

STUDY OF US LOCAL HEALTHCARE MARKET DYNAMICS

**Internship Training
at
ZS Association India Private Limited**

**By
Sureet Boora**

**Under the guidance of
Dr. Anoop Khanna**

**MBA Hospital & Health Management
2013–15**


**Institute of Health Management Research
Jaipur
2015**

Internship Training

At

ZS Associates India Private Limited

“The Study of US Local Healthcare Market Dynamics”

By

Sureet Boora

Under the guidance of

Prof. Anoop Khanna

Post Graduate Diploma in Hospital and Health Management

2013 - 2015



Institute of Health Management Research

Jaipur

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr.Sureet Boora** student of MBA Hospital and Health Management from IIHMR University, Jaipur has undergone internship training at ZS Associates Pvt. Limited from **9th Feb,2015 to 8th May, 2015**

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



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SALES + MARKETING

May 8, 2015

EXPERIENCE CERTIFICATE

This is to certify that Miss. Sureet Boora (10600) has served in our organization from February 9, 2015 to May 8, 2015. At the time of leaving she was working in the capacity of Knowledge Management Associate - Intern based at New Delhi office.

She has successfully completed her Project on "The Study on US Local Healthcare Market Dynamics"

She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.

We wish you all success in future endeavors.

For ZS Associates India Pvt Ltd

Esha Gulati
Manager - Human Resources

Nitin Aggarwal
KM Principal

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "**The Study on Local US Market Healthcare Dynamics**" and submitted by **Dr. Sureet Boora** Enrollment No. **1509** under the supervision of **Dr. Anoop Khanna** for award of MBA Hospital and Health Management of the university carried out during the period from **9th Feb, 2015 to 8th May, 2015** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Sureet Boora

Signature

Acknowledgement

I would like to express the deepest appreciation to my Project Lead Mr. Deepak Sharma (Consultant ZS Associates, Knowledge Management) for the vision and foresight which inspired me to conceive this project.

I am particularly indebted to my team member Shikha Dubey who has shown the attitude and the substance of a genius and my PD manager Mr. Rohan Seth who continually and persuasively conveyed a spirit of adventure in regard to research and scholarship, and an excitement in regard to teaching. Without their supervision and constant help this dissertation would not have been possible

I would like to thank my KM Team members for being of constant source of motivation in difficult times.

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To my parents for the unwavering love, faith and continued support and reassurance over theyears.

By extension I'd like to offer my thanks to all the staff of the ZS Associates for their kind and polite behaviour that made work more fun and comfortable to cope up with.

With warm regards,

Dr. Sureet Boora

Abstract

During the 1990s many hospitals pursued twin strategies of vertical and horizontal integration. Each type of integration assumed multiple forms. Vertical combinations included acquisition of primary care physicians (PCPs), strategic alliances with physicians in physician-hospital organizations (PHOs) and management services organizations (MSOs), and the development of health maintenance organizations (HMOs). Horizontal combinations included the formation of multihospital systems, mergers, and strategic alliances with neighboring hospitals to form local networks. All of these combinations are collectively referred to as integrated delivery networks, or IDNs.

IDNs bring together groups of hospitals, out-patient facilities and providers to deliver a continuum of care and improve healthcare performance through their distinct policies and practices.

Another aspect of this is the physicians being employed in various IDN's. Much is being said about the trend towards physicians becoming employees of health systems and leaving private practice, but while that is undeniably occurring, the physician profession is still relatively widely dispersed. According to reports in the US, 412,000 HCPs are affiliated with 626 IDNs

In the U.S., more than 80 percent of hospitals are part of an IDN and at least half of the physicians are affiliated with one, creating a complex web of local dynamics that affect treatment practices and commercial strategies.

Hence the provider landscape in the U.S. is changing radically, forcing the life sciences (pharmaceuticals and medical device) companies to revisit commercial sales models in order to stay ahead.

So, this study has been undertaken considering the trends in market providers in hospitals are changing in the US. The research question that was developed was:

- Is there any consolidation of the Provider market pertaining to IDN's in metropolitan statistical areas in the US?

Accordingly, the research objectives were developed:

- 1) To Identify Top 20 MSAs based on population
- 2) To identify IDN and Account (Provider type) information along with parameters such as Beds, Admissions, outpatients for each MSA
- 3) To prepare the lists of calculated number of beds, admissions and outpatient for each IDN within a given MSA
- 4) To identify top 5 and top 10 MSA's and the percentage share these IDNs capture in given MSA

The methodology included identification of the top 20 MSA's on the basis of population through secondary research and data bases available. After that the data for provider concentration of IDN's at the MSA level which included names of IDN's, their account names, relationships, account types, city and no. of beds, admissions and outpatients which led to a preliminary list with the complete dataset which was forwarded to the US onshore team for its approval.

Having done that, the child entities were captured for each MSA and the flags were defined for three entities: MSA ID's, MSA and Accounts. In this step we added the flags to the various entities in the complete data set sheet using "V-Look up technique". So, we made lists of various flags on one sheet on one sheet and using 'V look up' assigned values to the three mentioned entities for each MSA data sheet.

Finally, the segregated list was prepared after having applied the various tools on excel.

Now we needed the total count of beds, outpatients and admissions in various hospitals for each IDN. So applying three conditions, we achieved so, they included:

- a) The name of MSA(should be one of the assigned symbol))
- b) The account type (should be no. 24)
- c) The IDN Identity no.(should match the ID's which we have provided them with)

If these conditions are fulfilled then using the tool "SUM IF's" on the excel, total number of beds, admissions and outpatients were calculated for each IDN and then total number of IDN's in the MSA which provided the grand total of all these entities.

The graphs were prepared and the charts clearly showed the consolidation of IDN's. The figures clearly indicate the market being driven by certain key players in the market. The hospital market is either being driven by IDN's or the Mergers and Acquisitions. Hence this consolidation of the provider market will have it's probable effects on the sales force models.

Earlier in the cases of individual hospitals, the power of buying medical products was entirely leveraged by the physicians since they were considered the best people for the same. Hence the

sales representatives followed a transactional model for the sales of their products wherein they dealt with individual physicians. The sales representatives had to cover a large number of hospitals to achieve their allotted targets.

However with the emergence of IDN's, the transactional models have changed to Key Account Management models or the strategic account management models wherein they have to create long term relationships with the IDN's

The system has become more centralized with the purchasing committees being formed for various hospitals for various purchases in separate departments with the respective physicians being the members of each committee along with the other members.

These IDN's no doubt serve the healthcare purposes but along with that, they are equally interested in earning profits and hence have become corporate entities. A sales representative has to penetrate them affirming long term relationship since IDN's have bulk purchases which serve the purpose of the sales representatives as capturing the orders of a single IDN may lead to achieving the entire years target for the sales rep.

Secondly, along with the sales of the particular medical products, sales representatives may also build a consultant relationship and try involving in and improving the business strategies of the hospitals in the IDN's which may even lead to selling of other products of the medical product company.

Thirdly, once having built good relationship with a certain IDN, it creates a good impact on the competitive IDN's as well and this might help in enhancing the business and sales of the product companies with other IDN's as well.

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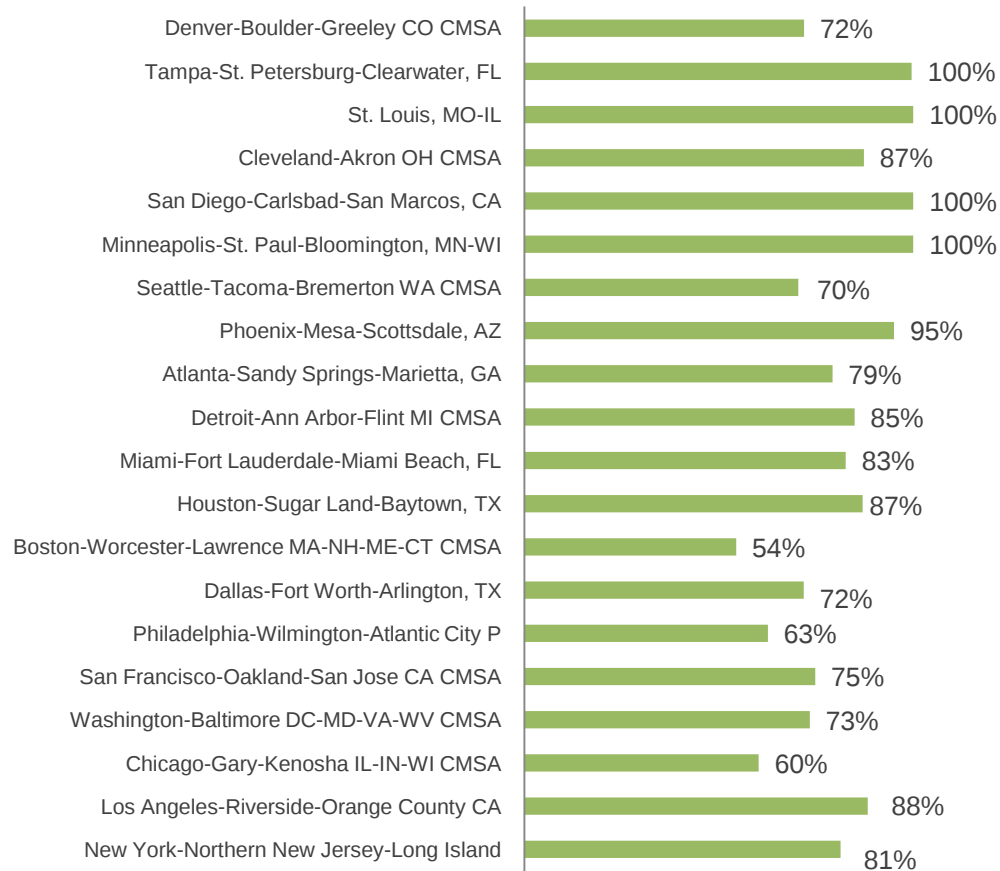
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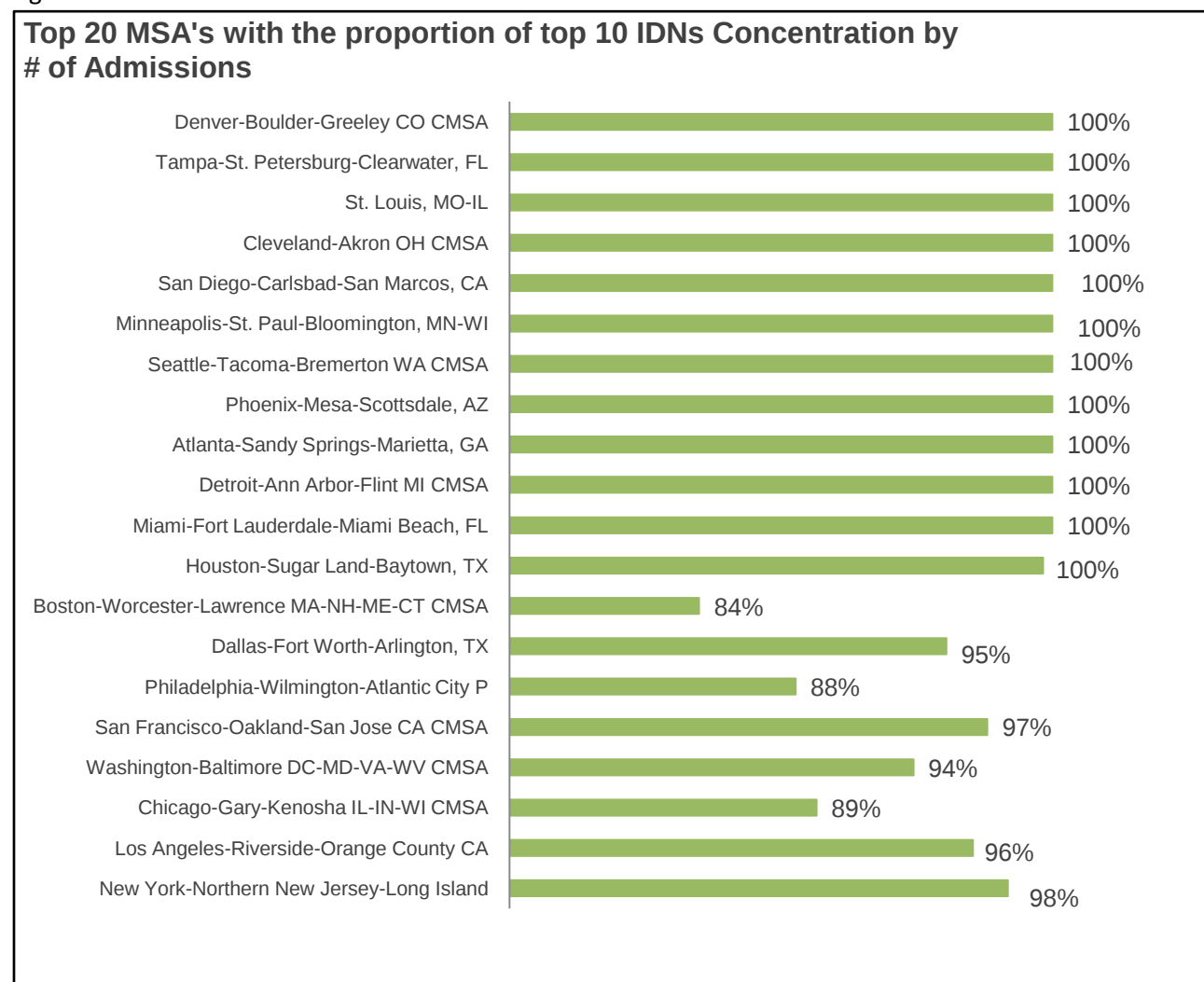
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List of Abbreviations:

MSA	Metropolitan Statistical Areas
IDN	Integrated Delivery Network
MPS	Medical Products and Services
BI	Business Intelligence
ACO	Accountable Care Organization
PI	Priority Industry

1. Introduction:

I began my internship on February 9th, 2015 at ZS Associates India Private Limited in Knowledge Management Practice Area that lies under Business Consulting Track of ZS Associates in Gurgaon (Global Headquarters) , Haryana.

