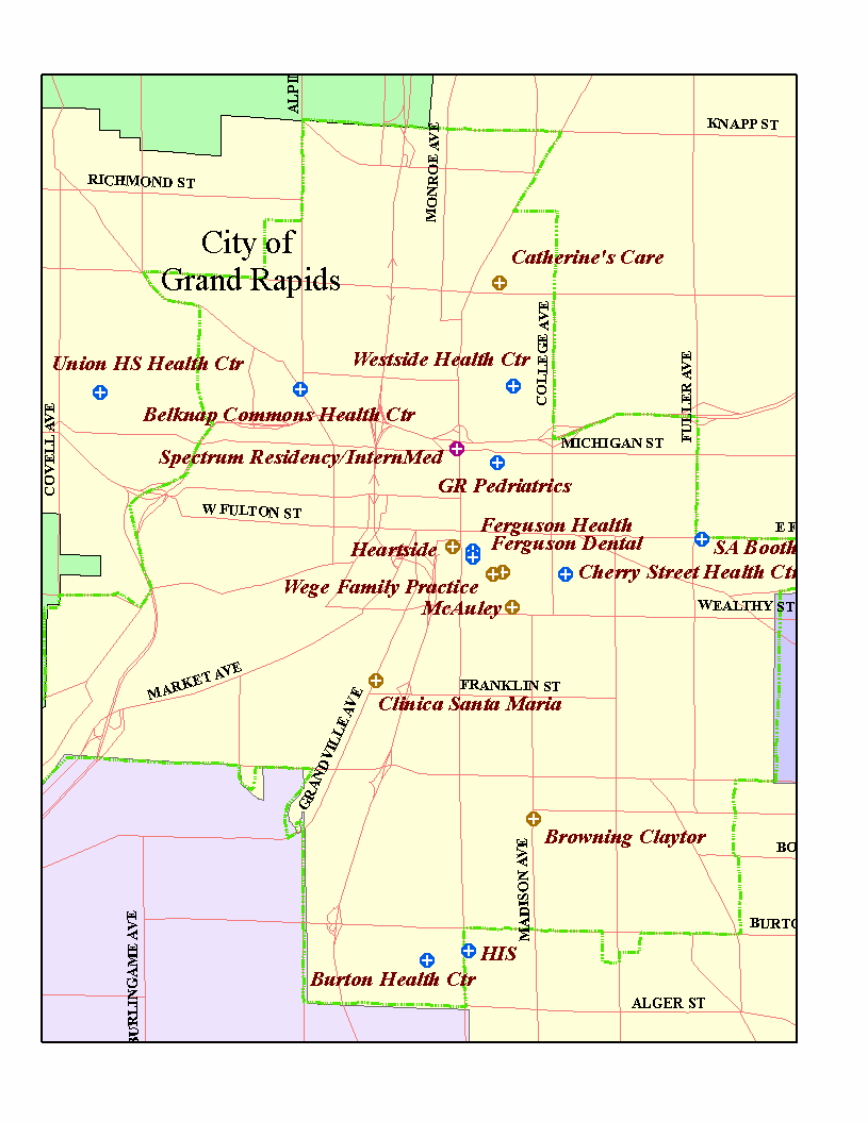
KENT COUNTY HEALTH DEPARTMENT
TASK FORCE ON HEALTH CARE FOR PEOPLE OF COLOR

CLINIC CONSORTIUM



CLINIC MAPPING PROJECT REPORT

ACCESS TO HEALTH CARE SERVICES

NOVEMBER 2005

Task Force Clinic Consortium

ASSESSING CLINIC CATCHMENT AREAS FOR THE MEDICALLY UNDERSERVED

Task Force on Health Care for People of Color

The Task Force on Health Care for People of Color was established in 2001, and is a Kent County board sponsored initiative. The mission and charge of the Task Force is: ***To examine the issue of health care for people of color, determine what the County is doing to resolve existing barriers, and to develop proposals for County action***. Five specific recommendations were made by the Task Force as well as targeted projects for each recommendation. The targeted areas include: Access to Health Care Services (clinic coordination, access to transportation, health care coverage for uninsured), Cultural Sensitivity and Healing Racism, Education and Information, Prevention, and Policy. A full copy of the report and recommendations can be found at www.accesskent.com/Government/Publications.

Clinic Consortium and Access to Care

One of the task force recommendations consisted of challenging the clinics, both public and private, to collectively address systems of health care improvement. The Task Force Clinic Consortium was established in 2002 and consists of clinic managers and directors working with the Program Coordinator on targeted projects identified in the Task Force Report and/or by the Clinic Consortium. Targeted projects of the Consortium involve the clinic mapping project, the Kent County Diabetes Detection Initiative (a health screening/diagnostic test for finding undiagnosed Type 2 diabetes), and a community collaborative medication assistance program through Kent Health Plan, Corp.

Access to care can be analyzed from many different dimensions. Mapping of community health data is one aspect of gauging access to health care services. Access is often equated with health insurance coverage. However, access also involves the characteristics and expectations of the client and the providers **(**Penchansky and Thomas).[1] Access is grouped into 5 categories:

- **Affordability:** How provider's charges relate to the client's ability to pay for services
- **Availability:** Extent of resources (i.e. personnel, technology) to meet client needs
- **Accessibility:** Geographically: Client ease in reaching the clinic location
- **Accommodation:** How clinic operations are organized to meet the constraints/preferences of clients (i.e. hours of operation, telephone communications, client ability to receive care without prior appointments)
- **Acceptability:** Extent to which client is comfortable with the clinic personnel/provider (i.e. age, sex, social class, ethnicity of provider/client, client diagnosis and type of coverage)

The clinic mapping project will primarily involve accessibility and availability (provider-patient ratios) while looking at other factors including race/ethnicity data and client payer-mix.

Clinic Mapping Project

Broad participation is required to undertake the mapping of clients and their clinics. And the more comprehensive the data set representative of clinic sites, the more useful the information can be. The participating clinics in the Consortium comprise approximately 90% of the clinics that serve uninsured or underinsured populations in Kent County. Through initial assessment of the data from the clinics (2002/2003), the following staffing service levels were enumerated:

- 23 clinic sites in Kent County
- 40 physicians
- 60 resident physicians
- 15 Mid-level providers, primarily nurse practitioners and physician assistants
- Over 56,000 clients served

Clinic Consortium partners and representatives include:

Baxter Holistic Community Health Center

Breton Health Center – Metropolitan Hospital

Cherry Street Health Services

- Cherry Street Health Center
- Belknap Commons Health Center
- Burton Health Center
- Ferguson Adult Health Center
- Grand Rapids Pediatrics
- The Salvation Army Booth Family Services
- Westside Health Center
- Union High School Health Center

Health Intervention Services

Saint Mary's Health Care

- Heartside Health Center
- McAuley Health Center
- Browning Claytor Health Center
- Catherine's Care Center
- Clínica Santa Maria

Other St. Mary's Clinics/Family Practice:

- Pediatrics

- Sparta Health Center
- Wege Center
    - Wege Family Practice
    - Wege Internal Medicine

Spectrum Health

- Residency Practice
- Internal Medicine
- Spectrum Health Healthier Communities Department

Objective

The purpose of the mapping project is to identify gaps in service delivery and underrepresented neighborhoods or populations within the participating clinics' service area, and assess adequacy of primary care as a way to improve systems of care. Clinic mapping is a clinical level intervention that utilizes client records and U.S. Census data to create a map of the clinic catchment area**.** The term catchment area is used here to describe the geographical area where the majority of a clinic's clients reside. Summarizing provider to patient ratios and portraying the spatial distribution of clients with respect to the target population provides the Clinic Consortium with a measure of evaluating utilization of clinic services and an insight into areas of service delivery need.

Geographic information systems (GIS) have been useful in displaying and understanding a variety of natural resource and social service systems. GIS can take data from multiple sources and portray the information in layers for visual presentation and also analyze data for spatial relationships. This tool has been used to address distance and access to health care, including the access needs of the underserved.[2]

The analysis intends to address the following questions related to access to care:

1. Are clinics located in areas that are accessible to low-income, minority populations?

2. What is the capacity to serve low-income and minority populations?

3. In which areas are the clinics adequately serving this population and how access varies across geography and subpopulations.

4. What areas to concentrate services/health screenings?

Methods

After meeting with clinic managers and staff in the fall of 2003, the task force coordinator developed a clinic assessment survey to gather important information about clients and staff at each clinic. The Data Collection Assessment Tool (Appendix A) served to record clinic location, and aggregate information on client demographics, total medical encounters, payer mix, provider-to-patient ratio, number of clients by zip code, and clinic services offered. Clinics are shown on the

map of greater Grand Rapids, below. The location of Information from the survey is summarized in Figures 2-4 and Table 1.

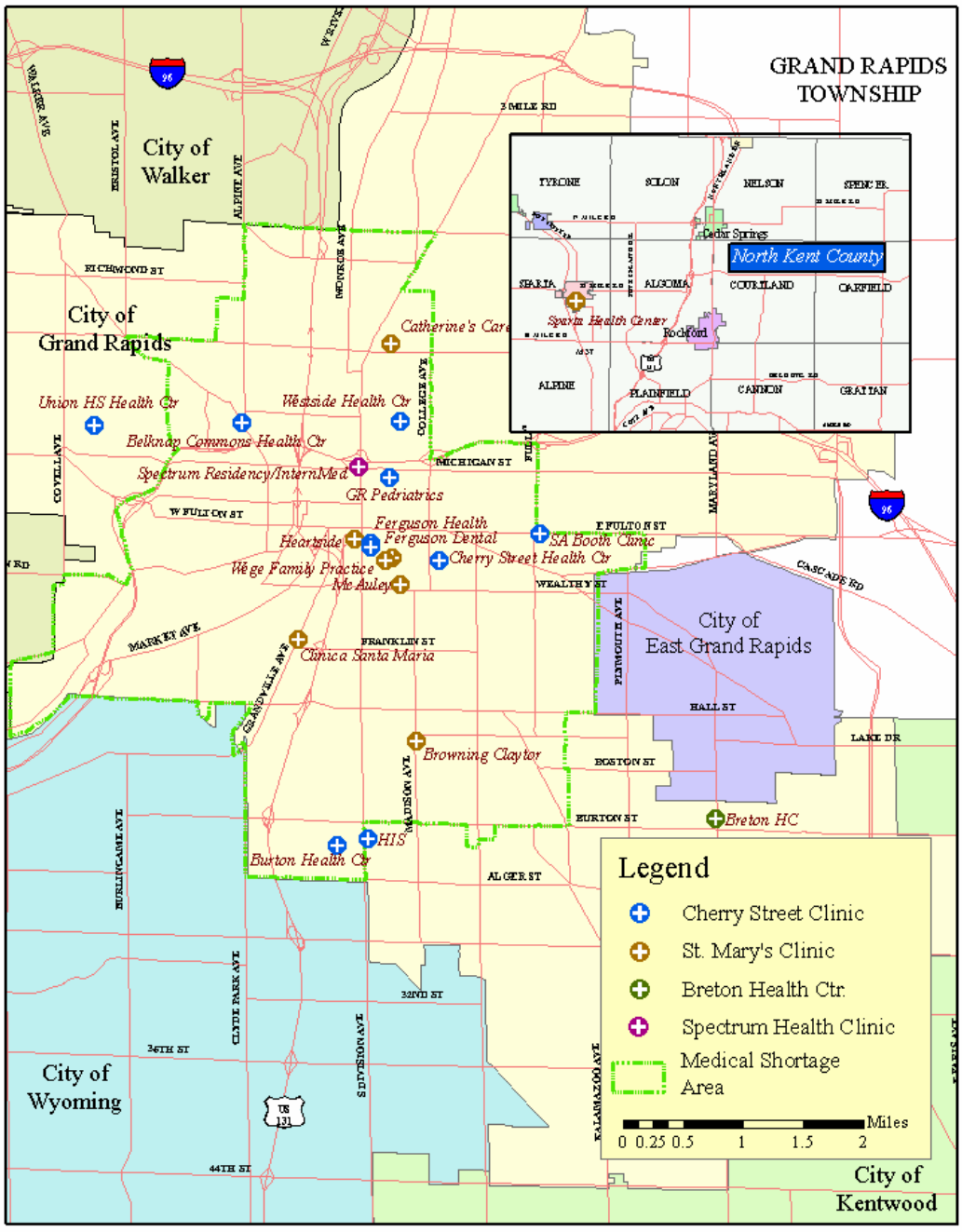


Figure 1. Community Clinics in the Greater Grand Rapids Area

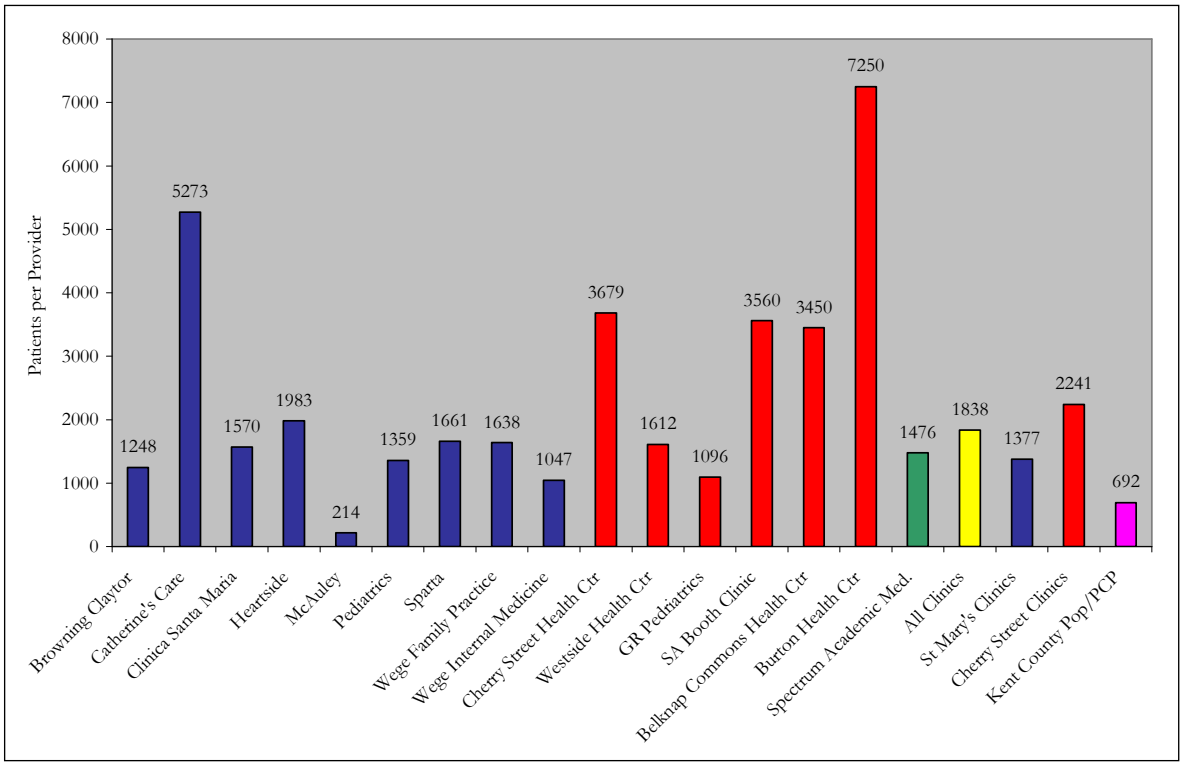


Figure 2. Patient to Provider Ratio: Physicians Only

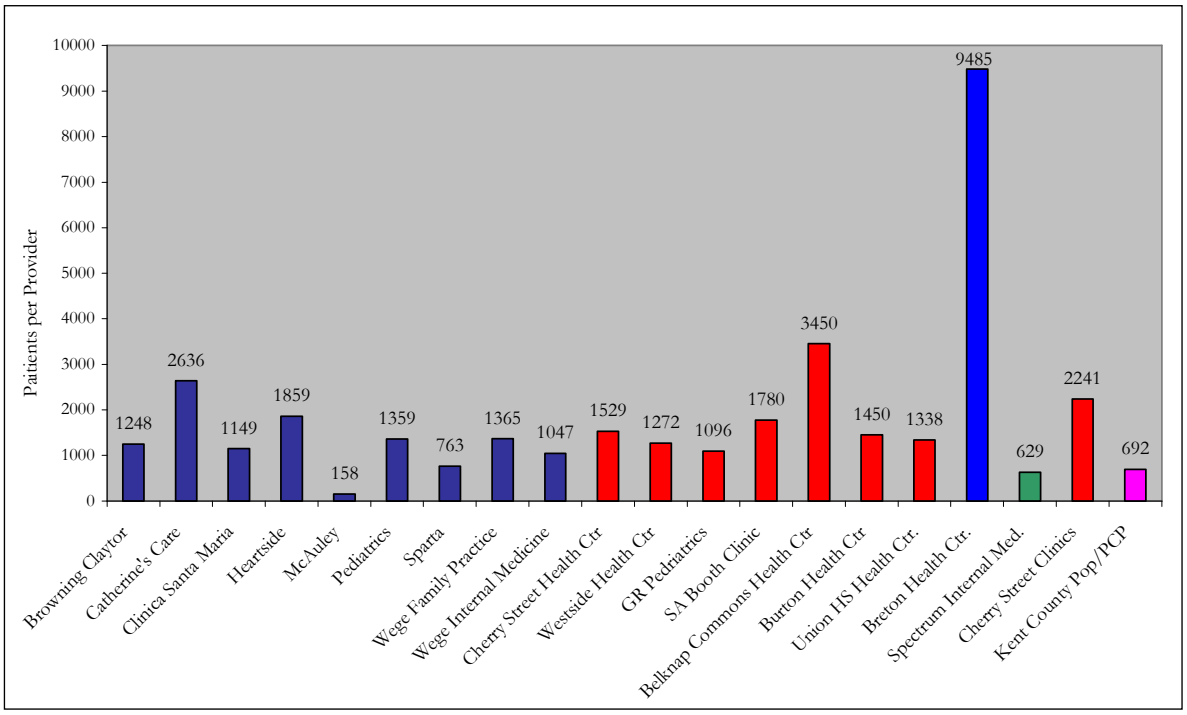


Figure 3. Patient to Provider Ratio: Physicians and Mid-level Providers

The last bar on Figure 2 represents the latest figure available for the ratio of Kent County population to primary care physicians: 692 to 1. Figure 3 is the patient to provider ratio among the participating clinics, taking into consideration both mid-level providers and physicians.

