

## Collaborative Study Examines Quality of Managed Care

Is managed care having an impact on the initial treatment, follow-up care and quality of services that Medicare acute myocardial infarction (AMI) patients receive? Collaborative projects involving the Health Care Financing Administration (HCFA), the General Accounting Office (GAO), and the Harvard AMI Patient Outcomes Research Team (PORT) are studying these issues.

“Mutual cooperation is the future for PROs,” said Linda Mosedale, HCFA Central Office, Office of Clinical Standards and Quality. “This project involves three parties with three perspectives and benefits for everyone.”

The collaborative studies use the national Cooperative Cardiovascular

Project (CCP) database, which has been expanded to include Medicare managed-care AMI patients discharged from hospitals between November 1993 and July 1995.

“When you invest as much time and effort as HCFA has in creating a database of this quality, it’s useful to think about how that might be multiplied through the efforts of other people,” said Eric Peterson, GAO analyst for the managed-care study.

### HCFA's Perspective

HCFA used Medicare claims data to identify AMI patients for the national hospital-specific CCP sample. Since hospitals often do not file claims with Medicare for services covered by risk

plans, risk-plan enrollees were not included in the CCP database. These AMI patients needed to be identified through their health maintenance organizations (HMOs).

HCFA and GAO collaborated to add these managed-care patients to the CCP national database. As a congressional research agency, GAO has the authority to request health-research data from insurance companies. The agency had been searching for an established database to use in a comparison of managed care and fee-for-service health care.

GAO worked with HMOs that enrolled 1,000 or more Medicare beneficiaries to

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## Internal Steering Committee Update

Important CCP issues affecting peer review organizations (PROs) are receiving priority from the CCP Internal Steering Committee. The committee has created three workgroups to research the primary concerns of PROs and make recommendations for action.

The CCP Internal Steering Committee is composed of representatives from the PRO community and HCFA central and regional offices. The Keystone Peer Review Organization (KePRO) oversees the committee’s activities as part of a HCFA special project, “CCP Committee Collaborations.”

KePRO’s 1996 survey identified issues that PROs wanted an internal committee to address:

- future direction/external collaboration;
- data analysis/presentation package revisions; and
- resampling/abstraction modification.

### Future Direction/External Collaboration

To expand collaborative efforts for the future direction of CCP, an Internal Steering Committee workgroup is organizing the CCP Liaison Group. This external group brings together about 40 national organizations concerned with AMI prevention and treatment.

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# Pilot Remeasurement Data Shows Improvement in Quality of Care

Improvement in the quality of AMI care is evident in the four CCP pilot states, as indicated by CCP remeasurement statistics recently released by HCFA.

In particular, analyses using CCP quality indicators revealed statistically significant improvement from the original baseline sample. The decrease in the mortality rate also proved significant.

While the CCP pilot results document that the quality of care for Medicare AMI patients improved from the time of the baseline sample to that of the follow-up sample, no evidence is available to show that CCP alone caused these improvements. Quality improvement efforts such as dissemination of clinical trial results, professional society educational activities, commercially sponsored programs, and other national initiatives could be contributing factors in the improved statistics.

## Background of the Pilot Program

In 1992, HCFA introduced CCP to PROs and hospitals as a pilot project in four states: Alabama, Connecticut, Iowa, and Wisconsin. PROs in these states abstracted data from medical records of Medicare patients who were discharged with a principal diagnosis of AMI from June 1992 through February 1993. Records from January and February 1993 were used for feedback but were excluded from CCP data analyses because the sampling proved incomplete.

The pilot PROs evaluated the AMI data using CCP quality indicators developed from nationally accepted clinical practice guidelines with input from the 1992 CCP National Steering Committee.

The results of the pilot-state baseline data, released in 1994, confirmed that opportunities to improve AMI care existed for all quality indicators.

The four pilot PROs shared these results during feedback sessions with hospitals in their states. Of 390 acute-care hospitals

**Table 1 – Summary Statistics**

Characteristic	Baseline	Follow-up
# Patients with confirmed AMIs	10,153	6,333
Median age	75	75.5
% Female	47	48
% Black	6	6
% Age < 65	6	6
Median length of stay (days)	8	6

**Table 2 – Risk Factor Rates**

Risk Factors	Baseline %	Follow-up %
Previous MI	27	30
Hypertension	51	63
History of stroke	11	16
History of CHF	17	22
Diabetes	28	30
COPD	16	19
Current smoker	16	16
Anterior MI	n/a	41
Subendocardial MI	n/a	43
Serum albumin < 3gm/dl	3	4
BUN > 30 mg/dl	16	17
<i>MI = myocardial infarction                      COPD = chronic obstructive pulmonary disease</i>		
<i>CHF = congestive heart failure                      BUN = blood urea nitrogen</i>		

represented in the baseline sample, 379 received CCP feedback.

Hospitals in the pilot states were encouraged to use this feedback to initiate quality improvement activities addressing AMI treatment. Seventy-three percent of these hospitals submitted improvement plans to the pilot-state PROs.

To evaluate the effects of these improvement plans, HCFA collected a follow-up sample of AMI cases in the pilot states, using records for Medicare AMI patients discharged between August 1, 1995, and November 30, 1995. This timeframe began six months after baseline feedback sessions were completed. Clinical Data Abstraction Centers (CDACs) abstracted the data for this remeasurement sample.

## Comparison of Data Samples

*Demographics (see Table 1):*

The follow-up sample appears to represent a slightly older population that

includes more women. When only persons 65 and older are considered, the percentage of women rises to 49.8 percent in the follow-up sample.

