

Working Paper #102

**International Medical Graduate
Physicians in the U.S.:
Changes Since 1981**

March 2005

by

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This project was funded by the U.S. Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Analysis grant #1-U79 HP 00014-01. Catherine Veninga, Ph.C., University of Washington Center for Health Workforce Studies, was the cartographer. For additional graphical representation of these and related data, go to <http://www.fammed.washington.edu/wwamirhrc>. This paper was presented at the International Symposium on Past and Present Trends in Health Workforce, Barcelona, Spain (April 21-23, 2005). The proceedings of the Symposium are scheduled to be published in early 2006 with the support of the World Health Organization.



ABOUT THE WORKFORCE CENTER

The WWAMI Center for Health Workforce Studies at the University of Washington Department of Family Medicine is one of six regional centers funded by the National Center for Health Workforce Analysis (NCHWA) of the federal Bureau of Health Professions (BHP), Health Resources and Services Administration (HRSA). Major goals are to conduct high-quality health workforce research in collaboration with the BHP and state agencies in Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI); to provide methodological expertise to local, state, regional, and national policy makers; to build an accessible knowledge base on workforce methodology, issues, and findings; and to provide wide dissemination of project results in easily understood and practical form to facilitate appropriate state and federal workforce policies.

The Center brings together researchers from medicine, nursing, dentistry, public health, the allied health professions, pharmacy, and social work to perform applied research on the distribution, supply, and requirements of health care providers, with emphasis on state workforce issues in underserved rural and urban areas of the WWAMI region. Workforce issues related to provider and patient diversity, provider clinical care and competence, and the cost and effectiveness of practice in the rapidly changing managed care environment are emphasized.

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The WWAMI Center for Health Workforce Studies is supported by the Bureau of Health Professions' National Center for Health Workforce Information and Analysis. Grant No. 1U76-MB-10006-03; \$250,000; 100%.

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International Medical Graduate Physicians in the U.S.: Changes Since 1981

ABSTRACT

BACKGROUND

International Medical Graduates (IMGs—physicians trained in medical schools outside of the U.S. and Canada) account for nearly a quarter of all the active physicians within the U.S. National policy issues regarding IMGs are passionately debated, but little is known about trends in IMG migration and practice in the U.S.

METHODS

We use five-year interval data from the American Medical Association from 1981 through 2001, and other national data sets, to describe changes over time in IMGs' country of education, demographics, type of practice, specialty, and propensity to practice in needy locations since 1981.

RESULTS

Since 1981, India, the Philippines, Mexico and the Republic of Korea have remained leading countries in which IMGs in the U.S. attended medical school. Since 1981, most IMGs are located in 10 U.S. states. Relatively fewer IMGs are now working in hospitals than 20 years ago. The average age of IMGs was substantially older in 2001 than in 1981. While the proportion of female physicians is increasing in the U.S., the rate of increase is lower for IMGs than for U.S. medical school graduates (USMGs). Currently IMGs are only a little more likely to be generalists than USMGs. IMGs have remained less likely than USMGs to practice in rural areas, but among rural physicians, a greater proportion of IMGs practice in Health Professional Shortage Areas than of USMGs. IMG generalists were as likely as USMG generalists to work in rural "persistent poverty areas" in 2001.

POLICY IMPLICATIONS

The U.S. relies on IMGs to provide a significant portion of the country's health care, including generalist care and service to underserved populations. Understanding the trends in IMG migration and practice is important for determining how best to train an adequate supply of physicians with appropriate skills for the U.S.

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BACKGROUND

In the U.S., International Medical Graduates (IMGs—physicians working in the U.S. but trained in medical schools outside of the U.S. and Canada) currently account for almost a quarter of all the active physicians within the country (McPherson et al., 2004). IMGs play a significant role in the U.S. health care system—approximately 180,000 are currently practicing in the country—but the future of that role is part of the debate about whether physicians are in shortage or oversupply in the U.S. (Cooper et al., 2002; Mullan, 2000). To help inform the national policy debate about how many and what types of physicians should be trained and allowed to practice in the U.S., this study examines chronological trends in IMG migration and practice in the U.S., and compares the roles of IMGs with those of physicians trained at U.S. and Canadian medical schools (USMGs) using data from five five-year intervals from 1981 through 2001.

After graduating from foreign medical schools, IMGs must pass multiple hurdles to practice medicine in the U.S., including securing a visa (if they are not U.S. citizens or permanent residents), obtaining Educational Commission for Foreign Medical Graduates (ECFMG) certification, completing residency training, and passing licensure exams. Mullan (2004) indicates that 12.5 percent of IMGs are U.S.-born. The avenues through which non-citizen IMGs can obtain visas to study and practice in the U.S. have changed over the past several decades, with restrictions heightening particularly in the 1970s as a result of fears of a physician surplus in the U.S., and again after the terrorist attacks of September, 2001 when general U.S. immigration policy became more restrictive (Johnson et al., 2003).

About half the IMGs who are not already citizens or permanent residents begin their U.S. medical careers by obtaining J-1 visas that allow medical education or

training through residencies in the U.S. (Biviano and Makarehchi, 2002). Following a period of training, J-1 visa recipients must return to their home country (or country of last residence) for at least two years before applying to return to the U.S. An exception is if the IMG obtains a J-1 visa waiver, which usually requires agreement to work for a specified period of time in an underserved area, such as a federally-designated health professional shortage area (HPSA), medically underserved area, or in a designated mental health professional shortage area. Major supporters of IMGs have been from states in need of physicians who will practice in underserved areas and some large urban hospitals in areas where it is difficult to recruit adequate numbers of USMGs.

