Where are the Veterinarian Shortage Areas Anyway?

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THE FOOD ANIMAL VETERINARIAN (FAV) SHORTAGE situations are posted at NIFA Web site: http://www.nifa.usda.gov/ruraliav/vmlrp/vmlrp_shortage_situation_summary.html. Based on these data, all counties in the US were categorized as either private practice Program Designated (PD) or Program Non-Designated (PN) shortage counties. The AVMA website http://www.avma.org/fsvm/maps/default.asp provides the number of FAVs for each county. Data for all livestock were obtained from the 2007 Census of Agriculture. We use a complementary method to understand how the program performs in identifying counties that do and do not have shortages. The ratio of PD counties that are MD over all PD counties is referred to as sensitivity and the ratio of PN counties that are MN over all PN counties as specificity. We take Model (2) as a benchmark and seek to understand how the program performs in identifying counties that do and do not have shortages. The ratio of PD counties that are MD over all PD counties is referred to as sensitivity and the ratio of PN counties that are MN over all PN counties as specificity. We find that for our data of 40% the states program designation sensitivity exceeds 70%. For another 50%, this sensitivity is between 30% and 70%. Also, program designation specificity exceeds 60% for 20% of the states and is between 30% and 70% for about 60%.

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Introduction

THE VMLRP FAV SHORTAGE situations are posted at NIFA Web site: http://www.nifa.usda.gov/ruraliav/vmlrp/vmlrp_shortage_situation_summary.html. Based on these data, all counties in the US were categorized as either private practice Program Designated (PD) or Program Non-Designated (PN) shortage counties. The AVMA website http://www.avma.org/fsvm/maps/default.asp provides the number of FAVs for each county. Data for all livestock were obtained from the 2007 Census of Agriculture. We use a complementary method to understand how the program performs in identifying counties that do and do not have shortages. The ratio of PD counties that are MD over all PD counties is referred to as sensitivity and the ratio of PN counties that are MN over all PN counties as specificity. We find that for our data of 40% the states program designation sensitivity exceeds 70%. For another 50%, this sensitivity is between 30% and 70%. Also, program designation specificity exceeds 60% for 20% of the states and is between 30% and 70% for about 60%.

The perceived FAV shortage has been addressed at the federal level. The Veterinary Medicine Loan Repayment Program (VMLRP) was implemented in 2010. For qualified veterinarians who agree to serve in certain designated counties for three years, the U.S. Federal government will repay up to $25,000 of student loans per year. Each state’s animal health officer decides which counties to forward as applications, while the Secretary of Agriculture decides which applications to accept.

This paper uses two complementary methods to evaluate the VMLRP designated veterinarian shortage areas that were chosen in April 2010. On the one hand, we investigate the possible factors that increase a county’s chance of being designated as a FAV shortage area under VMLRP. On the other hand, we study determinants of FAV spatial location in equilibrium. And we compare our model-designated shortage areas with those designated by VMLRP, to evaluate whether the shortage designation process meet our objective criteria.

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