

The compelling call for change is in patient outcome data



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St. Jude Medical Center (SJMC) created an agenda for change based on the *Milliman Care Guidelines*[®] and *CareWebQI*[®] interactive software. Support for change was driven by the implementation of the evidence-based best practice *Care Guidelines* and the ability to track patient progress and outcomes in *CareWebQI*.

The appropriate use of the *Care Guidelines* can promote efficient, quality care through delivery of the right care to the right patient at the right time by the right provider. SJMC discovered that the *Care Guidelines* provided a road map for improving care processes by:

- Clarifying care delivery issues
- Uncovering length-of-stay inefficiencies and physician practice variations
- Identifying focus areas for the chief medical officer (CMO) as physician advisor, to address physician-related circumstances and get physicians involved in supporting an interdisciplinary team concept
- Creating a sense of urgency for modification of care management workflows
- Using the *Care Guidelines* during rounds to support proactive and anticipatory case management
- Reviewing service expectations for ancillary departments
- Strengthening the interaction between care managers and physicians
- Identifying gaps in documentation that impact patient outcome data

BACKGROUND

SJMC is one of the ministries in a much larger health system. St. Joseph Health System (SJHS) is an integrated healthcare delivery system providing a broad range of medical services. The system is organized into three regions—Northern California, Southern California, and West Texas/Eastern New Mexico.

In fiscal year 2007, the SJHS board approved a new strategic plan and refocused its strategic initiatives into three pillars:

- Perfect Care
- Sacred Encounters
- Healthiest Communities

The *Care Guidelines* were licensed by SJHS but not widely used by the ministries. In the summer and fall of 2007, Milliman was asked to conduct an initial data review and a care management workflow assessment at two of the SJHS ministries where the data reflected considerable opportunities for improved or enhanced care management processes. Milliman noted considerable variations in performance between the two ministries and a patient care team that was not fully integrated.

Milliman and SJHS chose St. Jude Medical Center to participate in a collaborative case study in spring 2008 to:

- Promote the use of evidence-based clinical best practices and support the Perfect Care initiative by supporting an integrated patient care team approach
- Evaluate the impact of the use of the *Care Guidelines* and *CareWebQI* in the delivery of inpatient care at St. Jude Medical Center

It was Milliman's opinion that these tools (the *Care Guidelines* and *CareWebQI*), combined with the modified St. Jude Medical Center medical management processes, would assist in management of patients along the continuum of care, and would promote the use of evidence-based clinical best practices in the care delivered.

MILLIMAN/SJMC COLLABORATION

Both organizations worked collaboratively to promote the use of evidence-based best practice guidelines and support the Perfect Care initiative by supporting an integrated patient care team approach. The *Care Guidelines* were endorsed by SJHS as a tool for refocusing care coordination at the bedside and for reducing insurance-denied care days.

SJMC staff members were not familiar with the *Care Guidelines*, although they had experience utilizing guidelines and criteria. It was determined that implementation would focus on selected diagnoses and procedures instead of implementing the entire set of *Care Guidelines*. Heart failure, pneumonia, hip and knee replacements, stroke, chest pain, and acute myocardial infarction (AMI) were selected because they represented high-volume admissions that were also core measures for both the Centers for Medicare and Medicaid Services (CMS) and for SJMC.

The established case study goals were to:

- Support the Perfect Care initiative
- Improve staff performance related to identification of potentially avoidable days
- Decrease average length of stay (ALOS) through increased identification of potentially avoidable days

BEST PRACTICE VISION

Effective implementation of evidence-based best practice requires more than case managers' use of the *Care Guidelines*. It requires top-down support and an organizational priority. That organizational priority is demonstrated through an interdisciplinary strategic plan carried out by effective leadership and management infrastructure, from the chief operating officer to the shift nursing coordinators.

An integrated management team of physicians, staff nurses, case managers, social workers, and others need to work collaboratively to develop and implement the strategic approach to use evidence-based clinical best practices. The *Care Guidelines* and *CareWebQI* are excellent tools, but the workflow assessment completed the previous year showed that the SJMC care management processes did not support the most efficient best practice care delivery.

