

Category	Subcategory	Feature Name
<b>Demographics</b>	Age / Sex	Age
<b>Demographics</b>	Age / Sex	Is Female
<b>Demographics</b>	Ethnicity/Race	Is Ethnicity Hispanic
<b>Demographics</b>	Ethnicity/Race	Is Race Asian
<b>Demographics</b>	Ethnicity/Race	Is Race Black
<b>Demographics</b>	Preferred Language	Is Language Spanish
<b>Demographics</b>	Smoking Status	Is Current Smoker
<b>Demographics</b>	Smoking Status	Is Former Smoker
<b>Demographics</b>	Smoking Status	Is Never Smoker
<b>Demographics</b>	Marital Status	Is Marital Status Married
<b>Demographics</b>	Marital Status	Is Marital Status Separated
<b>Insurance Coverage</b>	Payer Type	Ever Payer Type Charity
<b>Insurance Coverage</b>	Payer Type	Ever Payer Type Commercial
<b>Insurance Coverage</b>	Payer Type	Ever Payer Type Medicaid
<b>Insurance Coverage</b>	Payer Type	Ever Payer Type Medicare
<b>Insurance Coverage</b>	Payer Type	Ever Payer Type PHHS Employee
<b>Utilization</b>	Encounter Status	Number Encounter Invalid
<b>Utilization</b>	Scheduling Source	Number Scheduled Online
<b>Utilization</b>	Visit Status	Number Nonclinical Visit Complete
<b>Utilization</b>	Visit Status	Number Walk In
<b>Utilization</b>	Type	Number Ed Visit
<b>Utilization</b>	Type	Number Outpatient Face to Face Visit
<b>Utilization</b>	Type	Number Hospital Admission
<b>Utilization</b>	Type	Number Virtual Visit
<b>Utilization</b>	MyChart Status	MyChart Status Activated
<b>Utilization</b>	MyChart Status	MyChart Status Inactivated
<b>Utilization</b>	MyChart Status	MyChart Status Pending Activation

Category	Subcategory	Feature Name
<b>Utilization</b>	Longevity of Relation	Patient In Parkland System (Years)
<b>Utilization</b>	Visiting Multiple Locations	Two Clinic Location Visited
<b>Utilization</b>	Visiting Multiple Locations	Three Plus Clinic Location Visited
<b>Utilization</b>	Time Stayed in Hospital	Geometric Mean Length of Stay
<b>Utilization</b>	Clinic Visits	Number Oncology Encounter
<b>Utilization</b>	Clinic Visits	Number Mental Health Encounter
<b>Utilization</b>	Clinic Visits	Number Women Health PCP Encounter
<b>Utilization</b>	Clinic Visits	Number Women Health Ob Encounter
<b>Social Determinants</b>	Family Structure	Total Single Mom With Kid Under Three
<b>Social Determinants</b>	Transportation	Person Goes Work By Bus
<b>Social Determinants</b>	Employment	Percent Unemployed
<b>Social Determinants</b>	Employment	Percent In Armed Forces
<b>Social Determinants</b>	Transportation	Mile Distance to Closest COPC
<b>Social Determinants</b>	Employment	Adult Unemployed
<b>Social Determinants</b>	Employment	Per Capita Income
<b>Social Determinants</b>	Family Structure	Total Elders
<b>Social Determinants</b>	Family Structure	Total Single Parent With Juvenile
<b>Social Determinants</b>	Housing	Housed With More than Ten Units
<b>Social Determinants</b>	Housing	Total Mobile Housing Unit
<b>Social Determinants</b>	Housing	Total Household Mobile House
<b>Social Determinants</b>	Transportation	No Vehicle Household
<b>Social Determinants</b>	Housing	Person In Group Quarter
<b>Social Determinants</b>	Education	No Schooling Completed
<b>Social Determinants</b>	Education	Grade School Education
<b>Social Determinants</b>	Education	High School Education
<b>Social Determinants</b>	Education	College or Higher Education

