the continuum as well as the input of clinicians from each of the five levels of care, including acute, LTCH, IRF, SNF, and HHA settings. Over 25 national associations and provider groups participated in the selection of the best items for providing uniform measures of medical, functional, and cognitive status across settings. The resulting item set, the Continuity Assessment Record and Evaluation (CARE) was tested for reliability in each of the five settings. The results showed that patient characteristics could be measured uniformly and reliably across settings. For example, prior to this, pressure ulcers were documented differently in each setting although the clinical leaders in this area, the National Pressure Ulcer Advisory Panel, (NPUAP) recommended standard ways to document these conditions. CMS has since replaced the disparate pressure ulcer items in the four mandated assessment tools with the standardized items recommended by NPUAP.

Standardized measurement approaches are critical to enable patient comparisons across settings, both in terms of complexity and outcomes achieved. Using the standardized assessment data, the PAC PRD results showed that the types of patients admitted to each PAC setting had both similarities and differences; in

other words, some types of patients were treated in more than one setting and some types of patients tended to be in only one setting. For example, **Figure 4** shows that certain characteristics were common across LTCH, IRF, and SNF admissions and were associated with higher resource use in all 3 settings. Functional impairment, including both mobility and self-care skills, were associated with higher resource needs, particularly in the SNF and IRF settings where they were among the top 3 factors predicting resource intensity. Still, even in the LTCH setting, they were second only to ICU length of stay, ventilator use, and restricted oral intake. On the other hand, the ICU length of stay, ventilator use, and restricted oral intake were only found to be significant predictors of resource intensity among the LTCH cases, distinguishing these populations from those admitted to the other two inpatient PAC settings.

This table is also useful for distinguishing between SNF and IRF admissions. While both settings have increased resource intensity associated with mobility and self-care function, and higher comorbidity scores, and poorer endurance, SNFs were more likely to have resources associated with cognitive functional impairment and expression while IRF cases had higher associations with bowel, bladder and swallowing impairments. These findings highlight the types of patient characteristics that are common across settings while also identifying the distinguishing characteristics in each setting.

Patient similarities across settings can also be seen by the graph in **Figure 5** which show that while the average functional level at admission differs across settings, the range of function at admission overlaps across settings. In other words, on average, LTCHs admit the most functionally impaired populations while HHAs admit the least functionally impaired. However, the wide range of overlapping grey bars suggests that some of the populations admitted to each setting could be similar to those treated in alternative settings.

Figure 6 shows that outcomes do differ across settings for different populations. After controlling for demographic factors, such as age, gender, medical factors such as primary and comorbid conditions, as well as impairments, the results show that musculoskeletal patients treated by HHAs have significantly greater improvements in self-care functions than those treated in SNFs. However, these differences did not remain for patients with nervous system disorders, such as strokes. Conversely, IRFs had better outcomes than SNFs for

patients with nervous system disorders but showed no difference in outcomes for musculoskeletal populations, such as orthopedic populations.

What Do These Results Tell Us About Payment Policy?

One set of uniform assessments can be used across acute and PAC settings to measure patient severity.

- The standardized items were reliable in all five settings, including the acute hospital, LTCH, IRF, SNF, and HHA. Clinical communities appreciated moving to a standard way to measure patient conditions, especially ones based on the stakeholder and clinical input and using publicly-available, scientifically valid and reliable measures, regardless of treatment setting.
- Standardized items allow differences in patient severity across settings to be documented, and allows comparisons of outcomes knowing that the patients have been measured similarly in each setting. Standardized assessment items are necessary for adequate risk adjustment as it allows an "apples to apples" comparison.

Can a standardized payment system go into effect now based on the PAC PRD data?

- The PAC PRD collected data on over 25,000 cases treated in over 200 acute, LTCH, IRF, SNF, and HHA providers. While the data were adequate for identifying key factors that differentiate patient populations and measuring the impact of those factors on resource use and outcomes, some of the less frequent populations have small numbers.
- Collecting the standardized data nationally for 2 years prior to finalizing payment system changes will increase the sample size for less common cases and reduce the uncertainty associated with changes in the payment system, such as those that would occur by replacing non-uniform items with standardized versions of the items in each of the PAC payment systems.

