



## Market Analytics to Drive Decision Making

John Downes, MBA, LEED AP, Director

May 10, 2021

[Click here to view PRESENTATION RECORDING.](#)



*This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$509,765, with 0% financed with nongovernmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA/HHS, or the U.S. Government.*

## Two Sessions

- The importance of Data in the Decision-Making Process – May 10, 2021
- How to Manipulate and Leverage Hospital Specific Data – May 24, 2021

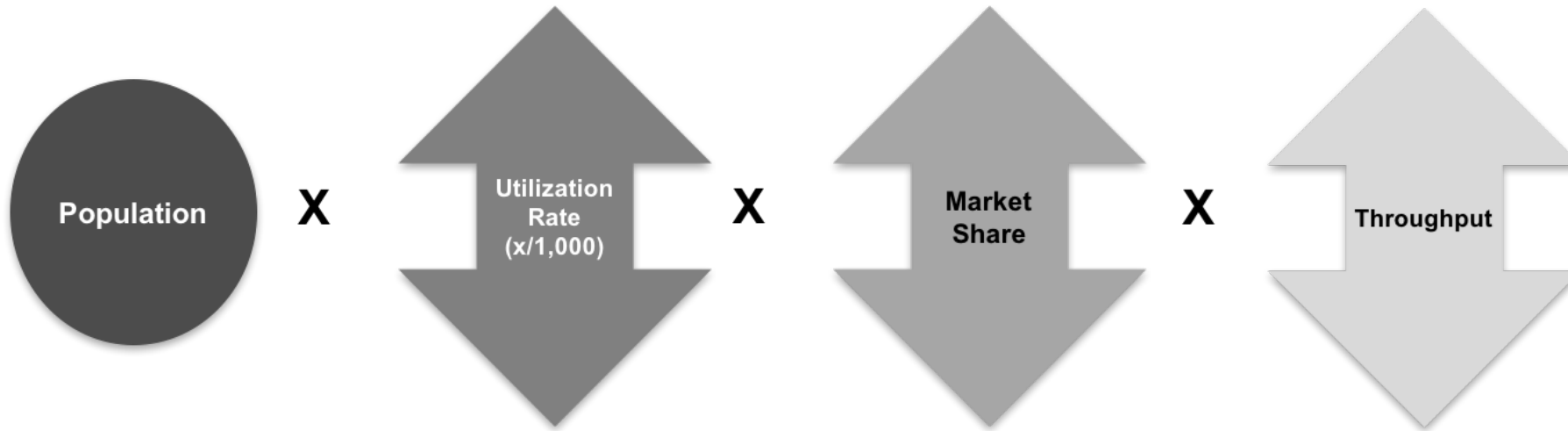
# MARKET ANALYSIS

# The Importance of Data In The Decision-Making Process

- Today versus tomorrow
- Who's active in the market?
  - Where are we...where are they?
  - Service offerings
  - Distances
- Sources of data
  - Hospital / Patient level data
  - State data
  - CMS data
  - Proprietary / subscription data
- What's really important – “Analysis Paralysis”

*“Do you want to be wrong...or precisely wrong?”*

# Four key components to demand modeling



- Geography
- Total market
- Aging
- Gender
- Special populations

- Population health strategies
- Insurance issues
- Readmission rate
- IP/OP shift
- Technology

- Competition
- Service offerings
- Steerage
- Primary care alignment
- Affiliation strategy

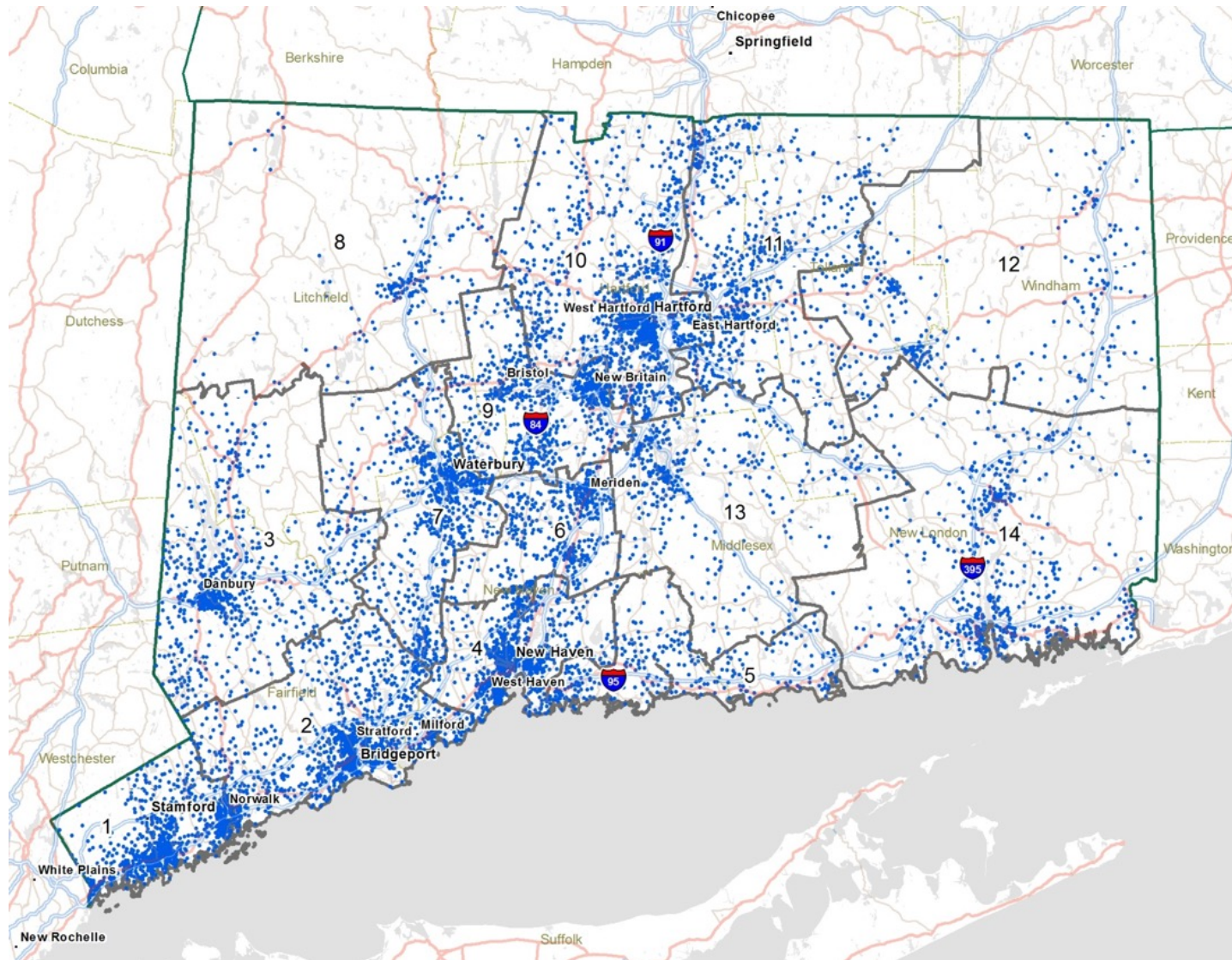
- IP/OP shift
- Acuity
- Sub acute placements
- Socioeconomic
- Clinical issues

<b>Operating Parameters</b>	<i>Random vs Scheduled</i>	<i>Confidence Intervals vs ADC</i>	<i>Distinct Unit Types</i>
	<i>Universal vs Specialty</i>	<i>Observation</i>	

# Market analyses can drive decisions in many areas

- Where are the population centers?
- Are we located in the right areas?
- What's happening with various age cohorts and what does that mean for volumes?
- Are some areas of our market growing faster than others (# vs %)?
- How does our practice / facility / system fare in competition?
- From where and to where are our patients traveling?
- How many sites / rooms / devices do we need to meet need?

