Rural/Urban Differences in Family Planning Service Provision: A Survey of Title X Clinics in Great Plains and Midwestern United States

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ABSTRACT

There is a paucity of research on rural/urban variations in U.S. family planning service provision. We surveyed 558 Title X family planning clinics in 16 Great Plains and Midwestern U.S. states regarding clinic accessibility, contraceptive methods provided, and perceived barriers. We classified clinics into a four-level rural/urban variable derived from Rural-Urban Commuting Area (RUCA) codes: Urban, Large Rural City, Small Rural Town, and Isolated Small Rural Town. Responses varied across rural/urban categories on most items that we evaluated, often along a gradient. The most rural respondents were the least likely to dispense contraception on site. The largest rural/urban disparities were seen for long-acting reversible contraceptive (LARC) methods. Similarly, isolated rural clinics had the highest rates of reported barriers to service provision. Our findings suggest that urban/rural differences have been an under-recognized factor shaping the dynamics of U.S. family planning care. RUCA is a valuable with which to evaluate rural/urban differences.

INTRODUCTION

Poverty, lack of insurance coverage, limited transportation, and long driving distances from health care facilities contribute to health disparities for rural women.[1] Indeed, lower rates of preventative health service use have been noted among rural vs. urban women after adjustment for socioeconomic variables.[2]

Family planning is an essential health service for women of reproductive age, in rural and urban geographies alike. Access to reproductive health care is especially sensitive to cultural and political factors. In rural communities these challenges are exacerbated by shortages of primary care providers, obstetrician-gynecologists, and abortion providers.[3] The federal Title X program plays a critical role in meeting the reproductive health needs of American women. Established in 1970, Title X funds 4,400 clinical sites nationwide to deliver family planning and other related health services including breast and cervical cancer screening, pregnancy testing and counseling, HIV testing, and screening and treatment of sexually transmitted infections. Collectively, these clinics serve an estimated 5 million clients per year – primarily women (92%).[4] Services are provided on a sliding fee scale and are thus accessible to low-income and/or uninsured women. Title X clinics have a presence in approximately 75% of U.S. counties, serving geographies along the entire rural-urban spectrum.[5] While Title X is a federal program, clinic characteristics and capacity vary widely, largely influenced by local norms and assets.

Numerous studies, including nationally representative surveys, have described women's use of family planning services by personal characteristics (e.g., age, race/ethnicity, education, income). However, rural/urban variation in these services remains poorly understood. Few analyses have featured covariates representing rural/urban geography and, when included, measures have generally been coarse and/or "urban-centric." For example:

- Condensation of geography into binary (urban vs. rural) variables;

- Use of Metropolitan Statistical Areas (MSAs) to derive "urban" (central cities within MSA), "suburban" (MSA exclusive central city) and "rural" (all else) categories; and
- Assignment of urban/rural classifications to large geographies such as counties.

The aim of our study was to better characterize rural/urban differences in U.S. family planning service provision by using a more sensitive geographical measure derived from Rural-Urban Commuting Area (RUCA) codes. We sampled Title X clinics due to their prominent role as family planning providers, their ubiquitous presence along the rural-urban continuum, and their focus on patient populations at high risk of unintended pregnancy. Our study addressed the following research questions:

1. How do the availability of Title X clinics' services (i.e., service days, hours) and promotion practices vary along the rural/urban continuum?
2. What contraceptive methods are offered on-site by rural and urban Title X clinics?
3. What are the service barriers experienced by Title X clinics? Do they differ by rural/urban geography?

In order to obtain a focused, regional description of family planning service provision, we restricted our sample to Title X clinics in 16 Great Plains and Midwestern U.S. states in U.S. Department of Health and Human Services (HHS) Regions V, VII and VIII (Figure 1). This geographic region of the country has clinically underserved areas, both urban and rural, that are not frequently studied. By analyzing urban-rural differences related to family planning in the understudied center of the United States, we hope to highlight areas for clinical improvement, contribute to the literature on rural health care and disparities, and provide the methodological groundwork for additional nationwide studies.