IMPLEMENTATION

Implementation requires strategic development of processes and a strong infrastructure. An assessment of current workflows to identify any existing barriers to successful implementation prior to "going live" with the *Care Guidelines* and *CareWebQI* was necessary.

Implementation consisted of three major phases: pre-implementation, implementation week one, and post-implementation. Even though implementation of *CareWebQI* was scheduled for October 1, 2008, an initial tactical plan was developed with activities planned for as early as July 2008.

Pre-implementation

Pre-implementation provides a tremendous opportunity to identify and resolve obstacles that may threaten a successful implementation. The outline in Figure 1 on page 3 reflects some of the activities that took place in the months prior to the go-live date.

We identified these barriers to success during pre-implementation:

- There was a delay in executing pre-project work that resulted in a postponed implementation date.
- An executive sponsor change resulted in diminished support for the project activities.
- The physician advisor role was not defined within the new role of the CMO, which resulted in no clinical physician champion to support care managers, interface with attending physicians on behalf of the care managers, and promote physician cooperation and collaboration regarding evidence-based best practice care delivery.
- Technology challenges resulted in additional administrative burdens to data-enter patient demographic information, which was due to the lack of an HL7 interface with the medical management software.
- There was a varying degree of care management staff buy-in because of:
 - Experience using a different criteria set
 - Utilization of two different medical management software programs, and incomplete documentation that would eventually impact patient outcome data
 - Philosophical change for care managers around proactive and anticipatory case management expectations and processes
- Competing operational priorities resulted in diminished focus on the project activities.
- Staffing challenges resulted in diminished focus on the project activities.

Implementation: The First Week

The implementation date was extended to December 2008. Despite barriers identified during the pre-implementation phase, the decision was made to continue to move forward. Although implementation was delayed, the delay gave the care management staff an opportunity to "practice" utilizing the *Care Guidelines* and documenting into *CareWebQI*.

The main focus during the first week of implementation was to address the various barriers that had been identified during pre-implementation and to provide backup to answer questions, coach, and support care management (CM) staff. The care manager "super-user" and Milliman reviewed the staff's clinical documentation throughout the week to ensure appropriate application of the *Care Guidelines* and compliance with the established documentation standards for *CareWebQI*.

FIGURE 1: PRE-IMPLEMENTATION ACTIVITIES

Task	
July 2008	Finalize/execute research project agreement
	Finalize implementation/coaching start date (initially planned for October 2008)
	Finalize project goals
	Finalize diagnoses/procedures for the project (CHF, pneumonia, joint replacements, CVA, AMI, chest pain)
	Finalize decision regarding <i>CareWebQI</i> software (standalone, batch-load)
	Present work plan to chief operating officer (COO) for approval/support
	Present work plan to chief nursing officer (CNO) for support
	Present project goals and application of <i>Care Guidelines</i> to the perfect care initiative to perfect care committee
	Identify SJMC “super-users” for an “in-house” resource for staff and system decision with the authority to initiate changes within the <i>CareWebQI</i>
	Meet with physician leadership to outline research project goals/objectives
	Develop a plan to communicate processes to physicians, identify physician champions, and gain feedback and buy-in
	Conduct initial super-user training on <i>CareWebQI</i> ; review program and modification capabilities (search default, variance categories/reasons) and discuss documentation standards
	Research types of data/reports that already exist to measure potentially avoidable days, length of stay, reimbursement denials, readmissions
	Establish baseline benchmarks for the case study
	Review <i>Care Guidelines</i> for designated diagnoses and procedures to identify barriers and potential standing physician order set conflicts
	Develop a communication plan to explain research project and the relevancy to the Perfect Care initiative
	Training considerations:
	- Identify staff for training (care management, nursing, physician)
	- Identify training needs (content/application, reporting, system administration)
- Develop training plan	
- Schedule training sessions	
Begin care management staff training	
August 2008	Determine <i>CareWebQI</i> customization, which for example would include variance reasons
	Conduct follow-up workflow review to identify processes that do not support effective implementation of the <i>Care Guidelines</i> or evidence-based best practice
	Develop and/or modify processes workflow to support project (admission, concurrent review, rounding, communication with the physician)
	Begin communication and education with nursing coordinators and hospitalists
	Continue care management staff training
September 2008	Continue to develop and/or modify processes and workflow to support project (admission, concurrent review, rounding, communication with the physician)
	Continue communication and education with nursing coordinators and hospitalists
September 2008	Continue care management staff training
	Begin report training for the business data analyst and super-user
	Evaluate training effectiveness and schedule additional sessions as needed
	Continue super-user training and coaching
	Conduct dry run of workflow process

