Market Analytics to Drive Decision Making

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July 1, 2021

STROUDWATER

MARKET ANALYTICS

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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?"

Population X **Utilization Rate (x/1,000)** X **Market Share** X **Throughput**
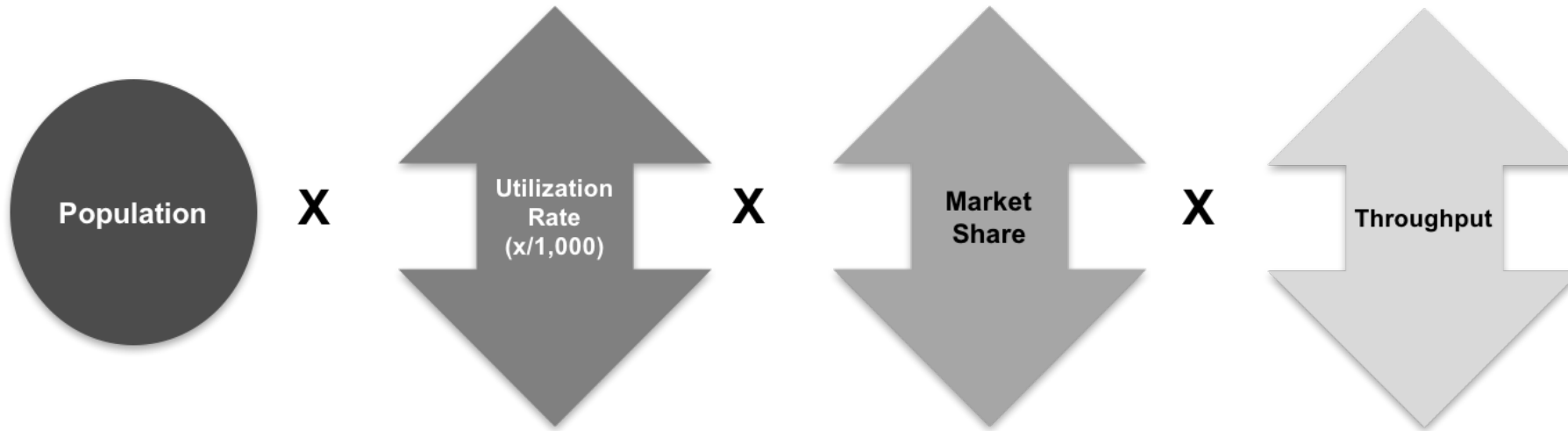
| Population	Utilization Rate (x/1,000)	Market Share	Throughput
• Geography • Total market • Aging • Gender • Special populations	• Population health strategies • Insurance issues • Readmission rate • IP/OP shift • Technology	• Competition • Service offerings • Steerage • Primary care alignment • Affiliation strategy	• IP/OP shift • Acuity • Sub acute placements • Socioeconomic • Clinical issues

Operating Parameters

Random vs Scheduled   *Confidence Intervals vs ADC*   *Distinct Unit Types*

Universal vs Specialty   *Observation*

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?
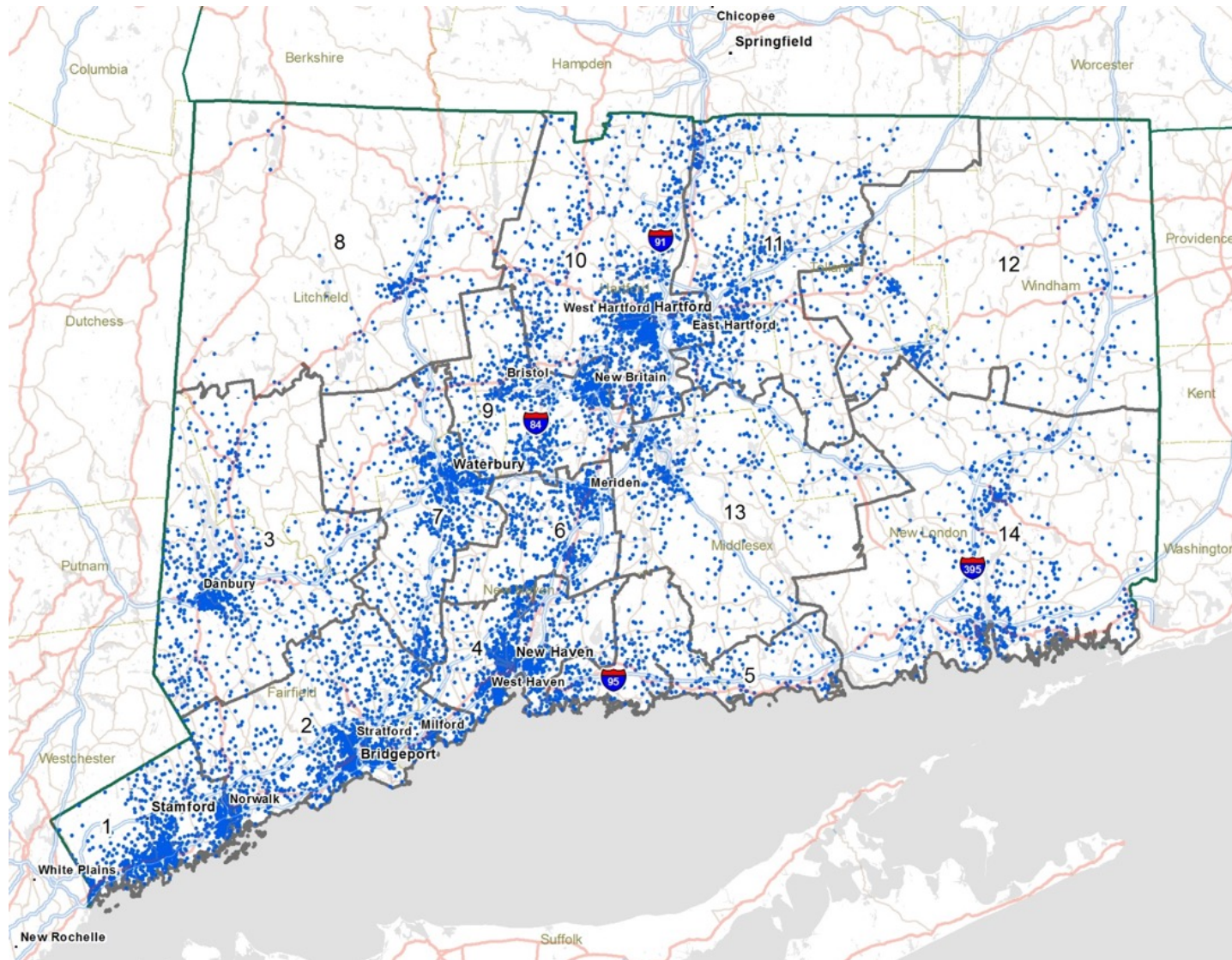
Data Needed:

- Geography
- Underlying map
- Population dot density

1 Dot = 250

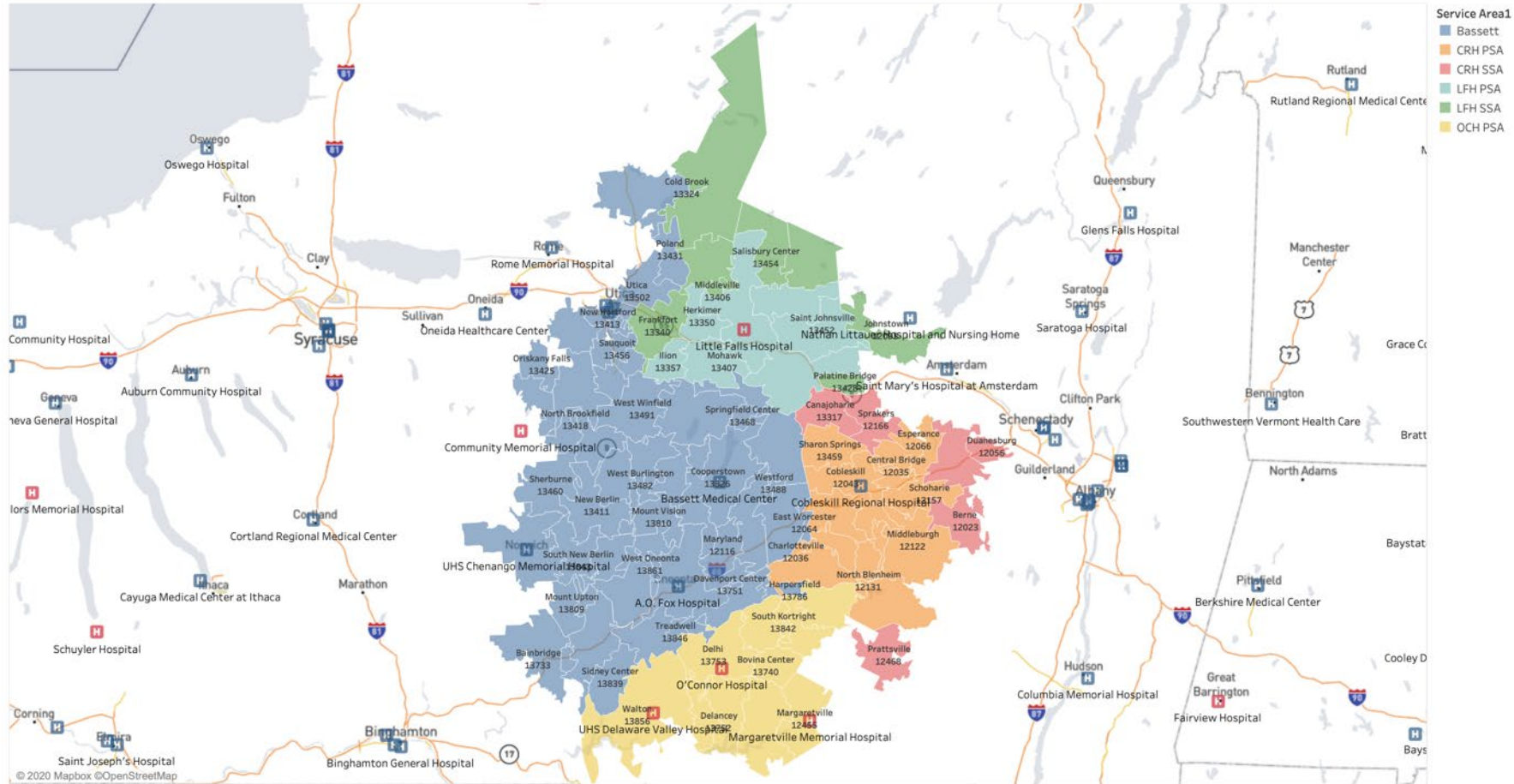# How do our existing facilities align with population centers?
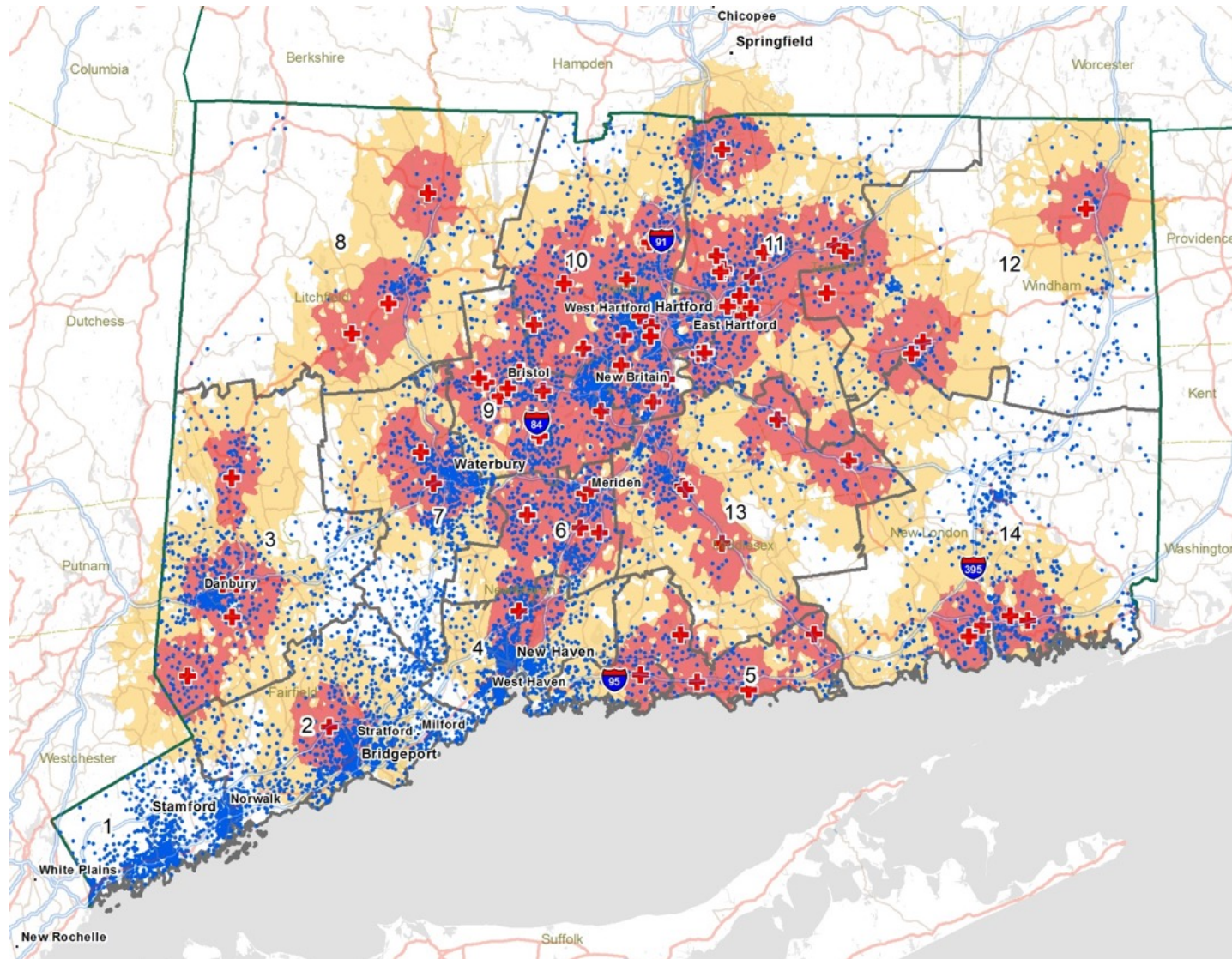
Data Needed:

- Geography
- Underlying map
- Population dot density

+

- Location addresses
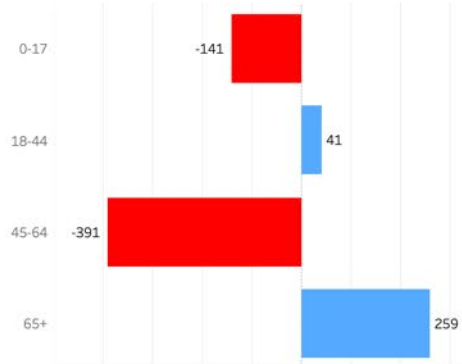- Mapping software to generate distance / time polygons

1 Dot = 250

Critical to develop non-overlapping service areas
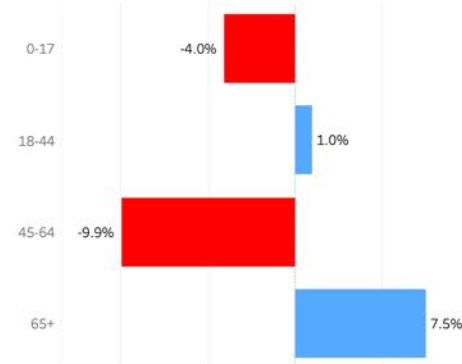
Service Area and Hospitals

Source: Administration and Stroudwater Analysis

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Service Area Population

Dominant County
Macon County

Current Population		5yr Estimate		
15,195		**14,963**		
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%
Grand Total	15,195	14,963	-232	-1.5%

Age group bars (left chart): 0-17: -141; 18-44: 41; 45-64: -391; 65+: 259

Age group % change (right chart): 0-17: -4.0%; 18-44: 1.0%; 45-64: -9.9%; 65+: 7.5%

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
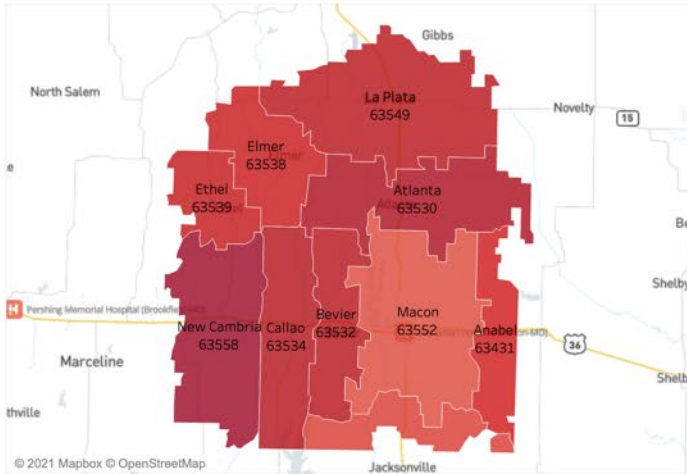
PO Name1	Zip Code	Current Pop	Forecast Pop	# Change	% Change
Macon	63552	7,731	7,648	-83	-1.1%
La Plata	63549	2,352	2,304	-48	-2.0%
Bevier	63532	1,265	1,239	-26	-2.1%
Atlanta	63530	857	838	-19	-2.2%
Callao	63534	761	745	-16	-2.1%
New Cambria	63558	687	670	-17	-2.5%
Excello	65247	587	580	-7	-1.2%
Anabel	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

ACA Forecast
- ● Current
- ○ Repeal

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
Grand Total	15,373	15,347	15,334	15,329	15,334	15,347	15,324	15,305	15,290	15,279	15,273

Dominant County
Macon County

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

Payer Category (group)
- 🟩 Medicaid Pre-Reform
- 🟧 Medicare
- 🟧 Medicare Dual Eligible
- 🟦 Private (Dir, Emp, Exch)
- 🟨 Uninsured

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

Source: IBM-Watson Health

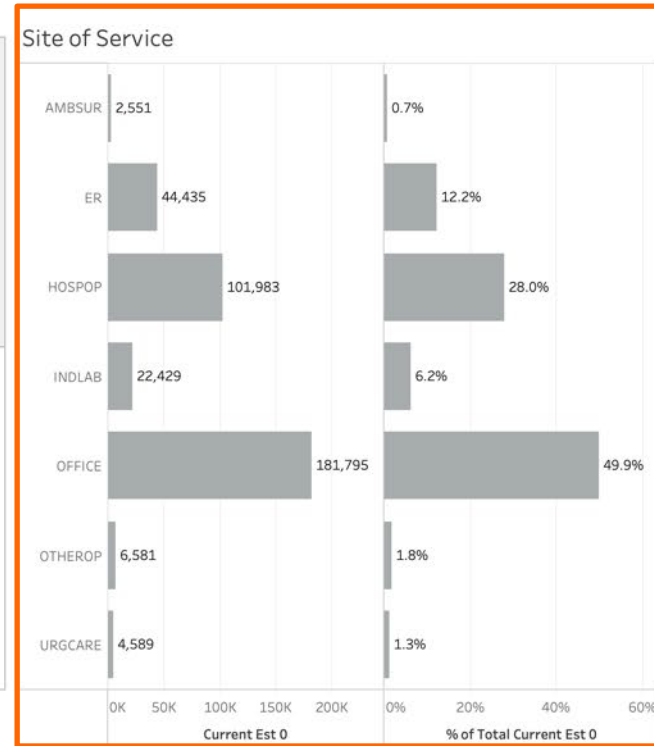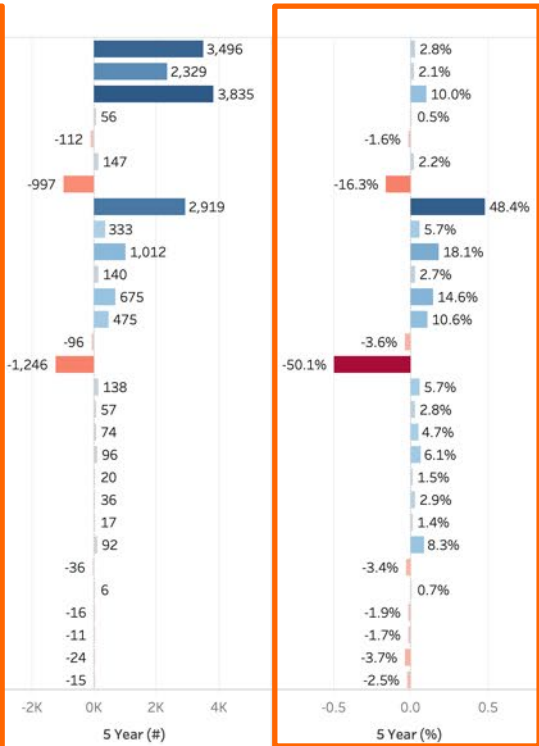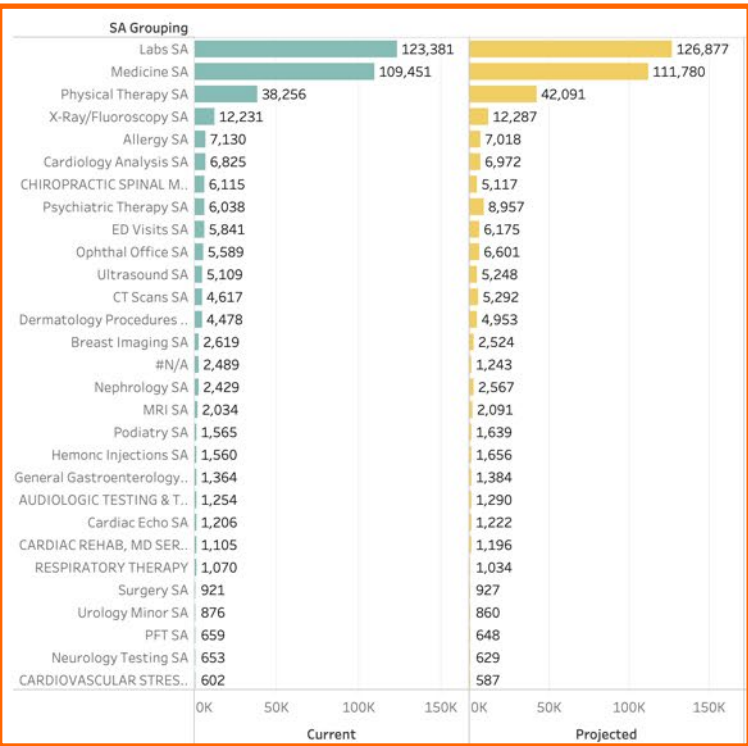# Outpatient estimates by category define the opportunity

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Outpatient Estimates and Projections by SA Grouping

County, ST: Macon County

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

	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

SA Grouping	Current	Projected	5 Year (#)	5 Year (%)
Labs SA	123,381	126,877	3,496	2.8%
Medicine SA	109,451	111,780	2,329	2.1%
Physical Therapy SA	38,256	42,091	3,835	10.0%
X-Ray/Fluoroscopy SA	12,231	12,287	56	0.5%
Allergy SA	7,130	7,018	-112	-1.6%
Cardiology Analysis SA	6,825	6,972	147	2.2%
CHIROPRACTIC SPINAL M..	6,115	5,117	-997	-16.3%
Psychiatric Therapy SA	6,038	8,957	2,919	48.4%
ED Visits SA	5,841	6,175	333	5.7%
Ophthal Office SA	5,589	6,601	1,012	18.1%
Ultrasound SA	5,109	5,248	140	2.7%
CT Scans SA	4,617	5,292	675	14.6%
Dermatology Procedures ..	4,478	4,953	475	10.6%
Breast Imaging SA	2,619	2,524	-96	-3.6%
#N/A	2,489	1,243	-1,246	-50.1%
Nephrology SA	2,429	2,567	138	5.7%
MRI SA	2,034	2,091	57	2.8%
Podiatry SA	1,565	1,639	74	4.7%
Hemonc Injections SA	1,560	1,656	96	6.1%
General Gastroenterology..	1,364	1,384	20	1.5%
AUDIOLOGIC TESTING & T..	1,254	1,290	36	2.9%
Cardiac Echo SA	1,206	1,222	17	1.4%
CARDIAC REHAB, MD SER..	1,105	1,196	92	8.3%
RESPIRATORY THERAPY	1,070	1,034	-36	-3.4%
Surgery SA	921	927	6	0.7%
Urology Minor SA	876	860	-16	-1.9%
PFT SA	659	648	-11	-1.7%
Neurology Testing SA	653	629	-24	-3.7%
CARDIOVASCULAR STRES..	602	587	-15	-2.5%

Site of Service

	Current Est 0	% of Total Current Est 0
AMBSUR	2,551	0.7%
ER	44,435	12.2%
HOSPOP	101,983	28.0%
INDLAB	22,429	6.2%
OFFICE	181,795	49.9%
OTHEROP	6,581	1.8%
URGCARE	4,589	1.3%

Source: IBM-Watson Health

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Medicare Market Share

County & State (Combined)
Macon, MO

Dominant County
Macon County, MO

	Cases (Medicare)					Medicare Market Share				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Grand Total	1,275	1,149	1,140	1,135	1,239	100.0%	100.0%	100.0%	100.0%	100.0%
Boone Hospital Center (Columbia-MO)	482	400	396	383	395	37.8%	34.8%	34.7%	33.7%	31.9%
Samaritan Hospital (Macon-MO)	324	318	287	268	311	25.4%	27.7%	25.2%	23.6%	25.1%
University of Missouri Hospital (Columbia-MO)	200	167	206	222	236	15.7%	14.5%	18.1%	19.6%	19.0%
Northeast Regional Medical Center (Kirksville-MO)	114	87	91	103	93	8.9%	7.6%	8.0%	9.1%	7.5%
Moberly Regional Medical Center (Moberly-MO)	52	51	56	52	67	4.1%	4.4%	4.9%	4.6%	5.4%
Barnes-Jewish Hospital (Saint Louis-MO)	9	17	13	18	15	0.7%	1.5%	1.1%	1.6%	1.2%
Rusk Rehabilitation Hospital (Columbia-MO)	12	15	10	18	14	0.9%	1.3%	0.9%	1.6%	1.1%
Blessing Hospital (Quincy-IL)			3	5	13			0.3%	0.4%	1.0%
Landmark Hospital of Columbia (Columbia-MO)	11	4	3	3	8	0.9%	0.3%	0.3%	0.3%	0.6%
Pershing Memorial Hospital (Brookfield-MO)	5	3	5	1	5	0.4%	0.3%	0.4%	0.1%	0.4%
Cameron Regional Medical Center (Cameron-MO)		10	4		5		0.9%	0.4%		0.4%
Phelps Health Hospital (Rolla-MO)					4					0.3%
Mayo Clinic Hospital - Saint Mary's Campus (Rochester-MN)	1	1	4	1	4	0.1%	0.1%	0.4%	0.1%	0.3%
Hedrick Medical Center (Chillicothe-MO)	2	1	1		4	0.2%	0.1%	0.1%		0.3%
Hannibal Regional Hospital (Hannibal-MO)		1	6	6	4		0.1%	0.5%	0.5%	0.3%
Signature Psychiatric Hospital (North Kansas City-MO)					3					0.2%
Missouri Baptist Medical Center (Saint Louis-MO)	3	1	1	2	3	0.2%	0.1%	0.1%	0.2%	0.2%
Capital Region Medical Center (Jefferson City-MO)	3	1	1	3	3	0.2%	0.1%	0.1%	0.3%	0.2%
Advocate BroMenn Regional Medical Center (Normal-IL)					3					0.2%
SSM Health Saint Mary's Hospital - Audrain (Mexico-MO)	1		3	5	2	0.1%		0.3%	0.4%	0.2%
SSM Health Saint Joseph Hospital-Saint Charles (Saint Charles-MO)		2			2		0.2%			0.2%
Select Specialty Hospital - Saint Louis (Saint Charles-MO)					2					0.2%
Saint Luke's North Hospital - Smithville (Smithville-MO)		1	1	2	2		0.1%	0.1%	0.2%	0.2%
Saint Luke's East Hospital (Lee's Summit-MO)	3				2	0.2%				0.2%
Saint Lucie Medical Center (Port Saint Lucie-FL)			1		2			0.1%		0.2%
Ozarks Medical Center (West Plains-MO)					2					0.2%
Orlando Regional Medical Center (Orlando-FL)				1	2				0.1%	0.2%

