Where Do Doctors Go? Tracking Medical Graduates in India

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Outline of Presentation

• Background: Understanding extent and patterns of migration of doctors from India

• Study objectives and methods

• Current location and occupation of medical graduates from Kerala and Bihar

• Conclusion and implications
Background: Extent of Doctor Migration

High-end physician migration from India
Manas Kaushik, Abhishek Jaiswal, Naseem Shah & Ajay Mahal

Objective To examine the relation between the quality of physicians and migration among alumni of All India Institute of Medical Sciences (AIIMS), New Delhi, India over the period 1989–2000.

Methods In a retrospective cohort study, data on graduates of AIIMS were collected from entrance exam qualifier lists, the AIIMS alumni directory, convocation records, the American Medical Association and informal alumni networks. The data were analysed by use of 2x2 contingency tables and logistic regression models.

Findings Nearly 54% of AIIMS graduates during 1989–2000 now reside outside India. Students admitted under the general category are twice as likely to reside abroad (95% confidence interval: 1.53–2.99) as students admitted under the affirmative-action category. Recipients of multiple academic awards were 35% more likely to emigrate than non-recipients of awards (95% confidence interval: 1.04–1.76). Multivariate analyses do not change these basic conclusions.

Conclusion Graduates from higher quality institutions account for a disproportionately large share of emigrating physicians. Even within high-end institutions, such as AIIMS, better physicians are more likely to emigrate. Interventions should focus on the highly trained individuals in the top institutions that contribute disproportionately to the loss of human resources for health. Our findings suggest that affirmative-action programmes may have an unintended benefit in that they may help retain a subset of such personnel.


Doctors For The World: Indian Physician Emigration

Greater self-sufficiency in recipient nations might allow India to focus medical education on domestic health care needs.

by Fitzhugh Mullan

PROLOGUE: One of the most geopolitically critical of the past four years has been India's explosion onto the world stage as an "emerging" Asian economic powerhouse rivaled by many in the West as the natural democratic counter to the hegemonically dominant Chinese juggernaut. With gross domestic product (GDP) growth rates of the old industrialized economies, India has enormous potential as both a consumer market and a center of production, along with an even more rapidly metamorphosing China. This represents a key factor motivating many strategic analysts to dub the twenty-first century as "the Asian century."

Yet for all its advances, India remains a developing country struggling with problems that confound even the most prosperous developed countries, including health and economic disparities between urban and rural settings and a poorly funded public health sector. Ill-equipped to confront an emerging AIDS epidemic, India's distinction as being the largest exporter of highly qualified physicians figures into this complex mix as well. Many who study global workforce migration through a public health lens need to view this trend as a negative, draining needed native brains from meeting the health needs of India's massive population. Others in the economist community point to recent research documenting the economic value that donor nations, such as India, might accrue as a result of physicians, among other workforce, emigration. Indeed, many Indian policymakers themselves openly view India's capacity to produce physicians for export as an asset for the mother country, and they consider shortages in domestic health care access as a function more of resource reallocation than of actual shortages.

This paper delves into the issues by offering a compelling, journalistic description of India's medical education system and the drivers of the emigration phenomenon. The author comes down squarely on the side of curtailment and evisceration by offering policy guidance intended to discourage emigration from both the supply and demand ends of the equation. Fitzhugh Mullan (Imre Marosi, go-between) is the Murdock Bad Professor of Medicine and Health Policy and a professor of pediatrics at the George Washington University, in Washington, DC, and a contributing editor of Health Affairs.
Background: Production of Doctors in Kerala and Bihar

<table>
<thead>
<tr>
<th>Year</th>
<th>Kerala Public</th>
<th>Kerala Private</th>
<th>Kerala Total</th>
<th>Bihar Public</th>
<th>Bihar Private</th>
<th>Bihar Total</th>
<th>India Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>187</td>
</tr>
<tr>
<td>2005</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>239</td>
</tr>
<tr>
<td>2010</td>
<td>6</td>
<td>16</td>
<td>22</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>311</td>
</tr>
<tr>
<td>2016</td>
<td>9</td>
<td>24</td>
<td>34</td>
<td>9</td>
<td>4</td>
<td>13</td>
<td>453</td>
</tr>
</tbody>
</table>

- In 2016, Bihar produced 1,250 and Kerala 4,050 MBBS graduates
Background: Stock of Doctors in Kerala and Bihar

Kerala: Doctor density between 3.2 to 5.38 doctors per 10,000 population

Bihar: Doctor density between 0.33 to 1.1 doctors per 10,000 population.


