



Ministry of  
Health Services



## RURAL EDUCATION ACTION PLAN

RESEARCH ANALYSIS AND EVALUATION UNIT

### Where are they now?

**Do physicians who receive REAP sponsored advanced skills training stay rural?**

**REAP Research Analysis and Evaluation Unit**

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Ministry of Health Services



BRITISH COLUMBIA MEDICAL ASSOCIATION



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Background ..... 3

Objectives..... 4

Method ..... 5

Results..... 6

    Overview ..... 6

    AST/FYPEP Sponsored Training..... 7

        Overview ..... 7

        Where are they? ..... 7

    USEP/RLSUP Sponsored Training ..... 9

        Overview ..... 9

        Where are they? ..... 10

Discussion..... 10

Conclusions and Recommendations..... 12

## Background

Populations who live in rural British Columbia are much less likely to have access to a physician than those who live in urban communities, with only 9.4% of the physician resources being available to care for the 21.1% of the population living in rural areas.<sup>1</sup> This is a significant issue not only for patients but for health care providers, educators and government, who in BC have collaborated on multifaceted strategies in order to address this issue.<sup>2</sup> Under the Rural Education Action Plan (REAP) several specific strategies have been implemented that allow for funded opportunities for advanced training in an effort to encourage physicians to provide care in rural communities.

Different programs are available for different categories of applicants. In general, each program provides funding of \$3400 per week in addition to travel and accommodation costs. A brief summary of each of these REAP strategies is outlined below\*:

- Advanced Skills and Training Program (AST) – improving rural retention and skills by offering funding for rural physicians to undertake training deemed necessary in their rural community. Physicians must work in the RSA (Rural Subsidiary Agreement) rural community 9 months or more to qualify.
- First Year in Practice Enhancement Program (FYPEP) – allows physicians in their first year of practice to access REAP funding for skill upgrade training. Physicians are eligible for 5 days training for each month they have practiced in an RSA community.
- Urban Skills Enhancement for Rural Practice Program (USEP) – provides training opportunities for urban physicians to recruit them to rural family practice. A one-month return-of-service agreement is in place.
- Rural Locum Service Upgrade Program (RLSUP) – Applicants are eligible for ten days of training for every three months of rural locum service in the last year and must complete one month of locum service after their training.

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<sup>1</sup> Pong R, Pitblado J. 2005. **Geographic Distribution of Physicians in Canada: Beyond How Many and Where.** *Canadian Institute for Health Information*, Ottawa.

<sup>2</sup> Whiteside, C. 2009. **The BC Rural Education Action Plan.** *BCMJ*, Vol. 51, No. 2, March, 73-7.

\* See attached appendix for further details on each of the sponsored programs

Do physicians who undertake these REAP sponsored training for advanced skills continue to practice in a rural environment or is there evidence that they use this as an opportunity to facilitate a move to urban communities? Do urban based physicians who access REAP funding relocate to rural communities? Is there evidence in the research literature that some form of return of service agreement would ensure a higher rate of continued rural practice after funded advanced training? This paper seeks to address these issues.

## **Objectives**

1. To determine if physicians who undertook REAP sponsored advanced skills training between 2001 - 2008 are:
  - a. Practicing medicine
  - b. Practicing medicine in their original community
  - c. In a different rural community in BC
  - d. In a different rural community in Canada
  - e. In an urban community in BC
  - f. In an urban community in Canada
  - g. Practicing elsewhere or unknown
2. To attempt to determine geographic characteristics differentiating each of these categories of trainees.
3. To determine the percentage of physicians in each of these categories by year of program.
4. To determine what percentage of participants receive more than one funded training period.
5. To use published research to determine if return-of-service agreements would increase the percentage of trainees staying in rural communities.



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### Method

Physicians who applied, were accepted and undertook REAP sponsored training between 2001 and December 2009 were identified. Relevant records were extracted from an existing database that contained information supplied by the physicians in their initial REAP application. Additional information on each physician's current practice status and location was determined by several methods:

1. Checking registration information from the College of Physicians and Surgeons of BC;
2. Checking registration information from the College of Physicians and Surgeons from Canadian provinces;
3. Checking information available from the Canadian Medical Association (database of deceased physicians);
4. Checking information available through the BC Medical Association;
5. Google searches and online sources including rateMD;
6. Personal follow-up through contacts.