Post-implementation

Beyond the initial week of implementation, the care manager “super-user” continued to coach the staff to ensure appropriate application of the *Care Guidelines*, compliance with documentation standards, and identification of potentially avoidable days. Clinical summaries from *CareWebQI* were printed and utilized to coach care management staff. Random audits of the documentation were conducted throughout the post-implementation process. A spreadsheet was developed to track the audit results and identify follow-up education and training needs.

Post-implementation marks the time for collecting data for reporting, conducting formalized training for new staff, and providing additional training for staff requiring extra support. Process improvement and ongoing efforts to identify and modify workflows that do not support best practice delivery of care is a continual process and an important component of post-implementation activities.

METRICS FOR MEASUREMENT

The research project measures for discharged acute care patients were tracked for eight months. November 2008 through June 2009 was the study period. The results were compared to November 2007 through June 2008.

Key Findings

- There was an increase, compared to the baseline, in admissions during the study period for patients who had strokes and for patients who underwent major joint replacements
- Potentially avoidable days were identified in the delivery of care for all case study diagnoses and procedures, indicating that opportunities exist to enhance processes that support evidence-based best practice care:
 - Physician-related variances proved to be the top cause, while patient and family circumstances and hospital system delays followed close behind
 - The most significant opportunity to decrease potentially avoidable days was with patients who were admitted with chest pain
- Lengths of stay fell into the moderately to loosely managed delivery-of-care categories
- Medically necessary variance days were identified and contributed to lengthening acute care lengths of stay
- Readmissions (in aggregate) increased, thus requiring further investigation into the root cause, with particular attention to potential post-discharge coordination

Admissions

There was only a small increase in the number of admissions in aggregate, although there was some variation by diagnosis and procedure. There was a considerable decrease in chest pain admissions, which may have been due to the refocus of the facility on

the cardiac service line and managing patients with chest pain in an observation level of care. (See Figure 2 below.)

Admissions were also influenced by a higher volume of the senior population and by orthopedic surgeon recruitment, which increased the number of joint replacements. Although the study period did not reflect an increase in admissions, readmissions for heart failure doubled.

FIGURE 2: ADMISSIONS

	NOV 07 – JUNE 08	NOV 08 – JUNE 09
AMI	135 ADMISSIONS	140 ADMISSIONS
CHEST PAIN	301 ADMISSIONS	264 ADMISSIONS
HEART FAILURE	265 ADMISSIONS	265 ADMISSIONS
PNEUMONIA	239 ADMISSIONS	240 ADMISSIONS
STROKE	290 ADMISSIONS	323 ADMISSIONS
JOINT REPLACEMENTS	443 ADMISSIONS	464 ADMISSIONS

Variances

Variances occur when there is a difference between the patient's actual clinical status on any given day and the *Care Guidelines* recovery milestones. It is common for hospitals to track potentially avoidable day variances on a consistent basis, but not medically necessary variances. The most common reason why hospitals do not track medically necessary variances is because they are unavoidable. It is important to capture this variance type, however, because it represents additional hospital days attributed to clinical conditions, complications, and comorbidities that extend the lengths of stay beyond a hospital's goal and it can be used for comparison purposes for overall variance reporting.

