Knowledge Transfer at Point of Care: Investigating New Strategies for Guideline Dissemination

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Canadian Cardiovascular Society
Faculty/Presenter Disclosure

- Faculty: Robin Kinch
- Relationships with commercial interests:
  - Grants/Research Support: None
  - Speakers Bureau/Honoraria: None
  - Consulting Fees: None
  - Other: None
Disclosure of Commercial Support

• This program has received financial support from Boehringer Ingelheim Canada in the form of an educational grant.

• This program has received in-kind support from CTC Communications in the form of use of Vivomap™ and logistical support.

• **Potential for conflict(s) of interest:**
  – Boehringer Ingelheim developed a product that will be discussed in this program: dabigatran/pradaxa.
Mitigating Potential Bias

- Boehringer Ingelheim Canada provided an educational grant. They had no input in the content development of this guidelines initiative.
Why we did this?

“We develop guidelines, but we don’t know if and how they are incorporated into practice”

Dr. Allan Skanes
Past Co-Chair - CCS Atrial Fibrillation Guidelines Committee
Guidelines are learned but may not be incorporated into clinical practice...

Despite CME and related tools, this gap may exist and guidelines may not be universally incorporated into clinical practice.

The Head to Heart program was built to bridge the gap by transferring knowledge at the point of care and encouraging more adoption of guideline recommendations.
User Experience

1. Guideline Tutorial
2. HCP Profile
3. Point-of-care Knowledge Transfer
4. Reflection and Evaluation
Study Design

Family Physicians (n = 218)

Practice profile questionnaire & therapeutic update video

Point-of-care survey with 20 patients

Family Physicians (3207)

Results reflection

Specialists (n = 132)

Specialists (2107)

Second round of point-of-care surveys
Knowledge Translation Process

**Awareness**

- Step 1: Video Review of Atrial Fibrillation Guidelines

**Preparation**

- Step 2: HCP Practice profile & Atrial Fibrillation Practice Perspective Questionnaire

**Action**

- Step 3: Point of Care Patient Surveys Reinforcing Guidelines (1 Survey per Patient – 20 Surveys in all)

**Maintenance**

- Step 4: Review Results and Provide Feedback in a Practice Reflection Survey

Prompts are built into the point of care exercise to reinforce the guidelines at the point the treatment decision is made.
Reminding Physicians at Point of Care

• Vivomap™: digital platform that was used to facilitate KT

• Exercises could be completed on desktop computers, smartphones, or tablet devices (eg. iPad)

• The digital format and multi-platform entry points facilitated timely KT at point of care

• Section 3 Performance Assessment credits were provided for the chart audit portion of the program.
Participants in the CCS KT Program Used a Variety of Operating Systems and Devices

Mobile devices used

<table>
<thead>
<tr>
<th>Mobile Device Info</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apple iPhone</td>
<td>265</td>
</tr>
<tr>
<td>2. Apple iPad</td>
<td>112</td>
</tr>
<tr>
<td>3. RIM BlackBerry Bold Touch 9900 Dakota</td>
<td>2</td>
</tr>
<tr>
<td>4. RIM BlackBerry 9800 Torch</td>
<td>1</td>
</tr>
</tbody>
</table>

Operating systems used

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Visits</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>1. Windows</td>
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<tr>
<td>2. iPhone</td>
<td>53</td>
<td>18.15%</td>
</tr>
<tr>
<td>3. iPad</td>
<td>40</td>
<td>13.70%</td>
</tr>
<tr>
<td>4. Macintosh</td>
<td>39</td>
<td>13.36%</td>
</tr>
<tr>
<td>5. BlackBerry</td>
<td>1</td>
<td>0.34%</td>
</tr>
</tbody>
</table>
Results from Head to Heart
Knowledge of guidelines

Average Rating (1-5)

Knowledge of guidelines

Comfort level with guidelines

Specialists (n = 132) Family physicians (n = 117)
Example:
Prompt at the point that the CHADS2 score is calculated

Based on the responses previously entered, it appears that your patient may have a CHADS2 score of 3.

Please confirm the CHADS2 score by confirming the following clinical features.
(check all that apply)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Congestive heart failure</td>
<td>✓</td>
</tr>
<tr>
<td>H Hypertension: blood pressure consistently above 140/90 mmHg (or treated hypertension on medication)</td>
<td>✓</td>
</tr>
<tr>
<td>A Age ≥75 years</td>
<td>✓</td>
</tr>
<tr>
<td>D Diabetes mellitus</td>
<td>✓</td>
</tr>
<tr>
<td>S2 Prior Stroke or TIA</td>
<td></td>
</tr>
</tbody>
</table>

Based on entered clinical features, your CHADS2 score is : 3

This is different from the score you indicated. Would you like to use the calculated score?

Yes  No

Reference
CHADS$_2$ Score Calculator

<table>
<thead>
<tr>
<th></th>
<th>Family Physician program (%)</th>
<th>Specialist initial program (%)</th>
<th>Specialist post-program (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHADS$_2$ score calculated</td>
<td>2728 (72%)</td>
<td>1929 (90%)</td>
<td>98 (94%)</td>
</tr>
<tr>
<td>CHADS$_2$ score incorrect</td>
<td>695 (26%)</td>
<td>305 (16%)</td>
<td>18 (18%)</td>
</tr>
<tr>
<td>Accepted of corrected CHADS$_2$ score</td>
<td>565 (81%)</td>
<td>218 (72%)</td>
<td>16 (89%)</td>
</tr>
</tbody>
</table>

High acceptance rates of the CHADS2 score demonstrates knowledge transfer at the Point of Care.
After this consultation/visit, which of the following antithrombotic drugs will the patient be taking?

(Please include all of the drugs the patient will be on, not just new medications.)

- Aspirin
- Warfarin
- Dabigatran
- Rivaroxaban
- Clopidogrel
- Other [Please specify]
- My patient will not be on antithrombotic therapy

With a CHADS$_2$ score of $>1$, your patient has a high risk of stroke.

The 2012 CCS AF Guidelines Update recommend that patients receive oral anticoagulation (OAC) therapy. Further, most patients should receive dabigatran, rivaroxaban, or apixaban in preference to warfarin.

Would you like to revisit the treatment selection?

[Yes] [No]
OAC use before and after consult

Family Physicians

Specialists*

- The increased use of new OACs and the decreased use of warfarin demonstrates effective knowledge transfer of the guidelines

*Only patients with a CHADS₂ ≥ 1

new OAC = dabigatran, rivaroxaban & apixaban
• The decrease in OAC prompt occurrence demonstrates maintenance of knowledge transfer

OAC prompt occurrence

Initial program

Post-program

Specialists (n=2153)

Family physicians (n=3774)

52%

48%

31%
Would they do it again?

• When asked, 23.5% of the specialists surveyed another 5 patients without honoraria.

• Family physicians have not yet been asked.
Evaluation Results for Specialists
Program elements were well received.
Over 75% of the participants found that the prompts were useful in helping them make guideline concordant decisions.
About 50% of the participants felt that the prompts came up less frequently throughout the course of the program.

During the course of this program, did you find that the guideline prompts popped up with less frequency as you completed more surveys?
Over 90% of physicians indicate that they would participate again in this type of initiative.
Conclusions

• High acceptance rates of the CHADS$_2$ prompt demonstrate effective point-of-care knowledge transfer for both family physicians and specialists

• The decreased occurrence of OAC prompts from the initial to the post-program specialist survey suggests the program was capable of altering and maintaining physician behaviour to increase guideline adherence

• Increased guideline adherence was made evident by the decrease in warfarin and aspirin usage and the increase in usage of new OACs
Thank you!