

VR Risk Adjustment Outcome Study: Development of a Case Mix Adjustment Model for Evaluating VR Agency Performance

David Vandergoot

Center for Essential Management Services

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Questions

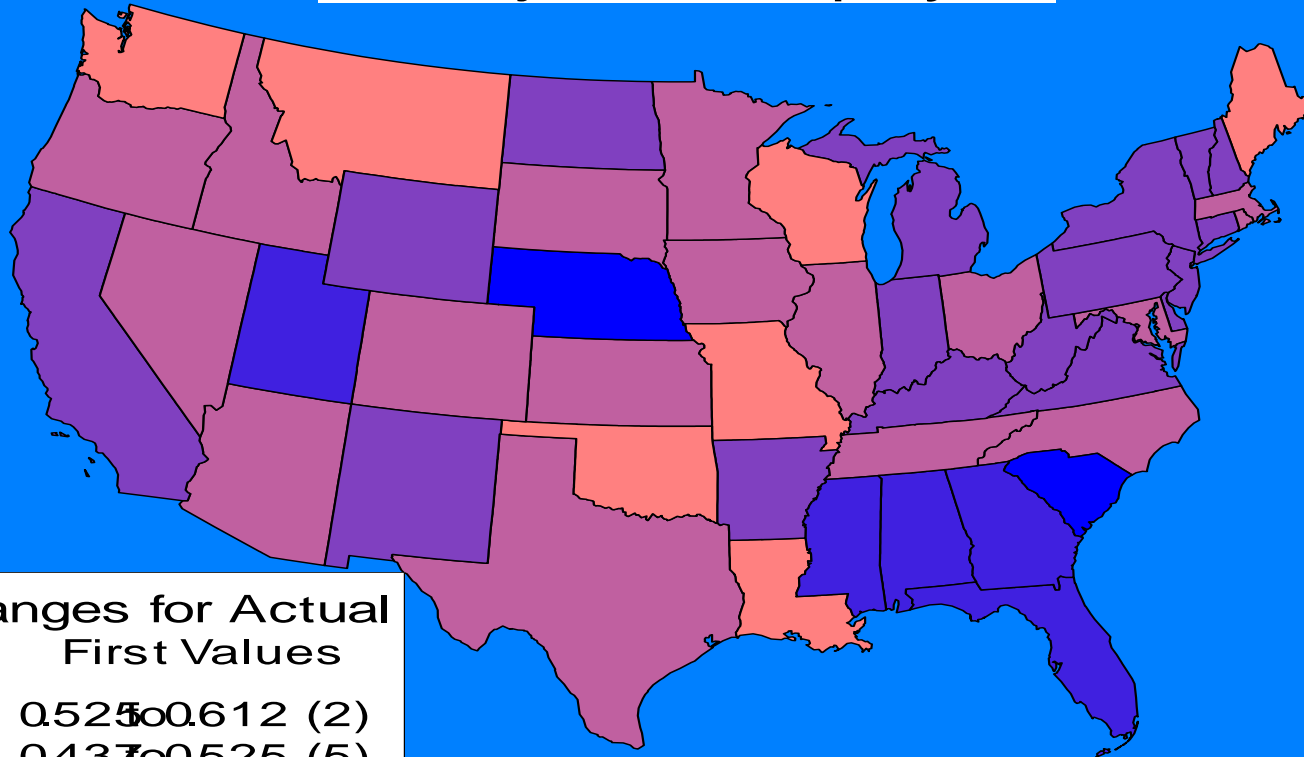
- How to identify those factors that influence VR outcomes?
- How to account for these factors in evaluating the performance of VR agencies?

