



Health Care Reform

Collaborative Models Across
Care Settings

Never Events

Implications Across Care Settings

20 Most Expensive Conditions

Requiring Hospitalizations

Pressure Ulcer Hospitalizations

Impact All Providers

Wound Care Optimal Outcomes

Integrated Approach

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Never Events: Implications Expand Across All Care Settings

Author: Lisa Remington, President, The Alliance For Integrated Value-Driven Healthcare And Publisher, The Remington Report

In 2008, Medicare implemented its hospital-acquired conditions (HAC) policy to penalize hospitals for poor-quality care and encourage them to eliminate avoidable complications. Medicare stopped reimbursing hospitals for treating avoidable hospital-acquired conditions (also known as never events). Read about government and private sector strategies to reduce HACs and the future developments. **Page 4**

Pressure Ulcers Hospitalizations Increasing: Impact To All Providers

Author: Lisa Remington, President, The Alliance For Integrated Value-Driven Healthcare And Publisher, The Remington Report

Stage III and IV Pressure Ulcers are identified as a never event. Pressure ulcer-related hospitalizations are longer and more expensive than many other hospitalizations. This article discusses hospital related data for pressure ulcers and the impact to post-acute services. **Page 7**

Using Hospital Data To Drive Collaboration Across Care Settings

In the era of emerging healthcare reform models, data can provide collaborative opportunities for health industry stakeholders across care settings in areas such as care transitions, avoidable hospital readmissions, and integrated chronic care management programs. This article discusses the 20 most expensive conditions and the impact to payer groups. **Page 12**

Collaborative Approach To Achieve Optimal Outcomes

Author: Diane Payne, ARNP, CWCN, Norton's Suburban's Wound Healing Center

Achieving optimal and timely outcomes to wound healing starts with a plan of care that integrates appropriate interventions to target patient risk factors, co-morbidities, and wound bed management. To achieve these goals, successful execution of the plan by the caregiver and home health is essential, as well as the right support and guidance from our suppliers to help us identify the most appropriate product selection to achieve our goals. **Page 14**

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Enhancing Outcomes for Patients and Their Caregivers.

Never Events: Implications Expand Across All Care Settings

Author: Lisa Remington, President, The Alliance For Integrated Value-Driven Healthcare and Publisher, The Remington Report

December 1, 2009, marked the tenth anniversary of the Institute of Medicine report on medical errors, *To Err Is Human*, which launched the modern patient-safety movement. The Institute of Medicine has estimated that medical errors cost \$17 billion to \$29 billion per year with most of the cost being shifted to outside payers such as Medicare. Research conducted by the Harvard School of Public Health in 2006 found after examination of 14,732 discharge records from 24 hospitals in Colorado and Utah, the average cost per injury was \$58,766 for all adverse events and \$113,280 for negligent injury. They also concluded that 78 percent of the costs associated with all injuries and 70 percent of costs associated with negligent injuries were externalized to

outside payers. Over the past decade, a variety of pressures (such as more robust accreditation standards and increasing error-reporting requirements) have created a stronger business case for hospitals to focus on patient safety.

In 2008, Medicare implemented its hospital-acquired conditions (HAC) policy to penalize hospitals for poor-quality care and encourage them to eliminate avoidable complications. Medicare stopped reimbursing hospitals for treating avoidable hospital-acquired conditions (also known as never events). The policy excludes from payment under the inpatient Prospective Payment System (PPS) avoidable complications that are considered hospital-acquired conditions.



CMS included 10 categories of conditions that were selected for the HAC payment provision.

The 10 categories of HACs include:

- Foreign Object Retained After Surgery
- Air Embolism
- Blood Incompatibility
- Stage III and IV Pressure Ulcers
- Falls and Trauma
 - Fractures
 - Dislocations
 - Intracranial Injuries
 - Crushing Injuries
 - Burns
 - Electric Shock
- Manifestations of Poor Glycemic Control
 - Diabetic Ketoacidosis
 - Nonketotic Hyperosmolar Coma
 - Hypoglycemic Coma
 - Secondary Diabetes with Ketoacidosis
 - Secondary Diabetes with Hyperosmolarity
- Catheter-Associated Urinary Tract Infection (UTI)
- Vascular Catheter-Associated Infection
- Surgical Site Infection Following:
 - Coronary Artery Bypass Graft (CABG) – Mediastinitis
 - Bariatric Surgery
 - Laparoscopic Gastric Bypass
 - Gastroenterostomy
 - Laparoscopic Gastric Restrictive Surgery
- Orthopedic Procedures
 - Spine
 - Neck
 - Shoulder
 - Elbow
- Deep Vein Thrombosis (DVT)/Pulmonary Embolism (PE)
 - Total Knee Replacement
 - Hip Replacement

The codes defining an avoidable complication involve diagnoses, procedures, and condition present on admission (CPOA) – that is, if the diagnosis was detected at admission. Hospital-acquired conditions are counted only if they arise within the same admission as the initial procedure. Other complications secondary to such a condition (for example, sepsis, or “blood poisoning,” that arises from catheter-associated UTI) are not considered for exclusions in the policy.