METHODS

Survey Development: We began by conducting key informant telephone interviews with five Title X regional program consultants and clinic managers, with representation from both rural and urban service areas across HHS Regions V, VII and VIII. We asked about barriers and facilitators of reproductive health care in the Title X clinic setting. Using participants' feedback, we developed an initial draft survey and circulated it among an expert panel (family planning clinicians, researchers, clinic managers, and a clinic medical director) to evaluate face validity. Subsequent survey versions were refined in collaboration with the University of Chicago Survey Lab, who ensured that the wording, ordering, and response options of each question conformed to best practices in survey design.

Survey Administration: From June to September 2012 we surveyed all clinics in Regions V, VII and VIII receiving Title X funding (n=811) using a list provided by the Office of Population Affairs. Surveys were initially mailed to the attention of the clinic manager with a cover letter instructing that they could work collaboratively with others to answer the questions. Multiple contact attempts were made in the following sequence in order to optimize the response rate: (1) a postcard, (2) a letter with option to complete the survey online, (3) an e-mail, (4) a phone call, and (5) an e-mail reminder. As an incentive, survey respondents were allowed to enter their clinic in a raffle for one of five $500 gift cards to Amazon.com. Our response rate was 76% (n=568), after excluding clinics that were deemed ineligible (i.e., closed or no longer Title X-funded) after surveys were mailed.

Measures: The final 10-page survey instrument contained 38 items organized within the following domains: (1) clinic characteristics and promotion practices (e.g. clinic type, volume, schedule, social media use); (2) stocking and prescribing of contraceptive methods, including emergency contraception (EC) and long-acting reversible contraception (LARC) – i.e., the intrauterine device (IUD) or contraceptive implant; (3) policies and eligibility criteria governing service provision, including to adolescents and young adults; (4) perceived popularity of contraceptive methods among adolescent

patients; (5) referral for abortion and proximity of abortion providers; and (6) perceived barriers to LARC provision and service provision generally. The current analysis focused on domains 1, 2, and 6.

Geographic variable coding: A tool we bring to our analysis is RUCA Codes. Funded by U.S. government agencies, RUCA uses 2000 U.S. Census data and commuting flows to classify all census tracts regarding their rural/urban status into 33 codes. Codes can be aggregated in a variety of ways to derive multi-level categorical variables representing discrete sections of the rural/urban spectrum. A ZIP-code approximation of the RUCA scheme was subsequently developed. We downloaded RUCA ZIP code files for each of our survey states from the Rural Health Research Center (http://depts.washington.edu/uwruca/ruca-download.php). We merged these codes with our survey data file using clinic ZIP code, which was subsequently purged from the analysis file to maintain anonymity. RUCA codes were collapsed into a four-level geographic variable: Urban, Large Rural City (Micropolitan), Small Rural Town, and Isolated Small Rural Town.

Analysis: Our analysis sample included clinics that provided complete data on which methods they do and do not provide (n=558). We examined bivariate relationships between our four-level RUCA variable and: clinic accessibility, on-site stocking and provision of contraceptive methods, perceived LARC barriers, and perceived barriers to service provision in general. All analytic variables were categorical. We used Chi-square tests and corresponding p-values to evaluate statistical significance (α=0.05).

All research activities were approved by the University of Chicago Institutional Review Board (IRB).

RESULTS

Clinics operated by local or state governmental entities comprised just over half of the survey respondents, with dedicated family planning/reproductive health clinics accounting for 29% (Table 1).

Most survey respondents were clinic managers or directors, the targeted recipient of the survey. Just over half of the clinics were low-volume clinics serving fewer than 500 women every year.

There were significant differences by RUCA category in the accessibility of clinic services and clinics' use of social media to promote services (Table 2). Clinics in isolated small rural towns were the least likely to report offering walk-in appointments and appointments during non-traditional (evening or weekend) hours. These clinics also had lower utilization of websites and Twitter to promote services.