## Appendix Exhibit 1. Final set of features inputted to clustering

Source: Parkland Center for Clinical Innovation

## Exhibit 2. Initial list of all relevant access-related metrics

Source: Parkland Center for Clinical Innovation

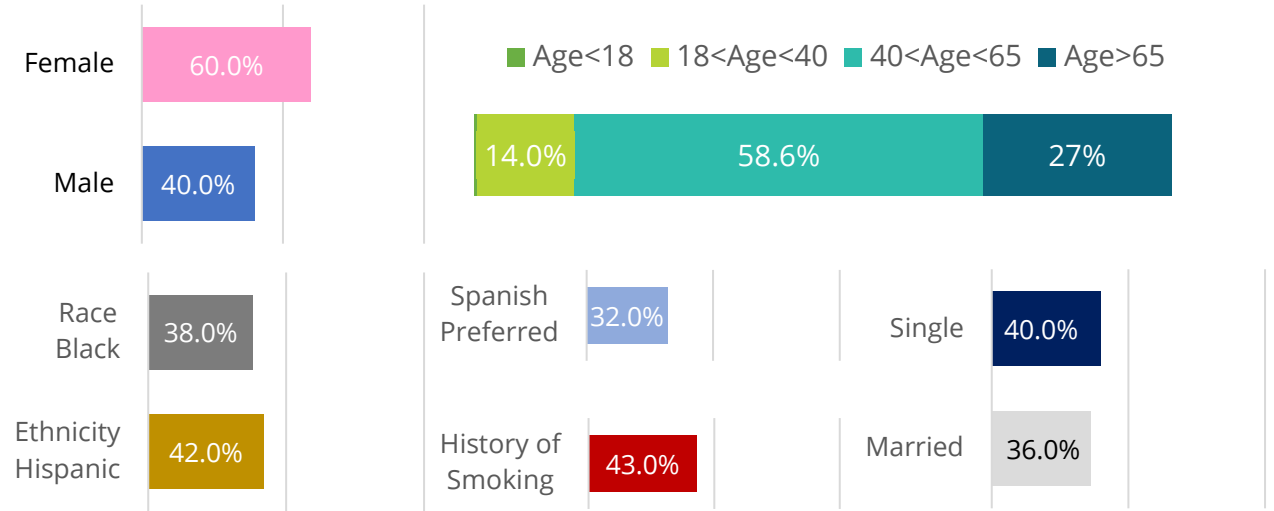
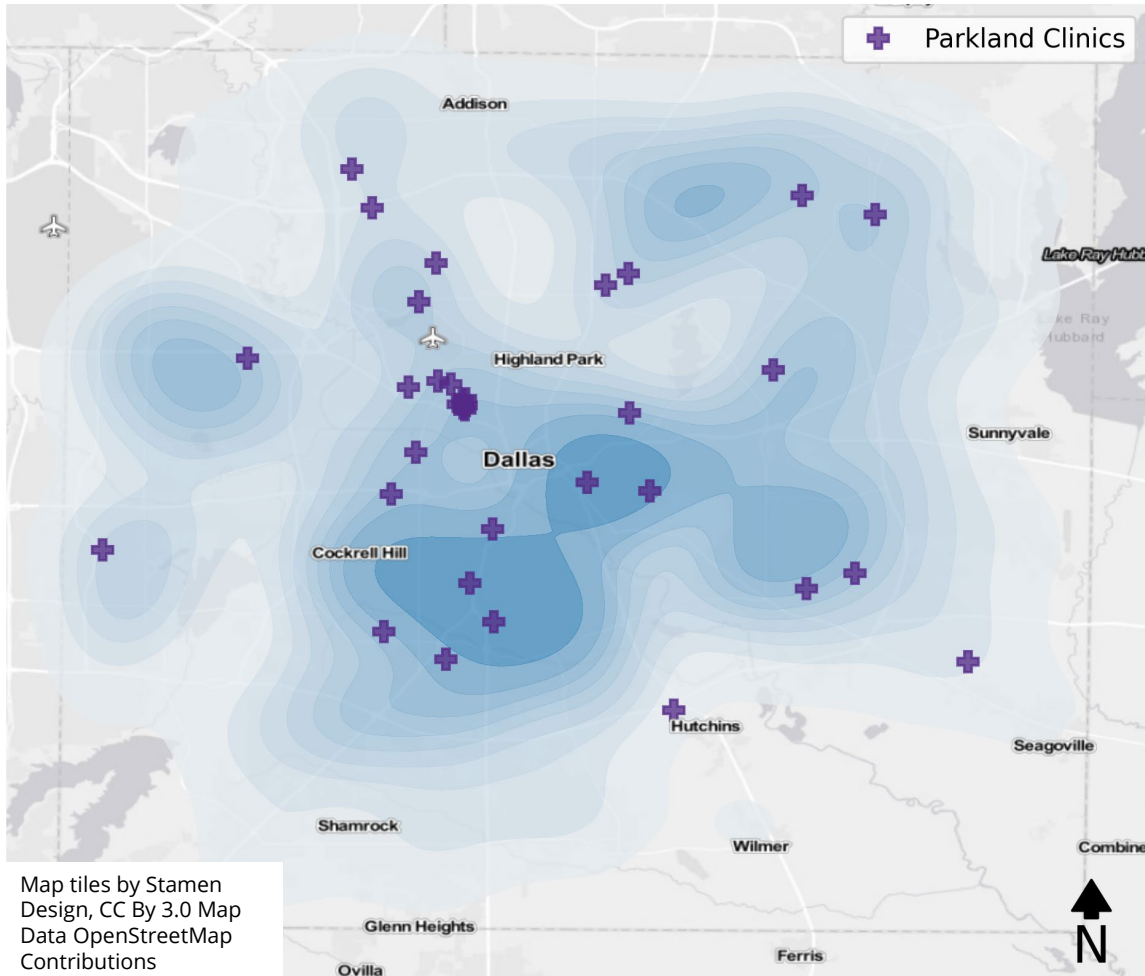
Feature Name	Description	Original Granularity	Data Type	Metric Type
PatientEpicId	Patient Epic Id	Patient	VARCHAR	Identifier
PrimaryMrn	Patient Medical Record Number	Patient	VARCHAR	Identifier
FirstName	First Name	Patient	VARCHAR	Identifier
LastName	Last Name	Patient	VARCHAR	Identifier
BirthDate	Birth date (YYYY-MM-DD)	Patient	DATE	Identifier
DeathDate	Death date (if applicable YYYY-MM-DD)	Patient	DATE	Identifier
IsAlive	If death date is Null then 1	Patient	BOOLEAN	Identifier
AgeNow	Age at the end of cohort years (by 20220101)	Patient	NUMERIC	Identifier
IsFemale	Sex is Female	Patient	BOOLEAN	Identifier
IsMale	Sex is Male	Patient	BOOLEAN	Identifier
City	City of residence	Patient	VARCHAR	Identifier
PostalCode	PostalCode of residence	Patient	VARCHAR	Identifier
AddressGeocode	Geocoded most recent address	Patient	VARCHAR	Identifier
BlockgroupFIPS	Blockgroup FIPS code for address of residence	Patient	NUMERIC	Identifier
CensustractFIPS	Censustract FIPS code for address of residence	Patient	NUMERIC	Identifier
Latitude	Latitude of the residence address	Patient	NUMERIC	Identifier
Longitude	Longitude of the residence address	Patient	NUMERIC	Identifier
County	County of the residence address	Patient	VARCHAR	Identifier
PostalCodeGeocode	Postal code of the address from geocoder	Patient	VARCHAR	Identifier
geometry	Geographical point object for geocoded address	Patient	POINT	Identifier
IsEthnicityHispanic	Patient ethnicity is Hispanic	Patient	BOOLEAN	Demographics
IsEthnicityNonHispanic	Patient ethnicity is not hispanic	Patient	BOOLEAN	Demographics
IsEthnicityUnknown	Patient ethnicity unknown	Patient	BOOLEAN	Demographics
IsRaceAsian	Patient race is Asian	Patient	BOOLEAN	Demographics
IsRaceBlack	Patient race is Black	Patient	BOOLEAN	Demographics
IsRaceOther	Patient race is Other than (Asian, Black and White)	Patient	BOOLEAN	Demographics
IsRaceWhite	Patient race is White	Patient	BOOLEAN	Demographics
IsLanguageEnglish	Preferred language of communication is English	Patient	BOOLEAN	Demographics
IsLanguageOther	Preferred language of communication is other than (English or Spanish)	Patient	BOOLEAN	Demographics
IsLanguageSpanish	Preferred language of communication is Spanish	Patient	BOOLEAN	Demographics
IsCurrentSmoker	Patient is current smoker	Patient	BOOLEAN	Demographics
IsFormerSmoker	Patient is former smoker	Patient	BOOLEAN	Demographics
IsNeverSmoker	Patient is never smoker	Patient	BOOLEAN	Demographics
IsSmokingStatusUnknown	Patients smoking status unknown	Patient	BOOLEAN	Demographics
IsMaritalStatusMarried	Patient is married	Patient	BOOLEAN	Demographics
IsMaritalStatusOther	Other marital status	Patient	BOOLEAN	Demographics
IsMaritalStatusSeparated	Patient is separated	Patient	BOOLEAN	Demographics
IsMaritalStatusSingle	Patient is single	Patient	BOOLEAN	Demographics
Address	Most recent address	Patient	VARCHAR	Demographics
FirstEncounter	First encounter	Patient	DATE	Clinical Utilization
LastEncounter	Last encounter	Patient	DATE	Clinical Utilization
PatientInSystemYears	Patient in System years	Patient	NUMERIC	Clinical Utilization
EverPayorTypeCharity	Ever payor Type charity	Patient	BOOLEAN	Clinical Utilization
EverPayorTypeCommercial	Ever payor Type commercial	Patient	BOOLEAN	Clinical Utilization
EverPayorTypeMedicaid	Ever payor Type medicaid	Patient	BOOLEAN	Clinical Utilization
EverPayorTypeMedicare	Ever payor Type medicare	Patient	BOOLEAN	Clinical Utilization
EverPayorTypePHHSEmployee	Ever payor Type phhsemployee	Patient	BOOLEAN	Clinical Utilization
EverPayorTypeSelfPay	Ever payor Self pay	Patient	BOOLEAN	Clinical Utilization
EverSelfPay	Ever self pay	Patient	BOOLEAN	Clinical Utilization
NumberEncounterComplete	Number of completed encounters	Patient	NUMERIC	Clinical Utilization
NumberEncounterInProgress	Number of encounters in progress	Patient	NUMERIC	Clinical Utilization
NumberEncounterInvalid	Number of encounters invalid or cancelled	Patient	NUMERIC	Clinical Utilization
NumberEncounterPossible	Number of encounter possible or scheduled for future time	Patient	NUMERIC	Clinical Utilization
NumberScheduledOnline	Number scheduled online	Patient	NUMERIC	Clinical Utilization
NumberVisitComplete	Number visit complete (Any type of outpatient visit)	Patient	NUMERIC	Clinical Utilization
NumberClinicalVisitComplete	Number clinical Visit complete (ED, outpatient and Hospital Admission)	Patient	NUMERIC	Clinical Utilization
NumberNonclinicalVisitComplete	Number nonclinical Visit complete (Face to face patient education, nutritionist visit etc)	Patient	NUMERIC	Clinical Utilization

