Cleveland Clinic Orthopaedic Service Line Growth Strategy

Team Lifeline

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Shifting industry trends are creating an increasingly competitive Orthopaedic market that is pushing traditional inpatient services into outpatient settings

Demographic Shifts

20% of U.S. population will be above 65 years old by 2030.

Consumer Trends

Preference for shorter travel distance.
Increased transparency on prices and performance.

Regulatory Trends Increased use of bundled payments by payers. Procedures transitioning away from inpatient-only list.

Competitive Environment

Competition with established health systems.

New entrants entering the market.



Orthopaedic treatment moving from inpatient to outpatient settings



Strategy

Local Market

Regional Market

National Market

Conclusion

Further analysis of this market trend reveals significant opportunities in the joint replacement sub-service line

Market Trends Outpatient Opportunities



Orthopaedic treatment moving from inpatient to outpatient settings

23% 5-Year Outpatient Growth



Joint Replacement

5-year volume growth: 173%



Total Knee Arthroplasty (TKA)

Transition away from CMS IPO list

Outpatient Locations

Hospital Outpatient **Department**



Ownership: 100% Hospital

Reimbursement: 85% higher

than ASCs

Geographic Restrictions: Tied

to 35 mile hospital radius

Ambulatory Surgery **Centers**



Ownership: Varies; Typically split between a hospital & physicians

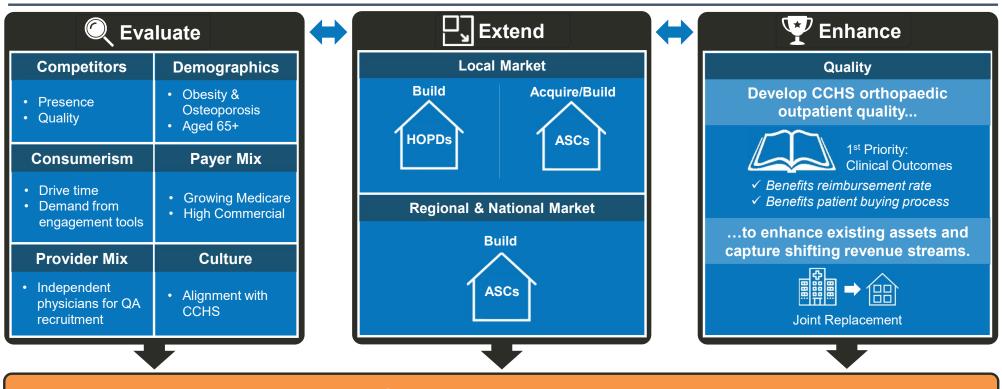
Reimbursement: Lower than HOPDs, but more cost effective

Geographic Restrictions: None

Source(s): Advisory Board

Appendices: PESTEL Analysis; Porter's 5 Forces, SWOT Analysis Confidential - do not copy or distribute

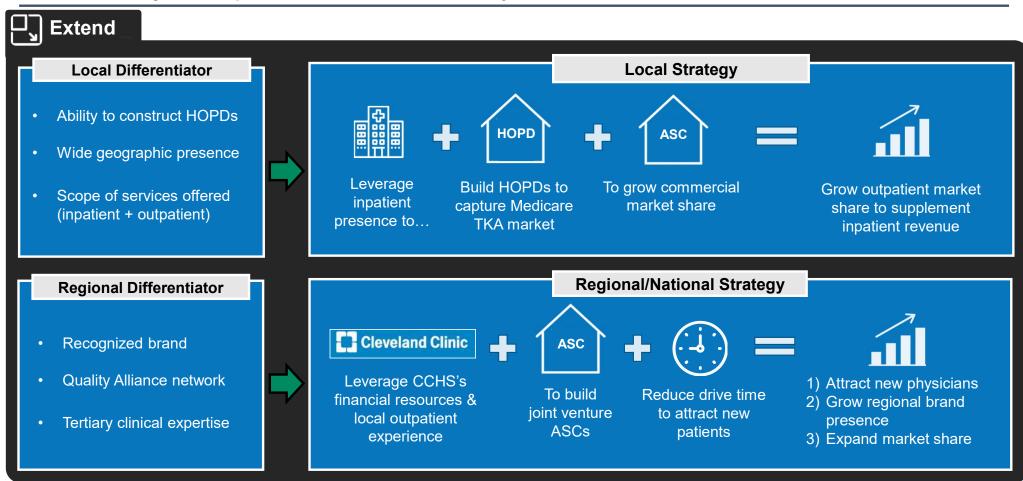
To pursue growth, Cleveland Clinic Health System needs to adopt a strategic playbook with the flexibility to be applied in different markets



Competitive Advantage

Orthopaedic Market Share Growth

Cleveland Clinic Health System can leverage their market differentiators to become a leader in joint replacement care delivery



CCHS has time-limited opportunities to extend our presence into the Southern region in order to create a lasting competitive advantage for outpatient orthopaedic services

→ Local Strategy





Top 3 Considerations:

1. Western region's fierce competitive environment



University Hospital (UHHS) —

- 8% higher market share
- Higher quality TKA
- 2. Eastern region's high orthopaedic volume



- Highest market share
- 2% volume **1** ('16-'17)



- Close market share (8% less)
- Large asset footprint
- 3. Southern region's potential for expansion



Aultman +

- YOY
 ■ market share
- No ASC assets





- Many \$ and staffing issues
- CCHS has majority counties



- >15k procedures/year
- 11 locations (1 ASC)
 & expanding 2020



- Summit & Stark County = high Private & growing Medicare
- Can

 ↓ CCAG 8.8mi drive time

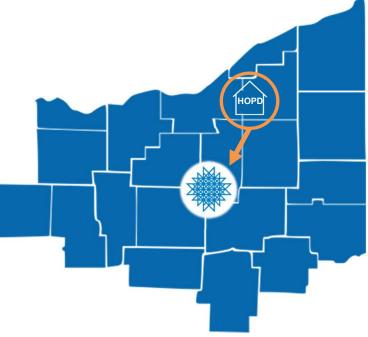
Recommendation: Extend presence into the Southern Region

Note: Sole market share figures are averaged out from 2014-2017 Source(s): CCHS Data Cube, Becker's Review, Advisory Board Appendices: Mapping Analytics for Local Strategy, SWOT Analysis

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Building a pilot HOPD and acquiring Crystal Clinic will allow CCHS to have both a large and high quality outpatient asset footprint in the Southern Region

→ Local Strategy



口。] Extend

1. Build an East region HOPD

- >9k/year avg. volume to innovate outpatient quality
- 2 years to breakeven
- TKA capture opportunity:

Medicare: Commercial: 914 1264

2. Pursue Acquisition of Crystal Clinic



CCHS benefits

- √ Gain ASC & outpatient area
- ✓ New patients to CCAG hub



Crystal Clinic benefits

- ✓ Eliminate \$ issues and backlash from 2020 hospital
- Replace GBS & use CCHS brand to grow and enhance

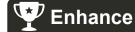


• Patient benefits

√

♣ drive times with

♠ quality



Distill key learnings & standardize spread



Source(s): CCHS Data Cube, Becker's Review, Advisory Board Appendices: Crystal Clinic Contingency Plan, Sensitivity Analysis Confidential – do not copy or distribute

This local strategy compounds benefits for CCHS to outcompete rivals and secure future orthopaedic volume in the Southern Region

▶ Local Strategy



- → meets payer & consumer cost demands
- provides expertise to innovate outpatient quality



positions CCHS to take Southern
 Region orthopaedic outpatient
 volume

Communicating CCHS's investment in the Southern Region community to help meet patient needs

CCHS outcompetes Summa Health & Aultmann by:

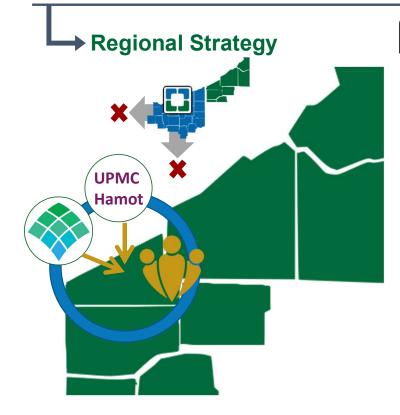
(1) mitigating future outpatient expansion

(2) attracting more patients with an increasing difference in quality

Sustained Competitive Advantage

Orthopaedic Market Share Growth

Erie County in West Pennsylvania has the greatest opportunities for CCHS to meet community needs and expand into new regional markets





Top 2 Considerations:

- 1. Southward & Westward's competition and limited growth
 - Strong competition from large health systems (ex. South: UPMC, OhioHealth; West: UHHS, UMMS, Mayo Clinic)
 - ¥ Fewer areas with large aged 65+ population
- 2. Northeastward region's potential for expansion



✓ Significant community need- best combination of evaluation criteria





✓ UPMC Hamot and
 St. Vincent Hospital
 – overall orthopedic
 quality not as high as
 Cleveland Clinic



✓ In a geographically strategic position for further regional expansion

Source(s): PHC4, Community Commons, U.S. News Rankings Appendices: Erie County Market Assessment, Regional Demographic Data Confidential – do not copy or distribute Recommendation: Extend Northeastward, starting with Erie County



Current State

Strategy

Local Market

Regional Market

National Market

Conclusion

Building ASCs in Erie County delivers value and grows CCHS's Orthopedic Service Line



Extend الا

Build ASCs in Erie County - capture 23% of competitors' market share

Value Proposition

Erie County patients



- Higher quality care
- Advanced innovative technologies
- Evidence-based care delivery models

Erie Orthopedic Physicians

- CCHS brand, resources, expertise
- Higher reimbursement rates
- Bonuses for quality care

Cleveland Clinic

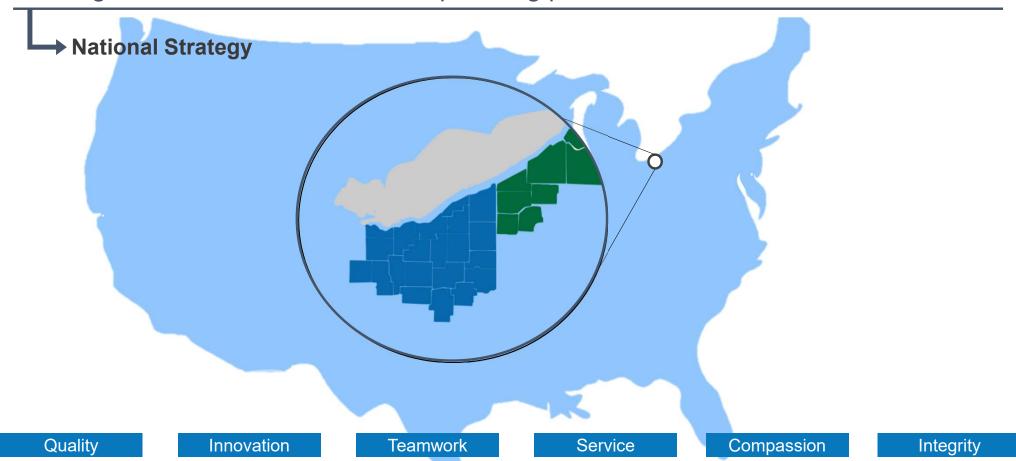


- Establish brand presence
- Enter new market
- Expand relationship with physicians
- Future growth

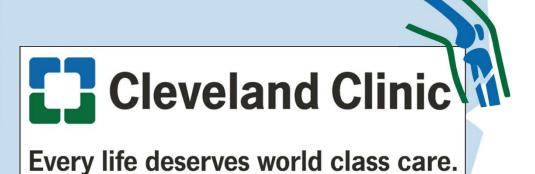


- 1. Use best practices extrapolated from local strategy.
- 2. Recruit high performing orthopaedic physicians through Quality Alliance and bridge QA geographic gap.

Source(s): PHC4, Community Commons, Yelp Appendices: Projected Outpatient Orthopedic Market Share Capture, Assessment of Opportunities in JV ASCs Confidential – do not copy or distribute When taking the regional strategy to the national level, CCHS needs to ensure oversight over culture and continue pursuing points of differentiation



Using this strategic playbook, CCHS will be well positioned to be the leader in the Orthopaedic Service Line while keeping Patients First





Thank You! Questions?

Appendix:

Strategic Market External Analysis

- PESTEL Analysis
- Porter's 5 Forces
- SWOT Analysis

General

- ASC and HOPD 5-year Return on Investment
 Graphs
- ASC and HOPD 5-year Return on Investment
 Data & Assumptions
- Shift of TKA procedures from Inpatient to Outpatient – Volume Projections & Sensitivity Analysis
- Potential Technological Innovations to Integrate
- Quality
- Community Health Needs Assessment
- References

Local Strategy

- Contingency Plan for Crystal Clinic Acquisition
- Mapping Analytics for Local Strategy
- Local Competitors' Analysis Quality Ratings
- Cleveland Clinic Outpatient Surgery Centers

Regional Strategy

- Projected Outpatient Orthopedic Market Share Capture
- Regional counties demographic data
- Regional counties by 65+ population size
- Regional counties by income per capita
- Assessment of Opportunities in JV ASCs
- Outpatient Surgery Centers in Erie County
- Erie County Competitors

National Strategy

Competitors' Analysis – National (2 slides)





SWOT Analysis

What are our business and operational priorities?

