

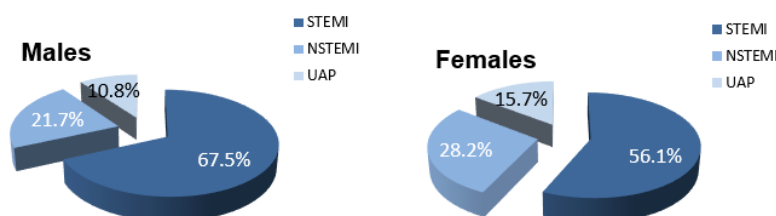
Improving Cardiovascular Care in China- The Triple CCC Project Summary

Improving Cardiovascular Care in China- the ‘Triple CCC’ project in China was initiated January 2013 as a multi-year project focused on improving compliance with evidenced based therapy for patients with Acute Coronary Syndromes and Atrial Fibrillation in 150 hospitals throughout mainland China. The project implementation has been guided by the Senior Management Group comprised of representation from the Chinese Society of Cardiology, the American Heart Association, the Chinese Medical Doctor Association, The Beijing Municipal Commission for Health and Family Planning (the regional representation of the government Commission for Health and Family Planning). The project execution has been directed by the Project Management Group led by Professor Zhao Dong and the team of the Beijing Institute of Heart, Lung, and Blood Vessel Diseases with support from the AHA, Director International Quality Improvement Initiatives.

The project has been well received by the Cardiologists and hospitals with 150 sites contracted to participate and 141 sites engaged in active data entry. The accomplishments to date include enrollment of 150 sites representing all provinces of mainland China, except for Outer Mongolia and representing multiple geographic-economic levels; development of the Electronic data collection system (EDC) with onsite data monitoring and quality control system; creation of the Triple CCC website with both a public site for interested hospitals to learn about the project and a protected site specific for contracted hospitals to retrieve monthly benchmarked feedback reports, access QI tools and resources, recorded webinars, and general project notifications and information; creation of WeChat groups to provide real time Q&A and best practice sharing; 2 Training Workshops; Focused webinars; and Regional Workshops; Recognition program with tiers for Award Achievement based upon composite measures performance thresholds.

With over 32,000 ACS patient records and over 11,000 Atrial Fibrillation patient records entered the data base is now able to provide insights related to patient distribution and characteristics, as well as trends for both the primary and secondary performance measures.

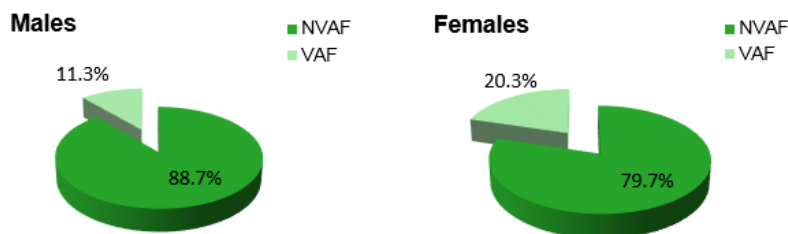
Acute Coronary Syndrome (ACS) Project Highlights



The overall composite score for ACS primary performance measures is 76.5% with a range of 51.6% and 90.6% between individual hospitals. There is a demonstrated increase in composite measure performance over one year which is noted to be statistically significant. Within the Early Strategy Primary Measures ASA on arrival and Evaluation of LVF continue to demonstrate high conformance. Fibrinolytic within 30 minutes is noted to be only 27.5% compliance with inconsistent delivery of therapy over the course of 12 months. Primary PCI is currently at 53% aggregate compliance with a trend of increasing compliance over the past 6 months with December 2014 showing 60.6% delivery of this time sensitive therapy. Within the Discharge Measures P2Y12 Inhibitor, ASA as discharge and statin at discharge demonstrate high conformance. Those with lower conformance are smoking cessation counseling (30%), ACE/ARB at D/C (58.1%) and Beta Blocker at D/C (66.5%). This data informs the strategies the PMG will deploy to assist hospitals through education and tools and resources to focus on improving the application of these lifesaving therapies within their hospitals.

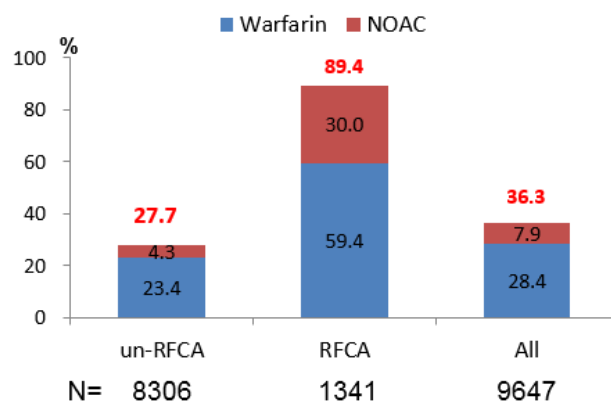
In review of the trend data for hospitals it appears that significant improvements occur after 6-9 months of program participation. Of particular interest is data looking at the composite score performance of hospitals that took action to download their Triple CCC hospital measures reports. There is a significant difference in composite score performance between those that downloaded their monthly feedback report (79.5%) versus those that did not download their monthly feedback report (69.7%). This trend is similar to that realized by GWTG hospitals in the US with time spent in the program correlating to the improvements over time.