Rationale

- Employment rates vary across the country for VR Agencies
- Successful employment is driven by high quality VR services
- Part of the variability in employment rates is due to characteristics of consumers and not under the control of the VR agencies
- Agencies with employment rates that substantially exceed what is expected based on the characteristics of who they serve, are providing very effective VR services

State Variation (Non-Blind Agencies 06 data)

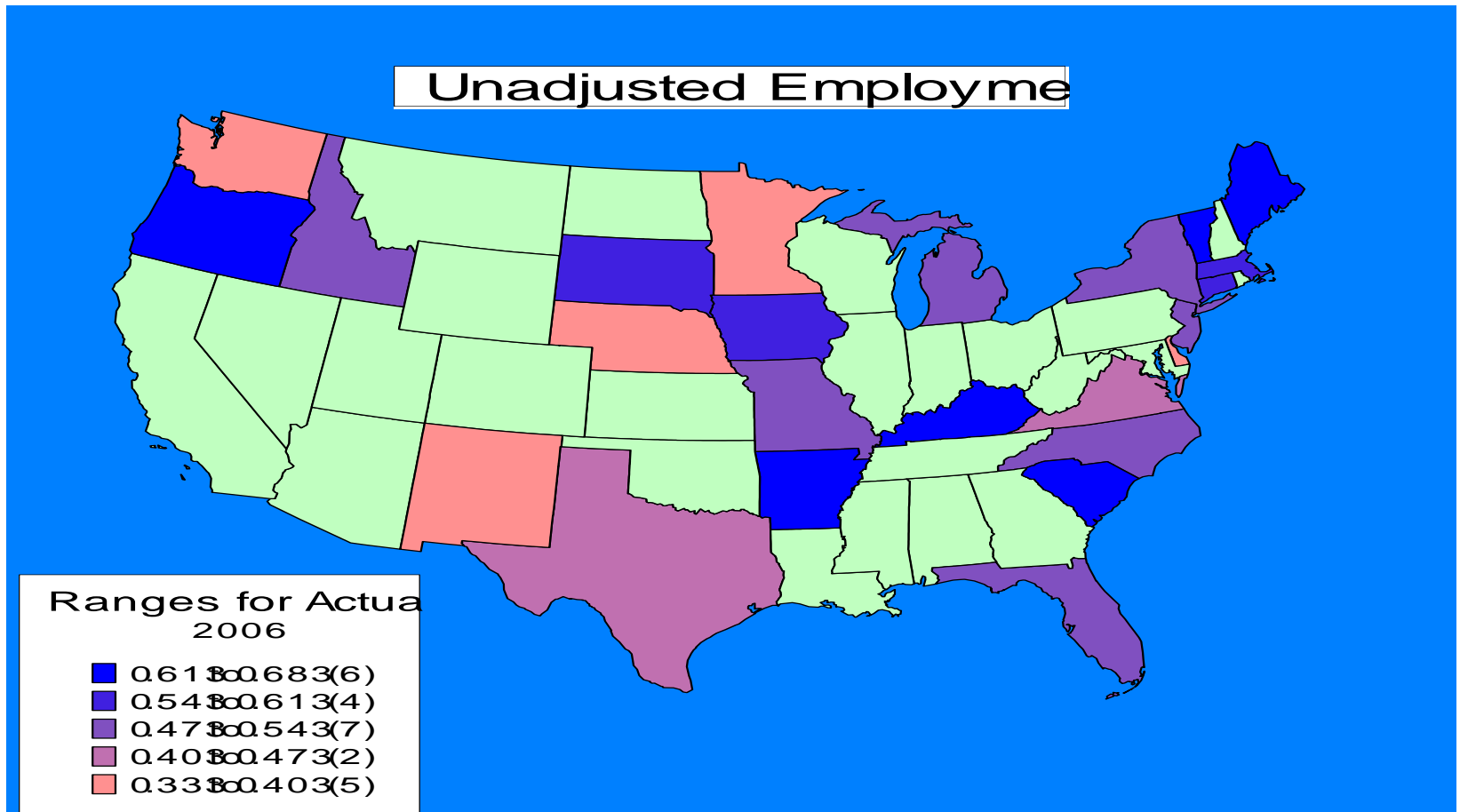
Unadjusted Employment



Ranges for Actual
First Values

- 0.525 to 0.612 (2)
- 0.437 to 0.525 (5)
- 0.349 to 0.437 (18)
- 0.261 to 0.349 (19)
- 0.173 to 0.261 (7)

