

Recruitment of Non-U.S. Citizen Physicians to Rural and Underserved Areas through Conrad State 30 J-1 Visa Waiver Programs

EXECUTIVE SUMMARY

BACKGROUND AND PURPOSE

International medical graduates (IMGs) constitute about one quarter of practicing physicians in the United States, and they provide a significant amount of care to underserved populations. IMGs must complete residency training in the United States to enter the U.S. physician workforce. IMGs who are not U.S. citizens or permanent residents require a visa for residency training, and the J-1 visa is one of the most common types. The J-1 visa, a non-immigrant visa promoting cultural exchange, requires that the recipient return to the home country for at least two years at the conclusion of training unless a waiver of this requirement is obtained. Conrad State 30 J-1 visa waiver programs (commonly called Conrad 30 programs) are one vehicle for IMGs to obtain a waiver and for each state to recruit up to 30 IMG physicians to provide healthcare for rural and urban medically underserved populations. In exchange for the waiver, IMGs must commit to three years' employment serving Health Professional Shortage Areas, Medically Underserved Areas or Populations, or patients from those areas. Beginning in 2004, states were allowed to request up to 5 flexible ("flex") waivers out of the 30 total waivers annually for physicians practicing outside of shortage areas who provide care for populations from underserved areas. Since 2008, the number of flex waivers allowed increased to 10. Each state designs and operates its own Conrad 30 program, and there is no comprehensive national source of data on Conrad 30 waiver physicians. To address this shortcoming, this study collected and aggregated information from states to characterize national trends in waivers and factors related to states' successful recruitment of IMGs.

STUDY METHODS AND DATA SOURCES

This study used both quantitative and qualitative methods, including a review of state health department websites for information about Conrad 30 programs, a review of legal websites for J-1 physicians, interviews of Conrad 30 program personnel in 32 states, and analysis of waiver statistics for the years 2000-01 through 2009-10.

FINDINGS

States' average annual waiver use in fiscal years 2001-02 through 2009-10 ranged from 15.6 to 19.2 of the 30 available waivers per state.

More than four out of five states placed a preference on primary care, which by some states' definitions included specialties not typically thought of as primary care, such as hospitalists and general surgery. Primary care placements (as defined by each state) of J-1 visa waiver physicians were a majority of annual waivers used in the early years of the decade and about half of all placements in the second half of the decade. A minority of states indicated a preference for rural placements. Rural placements were the majority of annual waivers used earlier in the decade, decreasing to a minority in the middle of the decade. Nevertheless, nearly half of J-1 visa waiver physicians were placed in rural areas in 2009-10, more than double the roughly 20% of the U.S. population that resides in rural areas. The number of flex waivers used was not correlated with placement of physicians in rural or non-rural areas. Over the decade there was a shift away from rural primary care placements toward non-rural specialist placements, but the precise reasons for this trend could not be determined.

States varied greatly in the number of waivers used and in the resources devoted to operating the Conrad 30 program. States with larger populations gained an increasing share of J-1 visa waiver physicians during the decade of the 2000s. States devoting more staff to the Conrad 30 program recruited more physicians seeking waivers. Whether or not states charged applicant fees had no association with the number of waivers used.

DISCUSSION AND POLICY IMPLICATIONS

Legislation to make the Conrad 30 program permanent and change certain aspects of its functioning has passed in the U.S. Senate and a bill with similar provisions was introduced in the House of Representatives in 2013. Because some states, many of which are more populous, fill all 30 slots quickly each year, a proposed provision allows physicians more chances to find a state with available slots if the first choice is not available, which could facilitate recruitment to less populated, more rural states. Other proposed provisions might facilitate recruitment to urban areas, such as creation of three additional slots per state for academic medical centers. Meanwhile, the composition of physician residencies is likely to shift away from IMGs as the growing number of U.S. medical graduates fill available residency positions. This trend could intensify competition between states for J-1 physicians given the limited pool of J-1 physicians available to fill the 30 slots each state can use annually. The extent to which states will continue to use IMGs to provide care to underserved populations in the long term will depend on how these larger legislative, educational, and immigration changes ultimately unfold.

Recruitment of Non-U.S. Citizen Physicians to Rural and Underserved Areas through Conrad State 30 J-1 Visa Waiver Programs

INTRODUCTION

International medical graduates (IMGs) account for approximately one quarter of the nation's practicing physicians,^{1,2} a similar proportion of primary care physicians,² and a quarter of U.S. physician office visits.³ National data suggest that IMGs play an important role in providing care to disadvantaged communities.^{4,5} They disproportionately serve low income patients in shortage areas,² including non-metropolitan areas.³ One reason is that many IMGs are able to remain in the United States under the sponsorship of Conrad State 30 J-1 Visa Waiver Programs (Conrad 30 programs). A waiver of the J-1 visa post-residency requirement to return to the home country for at least two years allows residency graduates who are not U.S. citizens or permanent residents to remain in the U.S. To obtain the waiver, IMGs must commit to three years' employment serving Health Professional Shortage Areas (HPSAs) or Medically Underserved Areas or Populations (MUAPs), or populations from those areas.⁶ In contrast to the 1990s, when federal "interested government agencies" (those that are eligible to request J-1 visa waivers, such as the U.S. Department of Agriculture and U.S. Department of Health and Human Services) requested the vast majority of waivers, in the 2000s states have become the primary source of J-1 visa waiver requests via Conrad 30 programs.⁷