Figure 4 denotes the number of clients listed on the data collection tool for each clinic, and Figure 5, the number of African-American and Latinos being served at each clinic.

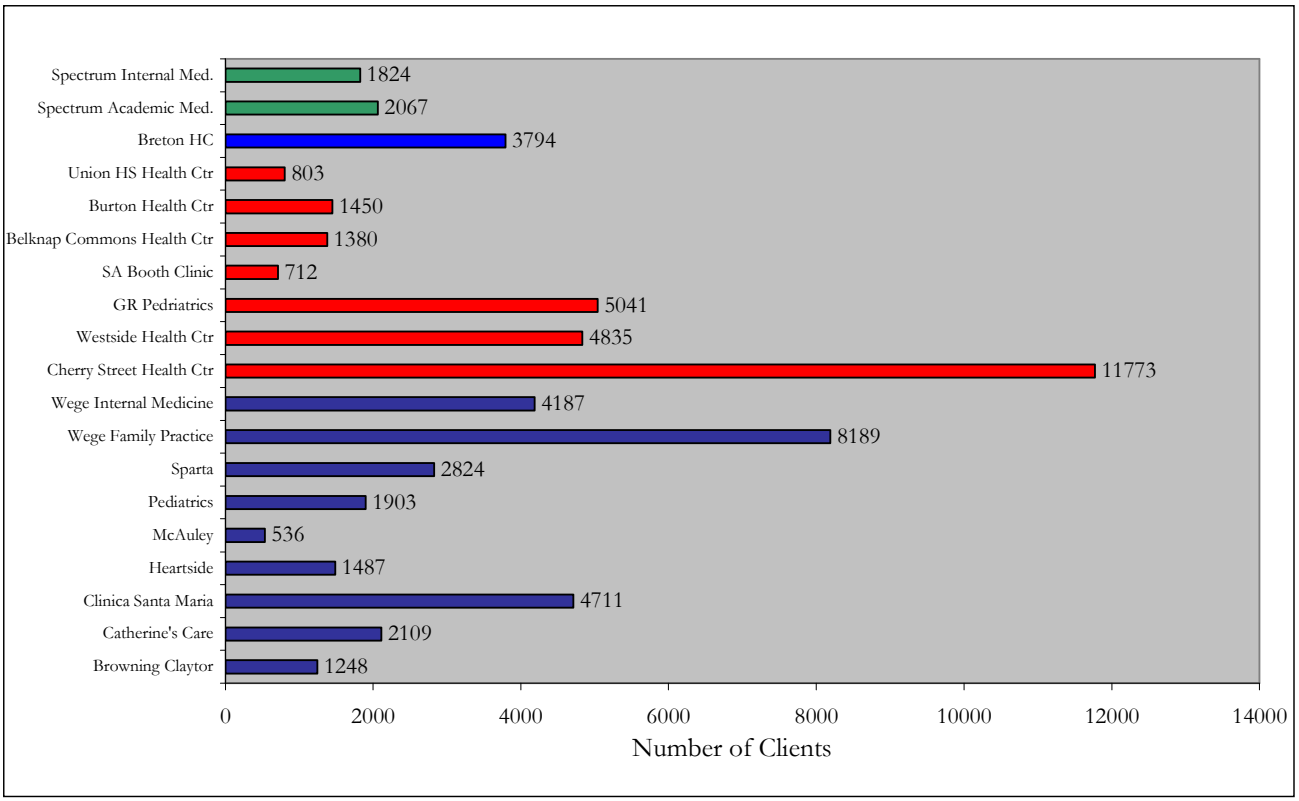


Figure 4. Clients per Clinic Site

Clinic managers were also asked to submit the number of clients whose services were paid through public funding—Medicaid and the Kent Health Plan—and those who were insured through an employer-sponsored or other commercial, or private, plan. Self-pay services also comprised a significant portion of client visits (Table 1).

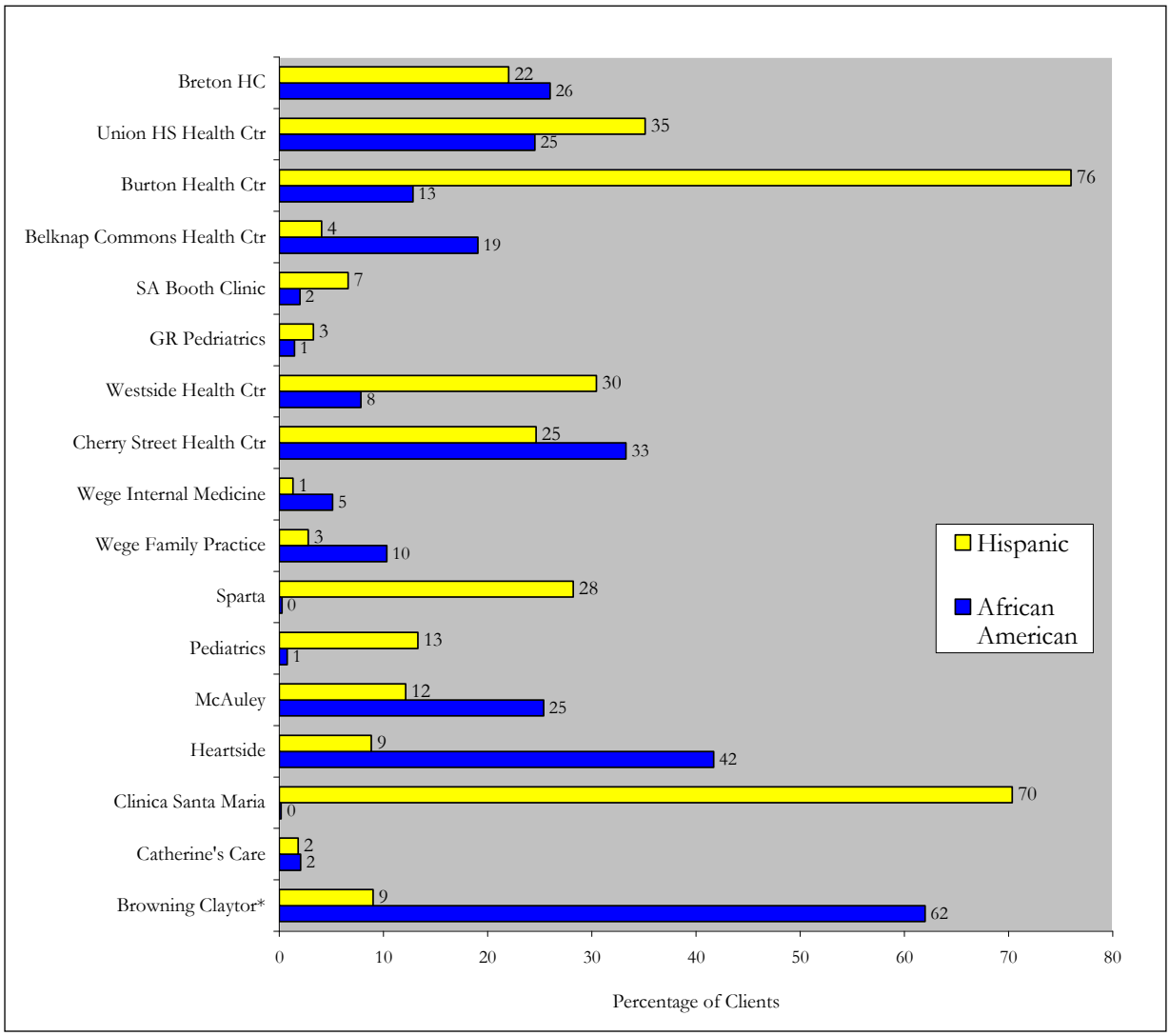


Figure 5. Hispanic and African-American Patient Population

Table 1. Community Clinics' Payer Mix

Clinics	Medicaid	Commercial Insurance	Kent Health Plan	Self-Pay
Spectrum	46 %	17 %	15 %	22 %
Breton Health Center	83	5	2	10
Cherry Street Health Center	49	30	5	17
St. Mary's Health Centers	47	30	5	17

Seeing the limitations of the zip code level of analysis of client residences, clinic managers agreed in the spring of 2004 that mapping of client addresses would be more beneficial in addressing the project objectives. Databases of active client addresses were submitted by each of the clinics. The common database field among all clinics submitting data was the unique address of each clinic patient. For two of the clinics the number of out-patient visits by each client was also given. The race and ethnicity of each client was provided for the Cherry Street Health Center group of clinics. For comparative purposes across all clinics, only the client address was used in the analysis.

REGIS, the regional geographic information systems mapping program, was utilized to create the maps and carryout the spatial analysis. Approximately 56,000 client addresses were entered into the REGIS program, with 89.5% of all addresses located by the software, or geocoded, on a map of Kent County. A small percentage (2.3%) of these addresses was placed in the eastern Ottawa County townships served by REGIS. Several factors affected the ability of REGIS to successfully locate addresses: misspelling of street names, addresses given as post office boxes, missing direction orientation on street names (e.g. SW or SE), and clients with addresses not located in Kent County. Accuracy of address placement was verified by placement into the correct zip code areas of the map. Approximately 95% of addresses were placed in zip code areas corresponding to zip codes entered in the client records. Once patient addresses are located on a map they can be associated with various GIS layers delineating streets, cities and townships, and census areas with their accompanying demographics.

Clinic Target Area

One objective of the mapping exercise is to assess the degree to which community clinics draw clients from the target population in Kent County. The Department of Health and Human Services Health Resources and Services Administration (HRSA) has designated Health Professional Shortage Areas (HPSA) for its Federally Qualified Health Center (FQHC) grantees. HPSA criteria for FQHC targeted catchment areas include ratings for population to primary care physician ratio, population with incomes below the federal poverty level (FPL), infant health index, and travel distance to the nearest source of accessible care.

Defining the target population was defined as those areas of the county with disproportionate numbers of low-income residents. According to HRSA 2003 data collected from Michigan FQHCs, 90% of all patients served in these health centers had incomes below 200% FPL.[3] Additionally, since Michigan Medicaid programs serve persons with incomes up to 200% of poverty, it was decided to use this ratio of income to poverty in determining those areas of the county where there would most likely be demand for the services of community health centers. It would be advantageous to know populations more likely to lack a regular healthcare provider or health insurance, but such information is not available at the scale of analysis of this study.

Due to the increase in low-income, minority populations beyond the Grand Rapids city boundaries, there has been a steady increase in access to Grand Rapids area community health centers by persons residing outside of the city. This shift has lessened the distinction in demography as related to healthcare access by low-income persons between neighborhoods included in the HPSA catchment area and neighborhoods outside of the boundary. The growth in households living below 200% of poverty level has occurred in Grand Rapids and those cities comprising the

first suburban ring (Table 2). Figure 6 indicates census area 2000 Kent population densities of primary racial and ethnic groups and low-income population. Census tracts of significant increase from 1990 – 2000 in the percent of low-income persons and People of Color are illustrated in Figure 7 and 8.

Table 2. Change in Kent County Low-income Population: 1990-2000

	1990	2000	Percent of 2000 population < 200% FPL	Change as % of Population	Increase 1990-2000
Alpine Twp	1680	3668	26.0	**52.6**	1988
Kentwood	6688	8688	19.2	**8.6**	2000
Wyoming	14290	16138	23.3	**4.0**	1848
Walker	3049	3986	18.3	**3.6**	937
Sparta Twp	1818	1960	21.9	**1.9**	142
Rockford	841	1031	22.3	**-0.6**	190
Grandville	2348	2418	14.9	**-1.1**	70
Grand Rapids	64805	66813	33.8	**-1.4**	2008
Algoma Twp	805	1079	14.2	**-3.0**	274
Gaines Twp	2817	3699	18.4	**-4.8**	882
Plainfield Twp	4016	4470	14.8	**-7.7**	454
Byron Twp	2589	3094	17.6	**-10.2**	505
Grand Rapids Twp	1132	1320	9.4	**-10.5**	188
Tyrone Twp	1035	1056	24.5	**-11.1**	21
Cedar Springs	931	1027	32.5	**-15.8**	96
Nelson Twp	1115	1083	26.4	**-20.7**	-32
Solon Twp	1230	1133	24.5	**-23.7**	-97
Kent County	**120259**	**132261**	**23.0**	**-4.1**	**12002**