Government And Private Sector Strategies To Reduce HACs

CMS’ strategies to reduce hospital-acquired conditions include public reporting, quality improvement initiatives, value-based purchasing, quality metrics and guidelines development, and national coverage decisions. The CMS Quality Improvement Organization (QIO) ninth Statement of Work, implemented in August 2008, incorporates a focus on prevention, patient safety, and care coordination, including technical assistance by QIOs for addressing some hospital-acquired condition topics. The CMS is considering expanding hospital-acquired conditions into the tenth SOW and is working with other Health and Human Services components to reduce hospital-acquired infections. National and local collaborative efforts to address quality priorities will ensue from initiatives such as these:

Public reporting and transparency initiatives. The CMS reports quality and efficiency information on its “Compare” Web sites, including Hospital Compare. Sites are potential vehicles for dissemination of hospital-specific information on hospital-acquired conditions. Consumers, employers, payers, and others can use this information in determining where they choose to obtain their care.

Value-based purchasing initiatives. Hospital-acquired condition payment policy can be expanded and embedded into broader value-based purchasing programs anticipated over the next several years. The CMS is already initiating a value-based purchasing program to start January 2012 in dialysis facilities, and this year published the value-based purchasing draft for hospitals. Starting in 2015 – hospitals with the highest rates of hospital acquired conditions (never events) will be penalized 1%. In addition, work has already begun on developing the framework for value-based purchasing programs in nursing homes, home health agencies, and other provider settings in the future.

Medicaid will no longer pay for Never Events. Effective July 1, 2011, Section 2702 of the Patient Protection and Affordable Care Act (ACA) requires state Medicaid programs to deny payments to providers for costs associated with treating health care-acquired conditions (HAC). The federal government will deny payments to states for any amounts

“Starting in 2015 – hospitals with the highest rates of hospital acquired conditions (never events) will be penalized 1%. In addition, work has already begun on developing the framework for value-based purchasing programs in nursing homes, home health agencies, and other provider settings in the future.”

expended by state Medicaid programs for medical assistance associated with HACs. The law defines HAC as one that can be identified by a secondary diagnostic code that meets the following conditions: 1) high cost or high volume, or both; 2) results in the assignment of a case to a diagnosis-related group that has a higher payment; and 3) could reasonably have been prevented through application of evidence-based guidelines. HACs include, but are not limited to, foreign object retained after surgery, air embolism, blood incompatibility, pressure ulcers, falls and trauma, catheter-associated urinary tract infections.

Impact to other providers across care settings.

CMS’ strategies to reduce hospital-acquired conditions include public reporting, quality improvement initiatives, value-based purchasing, quality metrics and guidelines development, and national coverage decisions are not pertinent to just hospitals. Quality measures akin to home health and nursing homes indirectly collect data pertaining to never events (for example: stages III and IV pressure ulcers). Once compiled, it will allow payors to manage some hospital acquired conditions across care settings (See related story on page 7).

Private sector action. Several major private insurers, Aetna Inc., Cigna HealthCare, Anthem Blue Cross Blue Shield in New Hampshire, Blue Cross Blue Shield of Massachusetts, and WellPoint among others, are adopting similar reimbursement practices adopted by the government in cases of preventable medical errors.

Future Of HACs Across Care Settings

In 2002, the National Quality Forum (NQF) published an initial report, Serious Reportable Events (SRE) in Healthcare,

which identified 27 adverse events occurring in hospitals that are serious, largely preventable and of concern to both the public and healthcare providers. The Department of Health and Human Services (HHS) has recently recognized the importance of identifying SREs that are not specific hospital-acquired conditions relating to payment or reimbursement practices. There is also recognition that the SREs should be expanded into other environments of care beyond hospital settings, and that they should be relevant and applicable for these non-hospital settings. As such, the SREs will delineate the conditions or complications that are acquired by patients throughout the processes of care for a given illness, which may be managed in several different healthcare environments. The following environments of healthcare were prioritized in 2009 update and expansion of the SREs:

- Ambulatory & Office-Based Surgery Centers
- Long-Term Care Settings (including Skilled Nursing Facilities)
- Ambulatory Non-Hospital Practice Settings (Physician Offices)

As a portion of its contract with the Department of Health and Human Services (Contract #HHS-500-2009-00010C), the National Quality Forum (NQF) in March 2011 sought nominations for members of three Technical Advisory Panels (TAPs). These panels will provide expertise and guidance to the Steering Committee for Serious Reportable Events (SREs) in Healthcare. This committee is updating the existing list of NQF SREs and developing an expanded listing of SREs which will be relevant for environments of patient care beyond inpatient hospital settings. ■

Hospital Acquired Conditions: Projected Costs Savings

Savings estimates for the next 5 fiscal years are shown below:

Year	Savings (in millions)
FY 2009	\$21
FY 2010	\$21
FY 2011	\$21
FY 2012	\$22
FY 2013	\$22

Pressure Ulcers Hospitalizations Increasing: Impact To All Providers

Author: Lisa Remington, President, The Alliance For Integrated Value-Driven Healthcare And Publisher, The Remington Report

Hospitalizations involving patients with pressure ulcers – either developed before or after admission – increased by nearly 80 percent between 1993 and 2006, according to the Agency for Healthcare Research and Quality (AHRQ).