NumberWalkIn	Number walk in	Patient	NUMERIC	Clinical Utilization
NumberFaceToFace	Number face To face	Patient	NUMERIC	Clinical Utilization
NumberEdVisit	Number ed visit	Patient	NUMERIC	Clinical Utilization
NumberOutpatientFaceToFaceVisit	Number outpatient Face visit	Patient	NUMERIC	Clinical Utilization
NumberHospitalAdmission	Number hospital admission	Patient	NUMERIC	Clinical Utilization
NumberVirtualVisit	Number virtual visit	Patient	NUMERIC	Clinical Utilization
amLOS	If inpatient, length of stay	Patient	NUMERIC	Clinical Utilization
gmLOS	If inpatient, length of stay	Patient	NUMERIC	Clinical Utilization
NumberDepartmentGeolocation	Number department geolocation	Patient	NUMERIC	Clinical Utilization
NumberOncologyEncounter	Number oncology encounter	Patient	NUMERIC	Clinical Utilization
NumberMentalHealthEncounter	Number mental Health encounter	Patient	NUMERIC	Clinical Utilization
NumberWomenHealthPCPEncounter	Number women Health pcpencounter	Patient	NUMERIC	Clinical Utilization
NumberWomenHealthObEncounter	Number women Ob encounter	Patient	NUMERIC	Clinical Utilization
AsthmaLastContactDate	Asthma registry last Contact date	Patient	DATE	Clinical Utilization
AsthmaNumberContact	Asthma registry number contact	Patient	NUMERIC	Clinical Utilization
AsthmaRegistryStatus	Asthma registry status	Patient	BOOLEAN	Clinical Utilization
CKDLastContactDate	CKD registry last contact date	Patient	DATE	Clinical Utilization
CKDNumberContact	CKD registry number contact	Patient	NUMERIC	Clinical Utilization
CKDRegistryStatus	CKD registry status	Patient	BOOLEAN	Clinical Utilization
DiabetesLastContactDate	Diabetes registry last Contact date	Patient	DATE	Clinical Utilization
DiabetesNumberContact	Diabetes registry number contact	Patient	NUMERIC	Clinical Utilization
DiabetesRegistryStatus	Diabetes registry status	Patient	BOOLEAN	Clinical Utilization
HypertensionLastContactDate	Hypertension registry last Contact date	Patient	DATE	Clinical Utilization
HypertensionNumberContact	Hypertension registry number contact	Patient	NUMERIC	Clinical Utilization
HypertensionRegistryStatus	Hypertension registry status	Patient	BOOLEAN	Clinical Utilization
HIVLastContactDate	HIV registry Last contact date	Patient	DATE	Clinical Utilization
HIVNumberContact	HIV registry number contact	Patient	NUMERIC	Clinical Utilization
HIVRegistryStatus	HIV registry status	Patient	BOOLEAN	Clinical Utilization
CHFLastContactDate	CHF registry Last contact date	Patient	DATE	Clinical Utilization
CHFNumberContact	CHF registry number contact	Patient	NUMERIC	Clinical Utilization
CHFRegistryStatus	CHF registry status	Patient	BOOLEAN	Clinical Utilization
CADLastContactDate	CAD registry Last contact date	Patient	DATE	Clinical Utilization
CADNumberContact	CAD registry number contact	Patient	NUMERIC	Clinical Utilization
CADRegistryStatus	CAD registry status	Patient	BOOLEAN	Clinical Utilization
PrediabetesLastContactDate	Prediabetes registry last Contact date	Patient	DATE	Clinical Utilization
PrediabetesNumberContact	Prediabetes registry number contact	Patient	NUMERIC	Clinical Utilization
PrediabetesRegistryStatus	Prediabetes registry status	Patient	BOOLEAN	Clinical Utilization
ObesityLastContactDate	Obesity registry last Contact date	Patient	DATE	Clinical Utilization
ObesityNumberContact	Obesity registry number contact	Patient	NUMERIC	Clinical Utilization
ObesityRegistryStatus	Obesity registry status	Patient	BOOLEAN	Clinical Utilization
OpioidOrderLastDate	Opioid order registry Last Contact date	Patient	DATE	Clinical Utilization
ChronicOpioidNumberContact	Chronic opioid registry Number contact	Patient	NUMERIC	Clinical Utilization
ChronicOpioidRegistryStatus	Chronic opioid Registry status	Patient	BOOLEAN	Clinical Utilization
AidsHiv	Aids HIV present in diagnoses.	Patient	BOOLEAN	Clinical Utilization
Cancer	Cancer present in diagnoses	Patient	BOOLEAN	Clinical Utilization
CerebrovascularDisease	Cerebrovascular disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
ChronicPulmonaryDisease	Chronic pulmonary disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
CongestiveHeartFailure	Congestive heart failure present in diagnoses	Patient	BOOLEAN	Clinical Utilization
ConnectiveTissueDiseaseRheumaticDisease	Connective tissue Rheumatic disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
Dementia	Dementia present in diagnoses	Patient	BOOLEAN	Clinical Utilization
DiabetesWComplications	Diabetes with complications present in diagnoses	Patient	BOOLEAN	Clinical Utilization
DiabetesWOCComplications	Diabetes without complications present in diagnoses	Patient	BOOLEAN	Clinical Utilization
MetastaticCarcinoma	Metastatic carcinoma present in diagnoses	Patient	BOOLEAN	Clinical Utilization
MildLiverDisease	Mild liver disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
ModerateOrSevereLiverDisease	Moderate or Liver disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
MyocardialInfarction	Myocardial infarction present in diagnoses	Patient	BOOLEAN	Clinical Utilization
ParaplegiaAndHemiplegia	Paraplegia and hemiplegia present in diagnoses	Patient	BOOLEAN	Clinical Utilization
PepticUlcerDisease	Peptic ulcer disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
PeripheralVascularDisease	Peripheral vascular disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
RenalDisease	Renal disease present in diagnoses	Patient	BOOLEAN	Clinical Utilization
CCIRaw	Charlson Comorbidity Index raw score	Patient	NUMERIC	Clinical Utilization
AgeScore	Age score for charlson comorbidity score	Patient	NUMERIC	Clinical Utilization
CCIAgeAdjusted	Charlson Comorbidity Index age adjusted	Patient	NUMERIC	Clinical Utilization
VaxStarted	Covid vaccination started	Patient	BOOLEAN	Clinical Utilization
VaxComplete	2+ covid vaccine administered.	Patient	BOOLEAN	Clinical Utilization
NumberHIVRelatedEncounter	Number of HIV related encounters completed	Patient	NUMERIC	Clinical Utilization

