Does a Robot Make Sense in My ASC?

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SURGICAL ASSOCIATES MANSFIELD

Methodist HEALTH SYSTEM

My Background

General & Bariatric Surgery

Fellowship

University of Nebraska Medical Center, MIS/Bariatrics

Residency

University of Texas Medical Branch, General Surgery
University of Kentucky, General Surgery

Education

Baylor College of Medicine

Baylor Surgicare in Mansfield

- We’re in Mansfield, TX
- Located in the DFW metroplex
- Just in case there was any doubt I’m in Texas…
- USPI facility
- First ASC in Texas to get a robot (2/2016)

Agenda

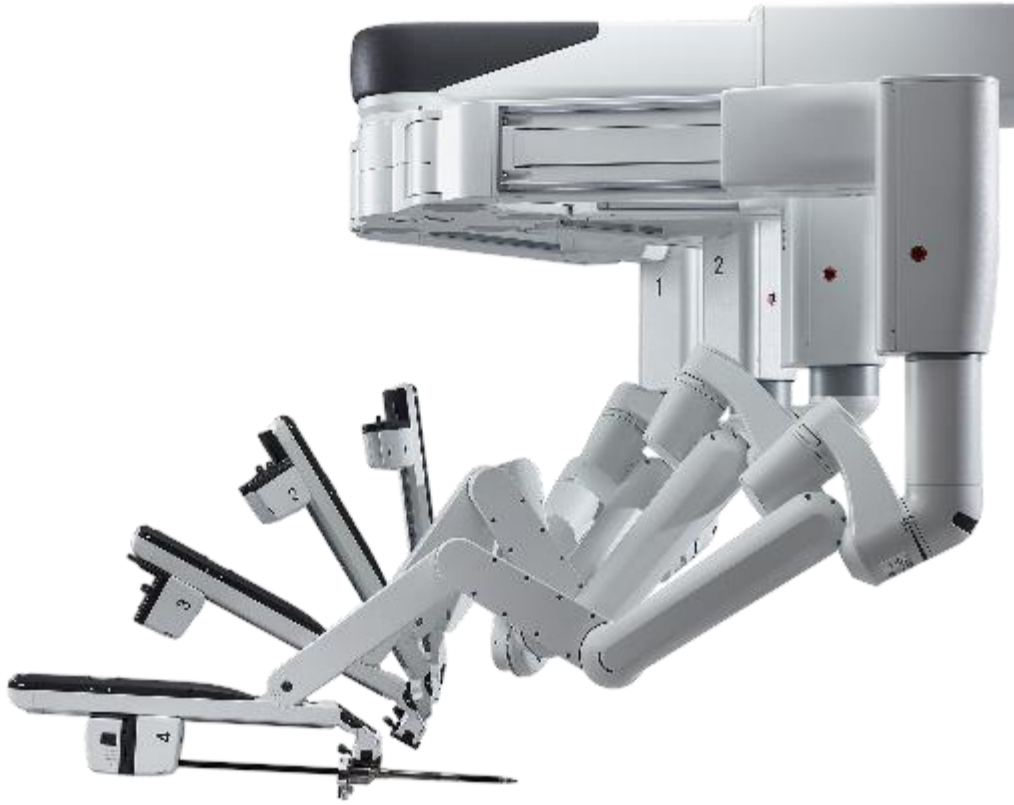
Site of Care

Why Surgeons are Asking for Robots in ASCs

Appropriate Case Mix

Operational Considerations

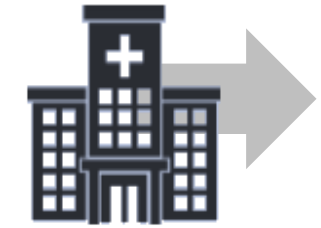
Planning Your Interaction with Payors



Difference Between ASC & HOPD

ASC: Ambulatory Surgery Center

- Not the same as an HOPD
- Do outpatient surgery
- Free-standing from any hospital
- Some have 23 hour observation



Medicare Reimbursement

- Surgeries performed in HOPDs
  - Paid by Medicare under OPPS
  - Use Ambulatory Payment Classification
- Surgeries performed in ASC
  - Paid by Medicare under ASC fee Schedule

So Why Are Surgeons Wanting Robots in ASC’s?