Why use standardized items across the acute and PAC settings?

- Condition severity is independent of setting. Using standard language to measure patient severity in each of the 3 areas of health status (medical, functional, cognitive) will improve communication and allow data exchange across disparate HIT systems.

- CMS and ONC are currently working with the health IT community to develop interoperable standards for exchanging CARE items across disparate electronic health record systems
- CMS provides item specifications, e-specifications, training, and training materials to all providers required to submit assessment data. Vendors can download the e-specifications from the CMS website.

Why should the standardized assessment items be collected at the hospital?

- Hospitals already collect this type of information (see PAC PRD reports). They use a range of items to measure the same concepts as the Federal assessment items. A recent review by the American Hospital Association showed that hospitals are trying to predict readmission rates using these types of items currently in their internal data systems. While their items are analogous to the standardized assessment items, they can only be used to identify which of their admissions are at high risk of rehospitalization. However, because each hospital uses its own version of these items, hospital outcomes cannot be compared across the local market. More importantly, their data cannot be exchanged with other providers treating the patient. This will impede communication and coordination of care efforts common to many of the current system redesign initiatives, such as accountable care organizations, bundled payments, and coordinated care initiatives.
- Many patients choose SNFs and HHAs based on their proximity to home. As a result, one hospital may discharge to a wide range of PAC providers who may not be in their system. Using standardized assessment data will allow the patient record to follow the patient through an electronic exchange of this information.

- Accountable Care Organizations (ACOs), medical homes, bundled payments and other value-based purchasing efforts need standardized items to compare differences in outcomes for each hospital. Otherwise, results may differ due to different definitions of the same complicating factors, such as pressure ulcers, pre-morbid function, cognitive impairments.
- Differences in measurement can contribute to access barriers by allowing individual hospitals to select cases most likely to have a good outcome (or least likely to be rehospitalized). Among the most complex

cases, rehospitalization can be managed but not entirely avoided. Clinicians need to have the ability to document severity in a reliable and valid way so adequate risk adjustment can be used when setting payment and quality requirements.

Thank you for providing me the opportunity to testify today. If you have additional questions, I can be reached via email at bgage@brookings.edu.

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Supplemental Materials: Figures 1-6

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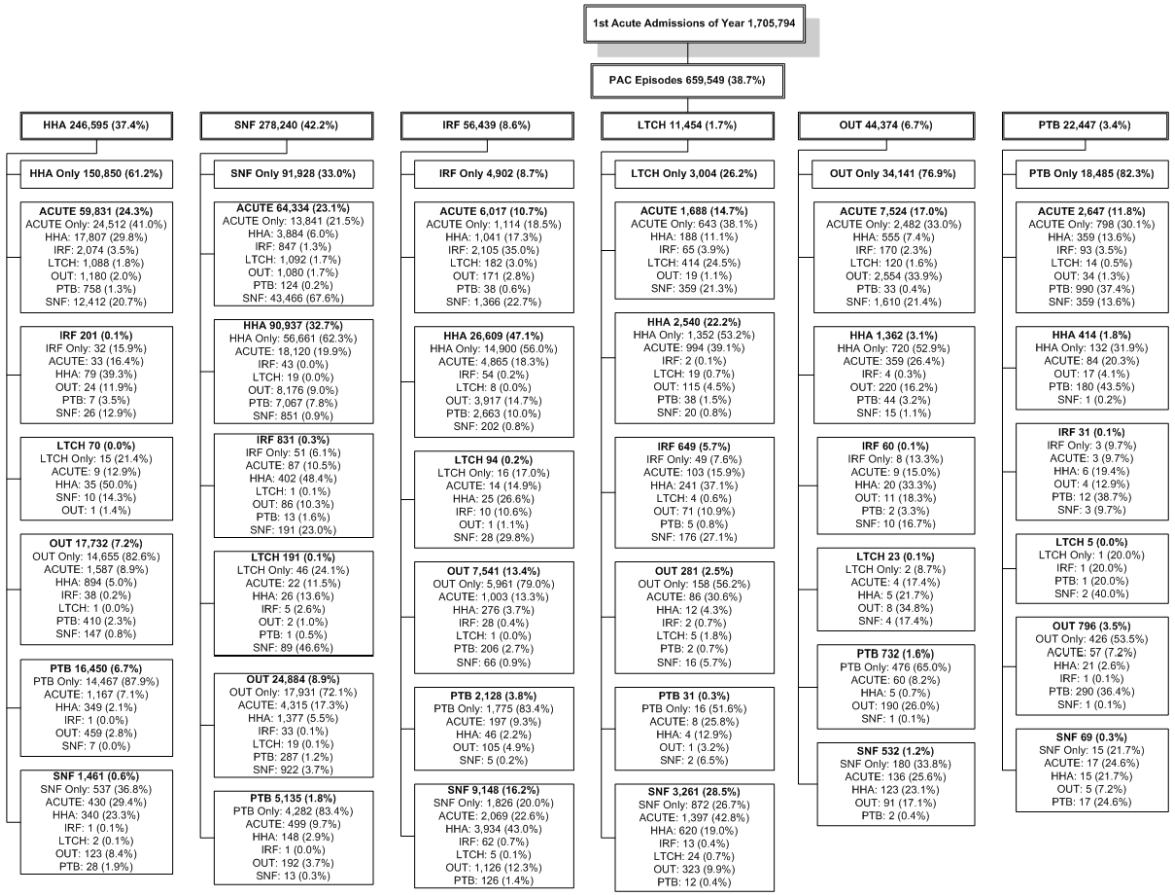
To the Committee on Energy and Commerce, Subcommittee on Health