Service Area
- ✔ 63431
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Zip Name
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Chart legend:
- Boone Hospital Center (Columbia-MO)
- Samaritan Hospital (Macon-MO)
- University of Missouri Hospital (Columbia-MO)
- Northeast Regional Medical Center (Kirksville-MO)
- Moberly Regional Medical Center (Moberly-MO)
- Barnes-Jewish Hospital (Saint Louis-MO)
- Rusk Rehabilitation Hospital (Columbia-MO)
- Landmark Hospital of Columbia (Columbia-MO)
- Blessing Hospital (Quincy-IL)
- Cameron Regional Medical Center (Cameron-MO)
- Pershing Memorial Hospital (Brookfield-MO)
- Hannibal Regional Hospital (Hannibal-MO)
- The University of Kansas Hospital (Kansas City-KS)
- Saint Luke's Hospital of Kansas City (Kansas City-MO)
- Capital Region Medical Center (Jefferson City-MO)
- Mayo Clinic Hospital - Saint Mary's Campus (Rochester-MN)
- Barnes-Jewish Hospital (Saint Louis-MO)
- Mercy Hospital South (Saint Louis-MO)
- SSM Health Saint Mary's Hospital - Audrain (Mexico-MO)
- Missouri Baptist Medical Center (Saint Louis-MO)
- The Nebraska Medical Center (Omaha-NE)
- Hedrick Medical Center (Chillicothe-MO)
- North Kansas City Hospital (North Kansas City-MO)
- Fulton Medical Center (Fulton-MO)
- Saint Luke's North Hospital - Smithville (Smithville-MO)
- Freeman West (Joplin-MO)
- Saint Luke's East Hospital (Lee's Summit-MO)
- SSM Health Saint Mary's Hospital - Jefferson City (Jeffers...
- CenterPointe Hospital (Saint Charles-MO)
- Cox North Hospital (Springfield-MO)
- Liberty Hospital (Liberty-MO)
- Mercy Hospital Saint Louis (Saint Louis-MO)
- Phelps Health Hospital (Rolla-MO)
- Saint Luke's Des Peres Hospital (Saint Louis-MO)
- SSM Health Saint C...
- SSM Health Saint J...
- SSM Health Saint M...
- Advocate BroMenn...
- Christian Hospital...
- Deborah Heart and...
- Mercy Hospital Spr...
- Orlando Regional M...
- Saint Alexius Hospi...
- Saint Lucie Medical...
- Signature Psychiat...

Chart labels: Boone, Samaritan, U of Missouri Hospital, Northeast Regional, Moberly

Source: CMS.gov

Where Are Volumes Growing (by Region)

5 Year OP Change (#) (2)

Map of Connecticut regions:
- 8: 23,664
- 10: 177,334
- 11: 97,181
- 12: 49,024
- 9: 92,055
- 7: 102,551
- 3: 134,802
- 6: 64,632
- 13: 53,483
- 14: 87,837
- 4: 126,512
- 5: 34,111
- 2: 257,008
- 1: 146,760

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 (By Zip)

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All-Payer Market Share - Product Line Summary

USING HOSPITAL SPECIFIC DATA

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Outpatient Market Share – Usually "Challenging"

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TOTAL PSA MARKET VOLUMES

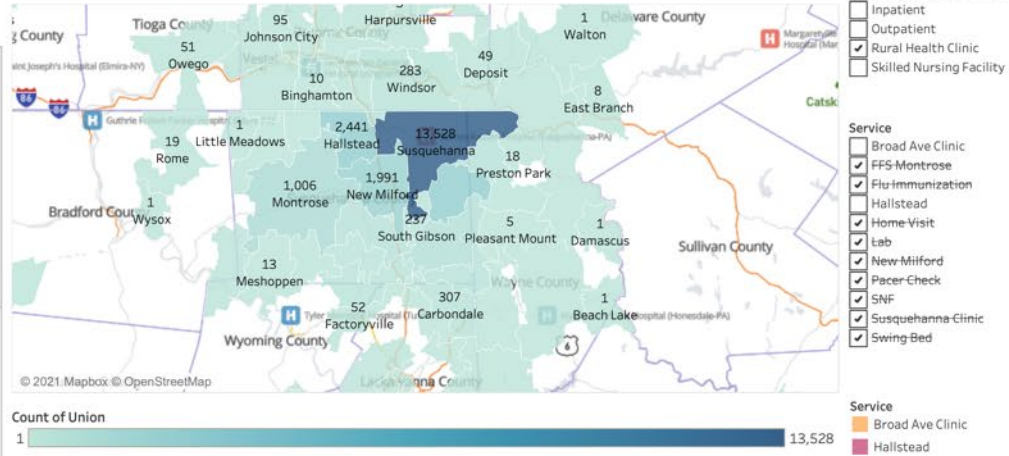|	PSA Estimate	5 year growth %	Truven annual growth %	2018 MDMH Volume	2019(a) MDMH Volume	2019(a) Share of PSA
ED Visits	6,769	3.2%	0.6%	10,571	10,219	151.0%
X-Ray / Fluoro	24,045	6.9%	1.4%	13,257	14,384	59.8%
CT Scans	6,341	11.0%	2.2%	5,024	5,266	83.0%
MRI	3,254	6.6%	1.3%	1,867	1,849	56.8%
Ultrasound	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
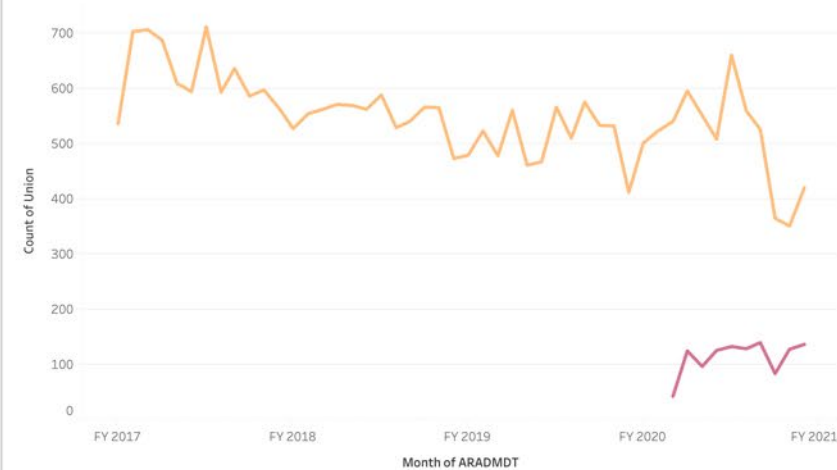
Patient Origin – Rural Health Clinic

Patients by Service Area

Service Area	Mapzip	PO Name	FY 2017	FY 2018	FY 2019	FY 2020	FY 2017	FY 2018	FY 2019	FY 2020
Grand Total			7,523	6,606	6,096	7,241	100.0%	100.0%	100.0%	100.0%
PSA	Total		5,780	5,034	4,810	5,828	76.8%	76.2%	78.9%	80.5%
	18847	Susquehanna	3,751	3,215	3,111	3,451	49.9%	48.7%	51.0%	47.7%
	18822	Hallstead	620	569	418	834	8.2%	8.6%	6.9%	11.5%
	18465	Thompson	561	506	636	638	7.5%	7.7%	10.4%	8.8%
	18834	New Milford	577	502	403	509	7.7%	7.6%	6.6%	7.0%
	18821	Great Bend	102	85	83	205	1.4%	1.3%	1.4%	2.8%
	18462	Starrucca	92	110	105	158	1.2%	1.7%	1.7%	2.2%
	18825	Jackson	77	47	54	33	1.0%	0.7%	0.9%	0.5%
SSA	Total		748	627	505	623	9.9%	9.5%	8.3%	8.6%
	18801	Montrose	320	232	220	234	4.3%	3.5%	3.6%	3.2%
	18470	Union Dale	182	154	107	150	2.4%	2.3%	1.8%	2.1%
	18826	Kingsley	117	136	80	103	1.6%	2.1%	1.3%	1.4%
	18842	South Gibson	57	55	54	71	0.8%	0.8%	0.9%	1.0%
	18823	Harford	42	26	25	39	0.6%	0.4%	0.4%	0.5%
	18461	Starlight	30	24	19	26	0.4%	0.4%	0.3%	0.4%
Other	Total		995	945	781	790	13.2%	14.3%	12.8%	10.9%
	18421	Forest City	104	75	67	105	1.4%	1.1%	1.1%	1.5%
	13865	Windsor	52	72	67	92	0.7%	1.1%	1.1%	1.3%
	18407	Carbondale	58	91	85	73	0.8%	1.4%	1.4%	1.0%
	18446	Nicholson	66	60	52	52	0.9%	0.9%	0.9%	0.7%
	18643	Pittston	26	28	35	43	0.3%	0.4%	0.6%	0.6%
	18824	Hop Bottom	33	46	56	37	0.4%	0.7%	0.9%	0.5%
	18508	Scranton	3	5	4	30	0.0%	0.1%	0.1%	0.4%
	13790	Johnson City	26	26	20	23	0.3%	0.4%	0.3%	0.3%
	18623	Laceyville	36	26	24	21	0.5%	0.4%	0.4%	0.3%
	13795	Kirkwood	23	12	13	19	0.3%	0.2%	0.2%	0.3%
	18612	Dallas		14	18	18		0.2%	0.3%	0.2%
	18439	Lakewood	30	35	19	15	0.4%	0.5%	0.3%	0.2%
	26505	Morgantown		1	7	14		0.0%	0.1%	0.2%
	19446	Lansdale	10	12	12	14	0.1%	0.2%	0.2%	0.2%
	18844	Springville	35	23	20	14	0.5%	0.3%	0.3%	0.2%
	18510	Scranton	12	14	13	14	0.2%	0.2%	0.2%	0.2%
	18419	Factoryville	5	15	18	14	0.1%	0.2%	0.3%	0.2%
	13901	Binghamton	20	24	17	14	0.3%	0.4%	0.3%	0.2%
	32566	Navarre	12	6	9	13	0.2%	0.1%	0.1%	0.2%
	18509	Scranton	12	13	13	11	0.2%	0.2%	0.2%	0.2%
	13754	Deposit	13	15	10	11	0.2%	0.2%	0.2%	0.2%
	17728	Cogan Station	9	10	14	10	0.1%	0.2%	0.2%	0.1%
	90045	Los Angeles	5	3	12	9	0.1%	0.0%	0.2%	0.1%
	13905	Binghamton	11	15	11	9	0.1%	0.2%	0.2%	0.1%
	13904	Binghamton	13	14	8	9	0.2%	0.2%	0.1%	0.1%

Patients by ZIP Code

Type: Emergency Department, Inpatient, Outpatient, ☑ Rural Health Clinic, Skilled Nursing Facility

Service: Broad Ave Clinic, ☑ FFS Montrose, ☑ Flu Immunization, Hallstead, ☑ Home Visit, ☑ Lab, ☑ New Milford, ☑ Pacer Check, ☑ SNF, ☑ Susquehanna Clinic, ☑ Swing Bed

Count of Union: 1 — 13,528

Service: Broad Ave Clinic, Hallstead
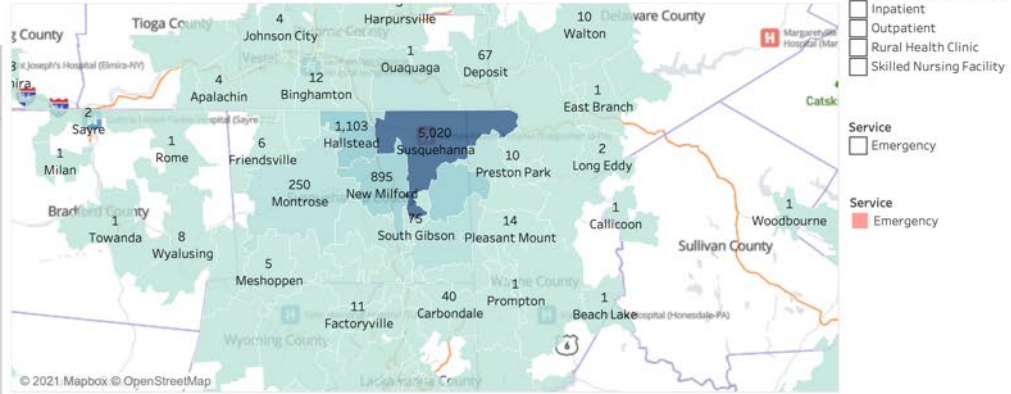
Monthly Trend

- From where do our patients originate, and does it differ by service?