CONRAD 30 PROGRAM BASICS

A non-U.S. citizen IMG who enters the U.S. on a J-1 (exchange visitor) visa for U.S. residency training must not have the intention to immigrate permanently to the U.S. and must return home for two years upon completion of the residency program unless the physician finds an offer of full-time employment for at least three years to provide care to underserved populations. Once an offer is obtained, the employer and physician complete an application to a state's Conrad 30 program.⁸ If the application satisfies the state's requirements, the state recommends to the U.S. Department of State (DOS) that the physician receive a waiver of the J-1 visa requirement to return home. The DOS may then recommend a waiver to U.S. Citizenship and Immigration Services (USCIS), which grants the waiver.⁹ The physician can remain in the U.S., converting to an H-1B visa, another type of non-immigrant visa that, unlike the J-1 visa, offers the option to pursue permanent residency after successfully completing obligated service.

Established in 1994 as the Conrad 20 program, allowing 20 waivers per state annually, federal legislation since 2002 authorizes each state to recommend up to 30 J-1 visa waivers per fiscal year, leading to the current program name, "Conrad 30."¹⁰ In 2004, states were allowed to recommend waivers for up to 5 of their 30 slots to facilities located outside of shortage areas but that serve populations from underserved areas (such as a facility in a community adjacent to a geographic HPSA that serves patients from the HPSA), typically referred to as "flex" (flexible) slots.⁹ The maximum number of flex slots per state increased to 10 in 2008.

Within this basic legislative framework but with no federal funding, each state must determine the level of resources to devote to its Conrad 30 program, including developing policies regarding types of placements, such as priorities for rural versus non-rural

and primary care versus specialist providers. States vary greatly in the numbers of waiver physicians they recruit¹¹ and are thus influential in shaping patterns of non-U.S. citizen IMG healthcare to rural underserved populations.

STUDY QUESTIONS AND METHODS

To gain a better understanding of the diversity in Conrad 30 programs and trends in states' use of waivers over time, we considered the following questions:

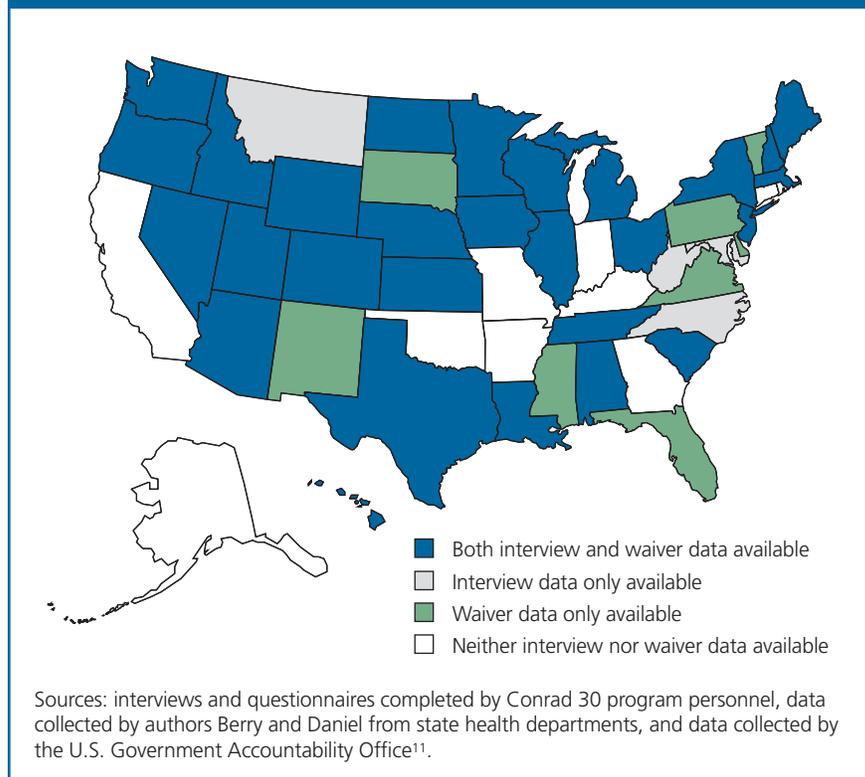
- How do states' Conrad 30 programs vary in the priority they place on rural versus non-rural placements, and what are rural/non-rural trends in the use of waivers over time?
- How do states' Conrad 30 programs vary in the priority they place on primary care versus specialist placements, and what are the trends by specialty in the use of waivers over time?
- What factors account for variation in states' use of their annual allotment of 30 waivers, both flex and non-flex waivers?

This study (reviewed and approved by the University of Washington Human Subjects Division), used multiple methods to answer these questions. Data came from a review of all state health department websites for information about their Conrad 30 programs, a review of legal websites aimed at J-1 physicians,¹² in-depth information gathered from Conrad 30 program personnel, and collection of waiver statistics for the years 2000-01 through 2009-10 from multiple sources, described below.

We attempted to recruit Conrad 30 program personnel from all 50 states to participate in interviews and provide detailed waiver statistics. Contact information came from multiple sources, including program websites and other Internet sources (e.g., the Rural Recruitment and Retention Network, www.3rnet.org) and we made up to four email and telephone contacts with each, resulting in 32 states (64%) participating in interviews (see Appendix). Interviews ranged from one half to two hours in length and covered a wide range of topics about Conrad 30 program goals, staffing, activities, outcomes, challenges, and successes.

