ACUTE CORONARY SYNDROME
PERFORMANCE REPORT 2008-09
The Champlain Get with the Guidelines Initiative is funded by the Ontario Ministry of Health and Long-Term Care and Pfizer Canada Inc., a Founding Industry Partner of the CCPN.
The Champlain Cardiovascular Disease Prevention Network (CCPN) is a strategically aligned network of health and community partners which include public health, specialty (cardiac and stroke) care, primary care, hospitals, community health, and academia. The Network was formed in 2005 to provide leadership to the implementation of the Champlain Cardiovascular Disease (CVD) Prevention Strategy. The overarching goal of the CCPN is to build a system of excellence in integrated CVD prevention and management to ensure that the citizens of the Champlain District are the most heart healthy and stroke-free in Canada. This will be accomplished through implementation of large-scale, community-based initiatives recommended by the CCPN Expert Panels and endorsed by the CCPN Coordinating Committee as the most important actions to improve the CVD health of Champlain residents in six key areas: primary care, specialty care, hospitals, schools, workplaces, and communities. The approach is community-based, coordinated, action-focused and outcome-oriented.

The CCPN was catalyzed by the Division of Prevention and Rehabilitation, University of Ottawa Heart Institute (UOHI), recognizing the need for a coordinated, strategic, regional approach to successfully address the burden of cardiovascular disease (CVD) in the Champlain region. The CCPN Project Management Team is housed at the UOHI.
EXECUTIVE SUMMARY

The Get with the Guidelines (GWG) initiative provides a regional systematic approach for identifying and ensuring all patients hospitalized with Acute Coronary Syndrome (ACS) are receiving best practice guidelines upon discharge from hospital. Patients, primary care providers and hospitals are provided with information regarding patient-specific ongoing care requirements. All health professional in the 16 Champlain LHIN hospitals receive training in best practice guidelines on site. Multi-media tools support the education of physicians, nurses, applied health professional and data abstractors. Senior leadership buy-in supports data collection and entry of data into the CIHI database for outcomes reporting and feedback to health care providers.

The GAP Discharge Tool is the core of the GWG-ACS initiative. It is a paper-based patient management tool, developed in accordance with evidence-based secondary prevention guidelines, which provides data collection, embedded reminders and guideline summaries, and quality performance reports. The tool emphasizes compliance with instructions to advance the understanding of the best approaches. Nursing staff assess each patient prior to discharge for compliance against the evidence-based guidelines. If any of the best practices are not in place, the nurse contacts the most responsible physician and necessary actions taken. In addition, the patient receives a copy of the tool to take to his/ her family physician to ensure the plan of care is well understood and to enhance continuity of care. The Guidelines Applied in Practice tool is adapted to support integration of the tool into routine hospital practices. A tool kit includes clinical pathways, physician orders, patient education tools, and data abstraction processes to support tool completion, data collection, and quality reporting.
1.0 BACKGROUND

History

Acute coronary syndrome (ACS) is a significant chronic disease problem in Ontario. It includes patients with chronic heart disease and can range from chest pain (angina) to heart attack (myocardial infarction).

In 2006-2007 there were 16,159 emergency department (ED) visits in the Champlain LHIN due to ACS related diagnosis representing approximately 6% of all ED visits. In the same year there were approximately 6259 patients admitted with a diagnosis of ACS. Cardiovascular disease in total accounts for close to 22% of all hospitals admissions. ACS, as a subset of cardiovascular disease represents close to one third of all cardiac related admissions.

Large clinical trails have provided evidence for the development of standardized best practices for the treatment of ACS. It is also well known that compliance with these guidelines significantly improved survival. The failure to attain clinical treatment goals in the hospital setting has been attributed largely to the absence of a system to ensure adherence as part of the standard of care. There is also evidence that active interventions directed toward changing systems of care can reduce the gap in the application of guidelines.

In 2004, a regional assessment of hospital acute myocardial infarction (AMI) within 30 days of initial hospitalizations showed the Champlain LHIN had an average mortality of 12%. While this was equal to the overall average across the country, the Institute staff knew there must be large discrepancies in the region as the Institute which sees the majority of patients had an overall mortality of 5.8%.

The Institute met with all CEOs and medical leaders in the region to share the hospital based findings and to obtain agreement for a regional based approach to reduce overall mortality. Although AMI had been the initial target is was agreed the approach should be extended to include ACS which is often a precursor to heart attack and represents a significantly larger population of patients.