Pressure ulcers, also called bed sores, typically occur among patients who can't move or have lost sensation. Prolonged periods of immobility put pressure on the skin, soft tissue, muscle, or bone, causing ulcers to develop. Older patients, stroke victims, people who are paralyzed, or those with diabetes or dementia are particularly vulnerable. Pressure ulcers may indicate poor quality of care at home, in a nursing home, or hospital. Severe cases can lead to life-threatening infections.

AHRQ's analysis found that of the 503,300 pressure ulcer-related hospitalizations in 2006:

- Pressure ulcers were the primary diagnosis in about 45,500 hospital admissions – up from 35,800 in 1993.

- Pressure ulcers were a secondary diagnosis in 457,800 hospital admissions – up from 245,600 in 1993. These patients, admitted primarily for pneumonia, infections, or other medical problems, developed pressure ulcers either before or after admission.

- Among hospitalizations involving pressure ulcers as a primary diagnosis, about 1 in 25 admissions ended in death. The death rate was higher when pressure ulcers were a secondary diagnosis – about 1 in 8.

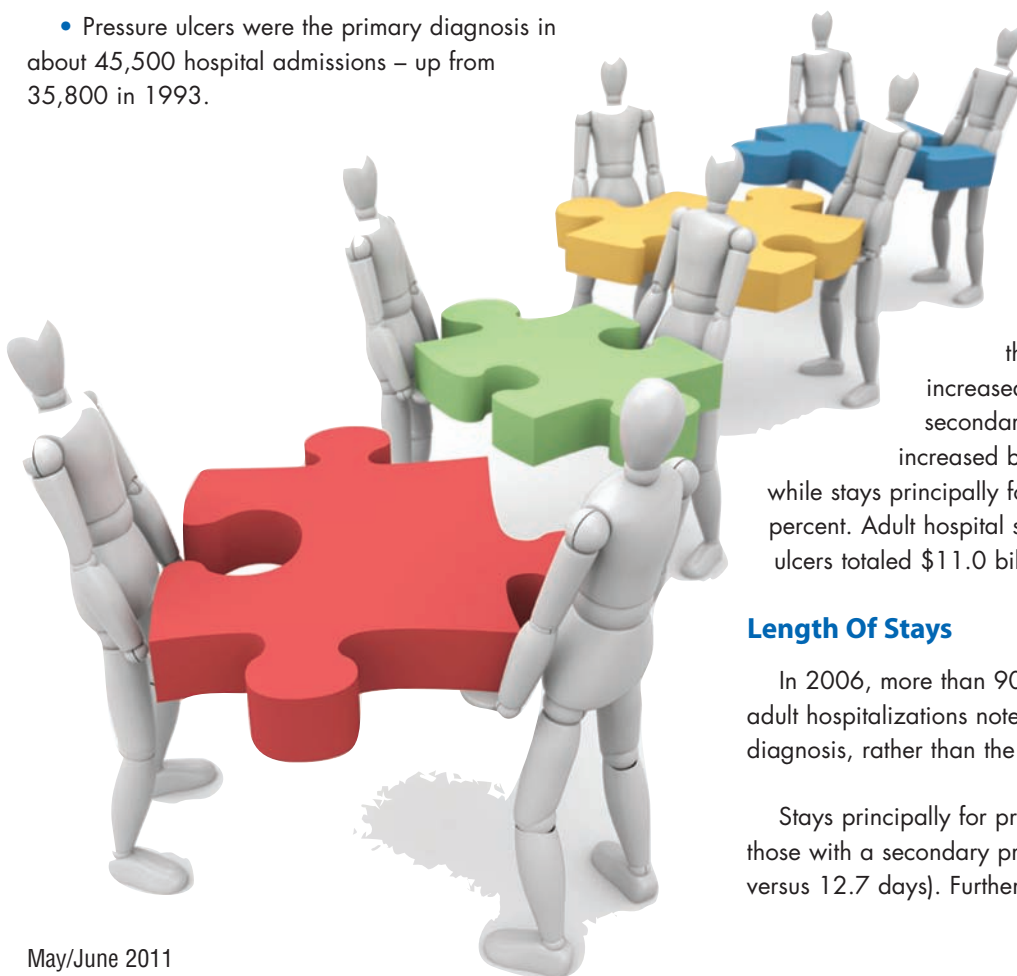
- Pressure ulcer-related hospitalizations are longer and more expensive than many other hospitalizations. While the overall average hospital stay is 5 days and costs about \$10,000, the average pressure ulcer-related stay extends to between 13 and 14 days and costs between \$16,755 and \$20,430, depending on medical circumstances.

