

This study addresses the issue of physician mal-distribution in Japan, aiming to quantitatively examine factors that influence physician retention in local areas. Using a panel dataset compiled from approximately 3 million records in the Physician Registration Survey—submitted biennially by all practicing physicians in Japan—from 2000 to 2020 (11 survey waves), survival analysis and fixed effects modeling were conducted. Key factors analyzed include hometown, medical school, and work location, with the goal of estimating their effects on retention duration in initial job locations and overall career-related relocation probability.

First, survival analysis at the prefectural level revealed that the probability of leaving an initial job location was approximately 19% lower if a physician's hometown, medical school, and work location were the same, 15% lower if only medical school and work location aligned, and 8% lower if only hometown and work location aligned, compared to the baseline where none of these factors aligned. Conversely, at the secondary medical district level, the absolute retention rates were lower, suggesting that even if physicians remained within a prefecture, they were more likely to relocate between secondary medical districts. Moreover, a comparison before and after the introduction of the new clinical training system in 2004 indicated that prior to the system, alignment of all factors correlated with a 46% lower relocation probability than the baseline, while this difference reduced to approximately 7% post-introduction. This suggests that the influence of university affiliations on work placements weakened following the system's introduction, reflecting a shift toward physician-driven preferences for job location.

Second, in the fixed effects model, the likelihood of retention at the prefectural level was highest when medical school and work location aligned, followed by cases where hometown, medical school, and work location aligned, and lastly when only hometown and work location aligned, with retention rates being 12.9, 12.6, and 5.2 percentage points higher, respectively, compared to the baseline. Over physicians' entire careers, the influence of medical school on job location retention emerged as particularly strong, underscoring the importance of regional education provided by universities.

While previous studies have suggested that hometown and medical school affiliations impact physician retention, this study quantitatively demonstrates retention differences across combinations of these factors. The findings offer valuable insights for policy measures addressing regional physician mal-distribution, potentially informing strategies for physician placement and workforce planning to better serve underserved areas.