- Acquire:
  - Visit count by zip
  - Service grouping

- Table
- Heat map
- Trends

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Patients by Service Area

Service Area	Mapzip	PO Name	FY 2017	FY 2018	FY 2019	FY 2020	FY 2017	FY 2018	FY 2019	FY 2020
Grand Total			3,335	2,896	2,643	2,448	100.0%	100.0%	100.0%	100.0%
PSA	Total		2,587	2,177	2,075	1,984	77.6%	75.2%	78.5%	81.0%
	18847	Susquehanna	1,448	1,251	1,195	1,126	43.4%	43.2%	45.2%	46.0%
	18465	Thompson	236	245	228	261	7.1%	8.5%	8.6%	10.7%
	18822	Hallstead	334	248	267	254	10.0%	8.6%	10.1%	10.4%
	18834	New Milford	272	215	206	202	8.2%	7.4%	7.8%	8.3%
	18821	Great Bend	190	143	100	80	5.7%	4.9%	3.8%	3.3%
	18462	Starrucca	70	52	57	44	2.1%	1.8%	2.2%	1.8%
	18825	Jackson	37	23	22	17	1.1%	0.8%	0.8%	0.7%
SSA	Total		288	270	186	170	8.6%	9.3%	7.0%	6.9%
	18470	Union Dale	113	82	65	61	3.4%	2.8%	2.5%	2.5%
	18801	Montrose	66	94	50	40	2.0%	3.2%	1.9%	1.6%
	18826	Kingsley	49	49	33	33	1.5%	1.7%	1.2%	1.3%
	18823	Harford	18	15	8	15	0.5%	0.5%	0.3%	0.6%
	18461	Starlight	19	9	6	14	0.6%	0.3%	0.2%	0.6%
	18842	South Gibson	23	21	24	7	0.7%	0.7%	0.9%	0.3%
Other	Total		460	449	382	294	13.8%	15.5%	14.5%	12.0%
	13865	Windsor	43	64	32	34	1.3%	2.2%	1.2%	1.4%
	13754	Deposit	11	20	16	20	0.3%	0.7%	0.6%	0.8%
	18421	Forest City	28	40	13	11	0.8%	1.4%	0.5%	0.4%
	13795	Kirkwood	16	11	9	11	0.5%	0.4%	0.3%	0.4%
	18446	Nicholson	12	6	14	10	0.4%	0.2%	0.5%	0.4%
	13901	Binghamton	14	5	6	9	0.4%	0.2%	0.2%	0.4%
	13783	Hancock	7	6	7	8	0.2%	0.2%	0.3%	0.3%
Null	Null		1	17	10	7	0.0%	0.6%	0.4%	0.3%
	18439	Lakewood	2	2	8	6	0.1%	0.1%	0.3%	0.2%
	76706	Waco				5				0.2%
	18453	Pleasant Mount	5	1	3	5	0.1%	0.0%	0.1%	0.2%
	18407	Carbondale	7	18	10	5	0.2%	0.6%	0.4%	0.2%
	30344	Atlanta				4				0.2%
	18512	Scranton		2	3	4		0.1%	0.1%	0.2%
	18504	Scranton	5	1		4	0.1%	0.0%		0.2%
	64503	Saint Joseph				3				0.1%
	36609	Mobile	1			3	0.0%			0.1%
	32724	Deland		2	3	3		0.1%	0.1%	0.1%
	18657	Tunkhannock	1	2	3	3	0.0%	0.1%	0.1%	0.1%
	18505	Scranton	3	6	2	3	0.1%	0.2%	0.1%	0.1%
	13904	Binghamton	1	5	2	3	0.0%	0.2%	0.1%	0.1%
	10003	New York				3				0.1%
	32168	New Smyrna Bea..		1		2			0.0%	0.1%
	19525	Gilbertsville				2				0.1%
	18844	Springville	7	8	2	2	0.2%	0.3%	0.1%	0.1%

Patients by ZIP Code

Type
- ☑ Emergency Department
- ☐ Inpatient
- ☐ Outpatient
- ☐ Rural Health Clinic
- ☐ Skilled Nursing Facility

Service
- ☐ Emergency

Service
- Emergency

Count of Union
1 ————— 5,020

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Monthly Trend

Count of Union / Month of ARADMDT

- From where do our patients originate, and does it differ by service?

- Acquire:
  - Visit count by zip
  - Service grouping

- Table
- Heat map
- Trends

Patients by Service Area

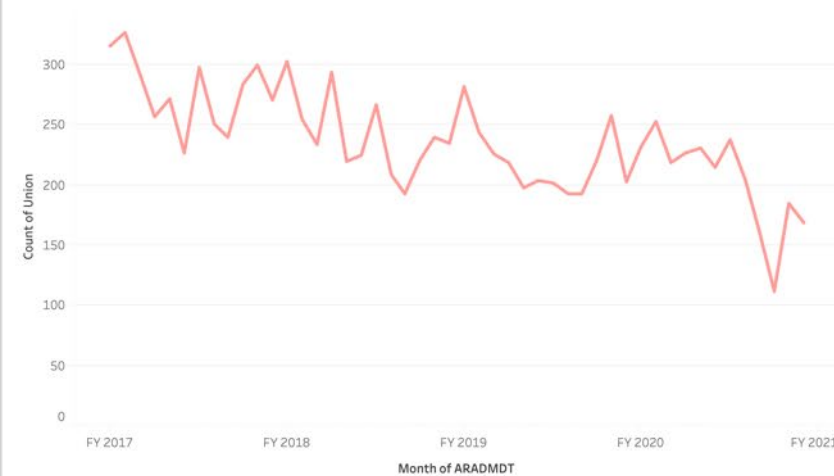| Service Area	Mapzip	PO Name	FY 2017	FY 2018	FY 2019	FY 2020	FY 2017	FY 2018	FY 2019	FY 2020
Grand Total			638	511	471	425	100.0%	100.0%	100.0%	100.0%
PSA	Total		513	397	382	334	80.4%	77.7%	81.1%	78.6%
	18847	Susquehanna	301	233	225	176	47.2%	45.6%	47.8%	41.4%
	18834	New Milford	61	51	44	54	9.6%	10.0%	9.3%	12.7%
	18465	Thompson	41	40	33	44	6.4%	7.8%	7.0%	10.4%
	18822	Hallstead	65	30	43	34	10.2%	5.9%	9.1%	8.0%
	18821	Great Bend	31	24	22	16	4.9%	4.7%	4.7%	3.8%
	18462	Starrucca	10	14	11	9	1.6%	2.7%	2.3%	2.1%
	18825	Jackson	4	5	4	1	0.6%	1.0%	0.8%	0.2%
SSA	Total		56	49	40	42	8.8%	9.6%	8.5%	9.9%
	18826	Kingsley	17	13	10	14	2.7%	2.5%	2.1%	3.3%
	18823	Harford	6	3	4	8	0.9%	0.6%	0.8%	1.9%
	18801	Montrose	6	8	2	8	0.9%	1.6%	0.4%	1.9%
	18470	Union Dale	18	20	14	7	2.8%	3.9%	3.0%	1.6%
	18842	South Gibson	2	1	8	4	0.3%	0.2%	1.7%	0.9%
	18461	Starlight	7	4	2	1	1.1%	0.8%	0.4%	0.2%
Other	Total		69	65	49	49	10.8%	12.7%	10.4%	11.5%
	30344	Atlanta			4	5			0.8%	1.2%
	18446	Nicholson	2	4	5	5	0.3%	0.8%	1.1%	1.2%
	13865	Windsor	4	3	6	5	0.6%	0.6%	1.3%	1.2%
	18844	Springville		1		3		0.2%		0.7%
	18512	Scranton			1	3			0.2%	0.7%
	Null	Null			2	2			0.4%	0.5%
	18510	Scranton				2				0.5%
	18503	Scranton				2				0.5%
	18431	Honesdale				2				0.5%
	18421	Forest City	3	1	2	2	0.5%	0.2%	0.4%	0.5%
	15229	Pittsburgh				2				0.5%
	13904	Binghamton			1	2			0.2%	0.5%
	77441	Fulshear				1				0.2%
	76706	Waco				1				0.2%
	75061	Irving				1				0.2%
	64503	Saint Joseph				1				0.2%
	63775	Perryville				1				0.2%
	18657	Tunkhannock	2	3	1	1	0.3%	0.6%	0.2%	0.2%
	18455	Preston Park	1	1	1	1	0.2%	0.2%	0.2%	0.2%
	18407	Carbondale	1	1	1	1	0.2%	0.2%	0.2%	0.2%
	13901	Binghamton		1		1		0.2%		0.2%
	13754	Deposit	1	1	1	1	0.2%	0.2%	0.2%	0.2%
	13748	Conklin		2		1		0.4%		0.2%
	11751	Islip				1				0.2%
	07026	Garfield				1				0.2%

Patients by ZIP Code
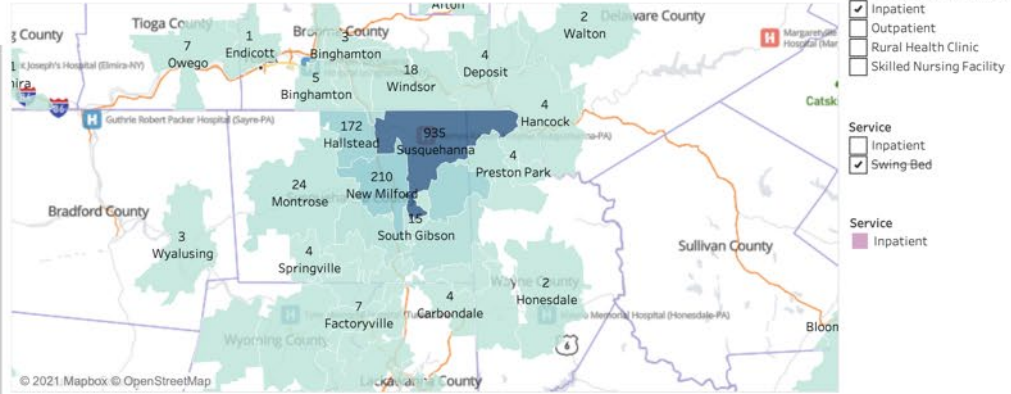
Monthly Trend

- From where do our patients originate, and does it differ by service?

- Acquire:
  - Visit count by zip
  - Service grouping

- Table
- Heat map
- Trends

Drivetime / Location Analysis
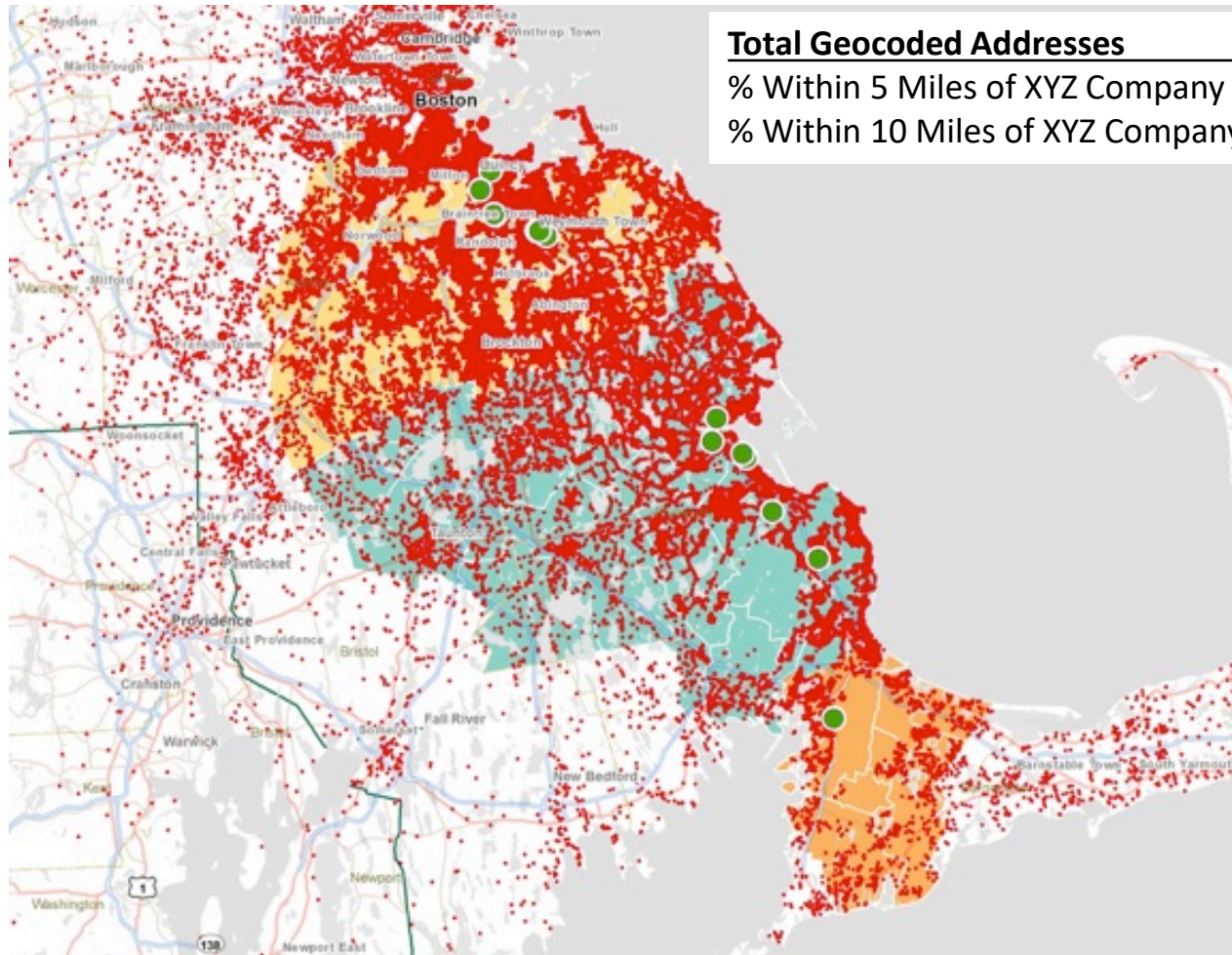
Total Geocoded Addresses	138,808
% Within 5 Miles of XYZ Company Site	48.8%
% Within 10 Miles of XYZ Company Site	77.7%

- Of all XYZ Company patients of South Region facilities (139k addresses), more than 77% are within 10 miles of an XYZ Site. 49% are within 5 miles.