We observed considerable variation in provision of contraceptives by geography. While majorities of clinics in all RUCA categories dispensed oral contraceptives (OCs) and the 3-month injectable Depo-Provera (DMPA), on-site provision of other methods followed the RUCA gradient with particularly low rates of LARC availability at isolated rural clinics (Figure 2). Availability of on-site IUD insertion ranged from 82.9% (urban) to 20.4% (isolated small rural town); proportions in intermediate geographies were similar (~50%). Among clinics performing IUD insertions, there was significant ($p=0.04$) rural-urban variation in the proportion of clinics that routinely stocked the copper IUD (Cu-IUD): i.e., 93.8% among urban clinics but only 80.0% of the most rural sites (data not shown). However, the proportion of clinics stocking the levonorgestrel IUD (LNG-IUD) was similar across RUCA categories (79.7–85.5%). On-site insertion of the implant followed a similar pattern to IUDs, although only 62.8% of urban clinics offered this service. Availability of the CuIUD for emergency contraception ranged from only 9.7% of clinics in isolated small rural towns to 54.6% of urban clinics. Importantly, a rural-urban gradient was also seen for combined hormonal methods other than OCs – the patch and ring – with fewer rural clinics maintaining on-site stock of these methods.

Reported barriers to providing contraceptive services reflected the disparities noted above in method provision. While over half (56.3%) of urban clinics reported "no barriers" to providing IUDs, barriers were frequently cited by non-urban clinics (Figure 3). Lack of providers trained in IUD insertion (55.9%), the high cost of stocking IUDs (42.2%), and low patient demand (35.3%) were the most commonly

reported barriers among the most rural clinics. Very few clinics in any RUCA category perceived high patient demand for IUDs, which could result in shortages of stocked devices or available appointments, as a barrier. Very similar patterns were observed for barriers to implant services (not shown), with even fewer clinics reporting high patient demand as a barrier.

The most rural clinics also predominated in reported barriers to service provision in general (Figure 4). Respondents from these clinics more frequently perceived limited hours, inadequate numbers of providers, and the long distances travelled by patients as barriers to providing family planning care.

DISCUSSION

Family planning is an essential health service for women of reproductive age. Surprisingly, rural/urban variation in how family planning services are administered and used by U.S. women is sparsely documented in the research literature. Here, we noted stark differences in the services and experiences reported by Title X family planning clinics across the rural/urban spectrum. There are particularly acute challenges faced in isolated rural areas. Title X clinics are often frontline providers of women's health care, especially in rural communities. Rural clinic respondents had the most limited offerings of on-site contraceptive methods; only 20% of clinics in isolated small rural towns provided on-site insertion of IUDs and/or implants. This is concerning, as contraceptive methods that don't require frequent visits meet the unique needs of rural women whose access to health care is complicated by long travel times and provider shortages. The array of contraceptive methods offered by rural clinics was further compromised by lower availability of the patch and vaginal ring. While these methods are less popular than OCs, it is important for providers to offer a full range of methods for which patients are medically suited to use. Women who struggle with OC adherence may find greater success with other combined hormonal methods that don't require daily diligence.

RUCA proved to be a valuable tool for examining rural/urban variation in family planning services. For many study variables, we observed a gradient effect across our RUCA categories from urban to most rural. These patterns would not have been elucidated if we had used a more conventional, binary (urban vs. rural) measure of geography. Similarly, by coding geographies below the county level, RUCA provides for a richer exploration of geographic variability. While the 4-level variable was most appropriate for our sample size, RUCA's 33 codes offer a robust and flexible system for investigation of rural/urban effects.

The strengths of this study include its focus on publicly funded Title X clinics, which form the backbone of family planning care for low-income women across the United States. We achieved a favorable 76% response rate for all Title X clinics in 16 U.S. states. This study fills an important and overlooked gap in the literature concerning rural/urban variation in family planning services.