These results demonstrate that ischemic heart disease is very much a women's health problem for the Medicare population in the pilot states. If the trend shown by these samples continues, the gender distribution will reach 50/50 in 1997 for confirmed AMIs in the elderly.

*Risk Factors (see Table 2):*

The data suggest that the follow-up sample does not represent a less sick population. This observation is meaningful when considering the improved outcomes in the follow-up sample.

Both samples show that Medicare AMI patients have significant comorbidity, perhaps slightly higher in the follow-up cases than in the baseline. Diabetes

*Pilot... cont'd on next page*

mellitus was present in nearly 30 percent of patients in both samples. More than 63 percent of patients in the follow-up sample had a history of hypertension, compared to 51 percent in the baseline sample.

*Quality Indicators (see Table 3):*

Improvement associated with CCP quality indicators appears very consistent. The increase in the use of beta blockers is particularly significant.

All indicators show definite improvement in both eligible and ideal categories, with one exception: the indicator for reperfusion in ideal candidates (see page 12 for an explanation of eligible and ideal categories). However, the timing of thrombolytic administration did improve significantly; in ideal candidates, the median time from arrival to administration decreased from 56 to 41 minutes.

*Invasive Procedures (see Table 4):*

Invasive procedures differed significantly only in the rate of angioplasty, which increased from 11.5 to 16.9 percent.

*Changes in Mortality (see Table 5):*

Both short-term and long-term mortality rates improved significantly, with a 10 percent relative reduction for all measures of mortality.

**Other Findings**

Length of stay for Medicare AMI patients decreased from the baseline to the follow-up period. For patients with confirmed AMIs who were not transferred and did not die in the hospital, the mean length of stay decreased from 9.8 to 7.5 days and the median decreased from 8 to 6 days.

The decreased length of stay may be due in part to non-CCP forces, such as evolving practice patterns, the current emphasis on controlling costs in the medical community, and the influence of managed care. However, CCP quality improvement activities such as critical pathways frequently promote resource conservation as well as quality improvement.

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**Table 3 – Quality Indicator Rates**

Indicator	Baseline %	Follow-up %	Difference
<b>Eligible Patients – Admission Indicators</b>			
Reperfusion	19.2	21.5	2.3
Aspirin during stay	75.7	83.8	8.1
<b>Eligible Patients – Discharge Indicators</b>			
Aspirin at discharge	65.8	76.7	10.8
Beta blockers	31.8	49.7	17.9
ACE inhibitors (low LVEF)	47.8	59.9	12.2
Avoidance of Ca channel blockers (low LVEF)	69.2	78.0	8.8
<b>Ideal Patients – Admission Indicators</b>			
Reperfusion	68.7	68.2	-0.5
Aspirin during stay	83.6	90.3	6.7
Thrombolytics in 1 hour	57.1	70.8	13.7
<b>Ideal Patients – Discharge Indicators</b>			
Aspirin at discharge	76.9	86.5	9.5
Beta blockers	47.5	68.4	20.9
ACE inhibitors (low LVEF)	48.5	62.2	13.7
Avoidance of Ca channel blockers (low LVEF)	79.6	90.0	10.3
Smoking cessation advice	28.6	41.0	12.4
<i>Results are significant with p-values &lt; 0.001 for all indicators except reperfusion for ideal patients, where the p-value &gt; 0.1</i>			

**Table 4 – Invasive Procedure Rates**

Procedure	Baseline %	Follow-up %	Difference
Angioplasty	11.5	16.9	5.4
Cardiac catheterization	37.5	38.5	1.0
CABG	8.5	8.6	0.1
<i>Rates for index hospitalization only</i>			
<i>Angioplasty p-value &lt; 0.001, other p-values &lt; 0.1</i>			
<i>CABG = coronary artery bypass graft</i>			

**Table 5 – Mortality Rates**

Measure	Baseline %	Follow-up %	Difference
Hospital mortality	14.6	12.8	-1.8
30-day mortality	18.9	17.1	-1.8
1-year mortality	32.3	29.6	-2.7
<i>All results are significant with p-values &lt; 0.005</i>			

**Data Abstraction and Analysis Methods**

HCFA identified cases for the pilot-state samples using hospital claims data located in the Medicare National Claims History File. This database includes all claims submitted for Medicare patients who were treated under fee-for-service plans, but does not include Medicare risk-plan patients.

Both the baseline and follow-up samples included patients with an ICD-9-CM principal diagnosis of 410 (AMI), excluding those with a fifth digit of 2, which designates a subsequent episode of care for a previous AMI.

The sample included primary admissions for AMI as well as transfers from other hospitals. As a result, the sample includes

## Internal Steering... cont'd from front page

The CCP Liaison Group will work with HCFA and PROs to develop an effective message about CCP that members can share with their organizations. Members include representatives from physician specialty societies, nursing groups, pharmaceutical societies, consumer organizations, and health-care professional societies concentrating on the needs of specific ethnic groups.

The Internal Steering Committee will host a one-day seminar for the CCP Liaison Group in November. The committee's goal is not only to share CCP data and analyses, but also to receive input from attendees for future CCP activities. Topics tentatively planned for seminar breakout sessions include managed care, quality improvement, research, special populations, and database integration with other AMI studies.

## Data Analysis/Presentation Package Revisions

The Analysis/Presentation workgroup is developing a standard software package for PRO analysis and feedback of CCP remeasurement data.

Twenty PROs representing 24 states responded to a recent survey by the workgroup. The respondents requested several specific features:

- both written report and graphics presentation sections;
- baseline indicators similar to those used in the initial sampling, in order to compare baseline and follow-up data;
- reports on individual hospitals; and
- software compatible with a word-processing application currently available to PROs.