- The question becomes whether we can consolidate practices and not decrease patient access.

- What does it mean for an individual patient or group of patients and how might we "sell" it.

Drivetime / Location Analysis

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Existing Site A vs Potential sites

	1	2	3	4	5	6	7
	Camp Street	Harley Davidson	Former BoA	471 North Main	Centre Square	Webster Bank	Bikers Edge
Count If Better	2,552	7,605	6,506	6,789	6,457	6,525	6,519
Count of Worse	7,446	2,393	3,492	3,209	3,541	3,473	3,479
% Better	25.5%	76.1%	65.1%	67.9%	64.6%	65.3%	65.2%
% Worse	74.5%	23.9%	34.9%	32.1%	35.4%	34.7%	34.8%

- "If a stiff wind came and blew down our practice…where would the best relocation be?

- Requires:
  - Existing practice address
  - Patient street address
  - Potential practice addresses

- Produce:
  - Count if better/worse
  - % if better/worse

Primary Care Market Share – All

South Region Primary Care Market Share
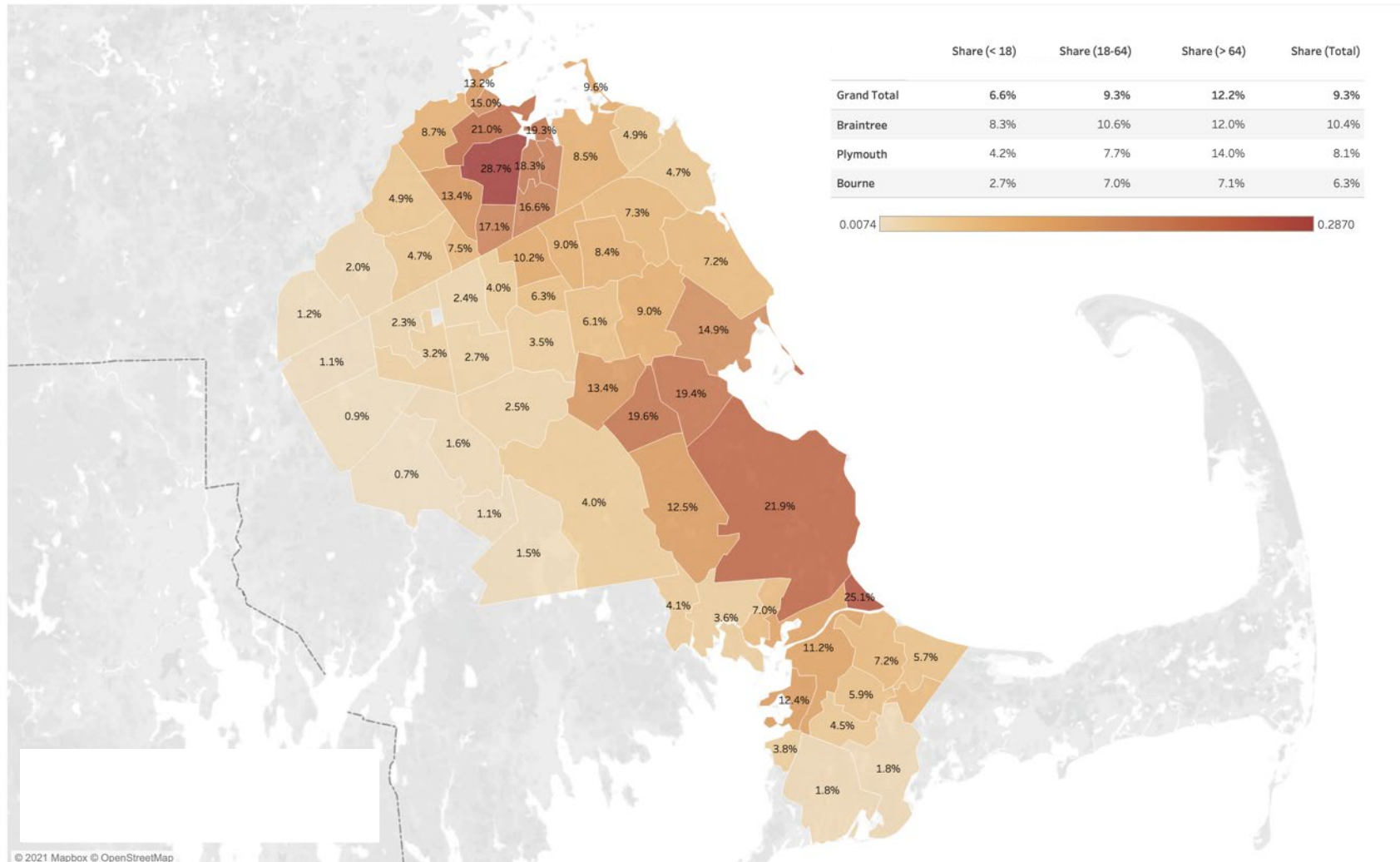
	Share (< 18)	Share (18-64)	Share (> 64)	Share (Total)
Grand Total	6.6%	9.3%	12.2%	9.3%
Braintree	8.3%	10.6%	12.0%	10.4%
Plymouth	4.2%	7.7%	14.0%	8.1%
Bourne	2.7%	7.0%	7.1%	6.3%

0.0074   0.2870

- What share of the market do we capture?

- Does it vary by age?

- Acquire:
  - Patient panel list
  - Patient age
  - Patient Zip
  - Current population by age by zip

- Produce
  - Table
  - Heat map

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Primary Care Market Share – 65+

South Region Primary Care Market Share

	Share (< 18)	Share (18-64)	Share (> 64)	Share (Total)
Grand Total	6.6%	9.3%	12.2%	9.3%
Braintree	8.3%	10.6%	12.0%	10.4%
Plymouth	4.2%	7.7%	14.0%	8.1%
Bourne	2.7%	7.0%	7.1%	6.3%

0.0051 — 0.4186

- What share of the market do we capture?

- Does it vary by age?

- Acquire:
  - Patient panel list
  - Patient age
  - Patient Zip
  - Current population by age by zip

- Produce
  - Table
  - Heat map

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South Region Primary Care Market Share

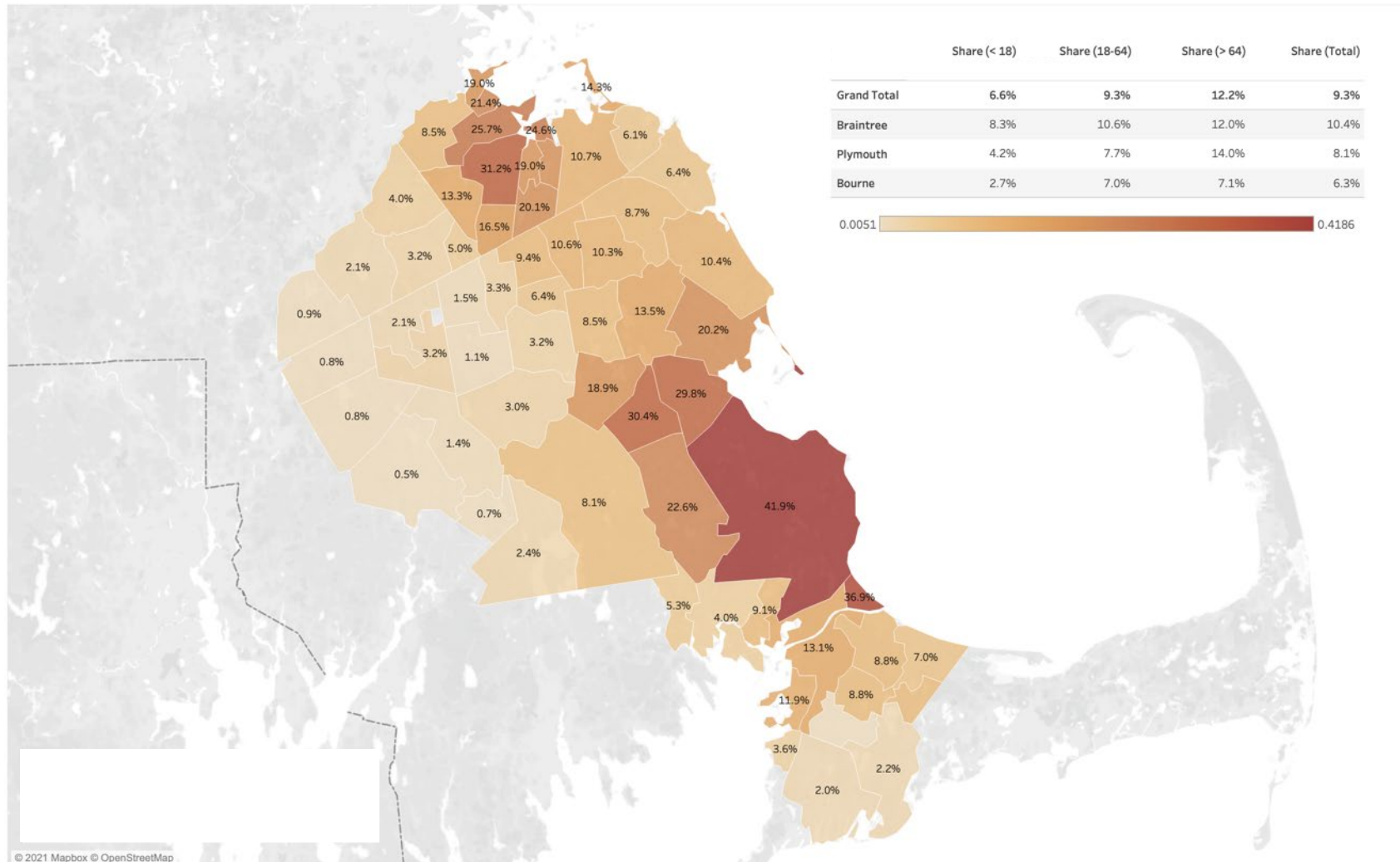|	Share (< 18)	Share (18-64)	Share (> 64)	Share (Total)
Grand Total	6.6%	9.3%	12.2%	9.3%
Braintree	8.3%	10.6%	12.0%	10.4%
Plymouth	4.2%	7.7%	14.0%	8.1%
Bourne	2.7%	7.0%	7.1%	6.3%

0.0051 — 0.2450

- What share of the market do we capture?

- Does it vary by age?

- Acquire:
  - Patient panel list
  - Patient age
  - Patient Zip
  - Current population by age by zip

- Produce
  - Table
  - Heat map

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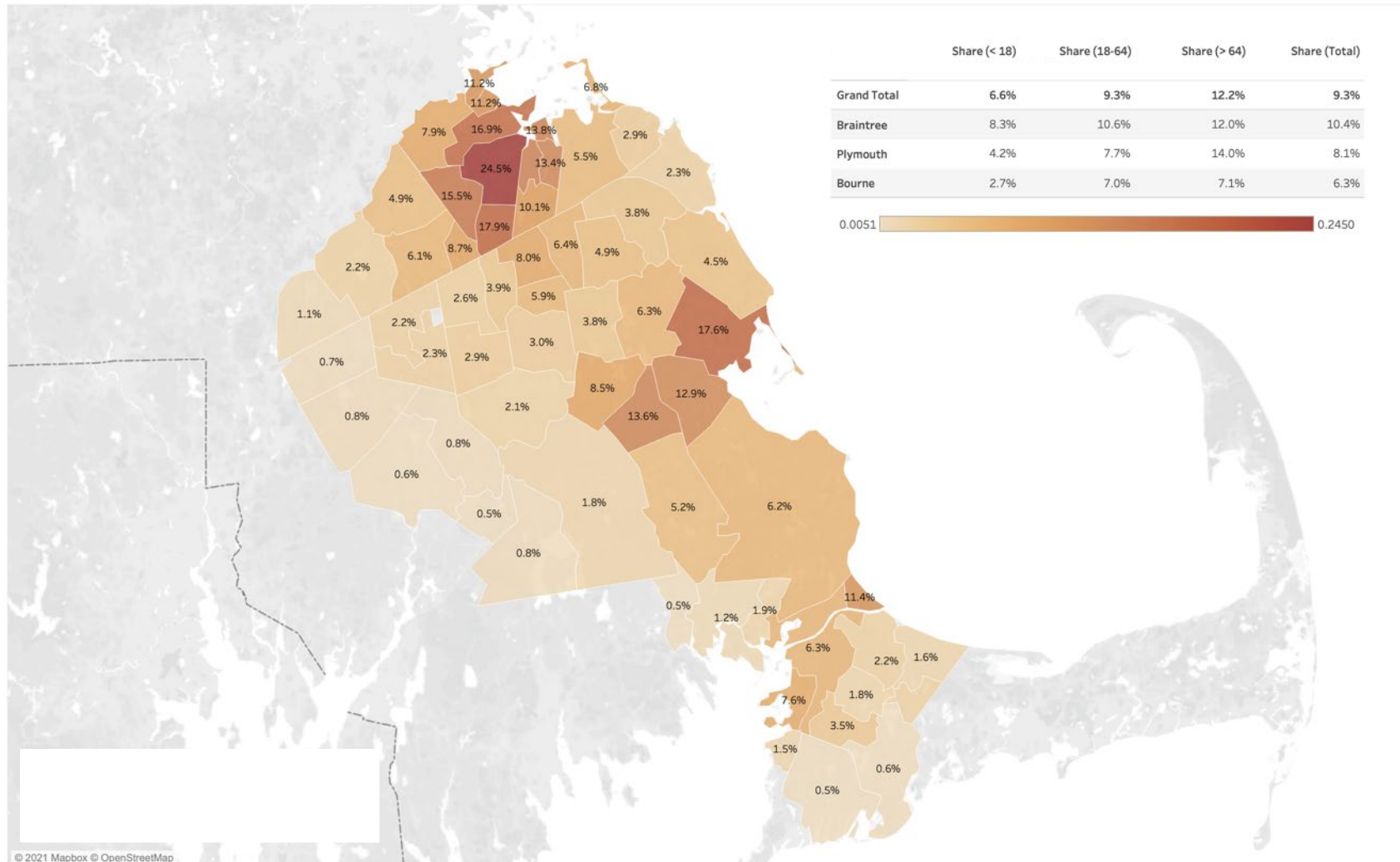
Market Share – Inpatient PSA – Low Acuity