STRENGTHS

- •Largest market share in the Eastern and Southern Region for joint replacement and all sub-services combined
- •Second largest market share in West region for joint replacement and all sub-services combined
- •Stable payer mix year over year
- •Growth in commercial and Medicare FFS payers from 2015-2016 fiscal years; same trend projected for most recent fiscal year
- •#3 in Orthopaedics nationwide by U.S. News
- Nationally recognized Institute model
- •Standing relationship with community hospitals in the regional market
- •NOSA contracts with large employers and heath plans
- •BPCI enrollment by nearly all CCHS community hospitals

WEAKNESSES

- •Average quality ratings for knee and hip replacements compared to high performance from national competitors
- •3 CC hospitals with longer than 10 median distances for total joint replacements and CC main campus as an outlier for median distance
- •Trend toward higher prices for surgeries compared to smaller competitors
- •Compared to national competitors, there can be greater prevention of complications, prolonged hospitalization, and infection after knee surgery

S & O Strategies

- Attacking strategy to pursue market share in the West Region for joint replacement surgery
 Potentially leveraging
- relationships with community hospitals and NOSA to establish a presence regionally
- Pursue BPCI Advanced

OPPORTUNITIES

- •No presence regionally
- •Growth in 65+ age group with more than 20% of US residents projected to be 65+ in 2030 (vs. 13% in 2010)
- •Employers increasingly looking to develop self-funded arrangements with providers
- •BPCI Advanced rollout by CMS in October 2018

THREATS

- •CMS shift towards outpatient surgeries for knee, hip, and potentially other sub-service lines
- •Patient consumerism toward greater choice, service, and access specifications
- New entrants into the orthopaedic market
- •Changing payment reform moving Medicare FFS toward value based reimbursement



LTERNAL

How attractive is the Orthopaedics Service Line industry?

Bargaining Power of SUPPLIERS: LOW

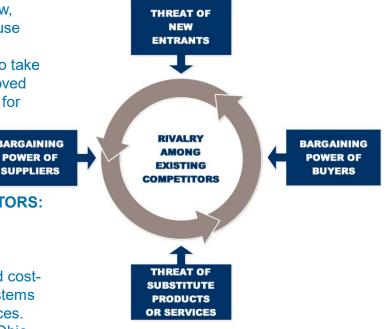
- Physicians losing power over where, how, and what care patients should get because patients rely more on word of mouth.
- Payment reform pressuring physicians to take on more risk for ensuring patients' improved health outcomes making it more difficult for providers to be operating independent practices.

RIVALRY AMONG EXISTING COMPETITORS: HIGH

- High barriers to entry and exit.
- Customers are not as loyal, especially because of increased consumerism and costawareness. They have many health systems and hospitals to go for orthopedic services.
- Local competitors: Summa, Aultmann, Ohio University Hospital, Ohio Health, etc.
- Regional competitors: (E, SE) UPMC, Allegheny Health Network, (NW) UMMC
- National competitors: Hospital of Special Surgery, MAYO CLINIC

Threat of NEW ENTRANTS: LOW

- · High investment and capital costs.
- Requires advance technology, highly trained and educated staff.
- · Highly regulated.
- Takes much time to develop large volume to breakeven with high investment costs.



Threat of SUBSTITUTES: HIGH

- · Physical therapy.
- Pain management.
- Lifestyle management like weight loss programs.

Bargaining Power of BUYERS: HIGH

- Buyers are more price sensitive, have increased bargaining power, thus pressuring hospitals to shift core care delivery services to lower acuity levels of the care continuum.
- Payers use value based reimbursement programs to obtain quality care at lower costs, pressuring hospitals to reduce surgical admissions.
 - Bundled payment initiatives increase cost transparency and predictability for consumers and payers.
- Employers dabbing in insurance market (they build their own MD network and are willing to accept lower reimbursement in exchange for increased referral volumes) limits commercial and Medicare's power.
- Patients' disease prevalence predict rise in orthopaedic services utilization.
- Growing patients consumerism = Patients determine value from: word of mouth referrals, social media ratings, 3rd party quality ratings; OOP costs and deductible prices, travel distance, and ease of appointment.

Overall Attractiveness For CCHS: HIGH

PESTEL Analysis

Political	CMS & Private Payers allow for outpatient coverage for joint procedures (ex. CMS Shift: Total Knee Replacement (TKA) shifted to outpatient (Medicare reimbursement billed under outpatient setting, trigger outpatient shift for TKA procedure) Pressure from payers to reduce surgical admissions
Economic	Reimbursement encouraging low-cost outpatient visits (ex. bundled payment) Demand: In 2012, musculoskeletal medical conditions were reported by 126.6 million adults in the United States, representing more than one in two persons age 18 and over of the estimated 2012 population The annual average proportion of the US population with a musculoskeletal condition requiring medical care has increased by more than five percentage points over the past decade and now constitutes more than 33% of the population Supply: ~30,000 physicians in the USA (60% of Physicians are Private Practice, 17% employed by medical center, 15% academic) 25% General orthopaedic, 58% specialists, 17% generalists Full time orthopaedic 4 times more productive than part time employees Most common area of employment: 19% sports medicine, 12% total joints, 11% hands Increased HDHP increases out of pocket costs
Social	Growth of consumerism in the Orthopedics Market Patients are less likely to choose surgery when aware of alternative Greater attempts to implement conservative care (physical therapy, pain management, lifestyle management) Consumers are unwilling to travel long distances for orthopaedic
Technological	Growth of minimally invasive surgical techniques (ex. arthroscopy) Improved surgical proficiency with new techniques allows hospitals to focus on higher acuity patients and provided an avenue for shifting services to outpatient settings Growth in Virtual Care Express Care Online (Telehealth) platform – Orthopaedic service line ranked 3 rd in utilization Improved transparency tools across the industry
Environment	Demographic Shift: Growth in 65+ age group (population in 2050 projected to be 83.7 million)
Legal	M&A Enabling: 102 transactions in 2016 (transactions included a variety of forms and structures, including mergers, acquisitions, joint ventures, and joint operating agreements)