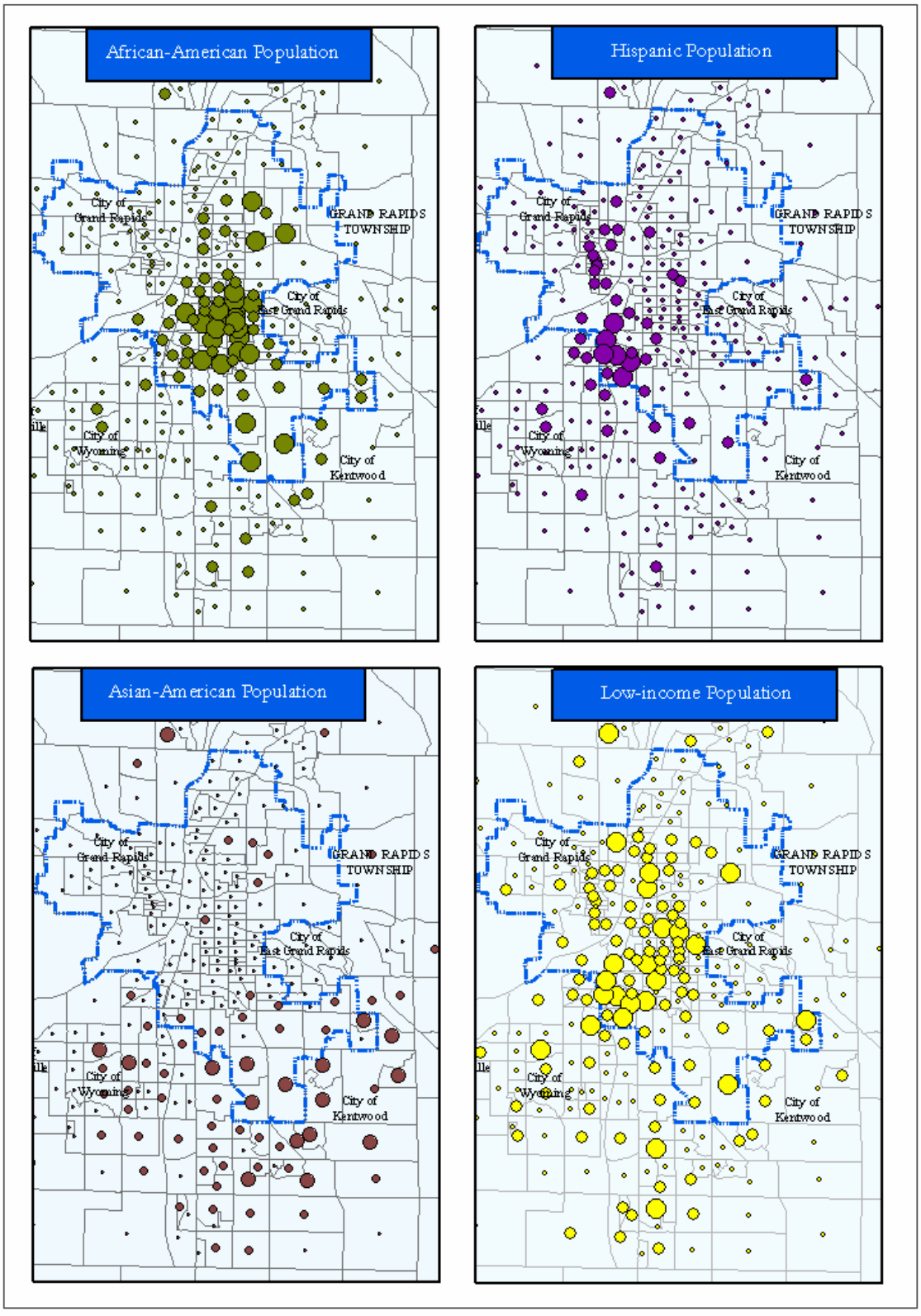


Figure 6. 2000 Kent County Population Distributions

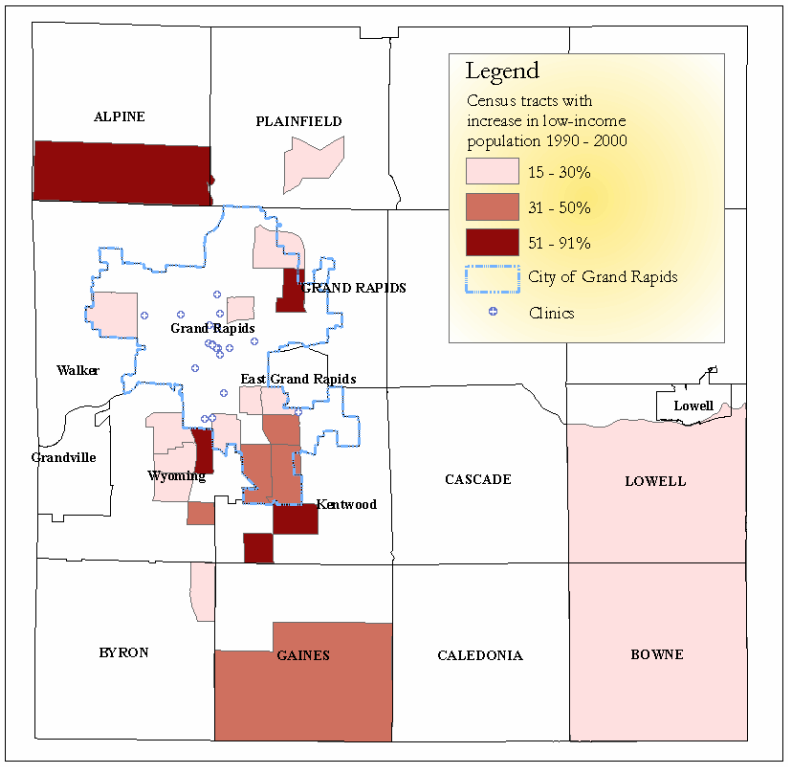


Figure 7. Growth in Population < 200% Federal Poverty Level

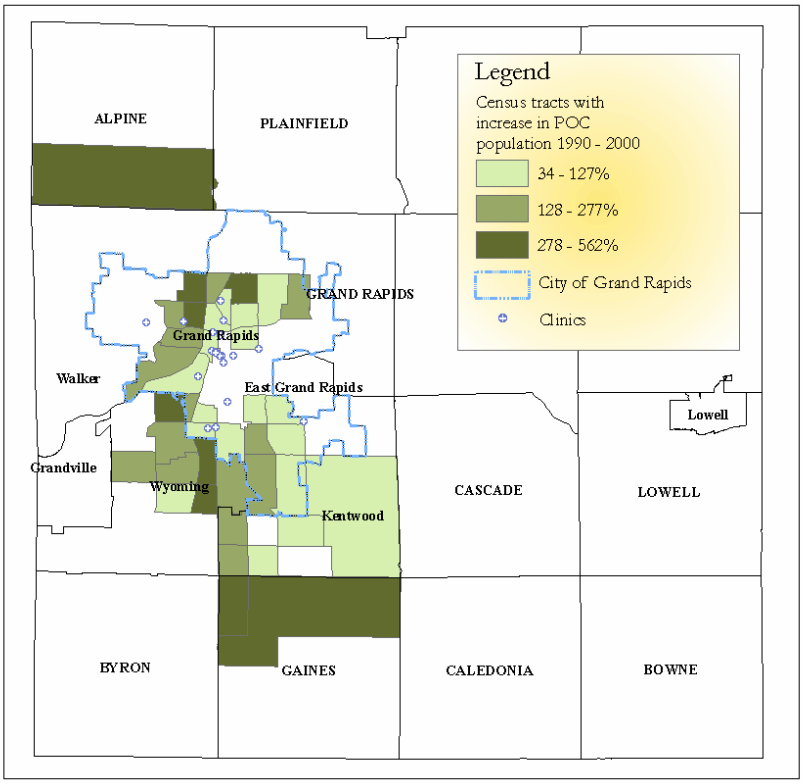


Figure 8. Growth in People of Color Population

Examination of data from the nationally representative Medical Expenditure Panel Survey indicates that those most vulnerable to the lack of healthcare, and perhaps most likely to access service at community health centers, are experiencing multiple vulnerable characteristics. Factors predisposing one to poor healthcare access include health status/illness, demographic characteristics, social variables (e.g., race, employment, and education), beliefs regarding health status and the value of health services, and the means, whether income or insurance, enabling people to access care. An example of such a convergence of vulnerable factors would be an individual of low-income, minority, and elderly status.[4]

A secondary consideration was to target areas with significant ethnic and racial minority populations. Although income is a more significant predictor of insurance coverage than race, minorities tend to be disproportionately over-represented in low income neighborhoods.[5] Minorities will therefore be more likely to be affected by a convergence of factors, among them low-income status. Analysis of Kent County very low-income census block groups, those with at least 20% living at or below 100% FPL, shows that 64% of the population of these census areas are non-white. Thirty-eight percent of the county's people of color population reside in these very low-income areas, while the population within these census boundaries only comprises 12% of the county population.

The only target service area for the clinics, identified with discreet geographical boundaries, was the HRSA Health Professional Shortage Area (Cherry Street Health Center). For this study, the target population area was expanded to include other census areas with increasing population of low-income and People of Color, also the homes of many clinic patients. While the HPSA for the Grand Rapids has a higher concentration of low-income residents (Table 3), the mapping project's target area includes a greater proportion of the total county population ≤ 200% FPL.

The Clinic Mapping Project target area is comprised of block groups from the 2000 U.S. Census. There are 358 block groups in Kent County, and 119 block groups meet one of the following criteria for inclusion in the target area:

- >= 40% of population with income <= 200% of Federal Poverty Level (FPL),
- OR, at least 491 persons (top quartile) with income <= 200% of Federal Poverty Level,
- OR, >= 40% of population is racial or ethnic minority (other than white, non-Hispanic),
- OR, at least 400 persons who are racial or ethnic minorities.

Figure 9 illustrates the Health Professional Shortage Area, the actual service area of the combined clinics, and the clinic mapping target area. The proportion of total clinic patients residing in a block group were ranked in descending order, and those block groups comprising the first 65% of all clinic visits were considered to be the actual clinics' service area. The targeted block groups correspond closely to the actual service area.

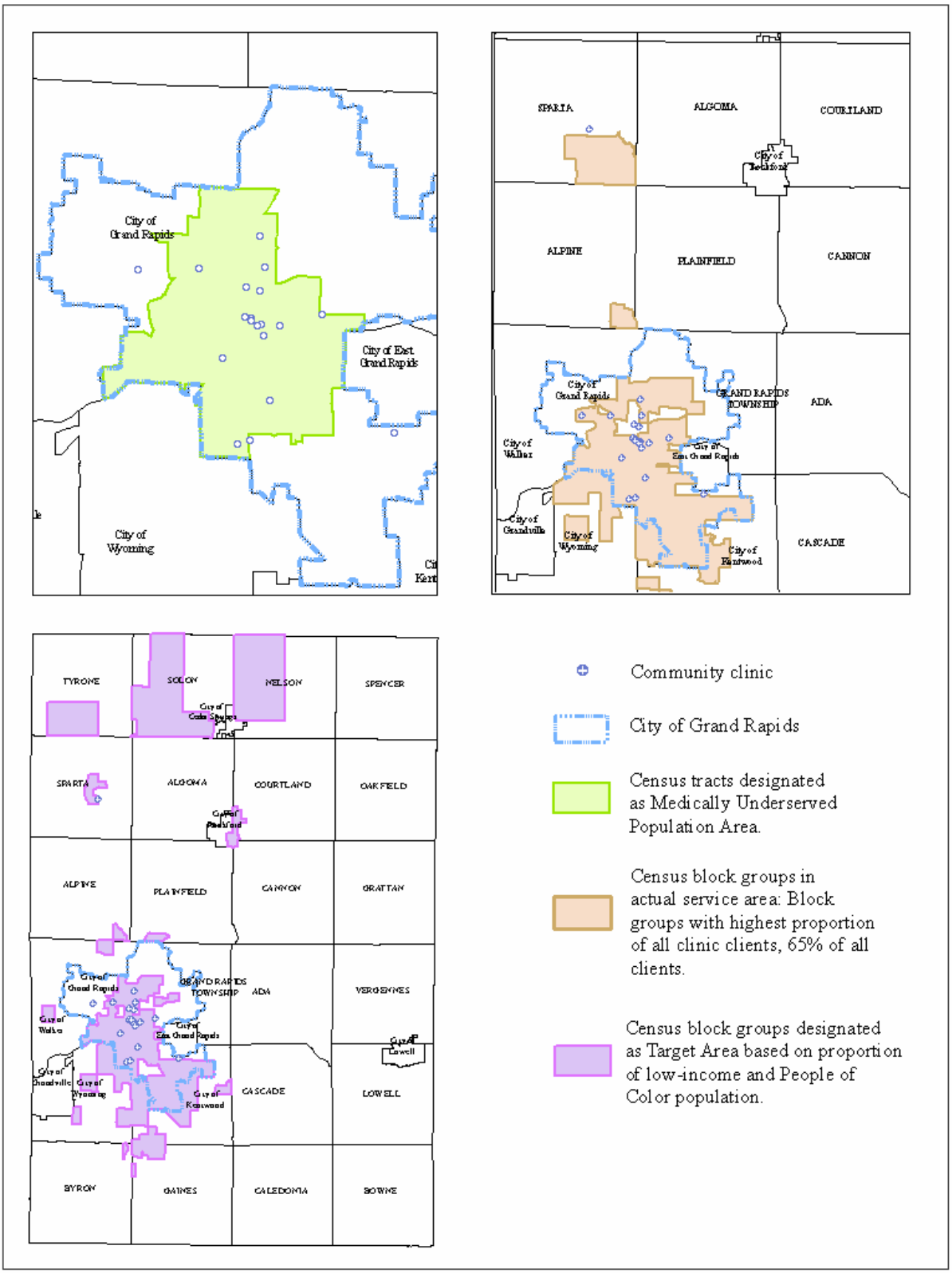


Figure 9. Health Centers Utilization and Target Areas

Table 3 summarizes the target area population as a proportion of the county populations and sub-populations, including the following demographic groups:

- 35.6% of the Kent County 2000 population reside in the Target Area.
- 59.3% of Kent County population at or below 200% FPL reside in the Target Area.
- 73.9% of Kent County people of color population reside in the Target Area.
- 64% of all clinic client addresses are located in the target area block groups.

Table 3. Population characteristics of Community Clinic Catchment Areas

Characteristic	Target Area	Medical Shortage Area	Outside Target Area
Percent of county total represented in the designated area			
Community Clinic Patients	64	47.6	36
Total Kent population	35.6	17.1	64.4
White	27.8	10.8	72.2
African American	82.8	56.3	17.2
Asian	45.6	8.8	54.4
Hispanic	75.2	54.9	24.8
< 200% FPL	59.3	35.1	40.7
< 100% FPL	66.1	44.9	33.9

The minority populations of the mapping projects target area and the HPSA are significantly greater than in the remainder of the 239 block groups outside the target area. The representation of low-income persons in the target and non-target areas are similar to the proportion of all clinic clients residing in the respective areas (Table 3), though excess capacity, the amount by which low-income population exceeds clients, will be a greater proportion of the population in the target area than in the rest of the county. The purpose in designating target census areas is to determine the representation of patients in these areas of the county characterized by more vulnerable populations, and to gauge whether distance to a community clinic in these areas is related to the propensity of individuals to use clinic services.

Location Quotient

Within and outside of the HPSA, the clinic group had an interest in locating any subpopulations with poor access to healthcare offered by the clinics represented. A location quotient was used to measure relative clinic utilization by low-income and/or persons of color by census block group. The location quotient was calculated by dividing the proportion of patient addresses from all clinics

in a target block group by the proportion of the Kent County population <= 200% FPL residing in the same block group.

Example:

- 38 Breton Health Center clients live in census block group 1480032
- 3050 Breton Health Center clients are successfully mapped
- 950 low-income residents (< 200% FPL) in block group 1480032
- Kent County population < 200% FPL: 132, 519

38/3050 / 950/132,519 = 1.78

A location quotient greater than 1.0 indicates that a block group has a higher representation of clients than the proportion of low-income representation in the block group, and a greater clinic attendance than the target area as a whole. Because this measure focuses on the low-income residents expected to utilize the clinic, it can reveal target areas with lower use of the clinics, those census block groups with location quotients below 1.0. The weakness in this analysis of target area saturation is the assumption that all clients come from target (low-income) households. Alternatively, it can be expected that clinics serving populations with poor healthcare access would be well represented in census areas with high low-income populations.

Results

Census block group location quotients for the aggregate clinics' addresses, 1.06, are shown in Figures 10 a and 10 b. Location quotients for clinics participating in the study are shown in Table 8. Cherry Street Health Services did not provide address data specific to its individual clinics, so a single quotient was calculated for the Cherry Street clinics. Location quotients were also calculated for census block groups with greater proportions of persons vulnerable to receiving necessary healthcare services. Maps of participating clinics can be found in Appendix B.

Most clinics have the greatest representation in neighborhoods closest in proximity to the clinic. Since the majority of participating clinics are located in Grand Rapids, the census block groups with the greatest numbers of clients relative to their low-income population are concentrated in the city and in the HPSA designated census tracts.

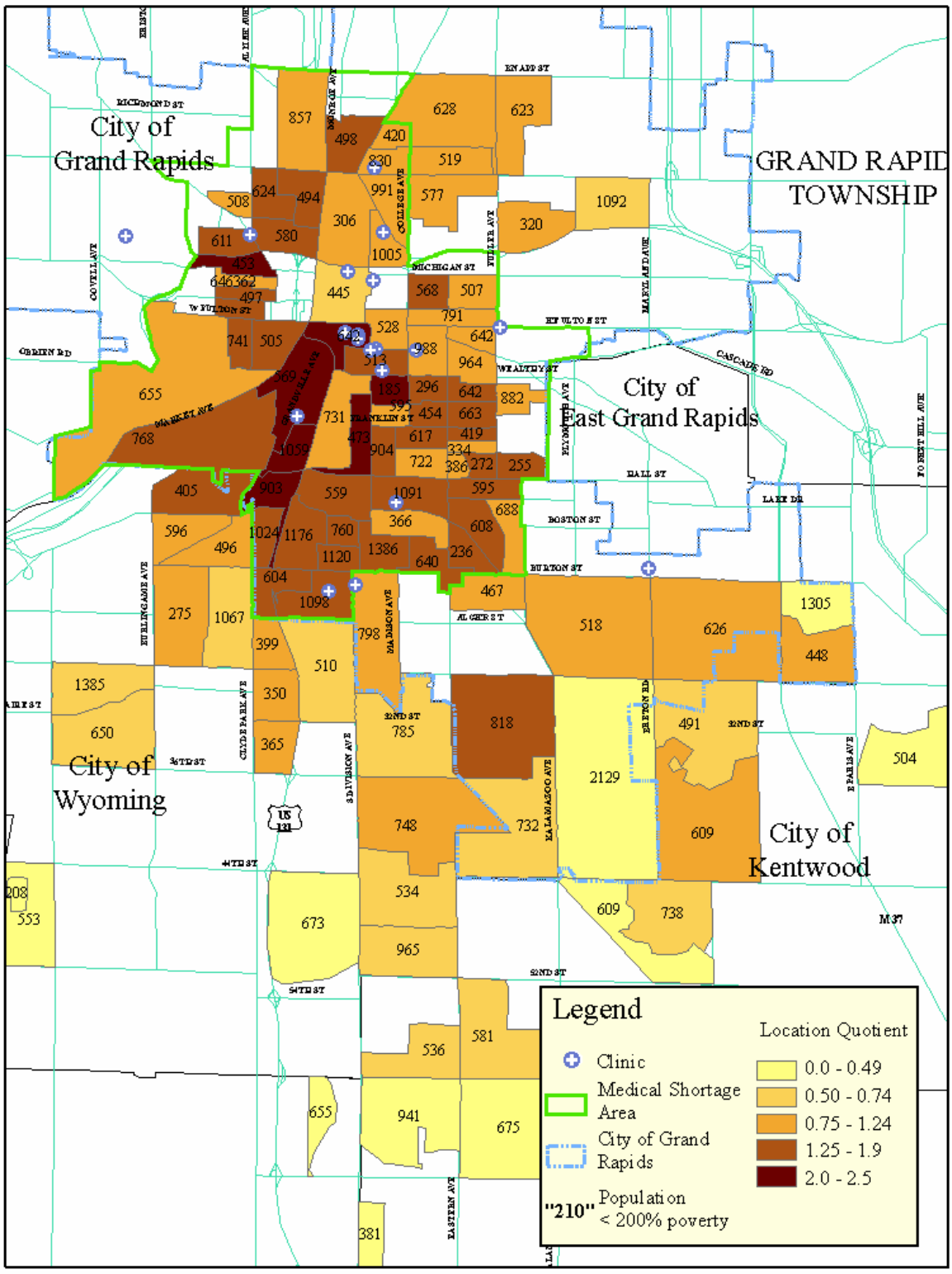


Figure 10 a. Relative community health center utilization by persons with incomes below 200% FPL and Persons of Color (Target Area).