NumberPrimaryCareEncounter	Number of Primary Care related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberGeneralInternalMedicineEncounter	Number of General Medicine related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberLabRadiologyEncounter	Number of Lab or Radiology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberCardiologyEncounter	Number of Cardiology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberGeriatricEncounter	Number of Geriatric related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberHomesEncounter	Number of Homes Clinic related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberRheumatologyEncounter	Number of Rheumatology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberGastroenterologyEncounter	Number of Gastroenterology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberPulmonologyEncounter	Number of Pulmonology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberNeurologyEncounter	Number of Neurology related encounters completed	Patient	NUMERIC	Clinical Utilization
NumberEndocrinologyEncounter	Number of Endocrinology related encounters completed	Patient	NUMERIC	Clinical Utilization
RatioEncounterComplete	Ratio of NumberEncounterComplete over total number of encounters	Patient	NUMERIC	Clinical Utilization
RatioVisitComplete	Ratio of NumberVisitComplete over total number of visits (ED, Inpatient, Outpatient and Virtual Visits)	Patient	NUMERIC	Clinical Utilization
RatioVisitCancelled	Ratio of Visits Cancelled over total number of visits	Patient	NUMERIC	Clinical Utilization
IsAddressGeocodeProblem	Has problems geocoding the address	Patient	BOOLEAN	SDOH
IsPotentialHomeless	Is potential homeless	Patient	BOOLEAN	SDOH
Access2Insurance	Access to insurance	Censustract	NUMERIC	SDOH
ArthritisPrevalence	Arthritis prevalence	Censustract	NUMERIC	SDOH
BingeDrinkingPrevalence	Binge drinking prevalence	Censustract	NUMERIC	SDOH
HighBloodPressurePrevalence	High blood Pressure prevalence	Censustract	NUMERIC	SDOH
HighBloodPressureMedicationPrevalence	High blood Medication prevalence	Censustract	NUMERIC	SDOH
CancerPrevalence	Cancer prevalence	Censustract	NUMERIC	SDOH
CurrentAsthmaPrevalence	Current asthma prevalence	Censustract	NUMERIC	SDOH
CervicalCancerPrevalence	Cervical cancer prevalence	Censustract	NUMERIC	SDOH
CoronaryHeartDiseasePrevalence	Coronary heart Disease prevalence	Censustract	NUMERIC	SDOH
CheckupVisitPrevalence	Checkup visit prevalence	Censustract	NUMERIC	SDOH
CholesterolScreenPrevalence	Cholesterol screen prevalence	Censustract	NUMERIC	SDOH
ColonoscopyScreenPrevalence	Colonoscopy screen prevalence	Censustract	NUMERIC	SDOH
COPDPrevalence	COPD Prevalence	Censustract	NUMERIC	SDOH
ElderMalePrevalence	Elder male prevalence	Censustract	NUMERIC	SDOH
ElderFemalePrevalence	Elder female prevalence	Censustract	NUMERIC	SDOH
CurrentSmokingPrevalence	Current smoking prevalence	Censustract	NUMERIC	SDOH
DentalVisitPrevalence	Dental visit prevalence	Censustract	NUMERIC	SDOH
DiabetesPrevalence	Diabetes prevalence	Censustract	NUMERIC	SDOH
HighCholesterolPrevalence	High cholesterol prevalence	Censustract	NUMERIC	SDOH
KidneyDiseasePrevalence	Kidney disease prevalence	Censustract	NUMERIC	SDOH
NoLeisureTimePhysicalActivityPrevalence	No leisure time for physical activity prevalence	Censustract	NUMERIC	SDOH
MammographyScreenPrevalence	Mammography screen prevalence	Censustract	NUMERIC	SDOH
MentalHealthProblemLongerTwoWeeksPrevalence	Mental health problem longer than two weeks prevalence	Censustract	NUMERIC	SDOH
ObesityPrevalence	Obesity prevalence	Censustract	NUMERIC	SDOH
PhysicalHealthProblemLongerTwoWeeksPrevalence	Physical health problem longer than two weeks prevalence	Censustract	NUMERIC	SDOH
SleepLessThanSevenPrevalence	Sleep less seven hours prevalence	Censustract	NUMERIC	SDOH
StrokePrevalence	Stroke prevalence	Censustract	NUMERIC	SDOH
TeethLostAllPrevalence	Lost all teeth prevalence	Censustract	NUMERIC	SDOH
TotalHousingUnit	Total housing unit	Censustract	NUMERIC	SDOH
TotalHousehold	Total household	Censustract	NUMERIC	SDOH
BelowPovertyLevel	Below poverty level	Censustract	NUMERIC	SDOH
AdultUnemployed	Adult unemployed	Censustract	NUMERIC	SDOH
PerCapitaIncome	Per capita income	Censustract	NUMERIC	SDOH
AdultNoHighSchoolDiploma	Adult no high school diploma	Censustract	NUMERIC	SDOH
TotalElders	Total elders	Censustract	NUMERIC	SDOH
TotalJuvenile	Total juvenile	Censustract	NUMERIC	SDOH
TotalWithDisability	Total with disability	Censustract	NUMERIC	SDOH
TotalSingleParentWithJuvenile	Total single With juvenile	Censustract	NUMERIC	SDOH
TotalMinority	Total minority	Censustract	NUMERIC	SDOH
EnglishLessThanWell	English less than well	Censustract	NUMERIC	SDOH
HousedWithMoreThanTenUnits	Housed with Ten units	Censustract	NUMERIC	SDOH

