Are college mandated research requirements for trainee doctors incentivising research waste?

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Published: 21/02/2020

Document Version:
Peer reviewed version

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Link to publication in Bond University research repository.

Recommended citation (APA):
Are college mandated research requirements for trainee doctors incentivising research waste?

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BACKGROUND. Patients do better in research-intense environments.1 The importance of research is reflected in program requirements of specialist trainee doctors globally. We had observed trainees conducting projects of wide-ranging methodological quality, and express significant pressure to complete projects quickly to gain fellowship. Anecdotal evidence led us to believe that specialist college curricula requirements were driving trainee research behaviour and was therefore an important target for systematic study.

AIM. To systematically explore the intended research curricula of Australian trainee doctors as described by specialist colleges, their constructive alignment, and the nature of scholarly project requirements.

METHODS. Content analysis of publicly available Australian specialty training college curricula, including websites, curricula, handbooks, and learning and assessment-related documents.

To assess constructive alignment (FIGURE), data were coded as learning objectives, activities, or assessments; and by:

• Research domain (Glasziou’s triangle2): using, participating in, or leading research, and
• Competency (Bloom’s Taxonomy3): remembering, understanding, applying, analysing, evaluating, creating.

To further explore research requirements (TABLE) learning and assessment activities were coded by type (formal research training, thesis, etc.), if it was linked to a scholarly project, and the project supervisor’s required level of research experience. Activities were also classified as mandatory, or part of an option-based or points based system.

CONCLUSION. Colleges place emphasis on leading research and research deliverables, but not formal research training and guidance from research experienced supervisors. This may be contributing to research wastage in medical research.

Future work will look to quantify outcomes of enacted curricula, including quality of trainee research outputs and their subjective experiences.

Accepted for publication: bmjopen-2019-034962.R1

RESULTS.

FIGURE: There was a lack of constructive alignment across college research curricula.

Some emphasis place on using research objectives but almost no learning activities or assessments.

Almost no emphasis on participating in research.

High emphasis on leading research objectives and assessments, but not learning activities.

TABLE: Research requirements focused on outputs rather than developing researcher capabilities.

<table>
<thead>
<tr>
<th>N = 58</th>
<th>Yes (a)</th>
<th>Yes (b)</th>
<th>Yes (c)</th>
<th>Optional No/ NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholarly Project</td>
<td>51</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Research Training</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>Experienced Research Supervisor</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>30 (d)</td>
</tr>
<tr>
<td>Publication as first or second author</td>
<td>4</td>
<td>10</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Publication as any author</td>
<td>5</td>
<td>10</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>Conference presentation</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Thesis</td>
<td>38</td>
<td>6</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

(a) Mandatory: requirement had to be fulfilled to gain fellowship; (b) Optional based system: requirement is one of several mandatory options and trainee needed to fulfill at least one option; (c) Points based system: requirement carried a pre-specified number of "points" where trainees must accumulate a certain number of "points"; (d) Encouraged (rather than optional), (e) 12 stipulated project supervisor requirements (e.g. college fellow) but did not mention research experience, nine did not provide any description of the characteristics of the project supervisor, three did not mention a project supervisor anywhere in the publicly available documents.

Project Page:
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