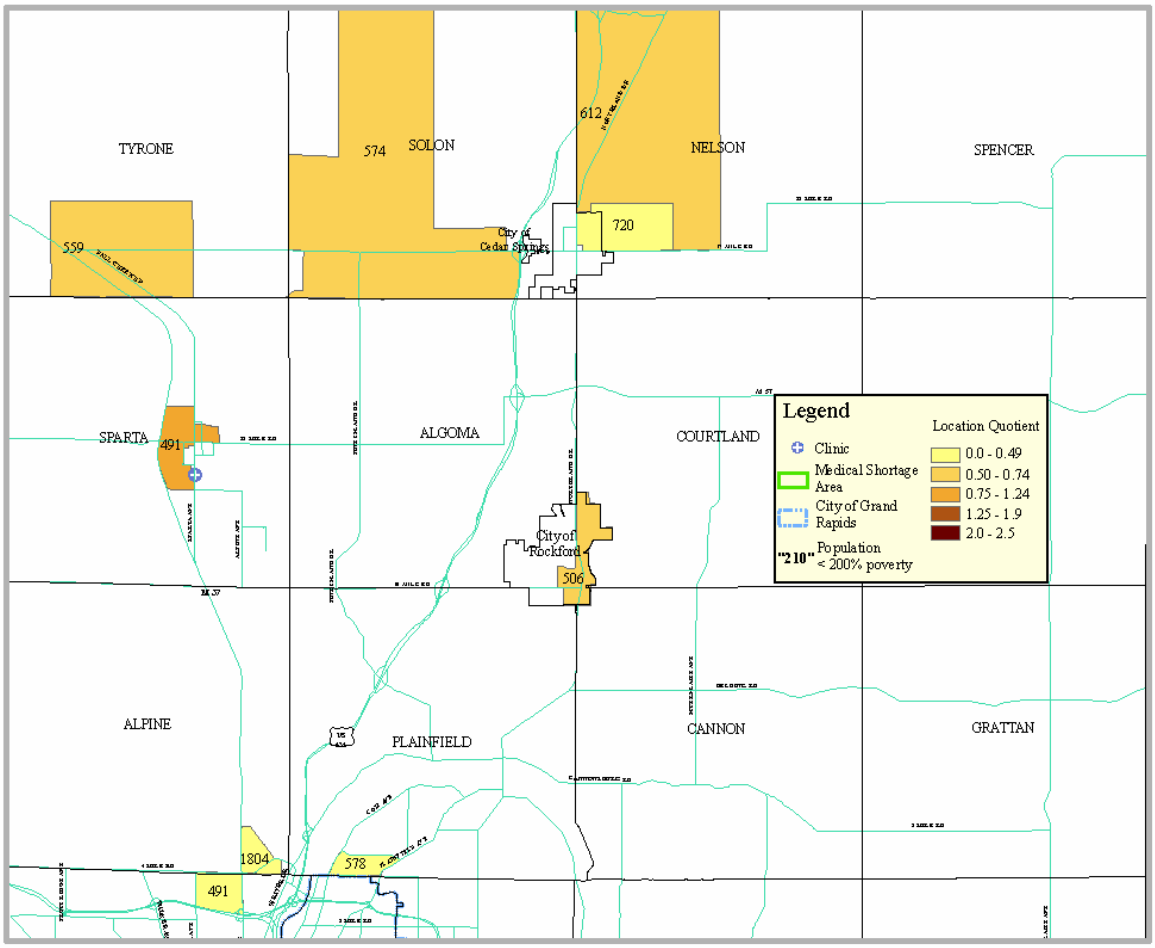


Figure 10 b. Relative community health center utilization: North Kent County

Locating Areas of Need

Except for the census target areas closest to St. Mary's Sparta Health Center, the areas of northern Kent County are underrepresented at the twenty-three community health centers in the study (Figure 10 b). Utilizing the distance tool in REGIS, the distance traveled from the client residences to the clinics can be calculated. Given the average distance from client residences to Sparta Health Center, 12.5 miles, it is important to understand what healthcare options exist for the uninsured and underinsured in this area. Other areas of underutilization, those census areas with location quotients below 1.0, are shown in Figure 11. Since minority status increases one's vulnerability to insufficient access to health care it is useful to analyze areas of excess demand by racial and ethnic composition. Figure 12 illustrates these areas of underutilization by the percentage of the population which is persons of color.

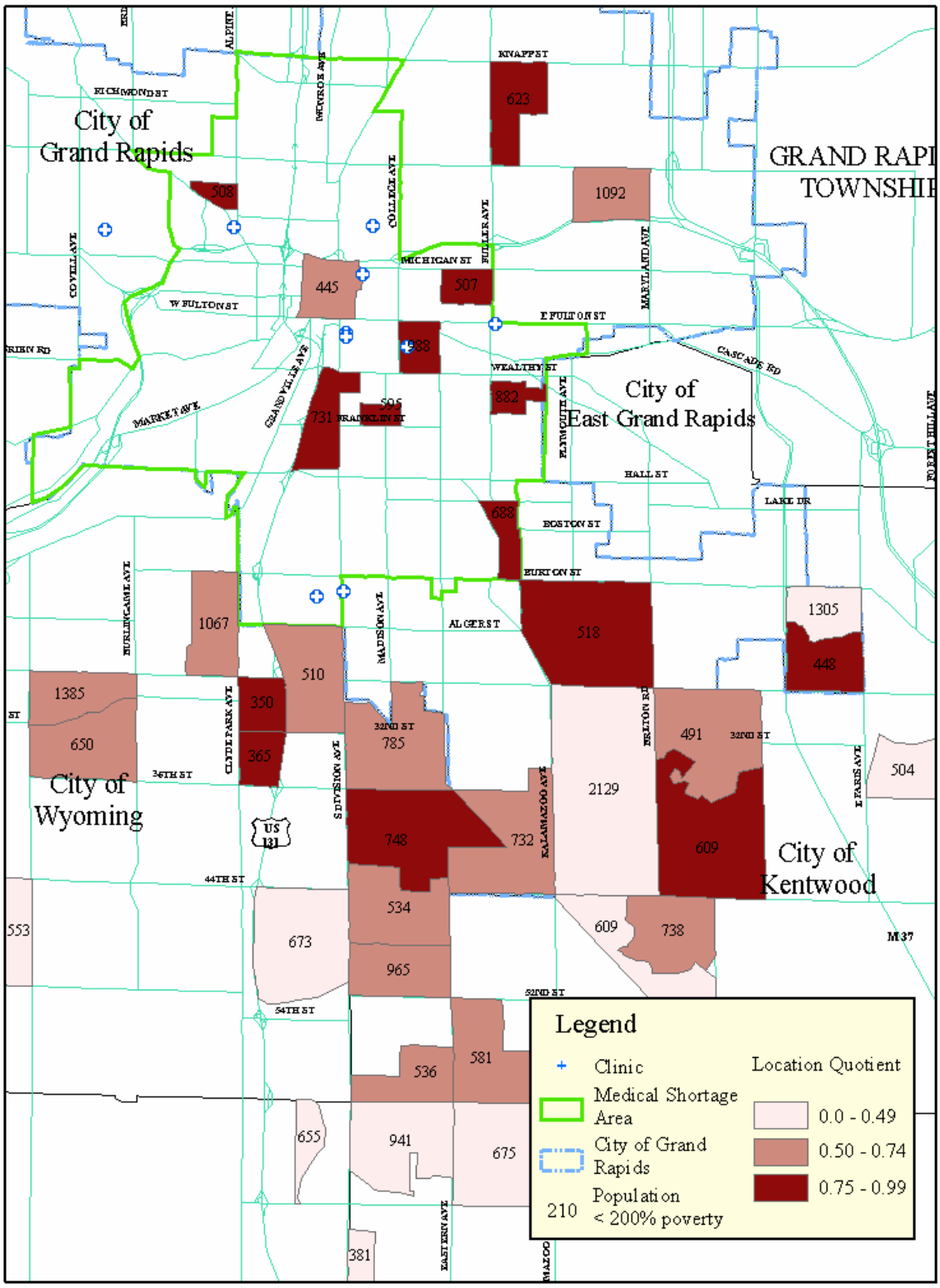


Figure 11. Areas underrepresented at community health centers: Census block groups with location quotients less than one.

Thirteen percent (13%) of respondents in the 2002 Kent County Behavioral Risk Factor Survey reported having no health insurance coverage. This amounts to roughly 75,000 Kent County residents. With an estimated one of every eight Kent County adults without healthcare insurance for some portion of the year, there is capacity in terms of excess need for public insured or reduced rate health care services. One possible estimate of need is the difference between the total number of clients served by the clinics in an area and the low-income population of that area. From Table 4, it is evident the city of Grand Rapids has the largest number of low-income residents in excess of its clinic population, though Grand Rapids makes up only 43% of all excess capacity. Figure 12 overlays this measure of excess capacity on the map of underrepresented census block groups (Figure 11).

Table 4. Excess capacity for clients: Low-income population, less client residences

	Clients	<200 FPL	Excess Capacity
Grand Rapids	32096	66813	34717
Wyoming	4783	16138	11355
Kentwood	2086	8688	6602
Plainfield Twp.	1002	4470	3468
Walker	971	3986	3015
Alpine Twp	901	3668	2767
Sparta Twp.	782	1960	1178
Grand Rapids Twp	599	1320	721
Gaines Twp	578	3699	3121
Byron Twp	510	3094	2584
Grandville	469	2418	1949
E. Grand Rapids	431	680	249
Algoma Twp	392	1079	687
Ada Twp.	330	726	396
Rockford	314	1031	717
Tyrone Twp	282	1056	774
Solon Twp	275	1133	858
Nelson Twp	249	1083	834
Caledonia	207	718	511
Lowell	193	796	603
Courtland Twp	184	671	487
Cedar Springs	182	1027	845
Lowell Twp	173	710	537
Oakfield Twp	150	814	664
Spencer Twp	141	588	447
Vergennes Twp	116	530	414
Grattan Twp	102	424	322
Totals	**48498**	**129320**	**80822**

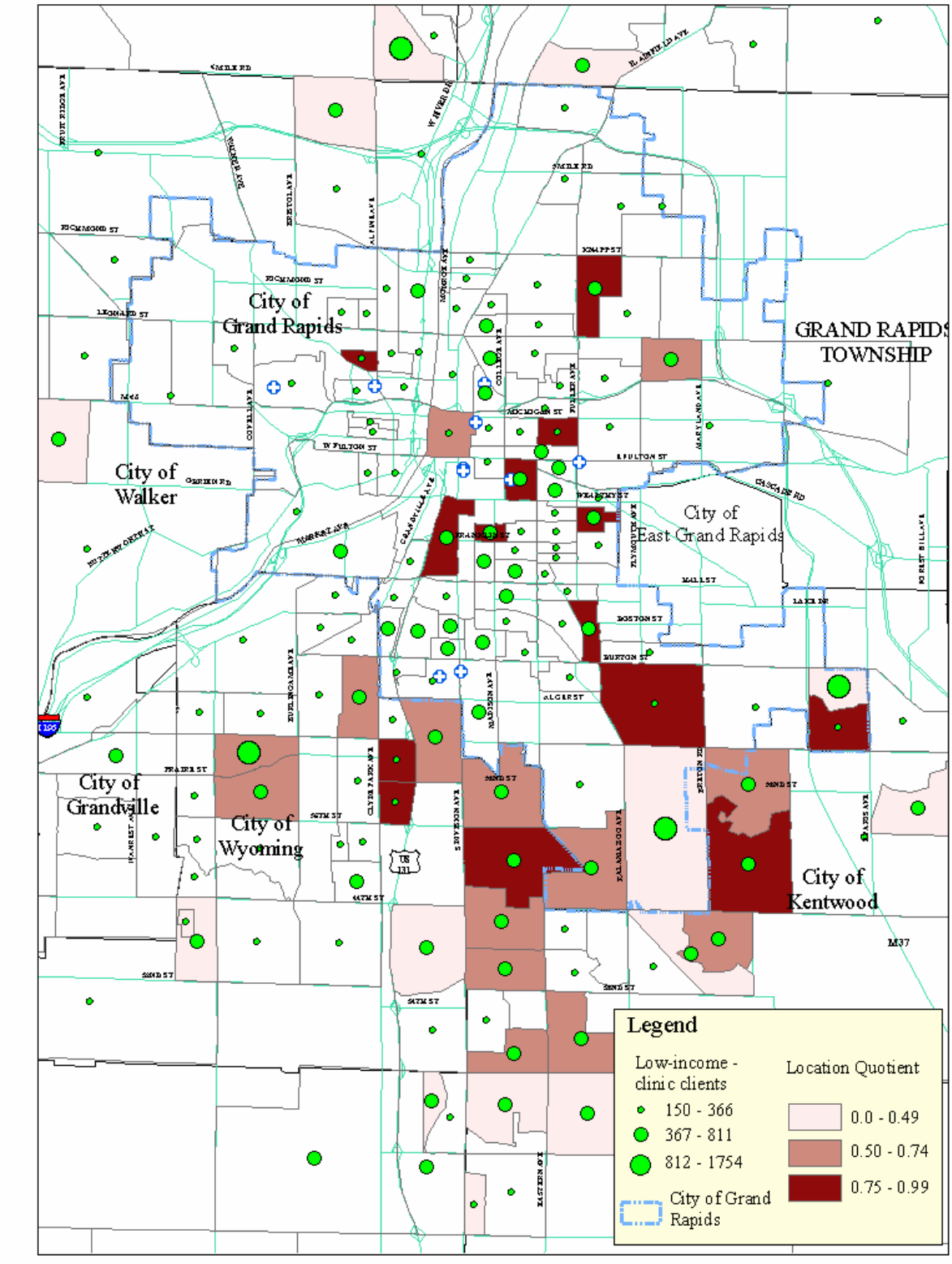


Figure 12. Excess healthcare need and underrepresented census block groups

Mapping areas of both low clinic participation and high minority populations make it possible to target limited resources to communities with greater prevalence of healthcare vulnerability. Table 5 indicates clients residing in underrepresented areas and where at least 25% of the population is persons of color. The persons of color in these census areas comprise one quarter of the persons of color population in the target area, and the excess capacity of these census areas, expressed as low-income population less clients, represent 20% of total Kent County excess capacity. Census block groups south of 28th Street account for much of the potential people of color population underserved by the present community clinic structure (Figure 13).

Table 5. Excess capacity in predominant ethnic/racial minority census block groups

	Tract/Block Group	% < 200 % FPL	People of Color	% POC	Clients	Excess capacity
Alpine	114045	43.4	1153	27.5	184	1620
Gaines	148041	24.0	744	26.4	29	646
Grand Rapids	28001	83.8	985	96.8	262	469
Grand Rapids	29002	69.0	663	85.7	183	412
Grand Rapids	33001	53.8	1172	71.3	312	570
Grand Rapids	35002	40.2	982	60.0	231	457
Grand Rapids	11011	31.3	1048	51.5	187	436
Grand Rapids	126062	49.6	1264	45.7	241	1064
Grand Rapids	25003	42.8	909	38.9	348	640
Grand Rapids	11022	55.3	779	36.4	281	811
Grand Rapids	46002	26.6	1036	36.3	181	551
Grand Rapids	22002	41.8	380	31.5	167	340
Grand Rapids	45001	29.7	2210	29.7	375	1754
Grand Rapids	126063	46.6	331	28.3	166	282
Grand Rapids	20001	57.1	229	26.2	108	337
Kentwood	126032	24.5	982	38.9	181	428
Kentwood	126031	34.0	548	35.3	108	383
Kentwood	127013	34.6	742	35.0	198	540
Kentwood	129012	36.3	728	26.5	184	781
Wyoming	138021	43.9	1377	42.8	331	1054
Wyoming	142001	30.9	1042	41.0	192	593
Wyoming	137004	27.6	550	39.8	119	246
Wyoming	137001	27.9	433	35.0	129	221
Wyoming	136001	42.7	319	28.3	127	383
Wyoming	135002	38.7	726	25.4	293	774
	Totals	**37.2**	**21332**	**37.9**	**5117**	**15792**

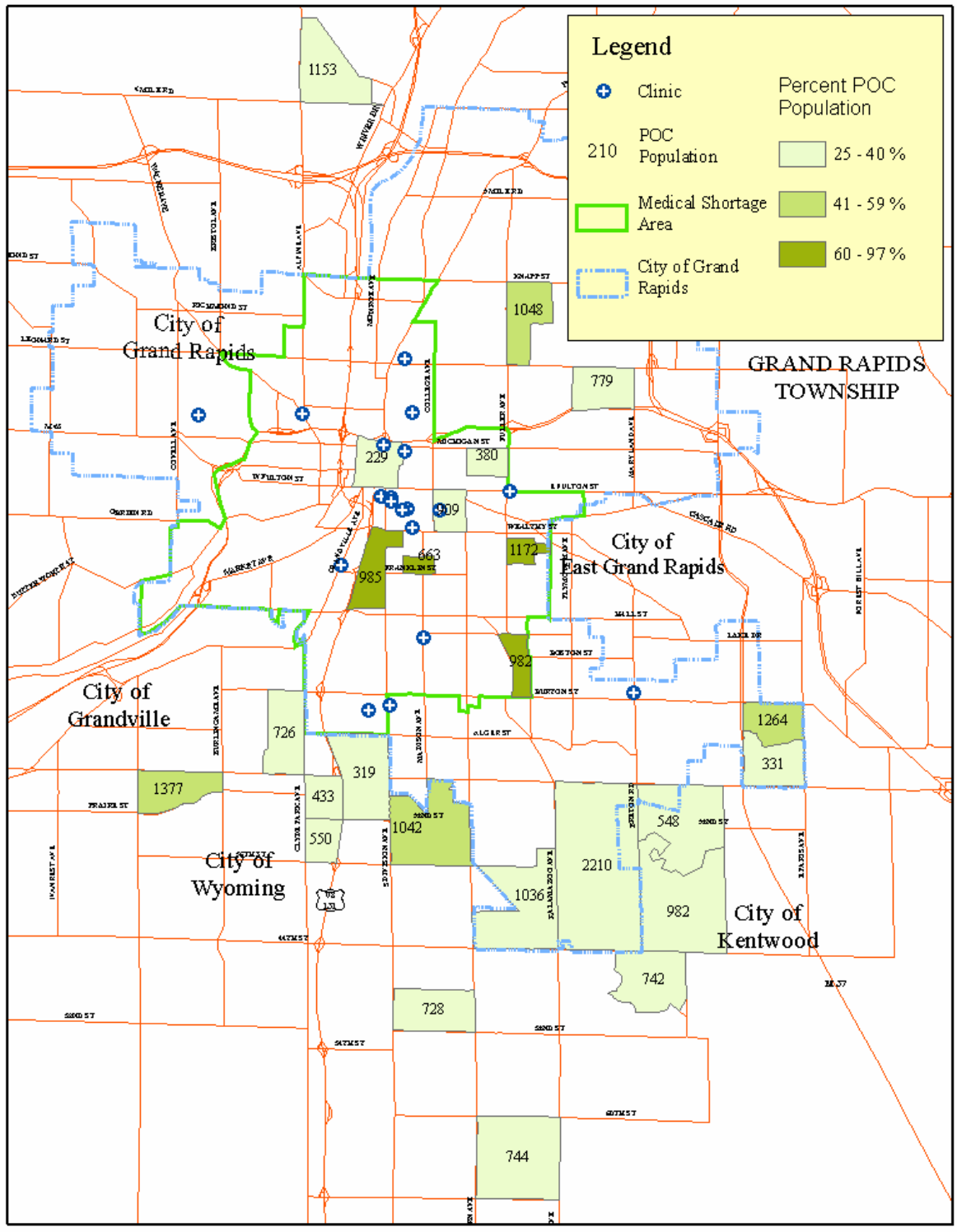


Figure 13. Areas underrepresented at community health centers: Census block groups with at least 25% People of Color populations.