The number of J-1 waivers allowed, granted, and how they are administered has varied over time, influencing the quantity and type of IMGs introduced into the U.S. With J-1 visa waivers, IMGs can work, for example, under the Conrad 30 program, which allows each state to recommend 30 new J-1 visa waivers per year. The Conrad 30 Program is a 2002 expansion of the previous Conrad 20 Program, which was created in 1994 as an amendment to Title II of the Immigration and Nationality Act to attract new IMGs to vacancies in HPSAs. J-1 visa waivers can be recommended through other government avenues, called “interested government agencies” (IGAs). Until December 2002 the U.S. Department of Agriculture and the Appalachian Regional Commission were the primary IGAs recommending J-1 waivers. Since that time, the U.S. Department of Health and Human Services and the federal Delta Regional Authority have taken over that role (Hagopian et al., 2003). Many IMGs go on to seek visas that allow more permanent residence, and some become permanent residents or citizens of the U.S. As a result, and because of changing circumstances within foreign countries, the number, characteristics, and distribution of IMGs has changed over time, and this study describes these changes.

METHODS

This study used data from five-year intervals from the American Medical Association (AMA) physician files: 1981, 1986, 1991, 1996 and 2001. The AMA data include information on all allopathic and most osteopathic physicians in the U.S. IMGs were defined from the AMA file as having graduated from medical schools other than in the U.S. or Canada. Physicians were not included in this study if they were any of the following: military, had an “inactive” code for employment, had non-U.S. addresses, residents in training, over the age of 101, or for whom location could not be determined. The results first describe all USMGs and IMGs, with the exclusions described above. These are followed by findings limited to those

physicians primarily working in direct patient care, defined as having office-based, hospital staff, or locum tenens as their professional activity.

Generalist providers were defined based on primary specialty designations in the AMA file. Generalist physicians were those who named as their primary specialty either family practice, general practice, general pediatrics, or general internal medicine. AMA data were also used to determine provider demographics, and practice location.

The Area Resource Files (ARFs) of the U.S. Health Resources and Services Administration was used as a source of Health Professional Shortage Area (HPSA) information for each of the five study years from various ARFs (U.S. Health Resources and Services Administration, 2004). A HPSA is a federal designation that indicates the area (all or part of a county) has shortages of primary medical care, dental or mental health providers. Persistent poverty counties are defined as those rural counties having 20 percent or more of the population below poverty for three previous decades, as designated by the Economic Research Service from its 1994 Economic Typology. Approximately 535 of the nation’s non-Metro counties qualify for persistent poverty designation, and in these counties reside 18.8 percent of the nation’s population (Economic Research Service, 1994).

The rural/urban location of each provider’s practice was determined by linking the practice location ZIP code from the AMA data with Rural-Urban Commuting Area (RUCA) designations (Morrill et al., 1999). RUCAs are a classification system, applicable at the U.S. Census tract-level, of U.S. geographic areas based on core population and degree of work trip commuting flow. Using the ZIP code approximation (version 1.11), the 30 RUCA categories were aggregated into four types of areas: urban, large rural, small rural and isolated small rural.

Statistical tests for differences were not applied in this study because the entire population of physicians in the U.S. was being examined and the AMA Masterfile has near-universal coverage. While such tests could have been employed, it was determined that while even small differences would be statistically significant all meaningful differences worth presenting were statistically significant. For instance, the 95 percent confidence interval around the 2001 figure of 25.60 percent female IMGs is 25.37-25.83.

RESULTS

COUNTRY OF MEDICAL SCHOOL

In 2001, the majority of IMGs working in the U.S. graduated from medical schools in seven foreign countries; 32,822 from India (20.3%), 17,357 the Philippines (10.7%), 10,049 from Mexico (6.2%), 7,310 from Pakistan (4.5%), 5,311 from China (3.3%), and 4,300 from the Republic of Korea (2.7%).

Figure 1 shows the country in which IMGs in the U.S. in 2001 attended medical school, and their comparative numbers. While India and the Philippines have retained the top two positions since 1981 (India increasing its share from 16.2% of IMGs in 1981 and the Philippines declining in share from 13.7% in 1981), the rank of countries from whom the remaining graduates originate has changed. Mexico and the Republic of Korea have remained among the top seven countries from which practicing IMGs in the U.S. attended medical school since 1981, but increases in graduates from Pakistan, China and the Dominican Republic moved those countries to the top seven rank as Italy, Germany, and the United Kingdom dropped below the top seven. Interestingly, the ranking of Italy and the United Kingdom dropped during this time, even as the total number of IMGs from those countries increased. Many foreign medical schools have more of their graduates practicing in the U.S. than do some individual U.S. medical schools (Johnson et al., 2005).

DISTRIBUTION

The majority of IMGs are located in 10 U.S. states, with the top 10 remaining unchanged since 1981. By frequency of IMGs for 2001, they are the eastern states of New York, New Jersey, Pennsylvania, Ohio, Maryland and Florida, the central states of Illinois, Michigan, and Texas, and the west coast state of California. These top 10 states contained 70.5 percent of all the entire nation's IMGs in 2001, down only slightly from the comparable 1981 figure of 73.0 percent. As illustrated in Figure 2, the distribution of IMGs in 2001 is dominated by the large urban cities, most of which tend to be located in the eastern U.S.

As shown in Figure 3, the greatest increases in number of IMGs in the U.S. by location since 1981 are in the areas of the country with the largest cities. Small increases, and some decreases, in the number of IMGs have occurred in the more rural and less populated parts of the country.

PATTERNS OF ORIGINS AND DESTINATIONS

There have been consistent patterns of IMG origin countries and destination states. High percentages of the IMGs from certain countries migrate to specific states with large cities. For instance in 2001, relatively high percentages of the IMGs trained in Central

and South American countries were in Florida (which includes the city of Miami): Columbia (25%), Cuba (67%), Dominican Republic (32%), Jamaica (29%), Nicaragua (48%), Panama (33%), and Venezuela (33%). Likewise, high percentages from Europe were in New York State (where New York City is located): Belgium (24%), Israel (34%), Italy (34%), and Switzerland (35%). California (where Los Angeles is located) had high percentages from Pacific Asian countries such as China (24%) and Hong Kong (32%).

Some states, many of which have high proportions of rural residents, have relatively high concentrations of IMGs from certain countries. For instance, physicians from India comprise the following percentages of IMGs within states: Alabama (26%), Arkansas (22%), Georgia (25%), Iowa (28%), Mississippi (26%), Montana (25%), and West Virginia (27%). IMGs from India are more evenly distributed across the nation than IMGs from nearly all other countries. These patterns are generally extensions of patterns existent in 1981. With a more geographically detailed analysis, other “pipelines” from specific countries or even medical schools to particular states, cities, and towns might be evident. For example, nearly half of Haiti's 758 physicians practicing in the U.S. are in North Carolina (49%).