I believe standard of care is changing!

What percentage
of patients received

OPEN

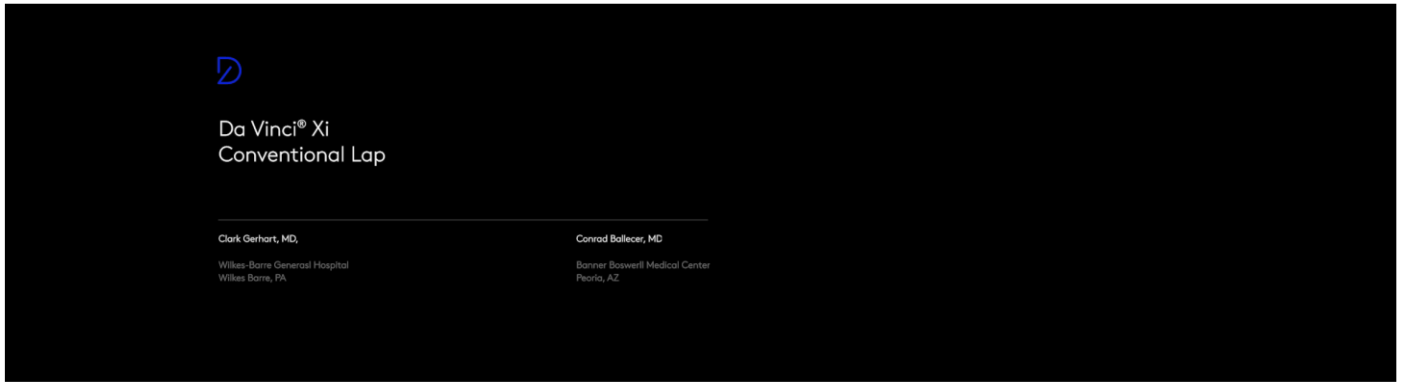
inguinal & ventral hernia
procedures in the US Q4, 2017?[1]

58%

[1] Premier data, through Q4, 2017; The data are not collected under formalized study. The data have not been peer-reviewed and have not been published