Proximity and Clinic Access

One important barrier to accessing services, especially for the poor, is the proximity of those services. Distance and mode of travel is the primary geographic barrier to healthcare access. Since the addresses of all clients were included in the analysis, it was possible to estimate travel distance from client origins to clinic destinations. Figure 14 indicates the portion of clients located in cities with the greatest number of clients, and Table 6 demonstrates the comparatively short travel distance to clinics for Grand Rapids residents, compared to Kentwood, Wyoming and outlying areas.

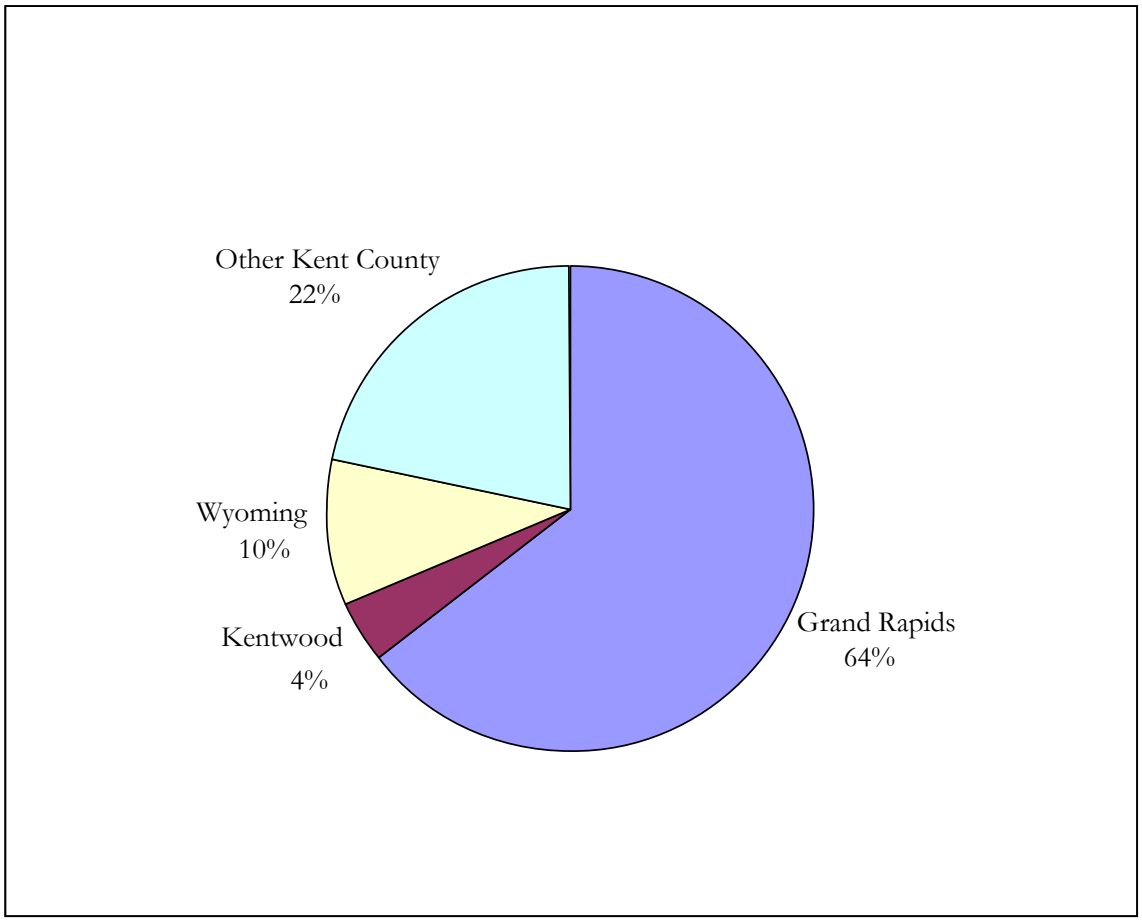


Figure 14. Client distribution by government unit

Figures 15 and 16 provide some idea as to the extent of preference for or the variation in services among the community health centers. The difference in travel distance to the clinic site closest the client address and the distance to the clinic attended, in average miles traveled by all clients, indicates that most clients could more easily access existing services.

Table 6. Travel distance to nearest community health center

	Number of Clients	Average Distance in Miles to closest Clinic
Grand Rapids	32096	0.9
Kentwood	2086	4.6
Wyoming	4783	2.9
Other Kent County	10854	8.2

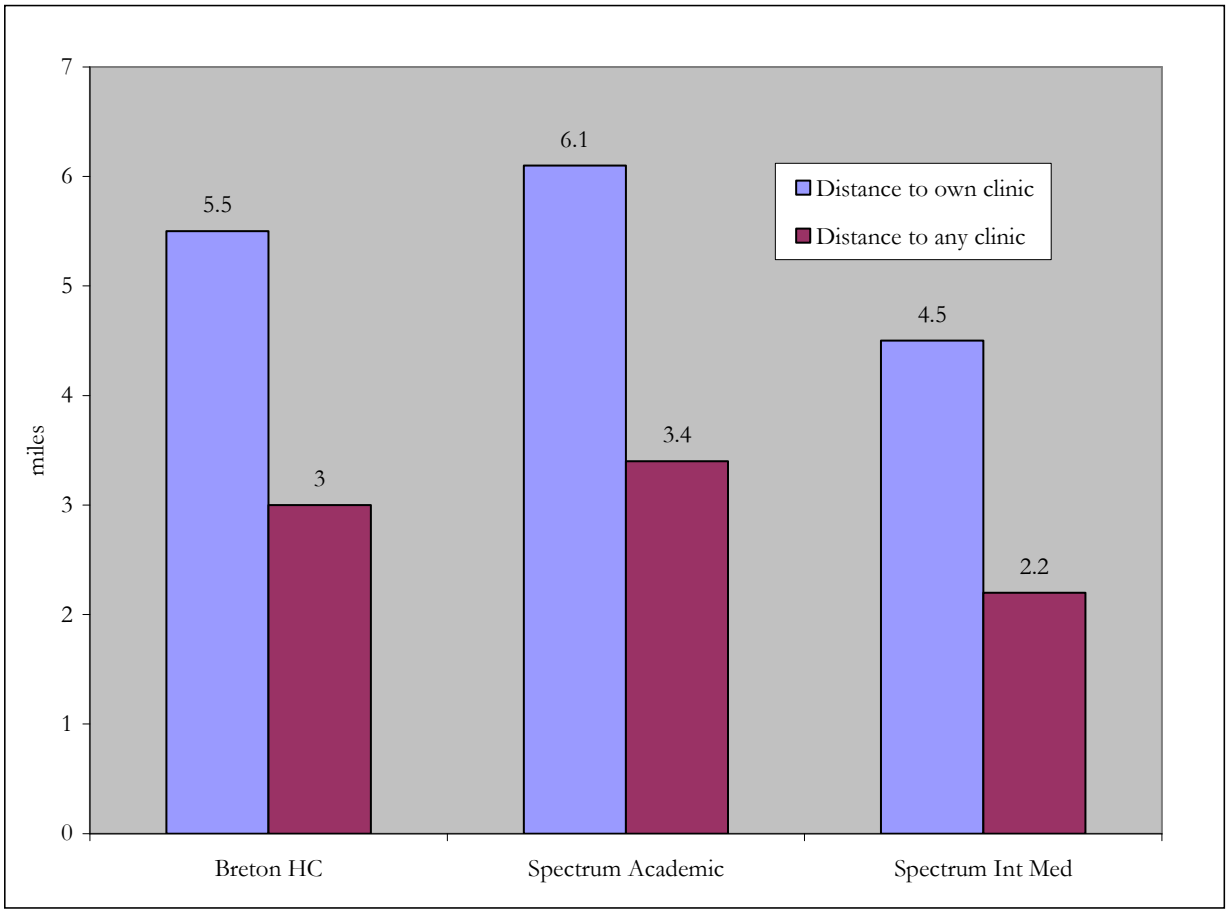


Figure 15. Average Client Distance to Spectrum and Breton Clinics

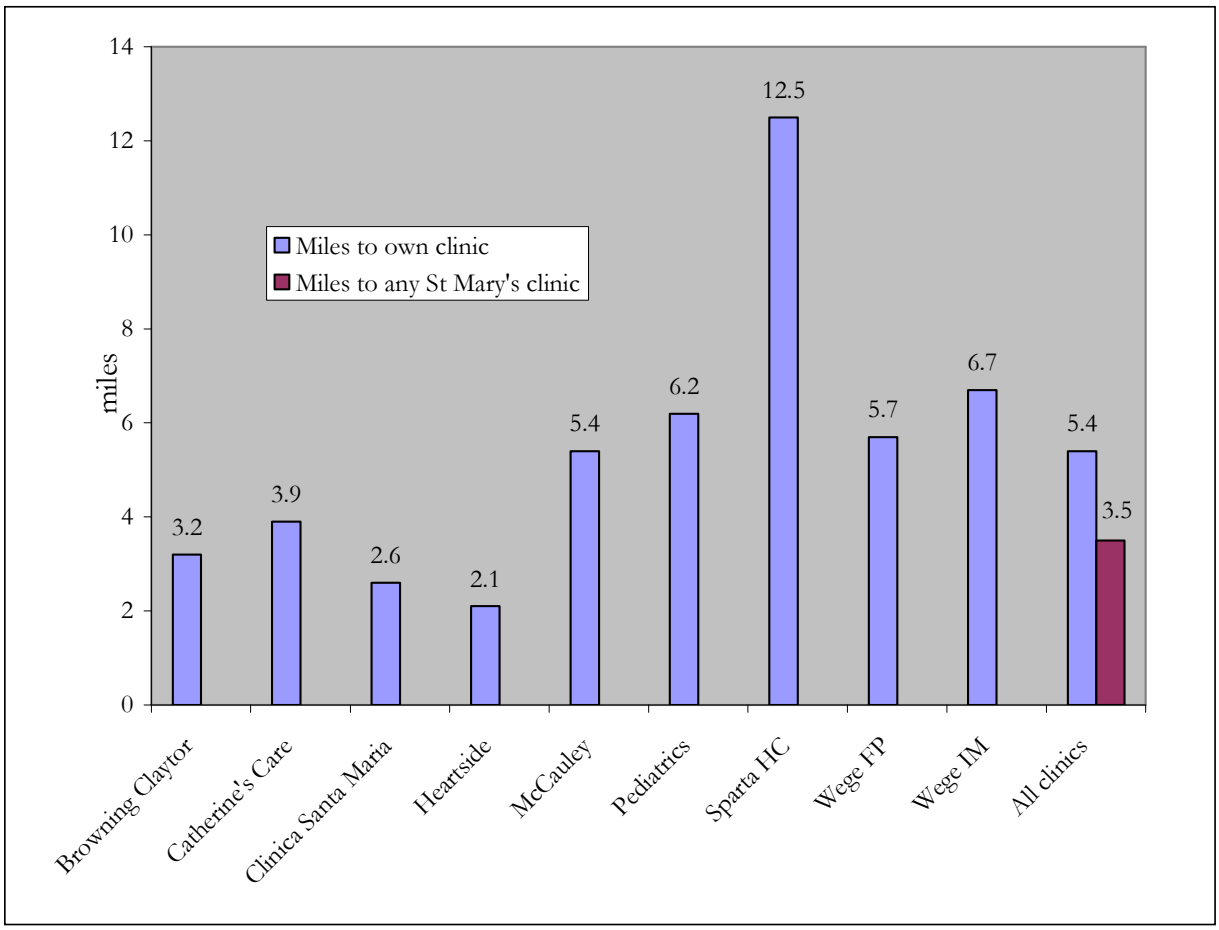


Figure 16. Average Client Distance to Saint Mary's Clinics

GIS was also utilized to measure the proportion of each clinic's client population that traveled less than one and one half, three, and five miles to their clinic site. St. Mary's Heartside Clinic's patients travel the shortest distance for services, while Sparta patients travel the greatest distance for healthcare (Table 7).

Conclusions

The mapping of patient addresses, clinics, and subpopulations in Kent County most likely to benefit from community clinic services is useful in depicting areas of poor health access and for portraying potential areas of service expansion or increased marketing of existing services. Using the measure of the ratio of the proportion of total clinic patients and the proportion of Kent County low-income population locates those areas in the county where there is less utilization of community health centers relative to the low-income population of the area. The location quotients in Table 8 indicate higher utilization by poor households where there is a concentration of low-income households, blacks, and Hispanics. The target population of Kent County's Federal Qualified Health Centers has a higher utilization rate than the Target Area devised for this study, though the

former does not include many census block groups which comprise the actual community health centers service area.

Table 7. Percent of clients residing within 1.5, 3, and 5 miles of their clinic

	1.5 miles	3 miles	5 miles
BRETON HEALTH CTR	3.5	21.6	51.2
CHERRY ST CLINICS*	54.1	71.4	78.6
SPECTRUM	24.8	57	73.2
ST MARY'S			
Browning Claytor	40.3	63.9	82.4
Catherine's Care	29.6	57.1	75.8
Clínica Santa Maria	31.7	75.2	89.9
Heartside	59.3	83.8	89
McCauley	21.3	47.5	63.8
Pediatrics	7.5	39.5	57.9
Sparta HC	8.8	14.3	22.5
Wege FP	12.5	37.8	59
Wege IM	10.8	28.3	49.3

* Combined clinic addresses

This analysis has some shortcomings worth noting. Primary among them is the limited information in the address databases. Without the ability to attach the number of out patient visits, income, and diagnoses to patient addresses it was necessary to assume that client addresses were equal in importance and that all clients were low-income residents of the census block group. It is also erroneous to assume that all persons with incomes less than 200 percent of the federal poverty level are without health insurance or underinsured and that community clinics participating in the study meet all the health needs of this population. According to the latest figures form the Michigan Department of Community Health, families with incomes below 200 percent of poverty represent approximately half of all the Michigan non-elderly population which is uninsured, but less than one quarter of this low-income population was uninsured during the entire year (1999-2001).[6] Table 9 lists the estimated rates of uninsured by family income as a ratio of poverty and for blacks, Hispanics, and whites. The rates of uninsured among Hispanics are the highest among minority populations in Michigan, 29%. Sixteen (16%) of blacks in Michigan were estimated to be uninsured.

Table 8. Location Quotients by Area

	Location Quotient
Clinic mapping Target Area	1.1
Medical Professional Shortage Area	1.4
City of Grand Rapids	1.2
City of Kentwood	.8
City of Wyoming	.6
Census Block groups ≥ 20% Federal Poverty Level	1.3
Census Block groups ≥ 40% Federal Poverty Level	1.5
Census Block groups ≥ 20% of population African American/ Black	1.3
Census Block groups ≥ 20% of population Hispanic	1.5

Table 9. Percent Uninsured by Family Income and Race/Ethnicity

	1999-2001
Family income as a percent of poverty	Percent
0 – 99 %	26.6
100 – 149 %	25.3
150 – 199 %	17.5
200 – 399 %	11.6
White	10.1
African-American	15.9
Hispanic	29.4

In order to improve the assessment of populations in need of health care access and the reach of current services to these groups it is necessary to gather more specific information on patients and the clinics where they receive care. Mapping the number of out patient visits by patient address, patient income or a proxy of income such as payer type, and the race and ethnicity of the patient would provide much more specific information on access by different sub-populations. Rather than using a measure that may be difficult to understand, rates per 1000 residents would also serve as a

comparison of access among targeted census areas. One measure of the effectiveness of community clinics is the impact on the use of emergency room services for primary medical care**.** Another is the ability of clinics to refer patients to medical specialists and the rate at which patients access specialty care.

Appendix A

Task Force on Health Care for People of Color

CLINIC MAPPING PROJECT

The outlined information contained in this document is for the utilization of the Task Force on Health Care for People of Color. The mapping project is one of the targeted clinic coordination projects related to access to care and identifying gaps in service delivery and underrepresented geographical areas to improve systems of care. We are collecting information from participating clinics in the Grand Rapids area working in conjunction with the Task Force. Please take the time to fill out the data collection assessment tool. Thank you.

Agency/Clinic Name:_____

Director/Clinic Manager:_____

Contact Person:_____**Title**:_____

Clinic Address/Location:_____

Phone Number:_____ **Email:**_____

Website Address:_____

Clinic Location(s):

Site 1: _____

Site 2: _____

Site 3: _____

- ***Multiple Locations: Attach a list of all site addresses***

Please send this sheet and the following Clinic Mapping Project Data Collection Tool to:

Kent County Health Department
c/o Teresa Branson
700 Fuller NE
Grand Rapids, MI 49503

Fax to: (616) 336-3884
Email: teresa.branson@kentcounty.org
Call with Questions: (616) 336-3931

Appendix A

Task Force on Health Care for People of Color

CLINIC MAPPING PROJECT

Data Collection Assessment Tool for Mapping Project
CALENDAR YEAR: 2002

Please fill out one form for each service delivery location:

Clinic Name: **Contact Name:**

Organization Name:

Address/Street Name:

Please Indicate Street Direction: NW SW NE SE **Street Direction:** _____

City: **Zip Code:**

Work Phone: ( ) **Fax:** ( )

E-Mail Address: **Web Site:**

Is there another address where services are offered?