Pressure ulcers, or decubitus ulcers, are increasingly common in U.S. hospitalizations. In 2006, there were 503,300 hospital stays during which pressure ulcers were noted – a 78.9 percent increase from 1993 when there were about 281,400 hospital stays related to pressure ulcers. During this same time period, the total number of hospitalizations increased by only 15 percent. Stays with a secondary diagnosis of pressure ulcers increased by 86.4 percent during this period, while stays principally for pressure ulcers increased by 27.2 percent. Adult hospital stays noting a diagnosis of pressure ulcers totaled \$11.0 billion in 2006.

Length Of Stays

In 2006, more than 90 percent of pressure ulcer-related adult hospitalizations noted pressure ulcers as the secondary diagnosis, rather than the principal reason for admission.

Stays principally for pressure ulcers were slightly longer than those with a secondary pressure ulcer diagnosis (14.1 days versus 12.7 days). Furthermore, the length of stay for



hospitalizations principally for pressure ulcers was nearly three times longer than hospitalizations with no diagnosis of pressure ulcers (14.1 days versus 5.0 days). Though stays principally for pressure ulcers were longer than stays with a secondary diagnosis of pressure ulcers and those with no pressure ulcer diagnosis, the average cost per day (\$1,200) was lower – nearly \$400 less than secondary pressure ulcer stays (\$1,600 per day) and \$800 less than stays for all other conditions (\$2,000 per day).

Discharges From Hospitals

Stays related to pressure ulcers were more likely to be discharged to a long-term care facility (e.g. a skilled nursing facility, an intermediate care facility, or a nursing home), as compared to hospitalizations for all other conditions. In fact, over half of principal pressure ulcer stays (53.4 percent) and secondary pressure ulcer stays (54.5 percent) were discharged to long-term care – more than three times the rate of hospitalizations for all other conditions (16.2 percent).

Patient And Utilization Characteristics

Table 1 compares the utilization and patient characteristics of both principal and secondary pressure ulcer hospitalizations to hospital stays for all other conditions among adults 18 years and

older. In 2006, more than 90 percent of pressure ulcer-related adult hospitalizations noted pressure ulcers as the secondary diagnosis, rather than the principal reason for admission.

Nearly three out of four adult stays with a secondary diagnosis of pressure ulcers occurred among patients older than 65 years old, resulting in a mean age (71.9 years) that was more than ten years older than patients hospitalized with no diagnosis of pressure ulcers. Nearly half (49.0 percent) of stays with a secondary pressure ulcer diagnosis occurred among patients aged 65 to 84 years, while this age group accounted for 37.1 percent of all non-pressure ulcer stays. Moreover, secondary pressure ulcer stays had the highest concentration of patients aged 85 years and older (23.0 percent).

Differences In Hospital Stays Related To Pressure Ulcers, By Primary Payer

Given the prevalence of older patients hospitalized with pressure ulcers, it is not surprising that the most common primary payer for hospitalizations related to pressure ulcers was Medicare. In 2006, nearly three out of four hospitalizations with a pressure ulcer diagnosis were billed to Medicare, as compared to just over half of hospitalizations for all other conditions. Although patients 65 years and older accounted for about 57 percent of adult stays principally for

Table 1. Characteristics Of Hospitalizations Related To Pressure Ulcers Compared To Hospital Stays For All Other Conditions Among Adults 18 Years And Older, 2006

	Hospital stays principally for pressure ulcers	Hospital stays with a secondary diagnosis of pressure ulcers	Hospital stays for all other conditions*
Total number of hospitalizations	44,900	500,700	27,610,400
Patient characteristics			
Mean age, years	65.3	71.9	61.5
Percentage of patients male	50.3%	46.9%	45.9%
Percentage died in hospital	4.2%	11.6%	2.6%
Utilization characteristics			
Mean length of stay, days	14.1	12.7	5.0
Mean cost per hospitalization	\$16,800	\$20,400	\$9,900
Mean cost per day	\$1,200	\$1,600	\$2,000
Aggregate costs	\$752.0 million	\$10.2 billion	\$273.4 billion
Percentage admitted from long-term care	5.8%	8.0%	1.5%
Percentage discharged to a long-term care facility	53.4%	54.5%	16.2%

*Stays for neonates and maternal conditions have been excluded.

Source: AHRQ

“Nearly three out of four adult stays with a secondary diagnosis of pressure ulcers occurred among patients older than 65 years old, resulting in a mean age (71.9 years) that was more than ten years older than patients hospitalized with no diagnosis of pressure ulcers.”

pressure ulcers, Medicare covered 73.8 percent of these stays, suggesting that disabled individuals may account for a large share of hospitalizations with a principal diagnosis of pressure ulcers. In fact, government payers – Medicare and Medicaid – bore the greatest burden of hospitalizations principally for pressure ulcers; Medicaid patients accounted for an additional 12.5 percent of hospitalizations with a principal diagnosis of pressure ulcers.