# Where do the people live?



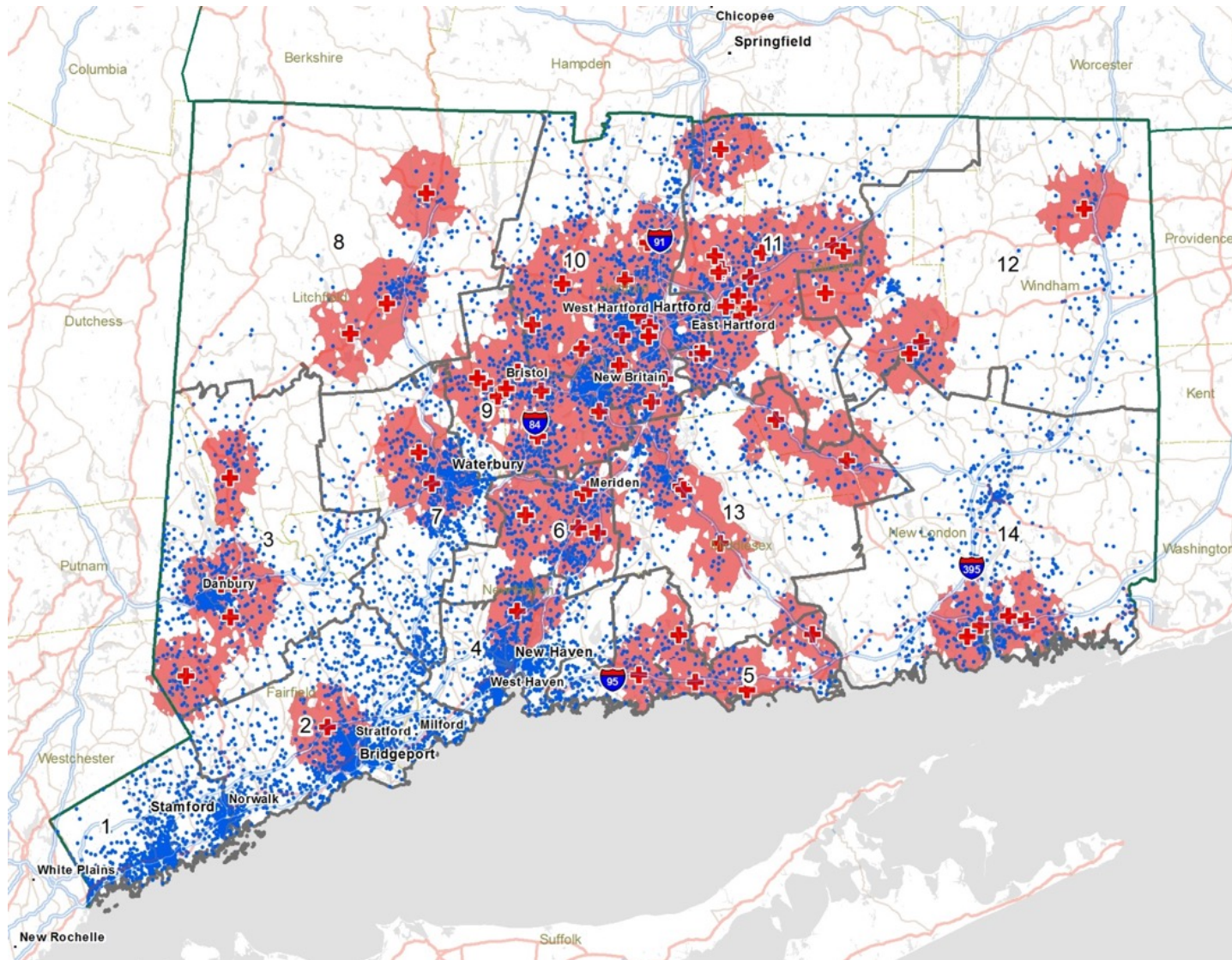
## Data Needed:

- Geography
- Underlying map
- Population dot density

1 Dot = 250



# How do our existing facilities align with population centers?

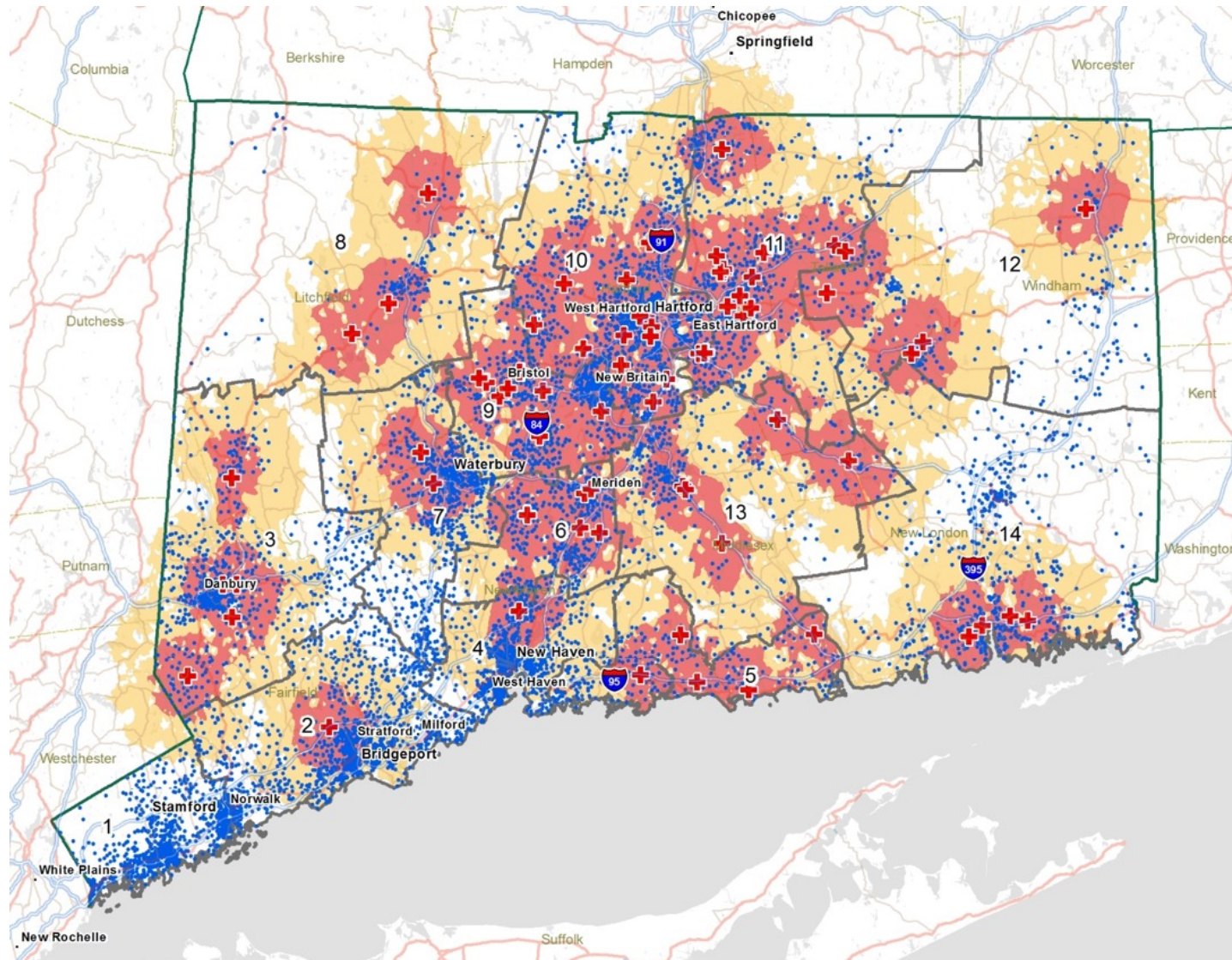


## Data Needed:

- Geography
  - Underlying map
  - Population dot density
- +
- Location addresses
  - Mapping software to generate distance / time polygons

1 Dot = 250

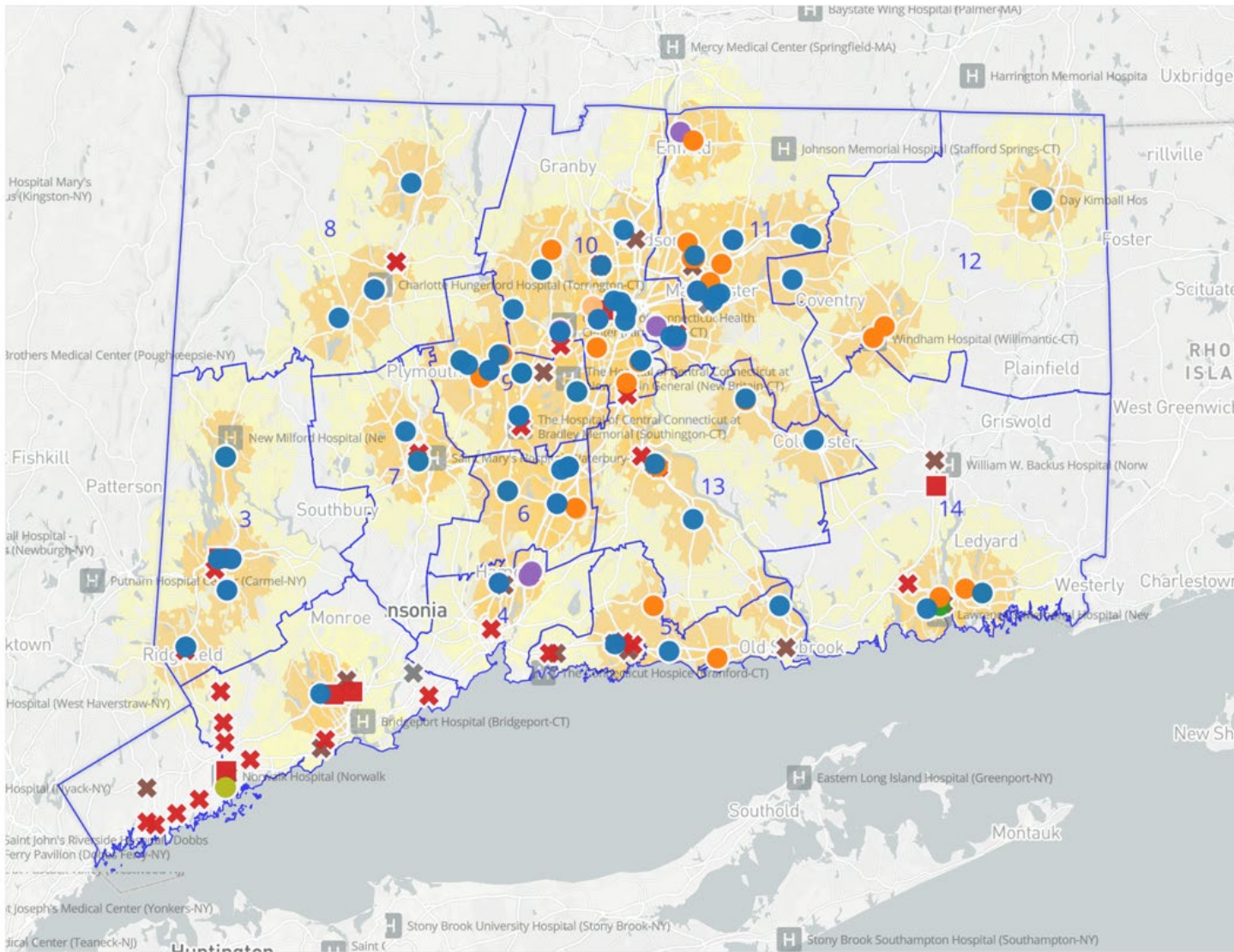
# How do our existing facilities align with population centers?



