The Safety-Net Role Of International Medical Graduates

Efforts to restrain physician supply could undo the migration of IMGs to locales that U.S.-trained physicians often ignore.

by Stephen S. Mick and Shoou-Yih Daniel Lee

For nearly fifty years, the United States has had a relatively liberal policy of welcoming foreign-trained physicians (international medical graduates, or IMGs) as hospital residents and then often as permanent additions to the workforce. In 1996, about 23.4 percent of the active postresident physician workforce were graduates of foreign medical schools.¹

IMGs have encountered an ambiguous welcome from their American hosts: On the one hand, they have been welcomed by many communities and hospitals that are hard-pressed to find a U.S.-trained physician willing to practice there. IMGs have integrated themselves into U.S. medicine, steadily increasing their political weight as evidenced by the formation within the American Medical Association (AMA) of a section dedicated to their specific concerns and by the creation in many states of professional associations of foreign-trained physicians.²

Yet, there are efforts both to restrict their arrival in the United States and to impede their permanent residence here. For instance, both the Pew Health Professions Commission and the Institute of Medicine have issued high-profile statements about how to reshape the physician workforce; both groups agreed that the nation’s use of foreign-trained physicians should be diminished.³ Most recently, a “consensus statement” issued by the Association of American Medical Colleges (AAMC), the AMA, and four other national professional associations echoed the view that restrictions on the training of IMGs should be implemented.⁴ What accounts for this unprecedented convergence of views?

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Concerns About IMGs

■ The numbers. First, the sheer number of IMGs engaged in hospital residencies is probably the foremost factor provoking concern: In 1990, 14,914 IMGs were in training, a 21.7 percent jump from 12,259 in the preceding year. This compares with 73,071 and 67,988 U.S. medical graduates (USMGs) in residency training in 1989 and 1990, respectively, a decrease of 0.07 percent. By 1995 this trend had escalated: 24,982 IMGs in residency training, a 104 percent increase from 1989, versus 71,053 USMGs, a 2.8 percent decrease. In short, during 1989–1995 virtually all of the increase in the number of residents in the United States was attributable to IMGs, not USMGs.

The underlying issue is the physician surplus, a phenomenon now believed to exist by most medical leaders, medical associations, and federal government agencies concerned with the physician workforce and health care reimbursement. The surplus is so large that a study based on the opinions of residency program directors contended that as many as 10 percent of resident physicians fail to find full-time positions in their specialty or subspecialty. Whether IMGs compete for these same positions and directly contribute to this problem is unclear. But, there can be no gainsaying that the addition of more than 140,000 IMGs in nearly half a century to the physician workforce is numerically significant.

■ GME reimbursement. A second factor accounting for the current climate of concern regarding IMGs arises from reimbursement for graduate medical education (GME). Many observers are convinced that lucrative Medicare payment for direct and indirect GME costs is the primary reason for the sharp increase in IMG residents since 1989. The Congressional Budget Office (CBO) recently argued that because IMG residents are not, for the most part, U.S. citizens, the federal government has no business paying for their graduate education during periods of budget deficit. The CBO calculated that 1993 Medicare payments to hospitals were about $88,000 per resident. In New York State, the state with the largest number of IMG residents, training hospitals in 1995 received $2.9 billion in GME payments from both state and federal payers. This worked out to about $188,000 for each resident in the state.

Hence, the roughly $6 billion of GME Medicare funds are an attractive target for those who question the need to spend so much money on supporting teaching hospitals. There is now an overwhelming argument to control GME reimbursement to reduce health care costs, restrict the overall supply of physicians, and limit the nation’s reliance on physicians from abroad.

■ The “110 percent” solution. The tack urged by many organi-
zations is generally like that of the AAMC: that “the number of first year residency positions in the country [be] more closely into alignment with the current number of graduates from accredited [U.S.] medical and osteopathic schools.” The Council on Graduate Medical Education (COGME), although it urged moderation regarding the IMG presence in U.S. medicine in its first report in 1988, is now considering stringent recommendations that would curtail IMG residency training in U.S. hospitals. COGME’s approach is illustrative of most proposals, including, for example, that of Medicare’s Physician Payment Review Commission (PPRC): a limitation on the total number of residency positions to 110 percent of the annual number of graduating U.S. medical students. More precisely, there would be a limitation of the federal subsidy to the prescribed 110 percent residency slots.

