The Canadian Cardiovascular Society
Dyslipidemia Guideline
Knowledge Translation Program

Abstract:

The Canadian Cardiovascular Society (CCS) is the national voice for cardiovascular physicians and scientists in Canada. The CCS contributes to improving the cardiovascular health and care of Canadians by leveraging its large national network of clinical experts to develop, maintain, promote and evaluate evidence-based clinical guidelines for prevention and management of cardiovascular risk and disease.

Since 2006, the CCS has developed and updated dyslipidemia guidelines to assist Canadian practitioners with clinical care. These guidelines are highly sought after as a practical guide; the 2012 Dyslipidemia Guideline is one of the most frequently downloaded articles from the Canadian Journal of Cardiology (CJC). In response to new evidence, the CCS Dyslipidemia Guideline writing panel is currently reviewing evidence and updating the recommendations. The 2016 Guideline will be ready for publication in the CJC in the spring of 2016.

As important as it is to develop and update clinical guidelines, it is equally important to support adoption and integration of the recommendations into patient care through knowledge translation. As such, the CCS is developing the Dyslipidemia Guideline Knowledge Translation (KT) Program that involves development and delivery of live, facilitated workshops, webinars, and educational tools and materials. The goal of the program is to promote the use of the latest dyslipidemia recommendations across the health care spectrum and integrate them into patient care.

CCS is seeking a grant from Pfizer in the amount of $55,000 USD to support one third (1/3) of the total project cost.
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The panel asks you to provide a minimum amount that if awarded, would at least make your project viable.

We are asking Pfizer to support the program through to October 2017 with an educational grant for one third (1/3) of the total project cost.

In your full proposal, it is important to include sufficient information to justify your full budget.

Since CCS is seeking up to three industry supporters, we are only asking for one third (1/3) of the total budget. Full details of the project work plan and budget are included. CCS is known for producing a lot with little funds. We share resources across multiple projects and have become very efficient at operating KT programs.

Proposals should describe the means of evaluation and how project outcomes will be measured.

Continuous program evaluation is built into our KT program model to assess activity effectiveness as well as overall program impact on guideline awareness and uptake. Our CME evaluation data is collated annually to assist in planning the program activities for the coming year and assessing best learning approaches.

If funding allows, we will conduct a survey shortly after the guideline is published to ascertain awareness and intention to adopt the recommendations in practice. After 1 year, the community will be surveyed again to gauge awareness, uptake and barriers. By closing the loop with a follow up survey, the CCS can understand program impact and barriers.

Please clearly define the education component of the project. Specifically, the educational design of proposed projects should demonstrate how clinician performance will be supported, beyond the acquisition of knowledge. Please describe any tools that will be used to support the learning and that will help achieve the objectives of the project.

Our KT program model strategically combines the evidence-based guidelines with interactive accredited CME and practical resources. The 2016-17 Dyslipidemia KT Program will include a variety of interventions to meet the various learning preferences of the target audience. Our interventions include accredited CME; rapid e-learning modules; and point of care tools and calculators. Our CME programs include both live events as well as asynchronous and synchronous online programs. Where resources allow, pre and post testing is used to assess the knowledge gained and retained as well as the impact on confidence levels and potentially practice. In addition to CME, we will develop a variety of practical resources including printed pocket guides, a smartphone app, educational slide decks and decision calculators.
D: Main Section of the Proposal

1. Overall Goals and Objectives

Since 2006, the CCS has developed and updated dyslipidemia guidelines to assist Canadian practitioners with clinical care. Now, in response to new evidence, the CCS is currently reviewing evidence and updating the dyslipidemia recommendations. The 2016 Guideline will be ready for publication in the Canadian Journal of Cardiology (CJC) in the spring of 2016.

As important as it is to develop clinical guidelines, it is equally important to support adoption and integration of the recommendations into patient care. As such, the CCS is developing a multimodal knowledge translation (KT) program to promote the use of the recommendations across the health care spectrum and integrate them into patient care. The program goals are:

- to educate health care providers on the 2016 CCS Dyslipidemia Guidelines through key opinion leader (KOL) led accredited CME workshops and webinars;
- to promote the integration of the recommendations in clinical practice through the development and distribution of guideline resources tailored to health care provider needs;
- to engage health care providers in active dialogue to understand their needs, preferences and barriers to implementing the recommendations; and
- to continually evaluate and adapt the KT program activities to improve program effectiveness.

