CALIFORNIA CABG OUTCOMES REPORTING PROGRAM (CCORP)
CLINICAL ADVISORY PANEL (CAP)
Sutter Square Galleria
2901 K Street, Room 206
Sacramento, CA 95816

April 27, 2005
10:00 a.m. to 3:00 p.m.

MEETING MINUTES

In Attendance

Clinical Advisory Panel Members:
Robert Brook, M.D., Sc.D.
Ralph Brindis, M.D., F.A.C.C.
Andrew Bindman, M.D.
Cheryl Damberg, Ph.D.
Coyness Ennix, Jr., M.D.
Keith Flachsbart, M.D.
Timothy Denton, M.D., F.A.C.C.

OSHPD:
David Carlisle, M.D.
Mike Kassis
Joseph Parker, Ph.D.
Herbert Jew
Hilva Chan
Diana Le

Other Attendees:
Forrest Junod, M.D.
Anthony Steimle, M.D., CCORP Consulting Cardiologist
Zhongmin Li, Ph.D., Health Services Researcher
Beate Danielsen, Ph.D., Health Information Solutions
David M. Rocke, Ph.D., Professor, UC Davis
Richard Kravitz, M.D., UC Davis

Introduction

Dr. Robert Brook, Chairman, called the meeting to order at approximately 10:00 a.m. Introductions were made and minutes from the July 26, 2004 CAP meeting were approved.

Dr. Joseph Parker provided the program director's report. OSHPD was advertising for a full time health services researcher to work under Dr. Parker and take over the CCORP program. CCORP was also recruiting for another full time researcher under the UC Davis contract. In addition to these staffing changes, OSHPD was in the process of developing an online data submission system for CCORP to streamline the data submission process and speed up the release of CCORP reports.

Dr. Brook asked that the CAP be presented with information regarding the amount of staff time and costs that go into the data cleaning and revisions processes. He felt that given the years of experience in doing this, we should be able to improve our processes with time-saving techniques.

Dr. Brook also would like to find out more about the substitutability of PCIs for CABGs, adjusted by age, gender, and race etc.

Dr. Parker discussed the final CCMRP report which was released to the public on April 25, 2005. Eight hospitals had better-than expected results while another nine hospitals had worse- than expected results. One hospital withdrew after seeing the results.

Dr. Parker advised the CAP of the following items requiring action this meeting:

- Whether to exclude salvage cases from hospital and/or surgeon reports
- Whether to adopt the 'operative mortality' outcome measure
- Decide between the logistic regression model and the multi-level risk model for public reports
- Accept, reject or change the list of new STS data elements, and
- Make decisions on the four cases submitted for review and possibly modify the isolated CABG definition.

CCORP Update

CCORP received all initial data submissions from 120 hospitals for 2004. Hospitals have improved at submitting their data and the percentage of data being accepted the first time has increased from last year. Hospitals that were experiencing serious data problems often have STS software vendor issues.

Dr. Parker provided the CAP descriptive statistics on hospital/physician volume and mortality from 1997-2003. For the lowest 10% surgeons with a mean volume of three cases, Dr. Brook expressed an interest in the proportion of low volume surgeons that performed elective or non-urgent procedures. He was also interested in a similar analysis on low volume hospitals.

Dr. Parker discussed the timeline for releasing the first CCORP hospital-level report, which was planned for October 2005, three months after the previously anticipated release date of July 2005. This was due to a delay in receiving the vital statistics death file from the Department of Health Services.

Dr. Parker also presented the CCORP audit timeline. Due to limitations of the contracting vehicle, the maximum contract amount was capped at $250,000 and it was only possible to audit 15 hospitals. Per hospital audit costs increased 50% since the last audit. The audit was expected to be completed by June 2005.

Hospital data will be replaced by auditor-abstracted data when a coding discrepancy is found.

Finally, Dr. Parker presented the timeline for the CCORP 2003-2004 surgeon public report. A draft report may be available for review between June – August 2006. Surgeons have a 30 day review period while hospitals have 60 days. The final report was expected to be completed in October 2006.

CCORP Discussion Items

Audits

Dr. Parker announced that the next audit strategy would include physicians, along with hospitals as a point of focus, although no decisions have been made regarding the approach on including physicians. Since STS would develop their own auditing program, Dr. Ralph Brindis suggested that using the STS audit might be a cost savings to OSHPD. Dr. Parker felt that it would depend on how extensive the STS audit was. The audit proposed by Center for Medicare/Medicaid, for example, would only audit four or five records per hospital. This would be inadequate for CCORP.

Dr. Brook requested that a discussion be held in the future regarding how the CAP could ensure that the energy of hospitals and physicians be focused on working hard to improve their processes of care and outcomes because of CCORP, and not focused on gaming the system, which is a potential incentive that distracts from providing the best care possible.

Salvage Cases Inclusion

Dr. Parker provided the salvage case analysis to assist the CAP in deciding whether or not to include salvage cases in the public reports. The year 2003 operative mortality risk model showed a minor improvement in predictive performance with salvage cases included compared to without salvage cases. The data set would capture 120 additional deaths if salvage cases were included. For outlier hospitals, one additional hospital would move to a better-than expected position if salvage cases were included, but there would be no change in the worse-than-expected outliers.

