

# The Geographic Mapping of Transplant Data

Austin Gregg MS<sup>\*†</sup>, Kelli Harker ARNP<sup>†</sup>, Shehzad Rehman MD<sup>\*</sup>, Kenneth Andreoni MD<sup>‡</sup>

<sup>\*</sup>University of Florida, Department of Medicine, Division of Nephrology, Hypertension, and Renal Transplantation, Gainesville, FL

<sup>‡</sup>University of Florida, Department of Surgery, Division of Transplantation Surgery, Gainesville, FL

<sup>†</sup>University of Florida, Shands Transplant Center, Gainesville, FL

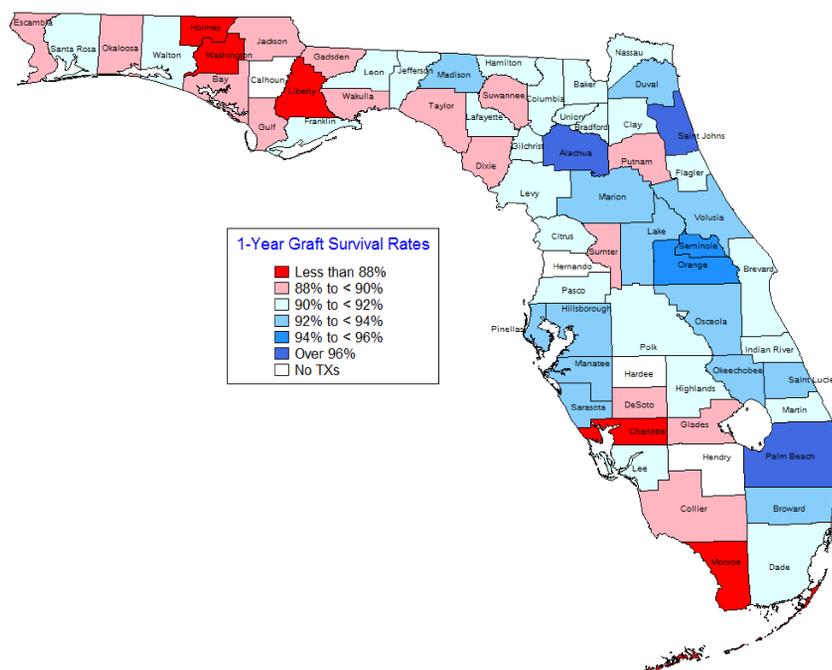


**Purpose:** Our center serves a broad geographic area and a large population. Consequently a need arises to look at data that encompasses the whole state as defined by incremental areas such as counties, or specific counties aggregated into a region. When this level of granularity is introduced into an analysis conventional means of displaying the results can quickly morph into unwieldy tables or charts, and the “take-away” message lost in the jumble.

**Methods:** SAS version 9.3 was used to create the choropleth, dot-density, block, prism, and modified dot-density maps seen below clockwise from top left. All data represented is completely fictitious and in no way is designed to imply the results of any transplant center in the states illustrated.

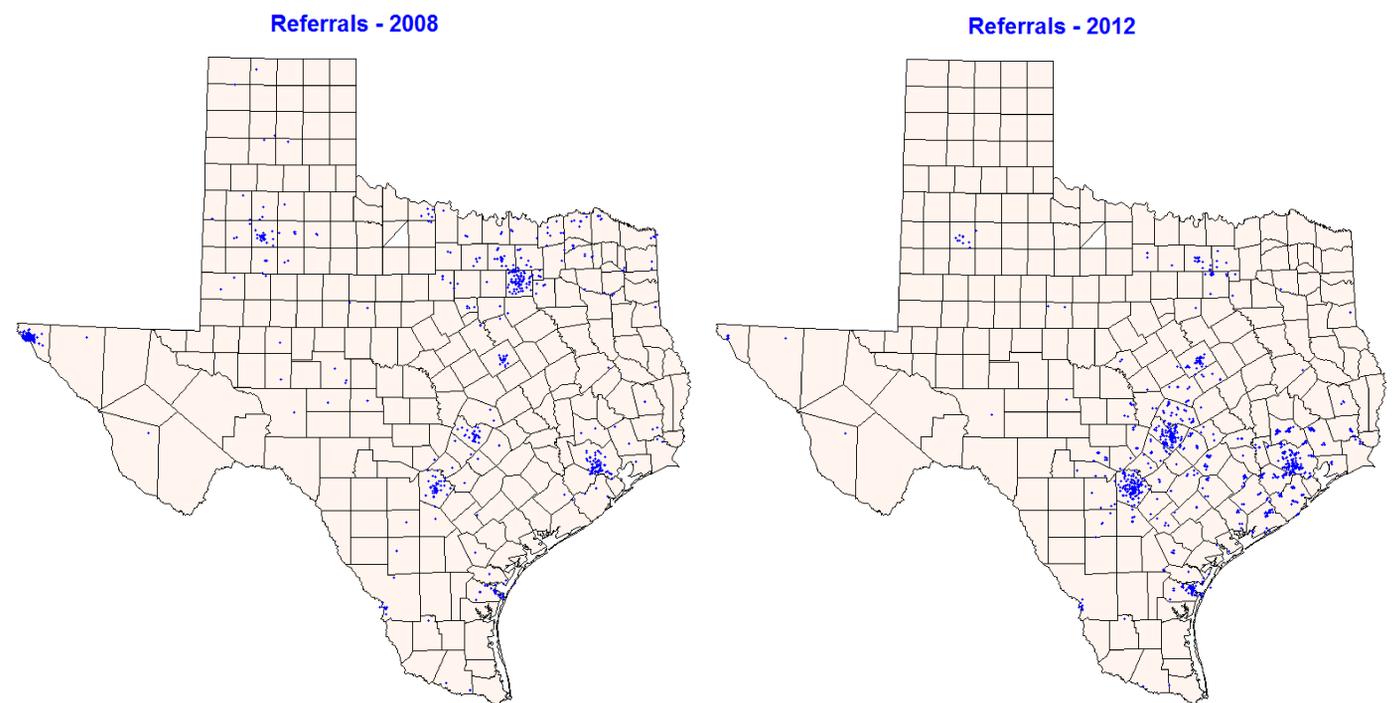
## 1-Year Graft Survival Rate by Recipient’s County of Residence