2. Current Assessment of Need in Target Area

The CCS Dyslipidemia Guidelines Committee, comprised of leaders in the fields of dyslipidemia, has undertaken a strategic review of the latest evidence and determined that there is a gap and need to update the 2012 Guideline. The strategic review will result in an update to the recommendations through a rigorous consensus process. Once the 2016 Guideline is approved by CCS Council, the CCS has a responsibility to address the gap in knowledge, educate practitioners and support the uptake of the recommendations in clinical practice. The 2016 Guideline will review the latest evidence and update recommendations in the following areas of clinical dyslipidemia management:

- Who to screen, how to assess risk and who to treat based on risk?
  The recommendations will be updated to reflect latest evidence on identifying who should be screened, how often they should be screened and to recommend models for risk assessment that support shared decision making to improve the likelihood that patients will reach lipid targets 1-4.

- What are recommended goals of lipid lowering therapy and how should they be achieved?
Evidence will be reviewed to determine if LDL-C should still be the primary target of therapy with apoB and non-HDL-C as alternate targets. Additionally, the evidence on fasting versus non-fasting lipid analyses will be considered.

Maximally tolerated statin therapy remains the first line of treatment. However, there is high inter-individual variability in LDL-C levels attained with statin therapy and extensive evidence extrapolated post-hoc from in-trial achieved lipid parameters indicates that lower LDL-C (as well as lower non-HDL-C and apoB) are associated with a lower risk for CV events. The lipid panel is undertaking extensive review and discussion on the use of specific targets and will make recommendations to guide clinical practice and statin therapy titration.  

- What is the role of non-statin drug therapy and in which circumstances should they be considered?

Since 2012, there have been four clinical trials reporting CV outcomes using non-statin therapy added to statins in high-risk patients. These include HPS-2 THRIVE, IMPROVE-IT, the outcomes analysis from the OSLER program with evolocumab, and the ODYSSEY Long Term study with alirocumab. Although that the latter two studies were not designed as outcome studies, their results are concordant in showing a large risk reduction in CV events.

In addition, studies of Mendelian randomization have also suggested that various gene polymorphisms resulting in lowered LDL-C from birth leads to a reduction in CV outcomes. These reductions are larger than would be predicted from the CTTC analyses with pharmacologic therapy, suggesting that lifelong reduction in LDL-C can yield major CV benefits. Even polymorphisms in genes other than those related to the LDL receptor show this pattern, suggesting that non-statin drugs that safely lower LDL-C may offer clinical benefit. This was further confirmed by the results of the IMPROVE-IT study with ezetimibe. As well, a number of analyses, including those done in statin trials and in PCSK9 inhibitor studies, have not demonstrated any significant toxicity of achieving very low LDL-C levels.

The 2016 Guideline will update the recommendations for non-statin therapy based on the latest evidence evaluating effects of non-statin cholesterol lowering drugs on major cardiovascular events in adults (ezetimibe, evolocumab, alirocumab, fibrates, niacin, bile acid sequestrants, lomitapide and mipomersen).

- Lifestyle and Nutrition

Nutrition therapy, smoking cessation and physical activity are integral components of prevention. The 2016 Guideline will make specific recommendations for health behaviour interventions to improve the lipid profile and importantly reduce the risk of cardiovascular events.
3. Target Audience

The KT program’s target audience includes the cardiologists, other physician specialists, family physicians and allied health professionals that identify, treat and manage patients that are at risk of cardiovascular events due to elevated cholesterol levels.

The CCS Dyslipidemia Guideline panel members are representatives of these target audiences. The panel co-chairs and members are widely respected leaders in dyslipidemia research and management, are fully supportive of this KT program and will be directly involved in the development and delivery of program activities. We appreciate that each audience has its own needs and we tailor the information and level of detail in our CME programs to the specific target audience.

With over 2000 members and 12 affiliated societies; the CCS is well positioned to reach a broad audience of health care providers. The CCS and its members are committed to keeping up to date on latest evidence and developments in best practice and it is CCS’ mission to be a leader in developing and advocating for best practices for cardiovascular care. This KT program is designed to utilize CCS membership and CV community expertise to influence best practice in dyslipidemia management in Canada and ultimately improve patient outcomes.

4. Project Design and Methods

The CCS KT program model strategically combines the evidence-based guidelines with interactive accredited CME and practical resources. In 2013 and 2014, our KT program delivered over 10 regional workshops, developed a smart phone app, developed a handy reference pocket guide, and promoted the 2012 Dyslipidemia Guideline recommendations to the broader cardiovascular community. Now, with the 2016 Guideline almost ready to be published, CCS has an obligation to update and extend our Dyslipidemia KT Program to disseminate the updated recommendations to ensure that Canadian health care providers have the information and tools needed to apply the 2016 Guideline recommendations for the management of dyslipidemia.