(Fill out one survey for each clinic site/location)

Please indicate # of clients served by their:

Gender:

Males:_____

Females: _____

Race:

Caucasian (White, Non-Hispanic): _____ **Black/African American:** _____

Asian/Pacific Islander: _____ **Hispanic/Latino:**_____

Native American: _____ **Other/Unreported:** _____

Average Age Served:
Please indica

Under 18:_____ 18 to 24: _____ 25 to 29: _____
30 to 34: _____ 35 to 39: _____ 40 to 44: _____
45 to 49: _____ 50 to 54: _____ 55 to 59: _____
60 to 64: _____ 65 to 69: _____ 70 to 74: _____
75 to 79: _____ 80 to 84: _____ 85 +: _____

Number of Encounters/Visits per Year: _____

Please indicate payer mix by # of clients:

Medicaid: _____ **Medicare:** _____

Pay Cash: _____ **Kent Health Plan:** _____
(Self-pay, sliding scale, financial assist.)

Priority Health: _____ **Health Plan of MI.:** _____

Molina:_____ **Community Choice MI.:** _____

Commercial Insurance: _____

Other Public Insurance: _____

Please indicate the # of clients receiving service within each zip code:

Zip codes/# of clients served:

49501_____	49508_____	49518_____	49550_____
49502_____	49509_____	49523_____	49555_____
49503_____	49510_____	49525_____	49560_____
49504_____	49512_____	49530_____	49588_____
49505_____	49514_____	49544_____	49599_____
49506_____	49515_____	49546_____	Other_____
49507_____	49516_____	49548_____	

Please indicate # of primary care providers by FTEs: # of paid vs. volunteer providers:

1. Physicians: _____

2. Physician Assistants: _____

3. Nurse Practitioners: _____

Paid:_____

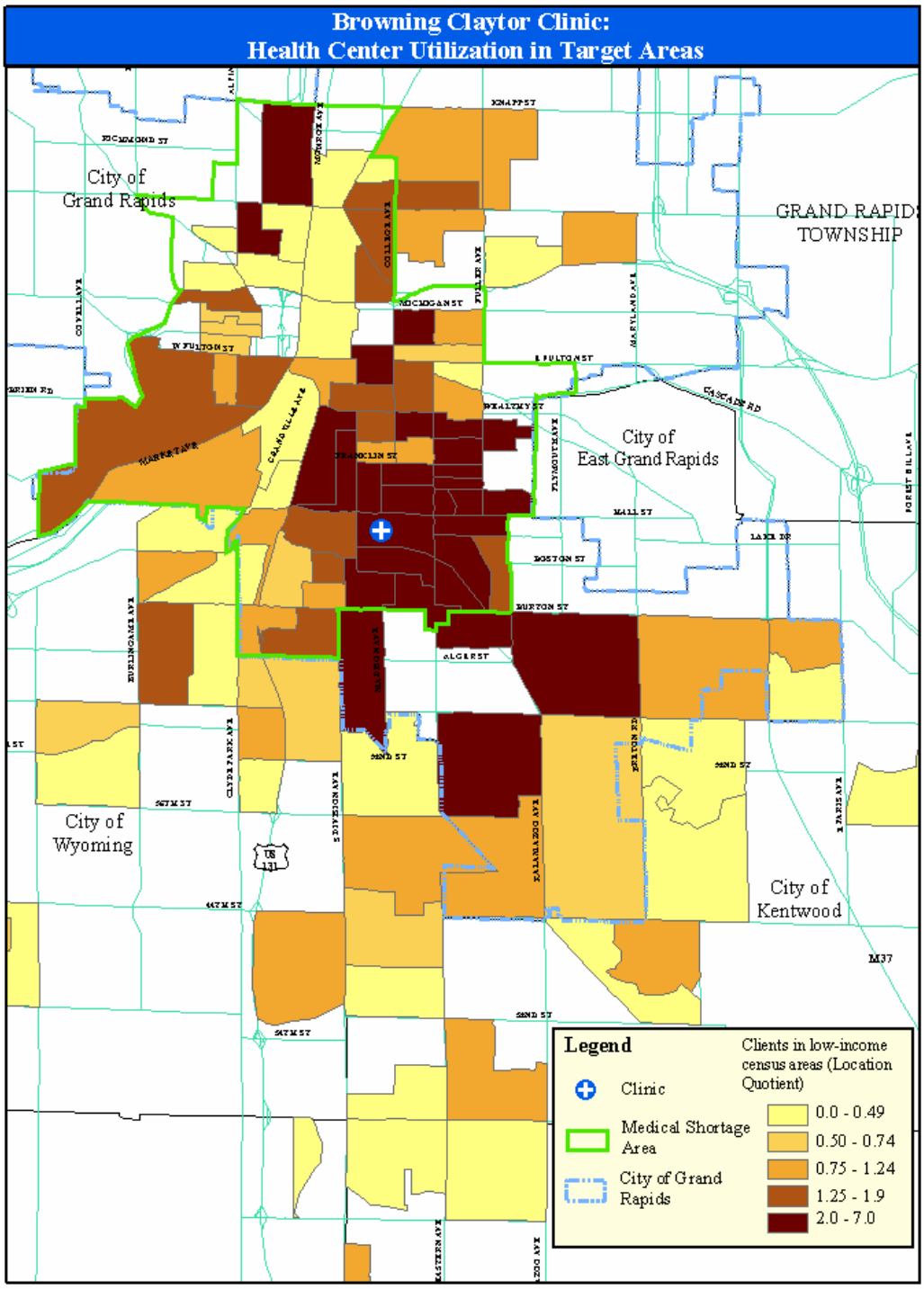
Volunteer: _____

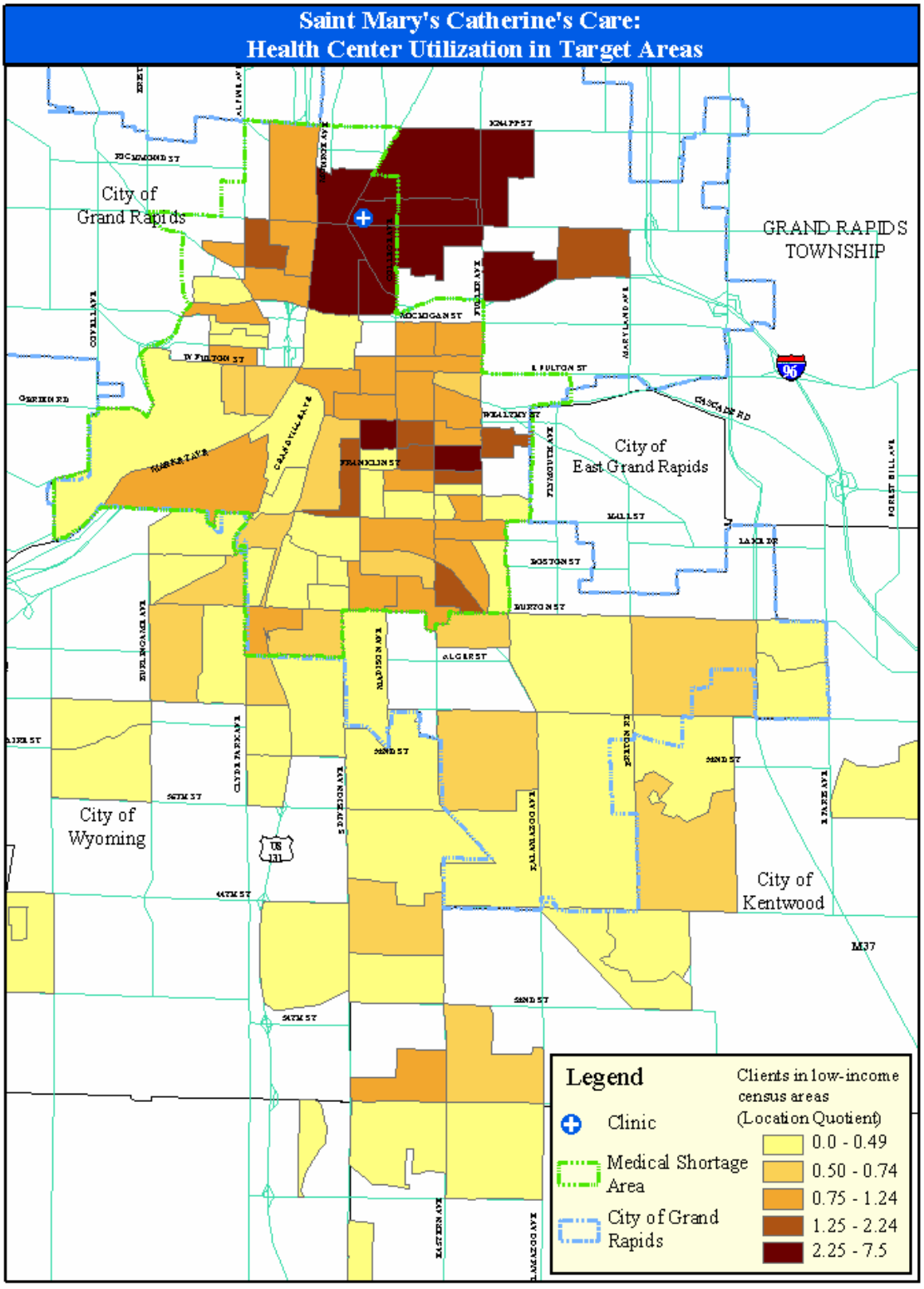
Residence: (Client Address)

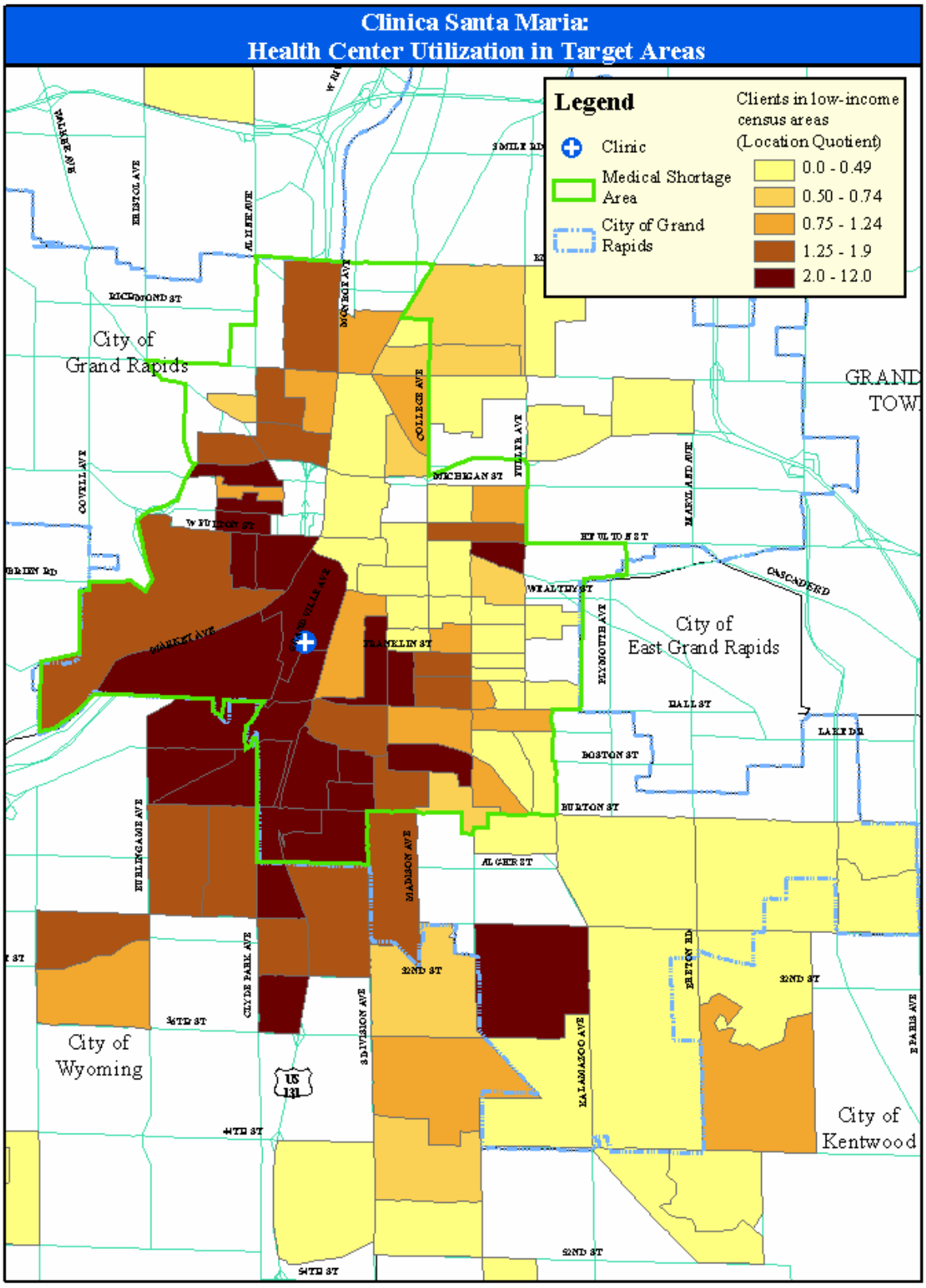
NOTE: If applicable please provide your client database profile of addresses in an Excel Format and email to: teresa.branson@kentcounty.org

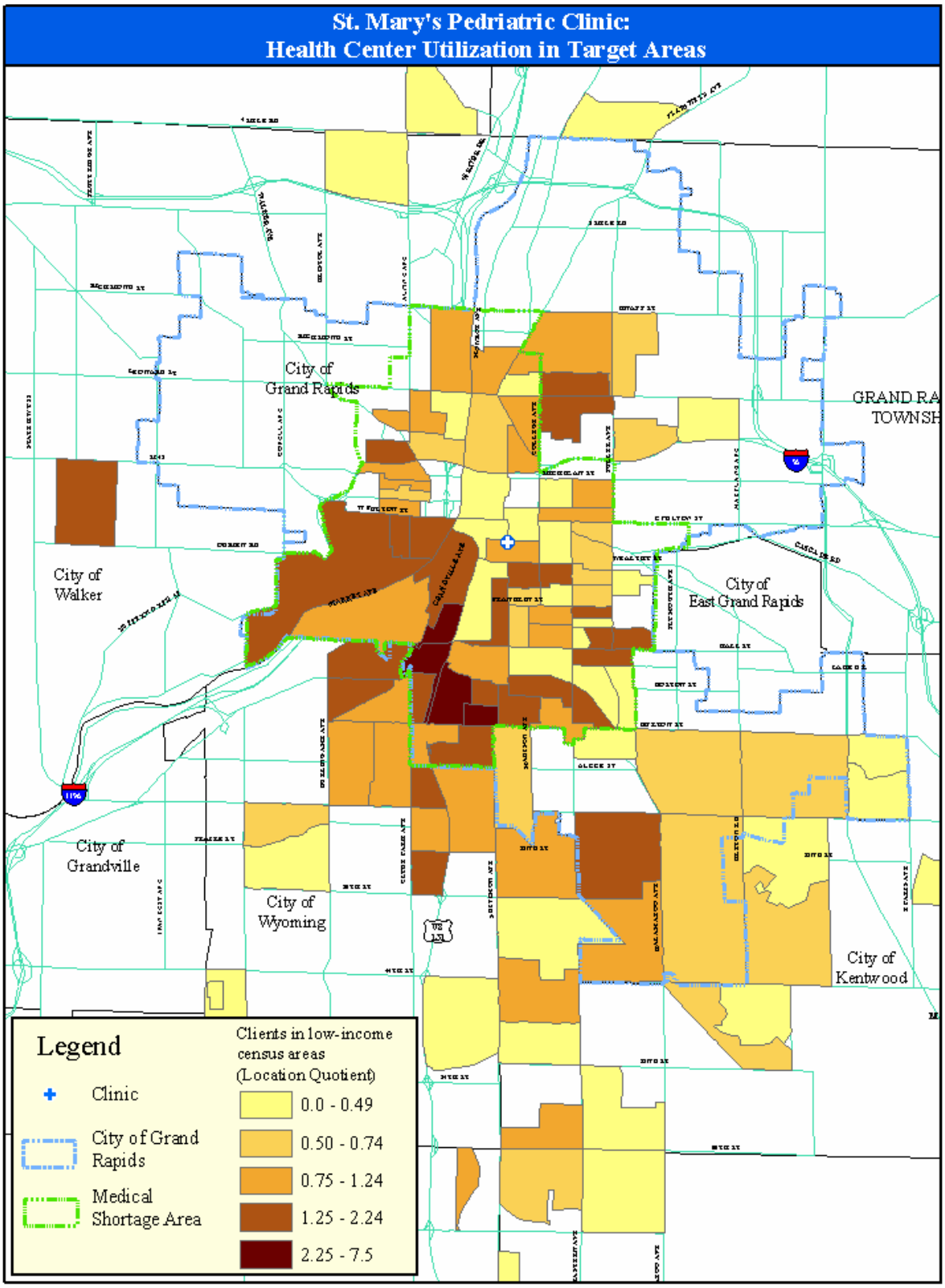
- Client addresses will be utilized for the purposes of putting addresses on a Geographical Information System to show households served in specific areas in relationship to where clinics are located and to be able to determine areas to concentrate services/health screenings in a collaborative effort through the Task Force on Health Care for People of Color. The data for addresses will not have any name attached to it, and will be aggregated so that the privacy of individual clients is preserved and cannot be extracted.