This information was formatted into an Excel spreadsheet to facilitate analysis and future evaluations. Data was grouped according to rural or urban community of origin with AST/FYPEP (rural community based physicians) and USEP/RLSUP being analyzed as two separate cohorts. Rural in this context only was defined as non-RSA community at the time of application.

Simple descriptive statistical analysis techniques were applied to each dataset.

## Results

### Overview

A total of 226 physicians participated in one of the REAP-sponsored advanced training programs between 2001 and 2008. 215 of these physicians were based in a rural community and accessed funding through AST or FYEP. Eleven (11) physicians accessed funding through the urban (non-RSA) based programs – Urban Skills Enhancement for Rural Practice and (USEP) and the Rural Locum Service Upgrade Program (RLSUP). As evident in Figure 1, the physicians who accessed the program were most often from the Interior Health Authority (39.4%) or Northern Health Authority (33.8%).

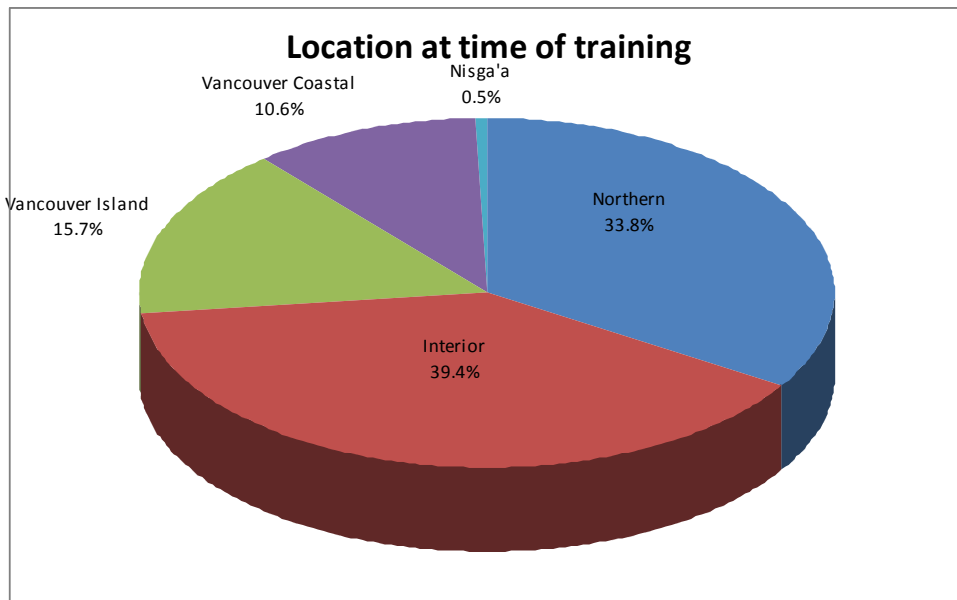


Figure 1: Location at time of training

**AST/FYPEP Sponsored Training**

**Overview**

A total of 215 physicians received funding through the AST/FYPEP programs. The majority (204 or 95%) of participants were funded through AST; 11 (5%) received FYPEP sponsorship. There were a total of 1546 weeks of training approved for funding, although not every applicant used their requested amount of funding. The average number of training weeks approved was 7.2 with a range of 1 – 26 weeks.

On average 31 students from rural communities participated in REAP sponsored training each year. More than three-quarters (77.7%) of participants did a single rotation between 2001 and 2008, with 18.5% taking advantage of the funding for a second training period, 2.3% doing a third and 1.4% doing a fourth rotation. The percentage of participants doing additional funded training beyond their initial experience, ranges from 8% for trainees from 2006 to 40% for trainees from 2001/2, with nearly 1 in 5 overall choosing to access REAP funding at least twice. The 2009 funding session is closed, and 4 (12.9%) of trainees from 2008 have been approved for a second funding session, to be completed before December 2010.