Most of the responding PROs used the original HCFA presentation package for initial CCP feedback, modifying it to fit individual state needs. These PROs requested a similar package for their remeasurement process.

The Analysis/Presentation workgroup sent the survey results to the full Internal Steering Committee. During their June meeting, members unanimously agreed to give this issue high priority. Plans are underway at HCFA Central Office to develop a standard data remeasurement presentation package for release to PROs.

## Resampling/Abstraction Modification

The Resampling/Abstraction Modification workgroup has reviewed the CCP data set to determine areas for potential change. Thomas Marciniak, MD, physician consultant for HCFA Central Office, sent a draft of proposed changes to CDACs for feedback. The draft included recommendations from the workgroup.

The abstraction changes will affect all CCP abstractions beginning in late 1997, including national follow-up samples not yet abstracted and the third national random sample planned by HCFA for 1998. Changes will be compatible with previous abstractions, adding variables or categories in order to make new classifications possible without eliminating older ones. Changes will also be revenue neutral — deleting variables that analysts have not used, to avoid significant increases in abstraction time.

The workgroup cited several resources used when considering abstraction changes, including the 1996 American College of Cardiology (ACC)/American Heart Association (AHA) AMI guideline revisions and the ACC standard database.

## CCP On The Web: An Update

*National Spotlight*, the CCP Reporting Web site, features regularly updated information about CCP. The site contains abridged articles from *National Perspective* as well as copies of back issues that can be downloaded using Adobe Acrobat software.

In addition, *National Spotlight* presents CCP-related information not available in *National Perspective*. For instance, the "CCP In Your State" section includes summaries of CCP activities by PROs around the country. The Web site also provides links to PRO and CCP-related Web sites.

The address for *National Spotlight* is [www.usccp.org](http://www.usccp.org). However, the CCP Reporting Project is not the only Web source for CCP. Several PROs promote statewide CCP efforts on their own Web sites:

**Alabama Quality Assurance Foundation (AQAF)** — [www.aqaf.com](http://www.aqaf.com)

AQAF's Web site summarizes CCP in Alabama, including the state's role in the CCP pilot study. The summary can be found under "Health Care Quality Improvement Projects" on the main page.

**Arkansas Foundation for Medical Care (AFMC)** — [amanda.uams.edu/AFMC](http://amanda.uams.edu/AFMC)

The CCP page on AFMC's site presents a detailed, clinical explanation of CCP goals, both national and statewide. The "Current Projects" section on the main page leads to the CCP article.

**Delmarva Foundation for Medical Care (DFMC)** — [www.dfmc.org](http://www.dfmc.org)

DFMC's Web site contains issues of "CCP Update" that can be downloaded in MS Word format. Editions for both Maryland and the District of Columbia are available. The newsletter files appear under the "Health Care Quality Improvement Projects" section.

**IPRO** — [www.ipro.org](http://www.ipro.org)

The New York PRO's Web site contains a brief summary of CCP in New York, geared toward medical professionals. The "study abstracts" for projects such as CCP are located in the "Health Care Quality Improvement Studies" section, which is under "Professional Connection" on the main page.

*CCP on the Web... cont'd on next page*



## Special Study in Brief

### Fee-for-Service vs. Managed Care

#### Lead Organizations:

HCFA, General Accounting Office (GAO), Harvard AMI PORT

#### Main Contacts:

HCFA Central Office: Linda Mosedale  
GAO: Eric Peterson  
AMI PORT: Barbara McNeil, MD, PhD

#### Summary:

HCFA and GAO are working together to include Medicare managed-care beneficiaries in the national, hospital-specific CCP database.

#### Future Actions:

HCFA will analyze the expanded database. GAO will compare AMI care under fee-for-service with care covered by managed-care risk plans. GAO will also analyze AMI care in regions with high managed-care penetration. Harvard AMI PORT will use the expanded CCP database in a study of AMI care guidelines.

*CCP on the Web... cont'd from previous page*

#### Quality Improvement Professional Research Organization, Inc.

— [net-dial.caribe.net/~qipro~qipro.html](http://net-dial.caribe.net/~qipro~qipro.html)  
This Web site from the Puerto Rico PRO includes a newsletter article describing both national and local CCP efforts. The article, called “CCP - AMI Briefing,” is part of the “Professional” section.

#### Texas Medical Foundation — [www.tmf.org](http://www.tmf.org)

This overview of CCP in Texas uses tables and graphs to illustrate statewide statistics. The multi-page presentation, written for a hospital audience, appears under the “HCQIP” section found on the main page.

The CCP Reporting Project is interested in any other CCP-related resources available on the Web and may include these sites in future publications or *National Spotlight*. Please review the contact information on page 12 when submitting Web site information.

### *Collaborative Study... cont'd from front page*

compile a listing of their Medicare AMI patients. Using this list, HCFA and GAO deleted patient records already included in the CCP database. Clinical Data Abstraction Centers (CDACs) requested the remaining records from the appropriate hospitals and abstracted the data using the original national CCP methodology.

The HCFA/GAO collaboration identified 13,210 AMI managed-care patient records for the database expansion. Of these records, nearly 75 percent (9,869 cases) had not previously appeared in the national CCP database, and were added to the sample.

### GAO's Perspective

For GAO's managed-care research, the agency required an empirical database with clinically well-grounded data on a serious medical condition that affects a large number of people. The national CCP database, which contained approximately 224,000 AMI patient records, met these criteria.

The CCP database has made it possible for GAO to conduct a two-part study addressing managed care. The first part of the study focuses on initial AMI treatment. Using CCP quality indicator data, GAO will compare the initial treatment of managed-care AMI patients to the treatment received by fee-for-service patients.