Potentially Avoidable Day Variances

Potentially avoidable day (PAD) variances represent situations where opportunities exist to strengthen the efficiency of processes that support evidence-based best practices.

One of the case study goals was to improve the staff's performance related to the identification and tracking of potentially avoidable days. There was an overall increase in the staff's ability to identify potentially avoidable days from the baseline, as illustrated in Figure 3.

FIGURE 3: PAD PERCENT CHANGE TREND

NOV 07	DEC 07	JAN 08	FEB 08	MAR 08	APR 08	MAY 08	JUNE 08
1.7%	2.4%	1.7%	2.0%	1.3%	0.9%	2.8%	2.2%
NOV 08	DEC 08	JAN 09	FEB 09	MAR 09	APR 09	MAY 09	JUNE 09
4.7%	4.5%	5.5%	7.1 %	5.7%	3.0%	4.0%	6.6%

The percent increase in the staff’s performance, as illustrated in Figure 3, occurred monthly on a consistent basis compared to the baseline. It is important to note that the table in Figure 3 reflects a consolidation of the diagnoses and procedures studied. There was variation in terms of potentially avoidable days and admissions for each studied diagnosis and procedure. For example, the most significant increase in potentially avoidable days compared to the baseline occurred with chest pain admissions from 1.5% to 19% potentially avoidable days. There was also a significant increase in potentially avoidable days with pneumonia admissions, from 1.04% to 7%, as well as a moderate increase in heart failure admissions, from 2.84% to 5.1%, and in acute myocardial infarction admissions, from 2.03% to 5.0%, compared to the benchmark data.

The potentially avoidable days that were encountered during the case study represented additional hospital days that were attributed to four main categories: physician-related circumstances, hospital system delays, patient and family circumstances, and delays of admission or transfer to alternate levels of care. SJMC developed a list of reasons for each of these four categories that provided further detail on the potentially avoidable days. The following list represents a sampling of some specific circumstances associated with hospital system delays:

- Transfer to desired level of care
- Discharge planning
- Therapy or test initiation
- Nursing intervention
- Lack of weekend therapy, surgical, or diagnostic service

Figure 4 illustrates the prevalence of the top variance categories. As evidenced by this table, opportunities exist to address physician-related, hospital system, and patient and family circumstances.

CATEGORIES	PERCENTAGE
PHYSICIAN-RELATED CIRCUMSTANCES	34.2%
PATIENT AND FAMILY CIRCUMSTANCES	32.3%
HOSPITAL SYSTEM DELAY	27.7%
DELAY OF ADMISSION OR TRANSFER	5.8%

What does this mean? What accounted for the increase in potentially avoidable days? How can this information help when developing a strategic action plan? Before answering those questions, let’s review some additional data. The horizontal row in Figure 5 represents the top diagnoses by volume of admissions at SJMC. The vertical columns represent the variance categories.

	JOINTS	STROKE	PNEUMONIA	CHEST PAIN	CHF	AMI
PHYSICIAN-RELATED	73%	7.5%	31%	27%	32%	60%
HOSPITAL SYSTEM DELAY	18%	7.5%	9%	51%	12%	0%
ADMISSION OR TRANSFER DELAY	9%	22%	35%	0%	16%	20%
PATIENT/FAMILY CIRCUMSTANCES	0%	63%	25%	22%	40%	20%

Physician-related and patient/family circumstances were top variance categories overall, although the issues varied by diagnosis/procedure. For example, physician-related circumstances was the top category for joint replacements at 73% and for acute myocardial infarctions at 60%. Physician-related discharge delays and delays related to work-ups and starting therapy were the top variance reasons for patients who had joint replacements. Physician related discharge delays, and outpatient procedures being done on an inpatient basis, were the top variance reasons for patients who were admitted for an acute myocardial infarction.