**Safety-Net Function Of IMGs**

Efforts to constrain physician growth and GME expenses notwithstanding, there is a lurking question regarding IMGs: What is IMGs’ “safety-net” function, if any, in the health care system? The possible safety-net role of IMGs is the notion that IMGs have been and are practicing medicine in places that are avoided by USMGs, so that even though a physician surplus may exist, maldistribution of USMGs has created pockets of opportunity for IMGs.

**State differences in USMG and IMG distributions.** We report here data that suggest more firmly than past studies do that IMGs and USMGs have differed in their distribution within the physician workforce. Based on merged 1996 AMA Physician Masterfile and Area Resource File data on all active postresident USMGs and IMGs, we present several analyses that were part of a more comprehensive study undertaken for the Bureau of Health Professions and COGME. The key question was whether the distribution of IMGs was different from what one would have expected if the USMG distribution were taken as the standard. A derivative question was whether the distribution of IMGs relative to USMGs varied according to selected geographical indicators of need or underservice. The key measure was the difference between the proportions of USMGs and IMGs in a given state’s counties that were classified as likely to exhibit need for medical services.

**Methods.** Taking infant mortality in Michigan as an example, we compared USMGs and IMGs in counties with an infant mortality rate of at least 8.9 per thousand live births annualized over the period 1988–1992 (the national county average). With nearly twice as many USMGs as IMGs located in such counties one might conclude that there was no IMG safety-net function. Indeed, if one were
to compute the physician-to-population ratio of USMGs and IMGs in such counties, the former would be larger than the latter. (This would turn out to be the case throughout the United States: USMGs normally outnumber IMGs, regardless of the geographical boundary selected.) Based on this measure, one would almost always conclude that IMGs have no safety-net role. However, in the Michigan example, the relative propensity of USMGs to locate in counties with average to above-average infant mortality rates was lower than that of IMGs (43.5 percent and 48.6 percent, respectively).

Several points that are important to our methodology should be mentioned here. First, the AMA location data were based on a physician’s mailing address, which was not necessarily the same as the address of practice. We assumed that this potential source of error was equivalent for IMGs and USMGs and thus had no impact on the percentage difference. Second, the AMA Physician Masterfile did not include data on osteopaths. Whether the results of the analyses would have been different had osteopaths been included is the focus of one of our next research efforts. We suspect that there would have been some effect, but it would have been concentrated geographically because about half of the roughly 30,000 active osteopaths are located in just five states.

Third, the data are displayed with states grouped together into four categories: states with fewer than 300 IMGs, states with 300–999 IMGs, states with 1,000–4,999 IMGs, and states with at least 5,000 IMGs. This enabled us to avoid comparing a state with few IMGs with one with many IMGs and to assess whether USMG/IMG differences were concentrated in only very small IMG states or were more widely present.

**IMG/USMG distributions by infant mortality rate.** Twenty-four of forty-eight states had larger proportions of IMGs in counties with infant mortality rates of 8.9 per thousand live births or higher; eighteen of these USMG/IMG differences were statistically significant (Exhibit 1). Significantly larger proportions of IMGs were present across all four state groups. Three states with fewer than 300 IMGs had significantly larger proportions of IMGs. Five states with 300–999 IMGs, six states with 1,000–4,999 IMGs, and four states with at least 5,000 IMGs had significantly larger proportions of IMGs.

By contrast, only six states had proportions of USMGs that were significantly larger. These findings underscore the importance of examining USMG and IMG distributions at a smaller level of aggregation than the United States as a whole. Although many more states had IMG differences, important exceptions existed.