GAO will also analyze CCP data to assess the impact of managed care on the health-care marketplace as a whole. The agency will compare the practice patterns of physicians and hospitals in geographic areas with little or no managed-care penetration to patterns of care in areas of the country where managed care is predominant.

The second part of the GAO study examines AMI patient outcomes. GAO is collaborating with the Harvard AMI PORT to study the use of invasive cardiac procedures and the long-term effects of post-AMI care.

For this outcomes study, GAO randomly selected over 600 managed-care AMI patients residing in the seven states used for Harvard's AMI PORT study. GAO surveyed these patients 12 to 18 months after discharge from the hospital to determine the details of their post-AMI care and the extent to which they still had cardiac symptoms.

GAO adapted the AMI PORT survey materials to identify the specialties of patients' primary-care physicians. This allows GAO to compare patterns of care within and across physician specialty lines.

### Harvard AMI PORT's Perspective

The Harvard AMI Patient Outcomes Research Team (PORT) will use the expanded CCP database in continuing research of post-AMI revascularization procedures. The purpose of this project is to validate national guidelines for the use of angiography, percutaneous transluminal coronary angioplasty (PTCA) and coronary artery bypass graft (CABG) surgery.

Harvard's AMI PORT studies the relationship between adherence to AMI guidelines and patient outcomes. According to the Agency for Health Care Policy and Research, the study results will lead to a comparison of guidelines created from a cost-effectiveness viewpoint with guidelines primarily created from a clinical perspective.

Harvard's AMI PORT ultimately will apply the results of this study to develop new empirical revascularization procedure guidelines and to analyze trends in AMI care.

A bibliography of regional and national articles about CCP is now available on *National Spotlight*, CCP's Web site – [www.usccp.org](http://www.usccp.org).

# Regional Perspectives: PROs Encourage Collaboration

“Regional Perspectives” is a recurring feature in *National Perspective*. Each issue profiles several PROs to illustrate various approaches to CCP.

The PROs featured in this issue represent successful outreach methods used during three aspects of CCP:

- Preparation: When CCP was postponed in Minnesota, **Stratis Health, Inc.** collaborated with key groups and a network of hospital liaisons to build support for the project.
- Feedback: **Virginia Health Quality Center**, in collaboration with hospitals and quality improvement experts, assembled a Quality Improvement Tool Kit for enhanced hospital feedback and is testing the results.
- Remeasurement: **Peer Review Systems, Inc.** developed an electronically scannable form for data collection and encouraged Ohio hospitals to perform their own post-improvement plan remeasurement.

## Ohio PRO Devises Streamlined Data Collection Tool



National CCP efforts currently are focusing on quality indicator performance remeasurement. **Peer Review Systems, Inc. (PRS)**, the Ohio PRO, encouraged hospitals in its state to collect their own remeasurement data.

PRS determined that self-collection provides hospitals with added benefits: the opportunity to identify and verify the processes of AMI care and a method for evaluating the accuracy of their medical record documentation.

To encourage hospital participation, PRS developed a streamlined, electronically scannable data collection tool. The tool

captured data for ideal and eligible candidates in eight of ten CCP quality indicators. PRS did not include the use of angiotensin converting enzyme inhibitors or avoidance of calcium channel blockers in the tool's design.

Data collection for CCP remeasurement is taking place between January and September of 1997. For hospitals that choose to use the tool, PRS is providing training sessions either by teleconference or in face-to-face meetings. These sessions include explanation of the collection process and definition of the data elements.

Hospitals are sending the completed forms to PRS, which scans and analyzes the

resulting data. PRS sends quarterly reports to hospitals and discusses performance results with key staff members at each hospital.

In addition to using the tool to obtain data on Medicare beneficiaries, hospitals wanted to measure CCP quality indicator performance for all AMI patients. PRS adapted the instrument so that hospitals could apply it to all AMI patient records, yet extract Medicare patient-specific data for CCP.

Ohio's data collection tool, designed to enhance CCP remeasurement, illustrates PRS's commitment to facilitate changes that improve health care by assisting and collaborating with Ohio hospitals.

## Minnesota's CCP Previews Lead to Success With Hospitals



In Minnesota, unique circumstances provided **Stratis Health, Inc.**, the state's PRO, with an extra year to prepare for CCP. The PRO laid groundwork for CCP during the delay by establishing an ongoing network of hospital liaisons and physicians, and by enlisting help from a statewide health-care quality group.

When national CCP data collection began, 37 Minnesota hospitals were already involved in a federally funded AMI research project administered by the Minnesota Clinical Comparison and Assessment Program, the quality improvement program of the Healthcare Education Research Foundation (HERF).

HERF collaborated with the Harvard AMI PORT to investigate the use of AMI practice guidelines. HCFA postponed CCP in Minnesota to avoid potential impact on the HERF/Harvard AMI study.

To generate interest in CCP during the interim, Stratis Health asked administrators from hospitals throughout the state to assign CCP liaisons. The PRO recommended that hospitals select liaisons who were actively involved with cardiac care teams. Liaisons also needed to understand quality improvement structures within their hospitals and have contact with key people who could affect change in AMI care.

Liaisons from many Minnesota hospitals attended CCP preview meetings. Minnesota Healthcare Quality Professionals worked with Stratis Health to share an early introduction to CCP with over 50 hospitals during 12 meetings across the state. The PRO used feedback from these meetings to plan for effective interaction with hospitals during the quality improvement phase of CCP.

These strategic previews of CCP inspired many hospitals to develop quality improvement teams. These teams examined CCP quality indicators even before the hospitals received hospital-specific data from Stratis Health.