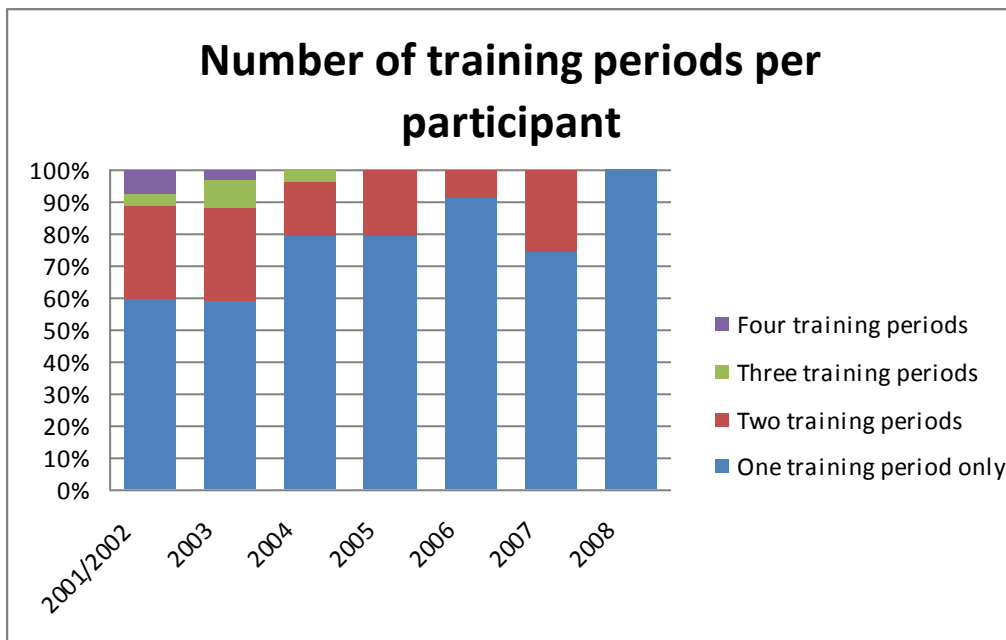


Figure 2: Number of training periods per participants

**Where are they?**

Of the 215 physicians who took REAP sponsored training, 186 (86.5%) were still providing service in an RSA community, 89.3% were still in a non-urban community (see table 1). Of those in non-urban communities, 160 (74.5%) were still in the same community they were in when they applied for REAP funding. There was a temporal relationship between the number of years that had passed since their initial training and whether or

not a physician was still in the same location. Physicians who had accessed training in 2007 to 2008 had nearly a 90% retention rate as of April 2010, representing at least 3 to 4 years remaining in their original community. The retention rate in the same RSA communities was still nearly 60% for physicians who trained as far back as 2001 (see Figure 3).

| Year of First Training | Still Rural |              |
|------------------------|-------------|--------------|
|                        | Number      | Percent      |
| 2001/2002              | 22          | 81.5%        |
| 2003                   | 29          | 85.3%        |
| 2004                   | 25          | 86.2%        |
| 2005                   | 26          | 89.7%        |
| 2006                   | 31          | 91.2%        |
| 2007                   | 29          | 93.5%        |
| 2008                   | 30          | 96.8%        |
| <b>Total</b>           | <b>192</b>  | <b>89.3%</b> |