## Data Needed:

- Geography
  - Underlying map
  - Population dot density
- +
- Location addresses
  - Mapping software to generate distance / time polygons

# Where is our competition?



1	8
2	13
3	17
4	7
5	12
6	16
7	6
8	7
9	25
10	40
11	39
12	5
13	13
14	10
<b>Grand Total</b>	<b>218</b>

**Type**

All

**Type**

- Family Practice/Internal Medicine
- Pediatrics
- Express Care
- Specialty
- Full Imaging
- Ultrasound
- Echocardiography (16+)
- Bone Densitometry
- Laboratory
- Physical Therapy
- ADHD
- Sleep Center
- ASC / General
- Endoscopy
- Eye

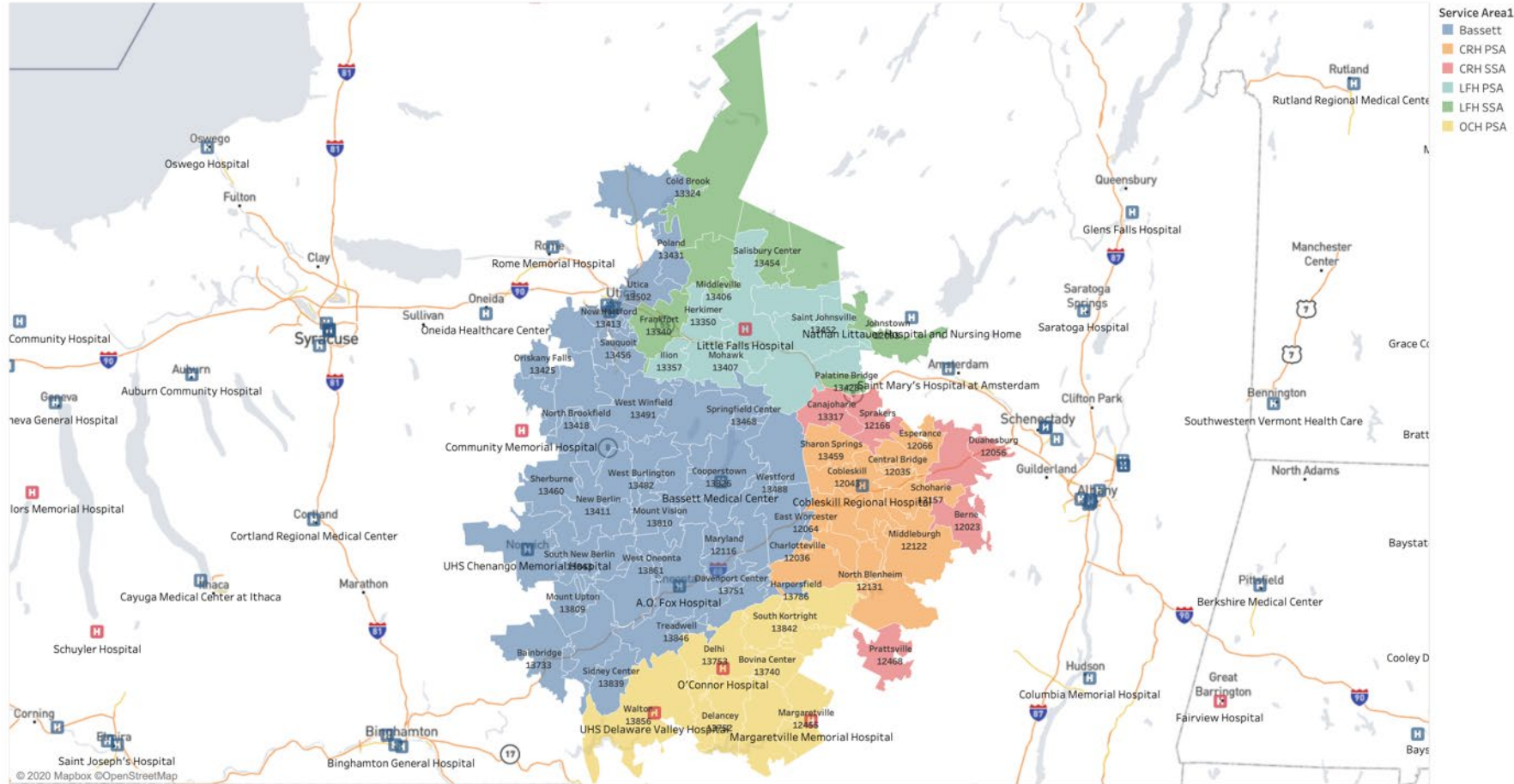
## Totals by Type

Family Practice/Internal Medi..	61
Pediatrics	27
Specialty	22
Express Care	9
Full Imaging	6
Ultrasound	10
Echocardiography (16+)	17
Bone Densitometry	1
Laboratory	1
Physical Therapy	4
ADHD	1
Sleep Center	3
ASC / General	35
Endoscopy	17
Eye	4
<b>Grand Total</b>	<b>218</b>

Unaffiliated practices shown with "X"

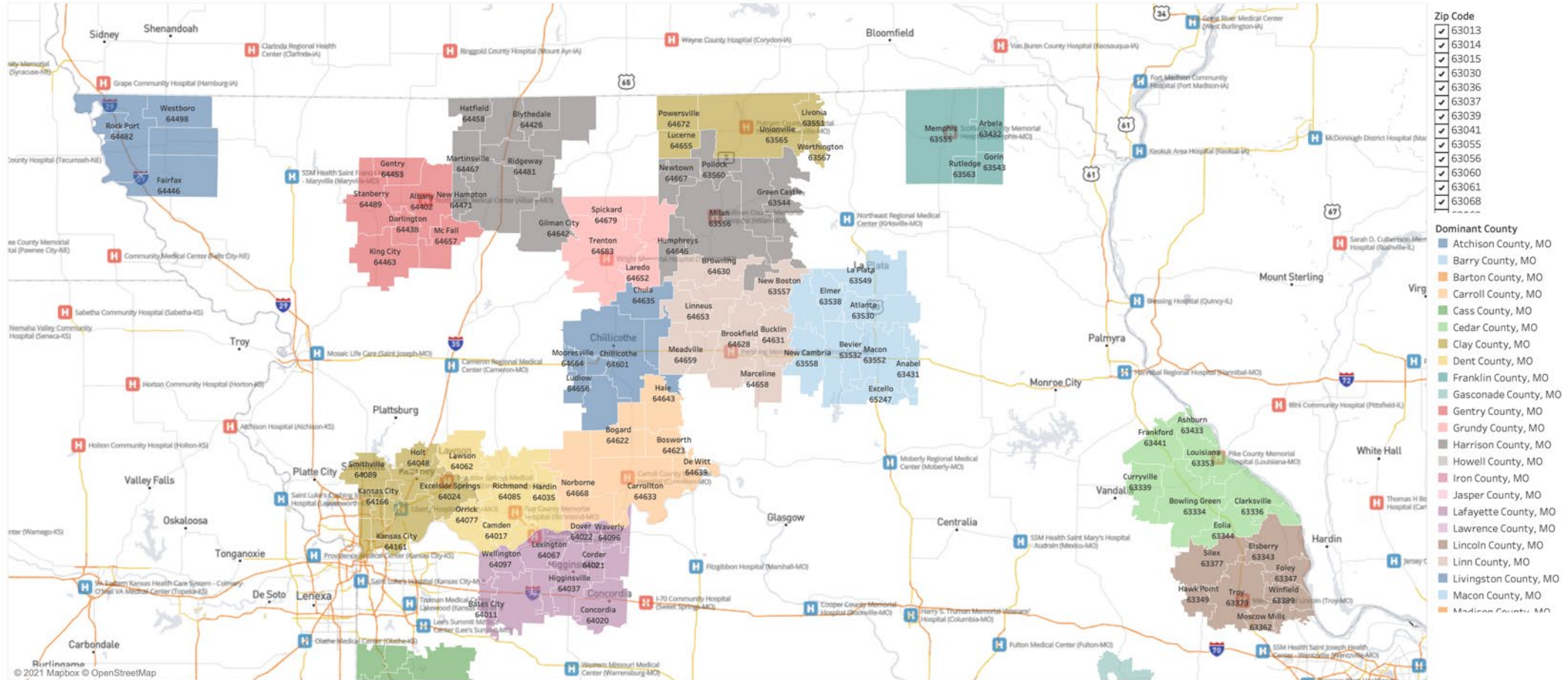
# Critical to develop non-overlapping service areas