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# Virginia's Enhanced Feedback Produces Desired Results



During the feedback phase of CCP, PROs provided hospitals with AMI data specific to their facilities.

**Virginia Health Quality Center (VHQC)** wanted to take feedback one step further. What would happen if PROs gave hospitals enhanced feedback? Would this improve hospitals' participation in quality improvement projects?

To answer these questions, the Virginia PRO built a comparative study around CCP feedback sessions. VHQC assigned half of the participating Virginia hospitals to a standard intervention program and the other half to an enhanced intervention program.

## Tool Kit Contents

VHQC's Quality Improvement Tool Kit included these materials:

- ◆ General quality improvement theory and techniques
  - Benchmarking
  - Critical pathways in the clinical setting
  - Use of clinical guidelines
- ◆ Quality improvement tools related to early management of AMI
  - Examples:
    - AMI improvement plan
    - AMI management critical pathway
    - Protocols/policies/procedures related to AMI
    - Standing orders/checklists to facilitate AMI management
    - Nursing support materials such as a thrombolytic candidate assessment form
    - Data collection record of door-to-drug times
    - Variance review form
    - AMI outcomes assessment
  - ◆ AMI patient referral and transfer forms
  - ◆ Patient teaching/outreach related to AMI
    - Examples:
      - Patient educational materials related to smoking cessation counseling
      - Patient heart attack awareness/cardiac rehabilitation materials
      - Educational tools available online

Hospitals in both groups received CCP data and guidelines for the development of hospital-specific improvement plans. VHQC also developed and distributed a simplified data collection tool to all hospitals.

The major difference in the two approaches to feedback was the distribution of the Quality Improvement Tool Kit to those hospitals in the enhanced intervention group. The kit incorporated both the methodology to identify specific AMI quality improvement opportunities (a quality improvement needs assessment) and the tools to implement resultant quality improvement efforts.

VHQC, working with its cardiology study group, developed the kit based on responses to two questionnaires mailed to all 90 collaborating hospitals. The first questionnaire sought information specifically related to hospitals' internal systems for the early management of AMI patients. The second asked hospitals to specify the information and tools they were already using, as well as those that would be most helpful to them in improving the quality of care at their individual facilities.


The contents of the kit progressed from general discussions of quality improvement topics to specific examples of effective quality improvement tools (*see box at left*). The Juran Institute acted as consultant for the general quality improvement portion of the effort.

In addition to giving the tool kit to the enhanced intervention group, VHQC conducted panel discussions at each of the enhanced feedback conferences. Cardiologists, nurses, and other cardiac care experts formed the panels, which provided networking opportunities for the participants.

Preliminary evaluation by VHQC shows promising results. As of July 1997, 73 percent of the enhanced group had implemented improvement plans. Seventy-seven percent of these had completed self-remeasurement for the CCP quality indicators. In contrast, 78 percent in the standard program had implemented improvement plans, but only 50

percent of these had completed self-remeasurement.


More importantly, of the hospitals that reported self-remeasurement data to VHQC, 100 percent of hospitals from the enhanced intervention group reported improvement for at least one CCP quality indicator, versus 87 percent from the standard intervention group.

Later this year, VHQC will analyze and report the results of its own remeasurement data collection by comparing the performance of each program to CCP quality indicators. For example, VHQC will compare percentages of eligible and ideal patients receiving thrombolytic agents and aspirin. Approximately 5,000 records are being abstracted from a rolling eight-month sampling period from July 1996 through May 1997. VHQC is using this innovative approach to feedback in other projects including a current study on congestive heart failure. 

*Minnesota... cont'd from page 6*

To maintain enthusiasm for CCP in Minnesota, Stratis Health is establishing several networking opportunities for hospitals through conference calls. By sharing success stories with other cardiac care professionals during these calls, hospital staff can discover additional solutions that work for their facilities.

Stratis Health is currently collaborating with the HERF/Harvard AMI project, which is in its remeasurement feedback phase. Representatives from the PRO and the project team are visiting hospitals together to present remeasurement results and explain how they relate to CCP quality indicators.

In addition, Stratis Health is taking a unique approach to CCP remeasurement. Instead of waiting for claims data, the PRO asked hospitals to perform their own concurrent case selection. This approach may speed up the remeasurement process by three or four months and provides the PRO with more current CCP information from hospitals. The remeasurement analysis covers all Medicare AMI discharges from May through June of 1997, an estimated 700 cases. 

# Hospital Perspectives: CCP Success Stories

Hospitals across the country work with PROs to develop and implement CCP improvement plans. Many hospitals discover innovative ways to improve the quality of AMI care in their facilities.

“Hospital Perspectives” spotlights three hospitals of differing sizes from different geographical areas. Each hospital’s experience led to a successful improvement plan, as described in the following profiles.

## Small Colorado Hospital Produces Sizeable Improvements

Tucked away in a corner of Colorado is a seventy-bed hospital that didn’t let its size get in the way of improving care for AMI patients. **Colorado Foundation for Medical Care (CFMC)**, the Colorado PRO, evaluated the improvement plan submitted by this facility and deemed it one of the six best CCP improvement plans in the state.

“Here is this small rural hospital with an improvement plan for AMI care that underscored the potential for any facility to improve its AMI care,” said Debbie Ralston, CCP project manager at CFMC. “The hospital’s entire AMI population averages 10 patients a quarter.”

Although the hospital is licensed for 70 beds, only 32 beds have been in recent use. Despite the size of the facility, the rural setting, and the patient population, the hospital integrated sophisticated quality improvement techniques and stressed staff involvement in its CCP project.