Strategy

The fundamental principles of the regional strategy were to:

- Embed best practice care in the usual tools and documentation of health care providers thus removing the onus from the individual providers and putting the onus on the system to ensure all aspects of best practice care are delivered
- Actively engage the patient in understanding and participating in evidence based care
- Collecting data and providing feedback on compliance with guidelines
- Be replicated in all organizations regardless of size or location and
- To enable tailoring of tools for local needs.
An extensive literature review was done to determine approaches to ACS management in other jurisdictions and countries. Work done in the USA through the American College of Cardiology and the American Heart Association had developed an approach (Get with the Guidelines) which was felt to be transferable to the Canadian health care system. This work became the strategy model for the Get with the Guidelines (GWG) project for the Champlain LHIN.

**Approach**

**Development of system tools: Clinical pathways, physician orders and discharge tools**

An initial step was the development of standardized tools that could be used for all types of patients across a variety of organizations. The first tool was the GWG discharge tool. This patient centered tool is written in patient friendly language and outlines in simple terms what the best practices are and then documents which ones have been selected for the individual patient. Clinical staff review the tool at discharge and ensure that all of the guidelines have been reviewed and considered (not all patients will be on all of the guidelines given individual contraindications). A copy of the tool is given to the patient and one resides on the chart to allow for data abstraction to CIHI (see appendix 1 for sample tool).

An ACS clinical pathway, which has the best practices embedded within it, was developed to standardize care. In addition, standing physician orders for ACS were developed to act as a reminder system for physicians and to support the clinical pathway requirements.

**Development of a data capture strategy: CIHI partnership**

An important element of the project was the capture and feedback of data to providers. In order to provide this the team worked in partnership with CIHI to develop a data capture strategy that would be easily incorporated into the current inpatient abstraction process.

A major challenge was the fact that ACS does not currently exist as a single Case Mixed Group (CMG) code. Rather, it is a grouping of diagnoses. As a part of this project an expert working group was established to provide assistance to CIHI in determining which diagnostic codes could be used for ACS. These codes were identified and used by health record abstractors to determine the overall denominator for the compliance calculations (see appendix 2 for summary of diagnostic codes included).

Completion of the tool development and data capture strategy allowed for full implementation of the program.
Implementation

Implementation occurred in five phases.

Phase 1: Community engagement

CEOs, medical and nursing leaders were invited to participate in the program. A coaching team from the Heart Institute had an initial meeting with senior leadership to introduce the concept of standardized care for ACS and discuss the overall approach. The CEO signed on behalf of the organization to commit to the project and to submit outcome data to CIHI.

Phase 2: Baseline audit

An assessment of local compliance prior to starting the program is performed using a standardized audit tool. This provides a baseline for the organization to measure its improvements against. In addition, the standardized approach also allows for comparisons among hospitals should the organizations wish to share information. These results are shared with staff and facilitate discussion on how to improve practices.

Phase 3: Education and tool development

Multidisciplinary coaching teams provided training in ACS best practices as well as support in customizing tools, documents and chart abstraction. Physicians provide education to their colleagues while nurses educated nursing and health records personnel. Health Records abstracters involved in the pilot project were available for support. Each organization was provided with a GWG tool kit which includes educational materials and all of the necessary tools for the project.

Phase 4: Guideline Implementation

In phase four teams implemented the program and began data capture. Typically this included training of staff and physicians in the use of the tools, and ongoing support for questions which arose as part of implementation. Periodic audits were done to ensure consistent use of the tools and accurate data capture.

Phase 5: Final submission

Once the organization had demonstrated good processes were in place and the data were considered complete they moved to final data submission to CIHI and were considered fully implemented.
Partnership with CCN

This project was launched as part of the CCPN initiatives. Early on it was recognized this approach could be used by any organization in the province. The Cardiac Care Network of Ontario (CCN) which is the umbrella organization for all of the cardiac centers undertook a provincial approach to dissemination. CCN sponsored two provincial meetings and invited all of the cardiac centers to participate. Each meeting included educational sessions on the guidelines, tools and implementation strategies. Each of the cardiac centers now has the information to be able to disseminate the program in the same way the Champlain LHIN has.

2.0 GOALS AND OBJECTIVES

The objectives of the project were:

- To ensure that all patients with ACS receive life-saving best practice care as a standard of care when admitted to any of the Champlain hospitals
- To create a regional quality improvement system for monitoring delivery of these best practices
- To increase knowledge translation among local providers for best practices in ACS care
- To improve accountability and performance in the delivery of evidence-based guidelines though the collection and feedback of data
- To model a regionalized approach to quality improvement in chronic disease prevention and management that can be expanded to other disease in the future (heart failure, diabetes, stroke).