Inpatient Market Share by Facility

Facility Name	Discharges			% of Total Discharges		
	2017	2018	2019	2017	2018	2019
Grand Total	1,729	1,764	2,196	100.0%	100.0%	100.0%
Memorial Hospital and Manor	1,057	1,044	1,302	61.1%	59.2%	59.3%
John D. Archbold Memorial Hospital	333	351	431	19.3%	19.9%	19.6%
Donalsonville Hospital, Inc.	169	175	234	9.8%	9.9%	10.7%
Grady General Hospital	42	40	65	2.4%	2.3%	3.0%
Phoebe Putney Memorial Hospital	26	39	53	1.5%	2.2%	2.4%
Miller County Hospital	17	16	15	1.0%	0.9%	0.7%
Emory University Hospital	8	7	12	0.5%	0.4%	0.5%
Children's Healthcare of Atlanta At Egleston	4	2	9	0.2%	0.1%	0.4%
Mitchell County Hospital	8	17	7	0.5%	1.0%	0.3%
Medical Center, Navicent Health	2	10	7	0.1%	0.6%	0.3%
Life Brite Community Hospital of Early	2	6	5	0.1%	0.3%	0.2%
Saint Simons By The Sea	5	2	4	0.3%	0.1%	0.2%

Discharge Date

Patient Zip (group)
- ✔ PSA
- ☐ Tertiary
- ☐ Secondary

Acuity
- ☐ High acuity
- ✔ Low acuity

Product
- ✔ Null
- ✔ CARDIOLOGY
- ✔ DENTISTRY
- ✔ DERMATOLOGY
- ✔ ENDOCRINE
- ✔ GASTROENTEROLOGY
- ✔ GENERAL MEDICINE
- ✔ GENERAL SURGERY
- ✔ GYNECOLOGY
- ✔ HEMATOLOGY
- ✔ HIV
- ✔ NEONATOLOGY
- NEPHROLOGY

Patient Zip
- ✔ 39815
- ✔ 39817
- ✔ 39819
- ✔ 39825
- ✔ 39834

Facility Name
- Memorial Hospital and Manor
- John D. Archbold Memorial Hospital
- Donalsonville Hospital, Inc.
- Grady General Hospital
- Phoebe Putney Memorial Hospital
- Miller County Hospital
- Mitchell County Hospital
- Emory University Hospital
- Flint River Hospital
- Children's Healthcare of Atlanta At Egleston
- Medical Center, Navicent Health
- Life Brite Community Hospital of Early
- Saint Simons By The Sea
- Children's Healthcare of Atlanta At Scottish Rite
- Memorial Satilla Health
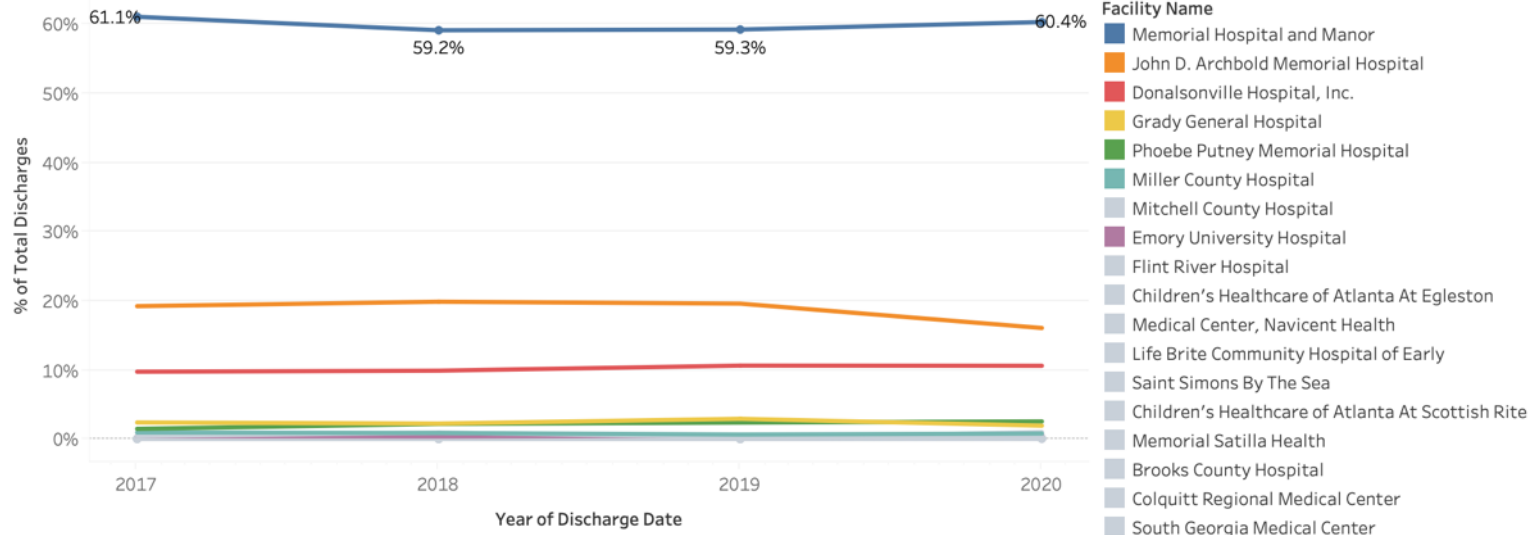- Brooks County Hospital
- Colquitt Regional Medical Center
- South Georgia Medical Center
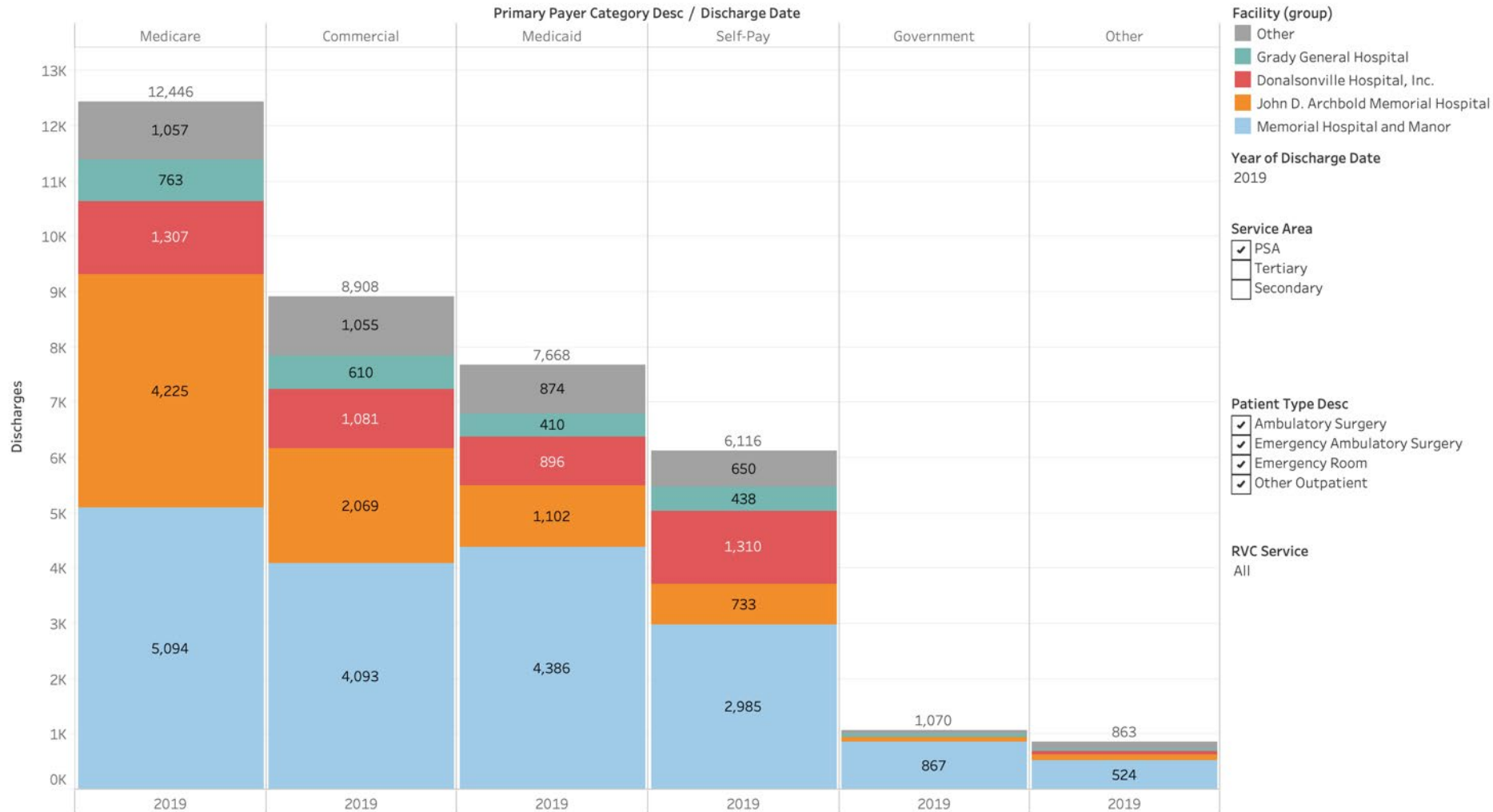
- What share of the inpatient market do we capture?

- Does it vary by acuity?

- Does it vary by product?

- Does it vary by geography

- Acquire from all payer source:
  - Discharges by hospital by DRG by date

- Produce
  - Table
  - Trends

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Outpatient Visits by Payer

Primary Payer Category Desc / Discharge Date

Facility (group)
- Other
- Grady General Hospital
- Donalsonville Hospital, Inc.
- John D. Archbold Memorial Hospital
- Memorial Hospital and Manor