On the very first day I was issued the ZS ID card and I carried out all the HR formalities.

The next day I had my meeting with the Project Lead, the Project manager and other team members. We discussed the dissertation topic for a while and then made a draft of target research heads and timeline of completion of research on the respective research heads.

I was assigned with the MPS (Medical Products and Services) team to study on US local healthcare market dynamics. During the first week of my Internship I was told to read about the Organization and in particular the various databases that ZS uses and how to use them for the research work. I found it very interesting.

Later from the second week onwards I started working on my specific Research heads which required literature review on changing trends in the US healthcare market in details for the top 20 MSA's (Metropolitan Statistical Areas) with the rising number of Integrated Delivery Networks. This was followed by deciding the variables for the comparison of the trends among various MSA's and collection of data and the formulation of methodology for analysis of same. I started searching internal data sources* which were leveraged by the team for their research as well along with the publically available secondary data sources like Google and online available articles and medical product industry specific literature, grey literature simultaneously stored the references

Note*(Names of data sources are confidential and cannot be shared as per the company policy)

2. A Brief Overview of ZS Associates

A Foundation of Innovation and Academic Rigor

ZS Associates is rooted in an academic partnership that began in the early 1970s. In **1973**, Andy Zoltners completed a PhD in integer programming algorithms at Carnegie Mellon University, devoting a chapter in his dissertation to sales territory alignment problems. Andy subsequently accepted a teaching position at the University of Massachusetts (UMass).

The following year, Andy crossed paths with PhD student PrabhaSinha, who was exploring the use of higher math in meal planning for the military. The two collaborated on the Multiple Choice Knapsack problem and co-wrote a paper on the topic. Eventually they realized that this line of thinking was highly applicable to the problems of sales force sizing and resource allocation.

Over the next several years, the pair worked with a number of companies, gaining practical experience applying modelling techniques to sales force problems.

In **1982**, Andy presented his and Prabha's mathematical models for sales force sizing and territory alignment to the Pharmaceutical Management Science Association (PMSA), using an early Apple computer to display sales territories on-site. Executives from many of the attending companies were stunned by the model's ability to quickly solve sales force sizing, sales resource allocation, and territory alignment issues and see solutions visually in real time, with one exclaiming, "I've been waiting my whole life for this!"

By **1983**, both Andy and Prabha were teaching at Northwestern's Kellogg School of Management. They lectured by day, and by night they worked on the many client projects

that came their way. Already having consulted to eight companies, the two professors concluded that there was an opportunity to help many clients address critical sales force effectiveness issues, and so they incorporated ZS Associates, Inc.

2.1 About the work at ZS Associates

ZS Associates is one of the world's largest business services firms specializing in transforming sales and marketing from an art to a science. They help clients gain market share at lower cost by creating data-driven strategies that they can implement rapidly. They also take on complex sales and marketing operations to make their clients more competitive.

ZS focuses exclusively on the two areas that create customer demand: sales and marketing. As a result, their expertise in this domain is both broad and deep. They provide a vast range of marketing- and sales-related services in the industry, from customer insight, product development, and sales and marketing strategies, to sales compensation planning and even plan administration, to name just a few. Their consultants leverage the firm's deep knowledge of the range of sales and marketing activities and how they interact in order to anticipate the upstream and downstream effects of virtually any decision. Thus, they offer clients the unique advantage of understanding what will work best for their company as a whole.

Since 1983, ZS has been working shoulder to shoulder with leaders at hundreds of the world's top corporations. Their clients typically are large and mid-sized companies whose success depends on the effectiveness of their sales and marketing. They help them gather and analyze data to create the best strategies; orchestrate sales and marketing activities to increase demand efficiently; and change quickly to become more competitive. Their clients work with them year

after year because we are responsive, collaborative and flexible – and, not least of all, because they are passionate about what they do.

Today more than ever, executives must drive their sales and marketing strategies and operations with data – and the expertise to interpret it. That’s where ZS comes in. We’re in the business of turning the art of demand generation into a science.

2.2 ZS Associates Global Offices

ZS Associates is one firm with multiple offices positioned to provide the highest quality and most attentive service to our clients. Each office can effectively serve local or regional clients while also contributing to project teams working around the world, assembling the optimal mix of capabilities, experience, geography, language and culture.

Americas	Europe	Asia
Boston	Barcelona	New Delhi
Chicago	Frankfurt	Pune
Evanston	London	Shanghai
Los Angeles	Milan	Tokyo
New York	Paris	
Philadelphia	Zurich	
Princeton		
San Diego		
San Francisco		

São Paulo

Toronto

2.3 ZS Offerings to clients

2.3.1 Services

- Sales: For nearly 30 years, ZS's sales consulting services have helped companies around the world excel at critical sales activities such as: designing sales channels that leverage both direct and indirect paths to market; creating the best sales force structure, territory plan, size, allocation and incentive approach; and integrating sales and marketing programs with extraordinary results and levels of efficiency.
- Marketing : Leading companies turn to the ZS marketing consulting services since they excel at helping them accomplish marketing mandates such as: creating tailored and practical strategies to capitalize on their market opportunities; sorting through myriad options for creating demand to determine the optimal marketing mix; and evaluating marketing programs to dramatically improve their performance

2.3.2 Expertise

- Consulting: ZS works with companies to determine the parts of their sales and marketing strategies and organizations that need to be improved. They have expertise across the demand generation process, from identifying customer needs, developing effective value propositions and creating marketing strategies to designing channel strategies as well as deploying and compensating the sales force.

- Outsourcing: ZS's outsourcing offerings complete the picture of how they improve their clients' sales and marketing operations. They run many companies' sales compensation programs, information management and reporting systems, territory and account planning, and other operations. In return, they benefit from lower costs of operation, greatly reduced error rates, and the ability to shift their limited resources and energy to the critical parts of their business that they are best equipped to manage.
- Technology : They provide various technological solutions like Agile Commercial Planning, Business Analytics, Cloud Business Intelligence, CRM Solutions, Dashboard and Report Implementation, Data Management, Mobility and services like Big Data and Data Scientist Services, Business Analytics, Commercial Technology Strategy, Dashboard and Report Implementation, Data Management
- Software: It includes streamlining and automating sales business processes, improve sales decision-making and drive profitability. Hence they provide business software solutions for the same.
- Besides all the areas mentioned above, they also work for business planning and integration, sales planning and sales compensation

3. Background for business question

During the 1990s many hospitals pursued twin strategies of vertical and horizontal integration. Each type of integration assumed multiple forms. Vertical combinations included acquisition of primary care physicians (PCPs), strategic alliances with physicians in physician-hospital organizations (PHOs) and management services organizations (MSOs), and the development of health maintenance organizations (HMOs). Horizontal combinations included the formation of multihospital systems, mergers, and strategic alliances with neighboring hospitals to form local networks. All of these combinations are collectively referred to as integrated delivery networks, or IDNs.

IDNs bring together groups of hospitals, out-patient facilities and providers to deliver a continuum of care and improve healthcare performance through their distinct policies and practices.

Another aspect of this is the physicians being employed in various IDN's. Much is being said about the trend towards physicians becoming employees of health systems and leaving private practice, but while that is undeniably occurring, the physician profession is still relatively widely dispersed. According to reports in the US, 412,000 HCPs are affiliated with 626 IDNs

In the U.S., more than 80 percent of hospitals are part of an IDN and at least half of the physicians are affiliated with one, creating a complex web of local dynamics that affect treatment practices and commercial strategies.

Hence the provider landscape in the U.S. is changing radically, forcing the life sciences (pharmaceuticals and medical device) companies to revisit commercial sales models in order to stay ahead.

4. Rationale of study:

Until now, life sciences companies couldn't accurately assess the influence of specific IDNs in their local markets or prioritize resources based on measurable results. There is a need to highlight how payers, providers and IDNs drive treatment preferences and protocols within local healthcare markets. Armed with a more complete understanding of these stakeholders and their influence on treatment decisions, commercial leaders can quickly adapt their strategies, align sales and marketing resources, invest more strategically and maximize market share.

5. Research Question

- Is there any consolidation of the Provider market pertaining to IDN's in metropolitan statistical areas in the US?

6. Aim of the Study:

To study the US local healthcare market dynamics by means of secondary desk research

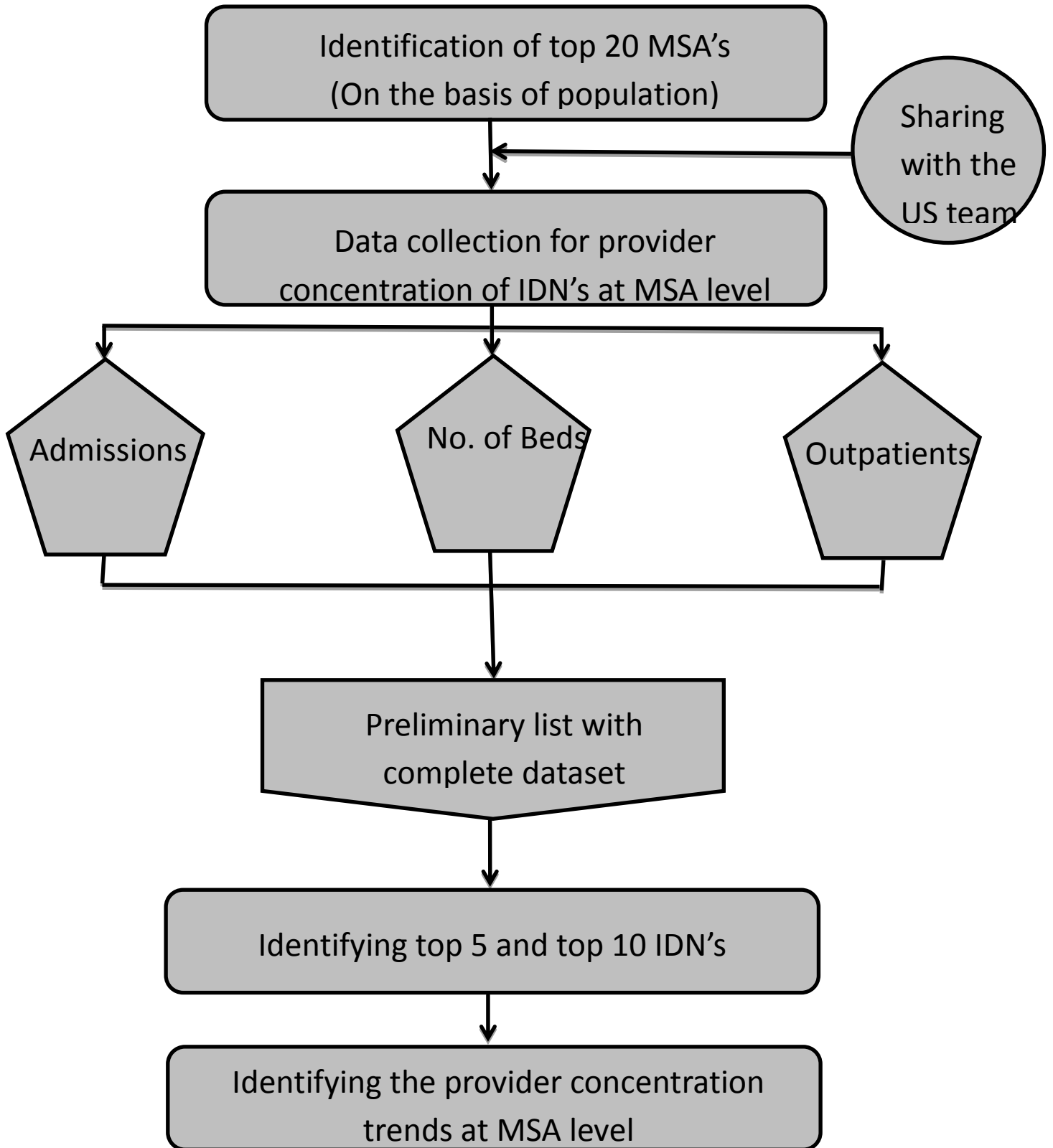
7. Current Study Objectives:

- 1) To Identify Top 20 MSAs based on population
- 2) To identify IDN and Account (Provider type) information along with parameters such as Beds, Admissions, outpatients for each MSA
- 3) To prepare the lists of calculated number of beds, admissions and outpatient for each IDN within a given MSA
- 4) To identify top 5 and top 10 MSA's and the percentage share these IDNs capture in given MSA

8. Study Design and methods:

- a) Type of Study: Exploratory Secondary/Desk Research
- b) Geographies under study: Top 20 MSA's in the US
- c) Data to be collected: Recording of the various parameters upon which the market concentration of various IDN's would be calculated.
- d) Data collection tools: ZS Specific data sources and publically available secondary research data sources will be deployed to derive data.