Table 1: Trainees still in non-urban communities

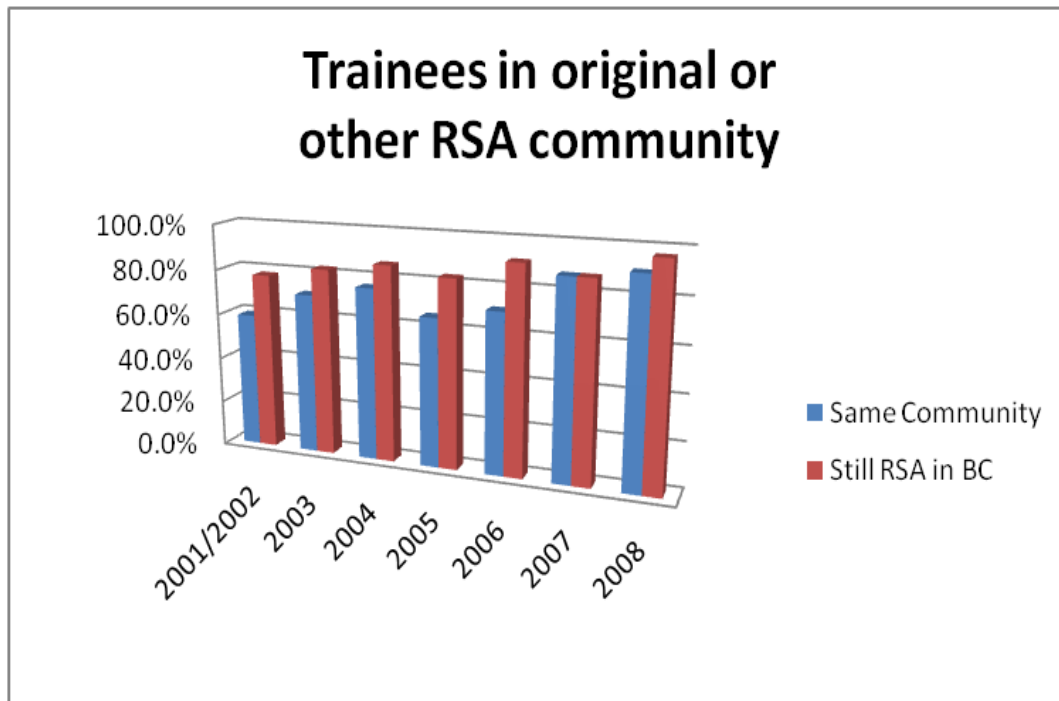


Figure 3: Original or other RSA community



Of the 215 trainees, 53 (24.6%) had moved. Of the 53, 10 (18.9%) were no longer registered with the College of Physicians and Surgeons of BC. The whereabouts of 4 of these trainees could not be determined; 3 had trained in 2003 and one in 2005. The remaining 6 are still in Canada, but only one was in a rural location.

An analysis of the 43 trainees who had relocated within BC indicates that 2 have inactive registrations, 24 (51.1%) went to larger centres than where they had trained, 8 (17.0%) were in smaller centres and 15 (31.9%) had moved to communities of an equal size. For the 24 who moved to larger communities, 4 (16.7%) were still in RSA communities and an additional 4 (16.7%) were in communities outside of urban areas. The remaining 16 (37.2%), which represents only 7% of the total number of REAP sponsored trainees, were in urban centres (see Figure 4). A temporal relationship is again noted with participants undergoing recent training being least likely to have left their rural community.