States are not required to report waiver statistics to any external entity. The waiver data used for the analyses reported here were compiled from three sources, with overlapping but sometimes slightly different kinds of information. First, study authors Berry and Daniel have collected waiver statistics from all Conrad 30 programs nationally since 2000. Second, author Patterson requested from the 32 state interview participants additional detailed waiver data covering fiscal years 2001-02 through 2009-10 and states' definitions of "rural" and "primary care" using a post-interview questionnaire; staff from 26 states responded. Third, we used statistics reported by the U.S. Government Accountability Office (available for the years 2002-3 through 2004-

Figure 1. Conrad State 30 J-1 Visa Waiver Programs: Interview and Waiver Data Collected by State



5).¹¹ State waiver data varied in completeness from year to year. No single source contained all data needed for each analysis, and as a result, we supplemented the most complete source of data for each analysis with data from the other two sources to fill gaps wherever possible. Different analyses used different state subsets depending on completeness of data. Most analyses report data beginning in 2001-02, the first year when 30 waivers were permitted annually, through 2009-10, the most recent year of data collected for this study. For trend analyses, except as noted, we used data only from the 36 states with complete data across all years in each analysis. Overall mean trend patterns were similar when we repeated the analysis by calculating mean statistics using all states with available data in each year, and additional comparisons of states included in the study with those excluded (due to missing waiver data in one or more years) showed no significant differences in number of waivers used or rural-urban population distribution of states.¹³

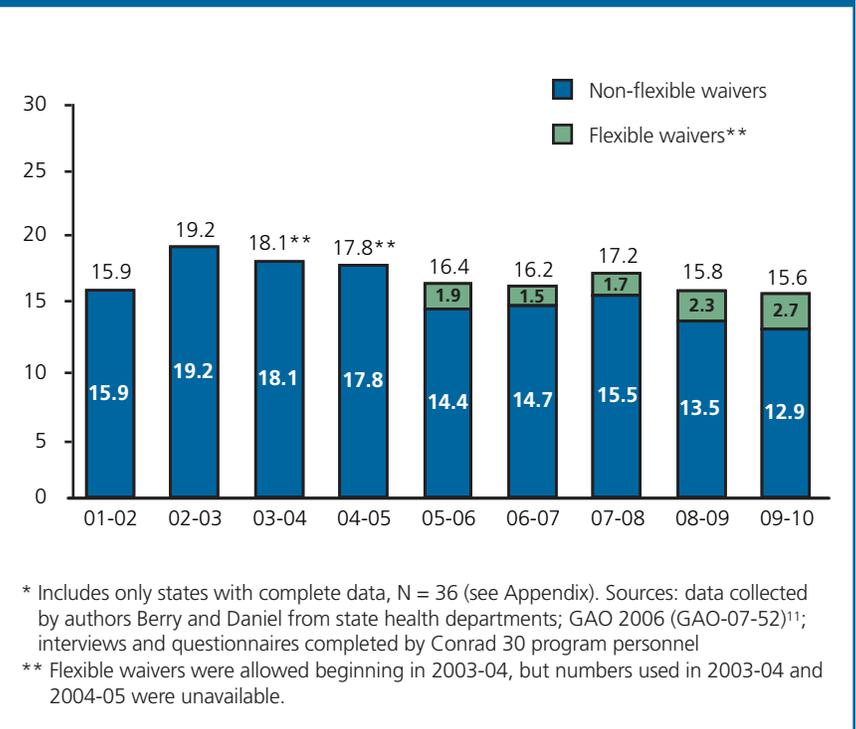
Figure 1 displays data availability for each state. This study reports data on a total of 40 states, 28 of which had both interview and waiver data, 4 interview data only, and 8 waiver data only. Though states in the South U.S. Census Region were less represented than in other regions, waiver data were available for 9 of the 16 Southern states, and half of these states participated in interviews. The Appendix lists available waiver data for study states and specific analyses.

FINDINGS

TOTAL WAIVERS USED

Figure 2 shows that for the 36 states with complete data on total waivers used, the average annual number of waivers ranged from 15.6 (52%) to 19.2 (64%) of the 30 waivers available to each state from 2001-2 through 2009-10. The use of waivers fluctuated with a slight downward trend over the nine-year period. In 2009-10, 12 states (33%) used all 30 waivers, while 15 states (42%) used fewer than 10, and of these 15, 3 states used none. Use of flex waivers (for placements outside of underserved areas but providing care to underserved populations) increased slightly from fewer than 2 per year on average prior to 2008-09 when the limit was increased from 5 to 10, to more than 2 waivers per year in 2008-09 and 2009-10. In the three years with available data on flex waivers prior to the limit increase, 2005-06 through 2007-08, flex waivers never totaled more than 12% (a mean of 1.9 flex waivers out of 16.4 total waivers used in 2005-06), on average, of all waivers used annually. In 2008-09 and 2009-10, after the limit was increased to 10, the flex waivers used annually by states averaged 15% to 17% of all waivers used. Few states used all available flex waivers; for example, only one state used 10 flex waivers in 2009-10.