Patient and family circumstances was the top variance reason for patients who were admitted because of a stroke, accounting for 63% of the variances; it was also responsible for 40% of the variances for patients admitted for heart failure. Physician-related circumstances were also a significant variance category for heart failure patients. Lack of adequate home caregiver, financial circumstances, family disagreement with the treatment plan, and patient refusal of the treatment or procedure were the top variance reasons for patients admitted because of a stroke. Patient refusal of the treatment or procedure, family disagreement with the treatment plan, physician-related discharge delays, and alternate site not being accepted by the patient’s physician were the top variance reasons for patients admitted for heart failure.

Delay of admission or transfer was the top variance category for patients admitted with pneumonia, at 35%. Physician-related circumstances were also high for this diagnosis. Transfer delays, physician-related discharge delays, and physician delays in ordering therapy were the top variance reasons for pneumonia.

Hospital system delay was the top category for patients admitted with chest pain, at 51% of the variances. Lack of weekend services and delay in test initiation were the top variance reasons for patients admitted with chest pain.

MEDICALLY NECESSARY VARIANCES

CareWebQI addresses medically necessary variances through the hospital efficiency ratio (HER), which reflects a calculation of care efficiency with a built-in adjustment for patient acuity that is based on medically necessary variances. Unlike potentially avoidable day variances, medically necessary variances represent additional hospital days, deviating from the goal length of stay, that are attributed to clinical conditions, complications, and comorbidities.

The HER is also a good indicator of the staff's ability to identify potentially avoidable days and accurately document the hospital stay. The HER ranged from 0.83 to 0.98 for the case study diagnoses and procedures and is reflective of what we commonly observe during the first few months of implementation as the staff learns how to apply and document against the Care Guidelines. As you will see in the "Length of Stay" metric narrative, SJMC falls into the moderately to loosely managed delivery-of-care categories. At best, for a moderately managed system, you would expect less than 15% of inpatient days to be potentially avoidable, which correlates to a 0.84 HER. Although medically necessary variances were identified, it is apparent through documentation audits of CareWebQI ad hoc reports that there are still gaps in documentation and variance tracking, especially with consideration being given to the increases in the staff's identification of potentially avoidable days.

LENGTH OF STAY

SJMC's utilization falls into the moderate to loosely managed care delivery categories. Milliman utilization benchmark models classify hospital inpatient care as well managed, moderately managed, or loosely managed in a population with an average case mix and severity ratio. The table in Figure 6 describes the criteria for the classifications and illustrates the degree of inpatient healthcare management efficiency benchmarks related to potentially avoidable days, potentially avoidable admissions, and average length of stay (ALOS).

The Medicare and commercial (BCBS, managed care, private pay) models from which the table is derived reflects average non-institutionalized Medicare and commercial populations (average case mix). Utilization is sensitive to the underlying demographic distribution. For example, a population whose case mix and/or severity ratio indicates a higher burden of illness will have a higher ALOS, but the potentially avoidable days and admissions will not be influenced by severity or demographics.

FIGURE 6: HOSPITAL INPATIENT DEGREE OF HEALTHCARE MANAGEMENT CRITERIA			
CRITERIA	WELL MANAGED	MODERATELY MANAGED	LOOSELY MANAGED
% POTENTIALLY AVOIDABLE ADMISSIONS (NOT DEPENDENT ON CASE MIX OR SEVERITY)	<5%	5%-15%	>15%
% POTENTIALLY AVOIDABLE DAYS (NOT DEPENDENT ON CASE MIX OR SEVERITY)	<15%	15%-30%	>30%
MEDICARE ALOS			
MEDICAL	3.93	4.85	5.37
SURGICAL	4.87	5.85	6.46
COMMERCIAL (MANAGED CARE, BCBS, PRIVATE PAY) ALOS			
MEDICAL	3.15	4.00	4.53
SURGICAL	3.63	4.62	5.28

The table in Figure 7 reflects SJHS's degree of healthcare management related to the case study diagnoses and procedures. There was some improvement in the lengths of stay for some of the case study diagnoses or procedures from the baseline, although in general utilization falls into the moderately to loosely managed categories.