Inguinal Hernia

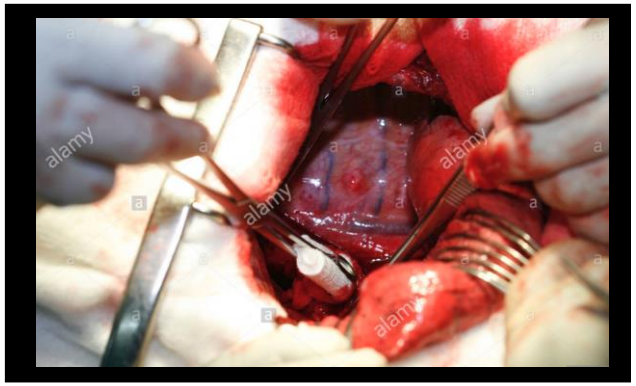
Open



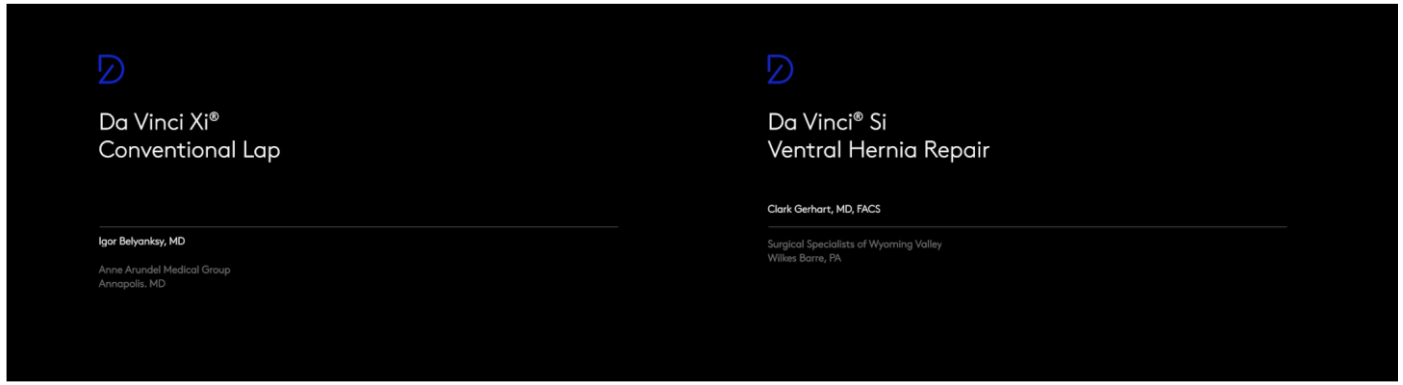
Conventional Lap: Dr. Clark Gerhart

Da Vinci Robotic-assisted Surgery: Dr. Conrad Ballecer

Ventral Hernia



Open

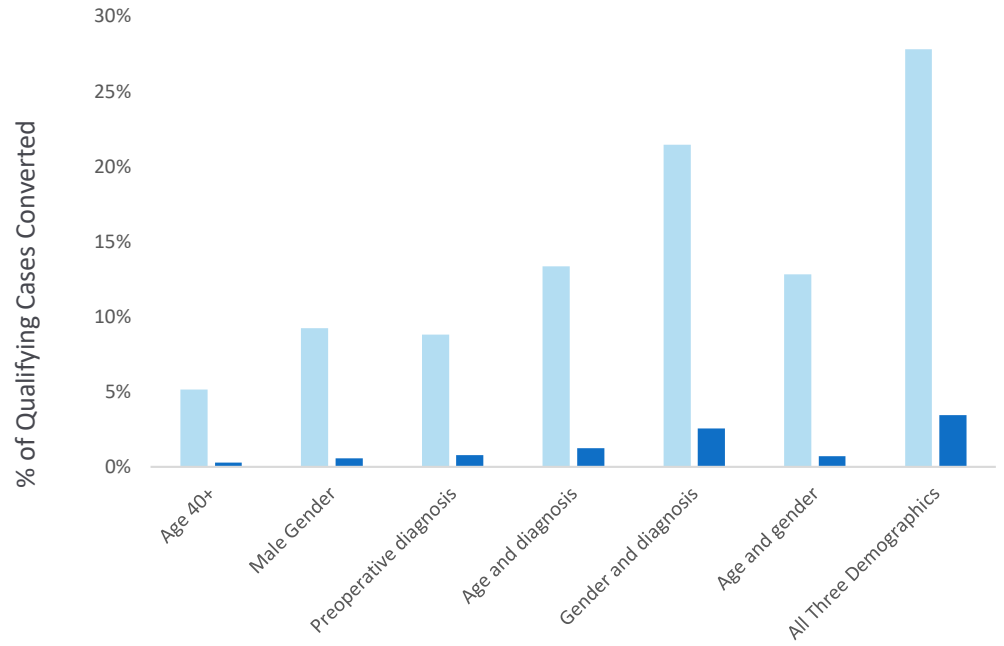


Conventional Lap – Dr. Igor Belyanksy

Da Vinci Robotic-assisted Surgery: Dr. Clark Gerhart

Risk factors For Open Conversion in MIS cholecystectomy[2]

Percent of Laparoscopic & Robotic-assisted Open Conversions



Study shows overall conversion rates:
Lap = 3.87%
Da Vinci RAS = .15%

Study Design

- Single center retrospective study
- 960 MIS cholecystectomies (over 17 years)
- Performed by surgical team with >125 case experience (2011-2015)