Figure 2. Mean Number of Conrad 30 J-1 Visa Waivers Recommended per State, 2001-2 through 2009-10*



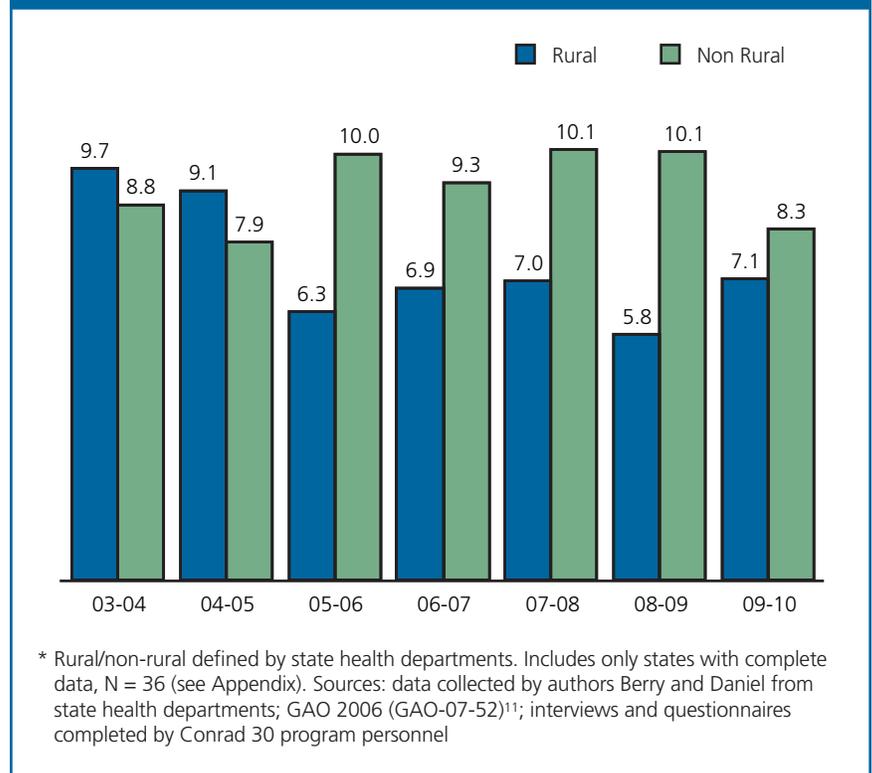
WAIVERS FOR RURAL AND NON-RURAL PLACEMENTS

Because no national waiver tracking or reporting system exists for the Conrad 30 program,⁷ definitions of “rural” varied from state to state. Conrad 30 program staff were asked how they defined “rural” in reporting placements by geography. Of the 26 states responding to the post-interview questionnaire, 10 defined “rural” as non-metropolitan (Office of Management and Budget definition¹⁴) or a modified version of non-metropolitan; 6 used non-urbanized area (U.S. Census Bureau definition¹⁴); and 10 used a variety of other definitions, including Rural-Urban Commuting Areas (Federal Office of Rural Health Policy, U.S. Department of Health and Human Services, and Economic Research Service, U.S. Department of Agriculture¹⁵), urban-rural-frontier (National Center for Frontier Communities¹⁶), a combination of standard definitions, various county population thresholds, or other criteria. Thus, although waivers reported in this analysis have not been classified according to one common rural/non-rural definition, most states used recognized rural/non-rural definitions. Though federal Conrad 30 program legislation requires that waived physicians serve HPSAs or MUA/Ps, or populations from those areas, the lack of precise location data on individual physicians prevented a more detailed analysis of physician practice in HPSAs versus MUA/Ps or a rural/urban breakdown within these shortage area types.

We searched the internet for publicly available program materials for all 50 states to determine whether or not states prioritized rural or urban underserved placements or had no geographic preference. We also asked program personnel in interviews to affirm or clarify publicly available information or describe their preferences, if any. We were unable to obtain any information to determine preferences in one state. Of the remaining 49 states, 9 indicated a clear rural preference, 37 sought to use waivers to alleviate provider shortages in underserved areas without regard to rural or urban location, and 3 states had a goal of “equitable” or “balanced” distribution around the state in both rural and urban areas. Some states prioritized specific facility types that were often in rural areas or informally prioritized rural placements, even when this was not a stated criterion for placement. The great majority of states, however, preferred to fill as many placements as possible that met state and federal requirements rather than let waiver slots go unused, without regard to urban, rural, or other preferences.

As Figure 3 illustrates, earlier in the decade of study the majority of waivers went to rural placements, with a reversal beginning in 2005-06. We investigated whether the decline in waivers for rural placements might be connected to higher use of flex waivers, given anecdotal evidence that placements outside of shortage areas may tend to favor non-rural locations. We found no significant correlation between use of flex waivers and higher numbers or proportions of non-rural placements, most likely because flex waivers were a relatively

Figure 3. Mean Number of Rural and Non-rural Conrad 30 J-1 Visa Waivers Recommended per State, 2003-4 through 2009-10*



small proportion of the total. Despite the more recent trend toward non-rural placements, the proportion of rural placements in 7 of the 9 study years was above 40%, more than double the roughly 20% proportion of the total U.S. population residing in rural locations.

WAIVERS FOR PRIMARY CARE AND SPECIALIST PHYSICIANS

As with rural definitions, the definitions of primary care varied among Conrad 30 program officials. Table 1 shows that of the 26 states responding to the post-interview questionnaire, all considered the specialties of family medicine, general internal medicine, and pediatrics to be primary care, and obstetrics/gynecology was included for all but one. A large majority (77%) also considered psychiatry to be primary care; for some this was due to the special designation of Mental Health HPSAs. About two in five (42%) considered hospitalists to be primary care, and about a third (35%) considered general surgery primary care. About a third (31%) also considered a variety of other specialties to be primary care, such as anesthesiology, emergency medicine, and geriatric specialties. Detailed specialty information was not available for individual physicians granted waivers. Thus, when considering the waiver statistics reported here, it is important to bear in mind that some states included many more specialties in their definition of primary care than are commonly included by most policymakers and researchers.