9. Methodology



9.1 Identification of top 20 MSA's

MSA stands for the metropolitan statistical areas.

In the United States, a **metropolitan statistical area (MSA)** is a geographical region with a relatively high population density at its core and close economic ties throughout the area. Such regions are neither legally incorporated as a city or town would be, nor are they legal administrative divisions like counties and states. As such, the precise definition of any given metropolitan area can vary with the source.

A typical metropolitan area is centered on a single large city that wields substantial influence over the region (e.g., Chicago or Atlanta).

However, some metropolitan areas contain more than one large city with no single municipality holding a substantially dominant position (e.g., Dallas–Fort Worth metroplex, Riverside–San Bernardino or Minneapolis–Saint Paul).

Through the secondary desk research and proprietary data sources top 20 IDN's were identified according to their population:

Rank	Metropolitan or micropolitan area	First principal city	CSA 2012 Estimate	Constituent Core Based Statistical Areas or Encompassing Combined Statistical Areas
1	New York metropolitan area	New York, New York	23,462,099	New York-Newark-Jersey City, NY-NJ-PA Metropolitan Statistical Area
				Bridgeport-Stamford-Norwalk, CT Metropolitan Statistical Area
				New Haven-Milford, CT Metropolitan Statistical Area
				Allentown-Bethlehem-Easton, PA-NJ Metropolitan Statistical Area
				Trenton, NJ Metropolitan Statistical Area

				Torrington, CT Micropolitan Statistical Area
				Kingston, NY Metropolitan Statistical Area
				East Stroudsburg, PA Metropolitan Statistical Area
2	Greater Los Angeles Area	Los Angeles, California	18,238,998	Los Angeles-Long Beach-Anaheim, CA Metropolitan Statistical Area
				Riverside-San Bernardino-Ontario, CA Metropolitan Statistical Area
				Oxnard-Thousand Oaks-Ventura, CA Metropolitan Statistical Area
3	Chicago metropolitan area	Chicago, Illinois	9,899,902	Chicago-Naperville-Elgin, IL-IN-WI Metropolitan Statistical Area
				Ottawa-Peru, IL Micropolitan Statistical Area
				Kankakee, IL Metropolitan Statistical Area
				Michigan City-La Porte, IN Metropolitan Statistical Area
4	Washington metropolitan area	Washington, District of Columbia	9,331,587	Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area
				Baltimore-Columbia-Towson, MD Metropolitan Statistical Area
				Hagerstown-Martinsburg, MD-WV Metropolitan Statistical Area
				Chambersburg-Waynesboro, PA Metropolitan Statistical Area
				Winchester, VA-WV Metropolitan Statistical Area
				California-Lexington Park, MD Metropolitan Statistical Area
				Easton, MD Micropolitan Statistical Area
				Cambridge, MD Micropolitan Statistical Area
5	Greater San Francisco Bay Area	San Jose, California	8,370,967	San Francisco-Oakland-Hayward, CA Metropolitan Statistical Area
				San Jose-Sunnyvale-Santa Clara, CA Metropolitan Statistical Area
				Stockton-Lodi, CA Metropolitan Statistical Area
				Santa Rosa, CA Metropolitan Statistical Area
				Vallejo-Fairfield, CA Metropolitan Statistical Area
				Santa Cruz-Watsonville, CA Metropolitan Statistical Area

				Napa, CA Metropolitan Statistical Area
6	Boston metropolitan area	Boston, Massachusetts	8,091,371	Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area
				Providence-Warwick, RI-MA Metropolitan Statistical Area
				Worcester, MA-CT Metropolitan Statistical Area
				Manchester-Nashua, NH Metropolitan Statistical Area
				Barnstable Town, MA Metropolitan Statistical Area
				Concord, NH Micropolitan Statistical Area
				Laconia, NH Micropolitan Statistical Area
7	Philadelphia metropolitan area	Philadelphia, Pennsylvania	7,449,428	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area
				Reading, PA Metropolitan Statistical Area
				Atlantic City-Hammonton, NJ Metropolitan Statistical Area
				Dover, DE Metropolitan Statistical Area
				Vineland-Bridgeton, NJ Metropolitan Statistical Area
				Ocean City, NJ Metropolitan Statistical Area
8	Dallas-Fort Worth metroplex	Dallas, Texas	7,095,411	Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area
				Sherman-Denison, TX Metropolitan Statistical Area
				Athens, TX Micropolitan Statistical Area
				Corsicana, TX Micropolitan Statistical Area
				Durant, OK Micropolitan Statistical Area
				Gainesville, TX Micropolitan Statistical Area
				Sulphur Springs, TX Micropolitan Statistical Area

				Mineral Wells, TX Micropolitan Statistical Area
9	Miami metropolitan area	Miami, Florida	6,375,434	Miami-Fort Lauderdale-West Palm Beach, FL Metropolitan Statistical Area
				Port St. Lucie, FL Metropolitan Statistical Area
				Sebastian-Vero Beach, FL Metropolitan Statistical Area
				Okeechobee, FL Micropolitan Statistical Area
10	Houston metropolitan area	Houston, Texas	6,371,677	Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area
				Huntsville, TX Micropolitan Statistical Area
				El Campo, TX Micropolitan Statistical Area
				Bay City, TX Micropolitan Statistical Area
				Brenham, TX Micropolitan Statistical Area
11	Atlanta metropolitan area	Atlanta, Georgia	6,092,295	Atlanta-Sandy Springs-Roswell, GA Metropolitan Statistical Area
				Athens-Clarke County, GA Metropolitan Statistical Area
				Gainesville, GA Metropolitan Statistical Area
				LaGrange, GA Micropolitan Statistical Area
				Jefferson, GA Micropolitan Statistical Area
				Calhoun, GA Micropolitan Statistical Area
				Cedartown, GA Micropolitan Statistical Area
				Thomaston, GA Micropolitan Statistical Area
12	Detroit metropolitan area	Detroit, Michigan	5,311,449	Detroit-Warren-Dearborn, MI Metropolitan Statistical Area
				Flint, MI Metropolitan Statistical Area
				Ann Arbor, MI Metropolitan Statistical Area
				Monroe, MI Metropolitan Statistical Area
				Adrian, MI Micropolitan Statistical Area
13	Seattle metropolitan area	Seattle, Washington	4,399,482	Seattle-Tacoma-Bellevue, WA Metropolitan Statistical Area
				Olympia-Tumwater, WA Metropolitan Statistical Area
				Bremerton-Silverdale, WA Metropolitan

				Statistical Area
				Mount Vernon-Anacortes, WA Metropolitan Statistical Area
				Oak Harbor, WA Micropolitan Statistical Area
				Centralia, WA Micropolitan Statistical Area
				Shelton, WA Micropolitan Statistical Area
	Riverside, California metropolitan area	Riverside, California	4,350,096	Los Angeles-Long Beach, CA Combined Statistical Area
14	Phoenix metropolitan area	Phoenix, Arizona	4,329,534	
15	Minneapolis metropolitan area	Minneapolis, Minnesota	3,759,978	Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area
				St. Cloud, MN Metropolitan Statistical Area
				Faribault-Northfield, MN Micropolitan Statistical Area
				Red Wing, MN Micropolitan Statistical Area
				Hutchinson, MN Micropolitan Statistical Area
16	Cleveland metropolitan area	Cleveland, Ohio	3,497,711	Cleveland-Elyria, OH Metropolitan Statistical Area
				Akron, OH Metropolitan Statistical Area
				Canton-Massillon, OH Metropolitan Statistical Area
				Ashtabula, OH Micropolitan Statistical Area
				New Philadelphia-Dover, OH Micropolitan Statistical Area
				Sandusky, OH Micropolitan Statistical Area
				Norwalk, OH Micropolitan Statistical Area
17	Denver metropolitan area	Denver, Colorado	3,214,218	Denver-Aurora-Lakewood, CO Metropolitan Statistical Area
				Boulder, CO Metropolitan Statistical Area
				Greeley, CO Metropolitan Statistical Area

18	San Diego metropolitan area	San Diego, California	3,177,063	
19	Portland, Oregon metropolitan area	Portland, Oregon	2,992,924	Portland-Vancouver-Hillsboro, OR-WA Metropolitan Statistical Area
				Salem, OR Metropolitan Statistical Area
				Albany, OR Metropolitan Statistical Area
				Longview, WA Metropolitan Statistical Area
				Corvallis, OR Metropolitan Statistical Area
20	Orlando, Florida metropolitan area	Orlando, Florida	2,920,603	Orlando-Kissimmee-Sanford, FL Metropolitan Statistical Area
				Deltona-Daytona Beach-Ormond Beach, FL Metropolitan Statistical Area
				The Villages, FL Metropolitan Statistical Area

The reason behind choosing MSA's is because to choose a state would be too large to generalize a trend for IDN's and choosing a city would be too small. MSA's include one large city and few satellite cities (just like National Capital Region in India) hence the trends can be presented over various levels.

After identifying the top 20 MSA's, the information had been shared with the US team for the inputs and or the preferred regions to be included (if any).

9.2 Data Collection for Provider concentration of IDN's at MSA level

The data collection for the provider concentration was done under the following heads for various MSA's

- 2) Name of the IDN's
- 3) Account Name
- 4) Relationship
- 5) Account type
- 6) City
- 7) State
- 8) Beds
- 9) Admissions
- 10) Outpatients

9.2.1 Names of the IDN's: Since the data was available at city level, so we had to choose the cities of our own interest that were included in the various MSA's and accordingly the IDN's were shortlisted.

9.2.2 Account Names: These included the names of various hospitals or clinics or other entities that come under various IDN's

9.2.3 Relationship: There can be various types of relationships that an account holds with an IDN which include:

- Owned
- Affiliated
- Joint Venture

- Network
- Share Holder
- Managed
- Collaborated
- Subsidiary

9.2.4 Account Type: The account types included:

- ACO
- Alzheimer's Treatment Center
- Assisted Living Center
- Cardiac Center
- Cancer and Radiotherapy
- Clinic/Physicians Primary Care
- Community Health Centre
- Contracted Service
- Dental group branch location
- Diagnostic Imaging Chain
- Dialysis
- Disease mgmt./ Health mgmt.
- Distribution/ Stock
- DME
- Foundation

- Group Branch Location
- Home Health
- Hospice
- Hospital(Acute + Specialty)
- Hospital (Detox + Substance abuse)
- Hospital (Developmental Disability)
- Hospital (LTAC)
- Hospital (Psychiatric)
- Hospital (Rehab + Subacute)
- Hospital (Specialty)
- Imaging Location
- Insurer/ Managed care corporate office
- Insurer/MCO/HMO/PPO
- IPA
- Laboratory
- Local provider
- Long Term Care Chain
- Medical School
- Mental Health
- Mixed use medical office building
- MSO
- Multi Dentist Single location
- Occupational Health

- Oncology chain
- Pharmacy
- PHO
- Physician Network
- Provider care Chain
- Regional office
- Regional purchasing Coalition
- Rehab/PT/ Sports Clinic
- Research facility/ Network
- Residential/Housing
- Senior/Independent Living
- Small Dental group
- SNF/ Long Term Care
- Specialty physicians
- Substance abuse clinic
- Supplier
- Surgery Center/ASC
- System I (Network Affiliation)
- System II (horizontal integration)
- System III (vertical integration)
- System IIIA: Single-Hospital System
- System IV (strategic integration)
- Urgent Care or Freestanding ER

- Wellness Center
- Wound Care Center
- Women's/ OB/ GYN Clinic

These were the total accounts which had been identified out of which we included all the hospital accounts which included

- Hospital(Acute + Specialty)
- Hospital (Detox + Substance abuse)
- Hospital (Developmental Disability)
- Hospital (LTAC)
- Hospital (Psychiatric)
- Hospital (Rehab + Subacute)
- Hospital (Specialty)

9.2.5 City: It held importance since the data was not available at the MSA level, so we had to identify the cities which came under the various MSA's s we could collate data for the same.