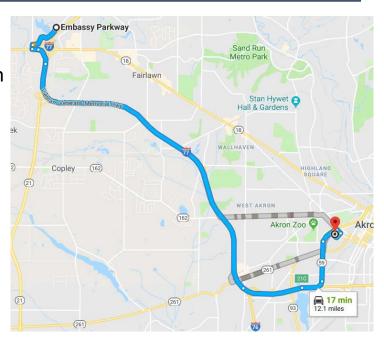
Contingency Plan for Crystal Clinic Acquisition

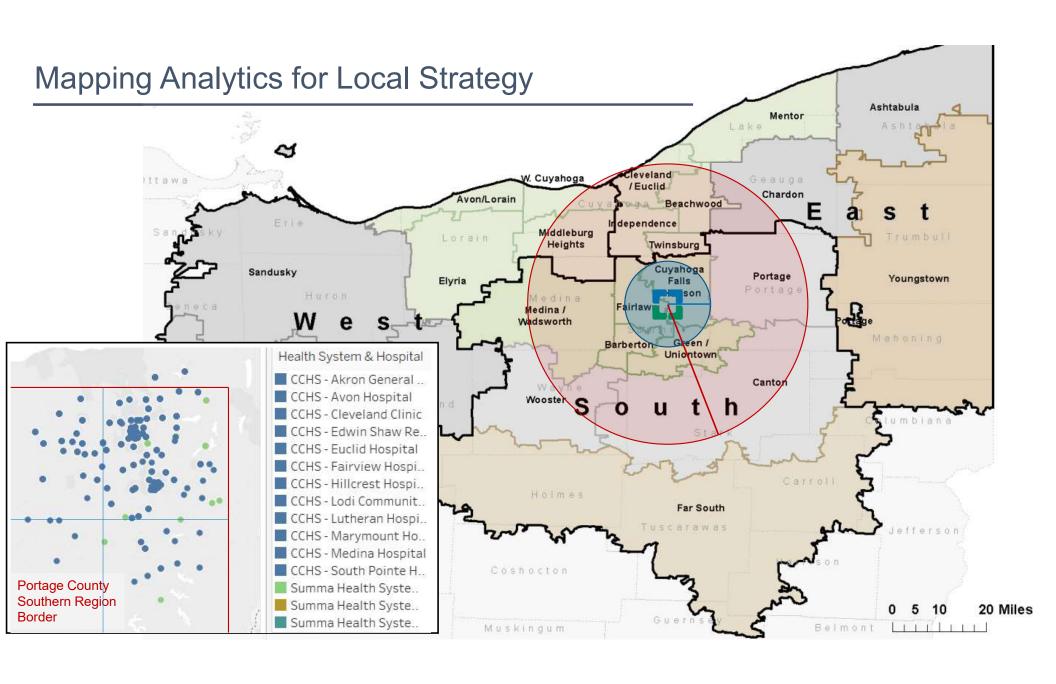
1) Buy GBS Corp's 49.65% interest in the company

- 1. GBS Corp is a productivity solutions company
 - If key learnings already obtained, may be interested in cash opportunity.
 - (est. \$17 million in 2014)
- 2. CCHS can present itself as a better partner than GBS Corp
 - Cost & time pressures for new hospital:
 - Lease w/ Summa Health up in 2020 & relationship exit
 - Suntken: still searching for ways to finance, plans are "premature."
 - Lack of experience
 - Backlash from Community: Crystal Shores, Sanctuary, North Shore and Sparrow Pond
 - Pending city approval & facing zoning challenges
 - CCAG is an inpatient facility close to planned hospital.

2) Build HOPD or ASC in Southern Region to compete

- 1. Utilize East region HOPD learnings to enhance ASCs at key strategic locations in South region.
- 2. Concurrently build new HOPDs and ASCs in **Stark County** to position self obtain outpatient surgical market share against Summa & Aultmann.





Sensitivity Analysis

Forecasting Inpatient to Outpatient TKA Flow

Assumptions for all TKA

Age - All DRG Code 469, 470

ICD-10 Procedure Codes: 0SRD0J9, 0SRC0J9, 0SRC0JA, 0SRD0JA

Year: 2017 Normalized Data

Assumptions for Outpatient Flow (High)

Age <80 DRG Code 470

ICD-10 Procedure Codes: 0SRD0J9, 0SRC0J9, 0SRC0JA, 0SRD0JA

Year: 2017 Normalized Data

Assumptions for Outpatient Flow (Conservative)

Age <80 DRG Code 470

ICD-10 Procedure Codes: 0SRD0J9, 0SRC0J9, 0SRC0JA, 0SRD0JA

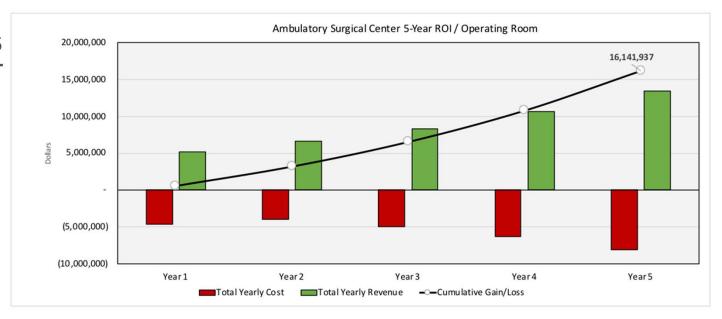
Year: 2017 Normalized Data

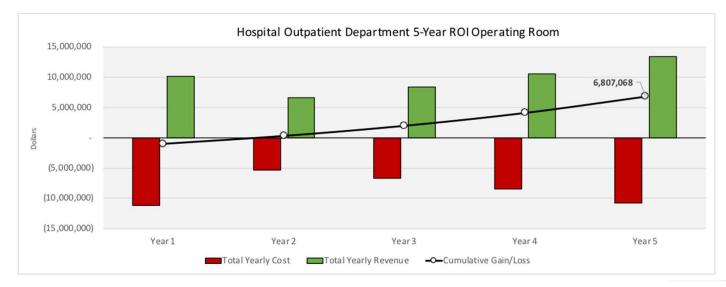
Inpatient + Outpatient Eligible TKA Outpatient Eligible TKA (High Estimate)

Outpatient Eligible TKA (Conservative Estimate)