The regional focus of this analysis on the U.S. Midwest and Great Plains states limits its generalizability. A full census of all Title X clinics was beyond the scope and budget of this study. Despite similarities in practices and policies among Title X clinics nationwide, our findings (including rural/urban patterns) may not be applicable to other regions. The data gathered in this survey reflect the perspective of clinic staff – directors, managers, and clinicians – not patients themselves. As such, their responses may not be indicative of patients' experiences at these clinics. Lastly, this survey was fielded less than two years ago but may not reflect current practices at Title X clinics. Provision of LARC methods in particular may have improved since 2012, reflecting the growing emphasis on LARC amongst the family planning community and professional medical groups.

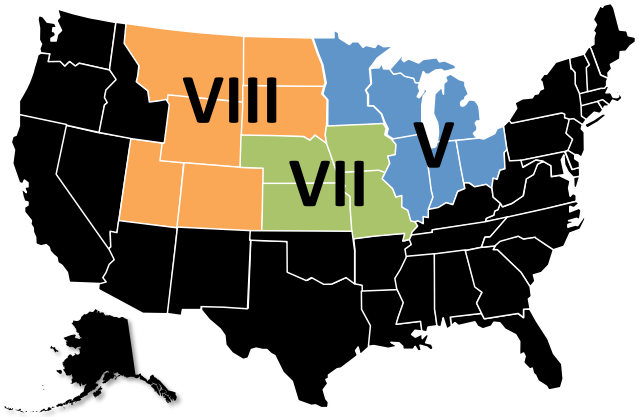
Table 1. Clinic characteristics (n=558)

	n	%
Clinic type:		
Health Department (Local, County, State)	289	51.8
Family Planning / Reproductive Health Clinic	161	28.9
FQHC / Community Health Center	40	7.2
Other	68	12.2
Respondent role:		
Clinic manager or director	346	62.1
Clinician	82	14.7
Nursing staff	50	9.0
Administrative	79	14.2
RUCA category:		
Urban	199	35.7
Large Rural City	116	20.8
Small Rural Town	140	25.1
Isolated Small Rural Town	103	18.5
Number of female clients served in prior fiscal year		
One to 99	95	17.0
100 to 499	201	36.0
500 to 1,999	154	27.6
2,000 to 3,999	63	11.3
4,000 or more	30	5.4
Unknown	15	2.7
Percentage of female clients 11-24 years old		
1% to 5%	17	3.1
6% to 24%	59	10.6
25% to 49%	155	27.8
50% to 74%	229	41.0
75% to 95%	54	9.7
More than 95%	14	2.5
Unknown	30	5.4

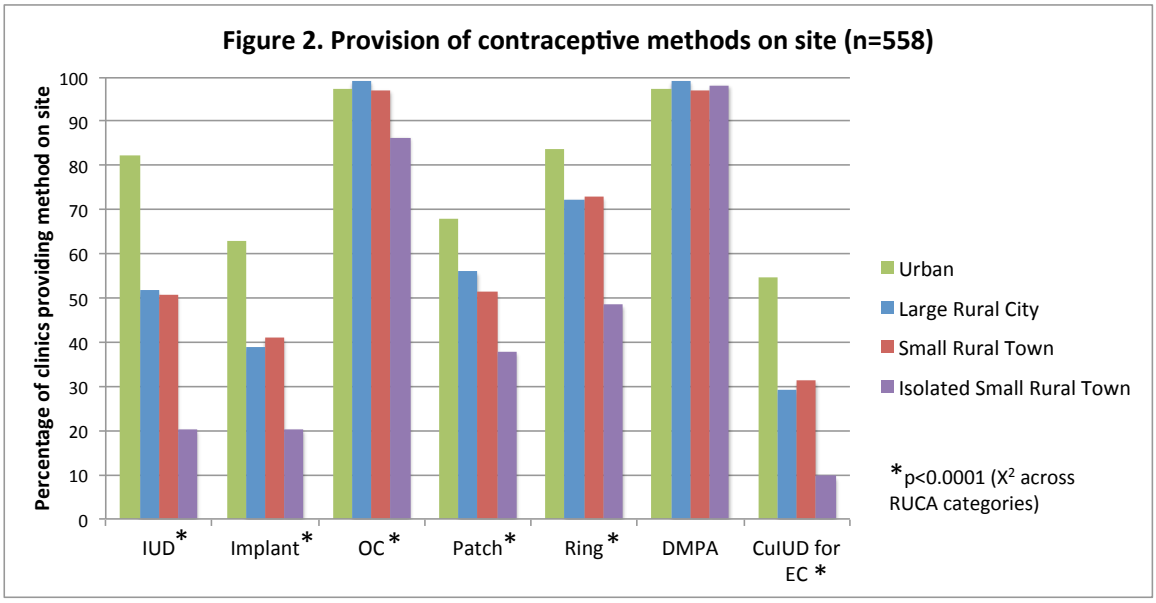
Table 2. Clinic accessibility and social media presence by RUCA category