**USMG/IMG distributions by physician-to-population ratio.** Exhibit 2 presents data sorted as in Exhibit 1 but shows USMG/IMG differ-
EXHIBIT 1
Differences In Proportions Of Active Postresident USMGs And IMGs In Counties With An Infant Mortality Rate Of At Least 8.9 Per Thousand Live Births, 1996

<table>
<thead>
<tr>
<th>States with fewer than 300 IMGs</th>
<th>SD</th>
<th>ID</th>
<th>UT</th>
<th>MS</th>
<th>VT</th>
<th>NE</th>
<th>ME</th>
<th>NH</th>
<th>WY</th>
<th>MT</th>
<th>ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>States with 300–999 IMGs</td>
<td>OK</td>
<td>RI</td>
<td>NV</td>
<td>MN</td>
<td>HI</td>
<td>AR</td>
<td>CO</td>
<td>SC</td>
<td>NM</td>
<td>AL</td>
<td>WA</td>
</tr>
<tr>
<td>States with 1,000–4,999 IMGs</td>
<td>KY</td>
<td>VA</td>
<td>WV</td>
<td>GA</td>
<td>MD</td>
<td>CT</td>
<td>LA</td>
<td>NC</td>
<td>TN</td>
<td>MA</td>
<td>MD</td>
</tr>
<tr>
<td>States with 5,000 or more IMGs</td>
<td>IL</td>
<td>NY</td>
<td>PA</td>
<td>OH</td>
<td>NJ</td>
<td>CA</td>
<td>FL</td>
<td>TX</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>USMG-IMG difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-12%</td>
</tr>
<tr>
<td>-10%</td>
</tr>
<tr>
<td>-8%</td>
</tr>
<tr>
<td>-6%</td>
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<tr>
<td>-4%</td>
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<tr>
<td>-2%</td>
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<tr>
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<tr>
<td>4%</td>
</tr>
<tr>
<td>6%</td>
</tr>
<tr>
<td>8%</td>
</tr>
</tbody>
</table>

SOURCE: Authors’ analysis, 1996.
NOTES: USMG is U.S. medical graduate. IMG is international medical graduate. Omits Alaska, District of Columbia, and Delaware. Montana, Wyoming, Idaho, and South Dakota did not have significant differences in proportions because the number of cases for each of these states was so small.

* = p < .05  ** = p < .01  *** = p < .001
EXHIBIT 2
Differences In Proportions Of Active Postresident USMGs And IMGs
In Counties With Fewer Than 120 Physicians Per 100,000 Population, 1996

<table>
<thead>
<tr>
<th>States with fewer than 300 IMGs</th>
<th>NE</th>
<th>ID</th>
<th>UT</th>
<th>ME</th>
<th>VT</th>
<th>ND</th>
<th>MT</th>
<th>MS</th>
<th>SD</th>
<th>WY</th>
</tr>
</thead>
<tbody>
<tr>
<td>States with 300–999 IMGs</td>
<td>MN</td>
<td>NV</td>
<td>DE</td>
<td>CO</td>
<td>SC</td>
<td>WA</td>
<td>OR</td>
<td>IA</td>
<td>AR</td>
<td>KS</td>
</tr>
<tr>
<td>States with 1,000–4,999 IMGs</td>
<td>VA</td>
<td>IN</td>
<td>MI</td>
<td>MD</td>
<td>WI</td>
<td>TN</td>
<td>AZ</td>
<td>LA</td>
<td>MO</td>
<td>GA</td>
</tr>
<tr>
<td>States with 5,000 or more IMGs</td>
<td>NJ</td>
<td>NY</td>
<td>CA</td>
<td>FL</td>
<td>IL</td>
<td>TX</td>
<td>PA</td>
<td>OH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Authors’ analysis, 1996.
NOTES: USMG is U.S. medical graduate. IMG is international medical graduate. Omits Alaska, Connecticut, District of Columbia, Hawaii, New Hampshire, Massachusetts, and Rhode Island.
* = p < .05  ** = p < .01  *** = p < .001
ences in counties with physician-to-population ratios of less than 120 physicians per 100,000 population, an extremely low level when compared with the U.S. average of approximately 220 physicians per 100,000 population. About 9 percent of U.S. counties fell into the less than 120 per 100,000 grouping.

Of the forty-four states for which comparisons could be made (omitted states had no counties with physician-to-population ratios this low), thirty-five states (79.5 percent) had differences favoring IMGs, thirty of which were statistically significant. Nine states had differences favoring USMGs, five of which were significant. Again although larger IMG proportions predominated, this was not universal.

These two indicators revealed that IMGs were frequently over-represented in counties where high infant mortality existed or where the physician-to-population ratio was well below average. Analyses not shown here also revealed significantly larger IMG proportions in counties that were classified according to five other indicators of potential need, always with, as above, major exceptions.