9.2.6 Beds, Admissions, Outpatients: These were the parameters based on which all the calculation had been carried out. We chose them because it was the data which was readily available

9.3 Preliminary List with complete Data Set:

MAXId	Account	Type	City	State	Beds	Admissions	Outpatient
13303	Alameda Health System	System III (vertical integration)	Oakland	CA	1,426	19,057	230,000
34535	Alta Bates Summit Medical Center	System III (vertical integration)	Berkeley	CA	1,342	32,855	176,700
19169	California Pacific Medical Center	System III (vertical integration)	San Francisco	CA	1,887	35,668	287,800
125037	Chinese Hospital Integrated Delivery System	System IIIA: Single-Hospital System	San Francisco	CA	108	1,902	60,200
149149	City of Alameda Health Care District	System IIIA: Single-Hospital System	Alameda	CA	180	2,838	19,100
98429	Contra Costa Health Services	System IIIA: Single-Hospital System	Martinez	CA	164	7,758	459,900
95290	Daughters of Charity Health System	System III (vertical integration)	Los Altos Hills	CA	1,928	48,608	261,449
13332	Dignity Health	System IV (strategic integration)	San Francisco	CA	9,776	380,939	2,616,600
157101	Eden Township Healthcare District	System III (vertical integration)	Castro Valley	CA	266	4,027	13,600
207690	El Camino Health District	System IIIA: Single-Hospital System	Mountain View	CA	586	21,659	105,700
39568	John Muir Health	System III (vertical integration)	Walnut Creek	CA	795	33,787	1,073,400

	System	integration)					
34685	Kaiser Permanente	System IV (strategic integration)	Oakland	CA	20,332	905,499	4,387,500
38993	Kaiser Permanente Northern California Region	System III (vertical integration)	Oakland	CA	4,875	183,366	26,800
288834	Marin General Hospital (System)	System IIIA: Single-Hospital System	Greenbrae	CA	235	8,739	115,400
141693	Mills Peninsula Health Services	System IIIA: Single-Hospital System	Burlingame	CA	363	12,465	165,000
139284	North Sonoma County Hospital District	System IIIA: Single-Hospital System	Healdsburg	CA	61	771	0
20421	NorthBay Healthcare System	System III (vertical integration)	Fairfield	CA	173	11,480	62,600
98479	Saint Joseph Health System Sonoma County	System III (vertical integration)	Santa Rosa	CA	389	14,231	96,700
92050	San Francisco Department of Public Health Medical and Dental	System IIIA: Single-Hospital System	San Francisco	CA	509	13,702	349,000
205913	San Mateo County Health System Medical and Dental	System IIIA: Single-Hospital System	San Mateo	CA	539	2,794	178,800
245340	Santa Clara	System I	San Jose	CA	0	0	0

	Valley Health and Hospital System	(network affiliation)					
91953	Santa Clara Valley Health and Hospital System Medical and Dental	System IIIA: Single-Hospital System	San Jose	CA	574	18,746	680,200
284597	Stanford Children's Health	System IIIA: Single-Hospital System	Palo Alto	CA	287	12,671	123,300
89146	Stanford Health Care	System III (vertical integration)	Palo Alto	CA	900	37,415	680,700
286105	Stanford Medicine	System III (vertical integration)	Palo Alto	CA	0	0	0
32982	Telecare Corp	System II (horizontal integration)	Alameda	CA	844	11,639	0
224694	UC Health	System III (vertical integration)	Oakland	CA	3,635	104,802	2,293,094
87754	UCSF Health	System IV (strategic integration)	San Francisco	CA	1,711	56,525	1,448,100
44543	VA Palo Alto Health Care System	System III (vertical integration)	Palo Alto	CA	0	0	0
40537	ValleyCare Health System	System III (vertical integration)	Pleasanton	CA	198	11,400	57,700
44541	VISN 21 VA Sierra Pacific Network	System III (vertical integration)	Mare Island	CA	0	29,520	782,053
89000	Washington Hospital Healthcare System	System IIIA: Single-Hospital System	Fremont	CA	265	13,776	67,500

153973	West Contra Costa Healthcare District	System IIIA: Single- Hospital System	San Pablo	CA	326	5,434	38,500
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This is the example of one of the 20 MSA's data set that had been captured from various data sources.

9.4 Capturing the Child Entities:

The Child entities included the various accounts. One of the examples is given as under:

IDN Name	Account Name	Relationship	Account Type	City	State	Beds	Admissions	Outpatient
ArchCare	ArchCare at Ferncliff Nursing Ho	Owned	SNF/long-term care (LTC) unit	Rhinebeck	NY	328	0	0
ArchCare	ArchCare at Saint Teresa's Nursi	Owned	SNF/long-term care (LTC) unit	Middletown	NY	98	0	0
ArchCare	ArchCare at San Vicente de Paúl	Owned	SNF/long-term care (LTC) unit	Bronx	NY	200	0	0
ArchCare	ArchCare at Terrence Cardinal C	Owned	SNF/long-term care (LTC) unit	New York	NY	726	2	0
ArchCare	ArchCare Mary Manning Walsh N	Owned	SNF/long-term care (LTC) unit	New York	NY	362	0	0
ArchCare	ArchCare Senior Life Harlem	Owned	Senior Independent Living or Day Ser	New York	NY	0	0	0
ArchCare	Calvary Hospital Bronx Campus	Owned	Hospital (Acute + Specialty Acute)	Bronx	NY	225	2,945	0
ArchCare	Calvary Hospital Brooklyn Camp	Owned	Hospital Within Hospital (Peds, LTAC)	Brooklyn	NY	25	0	0
ArchCare	Calvary Nursing Home Hospice	Owned	Home health (HHA)	Bronx	NY	0	0	0
ArchCare	Carmel Richmond Health Care &	Owned	SNF/long-term care (LTC) unit	Staten Island	NY	300	0	0

9.5 Defining the Flags:

After collating the data for IDN's and their child entities, flags were provided to three entities which included:

- 1) Account
- 2) MSA
- 3) MSA ID

The details of the same have been mentioned in the Annexure.

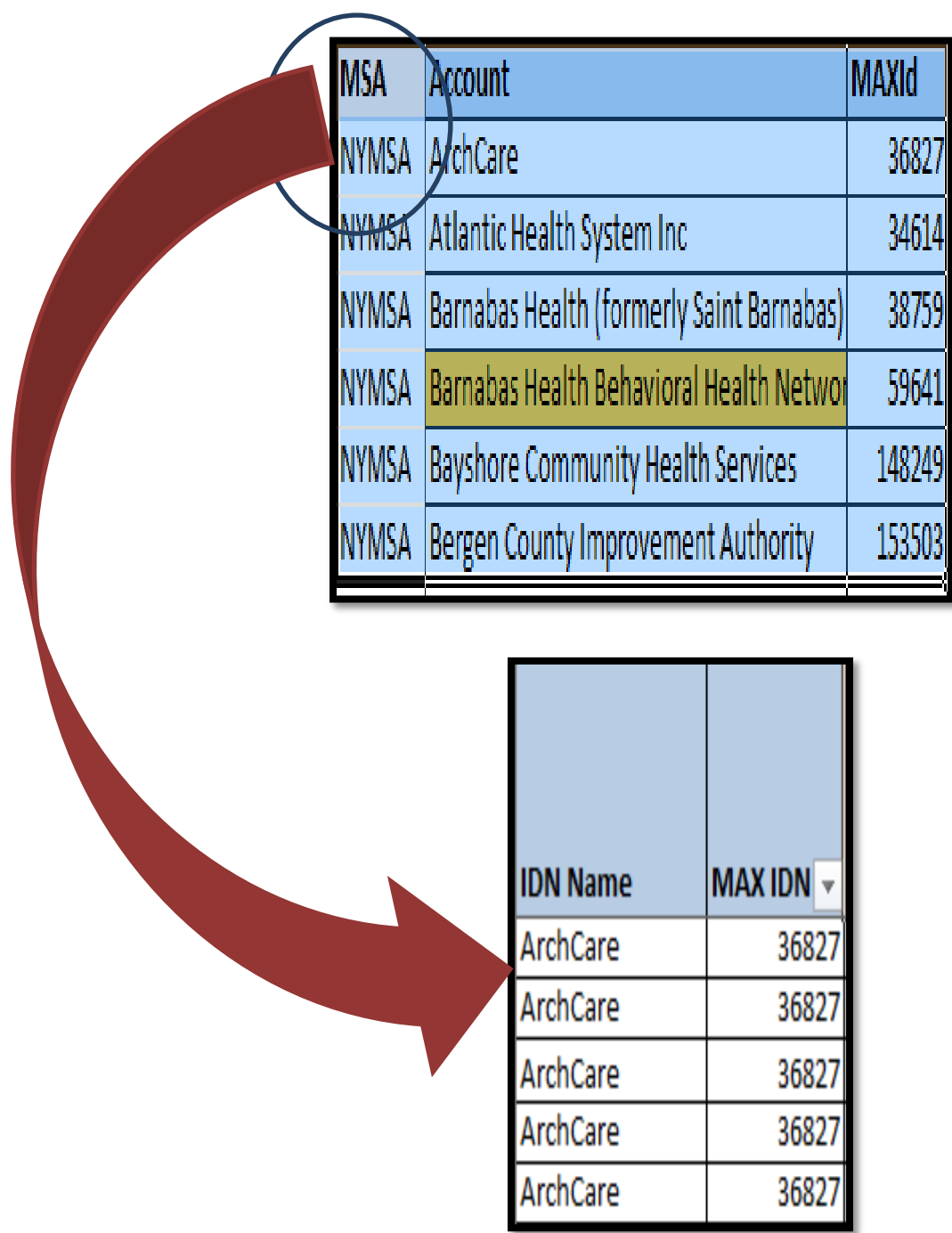
9.6 Addition of Flags to the Data Sheets:

In this step we added the flags to the various entities in the complete data set sheet using "V-Look up technique". So, we made lists of various flags on one sheet on one sheet and using 'V look up' assigned values to the three mentioned entities for each MSA data sheet.

IDN Name	MAX IDN	Account Name	Account Type	Acc Type	Flag	City	City Flag	Beds	Admissions	Outpatient
ArchCare	36827	ArchCare at Fern	SNF/long-term care (LTC) unit	72	Rhinebeck	#N/A		328	0	0
ArchCare	36827	ArchCare at Saint	SNF/long-term care (LTC) unit	72	Middletown	#N/A		98	0	0
ArchCare	36827	ArchCare at San V	SNF/long-term care (LTC) unit	72	Bronx	#N/A		200	0	0
ArchCare	36827	ArchCare at Terre	SNF/long-term care (LTC) unit	72	New York	A1		726	2	0
ArchCare	36827	ArchCare Mary M	SNF/long-term care (LTC) unit	72	New York	A1		362	0	0
ArchCare	36827	ArchCare Senior L	Senior Independent Living or Day Ser	70	New York	A1		0	0	0
ArchCare	36827	Calvary Hospital E	Hospital (Acute + Specialty Acute)	24	Bronx	#N/A		225	2,945	0
ArchCare	36827	Calvary Hospital E	Hospital Within Hospital (Peds, LTAC,	24	Brooklyn	#N/A		25	0	0
ArchCare	36827	Calvary Nursing H	Home health (HHA)	22	Bronx	#N/A		0	0	0
ArchCare	36827	Carmel Richmon	SNF/long-term care (LTC) unit	72	Staten Islan	#N/A		300	0	0
Atlantic Health S	34614	Atlantic Accounta	ACO (Accountable Care Organization)	1	Florham Par	#N/A		0	0	0
Atlantic Health S	34614	Atlantic Health S	ACO (Accountable Care Organization)	1	Florham Par	#N/A		1,481	94,014	479,400
Atlantic Health S	34614	Atlantic Health S	ACO (Accountable Care Organization)	1	Florham Par	#N/A		0	0	0
Atlantic Health S	34614	Atlantic Health S	ACO (Accountable Care Organization)	1	Florham Par	#N/A		1,481	94,014	479,400
Atlantic Health S	34614	Atlantic Health W	Surgery center/ASC	75	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Atlantic Home He	Home health (HHA)	22	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Atlantic Medical I	Imaging Location	33	Toms River	#N/A		0	0	0
Atlantic Health S	34614	Carol G Simon Ca	Cancer/Radiotherapy	6	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Chilton Memorial	Hospital (Acute + Specialty Acute)	24	Pompton Pl	#N/A		232	10,567	56,500
Atlantic Health S	34614	Department of Su	Surgery center/ASC	75	Newton	#N/A		0	0	0
Atlantic Health S	34614	Gagnon Cardiova	Surgery center/ASC	75	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Milford Health &	Wellness Center	82	Milford	#N/A		0	0	0
Atlantic Health S	34614	Milford Urgent Ca	Urgent Care or Freestanding ER	81	Milford	#N/A		0	0	0
Atlantic Health S	34614	Morristown Medi	Hospital (Acute + Specialty Acute)	24	Morristown	#N/A		483	36,249	160,100
Atlantic Health S	34614	Morristown Medi	Laboratory	38	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Morristown Medi	Laboratory	38	Boonton	#N/A		0	0	0
Atlantic Health S	34614	Morristown Medi	Laboratory	38	Morristown	#N/A		0	0	0
Atlantic Health S	34614	Newton Medical	Hospital (Acute + Specialty Acute)	24	Newton	#N/A		129	7,702	60,300
Atlantic Health S	34614	Newton Medical	Laboratory	38	Newton	#N/A		0	0	0
Atlantic Health S	34614	Overlook Imaging	Imaging Location	33	Clark	#N/A		0	0	0
Atlantic Health S	34614	Overlook Imaging	Imaging Location	33	Summit	#N/A		0	0	0
Atlantic Health S	34614	Overlook Medica	Hospital (Acute + Specialty Acute)	24	Summit	#N/A		448	22,803	97,800
Atlantic Health S	34614	Overlook Medica	Laboratory	38	Roselle Park	#N/A		0	0	0

Here, the entities marked by arrows are the ones which have been defined by flags.