READMISSIONS

Readmissions increased for the case study diagnoses and procedures from 4.4% of admissions to 6.0% of admissions, thus requiring investigation:

- The most significant increase occurred with patients admitted for chest pain and heart failure.
- Readmissions for the same Medicare Severity Diagnosis Related Group (MS-DRG) and ICD-9 were also the most significant with patients admitted for chest pain and heart failure. More than one-fourth of the patients admitted for a stroke were readmitted with the same MS-DRG and ICD-9.
- Of concern is the readmission rate for patients with heart failure who do not participate in the heart failure clinic activities that support outpatient management of the condition.
- There was a decrease in readmissions for patients admitted for joint replacements, two of whom were readmitted for surgical complications. Potentially avoidable days were not identified during these hospitalizations.

(See Figure 8 on page 8.)

FIGURE 7: SJMC HOSPITAL INPATIENT DEGREE OF HEALTHCARE MANAGEMENT

		COMMERCIAL			01/08 - 06/08		01/09 - 06/09	
VERSION	DESCRIPTION OF BASE DIAGNOSTIC RELATED GROUP	WM*	MM**	LM***	# ADMITS	ALOS	# ADMITS	ALOS
26 MS-DRGS		ALOS	ALOS	ALOS				
61-63	ACUTE ISCHEMIC STROKE W/ USE OF THROMBOLYTIC AGENT	4.18	5.09	5.75	4	6.00	12	4.33
64-66	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	3.71	4.37	4.91	77	5.06	98	4.08
67-68	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT	2.71	3.18	3.46	2	4.50	3	3.33
69	TRANSIENT ISCHEMIA	1.78	2.22	2.40	32	2.41	28	2.79
193-195	SIMPLE PNEUMONIA & PLEURISY	2.84	3.42	3.91	121	5.50	116	3.59
280-282	ACUTE MYOCARDIAL INFARCTION, DISCHARGED ALIVE	2.44	3.22	3.98	45	5.27	48	4.52
283-285	ACUTE MYOCARDIAL INFARCTION, EXPIRED	3.94	4.07	4.20	6	4.83	8	5.38
291-293	HEART FAILURE & SHOCK	3.24	4.09	4.64	98	4.93	104	5.69
311	ANGINA PECTORIS	1.26	1.57	1.78	5	1.00	6	2.67
312	SYNCOPE & COLLAPSE	1.69	2.11	2.29	26	3.27	30	2.67
313	CHEST PAIN	1.15	1.47	1.6	106	1.80	87	1.85
466-468	REVISION OF HIP OR KNEE REPLACEMENT	2.99	3.78	4.24	9	4.56	9	2.67
469-470	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	2.35	3.15	3.61	176	3.45	198	3.29
		MEDICARE			01/08 - 06/08		01/09 - 06/09	
VERSION	DESCRIPTION OF BASE DIAGNOSTIC RELATED GROUP	WM*	MM**	LM***	# ADMITS	ALOS	# ADMITS	ALOS
26 MS-DRGS		ALOS	ALOS	ALOS				
61-63	ACUTE ISCHEMIC STROKE W/ USE OF THROMBOLYTIC AGENT	5.04	6.3	6.84	6	5.17	6	5.83
64-66	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	4.20	4.85	5.32	69	5.16	75	4.89
67-68	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT	3.33	3.63	3.80	4	3.50	2	2.5
69	TRANSIENT ISCHEMIA	2.32	2.81	3.05	22	3.64	32	2.66
193-195	SIMPLE PNEUMONIA & PLEURISY	4.00	4.80	5.33	93	4.98	87	5.56
280-282	ACUTE MYOCARDIAL INFARCTION, DISCHARGED ALIVE	4.38	5.22	5.81	40	5.93	40	6.48
283-285	ACUTE MYOCARDIAL INFARCTION, EXPIRED	4.30	4.44	4.55	11	2.36	4	4.00
291-293	HEART FAILURE & SHOCK	3.56	4.59	5.18	109	4.69	120	4.77
311	ANGINA PECTORIS	1.79	2.21	2.51	4	3.50	2	2
312	SYNCOPE & COLLAPSE	2.27	2.86	3.15	28	2.43	23	3.17
313	CHEST PAIN	1.57	1.93	2.12	56	2.09	38	2.29
466-468	REVISION OF HIP OR KNEE REPLACEMENT	2.98	4.04	4.72	3****	6.67	6	5.50
469-470	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	2.62	3.47	4.00	139	4.14	144	4.12