3.0 PERFORMANCE REPORT

3.1 Process Indicators

Process indicators were developed to monitor the various phases of implementation. Organizations determined the best implantation schedule for their organization. Table 3.1 provides the status of all Champlain hospitals as of September 2009. All hospitals have completed the engagement and baseline audit phases. Most hospitals are in active implementation. Fifty percent of hospitals have fully completed implementation and are actively submitting data to CIHI.

Interesting findings were the challenges faced by smaller organizations. Many were already engaged in a number of LHIN or MOHLTC strategies. Often one individual was leading many of these initiatives and any changes to staffing or workload had a significant impact on project start up or progress. Two organizations had to restart the program due to staff changes mid-implementation.
Table 3.1

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospitals signed on as partner in GWG-ACS Initiative</td>
<td>16/16</td>
</tr>
<tr>
<td>Number of hospitals in which initial site visit was complete</td>
<td>16/16</td>
</tr>
<tr>
<td>Number of hospitals completed baseline chart audit</td>
<td>15/16</td>
</tr>
<tr>
<td>Number of hospitals enrolled in implementation phase</td>
<td>14/16</td>
</tr>
<tr>
<td>Number of hospitals implementing GAP tool</td>
<td>14/16</td>
</tr>
<tr>
<td>Number of hospitals completed post-implementation audit</td>
<td>9/16</td>
</tr>
</tbody>
</table>

3.2 Clinical Indictors

Clinical indicators are measures that examine how well organizations are complying with the clinical best practices. The baseline audits (pre-implementation) documented variances between organizations as well as variance between elements of the guidelines within individual organizations. Of note, most organizations performed better on medication management than on compliance with behavioral strategies such as smoking cessation, diet and exercise. In many instances there was no evidence in the chart of these activities so they were recorded as not occurring.

Table 3.2 summarizes the compliance of organizations where GAP tools were on charts as of September 2009. Regional performance targets have been met for ASA, statins and Plavix medications. Beta blockers and ACE inhibitor therapy are slightly below target. Of note, hospitals have improved their compliance compared to the baseline audits. Several organizations are not currently at the recommended benchmark for all guidelines and they will be developing action plans to reach the benchmarks. Each of these will be reviewed at the follow up meeting on September 15, 2009. Access to education on diet, exercise and smoking has improved and is approaching recommended target levels. Coaching teams will be available to assist organizations who are having difficulty meeting recommended levels.
Table 3.21

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Performance Target</th>
<th>Regional Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients for which GAP tool was complete</td>
<td>Approx. 3000</td>
<td>1889</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed ASA</td>
<td>90%</td>
<td>95.23%</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed beta-blocker</td>
<td>90%</td>
<td>88.80%</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed ACE/ARB</td>
<td>90%</td>
<td>81.41%</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed statins</td>
<td>90%</td>
<td>92.90%</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed Plavix</td>
<td>90%</td>
<td>91.90%</td>
</tr>
<tr>
<td>Number (%) of ACS patients prescribed nitroglycerin</td>
<td>90%</td>
<td>68.50%</td>
</tr>
<tr>
<td>Number (%) of ACS patients receiving smoking cessation counseling</td>
<td>100%</td>
<td>94.0%</td>
</tr>
<tr>
<td>Number (%) of ACS patients receiving education about heart disease &amp; their specific condition</td>
<td>90%</td>
<td>88.19%</td>
</tr>
<tr>
<td>Number (%) of ACS patients referred to cardiac rehabilitation</td>
<td>90%</td>
<td>87.03%</td>
</tr>
<tr>
<td>Number (%) of ACS patients with scheduled physician follow-up post-discharge</td>
<td>90%</td>
<td>*</td>
</tr>
<tr>
<td>Number (%) of ACS patients receiving diet advice</td>
<td>90%</td>
<td>86.81%</td>
</tr>
</tbody>
</table>

* Scheduled physician follow-up is captured on the GAP tool but CIHI has yet to insert a field (field 16) for entry into project 224.