Most Common Reasons For Hospitalizations Related To Pressure Ulcers

Table 2 shows the most common principal reasons for hospitalizations during which pressure ulcers were also present. The most common principal reasons for hospitalization among stays with secondary pressure ulcer diagnoses included septicemia (16.1 percent of all pressure ulcer-related hospitalizations had this principal diagnosis), pneumonia (6.3 percent), urinary tract infection (5.6 percent), respiratory

failure (4.3 percent), and aspiration pneumonitis (3.7 percent). Of particular note is that 13.5 percent of all stays principally for septicemia had pressure ulcers noted as a co-existing condition, and 10.7 percent of all stays principally for aspiration pneumonitis had pressure ulcers noted as a secondary condition.

Among hospital stays that were principally for pressure ulcers, other concomitant conditions included anemia (31.2 percent), urinary tract infections (30.5 percent), paralysis (29.2 percent), fluid and electrolyte disorders (26.1 percent), nutritional deficiencies (23.4 percent), diabetes without complications (20.6 percent), and dementia (20.4 percent). However, common concomitant diagnoses and their distribution varied by age. Paralysis and spinal cord injury were prominent among younger patients, while fluid and electrolyte disorders, nutritional disorders, diabetes without complications, and dementia were more often seen among patients 65 and older.

Table 2. Top 10 Most Common Principal Reasons For Hospitalizations During Which Pressure Ulcers Were Also Present Among Adults 18 Years And Older, 2006*

Rank	Principal Condition (CCS)	Number of hospitalizations related to pressure ulcers	Percentage of all hospitalizations related to pressure ulcers with this principal diagnosis	Percentage of hospitalizations for this condition that also includes pressure ulcers
1	Septicemia (except in labor)	80,400	16.1%	13.5%
2	Pneumonia	31,500	6.3%	3.0%
3	Urinary tract infections	28,200	5.6%	5.8%
4	Rehabilitation care, fitting of prostheses, and adjustment of devices	23,100	4.6%	5.1%
5	Respiratory failure, insufficiency, arrest	21,500	4.3%	5.8%
6	Congestive heart failure, nonhypertensive	20,800	4.1%	1.9%
7	Complication of device, implant or graft	19,300	3.9%	3.2%
8	Aspiration pneumonitis, food/vomitus	18,400	3.7%	10.7%
9	Acute and unspecified renal failure	14,700	2.9%	4.3%
10	Fluid and electrolyte disorders	12,700	2.5%	3.0%
Total hospitalizations for top 10 principal conditions		270,500	54.0%	4.8%

*Pressure ulcers noted as a secondary diagnosis.

Source: AHRQ

“Government payers – Medicare and Medicaid – bore the greatest burden of hospitalizations principally for pressure ulcers; Medicaid patients accounted for an additional 12.5 percent of hospitalizations with a principal diagnosis of pressure ulcers.”

Implications For Post-Acute Providers

If a pressure ulcer is acquired during a hospital admission, known as a never event (see page 4), hospitals can discharge the patient to post acute services without the wound healed. This means home care can/will potentially see the number of patients with pressure ulcers increase with a higher acuity level. Payors are positioning the management of pressure ulcer care across care settings. In other words, they want providers to work together to manage the high cost of pressure ulcers.

Pressure ulcers are a publicly reported outcome across care settings and payors will eventually penalize all providers for poor performance. (Starting in 2015 – hospitals with the highest rates of hospital acquired conditions (never events) will be penalized 1%.

We can see in the collection of OASIS-C data that home health quality measures are focused on pressure ulcers. Examples of quality measures listed below are reported on the home health compare website.


To effectively manage pressure ulcers, all providers will need to approach the management of wounds with a care continuum strategy that addresses never events, effective care transitions, avoidable hospitals readmissions, and caregiver and patient education supported by technology. ■

Highlights

- In 2006, there were 503,300 total hospital stays with pressure ulcers noted as a diagnosis an increase of nearly 80 percent since 1993. Adult stays totaled \$11 billion in hospital costs.
- More than 90 percent of pressure ulcer-related stays among adults were for the principal treatment of other conditions, such as septicemia, pneumonia, and urinary tract infection.
- Compared to stays for all other conditions, stays related to pressure ulcers were more often discharged to a long-term care facility and more likely to result in death.
- Nearly three out of four adult patients hospitalized with a secondary pressure ulcer diagnosis (72 percent) were 65 years and older. In contrast, 56.5 percent of adult patients with a principal diagnosis of pressures ulcers were 65 or older.
- Billed for three out of four hospitalizations, Medicare was the most common payer of adult stays related to pressure ulcers.
- Paralysis and spinal cord injury were common co-existing conditions among younger adults hospitalized principally for pressure ulcers, while fluid and electrolyte disorders, nutritional disorders, diabetes without complications, and dementia were more often seen among patients 65 and older.

