

INTRODUCTION

Availability of assisted reproduction (AR) treatments for infertile patients and patients interested in preserving their fertility is one of the centerpieces of a fair access to reproductive rights. In this context, a geographical analysis of the variation of the number of cycles among clinics in different regions of the country over time can provide a dynamic understanding of access to care and highlight opportunities for improvement.

OBJECTIVE

The purpose of this study was to describe and quantify the evolution and variation of the utilization of AR treatments in the US since 2007.

METHODS

In this retrospective administrative dataset study, we used the publicly available data from the Society for Assisted Reproductive Technology (SART) between 2007 and 2014 to measure utilization of AR services in the US. We grouped the clinics reporting data to SART into the 4 US census regions (West, Midwest, South, and Northeast) and categorized the clinics within each region using quartiles of the number of cycles performed. We estimated the aggregated number and percentage of cycles performed in each region by the clinics in the top quartile to quantify time trends in their share of cycles. Trends were assessed using Mann-Kendal test and $P < 0.05$ was considered statistically significant.

RESULTS

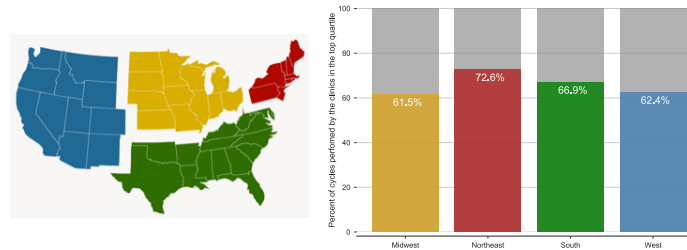


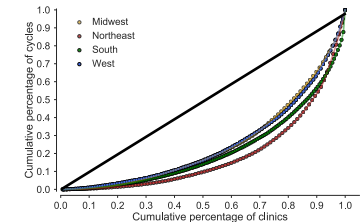
Figure 1: Left panel: US Census regions. Right panel: Percentage of cycles performed by the clinics in the top quartile in number of cycles.

Table 1: Characteristics of the top quartile clinics in each region.

Top quartile clinics	2007	2008	2009	2010	2011	2012	2013	2014
Midwest								
Number clinics/lowestN of cycles	25/291	25/258	24/311	24/328	24/326	23/402	24/392	24/415
Cycles, %	63.7	64.6	64.1	63.3	62.4	60.2	60.9	61.5
Northeast								
Number clinics/lowestN of cycles	24/476	25/512	26/456	26/465	26/463	26/457	27/481	25/572
Cycles, %	69.5	70.2	71.1	70.2	70.3	71.6	72.5	72.6
South								
Number clinics/lowestN of cycles	36/294	37/291	38/287	37/290	39/291	40/287	41/288	41/324
Cycles, %	64.9	64.8	66.5	65.0	67.1	67.9	67.3	66.9
West								
Number clinics/lowestN of cycles	28/310	28/316	28/337	29/316	30/309	31/300	31/319	31/314
Cycles, %	60.2	61.9	60.4	57.8	60.1	59.9	61.3	62.4

During the study period, the overall number of AR cycles performed by the clinics in the top quartile increased significantly in the Midwest (8,433 to 10,207), South (11,101 to 14,369), and West (10,447 to 11,813) ($p < 0.05$ for all trends), but not in the Northeast (12,355 to 13,004, $p = 0.17$). Nonetheless, the fraction of cycles in the top quartile within these regions showed little variation since 2007 (Table 1, $p > 0.21$ for all trends). Clinics in the top quartile were responsible for a large fraction of the AR cycles in each region, ranging from 61.1% in the West to 72.6% in the Northeast in 2014.

Figure 2: Gini-like curve describing the concentration of cycles in the US regions.



CONCLUSIONS

Our results indicate that approximately 7 out of 10 AR cycles are performed in one-fourth of the centers across different regions in the US, while the vast majority of clinics perform a few hundred cycles a year. While the impact of this concentration in access to care and clinical outcomes require further investigation, these results should be considered when evaluating policies aimed at increasing access to AR services and the allocation of resources by new clinics.