May 21, 2014

Figure 1: Post-acute care transitions after acute hospital discharge, 2008



Source: Post-Acute Care Payment Reform Demonstration Final Report, B. Gage, et al., March 2012, CMS Contract No. HHSM-500-2005-00029I

Figure 2: Type of PAC Used Varies by Reason for Hospitalization

Acute Index DRG[1]	Discharges for PAC Users	Percent Using PAC[2]	Percent of Beneficiaries Discharged to Each Setting[3] LTCH	IRF	SNF	HHA	Outpatient
544: Major Joint Replacement or Reattachment of Lower Extremity	16,281	87.3	0.3	19.4	37.3	35.7	7.4
014: Specific Cerebrovascular Disorders Except TIA	4,882	68.1	1.3	34.4	36.6	19.7	8.6
089: Simple Pneumonia & Pleurisy Age >17 w CC	4,876	33.6	1.2	1.3	47.3	37.4	12.2
127: Heart Failure & Shock	4,098	33.7	1.1	1.9	39.1	49.4	8.5
210: Hip & Femur Procedures except Major Joint Age >17 w CC	3,662	87.8	1.1	26.3	63.9	7.1	2.8
088: Chronic Obstructive Pulmonary Disease	2,439	25.3	1.3	2.3	32.4	52.2	11.3
320: Kidney & Urinary Tract Infections Age >17 w CC	2,396	42.3	0.7	2.0	63.6	25.1	8.7
416: Septicemia Age >17	1,996	40.1	3.5	3.0	57.8	26.0	9.8
316: Renal Failure	1,848	36.2	1.5	2.5	53.2	31.9	10.9
296: Nutritional & Misc Metabolic Disorders Age >17 w CC	1,757	35.5	0.7	3.0	53.7	32.5	10.1
243: Medical Back Problems	1,565	52.8	0.7	9.9	52.0	27.9	9.5
174: G.I. Hemorrhage w CC	1,455	22.6	0.7	2.3	48.0	37.9	11.2
182: Esophagitis, Gastroent & Misc Digest Disorders Age >17 w CC	1,445	17.9	0.8	2.8	42.2	41.6	12.7
148: Major Small & Large Bowel Procedures w CC	1,437	46.4	4.2	4.4	38.2	50.3	2.9
079: Respiratory Infections & Inflammations Age >17 w CC	1,370	46.2	2.8	1.9	61.8	26.0	8.6
121: Circulatory Disorders w Ami & Major Comp Disch Alive	1,363	45.8	1.8	4.3	50.6	38.7	4.6
138: Cardiac Arrhythmia & Conduction Disorders w CC	1,234	21.9	0.7	2.4	39.2	47.7	10.1
277: Cellulitis Age >17 w CC	1,205	38.7	1.9	1.5	38.8	46.2	11.6
238: Fractures of Hip & Pelvis	1,084	81.3	0.7	14.7	68.3	12.8	6.8
546: Revision of Hip or Knee Replacement	1,037	83.8	1.2	20.3	34.4	37.9	8.3

Source: Gage, et al. Examining post-acute care relationships in an integrated hospital system, ASPE.