This 2016-17 Dyslipidemia KT Program will include a variety of interventions to meet the various learning preferences of the target audience. Our interventions include accredited CME; rapid e-learning modules; and point of care tools and calculators. Our CME programs include both live events as well as asynchronous and synchronous online programs.

Our workshops and webinars are accredited section 1 by the Royal College. They are objective and balanced, address stated learning objectives, and have at least 25% of time devoted to interactivity. Each workshop and webinar involves an evaluation component to access how well the program met the learning objectives. Where resources allow, pre and post testing is used to assess the knowledge gained and retained as well as the impact on confidence levels and potentially practice.

Our discussions and requests from health care providers often focus on the need for clinically oriented tools. To support the dissemination of the 2016 Guideline recommendations, we will focus on disseminating the recommendations and decision algorithms through a variety of practical resources: printed pocket guides, a smartphone app, educational slide decks and
decision calculators. All our guideline resources are offered free of charge and over the years, we have developed an extensive following. Our resources are requested by and shipped to thousands of health care providers and students through networks, clinics, medical institutions and medical meetings in Canada.

Our KOLs are regularly sought out by their colleagues for opinions or advice; they are experienced at speaking at regional or national conferences and they consider themselves early adopters of new treatments. We match the KOL’s experience and interest to the activity and, for CME, we select local KOLs that are representative of the target audience.

**Accredited Live and Online CME:**

Our program will include the development and delivery of at least 3 accredited, interactive workshops at medical meetings across Canada. Our workshops are developed and delivered by the same experts that develop our guidelines. The workshops are designed to engage practitioners, primarily physicians, but also nurses and other allied health in active dialogue in support of evidence-based practice. They are an important dissemination vehicle and are equally important for collecting feedback on practitioner needs. We will present the 2016 Dyslipidemia Guideline at CCC 2016 in Montreal and will approach program planners to deliver audience tailored workshops at upcoming regional meetings such as the CFPC’s Family Medicine Forum, ACC Rockies, CCCN Annual Conference, and other regional meetings as identified.

Our online accredited synchronous and asynchronous CME has become important and cost effective dissemination vehicles to deliver the latest guideline education to those health professionals who do not have the opportunity to attend live meetings. Research has shown that online CME, whether synchronous or asynchronous, has positive outcomes in continuing medical education\(^\text{18}\). In June 2016, we will offer webinar(s) that will present the 2016 Dyslipidemia Guideline in an interactive case based format. Our webinars are designed to be focused 40 minute lunchtime presentations with interactive questions and discussion. This short timeframe allows the physician the flexibility to incorporate learning into their busy schedules.

**Rapid e-learning modules**

Our guideline users have also expressed interest in on-demand educational material in smaller knowledge bytes that allow them to quickly and efficiently learn about topics and find answers. In 2016, we will record multiple rapid e-learning modules that are less than 10 minutes each and cover key messages from the 2016 Dyslipidemia Guideline. The advantage of rapid e-learning is that it can improve retention by presenting essential information quickly in an easily repeatable format\(^\text{19}\). This format also allows the participants to personalize their learning experience with the freedom to access the program according to their own schedules and to control their depth of learning\(^\text{20}\).

In addition to the rapid learning modules, we will extend the life and reach of our CCC workshops and webinars by recording them and making them available as podcasts on our website. Through our workshops, webinars, podcasts and e-learning modules, we expect to
directly reach over 2500 practitioners and engage them in active dialogue about our guidelines and the latest best practices for managing their patients.

**Tools and Calculators**

Our discussions and requests from health care providers often focus on the need for clinically relevant tools. To support the dissemination of the 2016 Guideline recommendations, we will focus on disseminating the recommendations and decision algorithms through a variety of practical resources: printed pocket guides, a smartphone app, educational slide decks and decision calculators. All our guideline resources are offered free of charge and over the years, we have developed an extensive following. Our resources are requested by and shipped to thousands of health care providers and students through networks, clinics, medical institutions and medical meetings in Canada.

Our printed pocket guides continue to be one of our most popular guideline resources. In 2014-15, with the help of our networks, we distributed over 60,000 pocket guides on 4 therapeutic topics. With the 2016 Dyslipidemia Guideline on the horizon, there is strong demand for a printed dyslipidemia pocket guide in both English and French. We expect to distribute over 20,000 of these pocket guides over the next 18 months. In addition to the printed versions, we offer online versions of the pocket guides on our website and in our iCCS guideline app.