	TOTAL		**Urban**		**Large Rural City**		**Small Rural Town**		**Isolated Small Rural Town**		**p**
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	
Patients can see clinician weekday evenings (after 5 pm)	281	50.5	137	68.8	58	50.4	60	42.9	26	25.2	<0.0001
Patients can see clinician on weekends	64	11.5	45	22.6	8	6.9	4	2.9	7	6.8	<0.0001
Walk-in appointments available	363	65.6	132	66.7	84	73.0	99	71.7	48	47.1	<0.0001
Clinic has website	481	86.7	189	95.0	101	87.1	112	80.6	79	78.2	<0.0001
Clinic has Facebook profile	255	46.0	95	47.7	52	44.8	65	46.7	43	42.3	0.846
Clinic has Twitter account	76	13.7	47	23.6	10	8.6	12	8.6	7	6.9	<0.0001

Figure 1. Surveyed states in HHS Regions V, VII, and VIII (n=16)



Region V: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Region VII: Iowa, Kansas, Missouri, Nebraska
Region VIII: Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming



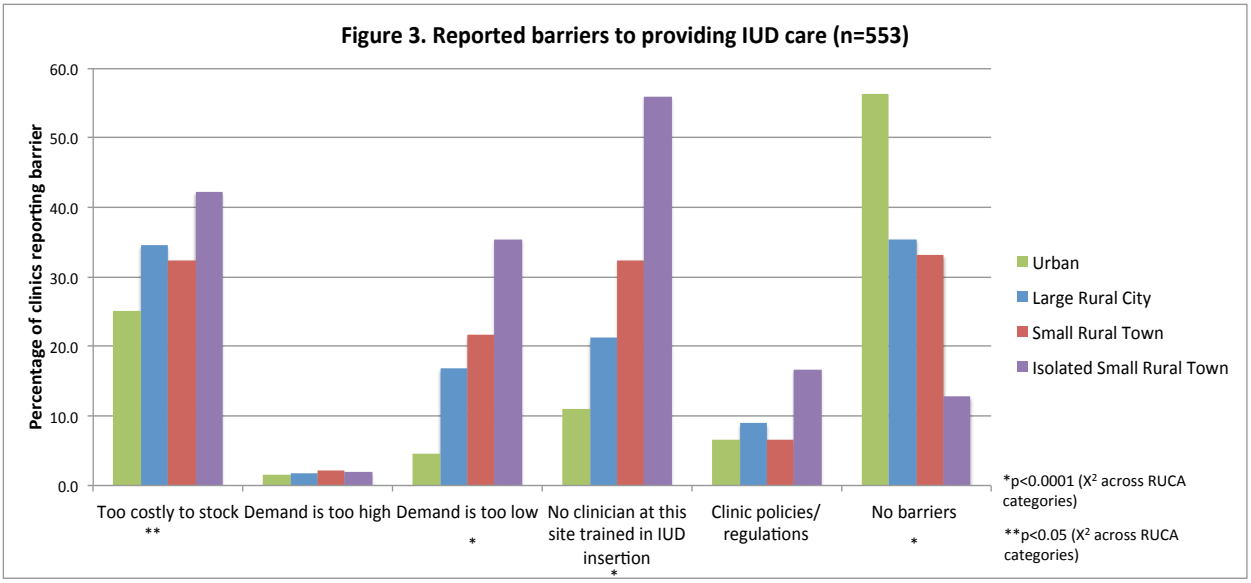
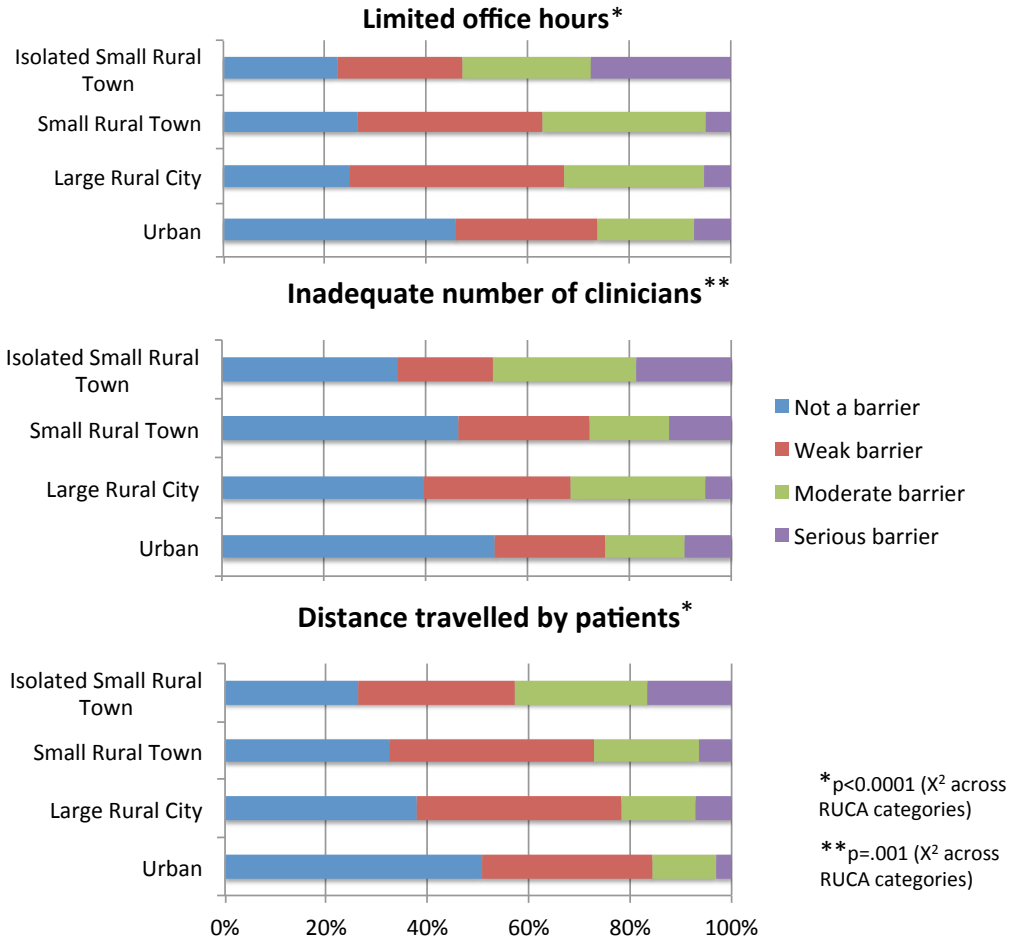


Figure 4. Reported barriers to family planning service provision (n=549)



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