Example: In 1st case, using V look up we identified that if the name of the IDN belongs to the MSA New York, then on the other sheet we aligned the ID no. to the IDN on the other sheet.



In the second arrow we have the numbers given as flags to the account names. Hence using the same technique we will provide the numbers to various account names. But out of all the accounts, we just require the various hospitals from different MSA's. Hence we have given the same number to all the MSA's

Hospital (Acute + Specialty Acute)	H	➡ 24
Hospital (Correctional)	H	➡ 24
Hospital (Detox, Substance Abuse)	H	➡ 24
Hospital (Developmental Disability)	H	➡ 24
Hospital (LTAC)	H	➡ 24
Hospital (Psychiatric)	H	➡ 24
Hospital (Rehab + Subacute)	H	➡ 24
Hospital (Specialty)	H	➡ 24
Hospital Within Hospital (Peds, LTAC, Speci	H	➡ 24

Hence, all the hospital types were given 'No. 24' and the symbol 'H'.

In the third arrow we had provided the cities under the same MSA with similar no.'s. For example New York and its cities (Long Island City, Jersey City and New York City) were provided with the symbol 'A1', hence using V look up, the cities took up the assigned values or symbols on the other sheet.

MSA	Cities	Flag
NY MSA	Long Island City	A1
NY MSA	Jersey City	A1
NY MSA	New York	A1

City	City Flag
Rhinebeck	#N/A
Middletown	#N/A
Bronx	#N/A
New York	A1
New York	A1
New York	A1
Bronx	#N/A
Brooklyn	#N/A
Bronx	#N/A
Staten Island	#N/A
Florham Park	#N/A



The cities that did not belong to New York MSA showed error sign, distinguishing them from our desired results

9.7 Segregation and Calculations:

Finally, the segregated list was prepared after having applied the various tools on excel.

Now we needed the total count of beds, outpatients and admissions in various hospitals for each IDN. So applying three conditions, we achieved so, they included:

- a) The name of MSA(should be one of the assigned symbol))
- b) The account type (should be no. 24)
- c) The IDN Identity no.(should match the ID's which we have provided them with)

If these conditions are fulfilled then using the tool “SUM IF’s” on the excel, total number of beds, admissions and outpatients were calculated for each IDN and then total number of IDN’s in the MSA which provided the grand total of all these entities.

MSA	Account	MAXId	Type	Beds	Admissions	Outpatient
NYMSA	ArchCare	36827	System III (vertical integration)	0	0	0
NYMSA	Atlantic Health System Inc	34614	System IV (strategic integration)	0	0	0
NYMSA	Barnabas Health (formerly Saint Barnabas)	38759	System IV (strategic integration)	255	15595	82300
NYMSA	Barnabas Health Behavioral Health Networ	59641	System I (network affiliation)	0	0	0
NYMSA	Bayshore Community Health Services	148249	System IIIA: Single-Hospital System	0	0	0
NYMSA	Bergen County Improvement Authority	153503	System IIIA: Single-Hospital System	0	0	0
NYMSA	Beth Israel Medical Center	39570	System III (vertical integration)	1111	49642	430000
NYMSA	Bon Secours Charity Health System	38779	System III (vertical integration)	0	0	0
NYMSA	Bronx-Lebanon Health Care System	19778	System III (vertical integration)	0	0	0
NYMSA	Capital Health	41038	System III (vertical integration)	0	0	0
NYMSA	CarePoint Health (formerly Hudson Holdco	203013	System II (horizontal integration)	401	8908	42900
NYMSA	Carrier Clinic (System)	155549	System IIIA: Single-Hospital System	0	0	0
NYMSA	Catholic Health Services of Long Island	60605	System III (vertical integration)	0	0	0
NYMSA	CentraState Healthcare System	61735	System IIIA: Single-Hospital System	0	0	0
NYMSA	Children's Specialized Hospital (System)	164142	System III (vertical integration)	0	0	0
NYMSA	Christian Health Care Center	95248	System IIIA: Single-Hospital System	0	0	0
NYMSA	East End Health Alliance	209559	System I (network affiliation)	0	0	0
NYMSA	Englewood Hospital System	140824	System IIIA: Single-Hospital System	0	0	0
NYMSA	Episcopal Health Services Inc	20371	System IIIA: Single-Hospital System	0	0	0
NYMSA	Gaylord Specialty Healthcare	288952	System IIIA: Single-Hospital System	0	0	0
NYMSA	Greater Hudson Valley Health System	44207	System I (network affiliation)	0	0	0
NYMSA	Greater Waterbury Health Network	93360	System IIIA: Single-Hospital System	0	0	0
NYMSA	Griffin Health Services Corp	41376	System IIIA: Single-Hospital System	0	0	0
NYMSA	Hackensack University Health Network	92604	System III (vertical integration)	0	0	0
NYMSA	Health Quest Systems Inc	90808	System III (vertical integration)	0	0	0
NYMSA	Hunterdon Healthcare System	90348	System IIIA: Single-Hospital System	0	0	0
NYMSA	Interfaith Medical Center (System)	92608	System IIIA: Single-Hospital System	0	0	0

Then using “large” tool the total of beds, outpatients and admissions were calculated for the top 5 IDN’s and the top 10 IDN’s

For Top 5 IDN per MSA	Beds (%)	Admissions (%)	Outpatient (%)	Beds	Admissions	Outpatient
New York-Northern New Jersey-Long Island	81%	81%	83%	17308	657086	5184306
Los Angeles-Riverside-Orange County CA	93%	88%	99%	6599	211660	1744800
Chicago-Gary-Kenosha IL-IN-WI CMSA	60%	60%	75%	6708	221110	2974900
Washington-Baltimore DC-MD-VA-WV CMSA	84%	83%	143%	8196	315953	934800
San Francisco-Oakland-San Jose CA CMSA	67%	75%	88%	6342	190407	2962400
Philadelphia-Wilmington-Atlantic City P	59%	63%	72%	6941	382415	3091779
Dallas-Fort Worth-Arlington, TX	75%	72%	83%	8442	265703	2636547
Boston-Worcester-Lawrence MA-NH-ME-CT CMS	54%	59%	60%	7286	426450	8622049
Houston-Sugar Land-Baytown, TX	90%	87%	90%	16932	727699	5258990
Miami-Fort Lauderdale-Miami Beach, FL	84%	83%	93%	8346	226461	2696200
Detroit-Ann Arbor-Flint MI CMSA	87%	85%	90%	6111	224024	4284553
Atlanta-Sandy Springs-Marietta, GA	84%	79%	89%	4686	211074	2506849
Phoenix-Mesa-Scottsdale, AZ	93%	95%	94%	5809	274791	1298400
Seattle-Tacoma-Bremerton WA CMSA	69%	70%	82%	5730	255252	3631700
Minneapolis-St. Paul-Bloomington, MN-WI	100%	100%	100%	4788	116160	1707335
San Diego-Carlsbad-San Marcos, CA	100%	100%	100%	3758	137152	831320
Cleveland-Akron OH CMSA	87%	87%	92%	11424	392683	6392400
St. Louis, MO-IL	100%	100%	100%	8010	269806	2185601
Tampa-St. Petersburg-Clearwater, FL	99%	100%	99%	6084	274068	1712600
Denver-Boulder-Greeley CO CMSA	73%	72%	75%	3706	87829	978100

For Top 10 IDN per MSA	Beds (%)	Admissions (%)	Outpatient (%)	Beds	Admissions	Outpatient
New York-Northern New Jersey-Long Island	99%	98%	99%	21088	791419	6185391
Los Angeles-Riverside-Orange County CA	97%	96%	99%	6911	231034	1760400
Chicago-Gary-Kenosha IL-IN-WI CMSA	89%	89%	92%	9926	327108	3639100
Washington-Baltimore DC-MD-VA-WV CMSA	89%	94%	100%	10165	402928	966400
San Francisco-Oakland-San Jose CA CMSA	95%	97%	100%	8965	246988	3371800
Philadelphia-Wilmington-Atlantic City P	85%	88%	93%	10056	538824	4031699
Dallas-Fort Worth-Arlington, TX	93%	95%	96%	10524	351850	3068147
Boston-Worcester-Lawrence MA-NH-ME-CT CMSA	83%	91%	90%	11230	658423	12936749
Houston-Sugar Land-Baytown, TX	99%	100%	100%	18779	832952	5804047
Miami-Fort Lauderdale-Miami Beach, FL	100%	100%	100%	9926	274192	2897300
Detroit-Ann Arbor-Flint MI CMSA	100%	100%	100%	6985	263888	4757853
Atlanta-Sandy Springs-Marietta, GA	100%	100%	100%	5588	266389	2820349
Phoenix-Mesa-Scottsdale, AZ	100%	100%	100%	6256	289160	1382200
Seattle-Tacoma-Bremerton WA CMSA	100%	100%	100%	8266	362279	4407400
Minneapolis-St. Paul-Bloomington, MN-WI	100%	100%	100%	4788	116160	1707335
San Diego-Carlsbad-San Marcos, CA				#NUM!	#NUM!	#NUM!
Cleveland-Akron OH CMSA	100%	100%	100%	13143	449859	6931300
St. Louis, MO-IL	100%	100%	100%	8010	269806	2185601
Tampa-St. Petersburg-Clearwater, FL	100%	100%	100%	6144	275183	1722596
Denver-Boulder-Greeley CO CMSA	100%	100%	100%	5081	122096	1312100

Similarly the calculations were carried out for the share of top 5 Hospitals in each MSA and the percentage shares were calculated.