Source: Rao, Sherawat and Bhatnagar (2016)
Objectives

**Research question:** What job and location choices do medical graduates in the states of Kerala and Bihar make?

- To know patterns and levels of external and internal migration
- Understand job and location preferences
- How does the above differs by doctor and education institution background characteristics?
Methods

• Retrospective study of medical graduate cohorts from selected colleges in Kerala and Bihar.

• Three public and one private college randomly selected from each state.
  o Two private colleges in Kerala did not participate

• Graduating cohort of 2010 selected from each college - adequate time (at least five years) following graduation to make location decisions.
Methods: Strategies to Contact Graduates

(1) Obtain contact details of graduates from their medical colleges.
   – Attempts to locate graduates not successful because many of them had moved or 
     their families were reluctant to provide updated contact information.

(2) Use social media to locate medical graduates.
   – Common for students to keep in touch with batch-mates on Facebook, Linkedin or 
     WhatsApp.
   – Searches on Facebook revealed that several of the cohorts we were seeking had 
     created Facebook groups.
   – We contacted the administrators of these Facebook groups informing them of our 
     study and asking for their assistance in reaching their batch-mates.
   – Setup a website where these graduates could log into and provide detailed 
     information about themselves.
   – However, the response rate to the web link was low even after repeat reminders.
Methods: Strategies Used to Source Information from Graduates

(3) The key informants (identified through social media or otherwise) asked to contact their peers and collect the information on batch mates

- Created a simple data collection tool in Excel for key informants in the target cohorts (along with the class roster) to complete.
- The shortened data collection tool included information on:
  - Current location (country and state)
  - Current occupation
  - Location type of current employment (urban or rural), in case of graduates presently working as doctors
  - Employer type (public or private sector), in case of graduates presently working as doctors
  - Highest medical degree completed
## Results: Response Rates

<table>
<thead>
<tr>
<th>Medical College</th>
<th>Bihar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patna Medical College and Hospital, Patna</td>
<td>93</td>
</tr>
<tr>
<td>Shri Krishna Medical College and Hospital, Muzzafarpur</td>
<td>45</td>
</tr>
<tr>
<td>ANM Medical College and Hospital, Gaya</td>
<td>46</td>
</tr>
<tr>
<td>Katihar Medical College and Hospital</td>
<td>38</td>
</tr>
<tr>
<td>Overall</td>
<td>222</td>
</tr>
<tr>
<td>Graduating class size (n)</td>
<td></td>
</tr>
<tr>
<td>Directly contacted respondents (n)</td>
<td>6</td>
</tr>
<tr>
<td>ANM Medical College and Hospital, Gaya</td>
<td>29</td>
</tr>
<tr>
<td>Katihar Medical College and Hospital</td>
<td>7</td>
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<tr>
<td>Overall</td>
<td>15</td>
</tr>
<tr>
<td>Directly contacted respondents (n)</td>
<td>57</td>
</tr>
<tr>
<td>Completed by key informants using social media and other means (n)</td>
<td>86</td>
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<tr>
<td>ANM Medical College and Hospital, Gaya</td>
<td>13</td>
</tr>
<tr>
<td>Katihar Medical College and Hospital</td>
<td>39</td>
</tr>
<tr>
<td>Overall</td>
<td>23</td>
</tr>
<tr>
<td>Completed by key informants using social media and other means (n)</td>
<td>161</td>
</tr>
<tr>
<td>Information from Social Media/Other sources (n)</td>
<td>3</td>
</tr>
<tr>
<td>ANM Medical College and Hospital, Gaya</td>
<td>-</td>
</tr>
<tr>
<td>Katihar Medical College and Hospital</td>
<td>3</td>
</tr>
<tr>
<td>Overall</td>
<td>3</td>
</tr>
<tr>
<td>Total number of responses</td>
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</tr>
<tr>
<td>ANM Medical College and Hospital, Gaya</td>
<td>92</td>
</tr>
<tr>
<td>Katihar Medical College and Hospital</td>
<td>45</td>
</tr>
<tr>
<td>Overall</td>
<td>46</td>
</tr>
<tr>
<td>Graduating class size (n)</td>
<td></td>
</tr>
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<td>Directly contacted respondents (n)</td>
<td>3</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
</tr>
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<td>38</td>
</tr>
<tr>
<td>Overall</td>
<td>221</td>
</tr>
</tbody>
</table>
## Results: Response Rates