Our iCCS Guideline App includes our 6 most popular guidelines (HF, AF, CRT, APT, Dyslipidemia and Drive/Fly) and continues to be popular with health care providers, including cardiologists, trainees and family practice. The iCCS Guideline app is available in both android and iOS platforms and currently has over 4000 users. In 2016, the iCCS app will be updated to include the 2016 Dyslipidemia recommendations, decision algorithms, calculators and related clinical trial information.

Using content and feedback from workshops and webinars, we will develop educational slide decks to facilitate group education on the 2016 Guideline information. These slide decks are very popular with educators, institutions and clinics for their internal medical education or training needs (i.e. grand rounds, medical college/classroom education, etc.). The slide decks are offered free of charge through our website.

Our discussions and requests from health care providers often focus on the need for clinically oriented tools. Although we have some calculators in our iCCS app, there is an unmet demand for point of care decision tools that calculate risk and step through the recommendation algorithms. CCS has the experience and established relationships with technology providers to design, develop and disseminate these tools. In 2014, CCS collaborated on the development of a point of care tool to measure and encourage uptake of our Atrial Fibrillation Guideline. This program resulted in increased adoption of targeted recommendations; 26% to 53% increase for family physicians and 56% to 61% for specialists21. As funds allow, we plan to collaborate with
proven technology providers to develop point of care tools that educate and support uptake of the 2016 Dyslipidemia recommendations.

Our CCS website (www.ccs.ca) continues to be the place to go for CCS guideline news, tools and resources. We will update the website to include an improved presence for the 2016 Dyslipidemia Guideline and all related tools and resources.

5. Evaluation Design

A key element of our KT program model is continuous program evaluation where each activity’s evaluation data feeds the next cycle of education and resource development as well as serving as input for the next guideline update.

Our CME activities incorporate audience participation tools to truly engage our attendees in active learning through discussion and case study analysis. Post session evaluation surveys are used to assess speaker and program effectiveness, how well learning objectives were met and impact on intended practice change. Where resources allow, we utilize pre and post program testing to assess knowledge transfer and the impact on confidence levels. When new information is presented, we strive for at least a 20% increase in confidence levels and 25 - 40% increase in correct answers post program.

We welcome and encourage feedback on our activities and resources at events and through our website and newsletters. Our users often provide suggestions for CME topics and tool improvement/development as well as future guideline updates. Our activity evaluation data is reviewed as collected and collated to assess effectiveness.

To assess overall program impact on guideline awareness and dissemination, we collect metrics on attendance for our CME activities and online learning modules, as well as metrics for pocket guide, smartphone app and slide deck use. Our CME evaluation data is collated annually to assist in planning the program activities for the coming year and assessing best learning approaches.

If funding allows, we plan to conduct a survey shortly after the guideline is published to ascertain awareness and intention to adopt the recommendations in practice. After 1 year, the community will be surveyed again to gauge awareness, uptake and barriers. By closing the loop with a follow up survey, the CCS can understand program impact and barriers. Additionally, reciprocal contact with health care providers adds credibility to the feedback process and provides an added incentive for participants to review their understanding and adoption of the recommendations.17.
6. Detailed Work Plan and Deliverables Schedule

**Deliverables Schedule**

The 2016-17 Dyslipidemia KT Program will operate actively from April 2016 to October 2017 although many of the tools and resources developed will have a lifespan well beyond 2017. Our plan is to initiate the update of the pocket guide and app in early 2016 and then continue with the workshops, webinars and other tool development in 2016-2017. A detailed work plan and schedule is presented below:

<table>
<thead>
<tr>
<th><strong>CCS 2016 Dyslipidemia Guidelines Update KT Program</strong></th>
<th><strong>Activity details</strong></th>
<th><strong>Delivery Date</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Administration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program coordinator</td>
<td>Includes all program administration, program update reports and CME coordination and tool development coordination, management of contact lists, program evaluation, etc.</td>
<td>May 2016 to Oct 2017</td>
</tr>
<tr>
<td>Program Website:</td>
<td>Website maintenance and content updating to ensure up to date section on CCS website dedicated to Dyslipidemia KT program activities and resources</td>
<td>May 2016 to Oct 2017</td>
</tr>
<tr>
<td>KT Committee/KOL meeting at CCC 2016</td>
<td>room rental, AV equipment, staff support</td>
<td>Oct-16</td>
</tr>
<tr>
<td>(Optional) KT Committee/KOL meeting at CCC 2017</td>
<td>room rental, AV equipment, staff support</td>
<td>Oct-17</td>
</tr>
<tr>
<td><strong>Project Deliverables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Raise awareness of 2016 Guideline Update:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General program communications re guideline publication in CJC</td>
<td>Ad in CJC, CCS Online Newsletter articles, Guidelines and KT Newsletter mailings. Includes graphic design and production costs</td>
<td>June 2016 to Oct 2017</td>
</tr>
<tr>
<td>Build community through newsletter and news signup</td>
<td>Develop Newsletter template. Add newsletter signup to CCS website to grow opt-in community for CCS Dyslipidemia Guideline News and activities.</td>
<td>June 2016 to Oct 2017</td>
</tr>
<tr>
<td>Build community through presence at family medicine meeting - Pri-Med May 2016</td>
<td>purchase booth space, ship CCS booth materials, pocket guides, guideline reprints and journals, staff travel and accommodations</td>
<td>May-16</td>
</tr>
<tr>
<td>(Optional) Build community through presence at - FMF November 2017</td>
<td>purchase booth space, ship CCS booth materials, pocket guides, guideline reprints and journals, staff travel and accommodations</td>
<td>Nov-17</td>
</tr>
</tbody>
</table>