Source: AHRQ

Home Health Compare Reporting	
Measure	Home Health Compare
Pressure ulcer risk conducted	How often the home health team checked patients for the risk of developing pressure sores (bed sores).
Pressure ulcer prevention Included in the plan of care	How often the home health team included treatments to prevent pressure sores (bed sores) in the plan of care.
Pressure ulcer prevention Implemented during short term episodes of care	How often the home health team took doctor-ordered action to prevent pressure sores (bed sores).



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Using Hospital Data To Drive Collaboration Across Care Settings

Hospital care accounted for the largest share of U.S. health care spending (31 percent) in 2008. As health care costs rise and the population ages, policy makers and payers are interested in understanding how hospital resources are spent, who pays, and for what types of services. In the era of emerging healthcare reform models, data can provide collaborative opportunities for health industry stakeholders across care settings in areas such as care transitions, avoidable hospital readmissions, and integrated chronic care management programs.

Hospital Data. The nation's hospitals billed nearly \$1.2 trillion in total charges in 2008 for inpatient hospitalizations. These charges involved 39.9 million hospital stays, but do not include hospital outpatient care, emergency care for patients not admitted to the hospital, or physician fees for the admissions. In 2008, two government payers, Medicare and Medicaid, bore responsibility for 60 percent of the national hospital bill. Medicare incurred approximately \$534 billion in total charges in 2008 for 14.9 million hospital stays, representing 46.2 percent of the total national hospital bill. Hospital stays billed to Medicaid totaled \$159 billion, or 13.8 percent of the national bill. Private insurance was billed for 14.1 million hospital stays with total charges of about \$373 billion (32.2 percent of the national hospital bill). Uninsured patients accounted for 4.1 percent (\$48 billion) of the national bill.

Most Expensive Conditions Requiring Hospitalization. In 2008, over half of the U.S. hospital charges were for the top 20 most expensive conditions, with the top five conditions accounting for over one-fifth of the total charges (**Table 1**). Two of the top five conditions were pregnancy-related: mother's pregnancy and delivery and newborn infants. Hospital stays for pregnancy and delivery resulted in a total hospital bill of \$55 billion, or 4.8 percent of the entire national bill, and was the most expensive condition treated. Hospital stays involving newborn infants accounted for 3.7 percent of the national hospital bill – \$43 billion. Hospital stays for sepsis (blood infection) and coronary artery disease each accounted for approximately 4.1 percent of the total hospital charges (\$48 billion). The ranking of national hospital charges for sepsis rose since 2004 from the ninth most expensive to the second most expensive in 2008. Osteoarthritis was the fifth most expensive condition (\$40 billion) and comprised 3.5 percent of the national hospital bill.

Tables 2 illustrates the 20 most expensive conditions billed to Medicare in 2008. Data collected for the most expensive conditions requiring hospitalizations has commonalities across

all payer groups (Medicare, Medicaid, private insurance and the uninsured). For all four payer groups, blood infection, coronary artery disease, and acute cerebrovascular disease (stroke) ranked among the top 10, while congestive heart failure, heart attack, pneumonia, and respiratory failure ranked among the top 20 most expensive conditions. Conditions related to a mother's pregnancy and delivery and newborn infants ranked in the top 10 for Medicaid, private insurance, and the uninsured; gall bladder disease and mood disorders were among the top 20 most expensive conditions for these three payers. Diabetes with complications was included in the top 20 for Medicare, Medicaid, and the uninsured. Back pain and complications of surgical procedures or medical care were among the top 20 most expensive conditions billed to Medicare, Medicaid, and private insurance. Osteoarthritis was among the top five most expensive conditions for Medicare and private insurance.

Highlights

- In 2008, the national hospital bill totaled nearly \$1.2 trillion for 39.9 million hospital stays.
- One-fifth of the national hospital bill was for treatment of five conditions: mother's pregnancy and delivery, blood infection, coronary artery disease, newborn infants, and osteoarthritis.
- Sixty percent of the national bill for hospital care was billed to two government payers, Medicare (\$534 billion) and Medicaid (\$159 billion), while slightly less than one-third (\$373 billion) was billed to private insurance and about 4 percent (\$48 billion) was billed to the uninsured.
- Circulatory diseases accounted for six of the 20 most expensive conditions billed to Medicare, totaling \$107 billion.
- Of hospital stays billed to Medicaid, the most expensive conditions were related to mother's pregnancy and delivery (\$22 billion) and care of newborn infants (\$19 billion).
- Of hospital stays billed to private insurers, the most expensive conditions were related to mother's pregnancy and delivery (\$30 billion) and care of newborn infants (\$21 billion).