<table>
<thead>
<tr>
<th>Medical College</th>
<th>Govt Medical College, Trivandrum</th>
<th>Govt Medical College, Thrissur</th>
<th>Govt Medical College, Kottayam</th>
<th>Amala Institute of Medical Sciences</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduating class size (n)</td>
<td>197</td>
<td>100</td>
<td>101</td>
<td>96</td>
<td>494</td>
</tr>
<tr>
<td>Directly contacted respondents (n)</td>
<td>-</td>
<td>36</td>
<td>11</td>
<td>24</td>
<td>71</td>
</tr>
<tr>
<td>Completed by key informants using social media and other means (n)</td>
<td>194</td>
<td>-</td>
<td>86</td>
<td>71</td>
<td>351</td>
</tr>
<tr>
<td>Information completed by research team from Social Media/Other sources (n)</td>
<td>-</td>
<td>59</td>
<td>-</td>
<td>-</td>
<td>59</td>
</tr>
<tr>
<td>Total number of responses</td>
<td>194</td>
<td>95</td>
<td>97</td>
<td>95</td>
<td>481</td>
</tr>
</tbody>
</table>
**Results: International and Internal Migration Rates**

**2010 Medical Graduates from KERALA (n=481)**

- **In Kerala (75%, 363)**
  - Employed as Doctor (61%, 223)
  - Post-graduate course (31%, 113)
  - Employed Non-Medical (4%, 13)
  - Preparing for post-graduate exam (2%, 7)
  - No information (2%, 7)

- **In India (20%, 93)**
  - Employed as Doctor (37%, 34)
  - Post-graduate course (53%, 49)
  - Employed Non-Medical (8%, 7)
  - No information (3%, 3)

- **Abroad (5%, 25)**
  - Employed as Doctor (60%, 15)
  - Post-graduate course (20%, 5)
  - Employed Non-Medical (20%, 5)
  - No information (2%, 7)

**2010 Medical Graduates from BIHAR (n=217)**

- **In Bihar (53%, 116)**
  - Employed as Doctor (37%, 43)
  - Post-graduate course (52%, 60)
  - Employed Non-Medical (5%, 6)
  - Preparing for post-graduate exam (6%, 7)
  - No information (3%, 6)

- **In India (44%, 96)**
  - Employed as Doctor (65%, 62)
  - Post-graduate course (23%, 22)
  - Employed Non-Medical (4%, 4)
  - Preparing for post-graduate exam (5%, 5)
  - No information (3%, 2)

- **Abroad (3%, 5)**
  - Employed as Doctor (80%, 4)
  - No information (20%, 1)
Majority of graduates working as doctors in Kerala and Bihar were in urban areas and in the public sector.

Larger proportion of female doctors in Kerala were engaged in the public sector compared to male doctors; vice-a-versa for Bihar.
Results: International and Internal Migration Rates

• As compared to earlier studies, only a small proportion has gone abroad. A majority of the graduating cohort is currently in India.

• A majority of those based abroad are employed as physicians. A small proportion of graduates from Kerala are currently pursuing post-graduate training abroad.

• About half of graduates from Bihar are currently outside the state, with a majority in other parts of India.

• A majority of graduates from Kerala have not left the state.
Conclusion

- Medical graduates difficult to retrospectively trace from college records.

- Social media such as Facebook, WhatsApp, LinkedIn provide a novel means of locating individuals.

- Using key informants (i.e. members of the graduating class) to collect information from their peers using social media was the most successful strategy
  - key informants were known to the medical graduates they shared information easily and social media made it easy to locate the graduates.

- Social media offers a powerful way for medical colleges or government agencies to keep track of where medical graduates locate themselves.
Thank You