NUMBER AND WORK SETTING

Between 1981 and 2001 the total number of physicians in the U.S. increased by 81 percent—from 380,300 to 687,019. Between 21.6 and 23.6 percent of these physicians were IMGs—having increased in number at roughly the same rate as USMGs. There have been substantial changes in IMG and USMG distribution by major professional activity over the two decades. For both IMGs and USMGs the percentages involved in administration, medical research, and teaching have decreased. IMGs were relatively less likely to be involved in all three of these activities and have proportionally decreased more than USMGs. For instance, 5.4 percent of IMGs were in research in 1981 compared with 1.8 percent in 2001 (comparable USMG percentages were 4.6% and 2.2%). However, IMGs primarily engaged in office-based practice have increased from 64.9 percent to 72.7 percent across the same time span, with a corresponding decrease in hospital-based practice from 16.6 percent to 11.8 percent (comparable USMG figures are 78.0%, 79.2%, 7.1%, and 8.2%). Among IMGs, the proportion providing direct patient care increased from 81.5 percent in 1981 to 84.6 percent in 2001, while the proportion of USMGs providing patient care increased from 85.0 percent to 87.4 percent.

Figure 1: Country in which IMGs in the U.S. in 2001 Attended Medical School, by Number of IMGs

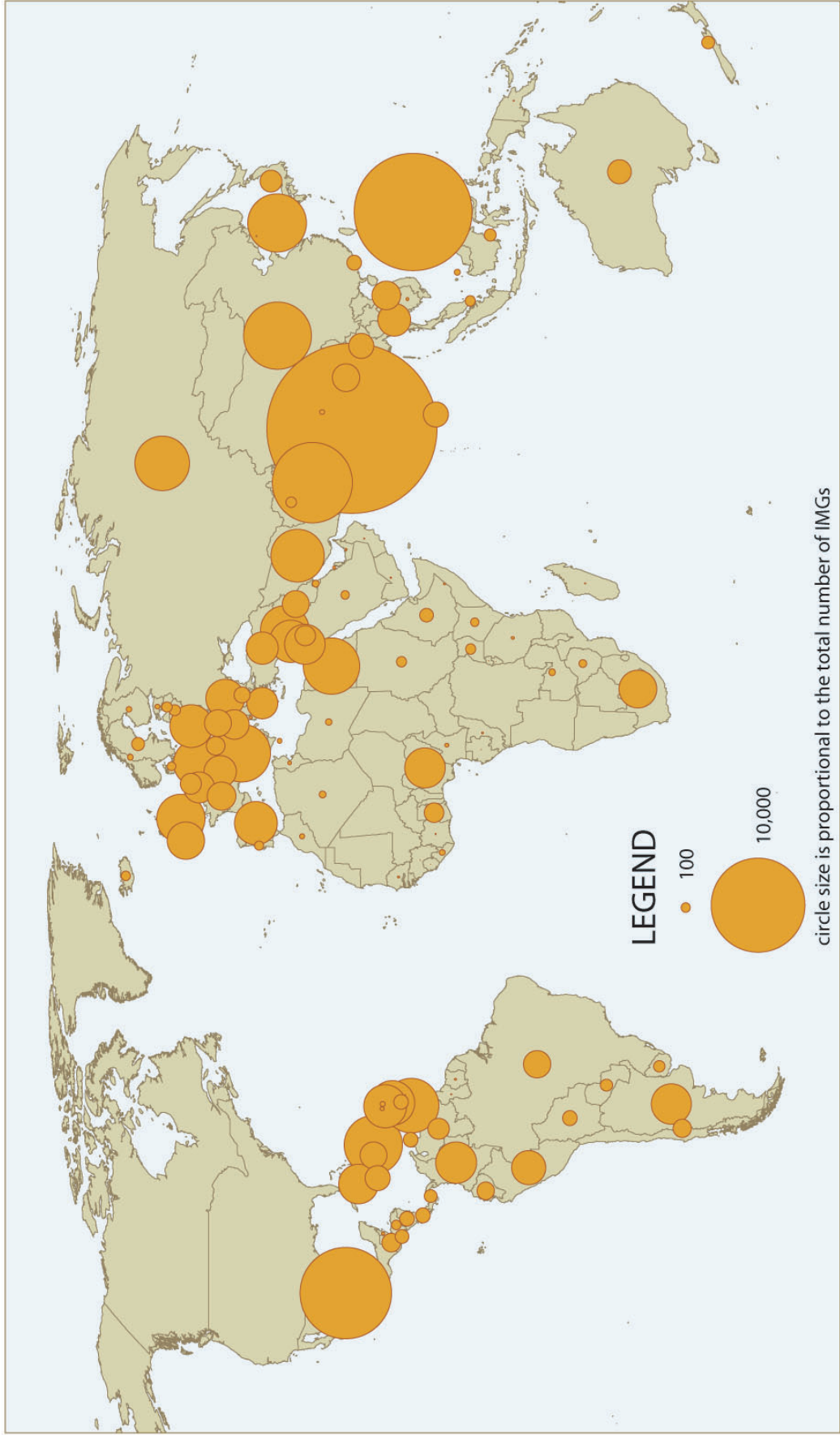


Figure 2: Distribution of IMGs in the U.S. in 2001, by County

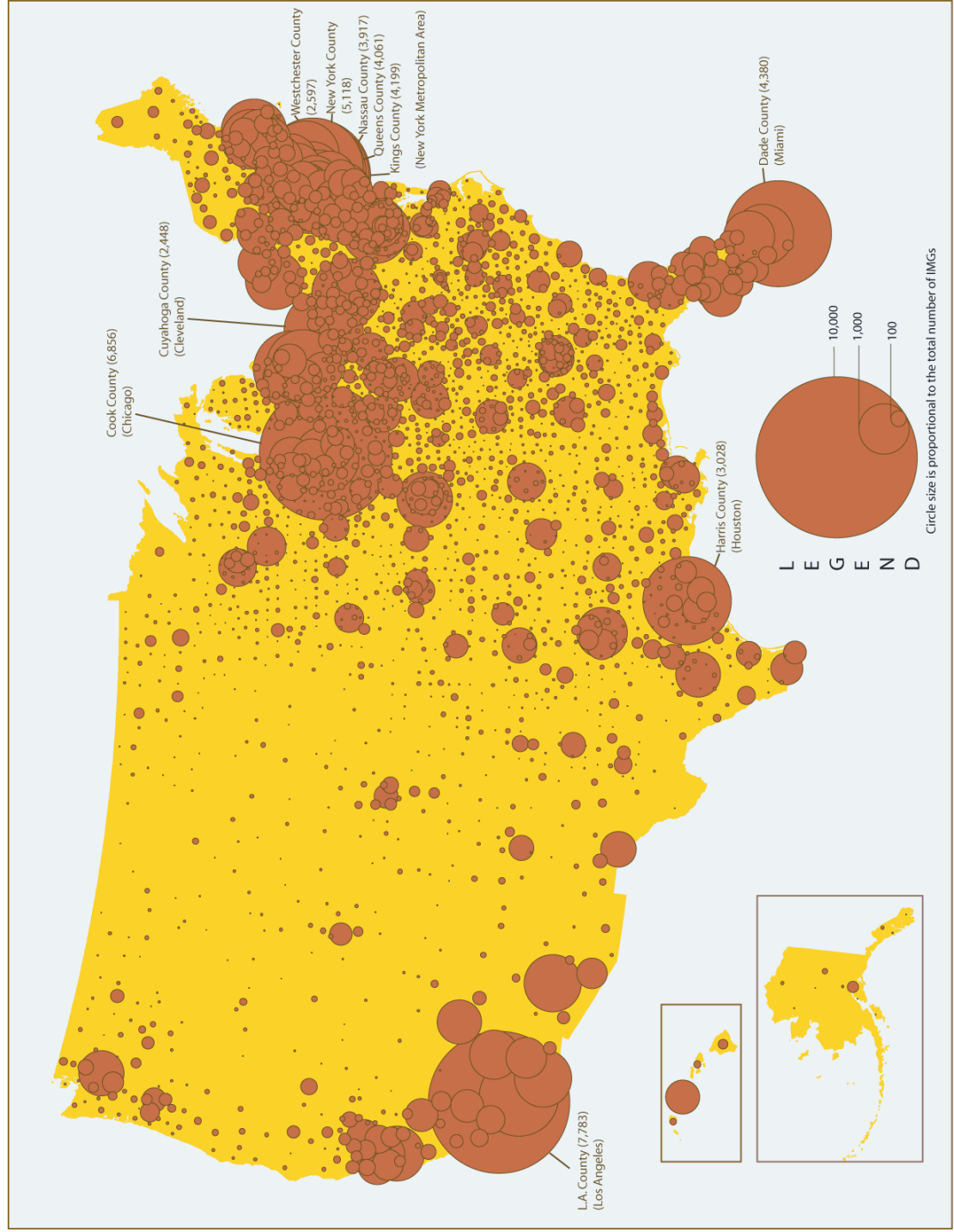
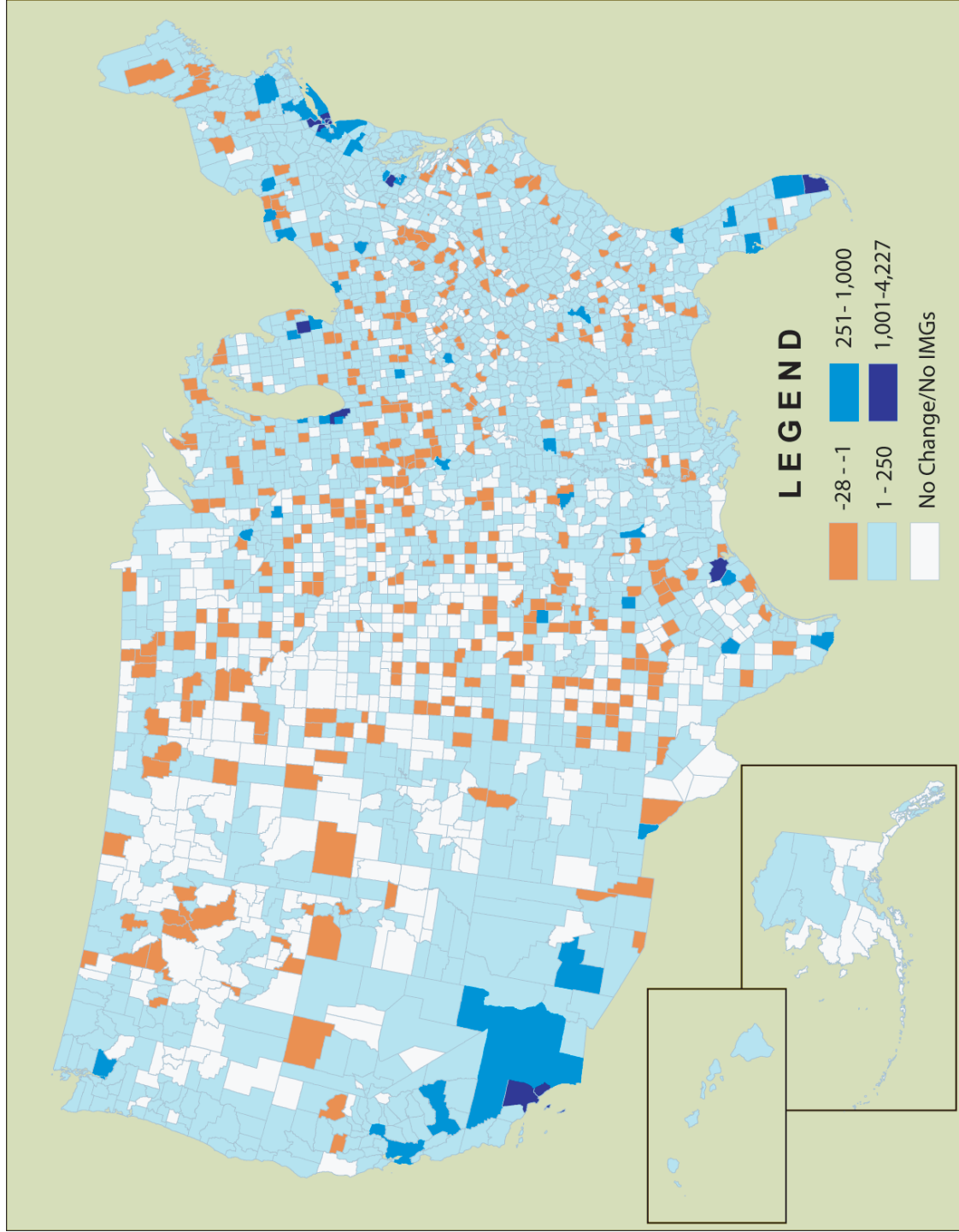