Notes:

- Probability of using PAC varies by reason for hospitalization – rehabilitation cases have higher share using PAC, medical cases have lower share using PAC
- Same type of hospital cases may be discharged to more than one setting – rehabilitation cases have large shares discharged to IRF and SNF while medical cases have large shares discharged to SNF and HH

Figure 3: Readmission from PAC by Index DRG

	N PAC Users	Mean Episode Payments	Percent with Readmission	Mean Readmission Payments
Overall Sample of PAC Users	109,236	$30,028	30.5	$15,636
Index Acute Admission DRG[1] (Top 10 DRGs for PAC Users)				
544 Major Joint Replacement or Reattachment of Lower Extremity	15,261	$23,985	14.3	$12,952
014 Specific Cerebrovascular Disorders Except TIA	4,882	$33,484	32.6	$13,409
089 Simple Pneumonia & Pleurisy Age >17 w CC	4,675	$20,476	31.6	$13,023
127 Heart Failure & Shock	4,096	$26,076	43.1	$17,449
210 Hip & Femur Procedures except Major Joint Age >17 w CC	3,552	$36,882	30.6	$12,919
088 Chronic Obstructive Pulmonary Disease	2,439	$21,118	36.3	$14,888
320 Kidney & Urinary Tract Infections Age >17 w CC	2,396	$22,039	31.8	$12,994
416 Septicemia Age >17	1,996	$30,627	33.1	$16,956
316 Renal Failure	1,848	$28,729	38.4	$16,999
296 Nutritional & Misc Metabolic Disorders Age >17 w CC	1,757	$22,852	33.1	$15,078

Source: Gage, et al. Examining post acute care relationships in an integrated hospital system. ASPE.

Notes:

Probability of readmission varies by type of case – rehabilitation cases have lower share being readmitted within 30 days, medical cases have a higher share being readmitted within 30 days

Figure 4: Determinants of Resource Intensity

The importance of variables by setting – routine RII

(For the individuals setting models there are similarities and differences in the strongest variables. Motor scores, the comorbidity index and age are highly correlated with resource intensity in each setting, but additional factors vary by setting)

LTCH Model	Score
ICU Days	100.0
Ventilator	29.1
Prim dx: Vent/Trach	25.2
No Intake by Mouth	21.6
Rasch Self-Care Score	17.3
Rasch Mobility Score	12.1
Comorbidity Index	12.0
Age	8.2
Prim dx: Septicemia	6.9
Pressure Ulcer	3.8