TotalMobileHousingUnit	Total mobile housing unit	Censustract	NUMERIC	SDOH
TotalHouseholdMobileHouse	Total household in mobile housing	Censustract	NUMERIC	SDOH
NoVehicleHousehold	No vehicle in the household	Censustract	NUMERIC	SDOH
PersonInGroupQuarter	Person in Group quarter	Censustract	NUMERIC	SDOH
PercentPoverty	Percent poverty	Censustract	NUMERIC	SDOH
PercentUnemployment	Percent unemployment	Censustract	NUMERIC	SDOH
PercentAdultNoHighSchoolDiploma	Percent adult without high school diploma	Censustract	NUMERIC	SDOH
PercentElders	Percent elders	Censustract	NUMERIC	SDOH
PercentJuvenile	Percent juvenile	Censustract	NUMERIC	SDOH
PercentWithDisability	Percent with disability	Censustract	NUMERIC	SDOH
PercentSingleParentWithJuvenile	Percent single parent with juvenile	Censustract	NUMERIC	SDOH
PercentMinority	Percent minority	Censustract	NUMERIC	SDOH
PercentEnglishLessThanWell	Percent english Than well	Censustract	NUMERIC	SDOH
PercentHousedWithMoreThanTenUnits	Percent housed Ten units	Censustract	NUMERIC	SDOH
PercentMobileHousingUnit	Percent mobile Housing unit	Censustract	NUMERIC	SDOH
PercentHouseholdMobileHouse	Percent household Mobile house	Censustract	NUMERIC	SDOH
PercentNoVehicleHousehold	Percent no Vehicle household	Censustract	NUMERIC	SDOH
PercentInGroupQuarter	Percent in Group quarter	Censustract	NUMERIC	SDOH
PercentilePoverty	Percentile poverty	Censustract	NUMERIC	SDOH
PercentileUnemployment	Percentile unemployment	Censustract	NUMERIC	SDOH
PercentilePerCapitalIncome	Percentile per Capita income	Censustract	NUMERIC	SDOH
PercentileAdultNoHighSchoolDiploma	Percentile adult School diploma	Censustract	NUMERIC	SDOH
SumSocioeconomicTheme	Sum socioeconomic theme	Censustract	NUMERIC	SDOH
PercentileSocioeconomicTheme	Percentile socioeconomic theme	Censustract	NUMERIC	SDOH
PercentileElders	Percentile elders	Censustract	NUMERIC	SDOH
PercentileJuvenile	Percentile juvenile	Censustract	NUMERIC	SDOH
PercentileWithDisability	Percentile with disability	Censustract	NUMERIC	SDOH
PercentileSingleParentWithJuvenile	Percentile single With juvenile	Censustract	NUMERIC	SDOH
SumHouseholdCompositionTheme	Sum household Composition theme	Censustract	NUMERIC	SDOH
PercentileHouseholdCompositionTheme	Percentile household Composition theme	Censustract	NUMERIC	SDOH
PercentileMinority	Percentile minority	Censustract	NUMERIC	SDOH
PercentileEnglishLessThanWell	Percentile english Than well	Censustract	NUMERIC	SDOH
SumMinorityLanguageTheme	Sum minority Language theme	Censustract	NUMERIC	SDOH
PercentileMinorityLanguageTheme	Percentile minority Language theme	Censustract	NUMERIC	SDOH
PercentileHousedWithMoreThanTenUnits	Percentile housed Ten units	Censustract	NUMERIC	SDOH
PercentileMobileHousingUnit	Percentile mobile Housing unit	Censustract	NUMERIC	SDOH
PercentileHouseholdMobileHouse	Percentile household Mobile house	Censustract	NUMERIC	SDOH
PercentileNoVehicleHousehold	Percentile no Vehicle household	Censustract	NUMERIC	SDOH
PercentileInGroupQuarter	Percentile in Group quarter	Censustract	NUMERIC	SDOH
SumHousingTransportationTheme	Sum housing Transportation theme	Censustract	NUMERIC	SDOH
PercentileHousingTransportationTheme	Percentile housing Transportation theme	Censustract	NUMERIC	SDOH
SumThemes	Sum themes	Censustract	NUMERIC	SDOH
OverallPercentileRanking	Overall percentile ranking	Censustract	NUMERIC	SDOH
FlagPercentilePoverty90th	Flag percentile poverty in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileUnemployment90th	Flag percentile unemployment in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentilePerCapitalIncome90th	Flag percentile per capita income in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileAdultNoHighSchoolDiploma90th	Flag percentile adult without high school diploma in 90th percentile	Censustract	BOOLEAN	SDOH
SumFlagsSocioeconomicTheme	Sum flags Socioeconomic theme	Censustract	NUMERIC	SDOH
FlagPercentileElders90th	Flag percentile elders in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileJuvenile90th	Flag percentile juvenile in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileWithDisability90th	Flag percentile with disability in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileSingleParentWithJuvenile90th	Flag percentile single parent with juvenile in 90th percentile	Censustract	BOOLEAN	SDOH
SumFlagsHouseholdCompositionTheme	Sum flags household composition theme	Censustract	NUMERIC	SDOH
FlagPercentileMinority90th	Flag percentile minority in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileEnglishLessThanWell90th	Flag percentile English less than well in 90th percentile	Censustract	BOOLEAN	SDOH
SumMinorityLanguageTheme.1	Sum minority Language theme	Censustract	NUMERIC	SDOH
FlagPercentileHousedWithMoreThanTenUnits90th	Flag percentile housed with more than ten units in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileMobileHousingUnit90th	Flag percentile mobile housing unit in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileHouseholdMobileHouse90th	Flag percentile household in mobile house in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileNoVehicleHousehold90th	Flag percentile no vehicle in household in 90th percentile	Censustract	BOOLEAN	SDOH
FlagPercentileInGroupQuarter90th	Flag percentile group quarter in 90th percentile	Censustract	BOOLEAN	SDOH
SumFlagsHousingTransportationTheme	Sum flags Transportation theme	Censustract	NUMERIC	SDOH