*WM = WELL MANAGED
 **MM = MODERATELY MANAGED
 ***LM = LOOSELY MANAGED

**** ONE PATIENT HAD A 14-DAY LOS
 CELLS NOT HIGHLIGHTED HAD < 10 ADMISSIONS
 AND ARE NOT STATISTICALLY SIGNIFICANT

CONCLUSIONS AND INITIAL ACTION PLAN

The patient outcome data from *CareWebQI* provided SJHS with a road map and starting point to create an agenda for change, develop an action plan, and further investigate and address the issues that were identified during the study.

The Perfect Care committee is chaired by the COO and is comprised of key members/ stakeholders for the Perfect Care initiative through responsibilities related to physician training and education, nursing care, appropriate documentation to support accurate coding, quality, and risk management. The case study findings will provide important data to address two important committee goals: managing the length of acute care stays, and addressing practice pattern variations. The patient outcome data from the case study will be presented to the committee members with the intent to:

- Gain executive sponsorship related to the implementation of the evidence-based best practice *Care Guidelines*
- Get assistance from committee members to support and promote the processes and activities that are required to deliver evidence-based best practices

Data reflects that SJMC is moderately to loosely managed for those diagnoses and procedures studied, with significant opportunities to improve the delivery of care. When comparing the baseline data to the post-implementation data, one should not expect significant changes in lengths of stay at this point as the study time is short and the *Care Guidelines* have not been fully integrated into a team workflow of all point-of-care providers, including the floor nurses, physicians, physical therapists, care managers, social workers, etc.

- Chest pain average length of stay for the Medicare and commercial populations fell into the loosely managed category. Potentially avoidable days and readmissions were doubled from the case study baseline. A rapid improvement event (RIE) to specifically focus on the cardiac service line was initiated. Many of the patients were found to be more appropriate for an observation level of care, thus prompting development of an enhanced care management process. Weekend care management staff members are responsible for reviewing the clinical status of patients with chest pain in the emergency department in an effort to identify those who are appropriate for an observation level of care.
- Patient and family circumstances created discharge planning challenges for Medicare patients admitted with a stroke. A stroke program is currently in place. A care manager is assigned specifically to patients admitted with a stroke. The care manager and the stroke program manager make rounds daily, using the stroke guideline to address issues and facilitate safe and timely discharges.

FIGURE 8: READMISSIONS

READMISSIONS	11/07-06/08	% OF ADMITS	11/08-06/09	% OF ADMITS
AGGREGATE	73	4.4%	103	6.0%
AMI	8	6.0%	12	8.6%
CHEST PAIN	10	3.3%	20	7.6%
CHF	17	6.4%	33	12.5%
PNEUMONIA	10	4.2%	15	6.3%
STROKE	17	5.9%	17	5.3%
JOINTS	11	2.5%	6	1.3%

- Patient and family circumstances also created discharge planning challenges for patients admitted with heart failure. The identified potentially avoidable days and readmissions were significantly higher than the case study baseline. A heart failure clinic exists to support management on an outpatient basis, thus there may be opportunities to enhance the referral process to increase the referrals.
- Physician-related circumstances topped the potentially avoidable day category for patients who were admitted for major joint replacements. There were practice pattern variations among the various orthopedic surgeons, which can be communicated to the CMO for discussion at the Utilization Management (UM) committee meeting. The goal would be to establish an evidence-based best practice standard of care, using the *Care Guidelines* as the starting template/care pathway. This is also useful information for the Perfect Care committee, because one of its goals is to address practice pattern variations.
- The physician advisor role was incorporated into the new CMO position with care management reporting to this individual. One of the CMO's important functions is to serve as a liaison between the care managers and interface directly with the attending physician when necessary. In addition, the CMO is now armed with *CareWebQI* patient outcome data to present at the UM committee meetings.