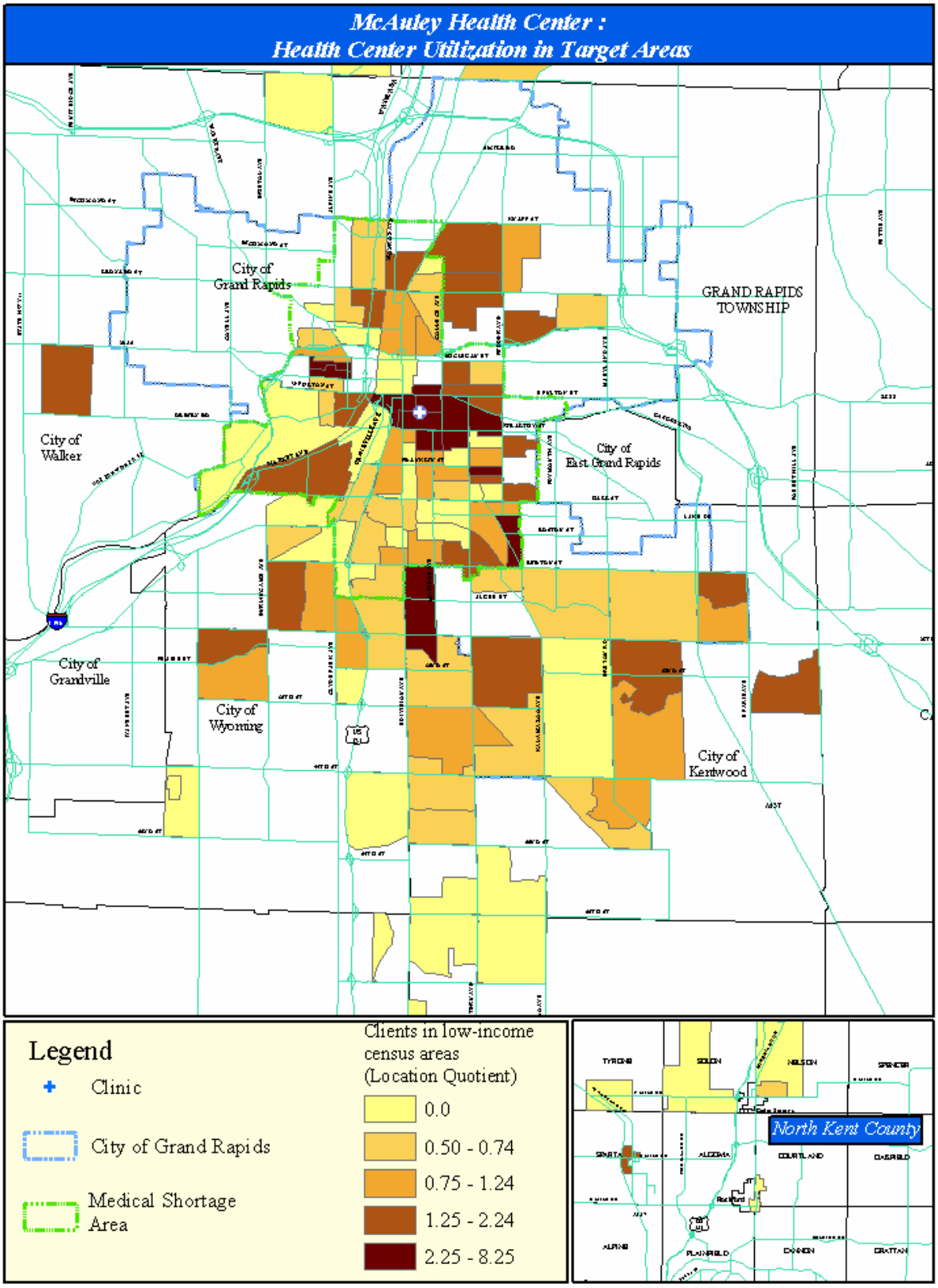
Appendix B Maps of Clinic Utilization

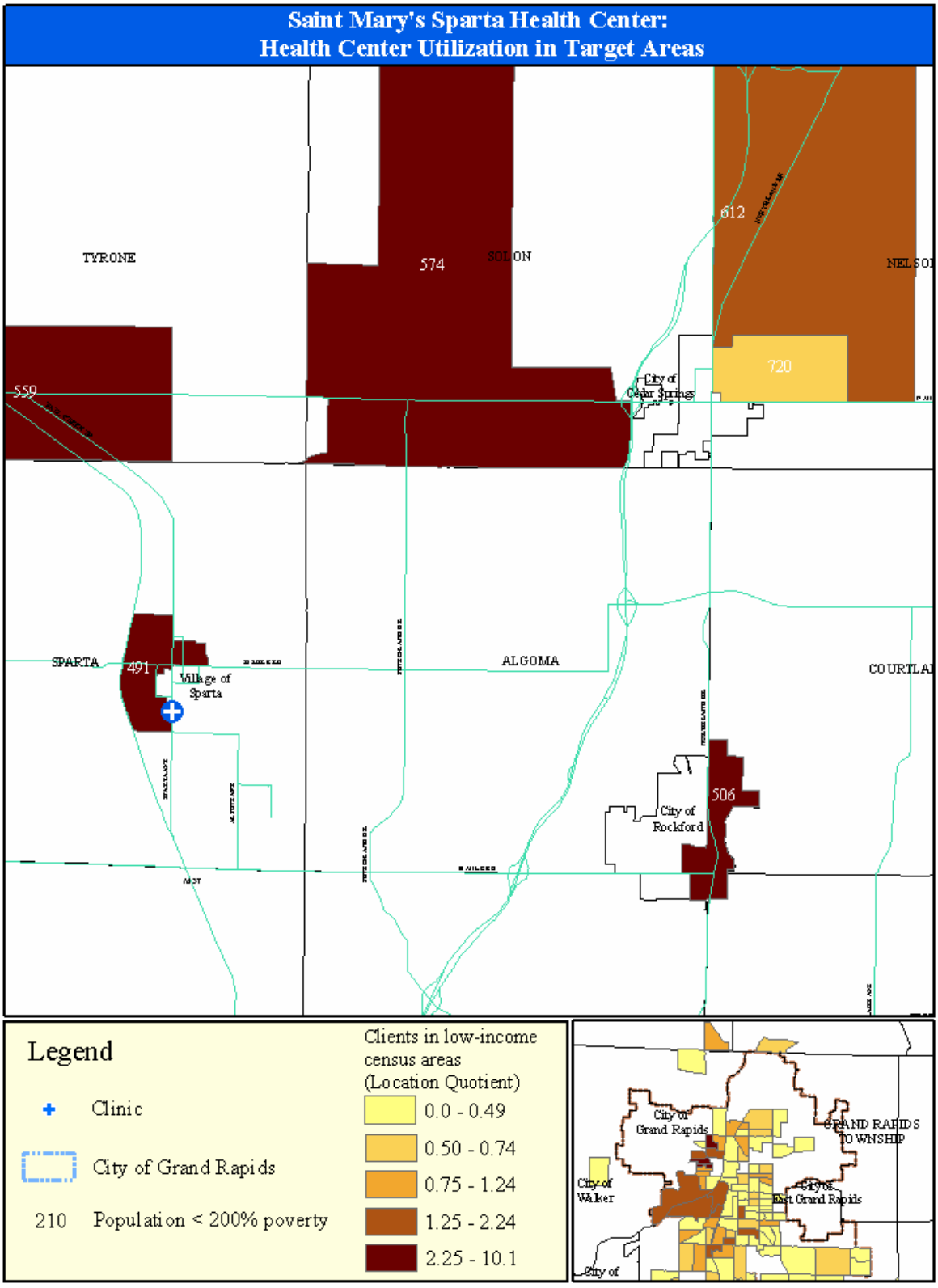


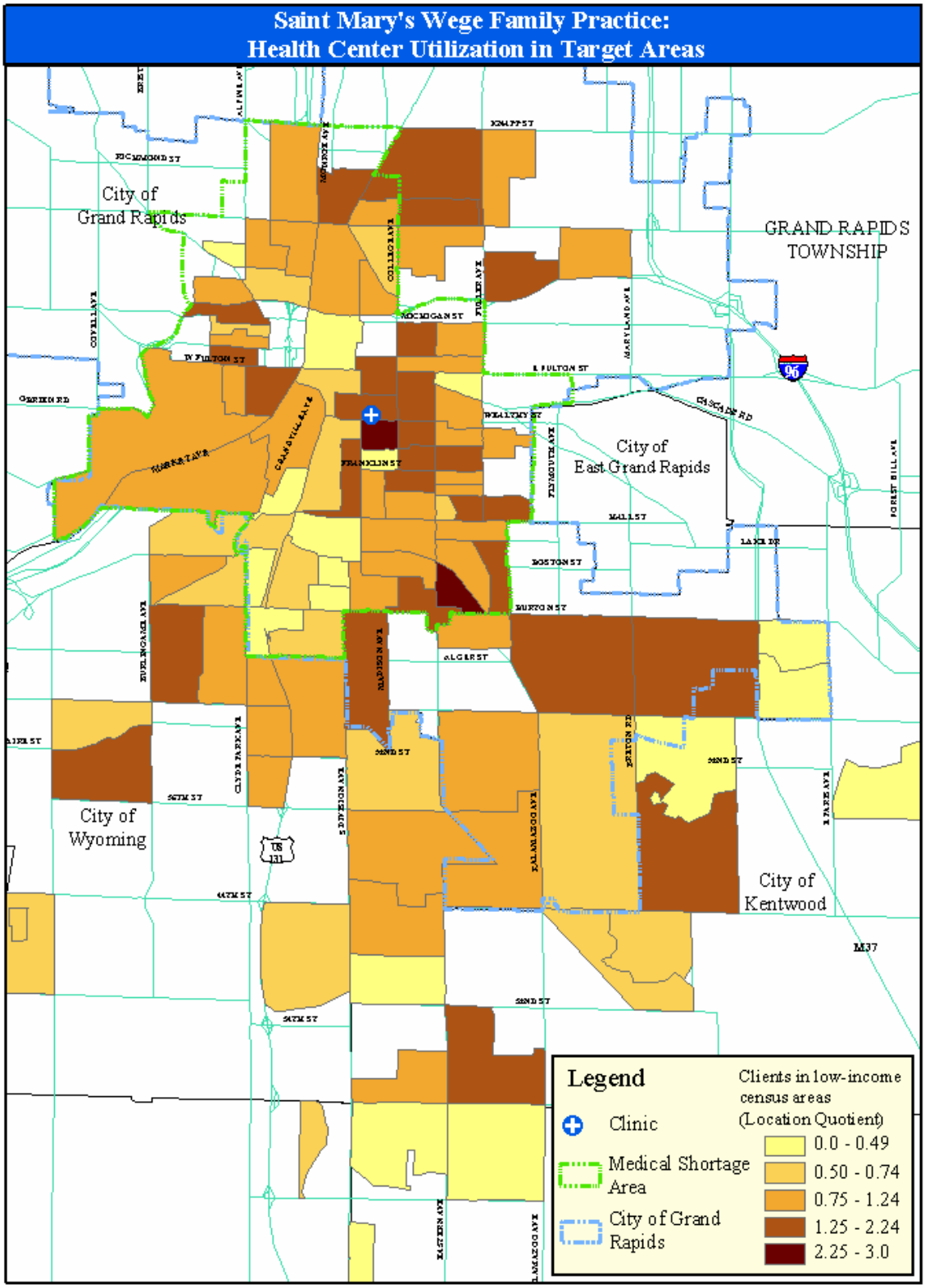

Saint Mary's Catherine's Care:
Health Center Utilization in Target Areas
City of Grand Rapids
GRAND RAPIDS TOWNSHIP
City of East Grand Rapids
City of Wyoming
City of Kentwood
M37
Legend
Clinic
Medical Shortage Area
City of Grand Rapids
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 7.5

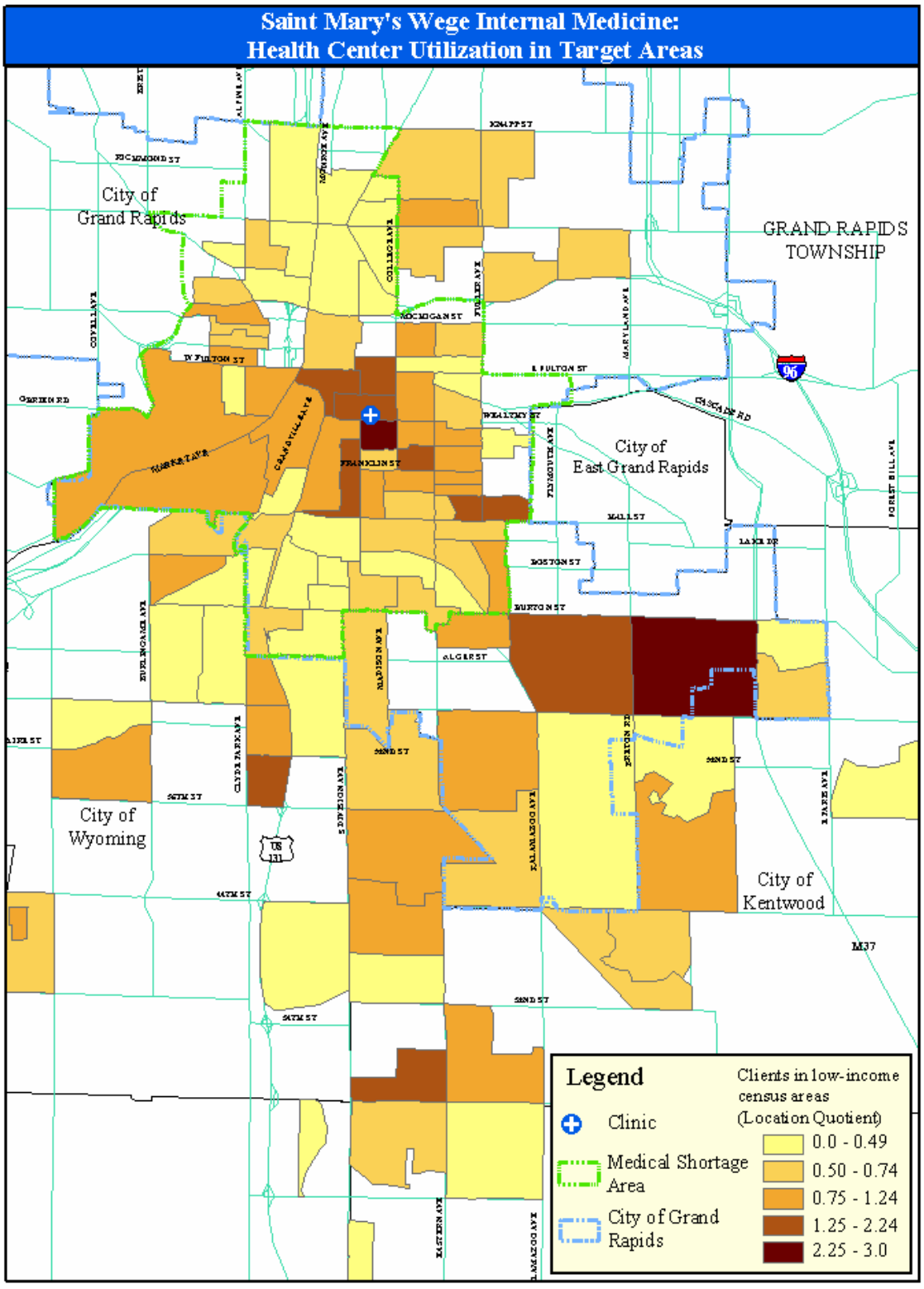

Clinica Santa Maria:
Health Center Utilization in Target Areas
Legend
Clinic
Medical Shortage Area
City of Grand Rapids
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 1.9
2.0 - 12.0
City of Grand Rapids
City of East Grand Rapids
City of Wyoming
City of Kentwood
GRAND TOW
MICHIGAN ST
FRANKLIN ST
WEALTHY ST
BOSTON ST
BURTON ST
ALGER ST
32ND ST
36TH ST
44TH ST
52ND ST
54TH ST
MARKET AVE
COLLEGE AVE
DIVISION AVE
MADISON AVE
EASTERN AVE
KALAMAZOO AVE
PLYMOUTH AVE
CASCADE RD
LAKE DR
US 131