State Variation Blind Agencies 06 data



Analytic Approach

- Develop a model to compare states based on “case mix” adjusted employment rates (Iezzoni, 2007)
- A Logistic regression model was developed to predict the likelihood of being employed using consumer level data
- This yielded probabilities of achieving expected placement rates for each state given the characteristics of consumers

Data

- 2006 RSA 911 file
- N = 554,478
- Employment was defined as “Exited With Employment”
- Overall rate of employment for all agencies was 35%

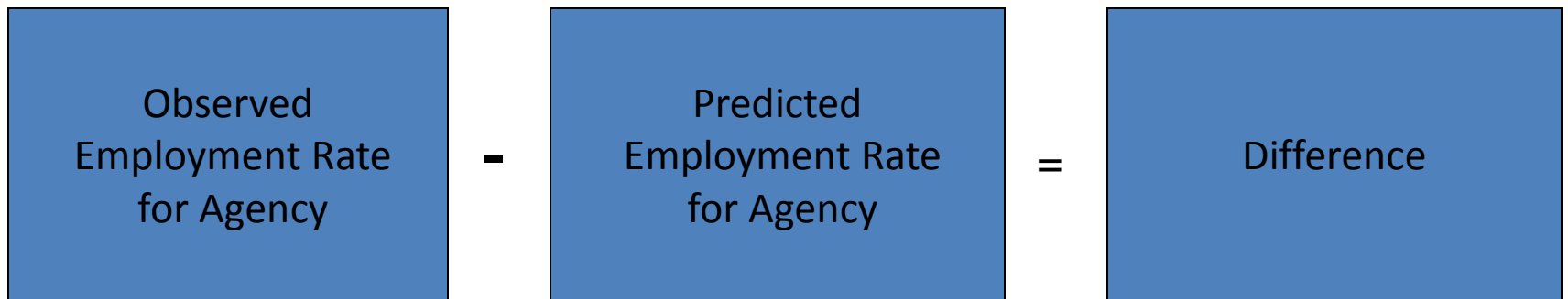
Data

- 2003 RSA 911 file
- N = 430,314
- Employment was defined as “Exited With Employment”
- Overall rate of employment for all agencies was 36%

Factors Used to Case Mix Adjust

- Employment status at application
- Living Arrangement
- Referral source
- Education
- Ethnicity
- Medical Insurance
- Primary Disability