## Service Area and Hospitals



# Critical to develop non-overlapping service areas

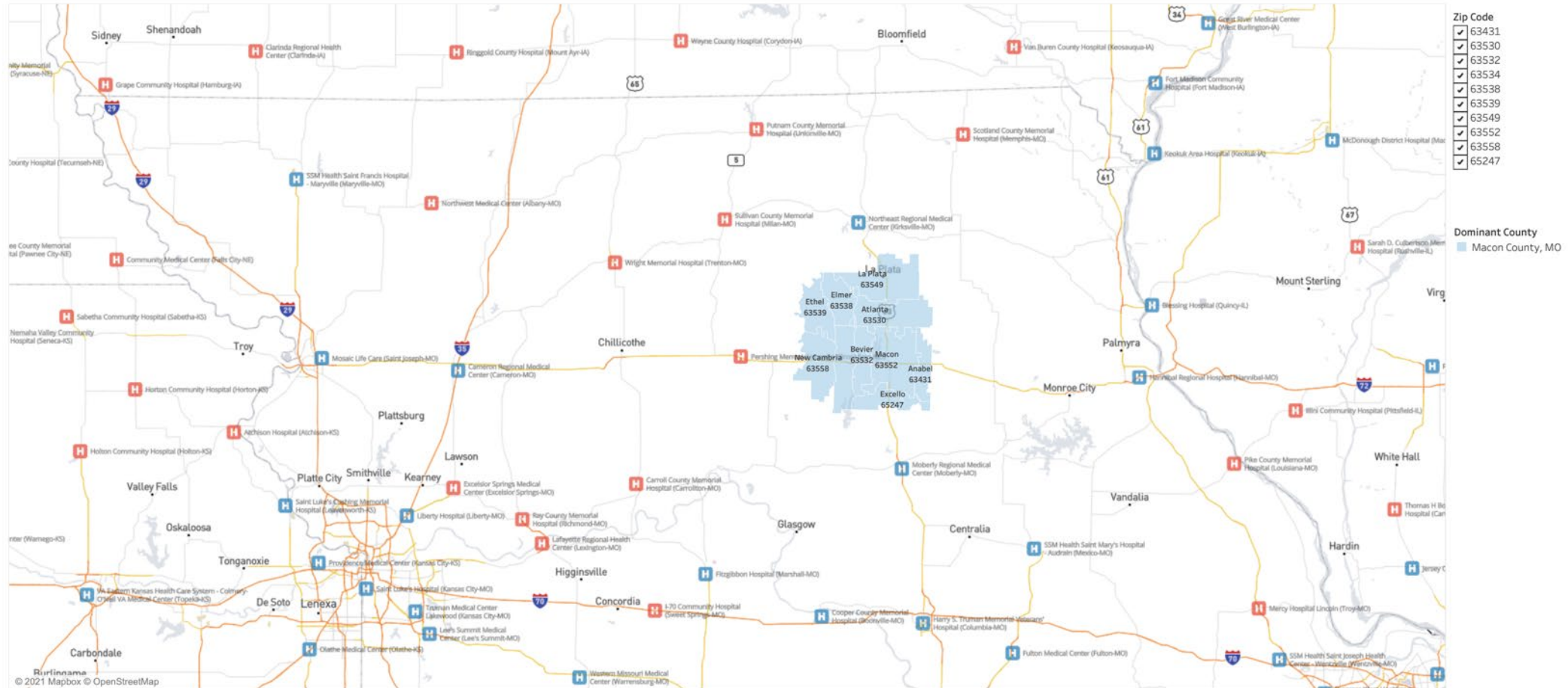
## Service Area and Hospitals



Source: Administration and Stroudwater Analysis

# Identify the service area for study – Macon County, MO

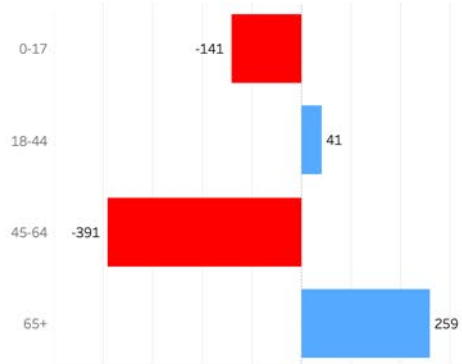
## Service Area and Hospitals



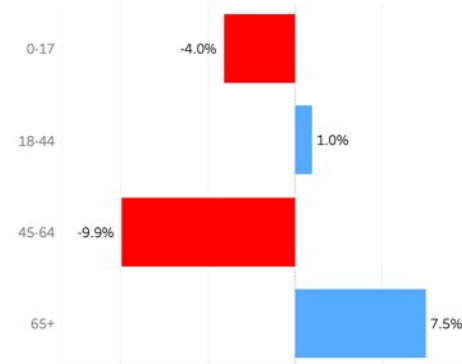
Source: Administration and Stroudwater Analysis

# Establish an overall population base for the service area

## Service Area Population



Age Groups	Current	Forecast	# Change	% Change
0-17	3,491	3,350	-141	-4.0%
18-44	4,311	4,352	41	1.0%
45-64	3,937	3,546	-391	-9.9%
65+	3,456	3,715	259	7.5%
<b>Grand Total</b>	<b>15,195</b>	<b>14,963</b>	<b>-232</b>	<b>-1.5%</b>

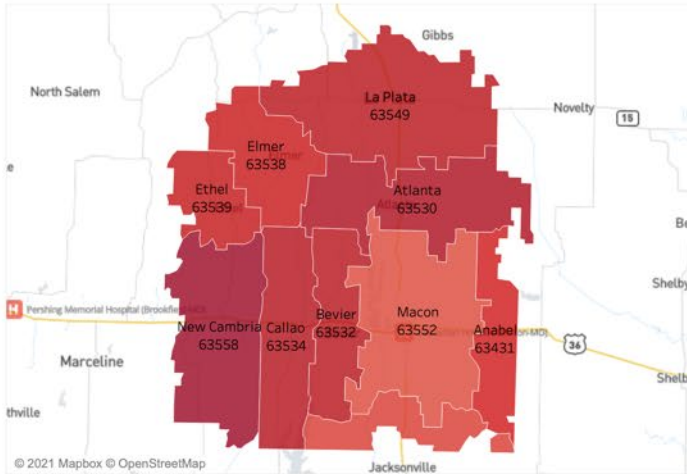


Dominant County  
Macon County

Service Area

- 63013
  - 63014
  - 63015
  - 63030
  - 63036
  - 63037
  - 63039
  - 63041
  - 63055
  - 63056
  - 63060
  - 63061
  - 63068
  - 63069
  - 63071
  - 63072
  - 63073
  - 63077
  - 63080
  - 63084
  - 63087
  - 63089
  - 63090
  - 63091
  - 63330
- PO Name
- Anabel
  - Atlanta
  - Bevier
  - Callao
  - Elmer
  - Ethel
  - Excello
  - La Plata
  - Macon
  - New Cambria

Show Population Map by % Change



PO Name1	Zip Code	Current Pop	Forecast Pop	# Change	% Change
Macon	63552	7,731	7,648	-83	-1.1%
La Plata	63549	2,352	2,304	-48	-2.0%
Bevier	63532	1,265	1,239	-26	-2.1%
Atlanta	63530	857	838	-19	-2.2%
Callao	63534	761	745	-16	-2.1%
New Cambria	63558	687	670	-17	-2.5%
Excello	65247	587	580	-7	-1.2%
Anabel	63431	335	330	-5	-1.5%
Ethel	63539	329	323	-6	-1.8%
Elmer	63538	291	286	-5	-1.7%

Source: IBM-Watson Health

# In what insurance categories is the population growing?

## Insurance Coverage Estimates

Payer Category (group)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Medicaid Pre-Reform	1,850	1,836	1,865	1,853	1,843	1,874	1,865	1,856	1,853	1,851	1,842
Medicare	3,444	3,490	3,535	3,582	3,631	3,683	3,710	3,738	3,767	3,797	3,835
Medicare Dual Eligible	349	350	351	352	353	355	355	356	356	357	362
Private (Dir, Emp, Exch)	7,772	7,691	7,615	7,565	7,538	7,474	7,385	7,357	7,285	7,251	7,222
Uninsured	1,958	1,979	1,967	1,977	1,969	1,961	2,009	1,998	2,028	2,023	2,011
<b>Grand Total</b>	<b>15,373</b>	<b>15,347</b>	<b>15,334</b>	<b>15,329</b>	<b>15,334</b>	<b>15,347</b>	<b>15,324</b>	<b>15,305</b>	<b>15,290</b>	<b>15,279</b>	<b>15,273</b>