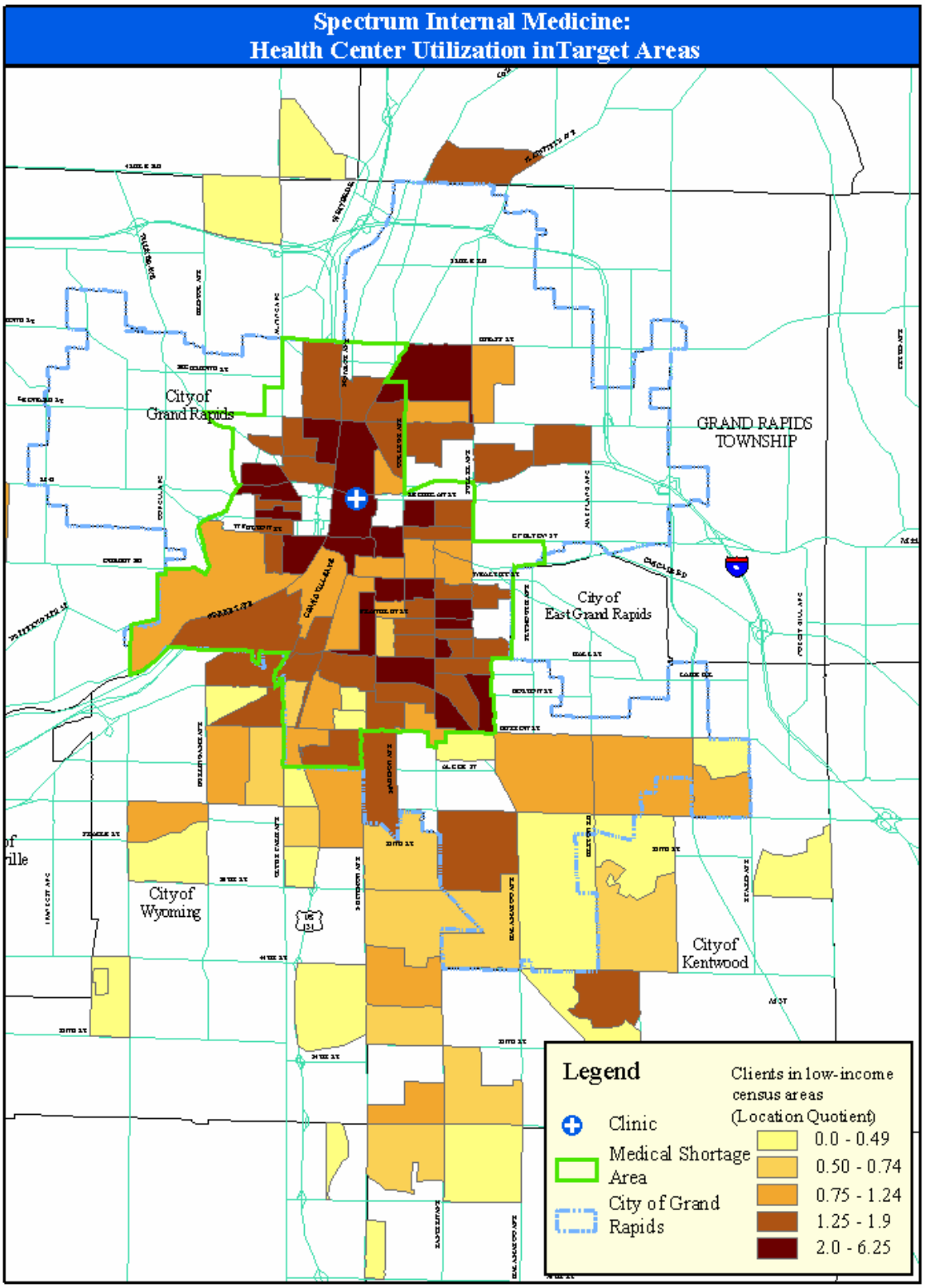

St. Mary's Pedriatic Clinic:
Health Center Utilization in Target Areas
City of Grand Rapids
City of Walker
City of East Grand Rapids
City of Grandville
City of Wyoming
City of Kentwood
GRAND RA
TOWNSH
Legend
Clinic
City of Grand Rapids
Medical Shortage Area
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 7.5

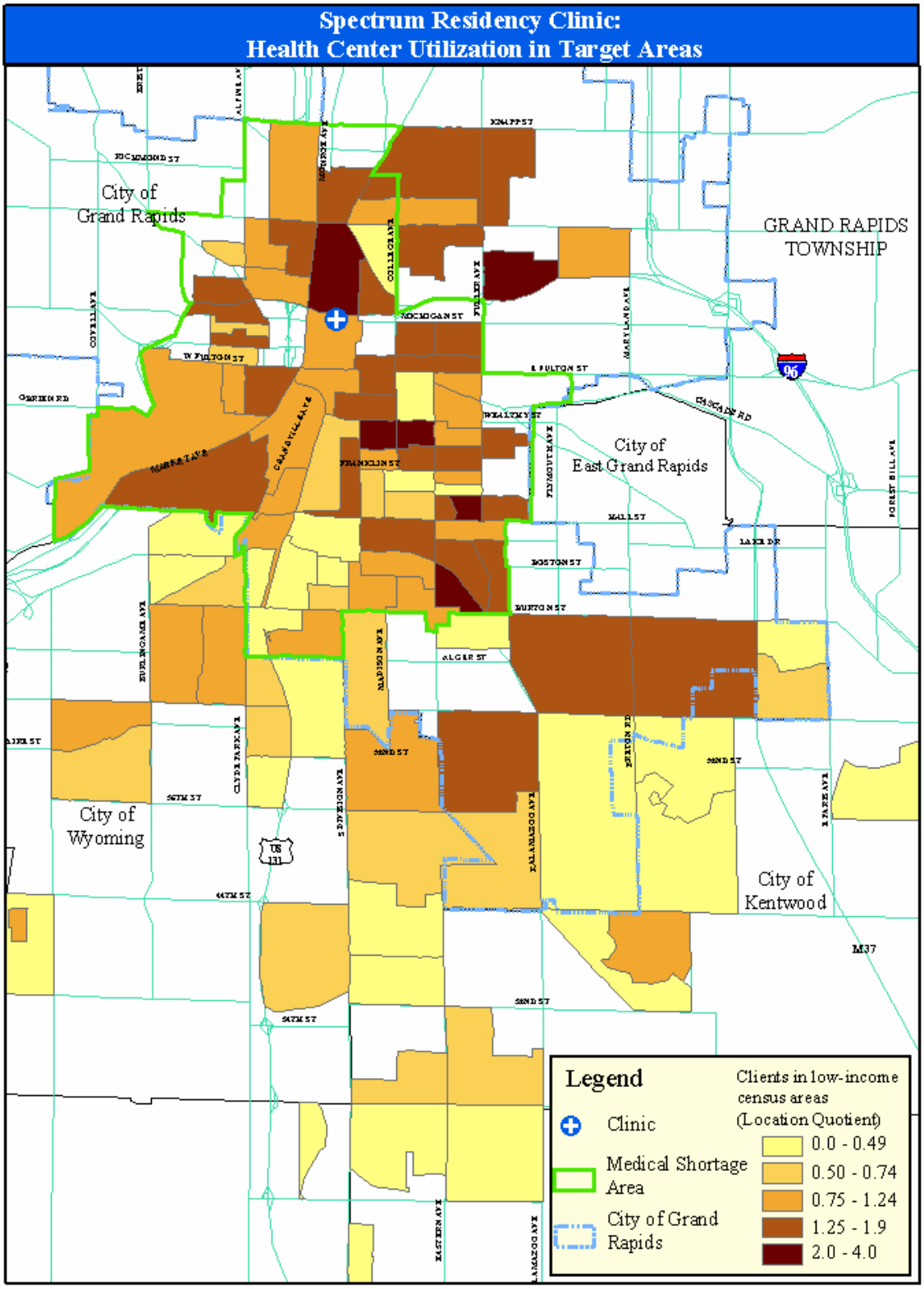

McAuley Health Center :
Health Center Utilization in Target Areas
City of Grand Rapids
GRAND RAPIDS TOWNSHIP
City of Walker
City of East Grand Rapids
City of Grandville
City of Wyoming
City of Kentwood
Legend
Clinic
City of Grand Rapids
Medical Shortage Area
Clients in low-income census areas (Location Quotient)
0.0
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 8.25
North Kent County

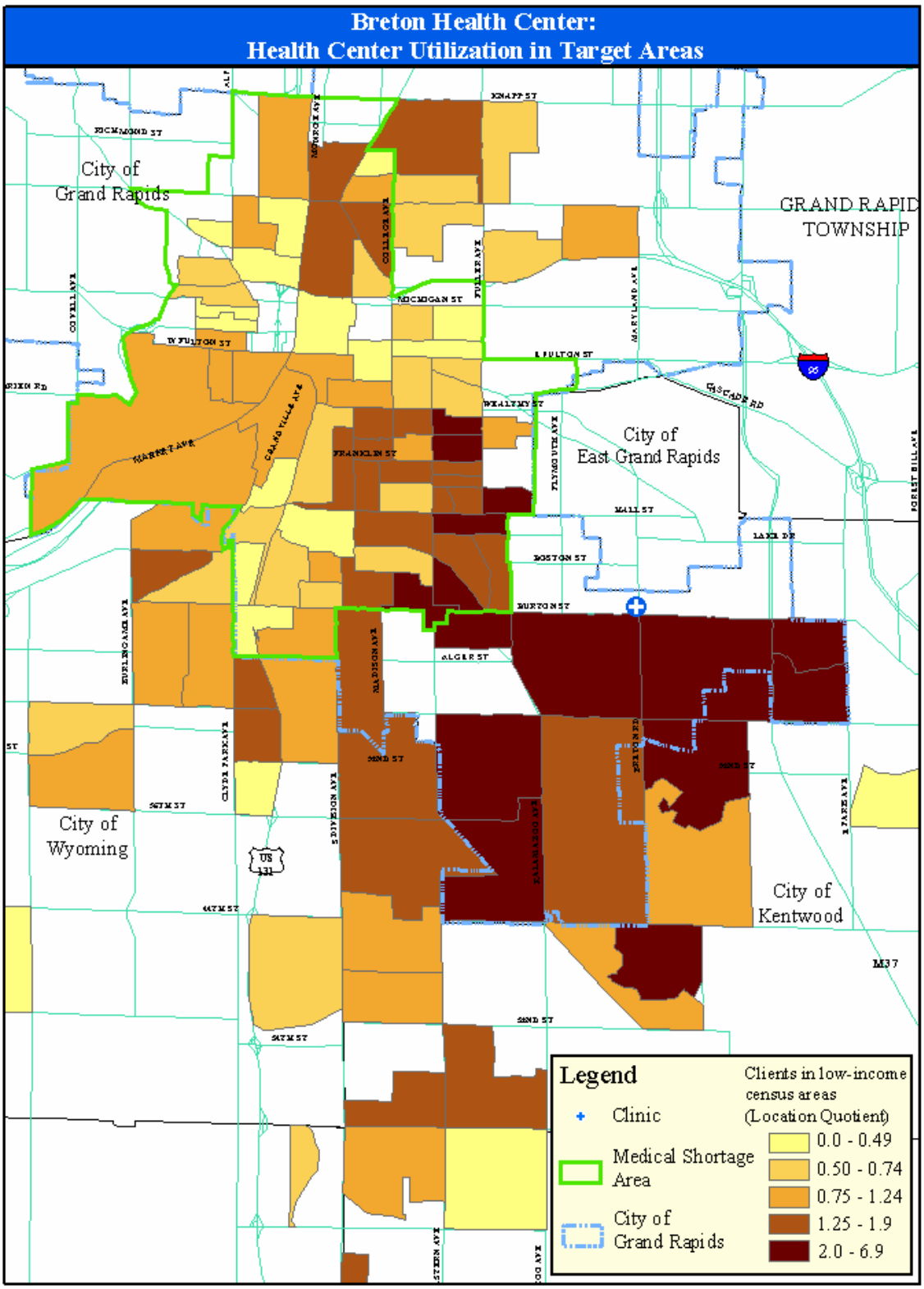

Saint Mary's Sparta Health Center:
Health Center Utilization in Target Areas
TYRONE
574
SOLON
612
720
559
City of
Cedar Springs
SPARTA
491
Village of
Sparta
ALGOMA
506
City of
Rockford
Legend
Clinic
City of Grand Rapids
210 Population < 200% poverty
Clients in low-income
census areas
(Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 10.1
City of
Grand Rapids
City of
Walker
City of
East Grand Rapids

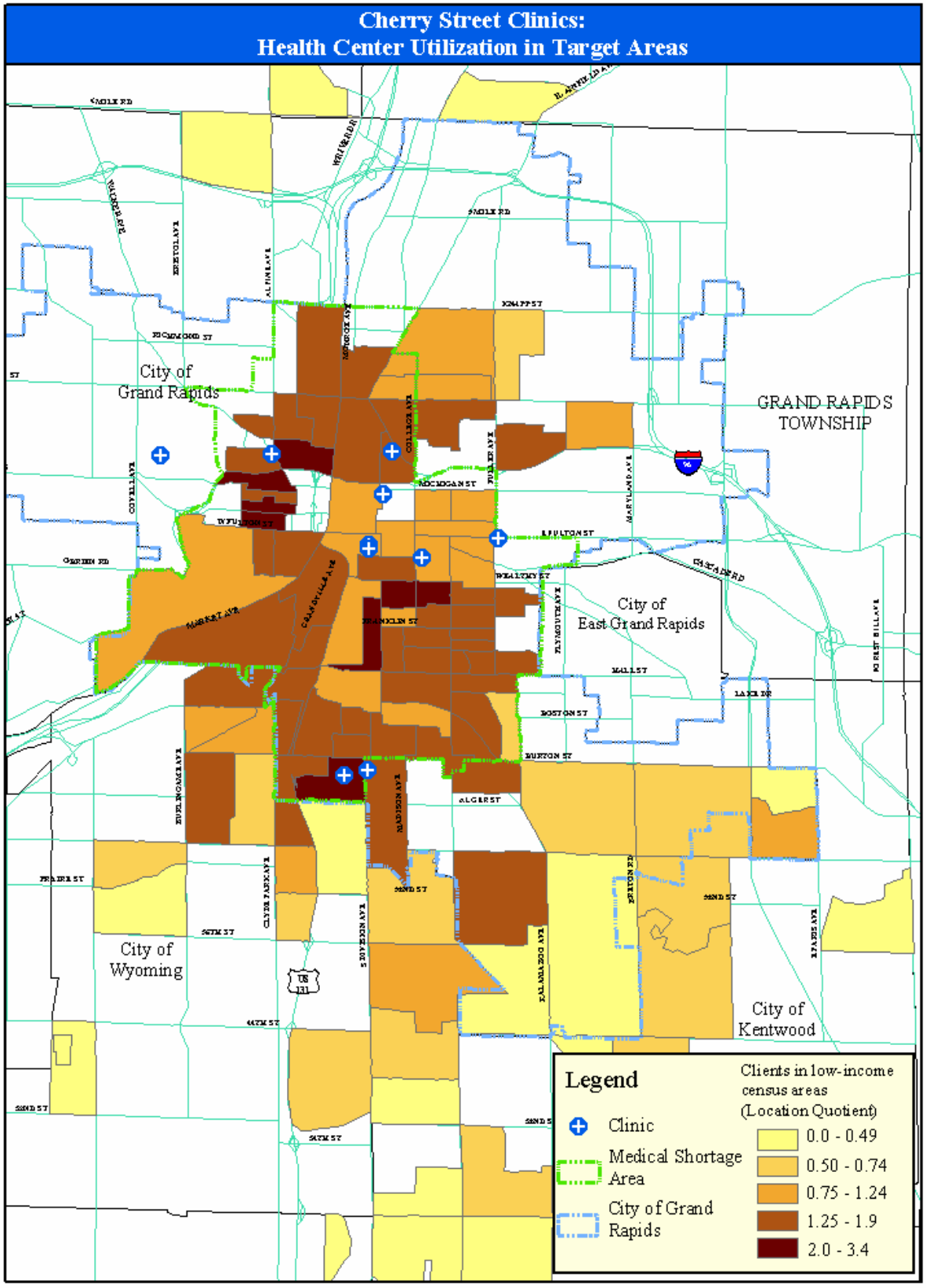

Saint Mary's Wege Family Practice:
Health Center Utilization in Target Areas
City of Grand Rapids
GRAND RAPIDS TOWNSHIP
City of East Grand Rapids
City of Wyoming
City of Kentwood
Legend
Clinic
Medical Shortage Area
City of Grand Rapids
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 3.0


Saint Mary's Wege Internal Medicine:
Health Center Utilization in Target Areas
City of Grand Rapids
GRAND RAPIDS TOWNSHIP
City of East Grand Rapids
City of Wyoming
City of Kentwood
Legend
Clinic
Medical Shortage Area
City of Grand Rapids
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 2.24
2.25 - 3.0


Spectrum Internal Medicine:
Health Center Utilization inTarget Areas
City of
Grand Rapids
GRAND RAPIDS
TOWNSHIP
City of
East Grand Rapids
City of
Wyoming
City of
Kentwood
Legend
Clients in low-income
census areas
(Location Quotient)
Clinic
Medical Shortage
Area
City of Grand
Rapids
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 1.9
2.0 - 6.25


Spectrum Residency Clinic:
Health Center Utilization in Target Areas
City of
Grand Rapids
GRAND RAPIDS
TOWNSHIP
City of
East Grand Rapids
City of
Wyoming
City of
Kentwood
Legend
Clinic
Medical Shortage
Area
City of Grand
Rapids
Clients in low-income
census areas
(Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 1.9
2.0 - 4.0


Breton Health Center:
Health Center Utilization in Target Areas
City of
Grand Rapids
GRAND RAPID
TOWNSHIP
City of
East Grand Rapids
City of
Wyoming
City of
Kentwood
Legend
Clinic
Medical Shortage
Area
City of
Grand Rapids
Clients in low-income
census areas
(Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 1.9
2.0 - 6.9


Cherry Street Clinics:
Health Center Utilization in Target Areas
City of Grand Rapids
GRAND RAPIDS TOWNSHIP
City of East Grand Rapids
City of Wyoming
City of Kentwood
Legend
Clinic
Medical Shortage Area
City of Grand Rapids
Clients in low-income census areas (Location Quotient)
0.0 - 0.49
0.50 - 0.74
0.75 - 1.24
1.25 - 1.9
2.0 - 3.4

End Notes

[1] McLaughlin, Catherine G., and Wyszewianski,L., Editorial column, Health Services Research, December, 2002. Retrieved December 2, 2005 http://www.findarticles.com /p/articles /mi_m4149 /is_6_37/ai_97177040/print

[2] Phillips, Robert L. Jr., et al., Using Geographic Information Systems to Understand Healthcare Access. Archives of Family Medicine. 9(10), pp. 971-978.

[3] National Association of Community Health Centers, Inc. 2004 Access to Community Health Data Book, Michigan. Retrieved November 28, 2005 http://www.nachc.com/research/files/mi.pdf

[4] Shi, Leiyu, The Convergence of vulnerable characteristics and health insurance in the US. Social Science and Medicine, 53 (2001), pp. 519-529.

[5] Ibid.

[6] Michigan Department of Community Health, Special Report: Characteristics of the Uninsured and Select Health Insurance Coverage in Michigan. November 2003. Retrieved November 30, 2005 http://www.michigan.gov/documents/uninsured_78098_7.pdf