Year of Discharge Date
2019

Service Area
- ☑ PSA
- ☐ Tertiary
- ☐ Secondary

Patient Type Desc
- ☑ Ambulatory Surgery
- ☑ Emergency Ambulatory Surgery
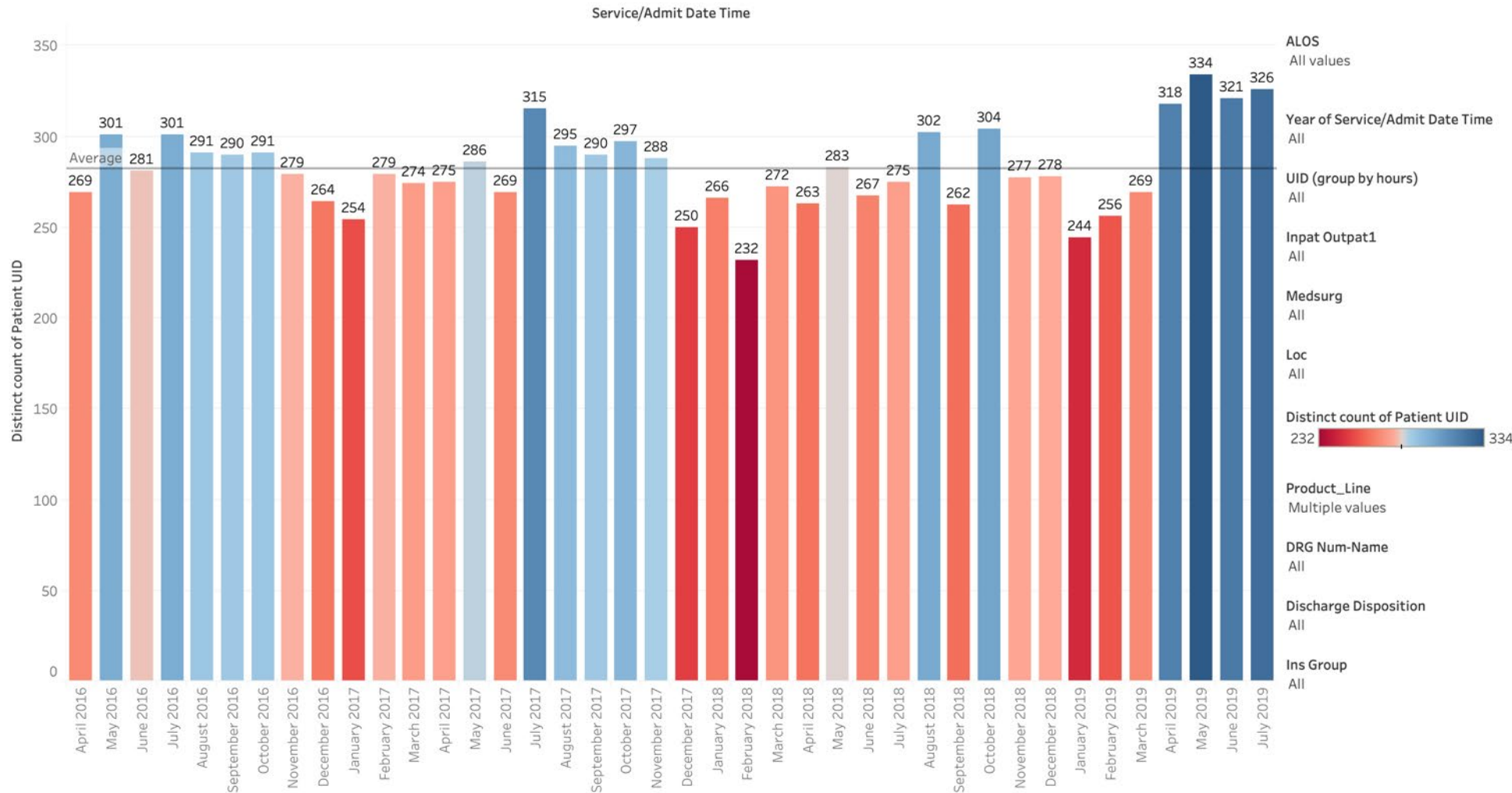- ☑ Emergency Room
- ☑ Other Outpatient

RVC Service
All

- What share of each payer type in the outpatient market do we capture?

- Does it vary by geography

- Acquire from all payer source:
  - OP by hospital by date by payer

- Produce
  - Chart

Patient Count by Month — Service/Admit Date Time

- When evaluating seasonality, and general inpatient utilization.

- Acquire:
  - Admit date, time
  - Discharge date, time
  - Unit
  - DRG
  - Insurance
  - Discharge disposition

- Produce
  - Charts
  - Tables
  - Trends
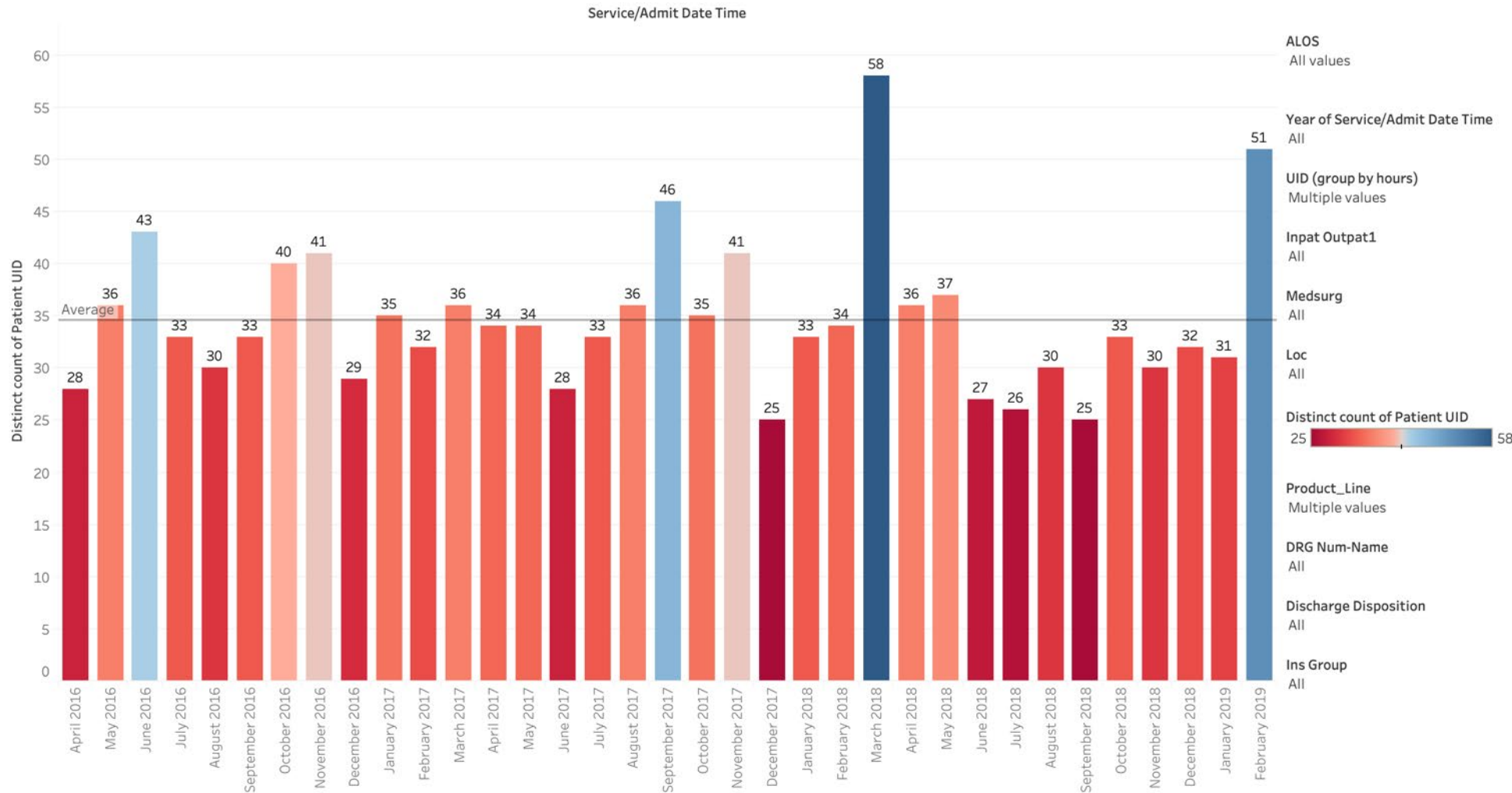
Patient Count by Month

When evaluating seasonality, and general inpatient utilization.

- Acquire:
  - Admit date, time
  - Discharge date, time
  - Unit
  - DRG
  - Insurance
  - Discharge disposition

- Produce
  - Charts
  - Tables
  - Trends

Indiv Loc (On what days did the number of patients exceed the total number of beds?)
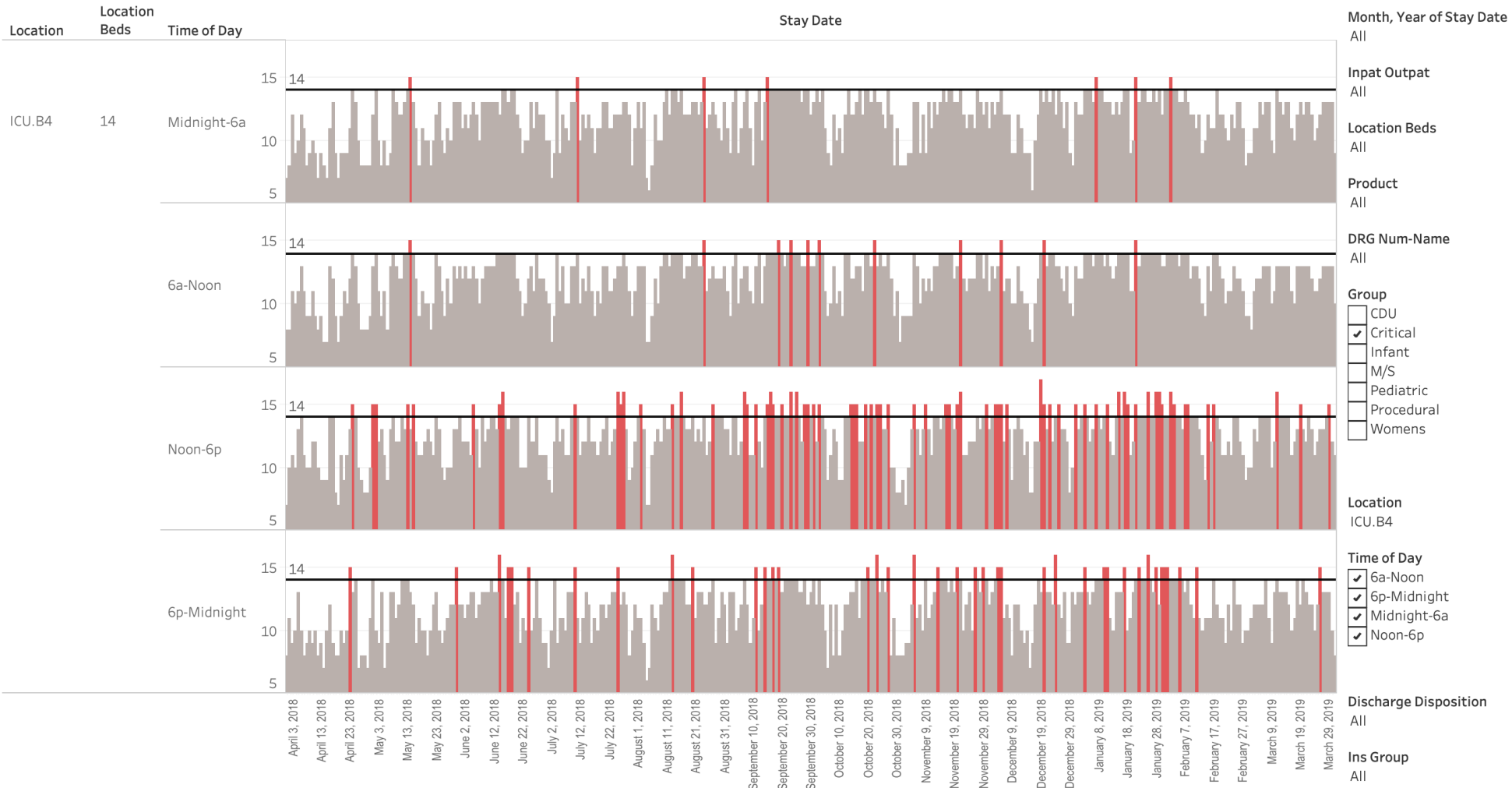
- The more granular the data received, the more interesting the analysis can become.

- Discharge time?

- Surgical schedule?

- Transfer staff for moving patients from ICU to MS?

Throughput – Procedural Volume by Month
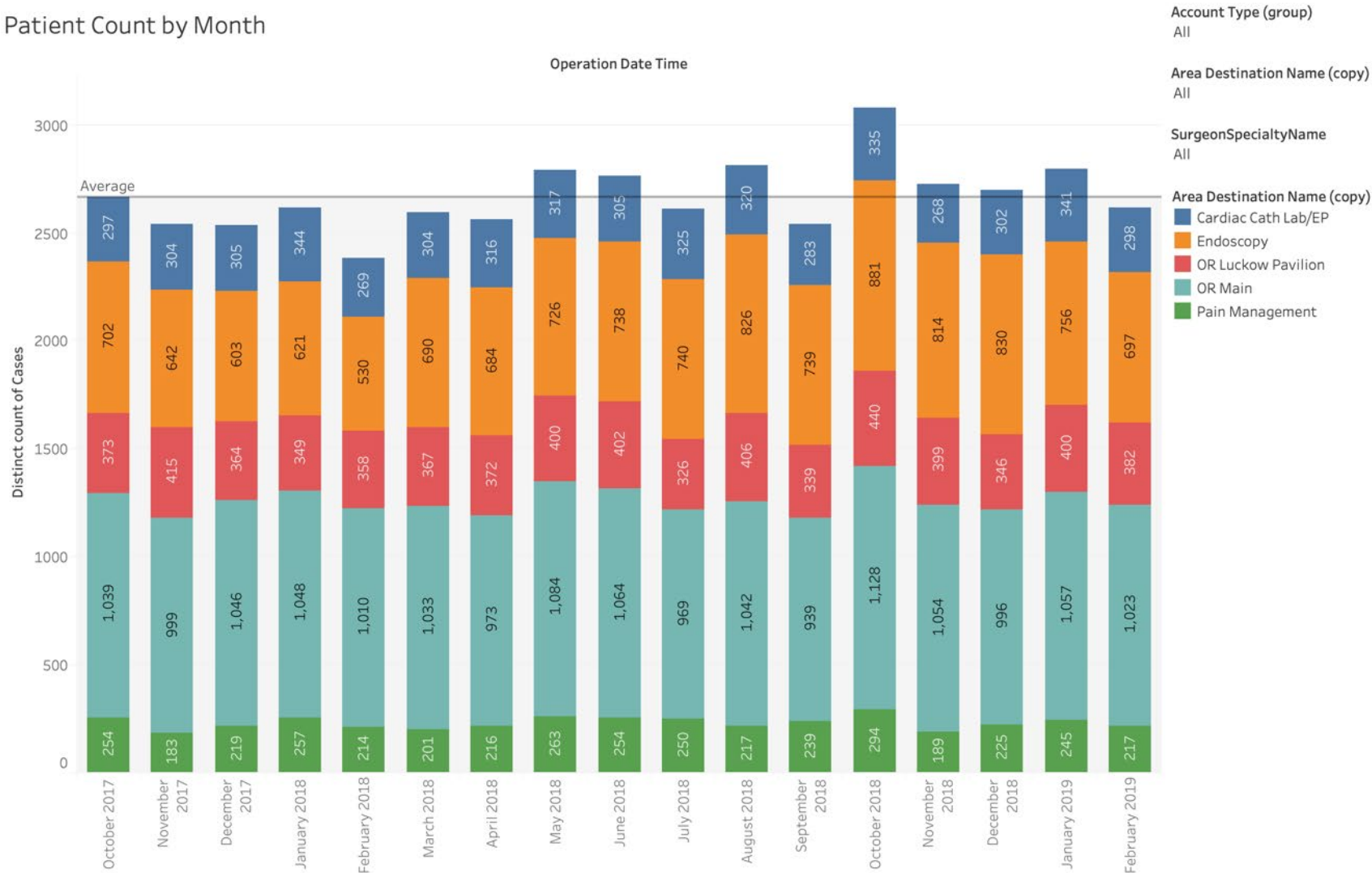
- When evaluating procedure room utilization by month and location.