ACA Forecast  
 Current  
 Repeal

Dominant County  
 Macon County

- Service Area
- 63431
  - 63530
  - 63532
  - 63534
  - 63538
  - 63539
  - 63549
  - 63552
  - 63558
  - 65247



- PO Name
- Anabel
  - Atlanta
  - Bevier
  - Callao
  - Elmer
  - Ethel
  - Excello
  - La Plata
  - Macon
  - New Cambria

Source: IBM-Watson Health



# Outpatient estimates by category define the opportunity

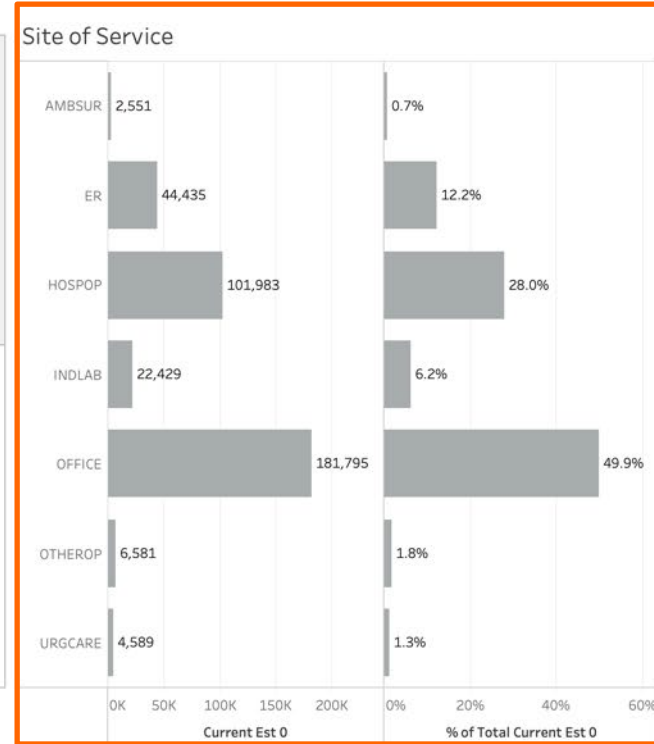
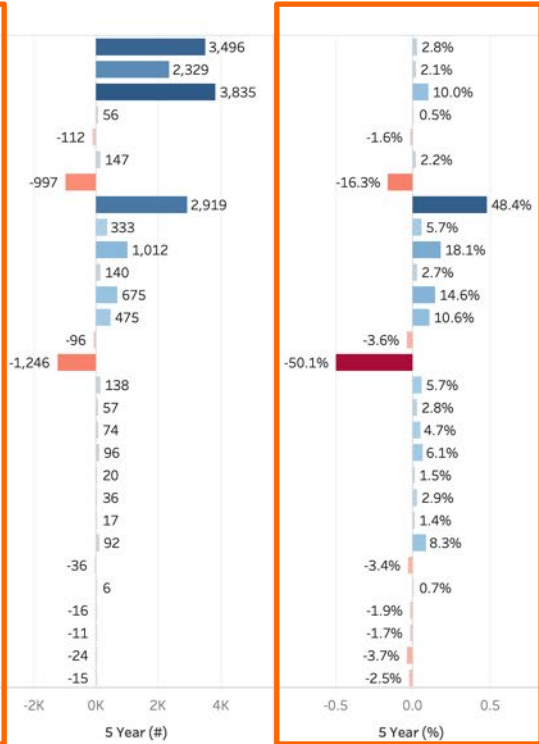
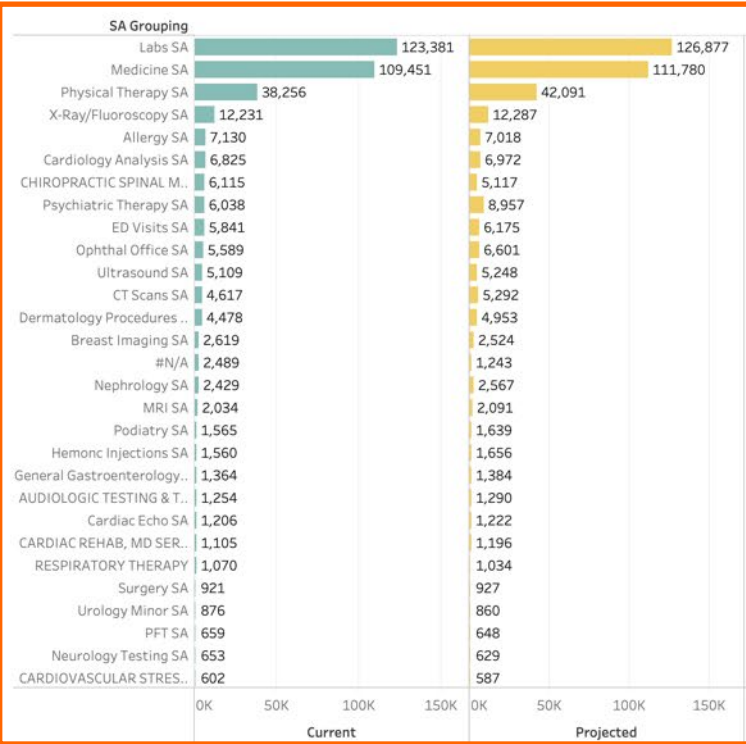
## Outpatient Estimates and Projections by SA Grouping

Current Est 0	Adjusted Est 5	5 Year Change (#)	5 Year Change (%)
364,363	378,162	13,799	3.8%

Amb. Technical Group: All | Clinical Service Category: All | SA Grouping: Multiple values | Proc Name: All | Site: All | Payer: All

County, ST  
Macon County

- PO Name
- Anabel
  - Atlanta
  - Bevier
  - Callao
  - Elmer
  - Ethel
  - Excello
  - La Plata
  - Macon
  - New Cambria



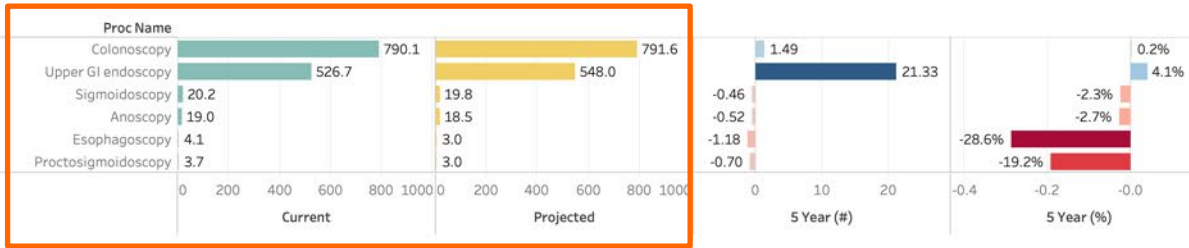
Source: IBM-Watson Health

# Outpatient estimates by procedure refine the need

## Outpatient Estimates and Projections by Procedure

Current Est 0	Adjusted Est 5	5 Year Change (#)	5 Year Change (%)
1,364	1,384	20	1.5%

Amb. Technical Group: All | Clinical Service Category: All | Proc Name: All | Site: All | Payer: All



County, ST  
Macon County

- PO Name
- Anabel
  - Atlanta
  - Bevier
  - Callao
  - Elmer
  - Ethel
  - Excello
  - La Plata
  - Macon
  - New Cambria