Figure 3: Change in the Number of IMGs in the U.S. from 1981 to 2001, by County



DEMOGRAPHIC CHARACTERISTICS

The average age of patient care IMGs was substantially older in 2001 than in 1981, and IMGs in 2001 were, on average, nearly three years older than USMGs (see Table 1). While the proportion of female physicians is increasing in the U.S., and the proportion of females among IMGs remains higher than among USMGs, the increase is smaller for IMGs (from 16.8% in 1981 to 25.6% in 2001) than for USMGs (from 7.2% in 1981 to 22.8% in 2001). Most IMGs report that they are non-Hispanic and either White (from 39.2% in 1981 to 34.2% in 2001) or Asian/Pacific Islander (from 45.6% in 1981 to 42.4% in 2001), compared with USMGs who are primarily non-Hispanic and White (from 95.4% in 1981 to 87.4% in 2001). The proportion of IMGs that are non-White and/or Hispanic has changed only slightly since 1981, whereas the percentage of non-Whites and Hispanics among USMGs has steadily increased. However, a large proportion of respondents did not provide race and ethnicity data, so these results should be interpreted with caution.

SPECIALTY

In 2001, IMGs providing direct patient care were more likely to be generalists than USMGs (39.3% for IMGs versus 34.2% for USMGs), while the opposite was true in 1981 (35.8% for IMGs versus 33.1% for USMGs) (see Figure 4). Among generalist physicians, from 1981 through 2001, the proportion of IMGs who are general internists increased from 13 percent to 19 percent, family physicians/general practitioners has decreased from 13 percent to 10 percent, and pediatricians stayed about the same (from 8% to 9%), while the percentage of USMGs has changed little (see Table 2). Thus, the percentage of specialist IMGs has

decreased from 66.8 to 60.9 percent during the study period, with USMGs increasing slightly.

IMGs IN PLACES OF NEED

Rural: Though the proportion of both IMGs and USMGs providing patient care in rural areas has declined (see Figure 5), the IMGs have remained relatively less likely than USMGs to practice in all types of rural areas (large rural, small rural and isolated small rural) of the U.S. from 1981 through 2001. In 1981, 14.9 percent of USMGs and 11.7 percent of IMGs practiced in rural areas compared with 13.8 percent of USMGs and 10.5 percent of IMGs in 2001 (not tabled). As shown in Figure 5, IMGs were proportionately less likely to be practicing in each of the three types of RUCA-defined rural areas compared to USMGs, and the trend for both has slightly decreased at similar rates. When limited to only generalist physicians (not tabled), the proportion of IMG generalists providing care in isolated small rural areas has remained relatively stable compared with USMGs: 7.3 percent of IMG generalists in 1981 and 6.5 percent in 2001 were in these most isolated small rural areas, compared with 12.1 percent of USMG generalists in 1981 and 9.9 percent in 2001 (see Figure 6).

Persistent Poverty Counties: Few physicians practice in the nation's rural persistent poverty counties. In 1981, generalist IMGs were also marginally less likely to work in rural "persistent poverty" counties than were USMGs, but in 2001 IMGs were as likely as USMGs to practice in these counties (see Figure 6).

Health Professional Shortage Areas (HPSAs): While a relatively small proportion of generalist IMGs and USMGs provide care in rural areas, the generalist

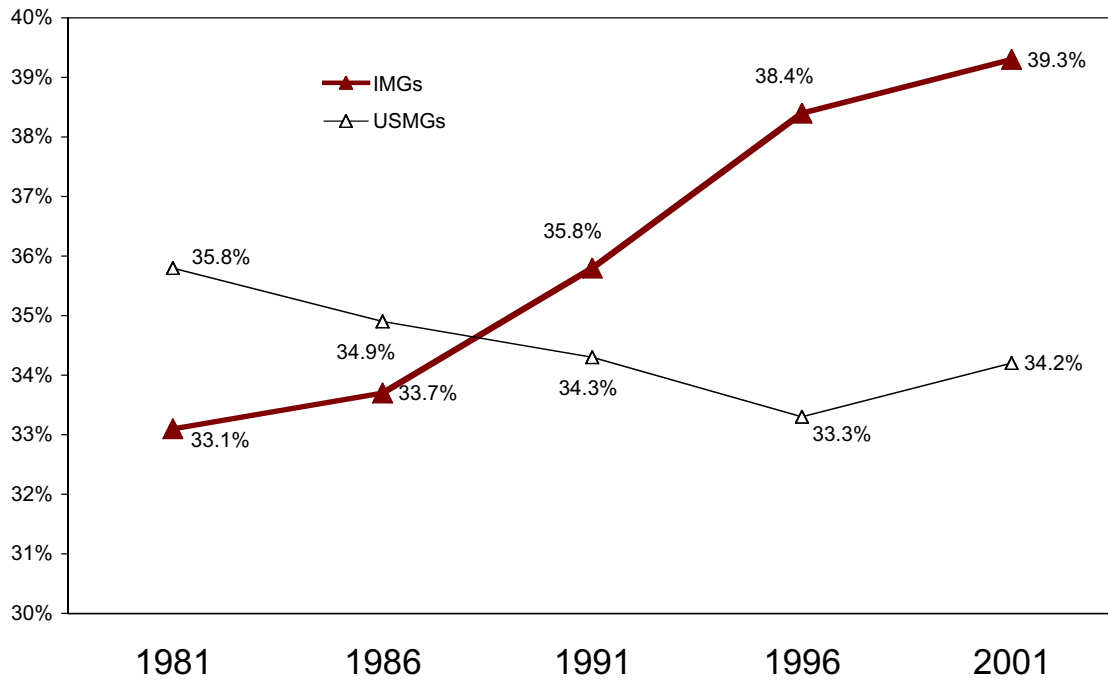
Table 1: Number and Demographic Characteristics of USMGs and IMGs Providing Patient Care in the U.S. from 1981 through 2001