Note how quickly one can assess underperforming locations



## Referrals over Time

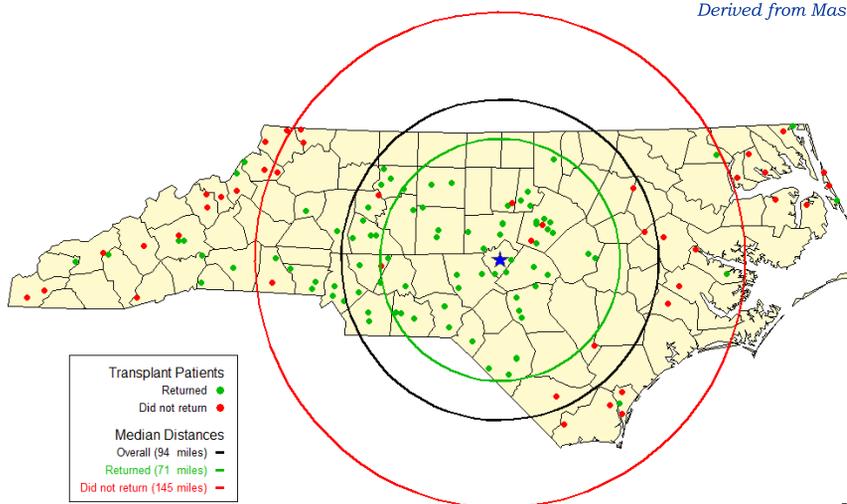
Each dot represents one referral – Note how the pattern changes from 2008 - 2012



## Return to Clinic within 6 Months of Transplant

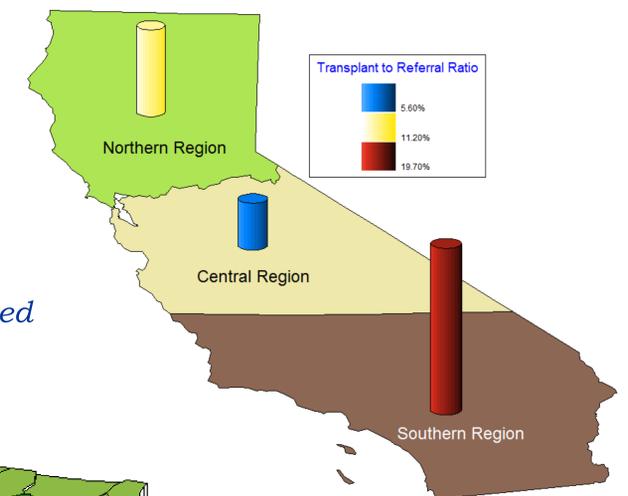
Patients not returning live farther away from the center

Derived from Massengill et al.



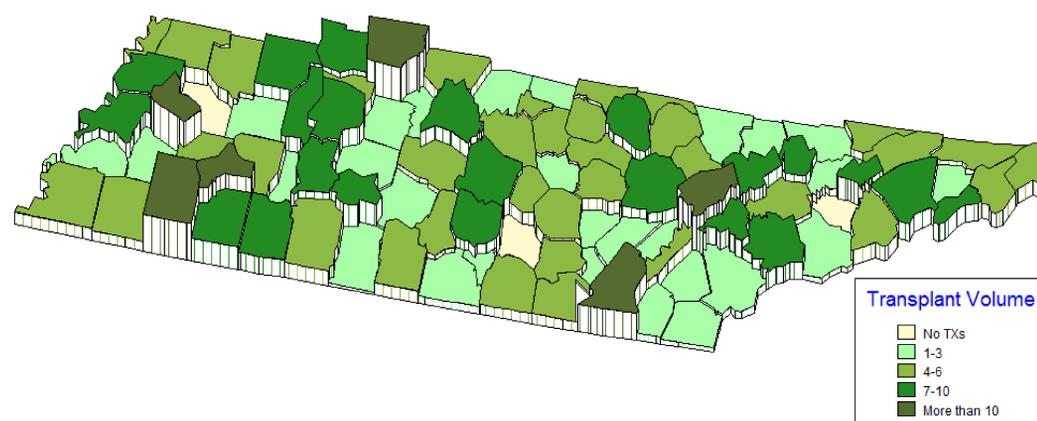
## Transplant to Referral Ratio

Specific geographic areas can be defined and analyzed



## Transplant Volume

Height and color both key number of patients transplanted



**Conclusions:** With dimensions of time, geographic expanse, and vital measures that drive a transplant center’s success, maps very efficiently enable the presentation of complex, multidimensional data stemming from thousands of observations. Far beyond the capacity of a conventional table or bar graph, information revealed in a map is applicable to both clinical and administrative uses.