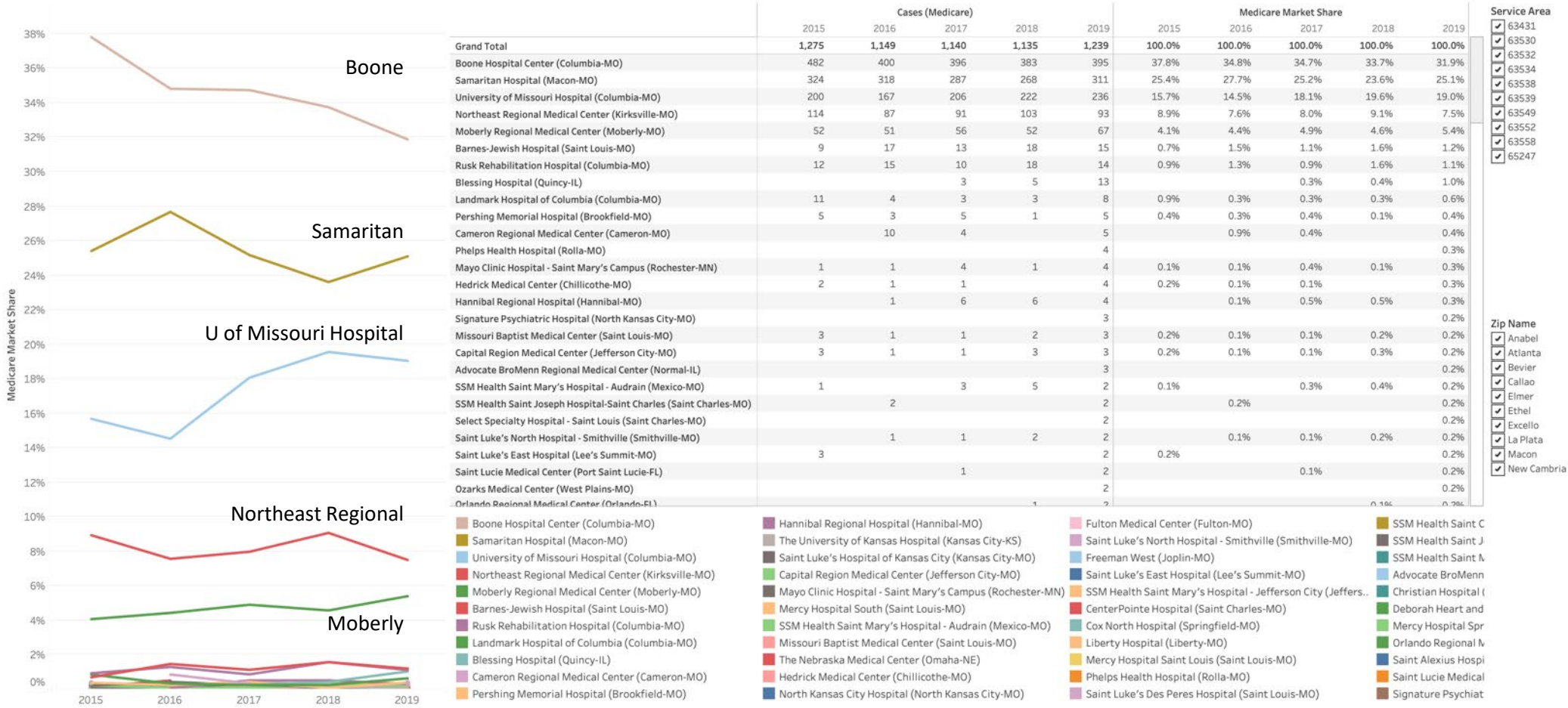
Source: IBM-Watson Health

# CMS Inpatient Market Share is an Initial Screen of Penetration

## Medicare Market Share

County & State (Combined)  
Macon, MO

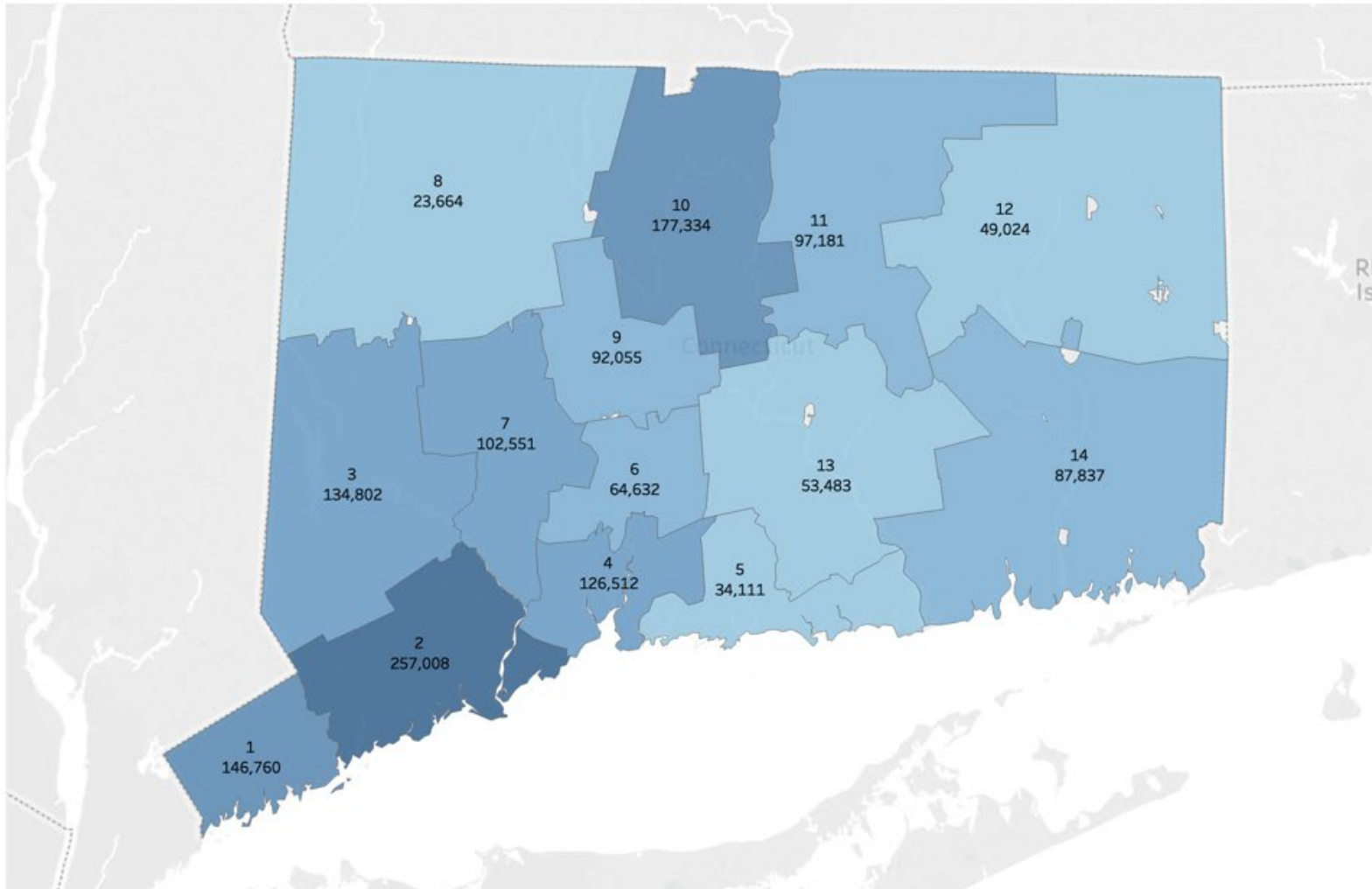
Dominant County  
Macon County, MO



Source: CMS.gov

# Where Are Volumes Growing (by Region)

5 Year OP Change (#) (2)

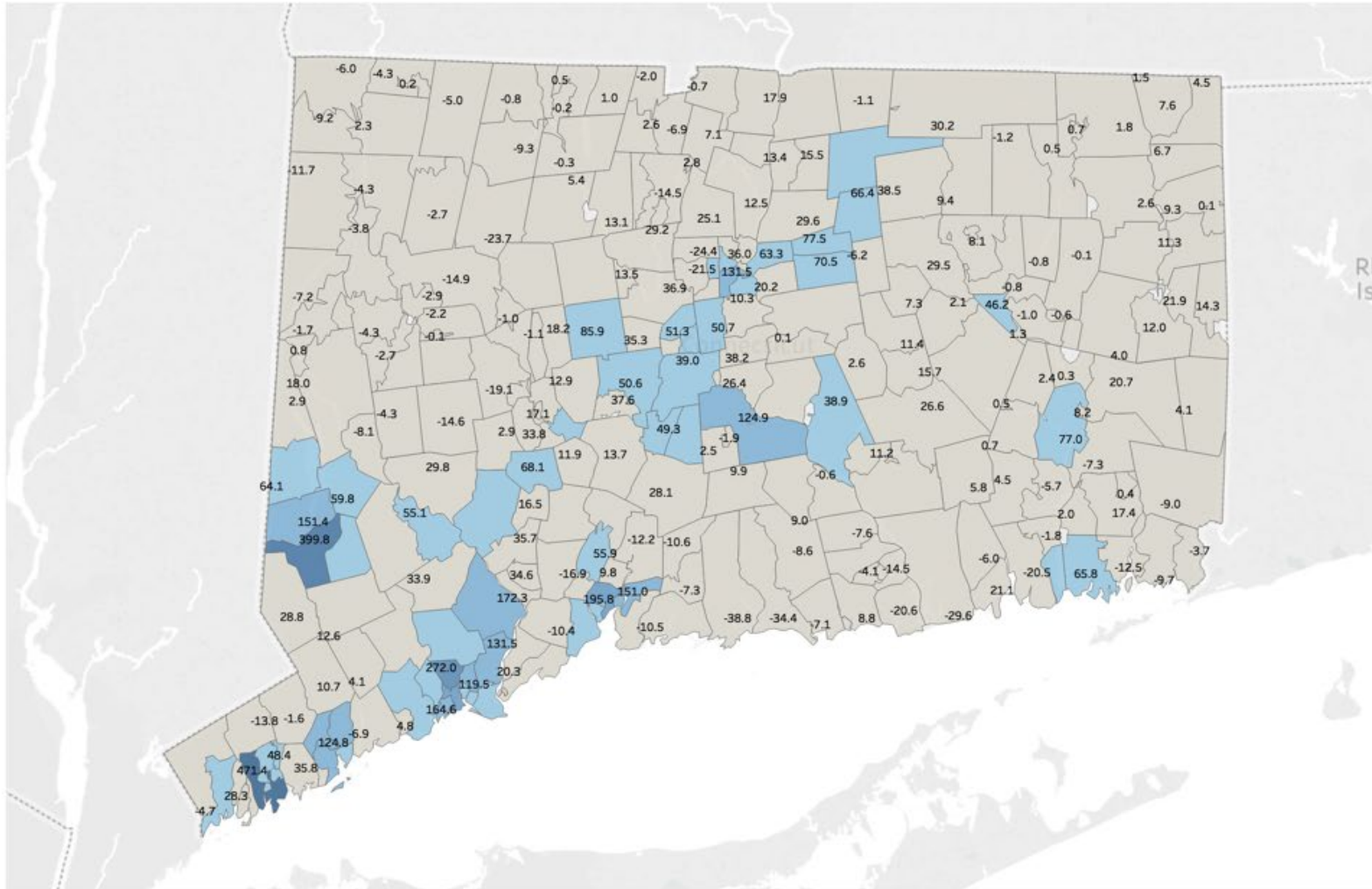


- ATG**
- DRUG ADMIN
  - DRUGS
  - GUIDANCE
  - IMAGE MAJOR
  - INJECTIONS
  - INVAS MAJOR
  - INVAS MINOR
  - LABS
  - MEDIC DIAG
  - MEDIC THER
- CSC**
- MEDICINE
- SA Grouping**
- #N/A
  - Medicine SA
- Procedure Name**
- Care plan oversight services
  - Case management services
  - Consultations, office
  - Critical care services
  - Emergency office visits
  - Evaluation, other
  - Observation care
  - Observation care discharge
  - Office medical visit, est patient
  - Office medical visit, new patient
- OptumCare Submarket**