	All Systems	CCHS	CCHS Marketshare of Potential	All Systems	CCHS	CCHS Marketshare of potential	All Systems	CCHS	CCHS Marketshare of potential
AllI Regions									A. C.
Commercial	3,374	1,124	33%	3,308	1,102	33%	1619	540	33%
Medicaid Managed Care	730	246	34%	698	228	33%	350	118	34%
Medicaid Traditional	52	18	35%	48	18	38%	25	9	35%
Medicare FFS	3,778	996	26%	2,506	678	27%	1813	478	26%
Medicare Managed Care	2,572	686	27%	1,566	420	27%	1235	329	27%
Other	216	36	17%	208	36	17%	104	17	17%
Self Pay	216	16	7%	84	16	19%	104	8	7%
East									
Commercial	1,292	514	40%	1,264	510	40%	620	247	40%
Medicaid Managed Care	316	82	26%	300	78	26%	152	39	26%
Medicaid Traditional	14	10	71%	12	10	83%	7	5	71%
Medicare FFS	1,368	438	32%	914	304	33%	657	210	32%
Medicare Managed Care	946	286	30%	566	164	29%	454	137	30%
Other	96	14	15%	94	14	15%	46	7	15%
Self Pay	20	6	30%	20	6	30%	10	3	30%
South									
Commercial	792	210	27%	784	204	26%	380	101	27%
Medicaid Managed Care	208	82	39%	198	74	37%	100	39	39%
Medicaid Traditional	14	6	43%	12	6	50%	7	3	43%
Medicare FFS	916	198	22%	626	140	22%	440	95	22%
Medicare Managed Care	848	176	21%	520	102	20%	407	84	21%
Other	50	14	28%	46	14	30%	24	7	28%
Self Pay	52	0	0%	48	0	0%	25	0	0%
West									
Commercial	1,290	400	31%	1,260	388	31%	619	192	31%
Medicaid Managed Care	206	82	40%	200	76	38%	99	39	40%
Medicaid Traditional	24	2	8%	24	2	8%	12	1	8%
Medicare FFS	1,494	360	24%	966	234	24%	717	173	24%
Medicare Managed Care	778	224	29%	480	154	32%	373	108	29%
Other	70	8	11%	68	8	12%	34	4	11%
Self Pay	16	10	63%	16	10	63%	8	5	63%

ROI Graphs





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ROI Data

5 Year ASC ROI/Operating Room (All Specialties)

	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Cost					
(1) Initial Capital:	(1,000,000.00)	0	0	0	0
Operational Cost					
(2) Staffing Cost:	(1,552,200.00)	(1,971,294.00)	(2,503,543.38)	(3,179,500.09)	(4,037,965.12)
(3) Supply Cost:	(1,293,500.00)	(1,314,196.00)	(1,669,028.92)	(2,119,666.73)	(2,691,976.75)
(4) Facility Cost:	(776, 100.00)	(657,098.00)	(834,514.46)	(1,059,833.36)	(1,345,988.37)
Revenue					
(5) Reimbursement Rate:	5,174.00	5,174.00	5,174.00	5,174.00	5,174.00
(6) Total Cases ASC Cases:	1,000.00	1,270.00	1,612.90	2,048.38	2,601.45
Gross Revenue:	5,174,000.00	6,570,980.00	8,345,144.60	10,598,333.64	13,459,883.73
Net Gain/Loss					
Total Cost:	(4,621,800.00)	(3,942,588.00)	(5,007,086.76)	(6,359,000.19)	(8,075,930.24)
Total Revenue:	5,174,000.00	6,570,980.00	8,345,144.60	10,598,333.64	13,459,883.73
Yearly Net Gain/Loss	552,200.00	2,628,392.00	3,338,057.84	4,239,333.46	5,383,953.49
Cumulative Gain/Loss	552,200.00	3,180,592.00	6,518,649.84	10,757,983.30	16,141,936.79

Assumptions:

- 1. Capital Cost: 5 Million
- 2. Staffing Cost: 20% of Revenue
- 3. Supply Cost: 20% of Revenue
- 4. Facility Cost: 10% of Revenue
- 5. Reimbursement Rate
- 6. Derived from Data Cube and Advisory Board (135% 5-year growth and estimated Target Market from Osteoarthritis Patients in the Local Region)

Source

1--4 Establishing an Ambulatory Surgery Center: A Primer from A to Z. (n.d.). Retrieved February 19, 2018, from

https://www.beckersasc.com/news-analysis/establishing-an-ambulatory-surgery-center-a-primer-from-a-to-z.html

Source5:

http://www.phc4.org/reports/utilization/outpatient/CountyReport20172C 049.htm

5 Year HOPD ROI/Operating Room (All Specialties)

	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Cost					
(1) Initial Capital:	(2,000,000.00)	0	0	0	0
Operational Cost					
(2) Staffing Cost:	(3,542,700.00)	(1,971,294.00)	(2,503,543.38)	(3,179,500.09)	(4,037,965.12)
(3) Supply Cost:	(2,530,500.00)	(1,971,294.00)	(2,503,543.38)	(3,179,500.09)	(4,037,965.12)
(4) Facility Cost:	(3,036,600.00)	(1,314,196.00)	(1,669,028.92)	(2,119,666.73)	(2,691,976.75)
Revenue					
(5) Reimbursement Rate:	10,122.00	5,174.00	5,174.00	5,174.00	5,174.00
(6) Total Cases ASC Cases:	1,000.00	1,270.00	1,612.90	2,048.38	2,601.45
Gross Revenue:	10,122,000.00	6,570,980.00	8,345,144.60	10,598,333.64	13,459,883.73
Net Gain/Loss					
Total Cost:	(11,109,800.00)	(5,256,784.00)	(6,676,115.68)	(8,478,666.91)	(10,767,906.98)
Total Revenue:	10,122,000.00	6,570,980.00	8,345,144.60	10,598,333.64	13,459,883.73
	(000,000,00)				
Yearly Net Gain/Loss	(987,800.00)	1,314,196.00	1,669,028.92	2,119,666.73	2,691,976.75
Cumulative Gain/Loss	(987,800.00)	326,396.00	1,995,424.92	4,115,091.65	6,807,068.39

Assumptions:

1. Capital Cost:

(https://jll.postclickmarketing.com/Global/FileLib/Fitout_healthcare/JLL_ Outpatient_Renovation_Cost_Guide_-_2017.pdf)

- 2. Staffing Cost: 30% of Revenue
- 3. Supply Cost: 25% of Revenue
- 4. Facility Cost: 30% of Revenue
- 5. Advisory Board: Contribution Margin/Case Data
- 6. Derived from Data Cube and Advisory Board (135% 5-year growth and estimated Target Market from Osteoarthritis Patients in the Local Region)

Source:

- 1. Architects and construction companies that build heal thcare facilities are optimistic. (n.d.). Retrieved February 19, 2018, from http://www.modernhealthcare.com/article/20170318/MAGAZINE/303189 984
- 2. Source for 1-5: https://www.beckersasc.com/news-analysis/establishing-an-ambulatory-surgery-center-a-primer-from-a-to-z.html

Erie County Market Assessment: **Projected Outpatient Orthopedic Market Share Capture**

Erie County Outpatient Utilization by Facility, 2017 Quarter 2

Facility Name	Type	Total Cases										
racility Name	Туре	Number	Percent	Total Charges	% of Charges							
Total	Total	16,309	100.0%	\$160,349,741	100.0%							
UPMC Hamot	Hospital Outpatient	3,916	24.0%	\$49,068,075	30.6%							
Saint Vincent	Hospital Outpatient	3.711	22.8%	\$46,730,143	29.1%							
UPMC Hamot SC	Freestanding	2,971	18.2%	\$14,110,616	8.8%							
Saint Vincent SC Erie	Freestanding	1,782	10.9%	\$23,327,540	14.5%							
Village SC	Freestanding	1,069	6.6%	\$8,256,971	5.1%							
Millcreek Community	Hospital Outpatient	687	4.2%	\$2,829,339	1.8%							
Saint Vincent Endoscopy	Freestanding	559	3.4%	\$1,994,910	1.2%							
Greater Erie SC	Freestanding	487	3.0%	\$1,955,566	1.2%							
Meadville	Hospital Outpatient	221	1.4%	\$1,455,691	0.9%							
UPMC Presby Shadyside	Hospital Outpatient	157	1.0%	\$2,262,886	1.4%							
Children's Hosp Pgh UPMC	Hospital Outpatient	128	0.8%	\$2,263,632	1.4%							
Corry Memorial	Hospital Outpatient	108	0.7%	\$354,302	0.2%							
Allegheny General	Hospital Outpatient	70	0.4%	\$884,001	0.6%							
UPMC Mercy	Hospital Outpatient	58	0.4%	\$801,803	0.5%							
≤ 50 Cases	≤ 50 Cases	385	2.4%	\$4,054,268	2.5%							

Source: http://www.phc4.org/reports/utilization/outpatient/CountyReport20172C049.htm

Source: Advisory Board 2018 Orthopedics and Spine Market Trends

Freestanding ASC Volume Capture for 2018-2019

- Assumed 85% of freestanding ASC volume is orthopedic capture, then applied this rate through all ASCs. (Total freestanding ASC orthopedic volume to be captured is 16,087).
- Assume by building 1 ASC, CCHS can capture:
 - 15% of St Vincent SC volume (1894 of 7576)
 - 15% of UPMC Hamot SC volume (1136 of 4544)
 - 50% of Village SC (2044 of 2725)
 - 50% of Greater Erie SC (931 of 1241)
- Therefore, CCHS can capture approximately 23% of competitors' volume (3801 of 16,087).
- **Does not include projected market growth of 173% (from IP Ortho services shifting OP).



Quality

- 1. Knee surgery complication rate. Currently, at 2.9%, higher than nation's average at 2.8%, though difference is not significant
- 2. CCHS has higher than expected readmission rates. This can drive up costs and lower reimbursement rates. Especially if SNF LOS is also high.

Strategies

- 1. Screen for co-morbidities and screen, and stratify patients by risk for infections. Include Obesity as a risk factor.
- 2. Patient pre-op education.
- 3. Improve scheduling, wait times, reduce patient prep time, reduce turnover time,, improve patient flow, improve follow up care.
- 4. "To further reduce avoidable readmissions, Cleveland Clinic is focused on optimizing transitions from hospital to home or postacute facility. Specific initiatives have been implemented to ensure effective communication, education, and follow-up."
 - Create team to meet with patient prior to surgery to set expectations for post acute care and ensure support is available post surgery.
 - Keep patients a little longer to start the rehabilitation while they are in the inpatient setting, which allows patients to go home instead of to a post-acute provider. If the patient is afraid to go home because they want to be in touch with a caregiver, telehealth can give a patient security in going home.

Regional counties demographic data

State	County	Region	Per Capita Income	65+ Population	65+ % Population	Considerations
PA	Erie	West (PA)	\$24,856.00	42947	15.35%	
PA	Mercer	West (PA)	\$23,683.00	22395	19.42%	
PA	Crawford	West (PA)	\$22,726.00	15610	17.87%	
NY	Chautauqua	West (NY)	\$22,903.00	23356	17.61%	
ОН	Lucas	West	\$30,668.00	61938	14.20%	Bordering Michigan
OH	Lorain	West	\$26,804.00	47833	15.78%	4 Existing ASC
OH	Huron	West	\$23,158.00	8759	14.86%	
ОН	Summit	South	\$28,986.00	85186	15.72%	Recent acquisition of Akron; Strong competitors Summa & Aultman
ОН	Stark	South	\$25,547.00	64741	17.27%	Recent acquisition of Akron; Strong competitors Summa & Aultman
ОН	Medina	South	\$31,760.00	25977	14.86%	
ОН	Tuscarawas	South	\$23,314.00	16148	17.42%	
ОН	Mahoning	East	\$24,056.00	43894	18.71%	High joint replacement
ОН	Lake	East	\$30,094.00	39942	17.41%	
OH	Trumbull	East	\$23,509.00	38802	18.80%	High joint replacement
ОН	Portage	East	\$26,042.00	22805	14.09%	
ОН	Columbia	East	\$23,348.00	18840	17.78%	
ОН	Ashtabula	East	\$20,378.00	16782	16.82%	Bordering Pennsylvania
ОН	Erie	East	\$27,249.00	14413	18.93%	
ОН	Cuyahoga	Center/CC Main	\$28,215.00	204096	16.16%	2 Existing ASC, CC Main Campus

Assessment of Opportunities in JV ASCs

- Cost effective way to improve relations with physicians. Helps with recruitment and retainment
 - More cases seen bc their patients want to go there (since it's
 easier for them). This is especially true if the potential hospital
 partner controls a significant base of referral in the community
 and discourages referrals to the ASC physician owners or
 directs the cases to the hospital.
 - They get to have a stake in the ASCs
 - Physicians do not want to run indep practice as much anymore
 - · Physicians can share administrative burden
 - Allows them to opt in for bundled payment
 - Physicians get higher reimbursement rates
- CCHS benefits for its brand, reputation
- Run better when run by physician, and CCHS get better negotiation
 power bc MDs more familiar with what device is worth
- Shared ownership helps CCHS
 - Physicians take greater ownership in their practice and are more conscientious of their cost
- · Ownership split: Physician, Management Company, Hospital
 - 51% CCHS CCHS builds ASC
 - 49% Physicians Physician group staffs ASC
 - Thus, holding company where management company owns 49 percent, and hospital owns 51 percent. As a whole, the holding company will own between 51 percent and 60 percent of the surgery center, while the physicians own the remaining stake.
 - Many hospitals benefit from the administrative support and