SumFlagsThemes	Sum flags themes	Censustract	NUMERIC	SDOH
TotalUninsured	Total uninsured	Blockgroup	NUMERIC	SDOH
PercentUninsured	Percent uninsured	Blockgroup	NUMERIC	SDOH
LifeExpectancyAtBirth	Life expectancy At birth	Blockgroup	NUMERIC	SDOH
TotalHouseholdType	Total household type	Blockgroup	NUMERIC	SDOH
TotalSingleMom	Total single mom	Blockgroup	NUMERIC	SDOH
TotalSingleMomWithKidUnderThree	Total single mom with kid under three	Blockgroup	NUMERIC	SDOH
TotalMarriedCouples	Total married couples	Blockgroup	NUMERIC	SDOH
TotalInOtherFamilyTypes	Total in other family types	Blockgroup	NUMERIC	SDOH
TotalSingleDad	Total single dad	Blockgroup	NUMERIC	SDOH
MedianHouseholdIncome	Median household income	Blockgroup	NUMERIC	SDOH
PercentHouseholdWithComputer	Percent household With computer	Blockgroup	NUMERIC	SDOH
PercentHouseholdWithBroadband	Percent household With broadband	Blockgroup	NUMERIC	SDOH
PersonWithAccessTransportation	Person with Access transportation	Blockgroup	NUMERIC	SDOH
PersonGoesWorkByBus	Person goes workBy bus	Blockgroup	NUMERIC	SDOH
PersonGoesWorkPublicTransport	Person goes work Public transport	Blockgroup	NUMERIC	SDOH
PersonGoesWorkCarTruckVan	Person goes work Truck van	Blockgroup	NUMERIC	SDOH
PercentCommercialInsurance	Percent commercial insurance	Blockgroup	NUMERIC	SDOH
PercentPublicInsurance	Percent public insurance	Blockgroup	NUMERIC	SDOH
PercentNoInsurance	Percent no insurance	Blockgroup	NUMERIC	SDOH
PercentInLaborForce	Percent in Labor force	Blockgroup	NUMERIC	SDOH
PercentUnemployed	percent unemployed	Blockgroup	NUMERIC	SDOH
PercentInArmedForces	Percent in armed forces	Blockgroup	NUMERIC	SDOH
PercentNotInLaborForce	Percent not in labor force	Blockgroup	NUMERIC	SDOH
GrossRent	Gross rent	Blockgroup	NUMERIC	SDOH
PercentOccupiedHousingUnit	Percent occupied Housing unit	Blockgroup	NUMERIC	SDOH
PercentVacantHousingUnit	Percent vacant Housing unit	Blockgroup	NUMERIC	SDOH
NoSchoolingCompleted	No schooling completed	Blockgroup	NUMERIC	SDOH
EducationUptoEighthGrade	Education upto Eighth grade	Blockgroup	NUMERIC	SDOH
EducationNineToTwelfthGradeNoDiploma	Education nine to twelfth grade without diploma	Blockgroup	NUMERIC	SDOH
EducationHighSchoolDiploma	Education high School diploma	Blockgroup	NUMERIC	SDOH
EducationGedOrAlternativeCredential	Education ged or Alternative credential	Blockgroup	NUMERIC	SDOH
EducationCollegeLessThanOneYear	Education college less than one year	Blockgroup	NUMERIC	SDOH
EducationCollegeNoDegree	Education college No degree	Blockgroup	NUMERIC	SDOH
EducationAssociatesDegree	Education associates degree	Blockgroup	NUMERIC	SDOH
EducationBachelorsDegree	Education bachelors degree	Blockgroup	NUMERIC	SDOH
EducationMastersDegree	Education masters degree	Blockgroup	NUMERIC	SDOH
EducationProfessionalSchoolDegree	Education professional School degree	Blockgroup	NUMERIC	SDOH
EducationDoctorate	education doctorate	Blockgroup	NUMERIC	SDOH
FoodInsecurityRate	Food insecurity rate	Blockgroup	NUMERIC	SDOH
MinuteDistanceClosestCOPC	Minute distance to closest COPC	Blockgroup	NUMERIC	SDOH
MinuteDistanceAverageCOPC	Minute distance to all COPCs averaged	Blockgroup	NUMERIC	SDOH
MileDistanceClosestCOPC	Mile distance to closest COPC	Blockgroup	NUMERIC	SDOH
MileDistanceAverageCOPC	Mile distance to all COPCs averaged	Blockgroup	NUMERIC	SDOH
MinuteDistancePHHS	minute distance to PHHS	Blockgroup	NUMERIC	SDOH
MileDistancePHHS	mile distance to PHHS	Blockgroup	NUMERIC	SDOH
AreaDeprivationIndex	Area deprivation index	Blockgroup	NUMERIC	SDOH
EducationDataScaleFactor	Education data Scale factor	Blockgroup	NUMERIC	SDOH
EducationHighSchool	Prevalence of people that received high school education	Blockgroup	NUMERIC	SDOH
EducationCollege	Prevalence of people that received college level education	Blockgroup	NUMERIC	SDOH
EducationAdvanceDegree	Prevalence of people that received education with advance degree	Blockgroup	NUMERIC	SDOH
Educational Attainment	Education attainment for population 25 years or older	Blockgroup	NUMERIC	SDOH
PopulationChangeDayTime	Population change Day time	Blockgroup	NUMERIC	SDOH
Connectivity	Presence and Types of Internet Subscriptions in household	Blockgroup	NUMERIC	SDOH
Food Insecurity	Reciept of Food stamps/SNAP in past 12 months by poverty status	Blockgroup	NUMERIC	SDOH
Paycheck Predictability	Full-time, year-round work status in past 12 months pop >= 16 yrs	Blockgroup	NUMERIC	SDOH
Household Structure	Head of household (single mother, single father, family, other)	Blockgroup	NUMERIC	SDOH
Access to Transportation	% of population using personal vehicles, buses, or public transportation to go to work	Blockgroup	NUMERIC	SDOH