As part of the project we will be validating the methodology used to determine which patients should be captured within the ACS category. Table 3.22 summarizes the number of patients identified as ACS based on the diagnostic codes previously established with CIHI and those patients which have an actual tool on their chart. As part of the implementation, we have identified a number of reasons why a patient may not have a tool on the chart (ie: patient transferred to a convalescent home; tools discarded before abstraction by health records; hospitals not making the tool with a detachable carbon copy etc). Each of the hospitals will be reviewing the charts of those patients who have been identified as ACS but do not have a tool on the chart. The results of these audits will assist in determining if any further adjustments need to be made to the ACS grouping. We expect this data will be available in 2010.
Table 3.22

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Total # ACS Patients</th>
<th># Patients with GAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital 1</td>
<td>3262</td>
<td>1753</td>
</tr>
<tr>
<td>Hospital 2</td>
<td>241</td>
<td>0</td>
</tr>
<tr>
<td>Hospital 3</td>
<td>108</td>
<td>71</td>
</tr>
<tr>
<td>Hospital 4</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>Hospital 5</td>
<td>103</td>
<td>33</td>
</tr>
<tr>
<td>Hospital 6</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Hospital 7</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>Hospital 8</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Hospital 9</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3825</strong></td>
<td><strong>1889</strong></td>
</tr>
</tbody>
</table>

Currently 50% of patients receive a GAP tool. A preliminary review of the audits indicates some system and compliance issues, such as missing information and coding problems. This will be monitored as part of the audit process. System issues will be modified and final evaluation of inclusion codes will be recommended by 2010.
Figure 3.21: Medications
The following graphs provide detailed information at the level of each guideline recommendation doing a comparison between the University of Ottawa Heart Institute (UOHI) and other regional hospitals. The intent is to move the region toward less variation to more closely reflect the practice of the UOHI.
Figure 3.22: Lifestyle Behaviours
The following graphs compare the UOHI and the regional hospitals on lifestyle guidelines.

April 1, 2008 - March 31, 2009
UOHI Performance ACS Lifestyle Behaviours at Discharge

April 1, 2008 - March 31, 2009
Champlain Regional Performance ACS Lifestyle Behaviours at Discharge
3.3 Learnings

The following are some of the early learnings from this initiative:

1. Development of simple system tools as triggers for best practices improves performance.
2. Coaching teams assist in knowledge translation and are an effective means of knowledge dissemination.
3. Simple data capture and feedback are essential to health care providers.
4. Engagement of the senior leadership is essential to project success.
5. Development of a standardized tool kit was viewed as very helpful to the teams.
6. Multidisciplinary coaching teams (physicians, nurses, educators, quality experts and health record staff) were instrumental in team success.
7. Ongoing support is required to assist organizations moving to best practices.

4.0 RECOMMENDATIONS

A follow up meeting on September 15, 2009 will be held with the leadership teams of all partner hospitals. Issues and challenges will be discussed and individual action plans will be developed by hospitals who are not at best practices. Ongoing monitoring of the compliance rates will take place through regular CIHI reporting. Progress will be reported at the CCPN project meetings.

The next phase is to extend the compliance beyond hospital discharge by offering patients access to automated calling follow-up. This strategy is currently being tested at the Institute and it is showing that ongoing follow-up is changing the compliance pattern for patients in the longer term. The satisfaction with this type of follow-up is acceptable to patients and so will be offered to other organizations within the LHIN. It is anticipated this will provide an improved overall compliance with ACS guidelines.

Recommend: Funding of the roll out for automated calling for ACS.

In addition, we will begin the GWG process with a focus on heart failure. During the course of our work with the community hospitals, this chronic disease was identified as the next major area requiring attention. Although the treatment is more complicated than ACS, heart failure has well established guidelines and is therefore compatible with a GWG approach.

Recommend: Funding for development and implementation of a GWG program for heart failure.
APPENDICES
Appendix 1: GAP Tool

English version:  
Adobe Acrobat Document

French version:  
Adobe Acrobat Document

Appendix 2: ACS Clinical Pathway

Adobe Acrobat Document

Appendix 3: Champlain Get with the Guidelines Website

http://www.ccpnetwork.ca/GWG/

Appendix 4: ICD 10 Codes for Chart Abstraction for Champlain Get with the Guidelines Initiative

Microsoft Word Document
REFERENCES


9. Tu, JV, Khalid L, Donovan LR, Ko DT, for the Canadian Cardiovascular Outcomes Research Team/ Canadian Cardiovascular Society Acute Myocardial Infarction Quality Indicator Panel. Indicators of Quality of Care for Patients with Acute Myocardial Infarction. CMAJ 2008 October 21;179 (9):909-915.