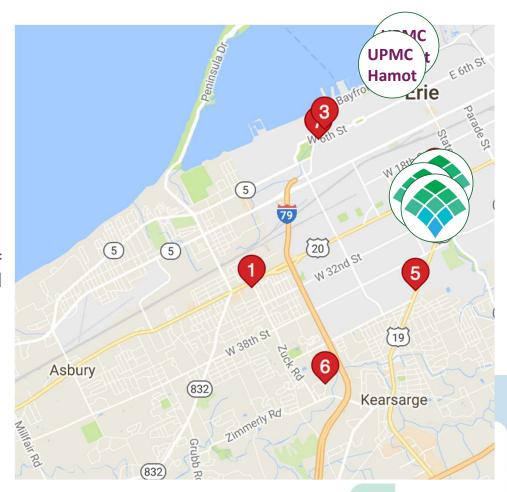
resources ASC management companies bring to the table. In some instances, Hospital leaders are not as familiar with overseeing operations in an outpatient space. ASC management companies can provide additional capital, operational expertise and experience mediating previous joint ventures." (AV)

- Opens door for:
 - Future ASC growth
 - Future affiliation of hospitals in that region
 - Affiliation does not equal M&A
 - Growth of other Cleveland Clinic specialties, important if CCHS wants to look into partnering with self-funded employers
- Hospital systems appear to increasingly prefer joint ventured ASCs to acquiring 100 percent ownership.
- Reimbursement is 30% higher for hospital ASC vs independent ASC (Medicare) – Beckers'
- Considerations
 - Culture
 - Fair-market value



Erie County Market Assessment: Outpatient Surgery Centers

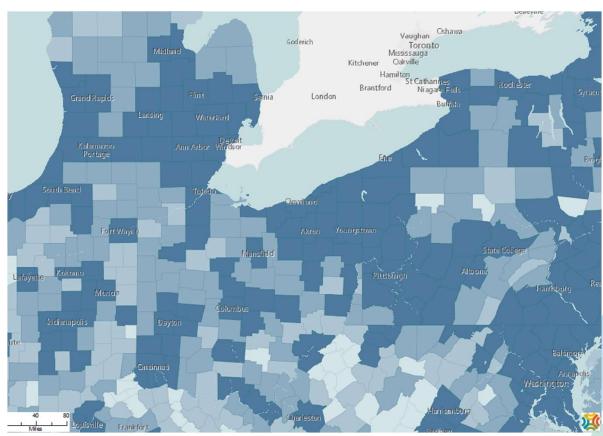
- 1. Erie County has 16 outpatient surgery centers
 - Allegheny: 5 ASCs, 1 in Erie, 4 in Pittsburgh
 - St Vincent ASC 312 W 25th St, Erie, PA 16502
 - UPMC Hamot ASC 200 State St. in Erie, PA
- Nearest Cleveland Clinic Facility for post acute care = Ashtabula County Medical Center, 42.3 miles, or 41 min, OR, we can build OP facility for post acute care



Source: https://www.yelp.com/search?find_desc=surgery+center&find_loc=Erie,+PA&start=10
Source:

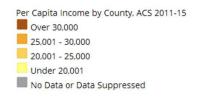
Regional counties by 65+ population size

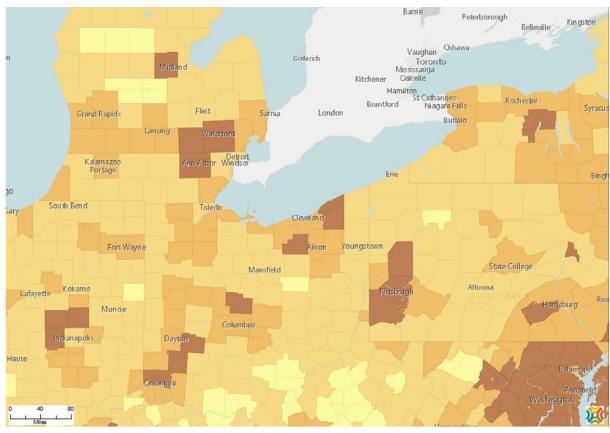




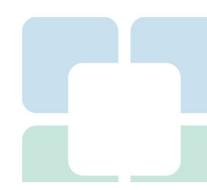
Community Commons. (n.d.). Retrieved February 18, 2018, from https://www.communitycommons.org/

Regional counties by Per Capita Income









Who is NOSA?



Members

- Cleveland Clinic,
- The CORE Institute,
- OrthoCalifornia,
- OrthoCarolina and
- Rothman Institute.

NOSA's model, the first of its kind, gives employers like you direct access to the highest caliber of orthopaedic health care for your employees – at a set, predictable cost. Here's what makes NOSA different:

- The right providers: Our physician practices are hand-picked and offer topquality care. Further, our network continuously integrates and analyzes data with the ultimate goal of fine-tuning care, maximizing efficiencies and reducing complications.
- The right diagnosis and treatment: We provide a comprehensive patient evaluation to ensure that the patient is on the right path from the very beginning. We recommend surgery only when necessary, and find alternative treatments when it's not.
- The right continuity: NOSA covers everything from pre-operation evaluation to post-operative care. Then we connect with all physicians and physical therapists involved in rehabilitation to ensure continuity of care and prevent unnecessary post-treatment complications.
- The right location: NOSA providers are located across the country, in Arizona, California, Florida, North Carolina, Ohio and Pennsylvania. If travel is required for care, NOSA will coordinate and assist your employees through the travel process.