- 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10



# Where Are Volumes Growing (5 Year Growth # of GI procedures)

5 Year OP Change (#)



**ATG**

- DRUG ADMIN
- DRUGS
- GUIDANCE
- IMAGE MAJOR
- INJECTIONS
- INVAS MAJOR
- INVAS MINOR
- LABS
- MEDIC DIAG
- MEDIC THER
- NUCLEAR

**CSC**

- COLORECTAL
- GASTRO

**SA Grouping**

- #N/A
- ACNE SURGERY
- Allergy SA
- Aquatic Therapy SA
- AUDIOLOGIC TESTING & THERAPY
- BONE MARROW PROCEDURES
- BRACHYTHERAPY, CLINICAL
- Breast Imaging SA
- Bronchoscopy SA
- Cardiac Cath/Angio SA
- Cardiac Echo SA

**Procedure Name**

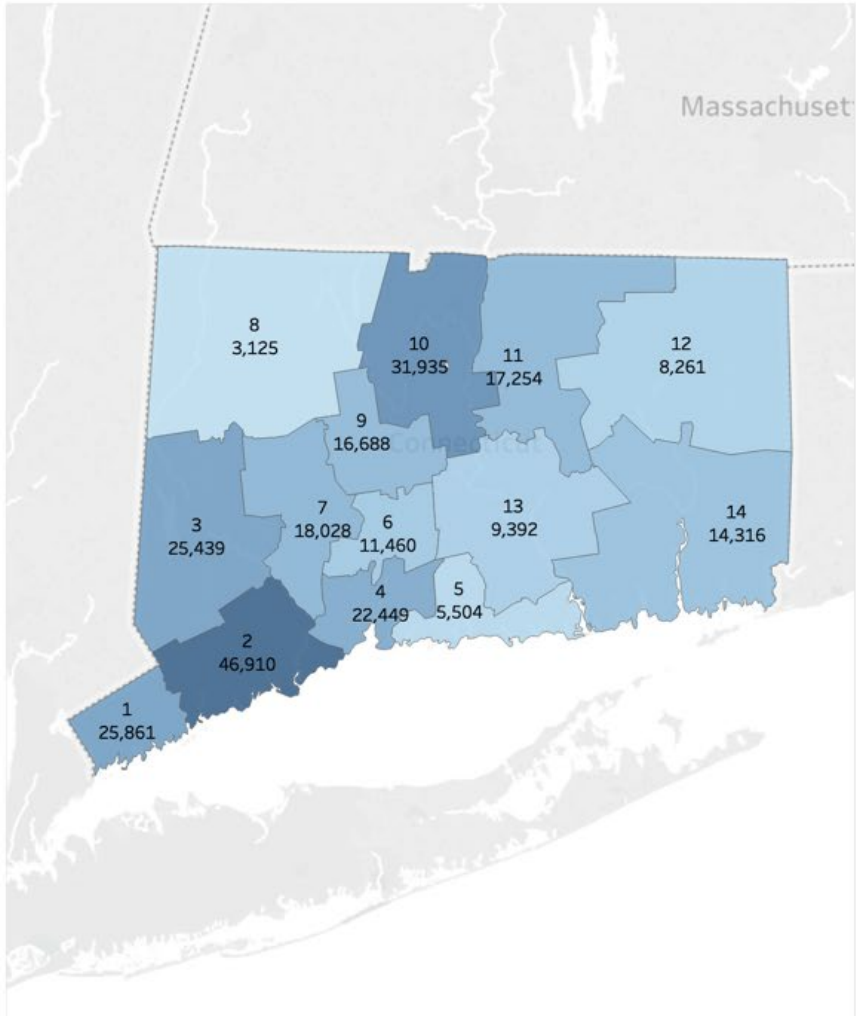
- Anoscopy
- Colonoscopy
- Esophagoscopy
- Proctosigmoidoscopy
- Sigmoidoscopy
- Upper GI endoscopy

**5 Year Change (#)**

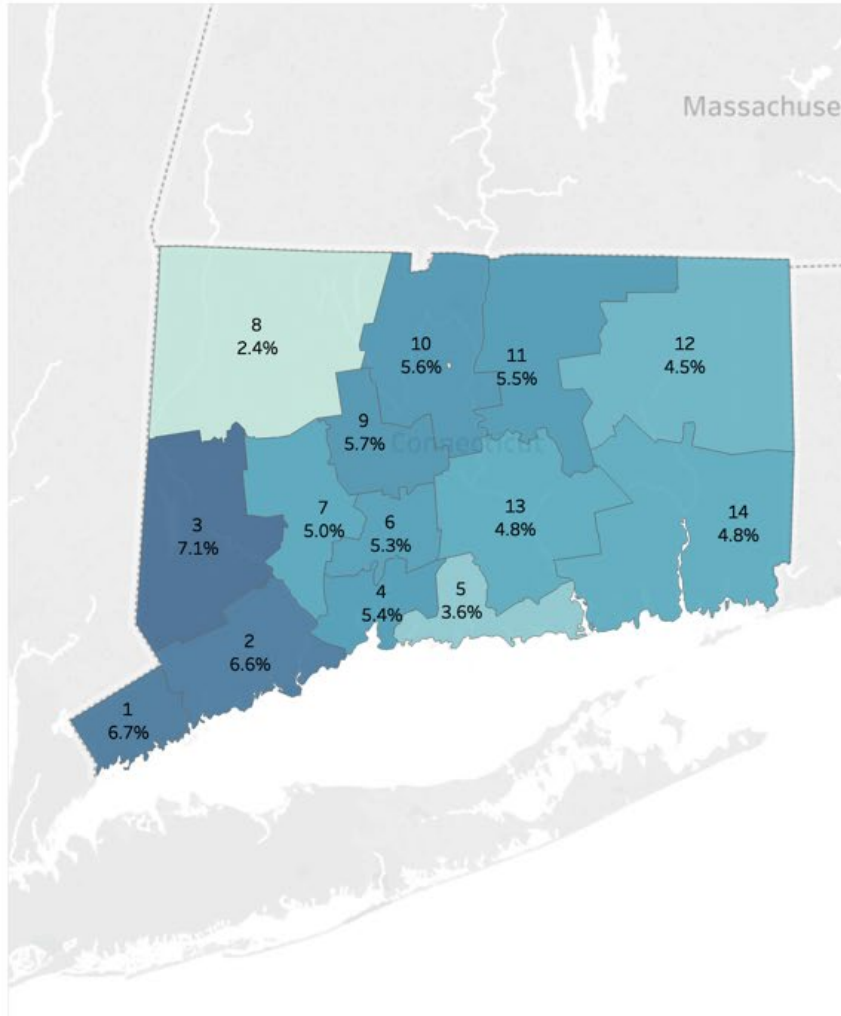
-38.8 504.0

# Look at both # and % growth!

5 Year OP Change (#)



5 Year OP Change (%)



- Site
- ASC
  - Emergency Room
  - Hospital OP
  - Independent Lab
  - Other OP
  - Physician Office
  - Urgent Care