Atrial Fibrillation (AFIB) Project Highlights



The overall composite score for the Atrial Fibrillation primary performance measures is 46.8%. Of note is the broad range of 7.4% to 83.5% performance within the participating sites. For the specific measures the one measure of high conformance is PT/INR planned at discharge with 89.7% compliance. The measure of lowest conformance is the Assessment of thromboembolic risk with only 19.1% compliance among all hospitals. The other measures performance, as appropriate to patient indication, is noted to be Anticoagulant at time of D/C 45.9%, ACE/ARB at discharge 54%, Beta Blocker at time of D/C 55.6%, and Statin at D/C 60.4%. As with ACS, this data informs the strategies the PMG will deploy to assist hospitals through education and tools and resources to focus on improving the application of these lifesaving therapies within their hospitals.

Of particular interest is the data related to warfarin versus NOAC at time of discharge in patients who underwent Radiofrequency Catheter Ablation (RFCA) versus those that did not have RFCA. There were fewer patients receiving RFCA but of those a greater proportion were prescribed NOAC at time of D/C.



Similar insights regarding trends in performance when hospitals took action to download their monthly reports. The aggregate data shows that those who downloaded their reports had a composite performance of 53.9% versus those that did not had a composite score of 46%.

Other Program Accomplishments

Recognition Program:

The criteria for the tiered awards of Bronze, Silver and Gold Medals are based upon composite primary measures performance thresholds for pre-specified time periods.

- Gold Medal = Reporting of cases over 3 months and achieve composite measure of at least 85%
- Silver Medal = Reporting of cases over 3 months and achieve composite measure of 80-85%
- Bronze Medal = Reporting of cases over 3 months and achieve composite measure of 75-80%

Additional Recognition Awards:

- Award of Data Quality for the 3 hospitals with the best data quality for required elements
- Award of Progress for the 3 hospitals that have made significant improvements in primary performance measures and not in the list of gold, silver, bronze medal hospitals
- Award of Active Participation for the 3 hospitals that have made the greatest achievement in number of cases and data quality and not on the list of gold, silver, bronze medal hospitals

The first Triple CCC Recognition Event was held on September 19, 2015 in Shanghai as a special session of the Chinese Society of Cardiology Annual Congress. A total of 61 hospitals received awards for ACS and 14 for Atrial Fibrillation.

The second Triple CCC Recognition Event will be in September 2016 as a special session of the Chinese Society of Cardiology Annual Congress in Xi'an, China.

Research and Publication Opportunity for Triple CCC hospitals:

A process has been developed by which Triple CCC hospitals interested in conducting research using the aggregate data base may submit a research question for review and consideration by the Senior Management Group (SMG). Upon SMG approval the project team will prepare the data table for analysis by interested hospital.

Overall Program Data Analysis and Manuscript Development:

The first manuscript developed is the Triple CCC Methodology Paper. The paper was approved by the SMG and has been submitted for consideration by the American Heart Journal. If not accepted will consider alternate Journal for submission.

Work will begin to prepare the first program results manuscript as well, one with focus on the utilization of monthly benchmarked reports and its impact on performance trends.

Regional Workshop:

The concept of a regional workshop was tested in December 2015 with a focused program on Atrial Fibrillation for 33 hospitals from 9 provinces in Northern and Northeastern China. The program was well attended and highly valued. The project team will now be planning additional regional programs for the Triple CCC hospitals with focus dependent upon the regional site performance data.

Next Steps

After two years of program implementation, the results are demonstrating that with focused education and quality improvement strategies more patients treated in these hospitals are receiving appropriate care. The Triple CCC program team is recommending an additional 2 years of program activity to continue to demonstrate the improvements in care over time and focus on additional improvements with attention to the lowest performing metrics, which are largely related to treatment of the Atrial Fibrillation patient. Specific focus will be given to regional gaps in care. AHA will be seeking additional funding support to maintain the data base, deliver ongoing focused webinars and workshops, motivate the sites through Recognition opportunities, and conduct analysis on the rapidly growing data base that will inform policy and decisions by the China Commission for Health and Family Planning to strengthen the health care system across the country.