Among the uninsured, heart attack was the most expensive reason for hospitalization (\$2.4 billion). Three of the top 20 most expensive reasons for hospitalization involved injury (\$2.9 billion). ■

Table 1. Top 20 most expensive conditions treated in U.S. hospitals, 2008

Rank	Principal diagnosis	Total national hospital bill (millions)	Percentage of national bill	Number of hospital stays (thousands)	Rank 2006	Rank 2004
1	Mother's pregnancy and delivery	\$55,479	4.8%	4,664	2	2
2	Sepsis	\$47,709	4.1%	791	6	9
3	Coronary artery disease	\$47,563	4.1%	919	1	1
4	Newborn infants	\$42,889	3.7%	4,391	3	3
5	Osteoarthritis	\$40,380	3.5%	911	7	8
6	Acute myocardial infarction (AMI, heart attack)	\$37,949	3.3%	645	4	4
7	Complication of device, implant or graft	\$37,159	3.2%	685	9	7
8	Congestive heart failure	\$34,596	3.0%	1,020	5	5
9	Pneumonia	\$31,654	2.7%	1,156	8	6
10	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$30,773	2.7%	663	11	10
11	Respiratory failure, insufficiency, arrest (adult)	\$28,690	2.5%	435	10	13
12	Acute cerebrovascular disease (stroke)	\$24,849	2.2%	565	13	12
13	Cardiac dysrhythmias	\$24,142	2.1%	798	12	11
14	Complications of surgical procedures or medical care	\$19,402	1.7%	516	14	15
15	Chronic obstructive pulmonary disease and bronchiectasis	\$16,306	1.4%	716	18	19
16	Gall bladder disease	\$15,780	1.4%	480	17	16
17	Rehabilitation care, fitting of prostheses, and adjustment of devices	\$14,854	1.3%	410	15	14
18	Diabetes mellitus with complications	\$14,524	1.3%	520	16	17
19	Hip fracture	\$14,173	1.2%	316	19	18
20	Acute and unspecified renal failure	\$13,675	1.2%	425	22	31
	Total for top 20 conditions	\$592,545	51.3%	21,026		
	Total for all hospitalizations	\$1,155,648	100.0%	39,885		

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2004, 2006, 2008

Table 2. Top 20 most expensive conditions billed to Medicare, 2008

Rank	Principal diagnosis	Total national hospital bill (millions)	Percentage of national bill	Number of hospital stays (thousands)
1	Sepsis	\$30,480	5.7%	535
2	Coronary artery disease	\$25,919	4.8%	791
3	Congestive heart failure	\$24,585	4.6%	759
4	Osteoarthritis	\$21,645	4.0%	490
5	Complication of device, implant or graft	\$21,042	3.9%	389
6	Acute myocardial infarction (AMI, heart attack)	\$20,404	3.8%	362
7	Pneumonia	\$19,565	3.7%	666
8	Respiratory failure, insufficiency, arrest (adult)	\$17,863	3.3%	282
9	Cardiac dysrhythmias	\$15,873	3.0%	515
10	Acute cerebrovascular disease (stroke)	\$13,402	2.5%	356
11	Chronic obstructive pulmonary disease and bronchiectasis	\$11,619	2.2%	502
12	Hip fracture	\$11,447	2.1%	257
13	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$10,957	2.1%	246
14	Rehabilitation care, fitting of prostheses, and adjustment of devices	\$9,545	1.8%	285
15	Acute and unspecified renal failure	\$9,150	1.7%	290
16	Complications of surgical procedures or medical care	\$9,052	1.7%	226
17	Urinary tract infections	\$7,465	1.4%	363
18	Heart valve disorders	\$7,292	1.4%	61
19	Diabetes mellitus with complications	\$7,142	1.3%	222
20	Aspiration pneumonia, food/vomitus	\$6,884	1.3%	161
	Total for top 20 conditions	\$301,332	56.4%	7,464
	Total for all hospitalizations	\$534,478	100.0%	14,917

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008



Collaborative Approach To Achieve Optimal Outcomes

Author: Diane Payne, ARNP, CWCN, Norton's Suburban's Wound Healing Center

Achieving optimal and timely outcomes to wound healing starts with a plan of care that integrates appropriate interventions to target patient risk factors, co-morbidities, and wound bed management. To achieve these goals, successful execution of the plan by the caregiver and home health is essential, as well as the right support and guidance from our suppliers to help us identify the most appropriate product selection to achieve our goals. The following is a case study of one of our patients that illustrates this concept.

Patient History

Mr. D is a 69-year-old male with immobility as a result of Multiple Sclerosis. He was bedbound and wheelchair bound. Other co-morbidities included peripheral neuropathy, spastic muscle disorder, dysphagia, and a history of right AKA. He was initially seen 11/23/09 for a sacrococcygeal, unstageable pressure ulcer measuring 3.5cm (length) x 2.5cm (width) x 1.0cm(depth). Mr. D was incontinent of bowel and had a Foley catheter to bedside drain for urine incontinence management. He had already undergone PEG placement for treatment of dysphagia and protein calorie malnutrition. In December 2009 he developed wound infection and cellulitis. He and his wife were faced with a difficult treatment decision. He had two options. He could continue with local wound care, remain a

palliative care patient and continue on the low air loss mattress he had been on prior to the outpatient visit. He could also choose aggressive surgical care. He was offered hospitalization and surgical debridement. After tearful consideration he and his wife decided upon aggressive surgical intervention.

