Pre-residency publication record and its association with publishing during pediatric residency

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I do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Je n’ai aucune affiliation (financière ou autre) avec une entreprise pharmaceutique, un fabricant d’appareils médicaux ou un cabinet de communication.
BACKGROUND

- Elements reviewed in CaRMS applications are poorly associated with subsequent resident performance

- Candidate publication record does not predict resident evaluations in the scholar category, and resident publication potential is unknown

OBJECTIVE

To identify whether publishing prior to residency is associated with publishing during pediatric residency.
METHODS

- **Population:** Certified Pediatricians (from Royal College of Canada Directory Listing)
- **Variable:** 0 or ≥ 1 Publications prior to pediatric residency
- **Outcome:** Publishing during residency
- **Source:** PubMED Database
Methods

Author Validation

Factors influencing research drug trials in adolescents with anorexia nervosa.

Norris ML\textsuperscript{1}, Spettigue W, Buchholz A, Henderson KA, Obeid N.

Author information

\textsuperscript{1}Department of Paediatrics, Children’s Hospital of Eastern Ontario/University of Ottawa, Ottawa, Ontario, Canada.

Supportive Characteristics

- Matching middle initial
- Pediatric medicine topic
- Author affiliated with Canadian location
• Classification as prior to or during residency based on publication date

![Diagram showing timeline for medical school start, residency start, and royal college certification with distinctions between prior and during residency based on publication date.]

- Prior
- During

4 years

Med School Starts
Residency Starts
Royal College Certification
• **Statistical Analysis**

  » Pilot data suggested a sample size of \( N = 274 \) required to detect a 20% difference (\( \alpha = 0.05, \beta = 0.80 \))

  » ~140 individuals certified per year, thus 4 years of data collected for sample size requirement and to look for trends between years

  » IBM SPSS (v 21) used for Fisher’s Exact and Odds Ratios calculations

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RESULTS

• Control Group

» 31/39 (79%) response rate

» No instances of incorrect author identification

» Pre-residency publication status correct in 27/31 (87%)

» During residency publication status correct in 28/31 (90%)
• **Final Dataset Analysis**

<table>
<thead>
<tr>
<th>Year</th>
<th>Pediatricians</th>
<th>Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>123</td>
<td>78</td>
</tr>
<tr>
<td>2010</td>
<td>155</td>
<td>119</td>
</tr>
<tr>
<td>2011</td>
<td>135</td>
<td>127</td>
</tr>
<tr>
<td>2012</td>
<td>154</td>
<td>148</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>567</strong></td>
<td><strong>472</strong></td>
</tr>
</tbody>
</table>
### RESULTS

- **Accuracy of Author Identification**

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publications/Year</td>
<td>2009 - 2012</td>
<td></td>
</tr>
<tr>
<td>Pediatric Medicine</td>
<td>334 (70.8%)</td>
<td></td>
</tr>
<tr>
<td>Canadian Location</td>
<td>431 (91.3%)</td>
<td></td>
</tr>
<tr>
<td>Middle Initial</td>
<td>100 (21.2%)</td>
<td></td>
</tr>
<tr>
<td>At least 1 of above</td>
<td>465 (98.5%)</td>
<td></td>
</tr>
<tr>
<td>At least 2 of above</td>
<td>349 (73.9%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>472</td>
<td></td>
</tr>
</tbody>
</table>
## RESULTS

<table>
<thead>
<tr>
<th>2009-2012</th>
<th>During</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior</td>
<td>0</td>
<td>0</td>
<td>407 (71.8%)</td>
</tr>
<tr>
<td></td>
<td>≥ 1</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>≥ 1</td>
<td>278</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>93</td>
<td>160 (28.2%)</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>345 (60.8%)</td>
<td>222 (39.2%)</td>
<td>567</td>
</tr>
</tbody>
</table>
RESULTS

With a prior publication, odds ratio of publishing during residency
\[= 2.98 \text{ (95% CI 2.04 to 4.36)}\]

Absolute Risk Reduction = 58.0\% - 31.7\% = 26.3\%

\[\downarrow\]

\[\text{NN”A”} = 4 \text{ (95% CI 3 to 6)}\]
Results

• Publication trend by year
DISCUSSION

• Prior publication is significantly associated with publishing during pediatrics residency

• Adds to previous literature limited by more subjective reports/outcomes

• Opportunities to direct and increase academic training within residency training programs
• **Limitations**

  » Individual verification of publication author/time classification

  » Missed publications

  » Possible systematic bias towards 0, 0 group
• **Future Directions**
  
  » Other associations with residency publication?
  
  • Previous graduate degree
  
  • Previous pediatric medicine publication
  
  • Number of pre-residency publications

  » How is the rapidly changing pediatric medical education and research environment affecting publishing trends for trainees?
• Co-Investigators
  » Dr. Hilary Writer
  » Dr. Mark Norris

• Acknowledgements
  » Dr. Dayre McNally
  » Dr. Kusum Menon
  » Dr. Nick Barrowman

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• Visitez le http://www.collegeroyal.ca/evaluationscifr afin de remplir une évaluation de la séance.

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