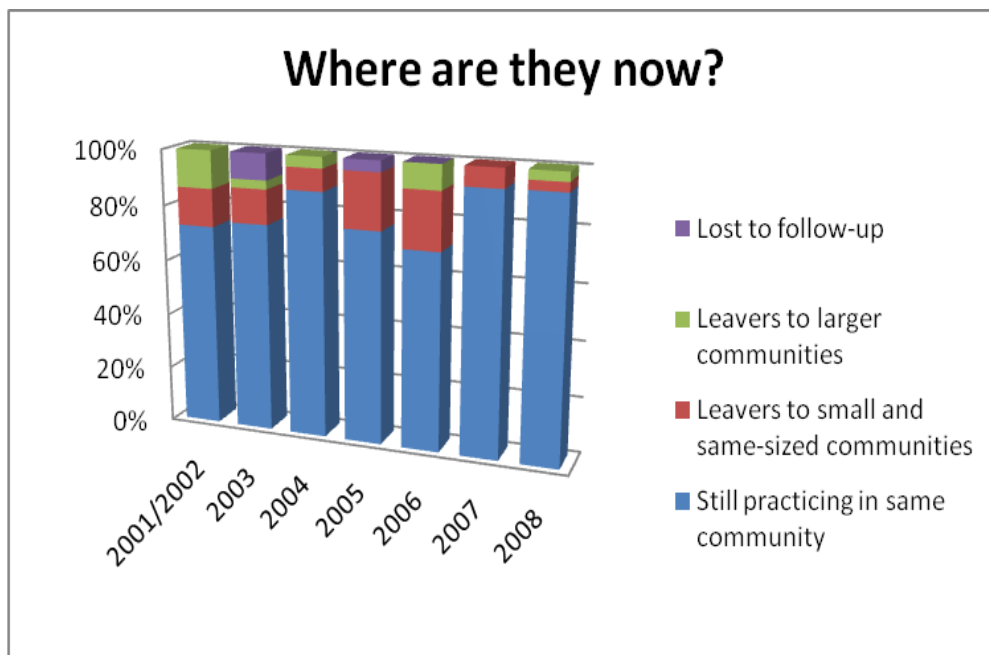


Figure 4: Current practice locations

**USEP/RLSUP Sponsored Training**

**Overview**

A total of 11 physicians received funding through the USEP/RLSUP programs since 2005 when the programs were implemented. Two of these were funded through RLSUP and nine through USEP. There were a total of 25 weeks of training funded. The average number of weeks of training was 2.3 with a range of one to eight weeks. Nine of the 11 trainees were based in urban centres. The remaining two were based in non-RSA communities that were smaller in size (Lillooet and Courtenay). Only one of participants did more than a single training period.

## Where are they?

Of the 11 urban-based physicians who undertook REAP sponsored training, only 2 (18.1%) were now in a rural community - one in BC, one in Alberta. Both had received USEP funding. The one physician who relocated to a rural community in BC was based in a medium sized town that was a non-RSA community at the time of their application (now included on the RSA list). The other physician who moved to rural Alberta had previously lived and worked in rural BC for a number of years. One sponsored physician who applied from a smaller community not recognized as RSA at the time of funding (now included on the RSA list) has since relocated to a large urban community.

For the two applicants who received RLSUP, one is still actively working in a rural community and the other has done a number of rural locums. It is unclear if either has relocated to a rural community. No confirmation of return of service is available for any of the physicians who received USEP funding. There have been 7 positions approved for funding in 2009 under the auspices of RLSUP, with recipients having until December 2010 to complete their training.

## Discussion

This paper examines the rural retention and relocation rates of physicians who undertook REAP sponsored advanced skills training between 2001 and 2008. Access to enhanced skills regularly scores high in rural physicians' assessment of support needed to retain them in rural communities.<sup>3 4</sup> Continuing funding for medical education that is responsive to the self-assessed needs of the rural physician learner was the highest ranked rural medical education solution amongst Ontario physicians in a survey designed to evaluate retention strategies.<sup>5</sup>

Geographically, the majority (73.2%) of physicians accessing the program were from the Interior Health Authority and from the Northern Health Authority. Given that these two health authorities make up the largest portion of rural health care services, this finding is not surprising. What is interesting is that nearly 1 in 5 participants access additional funding at some point in the future. This likely reflects a positive initial experience. It could also reflect that more physicians are becoming aware of the programs and accessing them, rather than a more limited group from the earlier years. It will be important to observe this trend over the next few years and correlate it to available funding and communications strategies.

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<sup>3</sup> Jennett, P. Hunter, K. 1988. **Career and practice profiles of Alberta medical graduates (1973 – 1985) practicing in Alberta.** *CMAJ*. Vol 139. October 1, 625 – 629.

<sup>4</sup> Curran VR, Fleet L, Pong RW, Bornstein S, Jong M, Strasser RP, Tesson G. 2007. **A survey of rural medical education strategies throughout the medical education continuum in Canada.** *Cah Sociol Demogr Med.* 47(4), 445-68.

<sup>5</sup> Rourke, J. Incitti, F. Rourke, L. Kennard, M. 2003. **Keeping family physicians in rural practice.** *Can Fam Phys* Vol 140 September, 1142 -1150.

The question remains though: Do physicians from rural communities use the opportunity to gain additional skills as a spring board to urban practice? Answering this question requires some understanding of rural physician attrition. A number of studies have examined the factors that influence physicians to remain in or leave a rural environment.<sup>6 7</sup> The rate at which rural physician attrition occurs will obviously vary over time and geographic location, however, Hutten-Czapski, Ontario Chair of the Society of Rural Physicians, reports an annual calculated attrition rate of 4% since 1994<sup>8</sup> and the overall rural physician attrition rate of 21% is often quoted.<sup>9</sup>

Although it is recognizably hard to generalize this sort of statistic, it can serve as a rough guide and benchmark by which to compare information. The data collected in this study, would suggest that irrespective of how you calculate the attrition rate, rural physicians who undertake AST or FYPEP training overwhelmingly stay rural (average 89.3, range 81.5– 96.8%). The overall attrition rate for this cohort is 14.6% which averages out to an annual attrition rate of 1.6%, notably below the benchmark. Although there could be other factors impacting this high retention rate and the retention rate of other physicians in these rural communities is not known, for the purpose of direct comparison, evidence suggests that physicians undertaking AST or FYPEP training do overwhelmingly stay rural.