- Acquire:
  - Procedure date, time
  - Prep, Procedure, PACU, Phase 2 in and out times
  - Surgeon
  - Procedure
  - Location

- Produce
  - Charts
  - Tables
  - Trends

Throughput – Procedural Volume by Surgeon

STROUDWATER

Patient Count by Surgeon

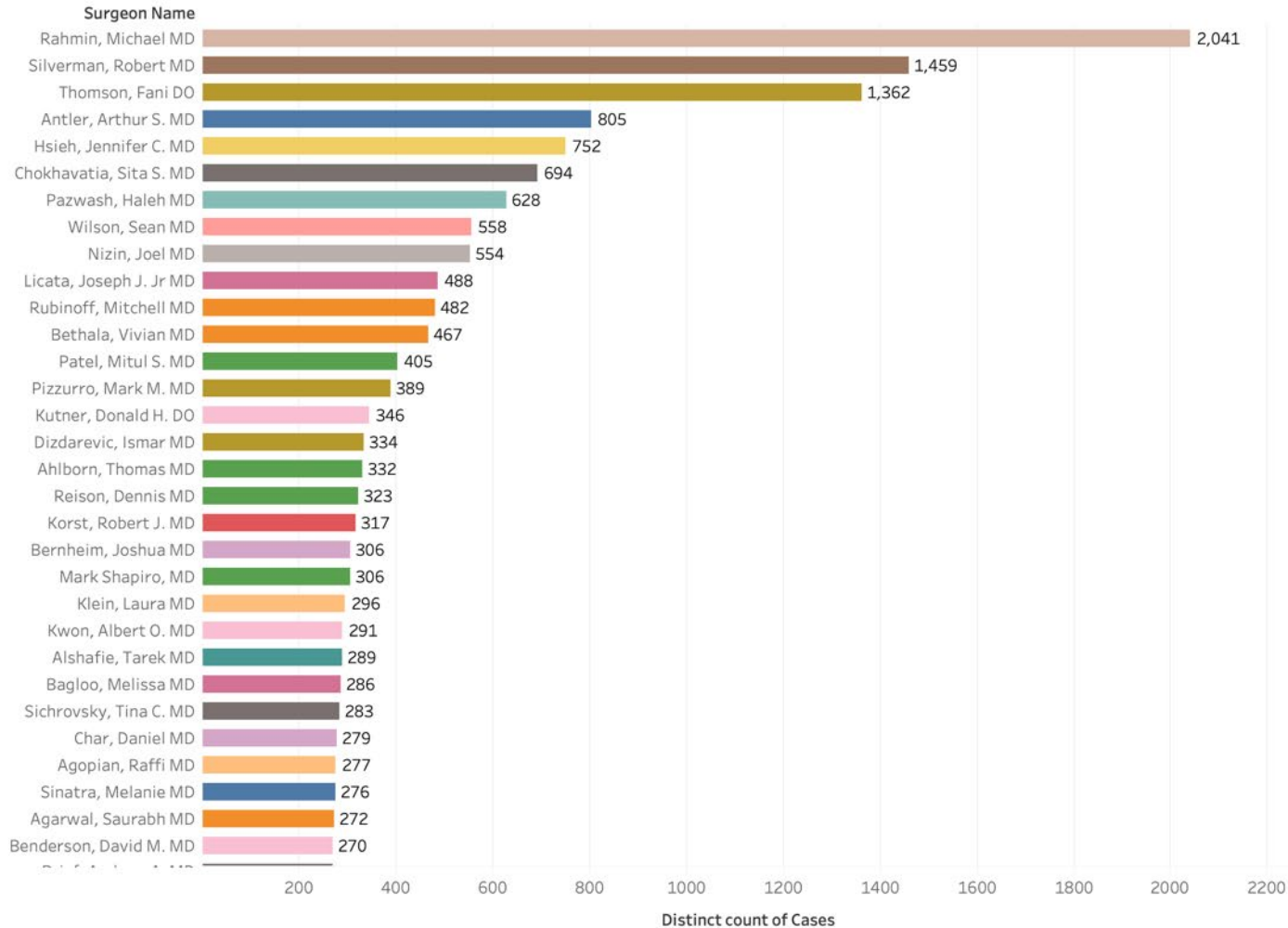| Surgeon Name	Distinct count of Cases
Rahmin, Michael MD	2,041
Silverman, Robert MD	1,459
Thomson, Fani DO	1,362
Antler, Arthur S. MD	805
Hsieh, Jennifer C. MD	752
Chokhavatia, Sita S. MD	694
Pazwash, Haleh MD	628
Wilson, Sean MD	558
Nizin, Joel MD	554
Licata, Joseph J. Jr MD	488
Rubinoff, Mitchell MD	482
Bethala, Vivian MD	467
Patel, Mitul S. MD	405
Pizzurro, Mark M. MD	389
Kutner, Donald H. DO	346
Dizdarevic, Ismar MD	334
Ahlborn, Thomas MD	332
Reison, Dennis MD	323
Korst, Robert J. MD	317
Bernheim, Joshua MD	306
Mark Shapiro, MD	306
Klein, Laura MD	296
Kwon, Albert O. MD	291
Alshafie, Tarek MD	289
Bagloo, Melissa MD	286
Sichrovsky, Tina C. MD	283
Char, Daniel MD	279
Agopian, Raffi MD	277
Sinatra, Melanie MD	276
Agarwal, Saurabh MD	272
Benderson, David M. MD	270

Account Type (group)
All

Area Destination Name (copy)
All

SurgeonSpecialtyName
All

Surgeon Name
- Rahmin, Michael MD
- Silverman, Robert MD
- Thomson, Fani DO
- Antler, Arthur S. MD
- Hsieh, Jennifer C. MD
- Chokhavatia, Sita S. MD
- Pazwash, Haleh MD
- Wilson, Sean MD
- Nizin, Joel MD
- Licata, Joseph J. Jr MD
- Rubinoff, Mitchell MD
- Bethala, Vivian MD
- Patel, Mitul S. MD
- Pizzurro, Mark M. MD
- Kutner, Donald H. DO
- Dizdarevic, Ismar MD
- Ahlborn, Thomas MD
- Reison, Dennis MD
- Korst, Robert J. MD
- Bernheim, Joshua MD
- Mark Shapiro, MD
- Klein, Laura MD
- Kwon, Albert O. MD
- Alshafie, Tarek MD
- Bagloo, Melissa MD
- Sichrovsky, Tina C. MD
- Char, Daniel MD
- Agopian, Raffi MD
- Sinatra, Melanie MD

- When evaluating procedure room utilization by surgeon.

- Produce
  - Charts
  - Tables
  - Trends

STROUDWATER

Procedural Cases (2)

Area Destination Name (copy)	Distinct count of Cases	Avg. PreOP_Mnts	Avg. PreOp Hrs	Avg. Rm_Mnts	Avg. Rm Hrs	Avg. Pacu_Mnts	Avg. Pacu Hrs	Avg. Phase2_Mnts	Avg. Phase2 Hrs
Grand Total	28,468	89.9	1.5	75.5	1.3	71.8	1.2	92.4	1.5
Endoscopy	8,814			39.7	0.7			80.6	1.3
OR Luckow Pavilion	4,504	67.5	1.1	54.6	0.9	69.6	1.2	35.0	0.6
OR Main	12,331	121.4	2.0	122.1	2.0	86.3	1.4	116.1	1.9
Pain Management	2,819	38.6	0.6	15.9	0.3	23.5	0.4		

Year of Operation Date Time
2018

Month, Year of Operation Date Time
All

Patient Age At Registration
0 to 105
and Null values

Account Type (group)
☑ Inpatient
☑ Outpatient
☑ Null

Account Type
☑ INP
☑ IVF
☑ NB
☑ OBSER
☑ SDM
☑ SDS
☑ ER
☐ OUTPT

Area Destination Name
☐ Cardiac Cath Lab/EP
☑ Endoscopy
☑ OR Luckow Pavilion
☑ OR Main
☑ Pain Management

Operation Room Name
All

Proc Name
All

ProcedureGroupName
All

- When evaluating procedure room volumes and duration by location.

- Acquire:
  - Procedure date, time
  - Prep, Procedure, PACU, Phase 2 in and out times
  - Surgeon
  - Procedure
  - Location

- Produce
  - Charts
  - Tables
  - Trends
  - Counter arguments

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Procedural Cases (4)

Area Destination Name (copy)	SurgeonSpecialtyName	Distinct count of Cases	Avg. PreOP_ Mnts	Avg. PreOp Hrs	Avg. Rm_Mnts	Avg. Rm Hrs	Avg. Pacu_Mnts	Avg. Pacu Hrs	Avg. Phase2_ Mnts	Avg. Phase2 Hrs
Grand Total		24,545	92.7	1.5	91.4	1.5	71.9	1.2	124.7	2.1
OR Luckow Pavilion	Total	5,656	68.7	1.1	54.6	0.9	69.9	1.2	35.0	0.6
	General Surgery	519	58.4	1.0	59.4	1.0	77.8	1.3		
	Orthopedics	952	78.4	1.3	89.3	1.5	86.4	1.4		
	Null	317	64.8	1.1	102.7	1.7	93.0	1.6		
	Urology	559	72.1	1.2	44.5	0.7	70.3	1.2		
	Ophthalmology	1,352	77.7	1.3	44.1	0.7	57.7	1.0		
	Gynecology/Obstetrics	556	65.5	1.1	40.1	0.7	76.5	1.3		
	Gynecology	201	69.6	1.2	47.2	0.8	82.4	1.4		
	Neurosurgery	1			17.0	0.3				
	Repro Endocrinology/Infe..	694	50.4	0.8	21.6	0.4	49.3	0.8		
	Bariatric Surgery	14	27.5	0.5	54.7	0.9	56.0	0.9		
	Otolaryngology	267	66.0	1.1	59.8	1.0	69.7	1.2	15.0	0.3
	Podiatry	114	67.7	1.1	67.1	1.1	77.3	1.3	55.0	0.9
	Surgical Oncology	37	61.4	1.0	43.3	0.7	76.0	1.3		
	Plastic and Reconstruct	21	50.0	0.8	65.4	1.1	74.2	1.2		
	Medical	4	93.3	1.6	37.8	0.6	77.5	1.3		
	Radiation Therapy	48	56.1	0.9	37.2	0.6	64.2	1.1		
OR Main	Total	15,414	122.5	2.0	122.0	2.0	86.3	1.4	124.7	2.1
	General Surgery	5,232	119.1	2.0	103.0	1.7	88.3	1.5	126.4	2.1
	Orthopedics	3,001	125.5	2.1	142.0	2.4	87.5	1.5	109.7	1.8
	Null	503	127.7	2.1	144.8	2.4	94.9	1.6	120.6	2.0
	Urology	1,115	118.2	2.0	66.8	1.1	69.6	1.2	116.4	1.9
	Ophthalmology	185	113.0	1.9	70.1	1.2	53.6	0.9	79.6	1.3
	Gynecology/Obstetrics	930	113.1	1.9	70.0	1.2	67.2	1.1	102.4	1.7
	Gynecology	857	133.1	2.2	120.5	2.0	82.9	1.4	119.8	2.0
	Neurosurgery	926	126.9	2.1	188.0	3.1	113.4	1.9	120.8	2.0
	Repro Endocrinology/Infe..	1	74.0	1.2	50.0	0.8	36.0	0.6		
	Cardiac Surgery	590	133.0	2.2	234.6	3.9	113.8	1.9	109.8	1.8
	Bariatric Surgery	564	128.7	2.1	138.7	2.3	89.1	1.5	135.0	2.3
	Otolaryngology	269	103.5	1.7	102.4	1.7	75.7	1.3	221.6	3.7

Year of Operation Date Time
- ☑ 2017
- ☑ 2018
- ☐ 2019

Month, Year of Operation Date Time
All

Patient Age At Registration
0 to 105
and Null values

Account Type (group)
- ☑ Inpatient
- ☑ Outpatient
- ☑ Null

Account Type
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- ☑ IVF
- ☑ NB
- ☑ OBSER
- ☑ SDM
- ☑ SDS
- ☑ ER
- ☑ OUTPT
- ☑ Null

Operation Room Name
Multiple values

Proc Name
All

- When evaluating procedure room volumes and duration by location and specialty.

- Acquire:
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Wrap Up

- Data can be incredibly powerful and insightful
  - Access it
  - Manipulate it
  - Share it

- Lots of trial and error is always involved, especially when confirming data validity

- Decisions are better when backed with real data
  - Reduce emotions
  - Increase acceptance
  - Improve access
  - Maximize efficiency

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