Primary care placements were a priority for at least 41 states (82%; in a few states, preference could not be determined so this number and percentage may be an underestimate). As with geographic preferences, however, states that were unable to fill all 30 waiver slots annually did not often adhere to this preference in practice. Also, at least 39 states were willing to accept most or all types of specialists, sometimes with restrictions such as reserving a designated number of slots for primary care or enforcing a waiting period before specialists could apply for waivers.

Bearing in mind states' varying and often expansive definitions of primary care, Figure

Table 1. Number of Conrad State 30 Programs Listing Specialties as Primary Care*

Specialty	N (%)
Family medicine/family practice	26 (100%)
General internal medicine	26 (100%)
Pediatrics†	26 (100%)
Obstetrics/gynecology	25 (96%)
Psychiatry‡	20 (77%)
Hospitalist	11 (42%)
General surgery	9 (35%)
Other internal medicine§	8 (31%)

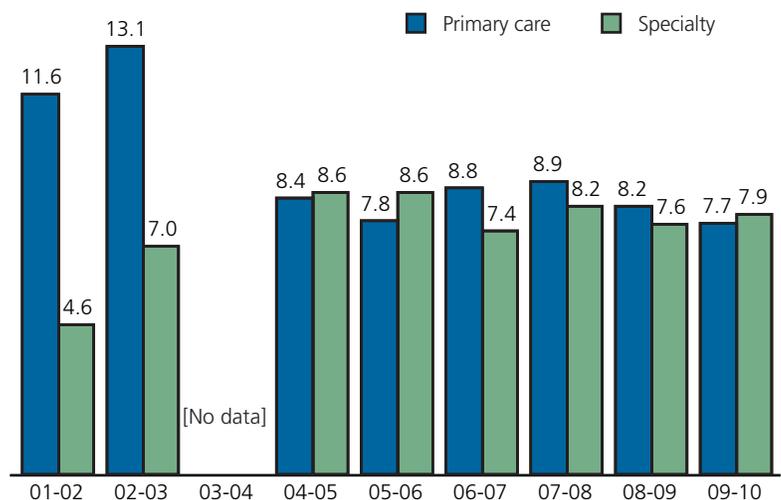
* Number of states responding: 26

† Includes neonatology (1) and adolescent medicine (1)

‡ Includes geriatric psychiatry (1)

§ Includes geriatrics (6) and geriatric internal medicine (1), anesthesiology (1), and emergency medicine (1)

Figure 4. Mean Number of Primary v. Specialty Care Conrad 30 J-1 Visa Waivers Recommended per State, 2001-2 through 2009-10*

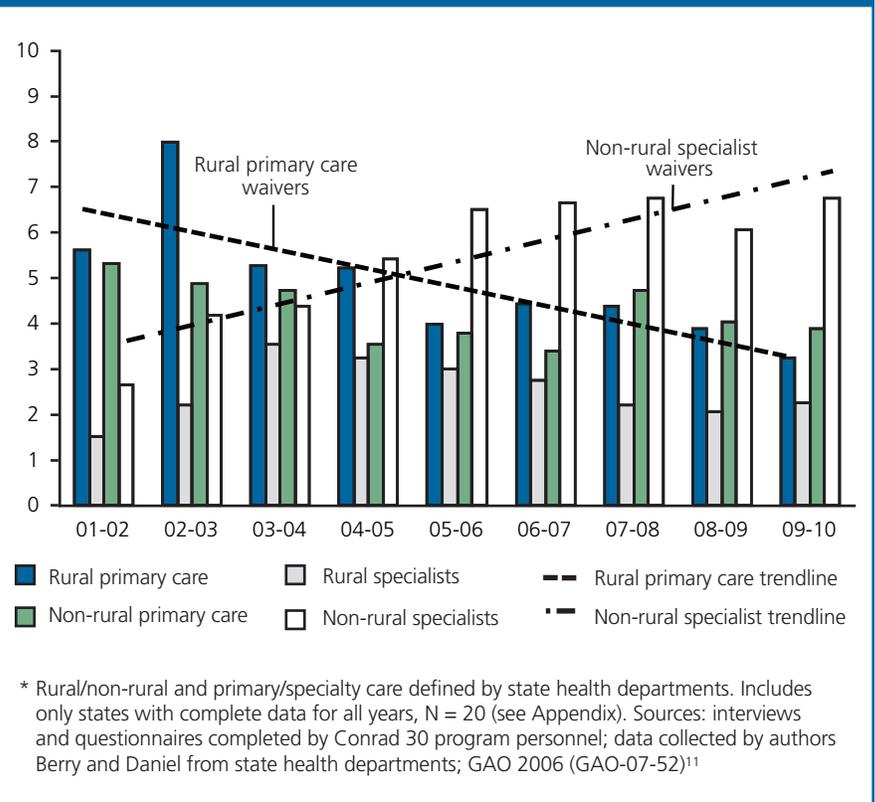


* Primary care/specialty care defined by state government offices requesting waivers. Includes only states with complete data, N = 36 (see Appendix). Sources: data collected by authors Berry and Daniel from state health departments; GAO 2006 (GAO-07-52)¹¹; interviews and questionnaires completed by Conrad 30 program personnel

4 displays trends in primary care versus specialist placements over time. Through 2002-03, primary care physicians received the majority of waivers. Since then waivers for primary care and specialist physicians have been used in relatively equal numbers.

