Canadian Association of Radiologists
Annual Scientific Meetings: How Many Abstracts Go On to Publication?

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NO CONFLICTS OF INTEREST TO DECLARE
Introduction

- Research is a pillar of medicine, leading to important improvements in health care and public health
- Journal publication and distribution is an important part of disseminating this research knowledge
- Without dissemination of knowledge, it is difficult for medical advances to be made

“Knowledge is not simply another commodity. On the contrary. Knowledge is never used up. It increases by diffusion and grows by dispersion.” - Daniel J. Boorstin
The CAR Annual Scientific Meetings are a national forum for the presentation of new research in Canada.

Also included at these conferences are Educational Exhibits, which although not traditional research, help spread general knowledge to a wider audience.

At this conference, preliminary or final results of studies are presented as abstracts and presentations.

However, the full-paper publication rate of abstracts presented (and thus wider distribution in journals) has not been studied.
Objectives of this Study

- To determine the publication rate of abstracts presented at the CAR Annual Scientific Meetings
  - Including: Resident-in-Training Awards, Scientific Exhibits, and Educational Exhibits

- Secondary objectives:
  - To determine the publication rates by Canadian university
  - To determine which journals abstracts are published in
  - To assess common changes made from abstract to publication
  - To assess time to publication
Methods

- Records of abstracts presented at previous CAR conferences from the years 2005 to 2011 were obtained
- An online search for corresponding full-paper articles was performed to determine which abstracts went on to publication
- Search included PubMed database, Google Scholar, and search by University institution
- Potential articles initially sought by search for key title words and phrases. If no corresponding article found, this was followed by search for author. If this yielded negative results, then website of each university institution was searched for publication listings
- When articles identified, concordance was verified and authors, university institution, journal, and date of publication noted
Results – Publication Rate by Exhibit Category

• Of the 402 total abstracts presented, 112 were published (28%)

• Overall publication rate was:
  ○ 37% of Radiologists-In-Training Presentations (39/106)
  ○ 34% of Scientific Exhibits (34/100)
  ○ 20% of Educational Exhibits (34/170)
## Results – Publication Rate by Exhibit Category

<table>
<thead>
<tr>
<th>Type of Abstract</th>
<th>Total Abstracts</th>
<th>Scientific Exhibits</th>
<th>Educational Exhibits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Total #</td>
<td>Pub</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>16</td>
<td>5</td>
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<tr>
<td></td>
<td>2007</td>
<td>17</td>
<td>5</td>
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<td></td>
<td>2008</td>
<td>16</td>
<td>4</td>
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<tr>
<td></td>
<td>2009</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>106</td>
<td>39</td>
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<tr>
<th>Proffered Papers</th>
<th>Audit Projects</th>
<th>Total Abstracts</th>
</tr>
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<tr>
<td></td>
<td>Year</td>
<td>Total #</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>11</td>
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<tr>
<td></td>
<td>2007</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>55</td>
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<tr>
<td></td>
<td>2009</td>
<td>59</td>
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<tr>
<td></td>
<td>2010</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>
Note that the publication rates of Resident and Scientific Exhibits are higher than Educational Exhibits. This may be because journals tend to be moving away from publishing educational case reports, due to space limitations (for example, the restriction of Resident Corner Cases in the CARJ\(^1\))

Results – Publication Rate by School

- The University of British Columbia and University of Ottawa presented and published the greatest number of abstracts
  - UBC: 66 abstracts and 25 publications (38% pub rate)
  - U of Ottawa: 62 abstracts and 17 publications (27% pub rate)

- The University of Montreal had the greatest percentage of abstracts published at 42% (8 of 19)
Results – Publication Rate by School

Comparison of Total # Abstracts to Total # Published for Each School

- Greatest # abstracts presented and greatest # publications
- Second greatest # abstracts presented and second greatest # publications
- Greatest percentage of abstracts published