What are our competitors' strengths? National 1/2

	Hospital for Special Surgery	Mayo Clinic	Cleveland	
NATIONAL COMPETITOR	New York, hospital for 16 professional sports teams Business model focuses on pt experience and medical tourism; lower infection rt for hip replacement surgery than state	Mayo - Minnesota, Arizona & Florida Business model focuses on pain mgmt communications; pt's family engagement, ortho dept as area for process improvement	Ohio Business model focuses on institute model of care	
ANALYSIS ORTHO OVERVIEW	average			
Outcomes & Experience (49.2%)				
30 day survival	Ę			5
Pt safety	3			3
# of pts	5	5		5
Key Programs, services and staff (20%)				
Nurse staffing	Ę	5		5
intensivists	N	•		У
advanced technologies	3	3		3
pt services	Ę	5		5
Professional recognition (30%)				
Nurse magnet hospital)	уу		У
reputation w MDs in specialty	5	5		5

What are our competitors' strengths? National 2/2

	Hospital for Special	Mayo Clinic	Cleveland
NATIONAL COMPETITOR ANALYSIS	Surgery		
CONDITIONS			
Knee Replacement	High performing	high performing	average
preventing knee complications after knee replacement	5	5	3
Survival	5	5	3
Preventing prolonged hospitalization	1	5	1
preventing infections after knee replacement	5	3	1
# of pts	5	5	5
nurse magnet status	у	У	у
pt experience	5	5	5
Hip Replacement	high performing	high performing	high performing
preventing hip complications after hip replacement	5	5	3
Survival	4	4	3
Preventing prolonged hospitalization	5	5	3
preventing readmissions	1	5	3
preventing infections after hip replacement	5	4	3
# of pts	5	5	5
nurse magnet status	у	У	у
pt experience	5	5	5

Potential Technological Innovations to Integrate

Technological Innovations	Considerations
Robot- Assisted/Computer- Assisted Surgery	Higher accuracy, standardization potential; Need physician lead - could greatly improve quality and reduce cost long term but high frontal investment; Increasingly used but not uniformly adopted
Nanotechnology in Implants	Silver ions (low-toxicity) released by a power source to combat infections; nanotechnology directly on implant – currently found to reduce infection rates but researching how better to control levels of silver ions released to ensure no damage to healthy cells
Ceramic Total Knee Ahtroplasty	Ceramic used in prosthetic components show minimum wear and excellent long term results; biological response to debris less aggressive
Metal-on-Metal Hip Replacement	Many complications (high levels of metal ions found in blood); Example of why there needs to be further evaluation before implementing technological innovations in orthopaedics
Polyether-Ether-Ketone (PEEK)	Potential alternative for metal alloys used in implants; As of 2018 in the process of preliminary studies

Community Health Needs Assessment

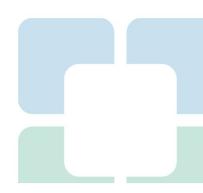
Main Campus CHNA

Projected 13% increase in growth among 65+ aged population between 2015-2020

1/3 of counties rank unfavorably compared to their peers in coronary heart disease, diabetes, adult obesity, Alzheimer's

Cleveland Clinic joined the Medicare Shared Savings Program in 2015 to form an Accountable Care Organization (ACO) to service over 70,000 Medicare FFS

Lack of transportation in Cuyahoga and other NE Ohio regions, particularly for seniors and low-income individuals seeking access to needed services



Erie County Market Assessment: **Competitors**

						US News Ranking										
			CMS Joint Replacement	Ortho	Orthopedic s score (out	Knee	Hip		Pt Experience	Nursing						
Name	In Erie?	Health System	Complication Rates	Institute?	of 100)	Replacement	Replacement	Size	(out of 5)	staffing						
Cleveland Euclid	n/a	Cleveland Clinic Health	2.90%	Yes	73.6	average	above average	large metro	4	excellent						
		Univ of Pittsburgh Schools of the Health (have														
UPMC Hamot	х	retirement and long term	3.30%	Yes	43.3	average	average	large rural	3	excellent						
Millcreek Community	<u>x</u>	Lecom	3.1%%		n/a	below average	below average	Large rural	3	below average						
St. Vincent Hospital	<u>x</u>	Allegheny Health Network	1.90%	Yes	36.8	high	average	large rural	3	average						
Corry Memorial	х	Lecom Health	n/a		n/a	average	NA	small rural	na	excellentt						
Healthsouth Rehab Hospital	×	Healthsouth Rehab Hospitals in America						large rural								
Select Specialty Hospital -		Select Medical (recognized						large rarar								
Erie	х	for rehab hospital product)						medium rural								
Clarion Hospital						average	average	medium rural	3	below average						
Edgewood Surgical						average	average	small metro								
Grove City Medical Center						average	average	small metro	4	average						
Meadville Medical Center					23	high	average	Large rural	4							
Sharon Regional Health System (nursing school and																
radiography school,																
comprehsneive pain					26.7	average	average									
Titusville Area Hospital						average	average									
<u>UPMC Horizon</u>					34	average	average									
<u>UPMC Northwest</u>						average	average									
Warren General Hospital						average	average									

Local Competitors Analysis: Quality Ratings

What are our competitors' strengths?	Region	County	US Ranking	ORTHO OVERVIEW	Outcomes & Experience (49.2%	30 day survival	Pt safety	# of pts	Programs, services and staff (20%	Nurse staffing	intensivists	advanced technologies	pt services	Professional recognition (30%	Nurse magnet hospital	reputation w MDs in specialty	CONDITIONS	Knee Replacement	preventing knee complications after knee replacement	Survival	Preventing prolonged hospitalization	preventing infections after knee replacement	# of pts	nurse magnet status	pt experience	Hip Replacement	preventing hip complications after hip replacement	Survival	Preventing prolonged hospitalization	preventing readmissions	preventing infections after hip replacement	# of pts	nurse magnet status	pt experience
Cleveland Clinica	East, West,	multiple	3	ORT	6	5	3	5	Key P	5	y	3	5		У	5	U	Average	3	3	1	1	5	у	5	High performing	3	3	3	3	3	5	у	5
University Hospitals	East &	multiple				4	2	5		5	у	3	5		у	2		High performing	4	3	5	4	5	у	3	Average		3	1	3	3	5	У	3
Summa Health		Akron	not ranked			2	2	4		3	у	1	4		у			Average	3	3	3	3	3	у	2	Average	3	3	3	1	3	3	у	2



Cleveland Clinic Outpatient Surgery Centers

- 1. P Building Surgery Center
- 2. Wooster Family Health & Surgery Center
- 3. Beachwood Family Health & Surgery Center
- 4. Elyria Family Health & Surgery Center
- 5. Lorain Family Health & Surgery Center
- 6. Strongsville Family Health & Surgery Center
- 7. Twinsburg Family Health & Surgery Center
- 8. Wooster Milltown Specialty & Surgery Center

**Green indicates South Region ASC



Source: https://goo.gl/kxGzbb

Source: https://my.clevelandclinic.org/patients/information/prepare-for-surgery/outpatient-surgery;

Source: https://my.clevelandclinic.org/locations?q=surgery&

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