Given the drop observed in waivers for both rural and primary care placements from early in the 2000s, we examined the distribution of waivers by geography and practice specialty in combination in a subset of 20 states (listed in Appendix) reporting data that could be combined in this fashion, shown in Figure 5.¹⁷ These 20 states were not statistically different from the 30 states not included in this analysis either in terms of rural-urban population distribution or mean numbers of waivers requested, and they represented all 9 U.S. Census Divisions, though like the larger sample, the South U.S. Region was less well represented.¹⁸ We found that the principal shift over time has been from waivers for rural primary care to non-rural specialist placements, as can be clearly seen in the trend lines (lines of best fit). The number of rural primary care waivers declined from a high in 2002-03 and were overtaken by non-rural specialists in 2004-05. Meanwhile, the use of waivers for both rural specialist and non-rural primary care physicians changed much less over time. Waivers for non-rural primary care placements were the second most numerous category of waiver used in most years.

Figure 5. Mean Number of Conrad 30 J-1 Visa Waivers Recommended per State by Geography and Specialty, 2001-2 through 2009-10*



We asked program staff the reasons for any changes in waiver distributions over time and if there had been a change in strategy in the five years prior to the interview, including target areas of emphasis. Few reported any changes in strategy or knowledge of the reasons for changes over time. Because many staff interviewed were not involved in the program in earlier years, they were not able to comment on the reasons for the overall long-term trend away from rural primary care toward non-rural specialist placements. The comments of a few informants provided possible clues, but these views were not widely held. Possible reasons included (1) urbanization and reclassification of areas formerly considered rural; (2) the existence of other programs to address rural areas and primary care shortages, resulting in the Conrad 30 program being used to place providers without regard to geography or specialty, or even favoring the program for urban and specialty placements; (3) growth in employer demand for urban and specialist waivers relative to rural and primary care, for unknown reasons; (4) greater flexibility in placement priorities in order to compete more favorably with other states, given that recruitment to rural areas was seen as more difficult than to urban areas; and (5) confusion in earlier years about whether or not federal rules allowed specialist placements, such that more program staff started accepting specialists in later years once they knew this was permissible.

FACTORS ASSOCIATED WITH USE OF WAIVERS

In addition to describing time trends in use of waivers, we examined several factors that might account for differences between states in the numbers of physicians recruited through Conrad 30 programs, including state population, level of program staffing, and charging of application fees.

State population

The size of a state's population could influence recruitment of J-1 waiver physicians in at least a few ways. The most obvious is the greater availability of employment opportunities in larger states. Larger states are also likely to have a larger number of residencies, and thus a larger share of J-1 visa residents in training, from which to attract waiver applicants. Finally, larger states may be more able to afford Conrad 30 program staffing and infrastructure for recruitment, thereby attracting more physicians, a factor we explore in more detail later.

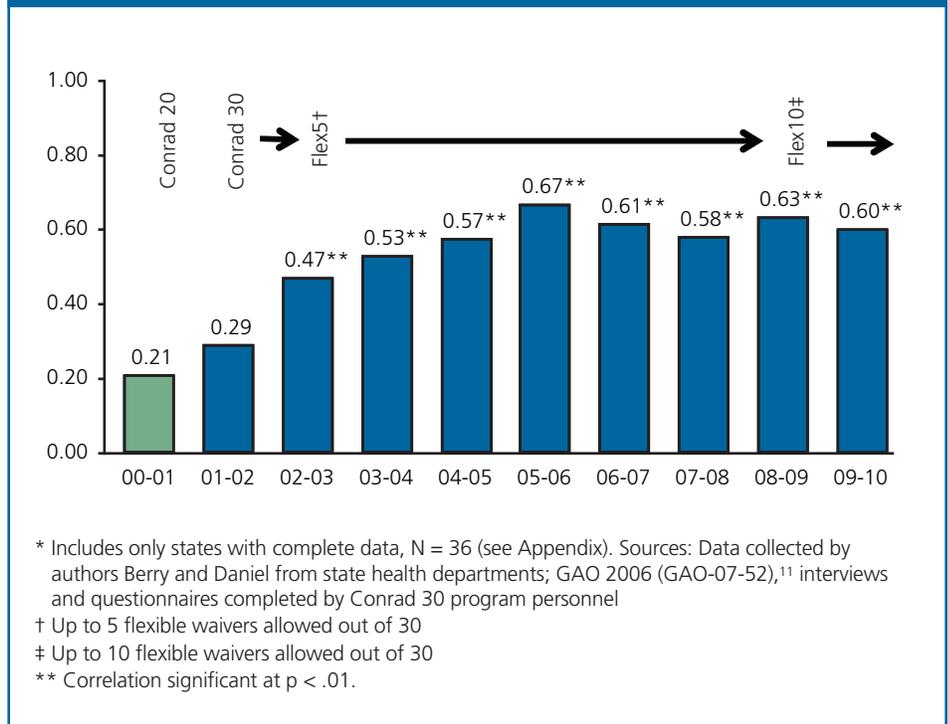
Indeed, we found that states with larger populations gained an increasing share of all waiver physicians over the decade, as shown in Figure 6. State population was not significantly correlated with the number of waivers used in 2000-01, before Conrad 20 became the Conrad 30 program. After the transition to 30 waivers in 2001-02, the correlation between state population and waivers used became stronger and statistically significant. Thus, when states were allotted 20 waivers each, the distribution across states of varying populations was more even than when the allotment increased to 30 per state.