- Total Abstracts
- Total Published
### Results – Publication Rate by Journal

#### Top Publishing Journals

<table>
<thead>
<tr>
<th>Journal</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Canadian Association of Radiologists Journal (CARJ)</td>
<td>30</td>
</tr>
<tr>
<td>2) Journal of Vascular and Interventional Radiology</td>
<td>9</td>
</tr>
<tr>
<td>3) American Journal of Roentgenology (AJR)</td>
<td>7</td>
</tr>
<tr>
<td>4) Journal of Computer Assisted Tomography</td>
<td>5</td>
</tr>
<tr>
<td>4) Skeletal Radiology</td>
<td>5</td>
</tr>
<tr>
<td>6) Radiology</td>
<td>4</td>
</tr>
<tr>
<td>7) RadioGraphics</td>
<td>3</td>
</tr>
<tr>
<td>8) 41 Other journals (each with 2 or fewer publications)</td>
<td>49</td>
</tr>
</tbody>
</table>
Results – Publication Rate by Journal

- The range of publishing journals was wide
  - 48 different journals total
- The top publisher was the Canadian Association of Radiologists Journal (CARJ)
  - 27% of publications were in CARJ
- This was followed by the Journal of Vascular and Interventional Radiology, the AJR, the Journal of Computer Assisted Tomography, Skeletal Radiology, Radiology, and RadioGraphics
  - Totalling 29% of publications
- The other 44% of published abstracts were in a large variety of other journals
Results – Changes from Abstract to Publication

- Of the abstracts that went on to publication, 42% had no observable modifications.
- The most common changes were an increase in author team (35%), and having a different first author (25%).
Results – Time to Publication

- 83% of publications were within 3 years of presentation at the CAR
  - 30% within the first year
  - 27% one year later
  - 26% two years later
  - 16% three or more years later
Effect of Time to Publication on Publication Rate in 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Total #</th>
<th>Pub</th>
<th>T Pub (%)</th>
<th>Not Pub</th>
</tr>
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<tbody>
<tr>
<td>2005</td>
<td>47</td>
<td>15</td>
<td>32%</td>
<td>32</td>
</tr>
<tr>
<td>2006</td>
<td>57</td>
<td>12</td>
<td>21%</td>
<td>45</td>
</tr>
<tr>
<td>2007</td>
<td>49</td>
<td>17</td>
<td>35%</td>
<td>32</td>
</tr>
<tr>
<td>2008</td>
<td>55</td>
<td>19</td>
<td>35%</td>
<td>36</td>
</tr>
<tr>
<td>2009</td>
<td>59</td>
<td>19</td>
<td>32%</td>
<td>40</td>
</tr>
<tr>
<td>2010</td>
<td>64</td>
<td>20</td>
<td>31%</td>
<td>44</td>
</tr>
<tr>
<td>2011</td>
<td>71</td>
<td>10</td>
<td>14%</td>
<td>61</td>
</tr>
<tr>
<td>Average</td>
<td>57</td>
<td>16</td>
<td>29%</td>
<td>41</td>
</tr>
</tbody>
</table>

Since only 57% of abstracts are published by one year after presentation, it is likely that publication rates from 2011 are underestimated (given that this study was completed in 2012). This is demonstrated by the lower publication rate in 2011 compared to the other years.
Conclusion

• In total, almost one-third (28%) of all abstracts presented at the CAR conferences between 2005 and 2011 went on to journal publication

• The publication rates at other radiologic meetings include:
  - 33% at the 1993 and 1995 RSNA Scientific Assemblies1, 2
  - 39% at the 2000 European Congress of Radiology conference3
  - 29% at the Royal Australian and New Zealand College of Radiologists (RANZCR) conferences between 1996 and 19994
  - 8.5% at the 1996 Journees Francaises de Radiologie (French Radiology Congress)5 in Paris

4Bydder SA, Joseph DJ, Spry NA. Publication rates of abstracts presented at annual scientific meetings: how does the Royal Australian and New Zealand College of Radiologists compare?
Limitations

- Some study limitations should be noted:
  - Some abstracts may have been published after this literature was completed, or still have yet to be published (especially 2011 abstracts)
  - Publications not indexed in the PubMed database, Google Scholar, or University websites may have been missed
  - Using the English language search may have missed some article titles that were published in French (for example from Laval University or University of Montreal)
  - All of the above may have potentially led to underestimation of publication rate
The reasons for abstracts not being published are likely multifactorial (possibilities including time constraints, lack of space in journals, surviving the peer-review process, and studies still being ongoing\(^1\))

Further exploration into reasons and barriers for abstracts not being published may be a next step in future research.

Acknowledgments

• Thank you for taking the time to read through this presentation

• We gratefully acknowledge:
  ○ The CAR for providing us records of previous conferences, and giving us the opportunity to present at the 76th Annual Scientific Meeting

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