ATG

All

CSC

All

SA Grouping

Multiple values

Procedure Name

All

5 Year Change (%)

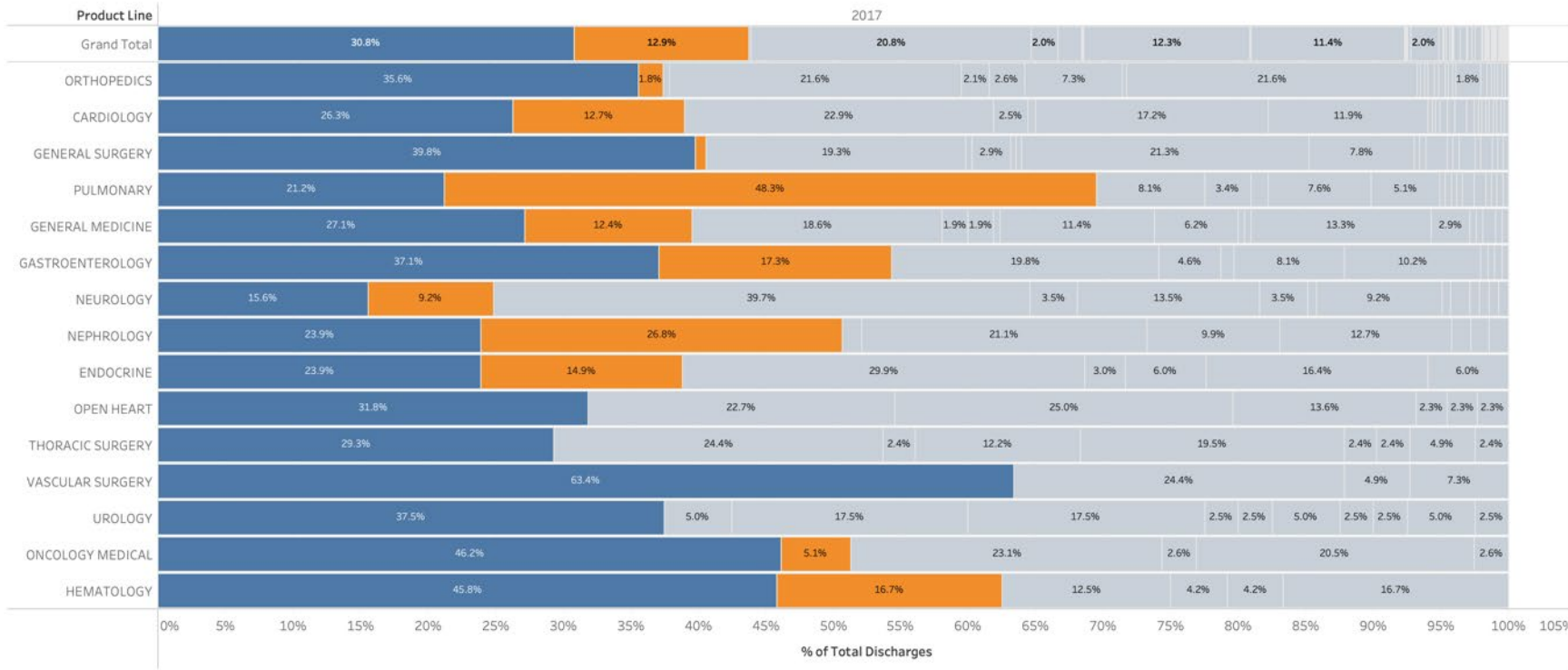


5 Year Change (#)



# Inpatient Market Share – State Dependent

## All-Payer Market Share - Product Line Summary



- Weights (group)**
- Low Acuity
  - High Acuity
  - Unspecified

- Data\_Year**
- 2013
  - 2014
  - 2015
  - 2016
  - 2017

- Med-Surg**
- Med
  - Surg
  - Unspec

- Service Area1**
- Bassett
  - CRH PSA
  - CRH SSA
  - LFH PSA
  - LFH SSA
  - OCH PSA

**Product Line**  
Multiple values

- ZIP-Name**
- 12031-CARLISLE
  - 12035-CENTRAL BRIDGE
  - 12036-CHARLOTTEVILLE
  - 12043-COBLESKILL
  - 12066-ESPERANCE
  - 12071-FULTONHAM
  - 12073-GALLUPVILLE
  - 12076-GILBOA
  - 12092-HOWES CAVE
  - 12093-JEFFERSON
  - 12122-MIDDLEBURGH
  - 12131-NORTH BLENHEIM
  - 12149-RICHMONDVILLE
  - 12157-SCHOHARIE
  - 12160-SLOANSVILLE
  - 12175-SUMMIT
  - 12187-WARNERVILLE
  - 12194-WEST FULTON
  - 13459-SHARON SPRINGS

**MS-DRG**  
All

- Bassett Medical Center
- Cobleskill Regional Hosp
- St Elizabeth Medical Ctr
- Albany Medical Ctr Hosp
- Aurelia O. Fox Mem Hosp
- St Mary's Hospital
- Univ SUNY Medical Univ
- Wilson Memorial Med Ctr
- Ellis Hospital
- Chenango Memorial Hosp
- St Peter's Hospital
- Nathan Littauer Hospital
- Community Memorial Hosp
- Rome Memorial Hospital
- Strong Mem-Univ Rochester
- Sunnyview Hosp/Rehab Ctr
- Upstate Univ at Comm Gen
- Memorial Sloan Kettering
- HealthAlliance-Broadway
- NY Presbyterian-Columbia
- Saratoga Hospital
- Westchester Medical Ctr
- St. Mary's HC-Mem Campus
- Margaretville Mem Hosp
- Mount Sinai Hospital
- Albany Memorial Hospital
- Roswell Park Cancer Inst
- Glens Falls Hospital
- Columbia Memorial Hosp
- Samaritan Hospital
- Hosp for Special Surgery
- Orange Regional MC-Arden
- NY Presbyterian-Cornell
- Highland Hosp - Rochester
- North Shore Univ Hospital
- Canton-Potsdam Hospital
- St Francis Hospital
- University Hospital
- Memorial Regional Hosp
- Manatee Memorial Hospital
- Gulf Coast MC Lee Mem HS
- St Luke's Cornwall Hosp
- Palms West Hospital
- Huntington Hospital
- Elmhurst Hospital Center
- Bay MC Sacred Heart HS
- Winthrop University Hosp
- WakeMed
- Shriners Hosp-Crpld Child
- Oak Hill Hospital
- NY Presbyterian/Hudson VI
- Lehigh Valley-Allentown
- Lakeland Regional Med Ctr
- Ellwood City Hospital
- Source: IBM-Watson Health.



# Outpatient Market Share – Usually “Challenging”

## TOTAL PSA MARKET VOLUMES

	PSA Estimate	5 year growth %	Truven annual growth %	2018 MDMH Volume	2019(a) MDMH Volume	2019(a) Share of PSA
ED Visits	6,769	3.2%	0.6%	10,571	10,219	151.0%
X-Ray / Fluoro	24,045	6.9%	1.4%	13,257	14,384	59.8%
CT Scans	6,341	11.0%	2.2%	5,024	5,266	83.0%
MRI	3,254	6.6%	1.3%	1,867	1,849	56.8%
Ultrasound	6,383	9.4%	1.9%	2,738	2,731	42.8%
Mammography	5,849	3.1%	0.6%	2,281	2,305	39.4%
Dexa	765	8.9%	1.8%	520	520	68.0%
Nuclear Medicine / SPECT	197	10.0%	2.0%	0	0	0.0%
Gastro	2,078	3.5%	0.7%	1102	1021	49.1%
OP Surgery	4,528	5.2%	1.0%	972	990	21.9%

- Ideal approach = State “All Payor” database for inpatient AND outpatient services allows for share calculations
- Next approach = Patient origin by service to determine volumes and match against expected volumes
- Easiest approach = Actual volume divided by PSA estimate results in overstated share

# Using Market Analytics to Drive Decisions

- Understand the drivers of healthcare demand
- States / Systems / Hospitals / Practices have tremendous amounts of data
  - Access it
  - Manipulate it
  - Develop it into information
- Focus on what matters
  - “Analysis paralysis”
  - Wrong or precisely wrong
  - Directionally correct
  - Go / No go
- Use information to build consensus and drive decisions



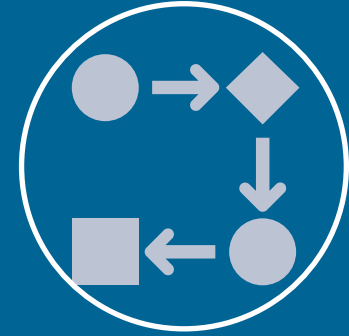
Patient  
Origin



Drivetime /  
Location  
Analysis



Market Share



Throughput /  
Room Need



STROUDWATER

John Downes, MBA, LEED AP  
JDownes@stroudwater.com  
1685 Congress Street, Suite 202  
Portland, Maine 04102  
(207) 221-8275

[www.stroudwater.com](http://www.stroudwater.com)