**Defining Features:**

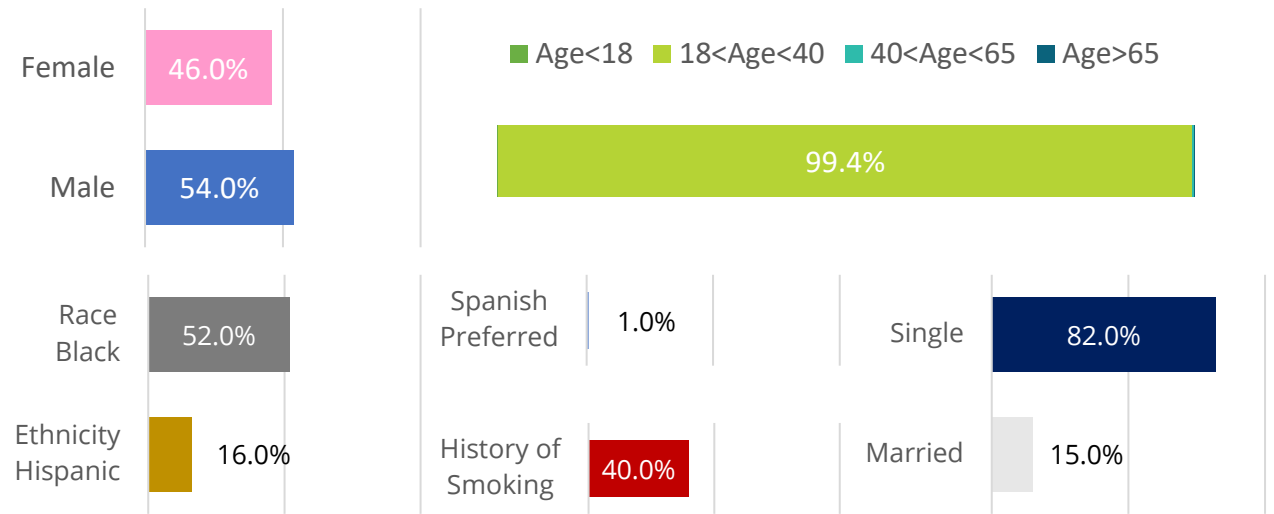
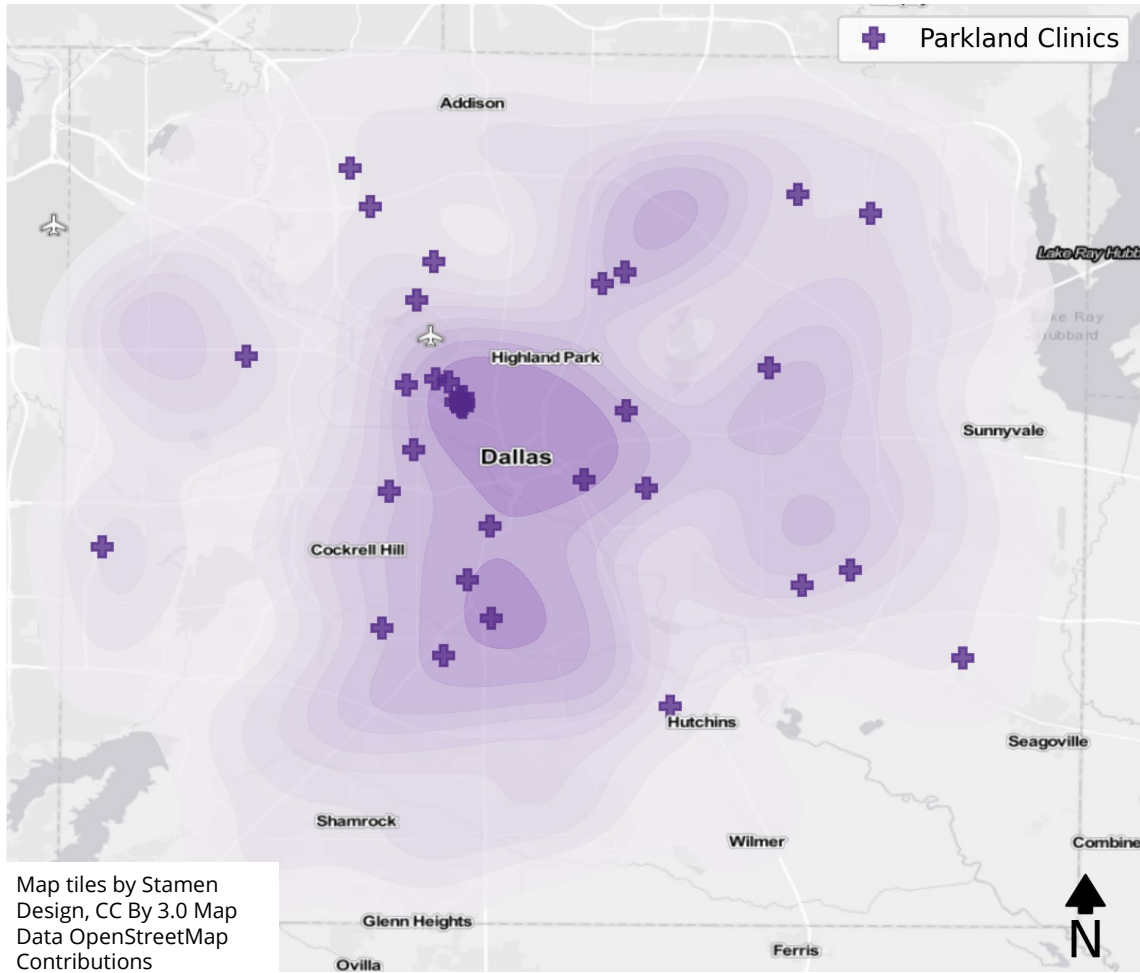
- 99.7% had ≥3 encounters/year, 80% had ≥6 encounters/year
- 24% had ≥1 ED visit/year
- 95% had ≥1 Outpatient Visit, 64% had ≥3
- 98% had visited ≥2 Clinic Locations
- Average time since most recent encounter < 2 months

**Descriptor Features:**

- **Clinical Complexity for Chronically Ill Patients (CCI>0) = 3.82** (Parkland Average=3.19), **20% Charlson Comorbidity Score>0** (Parkland Average=7.5%),
- Chronic Disease Prevalence: Asthma (3.2%), CKD (3.9%), **Hypertension (29%), Diabetes (14%),** HIV (2.9%)
- Cost/patient/year = \$1216.37 (Cohort Average \$667.00), Cost/Visit = \$192.00 (\$236.30)

*Appendix Exhibit 3. Biggest cluster (G1) by population and number of encounters done in the cohort years.*

Source: Parkland Center for Clinical Innovation



**Defining Features:**

- 74% have <1 encounter/year, 25% have 1-3 encounter/year
- 10% have 1-3 not in-person encounters/year
- “Potential” acute ED utilizers (39% had at least 1 ED visit in 5 years, 13.7% have ≥1 ED visit/year)
- 4.2% have ≥1 outpatient visit/year.
- 54% visited ≥2 clinic locations
- Average time since most recent encounter > 14 months