While individual hospital performance was similar with or without salvage cases, the CAP was concerned that the inclusion of salvage cases could affect individual surgeons' decisions to take on salvage cases. Dr. Brook commented that since the risk model over-predicted for the highest risk patients, surgeons got a lot of credit for operating on salvage cases. CAP surgeons, however, voiced skepticism that the current risk model could capture all the risks for high risk patients.

After an extensive discussion of how the inclusion of salvage cases might affect the mortality outcomes by surgeons, CAP members voted to retain salvage cases in both the hospital and surgeon reports. The CAP recommended that supporting documentation be required to accompany all future salvage cases. Dr. Brook suggested that surgeons and hospitals needed to be educated about why the system is not unfair to those surgeons who operate on salvage cases.

Along the same line, CAP members also discussed the definition of a salvage case and at what point a surgery is considered to have been performed. Dr. Parker commented that some patients appear to be coded salvage based on how severely ill their surgeons perceived them to be, instead of applying the strict CPR en route definition.

Inpatient vs. Operative Mortality

Dr. Parker used the total number of deaths in 2003 to illustrate the differences between the in-hospital and operative mortality definitions. The analysis showed no evidence that hospitals were transferring patients out to step-down facilities to avoid counting in-hospital deaths. Since the mortality rate for CABG surgery was low in the past, using the operative mortality definition would include more deaths and might encourage hospitals to improve on the discharge process. The use of operative mortality, however, would include the DHS death file variable that is not under the control of hospitals, and it would take longer to complete the report. There may be a 3-4 month delay given the wait on the death file from the Department of Health Services.

The CAP approved a motion to use the operative mortality measure for all public reporting. The CAP also confirmed that it will not review deaths upon appeal that are unrelated to the CABG surgery (e.g., death in vehicle accident post-discharge).

Addition and Deletion of STS Data Elements for 2006 Data

The CAP passed a motion to include the following new STS data elements for producing potential complication measures:

- Reop for Bleed/Tamponade
- Reop for Valve Dysfunction
- Reop for Coronary Graft Occlusion
- Deep Sternal Wound Infection
- Permanent Stroke
- Prolonged Ventilation
- Postoperative Renal Failure
- Postoperative Coma

The CAP also passed the following motions:

- Add four new STS data elements: “Ejection Fraction Done”, “Preop Resuscitation”, “Previous CABG surgery” and “Radial Artery Used”
- Delete “Classification CCS” & “Primary Incision”
- Replace “No. Prior Card Ops w/ Bypass” and “No. Prior Card Ops w/o Bypass” with “Incidence”.
- Replace “CPB Used” and “Conversion to CPB” with “CPB Utilization” and “CPB Utilization-Combination”.
- The following data elements were approved by the CAP at the July 2004 meeting for collection but will not be collected (based on hospital recommendations): “Reop for Other Cardiac Reasons”, “Re-op for Other Non-Cardiac Reasons”, “Prior Smoker”, “Current Smoker”, and “Aortic Valve Stenosis”.

Single-level vs. Multi-level Model

Dr. David Rocke from UC Davis gave a quick overview of the multi-level model. The multi-level model generally provides more conservative results with regards to identifying outlier hospitals. For the 2003 data, the multi-level model identified six outliers while the logistic regression model identified nine outliers. One of the advantages of the multi-level model is its ability to account for the luck versus skill issue for low-performing hospitals and produce results that are more stable over time. Many questions and concerns came up after the model was presented. Therefore, Dr. Brook requested to have both models run on the 2003 data before making further decisions. He also asked that materials be made available to assist the CAP to better understand the multi-level model and its advantages and potential disadvantages.

Isolated CABG Definition and Case Review

The CAP reaffirmed for the third time their decision to include TMRs as part of the isolated CABG definition. The following cases were reviewed and final decisions made:

- Case #1: Anomalous case - isolated CABG.
- Case #2: Aortic dissection – isolated CABG.
- Case #3: Patch repair of aorta – non-isolated CABG.
- Case #4: Ischemic LV rupture repair – non-isolated CABG

2003 CCORP Report Content

Dr. Parker announced that to avoid delaying the first CCORP report, OSHPD will release the 2003 hospital-level report without any additional analyses, except perhaps the volume-outcome analysis. Other studies such as the volume-outcome measures and appropriateness of CABG surgery will be released in separate reports, unless their inclusion in the hospital report does not delay its

release. The CAP agreed that a timely first report was more important than additional information.

Alternate Rating Systems

Dr. Parker discussed whether or not to replace the better-than/worse-than expected categories by an alternate rating system that might group hospitals into quintiles or deciles. Dr. Brook suggested staff prepare a list of pros and cons for the two ranking systems, along with data mocked up in the alternate systems when the topic is revisited at the next meeting.

Best Practices

Dr. Denton offered suggestions on how CCORP might advance quality improvement efforts at hospitals, including the possibility of studying the medical practices of the top and the bottom performers to help understand why some hospitals perform better than others. Dr. Brooke suggested that this and similar ideas could be raised at future meeting and moved to adjourn.