We also examined the relationship between a state's population and number of flex waivers used and found no correlation. We then limited the analysis to the subset of states that did not always fill 30 waivers, reasoning that states might be more disposed to use flex waivers when slots would otherwise go unused. This correlation, however, also was not significant.

Staffing

Among the 26 states responding to the post-interview questionnaire, the mean number of staff devoted to the Conrad 30 program was less than half of a full time equivalent (FTE) staff person, or 0.43 FTE. Estimated total staff effort ranged from .005 to 2.0 FTEs. Those with more staff used significantly more waivers in 2009-10, even controlling for state population.¹⁹ Further investigation revealed that increasing staffing up to about .60 FTEs was associated with steep increases in the number of waivers used, at which point a threshold was reached beyond which additional staff had no further impact.

Figure 6. Correlation between Conrad 30 J-1 Waivers Recommended and State Population, 2000-1 through 2009-10*



It is plausible that states accustomed to processing greater numbers of waivers adjusted their staffing accordingly to meet the demand. It was also clear from interviews with program personnel that states differed from each other significantly in the priority they placed on the Conrad 30 program as a potential solution to physician workforce shortages. Some personnel from programs with lower staffing wanted to increase their activities to promote the program among employers and J-1 visa physicians but reported not having enough time. Thus the relationship observed between staffing levels and waivers used was likely a result of several mutually reinforcing factors, including others not measured in this analysis. These results nevertheless raise the possibility that adding less than half an FTE to a state's Conrad 30 program could significantly increase the number of physicians recruited.

Application fees

Most states (63% or 12 of 19) for which we had data did not charge waiver application fees, with the rest charging from \$500 up to \$3,571 per applicant. Fees were intended to recover some of the costs of program administration. We found no significant correlation between application fees and number of waivers used,²⁰ and several key informants pointed out that J-1 physicians often paid fees to attorneys that were much higher than the application fee. They reasoned that the program fee would not likely deter most physicians from applying to a particular state, and the data appear to support this notion.

LIMITATIONS

This study is subject to some limitations. We were unable to report data for all 50 states in our analyses, and though Southern states were less represented, states in the study covered all U.S. Census regions and we did not otherwise detect systematic differences between the analysis samples and the larger population of states overall. There were no statistically significant differences in state population, percentage rural population, or numbers of waivers requested between subgroups of states included in analyses and those that were excluded. Because states are not required to track and report data on the use of Conrad 30 waivers, and no national source of dedicated funding to do this exists, states' data were of variable quality and not all were willing or able to provide statistics at the level of detail requested for this study. States used varying definitions when reporting waivers used by primary care vs. specialist physicians and rural vs. urban geography. Despite these limitations, multiple sources of data, including interviews with program personnel and information available publicly on states' websites, lend support to our findings.

CONCLUSIONS AND POLICY IMPLICATIONS

Conrad 30 programs have helped place thousands of physicians in underserved locations since federal legislation authorized states to recommend J-1 visa waivers in 1994.² Our findings suggest a shift in the past decade from rural areas and primary care toward non-rural and specialist placements. Program officials noted that specialist placements also serve rural communities because underserved populations residing in rural areas also needed access to specialist physicians, whether in their own communities or in urban locations.

Concerns have been raised about declines in the supply of IMGs,²¹ the viability and long-term utility of relying on IMGs (J-1 visa waiver physicians in particular) for solving U.S. physician shortages to the detriment of physicians' countries of origin,^{22, 23} and who might replace IMGs with service obligations in the future if IMG numbers decline.²⁴ Conrad 30 program staff face competing priorities within their states in attempting to address needs for primary and specialist healthcare services in both rural and urban areas. This study suggests that because slots are more abundant than applicants, states compete with each other, particularly states with larger vs. smaller populations, for the physicians on J-1 visas each year seeking waivers. Thus when state program rules allow for flexibility, staff often choose to accept eligible applicants regardless of whether or not the placement addresses a preferred geographic, facility, or specialty category, rather than let a slot go unfilled and lose a physician. The competition to recruit J-1 physicians between states and within states may intensify because the number of new graduates from U.S. medical

schools is likely to increase faster than available residency positions²⁵, resulting in fewer residency slots for IMGs. As residency opportunities decline, there may be fewer physicians on J-1 visas seeking waivers.

States that currently underutilize the Conrad 30 program may be able to implement strategies that would help them recruit more J-1 visa waiver physicians. Numerous program personnel expressed interest in increasing the number of J-1 visa waiver physicians they recruit to their states, particularly those states that have lost other recruitment resources such as state loan repayment programs, due to budget cuts. Although Conrad 30 placements are subject to numerous influences outside states' control, our findings indicate that increasing program staffing is one way states may be able to fill more slots: states with greater Conrad 30 program staffing recruited more J-1 visa waiver physicians.