The hospital launched its efforts prior to receiving CCP feedback by forming a multidisciplinary team of professionals whose purpose was to improve care for patients with chest pain. The team incorporated staff suggestions as it compiled standards of care and developed systems to collect and disseminate data.

After receiving CCP feedback from CFMC in June of 1996, the hospital modified its project to incorporate CCP quality indicators. It chose to focus on use and timing of aspirin, timing of thrombolytics, beta blockers at discharge, and smoking cessation advice and counseling. The hospital measured data on a quarterly basis.

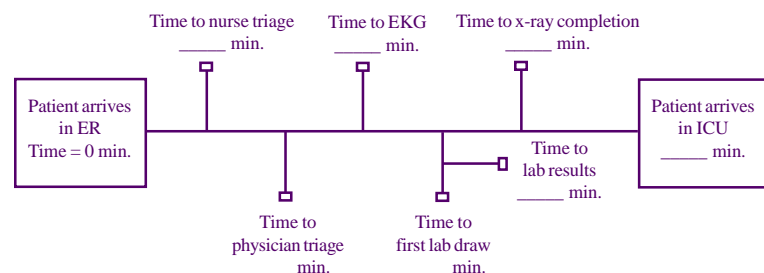
The team presented the collected data to medical and hospital staff so they could

modify the improvement plan on a continuous basis. For instance, the team analyzed effectiveness of patient education and shared this with the intensive care unit staff. This resulted in a brainstorming session on the problem of high anxiety levels associated with patients during the first few days of admission following AMI. Since anxiety interferes with patients’ comprehension of important information, the staff recommended giving educational books to patients and families on arrival to

radiology department to compare these results to those of other facilities and look for ways to improve.

Another process examined by the team was door-to-needle time for thrombolytics. The team evaluated whether reducing the time to physician triage would affect delivery time of thrombolytics. The team concluded that even though the hospital reduced the time to physician triage, this didn’t affect delivery time of thrombolytics.

### AMI Patients: Times To Tasks Accomplished



the intensive care unit. The staff documented this action on special color-coded education sheets in patients’ charts.

In addition to working closely with staff, the multidisciplinary team based its project on the plan-do-study-act method advocated by quality improvement experts. As part of this model, the team divided processes into small parts that could be studied and modified. By doing this, the team identified whether areas for improvement existed.

For instance, the team separated patients’ stays into segments such as time to nurse triage, time to first EKG, and time to x-ray completion (see diagram). The team members then studied the results of each step and suggested ways to improve. For example, after analyzing the time it took to complete x-rays, the team encouraged the

By collaborating with the hospital staff and using continuous quality improvement methods, this small hospital was able to:

- create a skills checklist for nurses for administering thrombolytics;
- develop a quick reference for commonly used thrombolytics;
- post a chart with the preferences of medical staff for thrombolytics;
- provide posters with flow sheets and graphs on key performance parameters; and
- increase the number of drug information videos for patients.

The hospital showed improvement in all of the CCP quality indicators on which it focused. *Debbie Ralston*



# Medium-sized Florida Hospital Shows Big Improvement

On the beautiful east coast of Florida stands a medium-sized urban hospital of 210 beds doing its part to improve the care of AMI patients. After **Florida Medical Quality Assurance, Inc.** (the Florida PRO) presented the hospital with CCP hospital-specific and comparison feedback in July

of 1996, the hospital immediately developed an improvement plan.

The hospital began its effort by forming a multidisciplinary committee made up of cardiologists and staff from the emergency department and coronary care unit. The

quality indicators that the hospital focused on were use and timing of aspirin, aspirin at discharge, and smoking cessation advice and counseling. The committee's primary function was to coordinate the project, monitor data collection, and disseminate feedback to staff members.

Quality Indicators (in percent)	Baseline Results	1996 3rd Qtr.	1996 4th Qtr.	1997 1st Qtr.
Timing of aspirin (patient to receive first dose on day 1)	63	60	100	100
Daily aspirin during hospitalization	68	96	100	100
Aspirin prescribed at discharge	63	83	93	90
Smoking cessation advice and counseling	***	100	100	100

\*\*\* Baseline measurement shows no documentation of smoking cessation advice and counseling.  
Demonstrated improvements from baseline through first quarter 1997 remeasurement on four quality indicators.

Recognizing that physician involvement was a critical component to the success of the project, the committee sent a letter to the medical staff informing them about the project and quality indicators. The committee asked physicians to use the progress notes in patients' charts to document any exceptions to the applications of quality indicators. To ensure the

*Florida... cont'd on page 10*

# Large Maryland Hospital Makes Notable Difference

**Delmarva Foundation for Medical Care, Inc. (DFMC)** sent out a call to Maryland and Washington, D.C. hospitals for CCP improvement plans. A large suburban hospital in Maryland was among the collaborators that responded.

This hospital used its weekly Quality Rounds as the setting for the baseline data presentation. The audience of 100 included internists, cardiologists and other physicians; nurses, care managers and other ancillary staff; and quality assurance and utilization management and staff. The hospital distributed facility-specific educational packets in advance.

Some of the results surprised the staff of the facility. Lower than expected rates on

smoking cessation counseling, for example, and four other quality indicators, prompted an immediate call for action. Staff members from various disciplines developed improvement plans that included updating the hospital's myocardial infarction and emergency department pathways. They changed the organizational structure to increase the flow of information to management. The hospital also conducted its own remeasurement to quantify short-term improvement and address clinical questions that grew out of the baseline data presentation. The results of remeasurement showed improvement in all indicators.

Since the hospital offered classes and counseling for smokers, the low perfor-

mance on this quality indicator suggested lack of documentation and patient resistance. The hospital added smoking cessation counseling to the AMI pathway. Similar revisions to emergency department protocol included the assignment of a case manager to provide assistance to the Chest Pain Evaluation Unit for patients not being admitted.