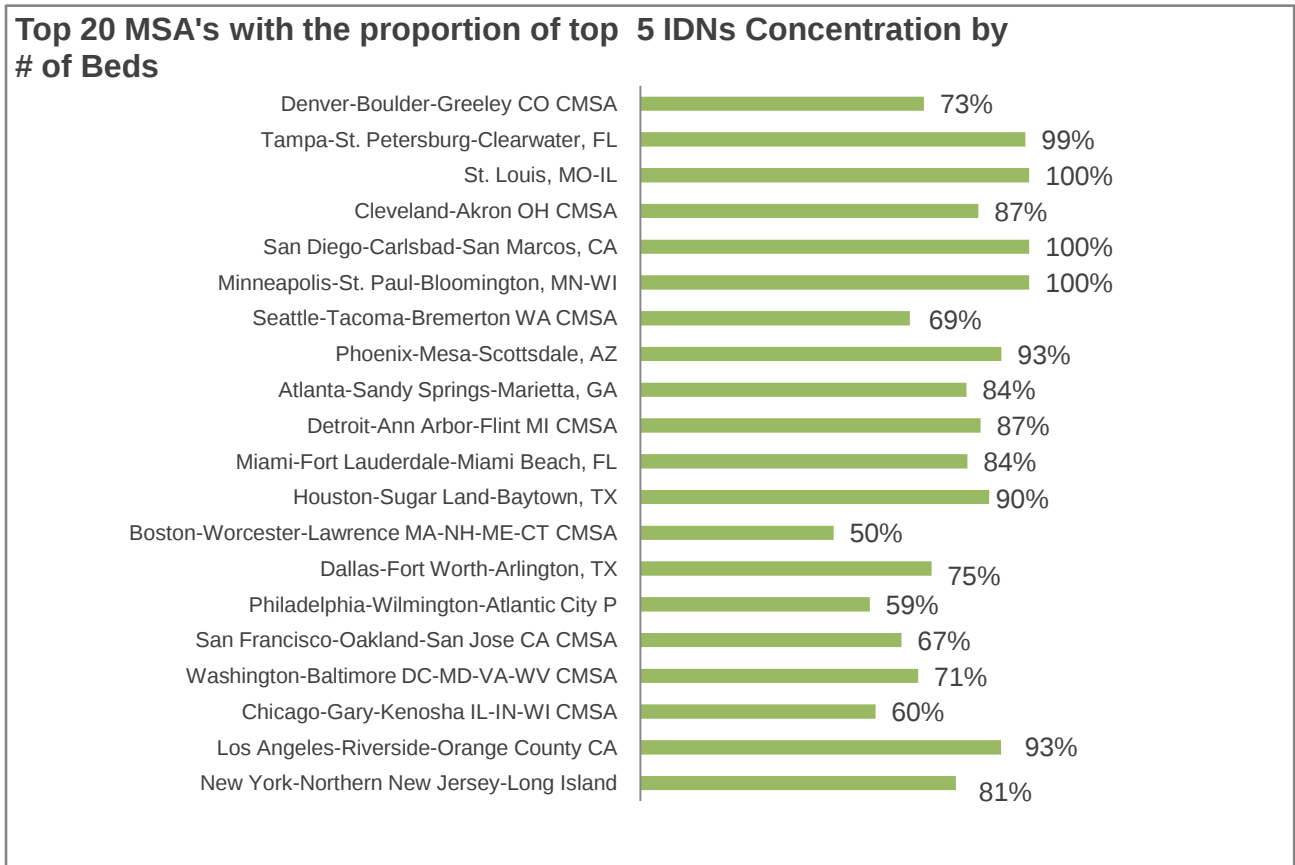
Hospitals	Beds (Houston)	Beds (Sugar Land)	Beds (Baytown)	Total Beds	Admissions (Houston)	Admissions (Sugar Land)	Admissions (Baytown)	Total Admissions	Outpatients (Houston)	Outpatients (Sugar Land)	Outpatients (Baytown)	Total Outpatients
Memorial Hermann Texas Medical Center	850	0	0	850	25,846	0	0	25,846	132,000	0	0	132,000
Memorial Hermann Texas Medical Center	100	0	0	0	3,027	0	0	0	9,000	0	0	0
Texas Children's Hospital (TCHDS)	106	0	0	106	3,000	0	0	3,000	0	0	0	0
Texas Children's Hospital (TMC)	64	0	0	0	8,160	0	0	0	32,200	0	0	0
University of Texas MD Anderson	578	0	0	0	26,499	0	0	0	137,854	0	0	0
University of Texas MD Anderson	578	0	0	578	177	0	0	177	6,000	0	0	6,000
Memorial Hermann Northwest Hospital	397	0	0	0	12,188	0	0	0	101,100	0	0	0
Memorial Hermann Northwest Hospital	300	0	0	300	15,363	0	0	15,363	61,303	0	0	61,303
Memorial Hermann Southwest Hospital	223	0	0	0	10,890	0	0	0	33,800	0	0	0
Memorial Hermann Southwest Hospital	100	0	0	100	0	0	0	0	0	0	0	0
Houston Methodist Hospital (HM)	46	0	0	46	3,181	0	0	3,181	18,100	0	0	18,100
Houston Methodist Hospital (TMC)	273	0	0	0	9,118	0	0	0	0	0	0	0
Ben Taub General Hospital (TMC)	1299	0	0	0	33,921	0	0	0	193,200	0	0	0
Ben Taub General Hospital (HHS)	15	0	0	15	587	0	0	587	19,700	0	0	19,700
Baylor Saint Luke's Medical Center	22	0	0	22	13,172	0	0	13,172	62,700	0	0	62,700
Baylor Saint Luke's Medical Center	178	0	0	0	10,956	0	0	0	54,200	0	0	0
Woman's Hospital of Texas	251	0	0	251	13,836	0	0	13,836	47,600	0	0	47,600
Memorial Hermann Memorial City	193	0	0	0	0	0	0	0	0	0	0	0
Memorial Hermann Memorial City	191	0	0	191	0	0	0	0	3,525	0	0	3,525
Houston Methodist Sugar Land Hospital	0	0	0	0	0	0	0	0	0	0	0	0
Lyndon B Johnson General Hospital	908	0	0	0	36,510	0	0	0	575,700	0	0	0
Lyndon B Johnson General Hospital	90	0	0	90	2,850	0	0	2,850	2,600	0	0	2,600
Houston Methodist San Jacinto Hospital	0	0	1368	1368	0	0	66,135	66,135	0	0	230,100	230,100
Houston Methodist Willowbrook	1368	0	0	1368	66,135	0	0	66,135	230,100	0	0	230,100
West Houston Medical Center	136	0	0	136	21,408	0	0	21,408	95,300	0	0	95,300
Cypress Fairbanks Medical Center	81	0	0	81	5,940	0	0	5,940	26,000	0	0	26,000
Memorial Hermann Sugar Land Hospital	0	15	0	0	0	587	0	0	0	19,700	0	0
Memorial Hermann Sugar Land Hospital	0	92	0	92	0	1,130	0	1,130	0	24,800	0	24,800
Memorial Hermann TIRR (TMC)	176	0	0	0	1,341	0	0	0	0	0	0	0
Memorial Hermann TIRR (MHHS)	265	0	0	265	6,122	0	0	6,122	0	0	0	0
TOPS Surgical Specialty Hospital (TMC)	0	0	0	0	0	0	0	0	0	0	0	0
TOPS Surgical Specialty Hospital (TMC)	0	0	0	0	0	0	0	0	0	0	0	0
Texas Orthopedic Hospital	10	0	0	10	0	0	0	0	0	0	0	0
University General Hospital	231	0	0	231	31,229	0	0	31,229	526,100	0	0	526,100

Here the hospitals marked in yellow have are perhaps a part of more than one IDN. So to omit repetitions relationships of the hospital was taken into consideration. Hence the relationships are ranked as:

1. Owned
2. Affiliation
3. Shareholder
4. Network
5. Joint venture
6. Managed
7. Collaboration
8. Leased
9. Subsidiary
10. MC Contract

10. Findings:

Figure 1

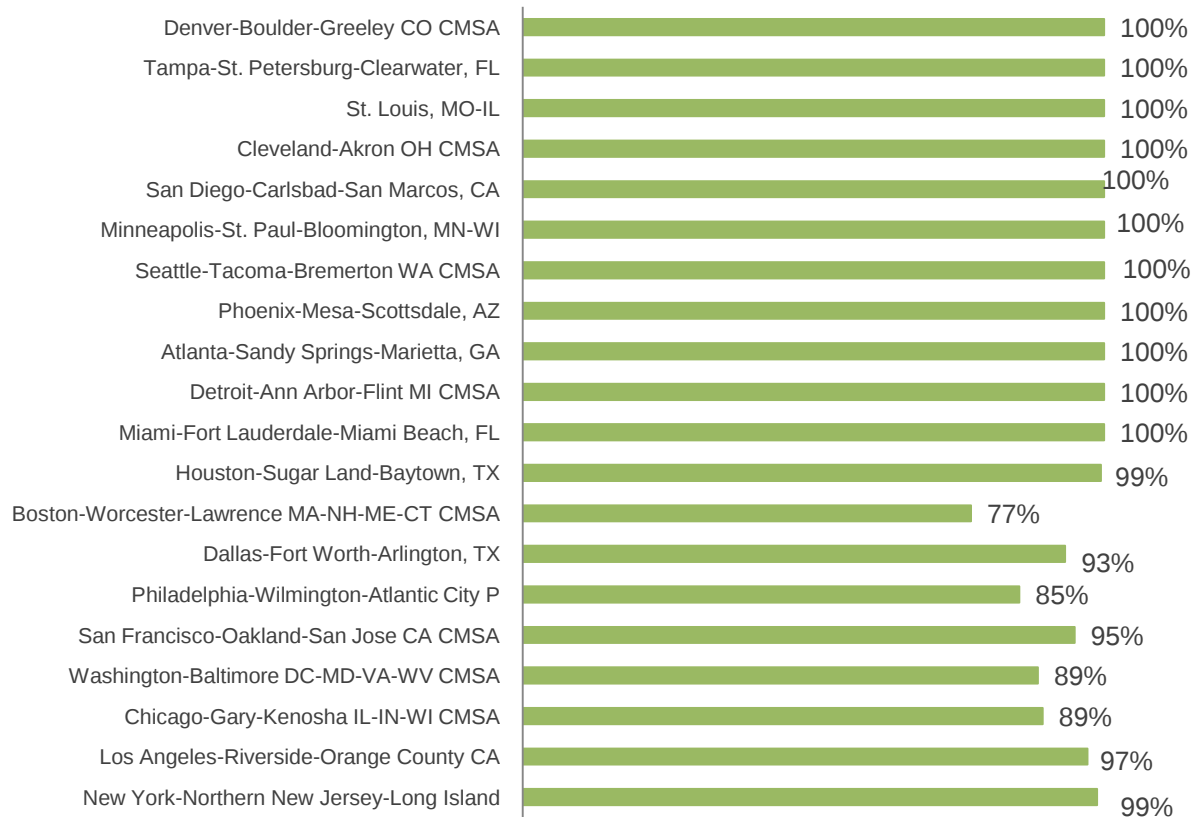


Interpretation:

The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of beds. So this graph clearly indicates that the top 5 IDN's have captured more than 50% of the market share in their respective MSA's.

Figure 2

Top 20 MSA's with the proportion of top 10 IDNs Concentration by # of Beds

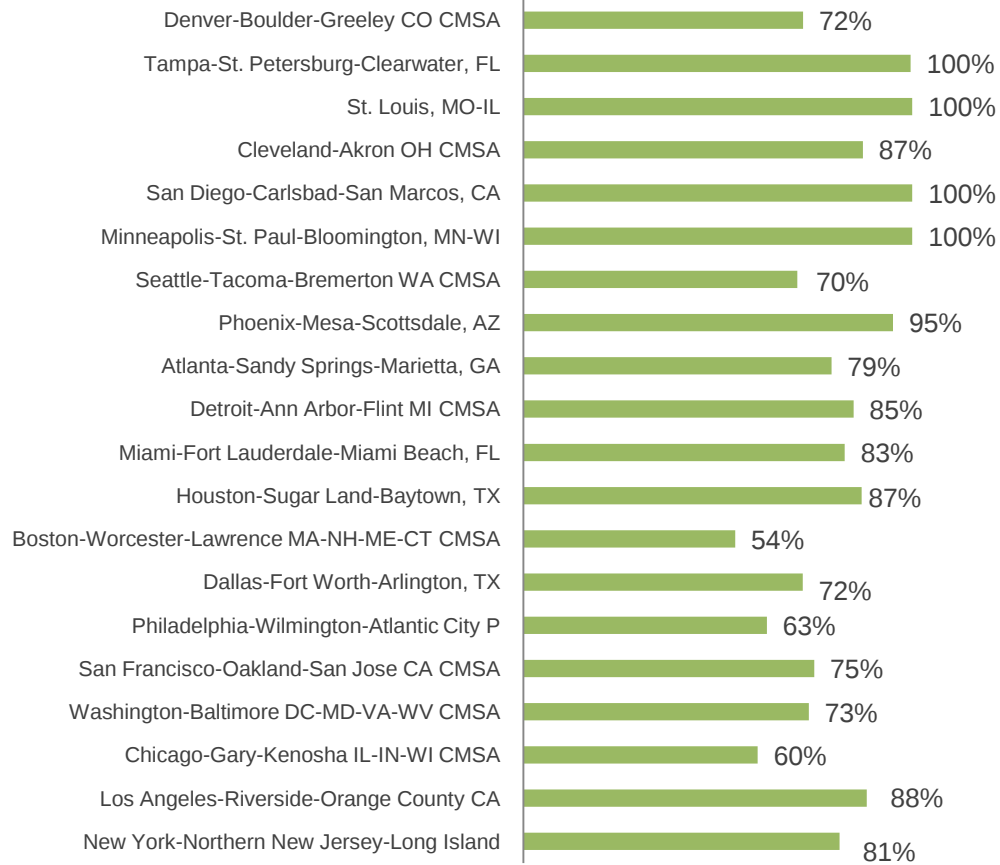


Interpretation:

The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of beds. So this graph clearly indicates that the top 10 IDN's have captured more than 50% of the market share in their respective MSA's. In fact, most of them have seemed to capture almost 100% market share in their respective MSA's.