**Deliver Online CME:**
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited Online Webinar 1</td>
<td>Content development, marketing and delivery</td>
<td>Jun-16</td>
</tr>
<tr>
<td>Podcasts of Webinar 1</td>
<td>Edit webinar recording and package for on demand viewing through CCS website</td>
<td>Jul-16</td>
</tr>
<tr>
<td>Educational Slide Decks</td>
<td>Using webinar content, develop slide decks with case studies for medical education.</td>
<td>Jul-16</td>
</tr>
<tr>
<td>Optional: Accredited Online Webinars -2</td>
<td>Content development, marketing and delivery</td>
<td>Sep-16</td>
</tr>
<tr>
<td>Podcasts of Webinar 2</td>
<td>Edit webinar recording and package for on demand viewing through CCS website</td>
<td>Oct-16</td>
</tr>
<tr>
<td>Rapid learning modules (3) (additional 3 modules optional)</td>
<td>Develop content, record modules, edit and format for web. Host on streaming site</td>
<td>Nov-16</td>
</tr>
<tr>
<td>Online CME marketing</td>
<td>Banner on CCS website, Ad in CJC, CCS Online Newsletter articles, Guidelines and KT Newsletter mailings</td>
<td>June 2016 to Oct 2017</td>
</tr>
<tr>
<td>Tool development:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update iCCS app (iOS and Android)</td>
<td>Review content changes and identify updates required. Coordinate program changes with developers. Update apps, test and release update.</td>
<td>Aug-16</td>
</tr>
<tr>
<td>Update pocket guide</td>
<td>Review content changes and identify updates required. Coordinate graphic design changes and layout new English pocket guides. Translate content and layout French pocket guide</td>
<td>Jun-16</td>
</tr>
<tr>
<td>Pocket Guides printing and distribution</td>
<td>25,000 copies (15000 English, 5000 French) distributed through regional meetings and direct shipment to medical institutions, clinics etc.</td>
<td>June 2016 to Oct 2017</td>
</tr>
<tr>
<td>Risk Assessment calculators</td>
<td>source or develop online versions of risk calculators that support the guideline recommendations and make available on CCS website</td>
<td>Sep-16</td>
</tr>
<tr>
<td>market tools</td>
<td>Ad in CJC, CCS Online Newsletter articles, Guidelines and KT Newsletter mailings</td>
<td>June 2016 to Oct 2017</td>
</tr>
<tr>
<td>Workshop Program</td>
<td></td>
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<tr>
<td>Workshop at CCC 2016</td>
<td>Develop content, Audience participation tool</td>
<td>Oct-16</td>
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<tr>
<td>Regional workshop for family medicine</td>
<td>Develop content, speaker and support travel costs. Audience participation tool</td>
<td>Nov-16</td>
</tr>
<tr>
<td>Podcast of CCC 2016 Workshop</td>
<td>Record content, edit podcast and host on web</td>
<td>Dec-16</td>
</tr>
<tr>
<td>Regional workshop for specialists</td>
<td>Develop content, speaker and support travel costs. Audience participation tool</td>
<td>Mar-17</td>
</tr>
<tr>
<td>(Optional) Regional workshop for specialists/family medicine/allied health</td>
<td>If funding and opportunity to present - Develop content, speaker and support travel costs. Audience participation tool</td>
<td>May-17</td>
</tr>
</tbody>
</table>
E: References

The 2016 Dyslipidemia Guideline is the result of an extensive systematic review procedure. CCS guideline documents routinely include in excess of 100 references, as such, the references used in this document as listed below, are not meant to be exhaustive but rather demonstrate the direction of evidence being reviewed as part of the CCS systematic review process.