Legislation has been passed in the U.S. Senate²⁶ and similar provisions have been introduced in the House of Representatives,²⁷ as part of broader immigration reform, to make the Conrad 30 program permanent. If adopted, these measures would make significant changes to attract more physicians, including (1) creating 3 new J-1 visa waiver slots per state for practice in academic medical centers under certain conditions, (2) not requiring physicians entering on J-1 visas to prove that they do not intend to immigrate, (3) exempting spouses and children of J-1 physicians from the requirement to return to the home country for two years, (4) employment protections that specify required contract provisions (e.g., the number of on-call hours) and allow physicians whose employment ends before completing the 3-year service requirement time to seek other qualified employment in an underserved area, (5) instituting a mechanism to increase the number of waivers available to states under certain conditions, and (6) allowing a physician denied a waiver in a state where all 30 available slots are filled to obtain a work permit for 6 months to seek a waiver in states with available slots.

How some aspects of the proposed law would be implemented is not completely clear. Some changes would require more consistent national tracking and reporting of waiver data, but how this will be accomplished is not specified. The implications for rural underserved areas may be mixed: the ability of physicians unable to obtain placements in states that fill all 30 slots to pursue opportunities in other states could potentially benefit smaller population and more rural states. In contrast, making slots available at academic medical centers presumably would draw some physicians to urban areas. States desiring to continue sponsoring J-1 visa waivers may need to devote more resources to program management and documentation to enable implementation of legislative provisions that will require tracking of waivers within and across states, but many states currently may not have the fiscal resources to increase staffing. The ability of Conrad 30 programs to recruit IMGs will depend on the continued availability of residency slots for IMGs and the effect of these new policies, if enacted, to broaden the pool of interested and eligible physicians.

NOTES

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13. Waiver statistics were available for every state in at least one year of the study period. We compared the states included in the study with excluded states on the mean number of annual waivers used, based on available years of data, during the period 2001-02 through 2009-10. The 32 states participating in interviews requested a mean of 16.4 waivers versus 20.1 waivers for the 18 states that did not participate, but this difference was not statistically significant ($t = 1.32$, $p = 0.19$). The populations of the 32 states participating in interviews were 26.0% rural (U.S. Census definition) on average, compared with 27.2% for the 18 non-participants, a non-significant difference ($t = 0.28$, $p = 0.78$). The 36 states with complete data on total numbers of waivers requested a mean of 17.0 waivers annually versus 19.4 for the 14 states with incomplete data for one or more years. This difference was also not statistically significant ($t = 0.78$, $p = 0.44$). The populations of the 36 states with complete data on total numbers of waivers requested were 25.5% rural on average, compared with 28.8% for the 14 states with incomplete data for one or more years, a non-significant difference ($t = 0.73$, $p = 0.47$).
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17. A breakdown of waivers into rural versus non-rural primary care and rural versus non-rural specialists was only possible for 20 states with complete data over time at this level of detail, collected from state program personnel.
18. The 20 states in this analysis requested a mean of 17.4 waivers versus 17.9 waivers for the other 30 states ($t = 0.17$, $p = 0.86$). The 20 analysis states' populations were 25.5% rural (U.S. Census definition) on average, compared with 27.0% for the other 30 states ($t = 0.36$, $p = 0.72$).

19. The Pearson correlation between FTEs and total waivers, among the 26 states for which data were available, was .47 ($P < .05$). The correlation between FTEs and total waivers used was particularly strong among states that did not fill all 30 waivers ($r = .56, P < .01$). Controlling for state population attenuated the correlation somewhat among all responding states, becoming non-significant at the .05 level ($r = .35, P = .08$), but among states not using all 30 waivers, the correlation remained strong and statistically significant even when controlling for population ($r = .53, P < .02$).
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APPENDIX

Table A. Available data on Conrad 30 programs by state

State	Conrad 30 program personnel interview data	Post-interview questionnaire data	Waiver data available for analyses in Figures 2, 3, 4 and 6*	Waiver data available for analysis in Figure 5†
Alabama	•	•	•	•
Alaska				
Arizona	•	•	•	
Arkansas				
California				
Colorado	•	•	•	•
Connecticut				
Delaware			•	
Florida			•	
Georgia				
Hawaii	•	•	•	•
Idaho	•	•	•	•
Illinois	•	•	•	•
Indiana				
Iowa	•	•	•	•
Kansas	•	•	•	•
Kentucky				
Louisiana	•	•	•	•
Maine	•	•	•	•
Maryland	•			
Massachusetts	•	•	•	
Michigan	•	•	•	•
Minnesota	•	•	•	•
Mississippi			•	
Missouri				
Montana	•			
Nebraska	•	•	•	•
Nevada	•	•	•	
New Hampshire			•	
New Jersey	•	•	•	•
New Mexico			•	
New York	•	•	•	•
North Carolina	•			
North Dakota	•	•	•	•
Ohio	•	•	•	•
Oklahoma				
Oregon	•	•	•	•
Pennsylvania			•	
Rhode Island				

South Carolina	•	•	•	•
South Dakota			•	
Tennessee	•	•	•	
Texas	•	•	•	•
Utah	•		•	
Vermont	•	•	•	
Virginia			•	
Washington	•		•	
West Virginia	•			
Wisconsin	•	•	•	•
Wyoming	•	•	•	
Total	32	26	36	20

* Sources: data collected by authors Berry and Daniel from state health departments; GAO 2006 (GAO-07-52)¹¹; interviews and questionnaires completed by Conrad 30 program personnel.

† Source: Conrad 30 program personnel in 20 states that provided breakdowns of primary care and specialist waivers by rural and non-rural location for the period 2001/2-2009/10.

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