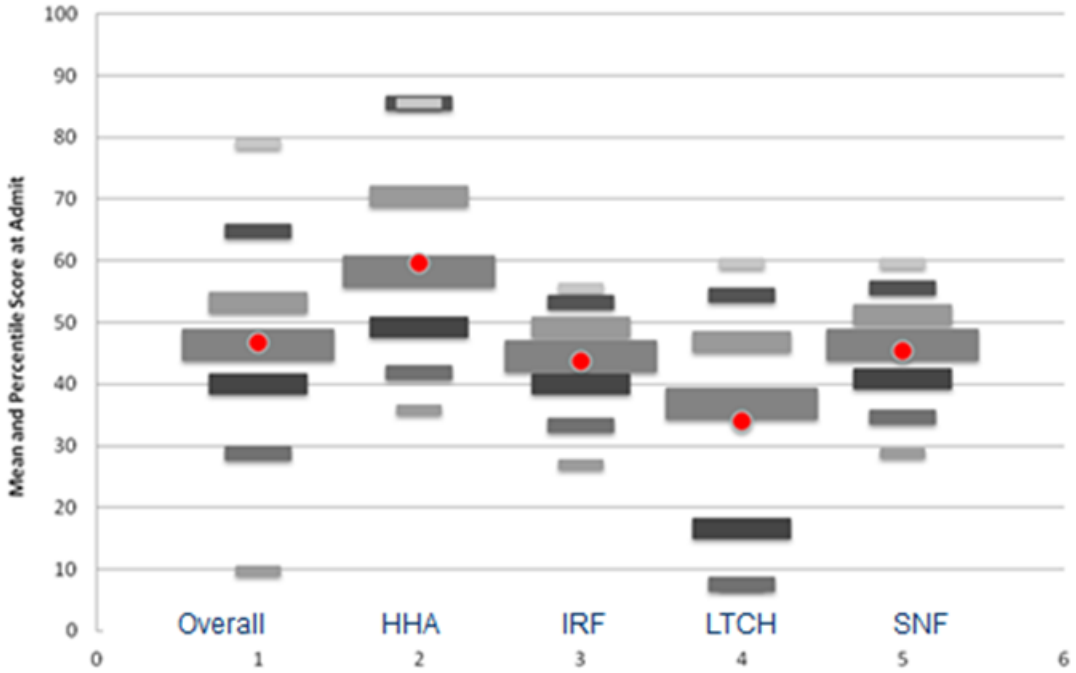
SNF Model	Score
Rasch Mobility Score	100.0
Rasch Self-Care Score	86.4
Comorbidity Index	80.9
Sitting Endurance	44.6
Cognitive Function	16.5
Expression	12.8
Age	11.2
Prim dx: Ortho Maj Med	7.8
Prim dx: Ortho Maj Surg	6.1
Comorb dx: Cellulitis	5.0
Bowel Incontinence	5.0
Prim dx: Kidney Med	5.0

IRF Model	`Score
Comorb dx: Hd/Spine	100.0
Rasch Self-Care Score	92.5
Rasch Mobility Score	77.6
Comorbidity Index	67.9
Age	59.3
No Intake by Mouth	51.2
Sitting Endurance	48.1
Bowel Incontinence	29.1
Prim dx: Neuro Surg	28.5
Expression	25.7
Bowel Catheter	24.2
Bladder Incontinence	16.9
Swallowing Symptoms	16.6

Notes:

- Function (self-care and mobility), comorbidity index, and age are highly correlated with resource need across all settings
- Other factors associated with resource need varied by setting in importance but some overlap also remained
    - LTCHs: infections/septicemia and pressure ulcers
    - SNFs: endurance, cognition affected resource intensity followed by certain medical conditions, incontinence
    - IRFs: endurance, bowel/bladder problems, swallowing symptoms

Figure 5: Unadjusted Self Care at Admit by Provider Type



Key
HHA: Home Health Agency
IRF: Inpatient Rehabilitation Facility
LTCH: Long term acute care hospital
SNF: Skilled nursing facility

Notes:

- Low Functioning = 0; High Functioning = 100
- Average functional status (red dot) at admission differs by setting with LTCHs admitting the lowest and HHA admitting the highest functioning cases. However, the variation in the range of function at admission overlaps across settings (gray bars)

Figure 6: Effect of Provider Type Adjusted for Case Mix

	Estimate for All Patients (n = 12,065)	Estimate for Musculoskeletal Patients (n = 3,492)	Estimate for Nervous System Patients (n = 1,756)
CHANGE IN SELF CARE			
HHA	4.02** (n = 3,190)	4.35** (n = 810)	2.80 (n = 361)
IRF	3.75** (n = 4,158)	3.10 (n = 1,463)	3.93** (n = 1,096)
LTCH	0.74 (n = 1,968)	-1.91 (n = 122)	0.67 (n = 86)
SNF (referent)	-- (n = 2,749)	-- (n = 1,097)	-- (n = 213)

Case mix variables included demographic factors, primary and comorbid diagnoses, impairments

Notes:

After controlling for medical conditions, comorbid diagnoses, impairments and demographics, the extent to which PAC patient's improved in their ability to do self care/ADL tasks varied by condition.

- While HHA orthopedic/musculoskeletal patients gained 25 % higher scores than SNF patients, the nervous system/stroke patients improvement was not different than the degree to which SNF patients' improved
- IRF patients' improvement was not significantly different than SNF patients' improvement in musculoskeletal populations but the nervous system populations' was almost 25 % greater than