Case Mix Adjustment Approach



Unadjusted
Employment
Rate

Predicted
Employment
Rate

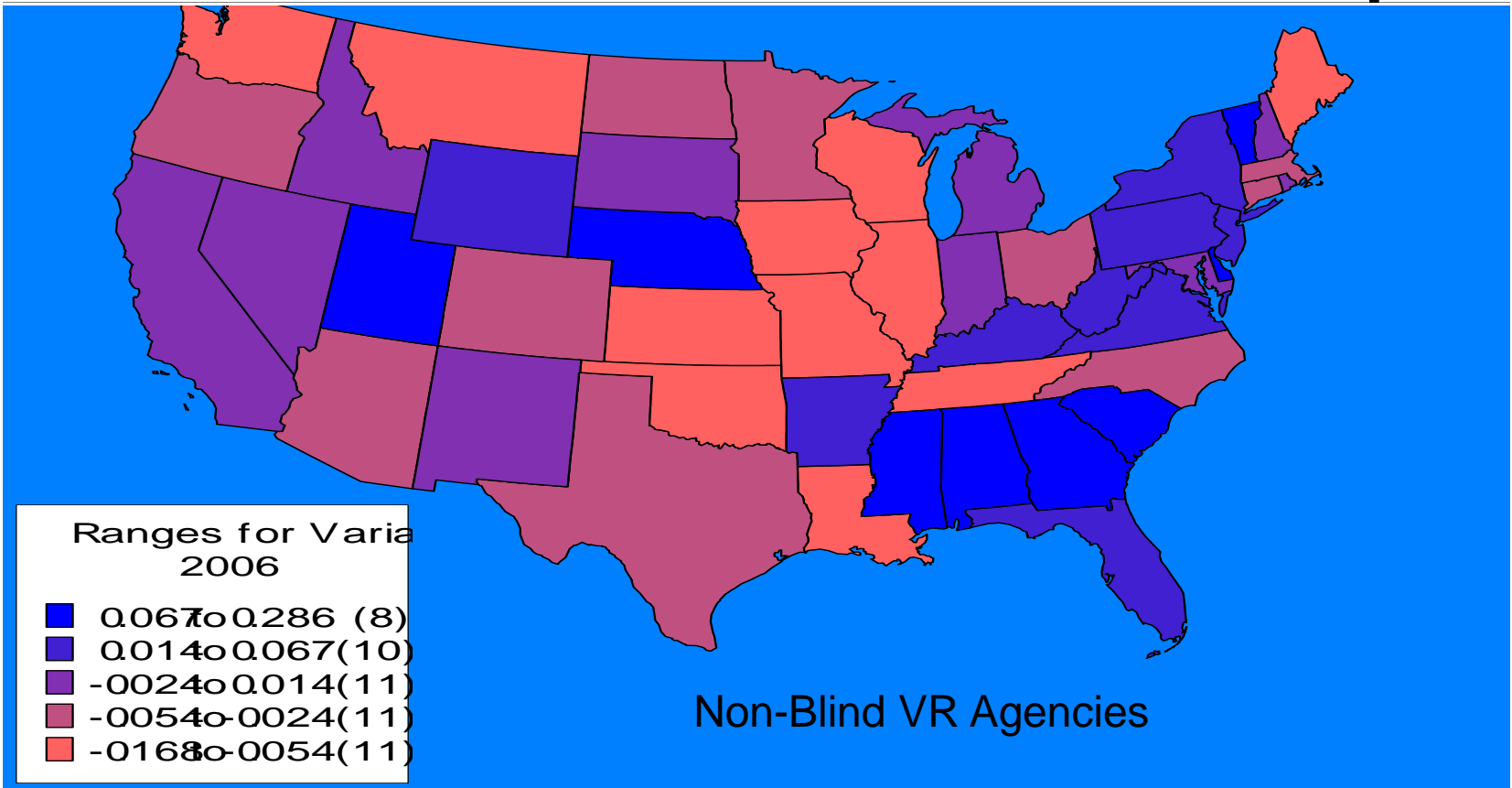
Relative
Performance of
Agency Compared to
Expected
Employment Rate

Interpreting the Results

- Agencies that are exceeding their predicted employment rates are doing better than expected
- Agencies that are below their expected values are doing worse

Performance Relative to Adjusted Employment Rates

Variance from Predicted Emplo



Bonus Analysis

- Contextual variables influence outcomes
- We now have a way to include these in performance assessment
- Analysis: correlate contextual variables such as VR departmental unit, caseload size, coordination with other state agencies, etc with adjusted employment rates

Data

- GAO data gathered in survey of VR agencies in 2003
- RSA 911 data from 2003

Results – Better Performing Agencies

- Served blind/vision impaired
- Were housed in education departments
- Received more support from other state agencies
- Had a waiting list
- Had counselors with larger caseloads
- Had a higher ratio of supervisors to counselors
- Had counselors with numerical performance expectations for 26 closures
- Had in-house job development specialists

Improved Program Management Possibilities

Need to capture other data elements to provide more complete picture of context

- Cost/duration of services
- Functional abilities/limits in employment terms
- Improved disability classifications
- Improved outcome measures
- Etc.

Next Steps

- Design survey to obtain more up-to-date data on contextual variables from VR agencies
- Repeat the analysis using these data and current performance data
- Feedback to agencies about their performance
- Set agency goals to exceed expected values
- Evaluate regional performance within states
- Revise the model based on results

Reference

Iezzoni, L.I. (2007). Risk adjustment for measuring health care outcomes, Health Administration Press, Chicago, IL.