That is not the case though for those physicians who were funded through the two urban based trained programs – USEP and RLSUP. The stated intention of these programs is to recruit urban physicians to rural BC communities. In order for its true efficacy to be evaluated, it needs to be clarified as to whether or not the RLSUP mandate is to recruit to a rural locum service or to recruit rural physicians or both.

There is no evidence that these programs are effective at recruiting rural physicians with only one participant providing services in a rural BC town (9%). The only other participant who was in a rural community at the time of their application (though not RSA at that time) has since relocated to a large urban centre meaning overall the programs have had a net zero effect on increasing rural physician numbers.

Interestingly, the urban-based programs both had some component of return-of-service (ROS) agreement attached to them. Unfortunately, it is difficult to ascertain whether or not the participants did fulfill their contractual obligations as there is no process in place to formally monitor this. It certainly would seem to suggest that ROS agreements are not effective in enhancing the provision of rural health services under these circumstances.

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<sup>6</sup> Pathman, D. Konrad, T. Agnew, C. 2008. **Studying the Retention of Rural Physicians.** *The Journal of Rural Health.* 10(3), 183 - 192

<sup>7</sup> Hutten-Czapski, P. 1998. **Rural incentive programs: a failing report card.** *CJRM* 3(4):242-7

<sup>8</sup> Hutten-Czapski, P. 2000. **Rural physicians practising emergency medicine: paying the piper,** *CJEM • JCMU* April 2(2), 115

<sup>9</sup> Society of Rural Physicians of Canada. 2007. **National Rural Health Strategy.** [www.srpc.ca/librarydocs/nrhsB.pdf](http://www.srpc.ca/librarydocs/nrhsB.pdf)

Is there evidence, though, to suggest that a properly structured program may increase the number of physicians retained in or relocating to rural communities as the case may be? A literature review by Semposki in 2004 suggested that ROS agreements were effective in increasing the short term retention of rural physicians but that longer term made little difference.<sup>10</sup> A more recent meta-analysis concluded that ROS did not result in physicians staying in the original rural community, but that there may be a small effect in increasing the overall numbers in rural settings.<sup>11</sup> They caution though that this data is not generalizable and that this effect is equally likely to a number of other factors. Given the high retention rate already demonstrated among the rural based advanced skills training programs (AST and FYPEP) it is unlikely that a ROS would result in any dramatic increase in retention rates amongst this population. Its ineffectiveness in the urban based programs (USEP and RLSUP) also suggests that, barring significant restructuring and administrative changes, which could be cost-prohibitive, it would not be beneficial.

## Conclusions and Recommendations

- Physicians from rural communities who access REAP funding overwhelmingly continue to provide service in a rural community for a number of years after their training, most often the community they were in when they applied.
- The AST and FYPEP programs are effective REAP strategies that are associated with an increased rural retention rate.
- No evidence exists that a return-of-service agreement would be beneficial in increasing the percentage of sponsored physicians who stay in a rural community.
- Physician from urban communities who access REAP funding remain in urban centres. Those who do relocate had similar and identifiable features (smaller urban communities or had spent many years working in rural communities).
- The RLSUP program is undersubscribed but may be effective at recruiting and maintaining rural locums.
  - If this program is to be retained it should be better publicized
  - The mandate should be clarified to focus on recruiting rural locums not rural physicians
  - 2009 data may be helpful in better elucidating if this program can achieve its mandate if it focuses on the recruitment of rural locums.

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<sup>10</sup> Sempkowski, I. 2004. **Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of the literature** *Can J Rural Med* 9 (2):82 – 88

<sup>11</sup> Bärnighausen, T. Bloom, D. 2009. **Financial incentives for return of service in underserved areas: a systematic review** *BMC Health Services Research*, 9:86



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- USEP and RLSUP are not effective at recruiting physicians to rural communities
  - The funding for these programs should be moved to the AST program and its mandate given additional flexibility to accommodate the few applicants for whom funding may effectively influence them to relocate to a rural community
- Although not recommended, if USEP and RLSUP programs continue to employ a ROS agreement a monitoring system must be put in place to ensure compliance.