**Conclusions And Implications**

These results, although highly suggestive, are not definitive because the location of a physician—IMG or USMG—in a county characterized by need does not necessarily mean that the physician is actually serving the population in need. However, the results do support the hypothesis that IMGs and USMGs have been and probably are distributed differently across the United States. What is needed now is analysis of data that link physicians to patients in such a way that the characteristics of both can be determined and assessed. Such databases are difficult to find, particularly at the national level. Therefore, we assume, as others do, that IMGs and USMGs are equally likely to serve the population in need within a given geographic boundary. This is the safest assumption to make in the absence of data showing the contrary.

**Supply versus maldistribution.** These findings underscore a major dilemma confronting physician workforce reform. The United States is experiencing an increasing supply of physicians relative to population, yet maldistribution of the supply continues to exist. IMGs, although very likely to be in safety-net practices in many (but not all) states, are adding to the total number of physicians.

Knowledgeable physician workforce analysts understand this twin issue. For example, a close reading of the eight reports issued by COGME between 1988 and 1996 shows that the United States had an adequate physician-to-population ratio, that further in-
creases in the supply of physicians were neither desirable nor necessary, and that the United States had too few generalists and too many specialists. However, COGME also recognized that problems of access that were attributable to maldistribution of physician supply persisted in some areas of the nation. The council has consistently called for improved medical practice conditions so that U.S.-trained physicians would locate in underserved areas. The “consensus statement” of the AAMC, the AMA, and others also emphasizes the need to eliminate maldistribution. However, improving practice conditions in underserved areas has been difficult, especially in rural areas. Over much of this century, policies and programs have been less successful than was hoped.

■ Old and new solutions. If growth in the workforce is to be reduced, the challenge will probably be even greater than before to align the overall physician supply with changing levels of need and demand for services. Solutions tried in the past could be improved with more political and financial strength: A renewed National Health Service Corps, more vigorous efforts to instill in medical students and residents a sense of obligation to serve in areas of need, or improvements in medical education in emphasizing primary care medicine and in sensitizing students to cultural diversity are three examples that come to mind.

Some new possibilities may also help to resolve maldistribution problems. These include advances in telemedicine, diffusion of integrated health care systems into rural areas, and expansion of Medicaid managed care plans into inner cities. Market-oriented policy analysts argue that the growth of managed care will take care of some of these distribution problems. Signs of a change of heart among U.S. medical students toward primary care specialties are now clear. For the third straight year, more than half of graduating medical school seniors have selected a primary care specialty for at least the first year of training. Many attribute this trend to the market power of managed care plans that are favoring primary care physicians over specialists.

■ A warning. We conclude with a warning: Change in the status quo will probably occur, but an overzealous effort to restrain physician supply may succeed at the possible expense of remedies for maldistribution. Our research has shown that a pattern of social differentiation and stratification—two terms sociologists use to characterize status and occupational distinctions among groups—is clear among IMGs and USMGs. The very texture of the physician workforce consists of IMGs practicing in locales that are often ignored by their U.S.-trained counterparts. This is the outcome of processes and forces that are nearly fifty years old, and they may not
change quickly, whatever the outcome of policy deliberations at the state and national levels.

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NOTES


13. Mick et al., *An Analysis of the Comparative Distribution of Active Post-Resident IMGs and USMGs*.

14. In the Michigan example, the number of IMGs (and USMGs) in the state was divided into the number of IMGs (and USMGs) in counties with above-average infant mortality rates, yielding comparative proportions whose difference was tested using a difference-of-proportions statistic. This approach to data analysis is common in the social sciences and is described in H. Blalock, *Social Statistics*, 2d ed. (New York: McGraw-Hill, 1972). Thus the −5.1 percent difference ($p < .001$) suggested that IMGs were more likely to be found in these counties than were USMGs. This procedure was repeated for each of the states that had counties that met the criterion selected—an infant mortality rate at or above the national average.


16. Some states as well as the District of Columbia may be excluded from a particular analysis because the entire jurisdiction was considered a county (the case of the District) or because the state had no counties meeting the county-level criterion—that is, no counties with high infant mortality levels.


18. Mick et al., *An Analysis of the Comparative Distribution of Active Post-Resident IMGs and USMGs*.


21. AAMC et al., *Consensus Statement on the Physician Workforce*.


24. Mullan, “Powerful Hands.”