	1981		1986		1991		1996		2001	
	USMG	IMG	USMG	IMG	USMG	IMG	USMG	IMG	USMG	IMG
Number of physicians	253,415	67,045	289,694	81,552	348,683	92,909	399,225	115,082	459,090	137,000
% of all patient care physicians	79.1%	20.9%	78.0%	22.0%	79.0%	21.0%	77.6%	22.4%	77.0%	23.0%
Age:*										
< 40	35.1%	32.5%	36.2%	23.9%	35.6%	17.0%	28.3%	17.4%	23.7%	17.5%
40-59	45.6%	56.7%	44.6%	63.0%	47.1%	65.4%	54.9%	63.0%	59.1%	57.4%
> 60	19.3%	10.9%	19.2%	13.2%	17.4%	17.6%	16.7%	19.7%	17.2%	25.1%
Mean age	47.2	45.8	47.0	47.5	46.5	49.5	47.5	50.2	48.6	51.5
Sex: % female	7.2%	16.8%	10.5%	18.9%	15.2%	20.0%	18.8%	22.6%	22.8%	25.6%
Race/ethnicity:† white, not Hispanic	95.4%	39.2%	94.1%	38.9%	92.4%	39.8%	90.4%	36.8%	87.4%	34.2%

* Totals may not add to 100% because of rounding.

† Percentages reflect the proportion of the respondents who answered the race/ethnicity question and reported their race/ethnicity as white, and not Hispanic. Percentage "missing data" (the proportion of all respondents who did not respond to the race/ethnicity question) was, from left to right: 43.5%, 59.3%, 40.7%, 53.9%, 42.6%, 53.9%, 41.3%, 56.3%, 36.7%, 42.8%.

Figure 4: Percentage of Patient Care IMG and USMG Physicians Who Are Generalists, 1981-2001



physicians within rural areas tend to be found in counties that have been designated entirely or partly as HPSAs. IMGs within rural areas are more likely than USMGs to practice in HPSAs, and the more isolated the rural area in which the IMG and USMG generalists are located, the greater the likelihood that they are working in HPSA counties. For instance in 2001, 84.0 percent of IMGs practicing in isolated small rural areas were in counties entirely or partially designated as HPSAs compared with 73.3 percent of the USMGs located within isolated small rural counties (see Figure 7). This pattern of generalists in HPSAs has

been consistent in all three types of rural areas since 1981. Between 1981 and 2001 there was an increase in the proportion of both IMG and USMG rural physicians practicing in HPSAs: IMGs in large rural area HPSAs increased from 51.2 to 69.6 percent, IMGs in small rural area HPSAs increased from 64.8 to 80.0 percent, IMGs in isolated small rural areas HPSAs increased from 64.8 to 84.0 percent, USMGs in large rural area HPSAs increased from 47.2 to 62.4 percent, USMGs in small rural area HPSAs increased from 58.0 to 70.6 percent, and USMGs in isolated small rural area HPSAs increased from 64.6 to 73.4 percent.

Table 2: Percentage of Patient Care IMG and USMG Physicians by Specialty, 1981-2001

	1981		1986		1991		1996		2001	
	USMG	IMG	USMG	IMG	USMG	IMG	USMG	IMG	USMG	IMG
Number of physicians	253,415	67,045	289,694	81,552	348,683	92,909	399,225	115,082	459,089	137,000
General internists	12.3%	12.6%	12.3%	13.0%	12.7%	15.0%	11.6%	18.0%	11.9%	19.4%
Family physicians/ general practitioners	17.6%	13.0%	16.7%	13.0%	15.5%	12.3%	15.6%	11.5%	15.6%	10.8%
General pediatricians	5.8%	7.5%	5.9%	7.8%	6.2%	8.5%	6.1%	8.9%	6.5%	9.0%
Total generalists	35.7%	33.1%	34.9%	33.8%	34.4%	35.8%	33.3%	38.4%	34.0%	39.2%
Psychiatrists	6.0%	8.1%	5.7%	7.9%	5.6%	7.8%	5.3%	7.4%	4.8%	6.9%
General surgeons	6.5%	7.1%	5.7%	6.3%	5.0%	5.7%	4.3%	4.8%	3.9%	4.0%
Anesthesiologists	3.3%	8.0%	3.9%	8.0%	4.7%	7.4%	5.1%	6.8%	5.0%	6.4%
Obstetrician/gynecologists	6.1%	6.6%	6.0%	6.4%	5.8%	5.9%	5.7%	4.9%	5.7%	4.2%
Other specialists	42.3%	37.0%	43.9%	37.7%	44.6%	37.3%	46.3%	37.7%	46.6%	39.4%
Total specialists	64.2%	66.8%	65.2%	66.3%	65.7%	64.1%	66.7%	61.6%	66.0%	60.9%

Figure 5: Percentage of Patient Care IMG and USMG Physicians in Large Rural, Small Rural, and Isolated Small Rural Areas of the U.S., 1981-2001