The *Care Guidelines* "super-user" was promoted to the care manager supervisor, and is an outstanding resource for the staff—promoting the proactive anticipatory care management processes that are required to support evidence-based best practices. Efforts are underway to continue reaching out to the physicians and nursing coordinators to expand awareness and use of the *Care Guidelines*.

Additional initiatives include:

- Random audits of reviewer documentation to ensure accurate identification and tracking of variances and compliance with documentation standards
- Review of the current variance categories and reasons in order to ensure sufficient detail to identify potentially avoidable day issues

- Monthly review of utilization and patient outcome reports with the director of care management to develop corrective action plans for identified inefficiencies

The application provider interface (API) with the existing medical management software was generally available fourth quarter 2010. There will be one data entry point where all care management documentation can reside. Supplemental *Care Guidelines* and *CareWebQI* training and coaching will be provided to:

- Support the use of all of the inpatient guidelines
- Promote the consistent use of the guidelines during rounds to support proactive anticipatory care management
- Improve data entry and standardized documentation to ensure accurate reporting

SUMMARY COMMENTS

The compelling call for change is in the patient outcome data. Use of the *Care Guidelines* and *CareWebQI* supports an agenda for change to improve and achieve evidence-based best practice care processes. The best practices contained in the *Care Guidelines* may not be achievable immediately or perhaps at all without a well-orchestrated implementation approach. Years of experience have shown us that successful implementation of evidence-based best practices requires a comprehensive foundation. The appropriate use of the *Care Guidelines* can promote efficient, quality care through delivery of the right care to the right patient at the right time by the right provider.

There are several key factors common to efficient and quality-oriented hospitals that help them obtain their results:

1. Shared care delivery and recovery expectations among everyone on the patient care team—patient, family, physicians, caregivers, and support staff
2. An integrated, multidisciplinary, and proactive approach to care management
3. Mutual cooperation between the hospital and the physician community to facilitate care
4. Implementation of evidence-based best practices at the point of care as a way of doing business, rather than a transient program or initiative

Best practice hospitals implement evidence-based best practices by focusing on areas consistent with wider organizational goals, where streamlined efforts will result in the greatest benefit and where opportunities exist to change resource use and improve quality. *CareWebQI* provides useful patient progress information to support decisions related to potential reallocation of staff where opportunities have been identified. The infrastructure supporting care delivery and management related to the focus areas addresses organizational communication, staffing levels, care management

tools, information systems, training, documentation, clinical tools, and patient care resources.

Strong physician leadership is imperative in promoting a philosophy aligned with senior management's strategic goals. The role of the CMO will require continued strengthening to:

- Address and coach physicians regarding practice patterns
- Identify educational programs and opportunities to improve provider knowledge regarding best practices, resource management, and case management
- Promote physician cooperation and collaboration by offering clinical and managerial support
- Function as a clinical resource for providers and case managers

An integrated management team of physicians, staff nurses, case managers, social workers, and others will need to work collaboratively to develop and implement the strategic approach to use evidence-based clinical best practices. A strong medical community infrastructure must support timely access to appropriate alternatives to acute care. On-site alternate care evaluation teams and care managers must work directly with hospital staff to identify opportunities and facilitate discharge and transfer.

Efficient and quality-oriented hospitals use effective tracking, measurement, analysis, and reporting systems that accurately reflect quality outcome, utilization, and cost measures through integration of financial and clinical data.

Medically necessary and potentially avoidable variations from the optimal recovery course are identified as they occur. The *CareWebQI* reports are clear, simple, and include measures that are actionable. The reports are used to measure progress and identify opportunities for improvement. Constant feedback is obtained and used to optimize data collection processes and report quality.

The best part of the case study? Not only does the data provide SJMC with an agenda for change, but the *Care Guidelines* and *CareWebQI* implementation experience can be used as a road map for the SJHS as it rolls out the products at the other ministries.

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