The hospital is testing a major computerization pilot on the cardiac medicine nursing unit. In addition, the facility is computerizing its critical pathways. This will improve the pathways' usefulness by incorporating them with the newly implemented patient care modules, which are also being automated.

*Maryland... cont'd on page 10*

## DFMC Improvement Plan Worksheet

Quality Indicators	Possible Improvement Activities					
	Created standing orders, checklists and/or pathways (MM/DD/YY)	Revised standing orders, checklists and/or pathways (MM/DD/YY)	Brochures, Newsletters, Video Tape (MM/DD/YY)	Staff Educations (MM/DD/YY)	Continuous Monitoring (MM/DD/YY)	Other Specify Below (MM/DD/YY)
ASA during stay						
ASA on day 1						
Reperfusion						
Thrombolytics 1 hour						
ACE for low LVEF						
ASA @ discharge						
Beta blockers @ discharge						
No Ca blockers for low LVEF						
Smoking cessation advice						

# Four PROs Unite to Study Hospital “Best Practices”

Four PROs are working together to compile and analyze exemplary improvement plans developed by hospitals nationwide as part of the continuous quality improvement (CQI) process for CCP.

This HCFA special study, “Collection of AMI Intervention Strategies,” will identify the “best practices” of hospitals – how they plan, design, and implement activities associated with success.

The PRO community has received many requests from hospitals for assistance with CQI efforts. This project will produce a resource tool that not only describes CQI processes but illustrates which ones achieved desired process results.

Each HCFA region is represented by one of four PROs leading the study: Michigan Peer Review Organization, Kansas City region; Oklahoma Foundation for Medical Quality, Dallas region; Oregon Medical Professional Review Organization, Seattle region; and West Virginia Medical Institute, Inc., Boston region.

The project team asked every PRO to select CCP improvement plans from six hospitals, using guidelines the team developed. The guidelines suggested that PROs consider each hospital’s CQI capacity, improvement plan structure, and data indicating improvement.

PROs submitted 240 improvement plans from a cross-section of hospitals ranging from large teaching facilities to small rural hospitals. Some plans addressed all ten CCP quality indicators, and others focused on a select few. As a result, the project team collected an extensive resource of intervention strategies.

Using these materials, the project team created objective and subjective databases. The objective database contains key elements that hospitals can use to develop, implement, and evaluate CCP improvement activities such as standing admission orders or smoking cessation counseling.

The subjective database incorporates CQI process information from in-depth research. The project team polled 40 of the hospitals that submitted improvement plans (10 hospitals per HCFA region) to learn background information. The hospitals contributed advice about gaining consensus and constructing improvement plans. The project team will use this database to add perspective to its analyses.

Although the “Collection of AMI Intervention Strategies” project is geared toward CCP, the project team hopes to create a resource tool that hospitals and PROs can use with any quality improvement project.

## Special Study in Brief

### Collection of AMI Intervention Strategies

#### Lead PROs:

Michigan Peer Review Organization (MPRO), Oklahoma Foundation for Medical Quality (OFMQ), Oregon Medical Professional Review Organization (OMPRO), West Virginia Medical Institute, Inc. (WVMI)

#### Main Contacts:

Patricia McCargar, MPRO  
Claudette Shook, OFMQ  
Jennifer Pathak, OMPRO  
Anne Matthews, WVMI

#### Summary:

The collaborating PROs collected and compiled CCP improvement plans from selected hospitals nationwide. Elements from these plans and input from hospital representatives were incorporated into two data sets, objective and subjective.

#### Future Actions:

The project team plans to create a resource tool that hospitals and PROs can use for quality improvement activities.

### Florida... cont'd from page 9

continued support of the physicians for the project, the committee gave the medical staff quarterly performance updates on the quality indicators, which showed a dramatic improvement.

In addition, the multidisciplinary committee was actively involved with data collection and provided immediate feedback to staff. This allowed the staff to respond quickly to opportunities for improvement.

The cardiac rehabilitation nurse was instrumental in the success of smoking cessation counseling. She identified smokers from a computer printout of patients admitted with diagnoses of AMI. Either she, the physicians, or nurses caring for the

patients documented counseling smokers about the risks of smoking.

The hospital is exploring the use of clinical pathways as a further means of improving care for Medicare AMI patients.

### Maryland ... cont'd from page 9

Computers outside patients’ rooms are available for physician and staff use. Besides eliminating age-old issues of illegibility and timely documentation, computerization enhances coordination of care, and dissemination of information is quicker and more systematic. Physicians appreciate receiving information via terminal as soon as it is available. Physician office access to the mainframe is also planned. The hospital streamlined

required external reviews by allowing reviewers access to the computerized information.

The hospital also initiated structural organizational changes as a result of CCP. These included improving formal reporting structure of the quality management committee, adding monthly reports to the department of medicine, and expanding the multidisciplinary membership of the committee to include ancillary caregivers.

DFMC encouraged hospitals to use a form that included a grid of possible improvement activities organized by quality indicator (see page 9). This form, created by DFMC, allowed hospitals to keep track of improvement plan processes.

# Special Study Examines Methods of Influencing Physicians' Practice Patterns

To help PROs work more efficiently with hospitals' quality improvement efforts, HCFA has initiated the "CCP Enhanced Dissemination" special study.

Oklahoma Foundation for Medical Quality is collaborating with two other PROs, Georgia Medical Care Foundation and Missouri Patient Care Review Foundation.