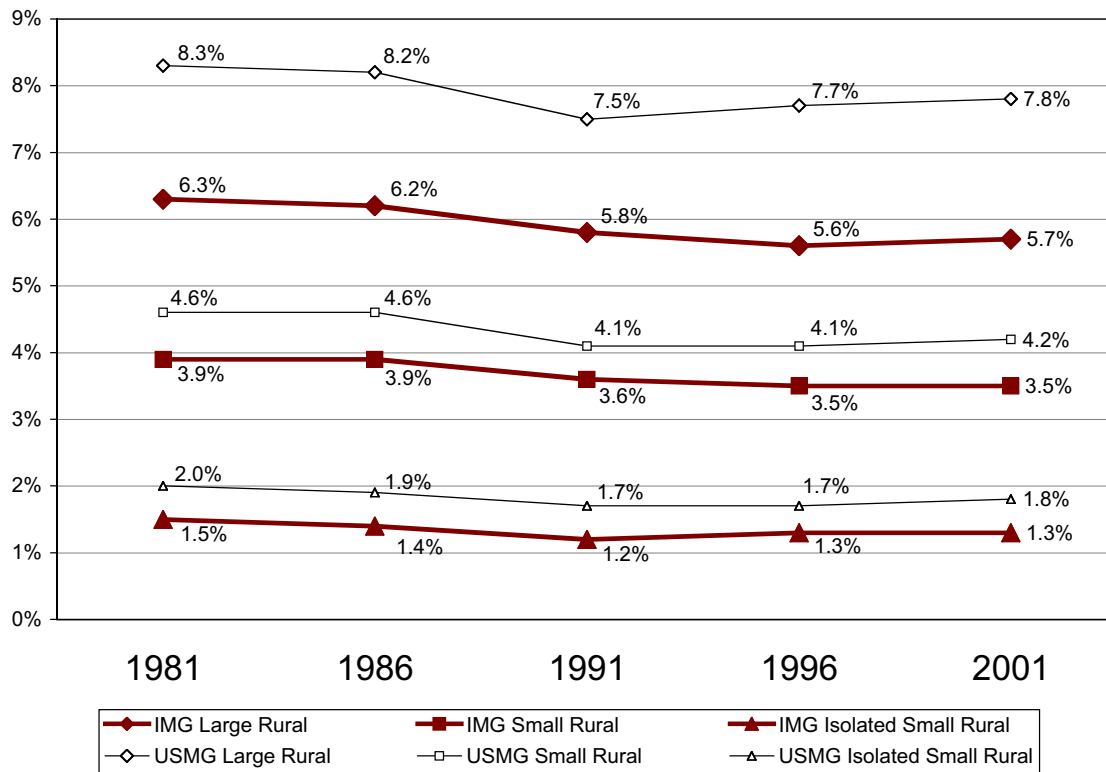


Figure 6: Percentage of Patient Care IMG and USMG Generalist Physicians in Isolated Small Rural Areas and in Persistent Poverty Counties of the U.S., 1981-2001

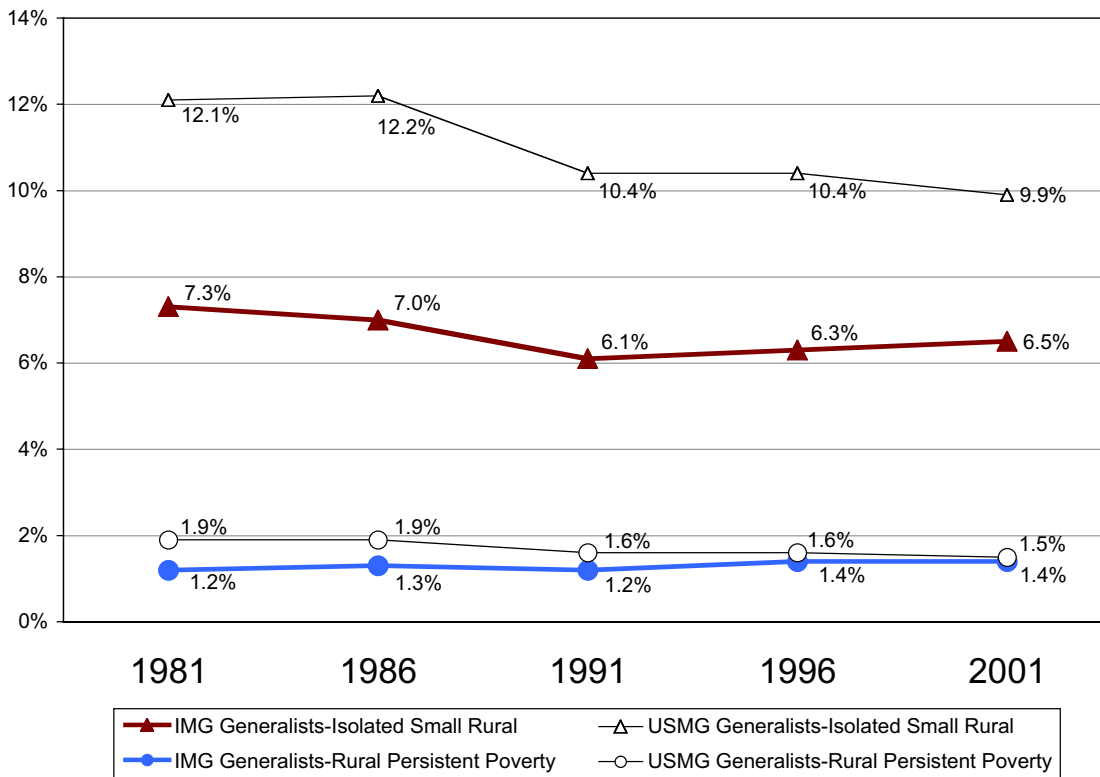
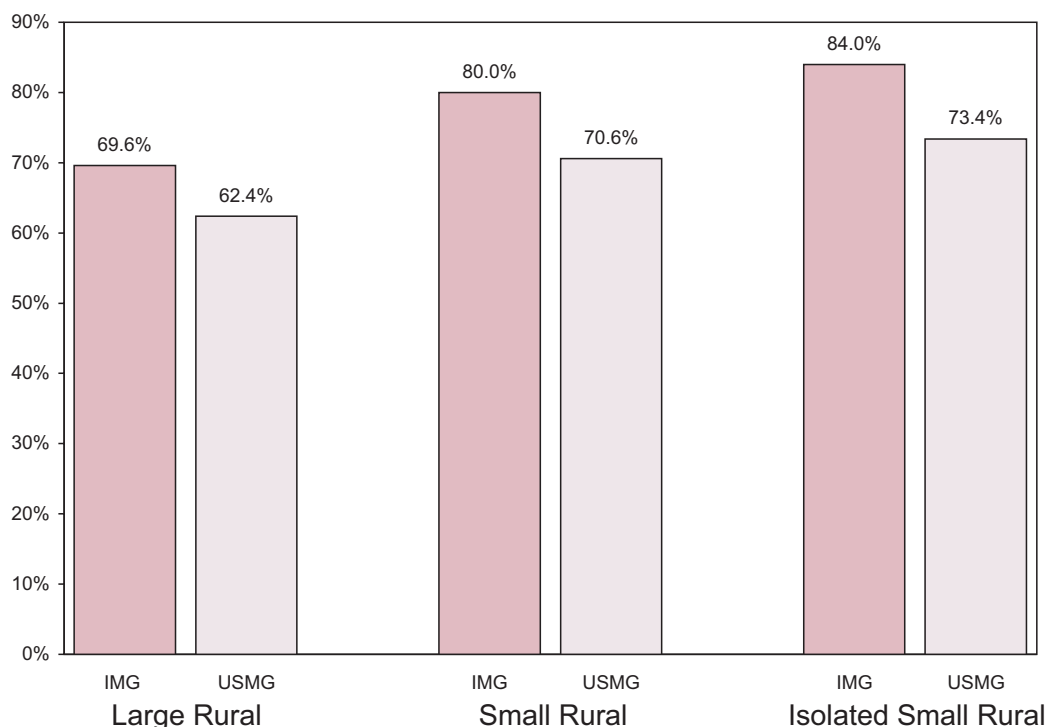