Figure 3

Top 20 MSA's with the proportion of top 5 IDNs Concentration by # of Admissions

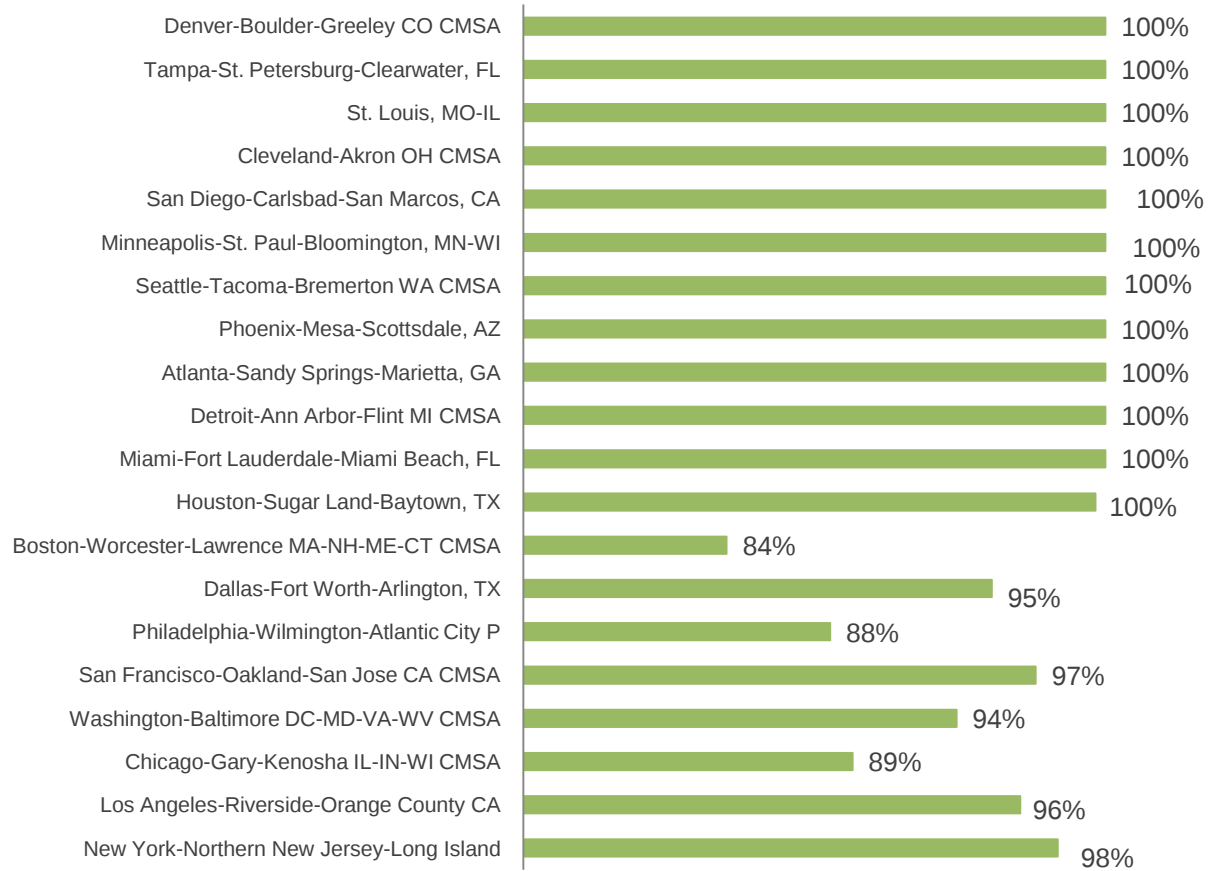


Interpretation:

The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of admissions. So this graph clearly indicates that the top 5 IDN's have captured more than 54% of the market share in their respective MSA's.

Figure 4

Top 20 MSA's with the proportion of top 10 IDNs Concentration by # of Admissions

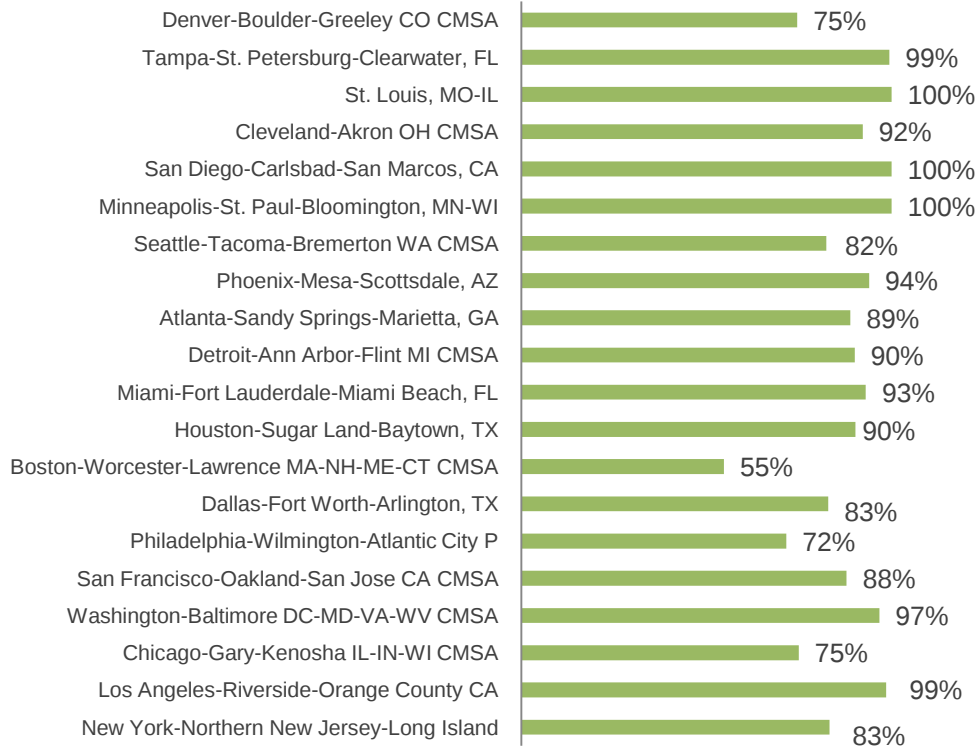


Interpretation:

The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of admissions. So this graph clearly indicates that the top 10 IDN's have captured more than 80% of the market share in their respective MSA's. In fact, most of them have seemed to capture almost 100% market share in their respective MSA's.

Figure 5

**Top 20 MSA's with the proportion of top 5 IDNs Concentration
by # of Outpatients**

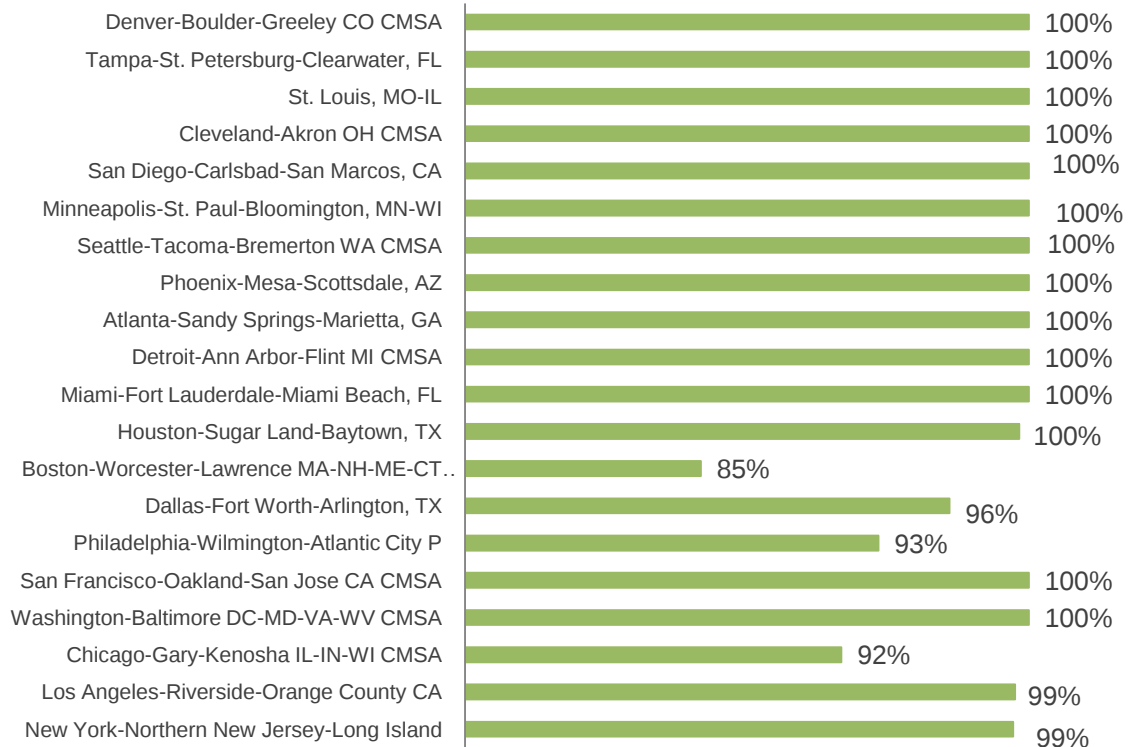


Interpretation:

The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of outpatients. So this graph clearly indicates that the top 5 IDN's have captured more than 55% of the market share in their respective MSA's.

Figure 6

Top 20 MSA's with the proportion of Top 10 IDNs Concentration by # of Outpatients



Interpretation:

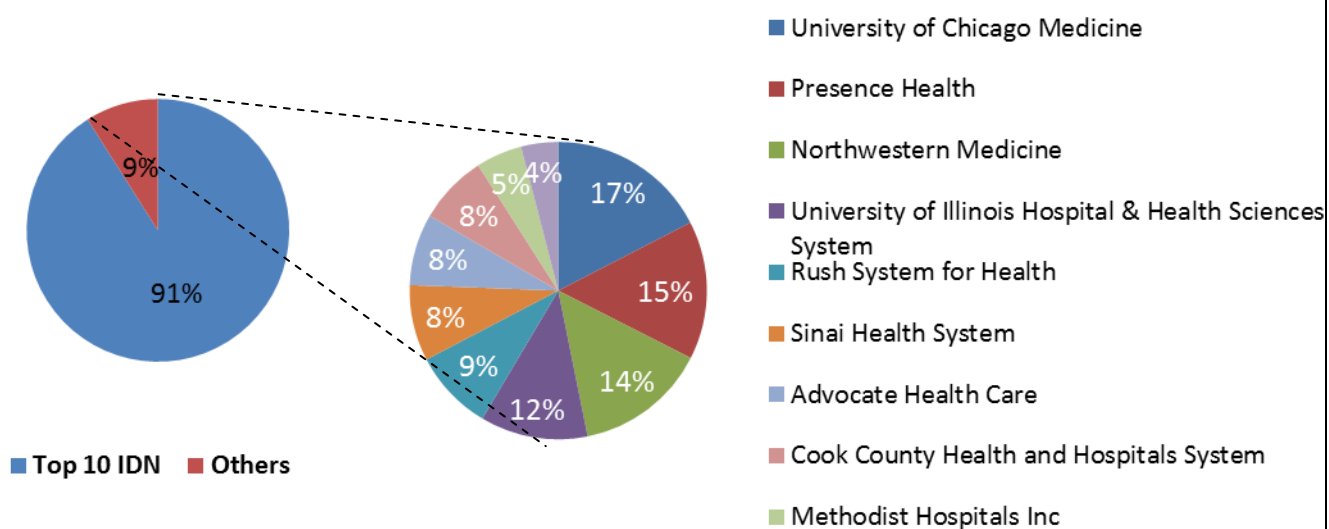
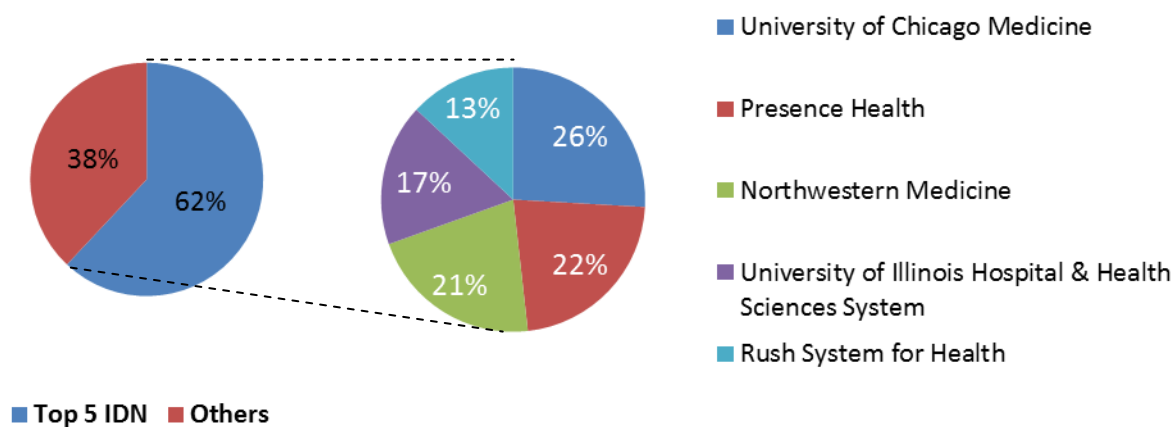
The graph above shows the names of top 20 MSA's by population and the concentration of the IDN's in each MSA by the number of admissions. So this graph clearly indicates that the top 10 IDN's have captured more than 80% of the market share in their respective MSA's. In fact, most of them have seemed to capture almost 100% market share in their respective MSA's.

10.1 Final Interpretation:

From the above figures, it is concluded that irrespective of the populations under consideration of the MSA's, it is evident that the top 5 and top 10 IDN's cover almost more than 50% of the market shares by may it be beds, admissions or outpatients. Hence the provider market of MSA's on a whole for the IDN's is consolidated with few of the leading market players. And in most of the cases in top 10 IDN's, they capture almost the 100% market shares. This clearly shows that market is swayed by few key integrated delivery networks.