In this study, the collaborating PROs have trained physicians from participating hospitals to facilitate CCP continuous quality improvement (CQI) efforts. The three PROs will then compare the effectiveness of the local physician-driven improvement efforts to CQI activities of hospitals that received standard PRO feedback and no physician training.

Twelve hospitals from the three states are participating in the project. The PROs randomly placed the participating hospitals into two groups: high-intensity and low-intensity intervention. Both groups of hospitals received baseline CCP data, revised ACC/AHA guidelines for AMI care, copies of a Quality Improvement Workbook that addressed the quality improvement process step-by-step, and data collection tools to track trends in care for AMI patients.

In addition, the high-intensity group of hospitals selected physician liaisons to lead CQI efforts in their facilities. These hospitals sent physician liaisons and quality improvement staff to training sessions led by the collaborating PROs in July. During these sessions, physician liaisons learned about quality improvement presentation methods.

Physician liaisons also studied techniques in academic detailing, a one-on-one educational process based on selling methods used by pharmaceutical companies. Instead of selling a product, however, academic detailing promotes a pattern of care.

For this project, academic detailing sessions focus on the 1996 revised ACC/AHA *Guidelines for the Management of Patients with Acute Myocardial Infarction*. The sessions promote the use of these guidelines and explain how they relate to the CCP quality indicators.

After the three collaborating PROs have compiled and analyzed data from the "CCP Enhanced Dissemination" study, they will report their findings to HCFA and release constructive information that PROs and hospitals can use to improve interaction methods.

## Special Study in Brief

### CCP Enhanced Dissemination

#### Collaborating PROs:

Oklahoma Foundation for Medical Quality (OFMQ), Georgia Medical Care Foundation (GMCF), Missouri Patient Care Review Foundation (MPCRF)

#### Main Contact:

Claudette Shook, CCP Special Project Leader, OFMQ

#### Summary:

The three PROs trained "physician liaisons" to work on CCP quality improvement activities with selected hospitals. The project will compare the effectiveness of such local physician-driven improvement efforts to typical PRO-driven interaction with hospitals.

#### Future Actions:

After the collaborating PROs have analyzed the results of this study, they will share their findings with HCFA and the PRO community.

*Pilot... cont'd from page 3*

more than one AMI discharge record for some patients; for instance, patients transferred to other hospitals for invasive procedures, or patients treated for multiple AMIs during the sample period.

Analysts excluded these transfer patients from mortality statistics because the time of initial AMI could not be estimated precisely. To further confirm the accuracy of mortality statistics, HCFA extracted the patients' dates of death from the Medicare Enrollment Database. Analysts eliminated cases with unverified dates of death from mortality analyses if cases could not be classified with certainty for that analysis timeframe.

In performing analyses on the follow-up sample, HCFA analysts used the Stata statistical software package. Comparisons between the baseline and follow-up samples used standard methods of validation.

## Conclusion

AMI remains a deadly disease for the Medicare population: the follow-up sample shows 17 percent mortality within 30 days and nearly 30 percent within one year. In addition, many patients die before reaching a hospital. Room for improvement still exists even in the CCP pilot states; CCP and other sources continue to provide insight into the optimal care of elderly patients with AMI.

## Attention Peer Review Organizations: CCP Publishing Opportunity

*National Perspective* seeks input from PROs around the country. Appropriate submissions by PROs for upcoming issues would include:

- Stories/data related to successful CCP improvement plans;
- Updates on CCP special projects awarded to PROs by HCFA;
- CCP analyses performed on a statewide or regional basis.

Reports or text about CCP success stories can be sent on a 3.5" floppy diskette, or emailed to a Project Leader, in WordPerfect format. Data can be sent in Excel spreadsheet format. If these software applications are not available, an ASCII text file is acceptable. Please include a contact name and phone number in case further information is needed.

### For PROs in the Dallas and Seattle regions, contact:

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### For PROs in the Boston and Kansas City regions, contact:

Florida Medical Quality Assurance, Inc.  
Attn: Dorothy A. Dallorso, RN, MS, CCP Reporting Project Leader  
4350 W. Cypress Street, Suite 900  
Tampa, FL 33607-4151  
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## Ideal vs. Eligible Patients

To give hospitals additional information, data analysts classified AMI patients into two categories for each quality indicator: eligible and ideal.

The *eligible* category is the broader group. It includes all patients who meet basic eligibility requirements for the aspect of care measured by a specific quality indicator. For instance, to be included as an eligible patient for the "aspirin at discharge" indicator, a patient had to be discharged alive from that hospital, and not transferred to another hospital. Eligible patients form a pool from which ideal patients are identified.

The *ideal* category is a subgroup of eligible patients. Ideal patients qualify for a specific indicator and have no documented contraindications. They fit the national profile of patients who benefit from care associated with specific quality indicators. For instance, to be included as an ideal patient for the "aspirin at discharge" indicator, a patient could not be allergic to aspirin.

Because the ideal category is clearly defined, many physicians and other health-care professionals consider the statistics for this group to be more significant than the eligible category for quality improvement activities.

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*National Perspective* is a publication for the *Cooperative Cardiovascular Project*. It is published as a cooperative effort between Florida Medical Quality Assurance, Inc. (FMQAI), Texas Medical Foundation (TMF), and the Health Care Financing Administration (HCFA).

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## Publication Wins Award

*Special Report*, the ad hoc publication from the CCP Reporting Project, received one of the 1997 Awards for Publication Excellence (APEX). Out of more than 4,000 entries, *Special Report* was in an elite group of eight chosen to receive an Award of Excellence for Newsletter Design. APEX awards are sponsored by Communications Concepts, a national organization dedicated to publication excellence in the public relations and marketing professions.