Figure 7: Percentage of IMG and USMG Generalist Physicians Providing Patient Care in Large Rural, Small Rural, and Isolated Small Rural Areas Who Are Located in HPSAs, 2001



CONCLUSIONS

Since 1981, India, the Philippines, Mexico and the Republic of Korea have remained leading countries in which IMGs practicing in the U.S. attended medical school. While the number of IMGs trained in many “developed” countries has increased, their rank (in training of total IMGs at each of the five points in time) has decreased because the number of IMGs from countries such as Pakistan, China and the Dominican Republic is increasing more rapidly. The greatest concentration of IMGs is in the urban centers of the U.S., and those centers attracted increasing numbers of IMGs from 1981 to 2001.

The number of both IMGs and USMGs in the U.S. has increased since 1981, and the proportion who are IMGs is increasing. While the average age of all physicians is increasing, the average age of IMGs is higher than USMGs. IMGs are increasingly female since 1981, but the proportion of USMGs who are women is catching up with the proportion among IMGs. IMGs continue to be comprised of substantially more non-White and Hispanic persons than USMGs.

In 2001, IMGs were more likely to be generalists than USMGs, while the opposite was true in 1981. Among these generalists, the proportion who are family physicians has decreased (for both IMGs and USMGs), but the proportion who are general internists has increased for IMGs (but not USMGs). Of those physicians providing hospital-based care, the proportion who are IMGs has grown.

Between 1981 and 2001 IMGs remained less likely than USMGs to work in rural areas. However, the proportion of generalist IMGs in the most rural and persistent poverty areas has stayed the same or increased. IMGs are more likely than USMGs to practice in rural HPSAs, which is not surprising because new IMGs with visa waivers are obligated to work in underserved communities, although some USMGs are also obligated through their participation in the National Health Service Corps and state repayment obligations. Regardless of whether the IMG contribution to rural, persistent poverty, and designated shortage areas are proportionately more or less than USMG contributions, they are an important part of the nation’s health care delivery system. For instance, it was recently shown that IMGs are critical to the nation’s small rural Critical Access Hospitals (Hagopian et al., 2004a).

POLICY IMPLICATIONS

The U.S. relies on IMGs to provide nearly one quarter of U.S. physician care, including generalist care and service to underserved populations. The debates continue as to how many and what types of physicians should be trained in the U.S. Understanding the trends in IMG migration and practice is important for determining how best to train, within medical schools in the U.S., an adequate supply of physicians for the country. It also highlights the question of how (or whether) U.S. medical education policy should continue to support the U.S. medical system as a “pull” factor that draws physicians from around the world, including many from developing countries with severe physician shortages. Mullan (2004) and Hagopian et al. (2004b) indicate that between 63 and 64 percent of IMGs in the U.S. come from countries that are low and lower-middle income countries. However, these concerns need to be weighed against limiting individual choice, and of the existence of strong “push” factors in foreign IMG source countries.

The number of U.S. and foreign medical school graduates choosing primary care residencies in the U.S. is on the decline. From our subsequent analyses of the same database, among IMGs in medical residency programs the proportion who are generalists has increased from 34 percent in 1981 to 52 percent in 2001. During the same time period, the proportion of generalists among USMG residents has decreased from 43 percent to 41 percent. Thus, the trends shown in Figure 4 will continue into the future. The U.S. is relying more and more on IMGs as its generalist physician providers, especially in designated underserved areas. The American Association of Medical Colleges recently advocated a 15 percent increase in the nation’s medical school enrollment (Association of American Medical Colleges, 2005). If this increase is implemented, the future role of IMGs in the U.S. will be affected by the specialties selected by these U.S.-trained medical students. The current funding for primary care physician residency training is tenuous.

This paper highlights IMG trends in the U.S. to 2001. The visa and immigration situation in the U.S. was drastically affected by the terrorist attacks of September 2001, and it is now more difficult for many foreigners to enter and work in the country. If the number of IMGs able to work in the U.S. in future years is reduced because of these restrictions, access to primary care may be further limited for underserved populations of the country. Furthermore, results from this paper should enlighten policy discussions about how the J-1 visa waiver numbers, U.S. medical school enrollment, immigration policies, physician residency positions and specialty mix, the National Health Service Corps numbers, Medicare Incentive Program

reimbursement, Title VII funding, and other programs effecting physician supply in the U.S. are integrated to best meet the needs of all the nation’s population, and heighten consideration of how these policies influence other countries.

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