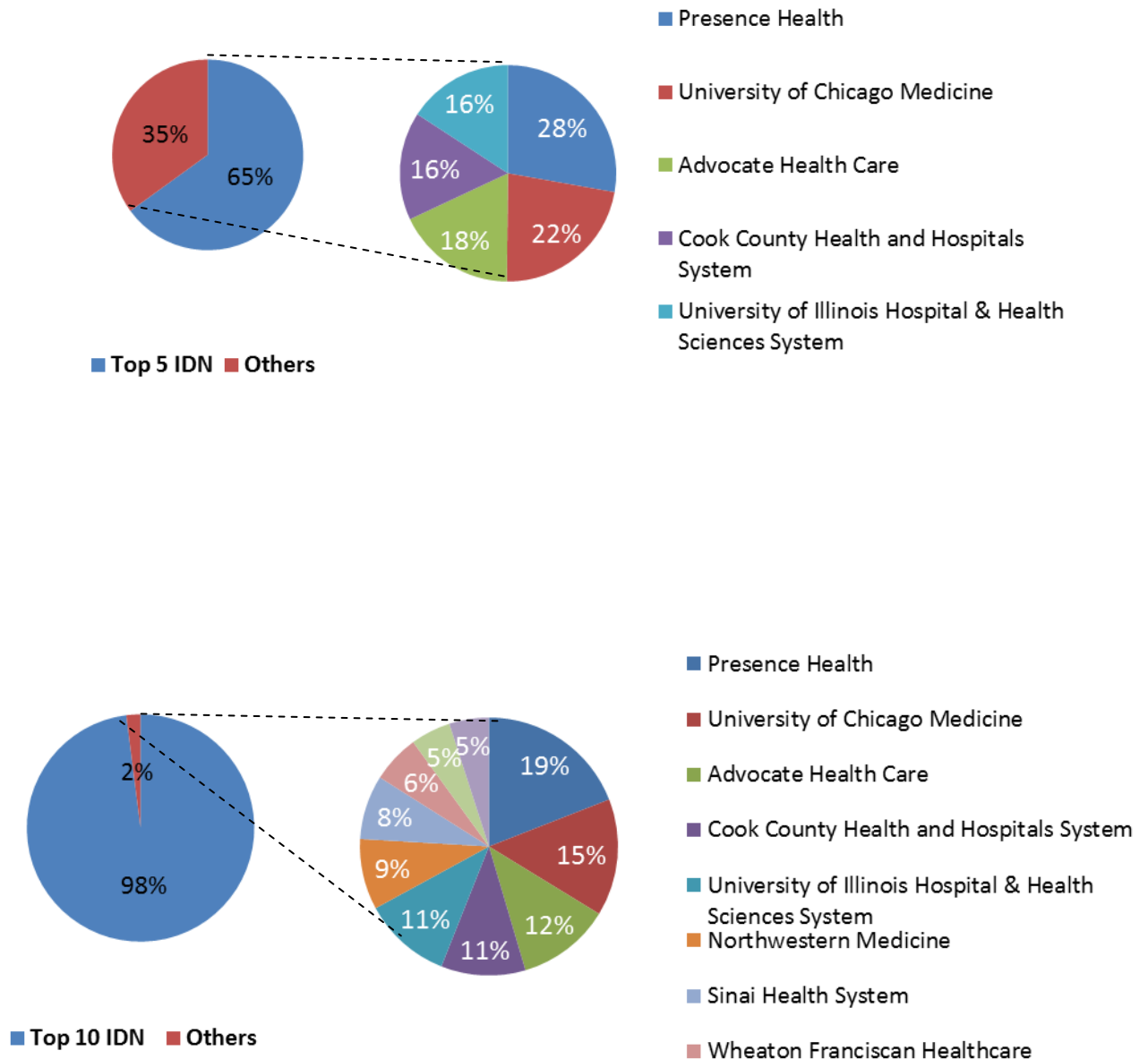
Market share of IDN's by the proportion of admissions in Chicago MSA:

The graphs below show the names of the top 5 and the top 10 IDN's in the Chicago MSA that have captured the max. Share in the market by the proportion of admissions



Market share of IDN's by the proportion of beds in Chicago MSA:

The graphs below show the names of the top 5 and the top 10 IDN's in the Chicago MSA that have captured the max. Share in the market by the proportion of beds



11.Conclusion:

The figures above clearly indicate the market being driven by certain key players in the market. The hospital market is either being driven by IDN's or the Mergers and Acquisitions. Hence this consolidation of the provider market will have it's probable effects on the sales force models.

12. Discussion:

Earlier in the cases of individual hospitals, the power of buying medical products was entirely leveraged by the physicians since they were considered the best people for the same. Hence the sales representatives followed a transactional model for the sales of their products wherein they dealt with individual physicians. The sales representatives had to cover a large number of hospitals to achieve their allotted targets.

However with the emergence of IDN's, the transactional models have changed to Key Account Management models or the strategic account management models wherein they have to create long term relationships with the IDN's

The system has become more centralized with the purchasing committees being formed for various hospitals for various purchases in separate departments with the respective physicians being the members of each committee along with the other members.

These IDN's no doubt serve the healthcare purposes but along with that, they are equally interested in earning profits and hence have become corporate entities. A sales representative has to penetrate them affirming long term relationship since IDN's have bulk purchases which serve the purpose of the sales representatives as capturing the orders of a single IDN may lead to achieving the entire years target for the sales rep.

Secondly, along with the sales of the particular medical products, sales representatives may also build a consultant relationship and try involving in and improving the business strategies of the hospitals in the IDN's which may even lead to selling of other products of the medical product company.

Thirdly, once having built good relationship with a certain IDN, it creates a good impact on the competitive IDN's as well and this might help in enhancing the business and sales of the product companies with other IDN's as well.

These are the few changes which the sales rep. could bring about in their strategies.

13. Limitations

As the literature review was time limited and restricted to English language and to publically available secondary data and published documents, the results found may not be worth recommending or putting forth of any statements. It may be required to further research as the status of study parameters may change on an ongoing basis.

14. Disclaimer

Findings of this study is subject to change in case of change in status of any of the regulatory parameter under consideration in any of the geographies under study since the study is based on the publically available secondary data

15. Ethical considerations:

The following study being based on secondary/desk research will derive data from publically available data sources so there are no associated ethical considerations for the study.

16. References:

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- <http://www.thebrooksgrouponline.com/news/item/24-the-changing-dynamics-of-healthcare-delivery-integrated-delivery-networks-and-long-term-care>
- <http://www.sedasys.com/events/integrated-delivery-networks-hospital-trends-and-strategies-c-suite-perspective-march-24-2015>
- <http://www.beckershospitalreview.com/docs/oldmedia/MedSpeedWebinar1.pdf>

Annexure:

Flags values provided in details:

- For the Accounts:

Account	Syn	Flag
ACO (Accountable Care Organization)	ACO	1
Alliance (shared svc, purchasing, advocacy)	Alli	2
Alzheimers treatment center	Alz TC	3
Assisted living center	ALC	4
Assisted Living Chain	AssLC	5
Cancer/Radiotherapy	Onco	6
Cardiac Center	CC	7
Clinic/Physicians-Primary Care	GP	8
Community Health Center	CHC	9
Contracted service	CS	10
Dental Group	DG	11
Dental School	DS	12

Diagnostic Imaging Chain	DIC	13
Dialysis (ESRD) Clinic	ESRD Clinic	14
Disease Mgmt/Health Mgmt	DM	15
Distribution/Stock	Distri	16
DME--Durable Medical Equipment	DME	17
Foundation (Medical)	Found	18
Gov't/State Association	G.S Ass	19
Group Branch Location	Gp Br	20
HIE - Health Information Exchange	HIE	21
Home health (HHA)	HHA	22
Hospice	Hos	23
Hospital (Acute + Specialty Acute)	H	24
Hospital (Correctional)	H	24
Hospital (Detox, Substance Abuse)	H	24
Hospital (Developmental Disability)	H	24
Hospital (LTAC)	H	24
Hospital (Psychiatric)	H	24

Hospital (Rehab + Subacute)	H	24
Hospital (Specialty)	H	24
Hospital Within Hospital (Peds, LTAC, Specialty)	H	24
Imaging Location	IL	33
Info/eCommerce	Ecom	34
Insurer/Managed Care Corporate Office	Insurer	35
Insurer/MCO/HMO/PPO Branch Office	HMO	36
IPA--Independent Practice Association	IPA	37
Laboratory	Lab	38
Laboratory Corporation	Lab C	39
Local Provider/Alternative Care	AC	40
Long-term-care chain	LTCC	41
Medical School	MS	42
Mental Health/Counseling	MH	43
Mixed-use Medical Office Building	Mixed	44
MSO--Management Service Organization	MSO	45
Multispecialty Medical Group Main Office	Multi	46

	Clinic	
Nuclear Pharmacy	Nuclear P	47
Nursing Home Chain	NHC	48
Occupational Health	Occ H	49
Oncology/Radiotherapy Chain	Onc	50
Other	Other	51
PBM--Pharmacy Benefit Manager	PBM	52
Pharmacy	Phr	53
Pharmacy Corporation	Phr Corp	54
PHO--Physician Hospital Organization	PHO	55
Physician Credentialing	PhyCre	56
Physician Network	PhyNtwrk	57
PPM--Physician Practice Management	PPM	58
PPO	PPO	59
Professional Association	Prof Ass	60
Provider Corp/Alt Care Chain	Provi Corp	61
Public Health Agency or System	Public Health	62

Purchasing/Contracting	Contrct	63
Regional office	Regio	64
	Office	
Regional Purchasing Coalition	RPC	65
Rehab/PT/sports Clinic	RPS	66
REIT--Real Estate Investment Trust	REIT	67
Research Facility/Network	RFN	68
Residential/Housing	RH	69
Senior Independent Living or Day Services	SIL	70
Sheltered home/workshop	SHW	71
SNF/long-term care (LTC) unit	SNF	72
Specialty Physicians	SP	73
Substance Abuse Clinic	SAC	74
Surgery center/ASC	SC	75
System I (network affiliation)	S1	76
System II (horizontal or single-hospital)	S2	77
System III (vertical integration)	S3	78
System IIIA: Single-Hospital System	S3a	79

System IV (strategic integration)	S4	80
Urgent Care or Freestanding ER	UC	81
Wellness Center	WC	82
Women's/OB/GYN Clinic	WOG	83
Wound Care Center	WCC	84
Multi dentist single location	MDSL	85

- For MSA:

MSA	Cities	Flag
NY MSA	Long Island City	A1
NY MSA	Jersey City	A1
NY MSA	New York	A1
LAMSA	Los Angeles	A2
LAMSA	Riverside	A2
LAMSA	Orange County	A2
CMSA	Chicago	A3
CMSA	Gary	A3
CMSA	Kenosha	A3
WMSA	Washington	A4
WMSA	Baltimore	A4
SFMSA	San Francisco	A5

SFMSA	Oakland	A5
SFMSA	San Jose	A5
PDMSA	Philadelphia	A6
PDMSA	Wilmington	A6
PDMSA	Atlantic City	A6
DAMSA	Dallas	A7
DAMSA	Fort Worth	A7
DAMSA	Arlington	A7
BOMSA	Boston	A8
BOMSA	Worcester	A8
BOMSA	Lawrence	A8
HOMSA	Houston	A9
HOMSA	Sugar Land	A9
HOMSA	Baytown	A9
MIMSA	Miami	A10
MIMSA	Fort Lauderdale	A10
MIMSA	Miami Beach	A10
DETMSA	Detroit	A11
DETMSA	Ann Arbor	A11
DETMSA	Flint	A11
ATMSA	Atlanta	A12
ATMSA	Sandy Springs	A12
ATMSA	Marietta	A12

PHMSA	Phoenix	A13
PHMSA	Mesa	A13
PHMSA	Scottsdale	A13
SEMSA	Seattle	A14
SEMSA	Tacoma	A14
SEMSA	Bremerton	A14
MINMSA	Minneapolis	A15
MINMSA	St. Paul	A15
MINMSA	Bloomington	A15
SANMSA	San Diego	A16
SANMSA	Carlsbad	A16
SANMSA	San Marcos	A16
CLMSA	Cleveland	A17
CLMSA	Akron	A17
STLMSA	St Louis	A18
TAMSA	Tampa	A19
TAMSA	St. Petersburg	A19
TAMSA	Clearwater	A19
DENMSA	Denver	A20
DENMSA	Boulder	A20
DENMSA	Greeley	A20

- For MSA ID:

MSA ID	MSA Name
5602	New York-Northern New Jersey-Long Island
4472	Los Angeles-Riverside-Orange County CA
1602	Chicago-Gary-Kenosha IL-IN-WI CMSA
8872	Washington-Baltimore DC-MD-VA-WV CMSA
7362	San Francisco-Oakland-San Jose CA CMSA
6162	Philadelphia-Wilmington-Atlantic City P
1922	Dallas-Fort Worth-Arlington, TX
1122	Boston-Worcester-Lawrence MA-NH-ME-CT CMSA
3362	Houston-Sugar Land-Baytown, TX
8960	Miami-Fort Lauderdale-Miami Beach, FL
2162	Detroit-Ann Arbor-Flint MI CMSA
520	Atlanta-Sandy Springs-Marietta, GA
6200	Phoenix-Mesa-Scottsdale, AZ

7602	Seattle-Tacoma-Bremerton WA CMSA
5120	Minneapolis-St. Paul-Bloomington, MN-WI
7320	San Diego-Carlsbad-San Marcos, CA
1692	Cleveland-Akron OH CMSA
7040	St. Louis, MO-IL
8280	Tampa-St. Petersburg-Clearwater, FL
2082	Denver-Boulder-Greeley CO CMSA