Managing Co-Morbidities

The acute care treatment plan included treatment with IV antibiotics, continued tube feeding, Foley catheter to bedside drain, medical management and surgical wound debridement. Upon discharge from the hospital he required the assistance of home health care services.

Nutritional Support

Mr. D was continued on his bolus feeding per PEG.

Wound Bed Preparation To Promote Healing

Surgical Debridement: Hospitalized he underwent initial debridement on 12/21/09. The pressure ulcer was a Stage IV measuring 6cm (long) x 4.0cm (wide) x 2.5cm (depth).

Dressing Selection: Mr. D was discharged home from the hospital with NPWT for wound management.

Support Surface Selection

Mr. D required careful evaluation for selection of the appropriate support surface. He had experienced wound regression while receiving conservative local wound care and offloading on a Low Air Loss (LAL) mattress prior to hospitalization. The wound history is outlined below.

Appropriate selection and monitoring of a support surface is critical to the outcome of a patient's pressure ulcer. An initial selection may not be the appropriate surface for the span of the patient's care needs. During weekly visits, pressure redistribution should also be carefully considered. In particular, if the patient's wound is static or worsens, alternative pressure redistribution should be considered. The right support surface supplier will be as motivated to achieve healing as our Center and will be available to help you consider alternate solutions to support the healing process.

In the case of Mr. D, we initially placed the patient on a Low Air Loss (LAL) mattress replacement. After twenty-five (25) days of LAL therapy the wound volume had increased by 13% and eschar remained at the base of the wound. After hospitalization to debride the pressure ulcer, air fluidized therapy (Clinitron At • Home®) was recommended by the

supplier and ordered. Within twenty-one days (21) the patient's pressure ulcer had achieved 70% healing and by the end of month two on the therapy, healing was at ninety-three percent (93%). The ulcer progressed to complete wound closure by March 18, 2010.

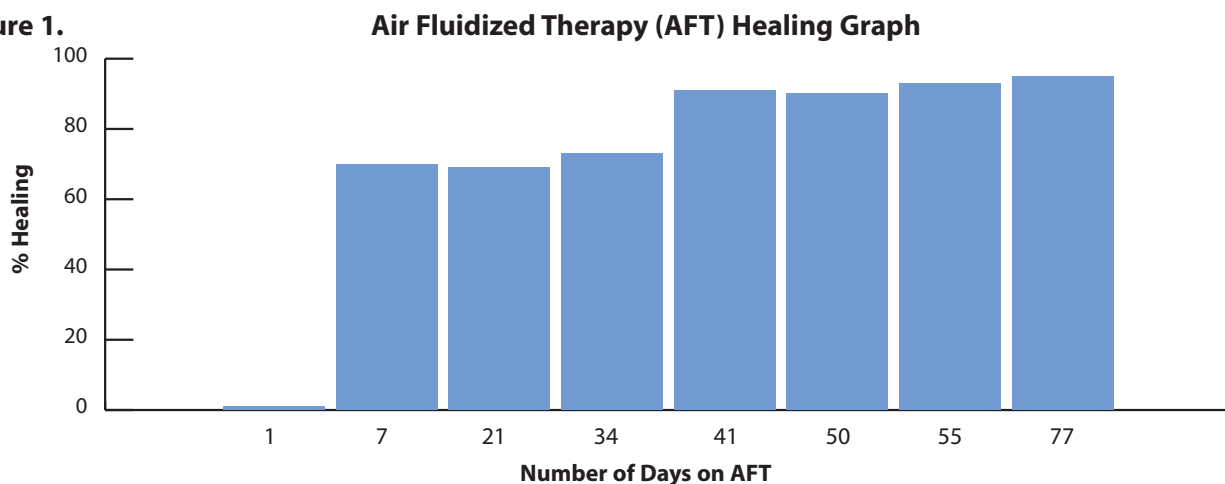
Summary

As a result of the patient's accelerated healing, the home health agency providing in-home care reported a decrease in the number of nursing visits and in home supplies, having a positive impact in the overall cost of care.

Our ability to manage patient co-morbidities and risk factors was critical to this outcome. Of significance is our ability to have an alternative to LAL for patients whose wounds should be improving at a greater rate but appear to be static. Air fluidized therapy was an important component to the overall care plan and was a proven need for Mr. D.

The healing rate (Figure 1) best illustrates the end result for Mr. D. With the right care plan designed to holistically address the patients needs. With aggressive surgical care, along with the right equipment interventions, we were able to quickly turn a non-healing pressure ulcer into a healing ulcer and eventually into a healed ulcer. The team approach utilized at Norton's Suburban's Wound Healing Center which included the leadership of Dr. J. Neal Sharpe, general surgeon, the assistance of E. Diane Payne, ARNP, CWCN, and the assessment of the center's staff along with the in-home care of home health nurses, the support surface supplier and the NPWT supplier, resulted in reaching this patient's goal of wound closure. ■

Figure 1.





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