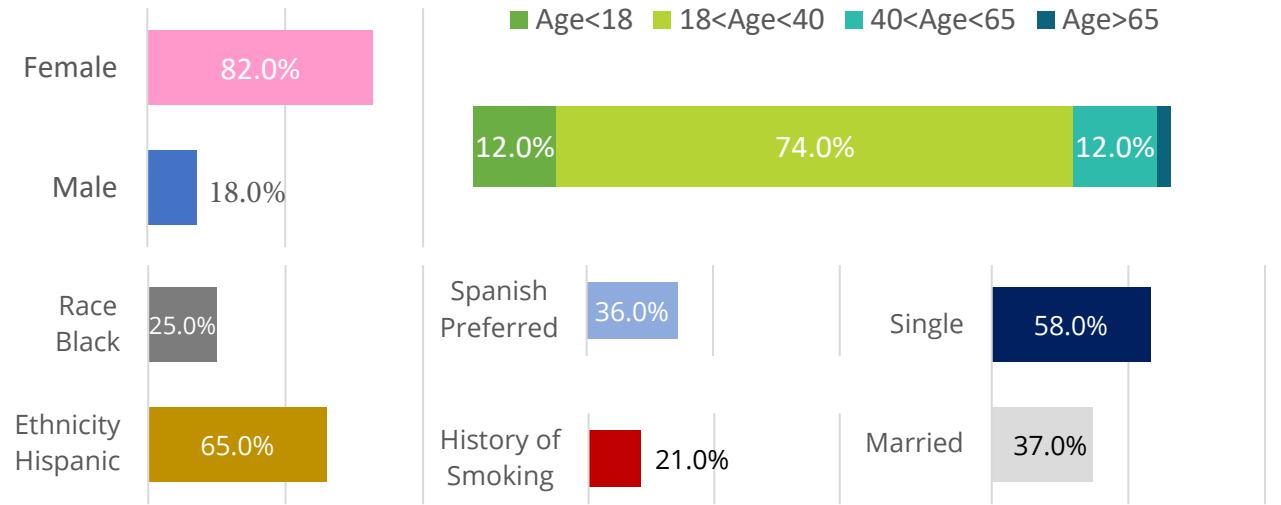
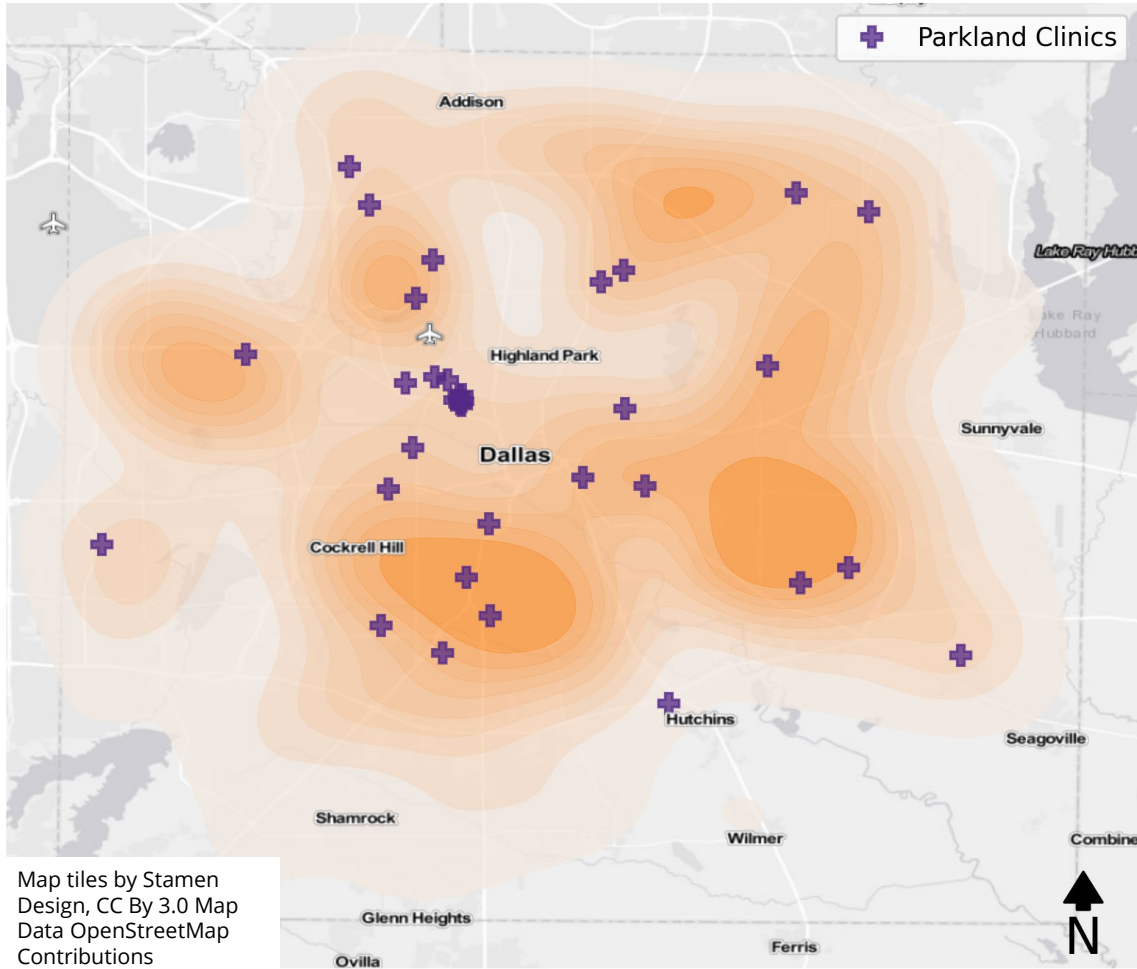
**Descriptor Features:**

- Clinical Complexity for Chronically Ill Patients (CCI>0) = 1.6 (County Average=3.19), 2% Charlson Comorbidity Score>0 (Parkland Average=7.5%)
- Chronic Disease Prevalence : Asthma (1.5%), CKD (0.08%), Hypertension (2.3%), Diabetes (0.6%), HIV (0.3%)
- Cost/patient/year = \$130.18 (Cohort Average \$667.00), Cost/Visit = \$236.06 (\$236.30)

*Appendix Exhibit 4. A cluster enriched for ED visits (G5).*

*Source: Parkland Center for Clinical Innovation*





**Defining Features:**

- 62% had ≥3 encounters/year, 37% had ≥6 encounters/year
- 20% had ≥1 ED visit/year
- 84% had ≥1 outpatient visit, 28% had ≥3 outpatient visit
- 98% had visited 2+ Clinic Locations
- Average time since most recent encounter 6 months
- When admitted, spend more than half day longer than their neighbors.

**Descriptor Features:**

- Higher prevalence for single parents with kid under the age of 3.
- More than 60% of the cohort use public transport.
- Clinical complexity for chronically ill patients (CCI>0) =2.2 (County Average=3.19), 4% Charlson Comorbidity Score>0 (Parkland Average=7.5%)
- Chronic Disease Prevalence: Asthma (2.4%), CKD (0.3%), Hypertension (6%), Diabetes (2.3%), HIV (0.5%)
- Cost/patient/year = \$1250.35 (Cohort Average \$667.00), Cost/Visit = \$427.91 (\$236.30)

Appendix Exhibit 5. A cluster enriched for the obstetrics and women’s health related encounters (G2).

Source: Parkland Center for Clinical Innovation