[2] Risk Factors for Open Conversion in Minimally Invasive Cholecystectomy, Antonio Gangemi, MD, Richard Danilkowicz, Francesco Bianco, MD, Mario Masrur, MD, Pier Cristoforo Giulianotti, MD October–December 2017 Volume 21 Issue 4 e2017.00062 JSLS www.SLS.org

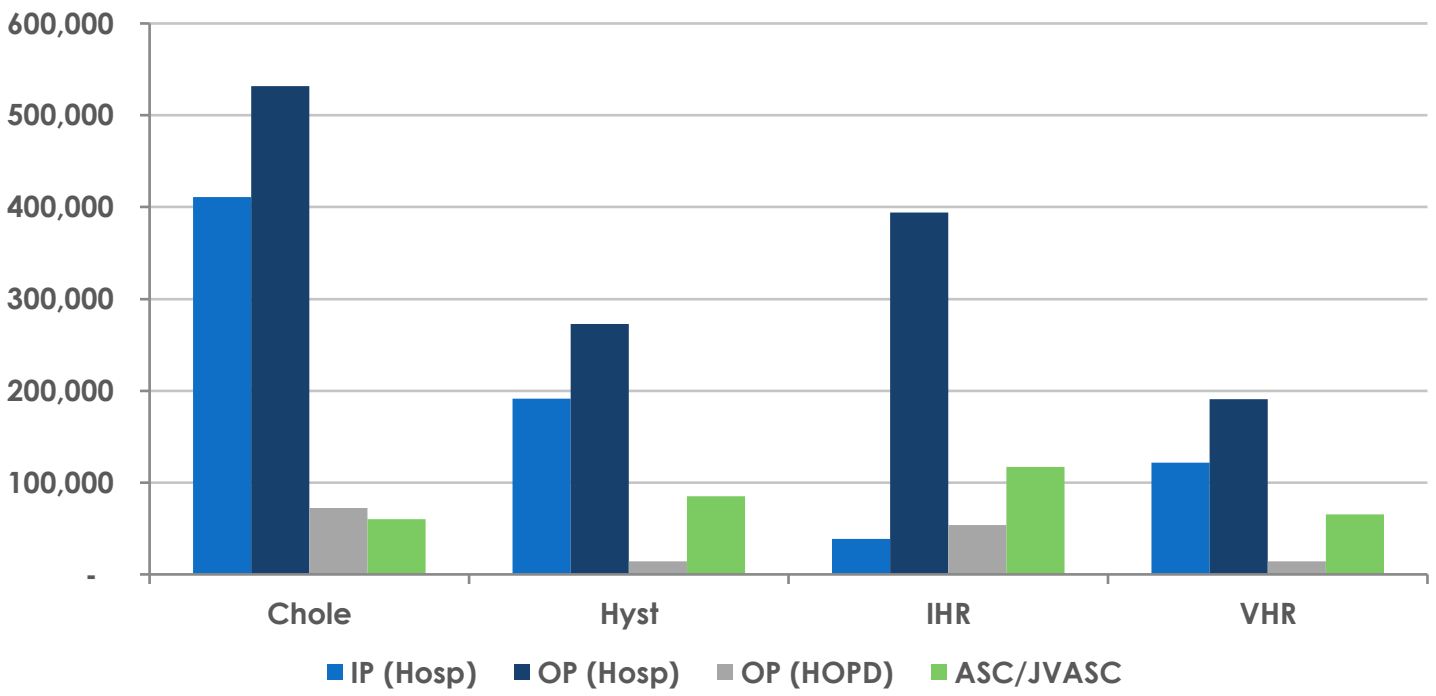
Individuals' outcomes may depend on a number of factors, including but not limited to patient characteristics, disease characteristics, and/or surgeon experience.

Da Vinci Xi®
Firefly Flurescence Imaging

Nisha Dhir, MD

University Medical Center of Princeton at Plainsboro
Plainsborg, NJ

Majority of Benign Surgery Still in Hospital Setting



ASCs are driving adoption in outpatient sites of care for GYN and Hernia

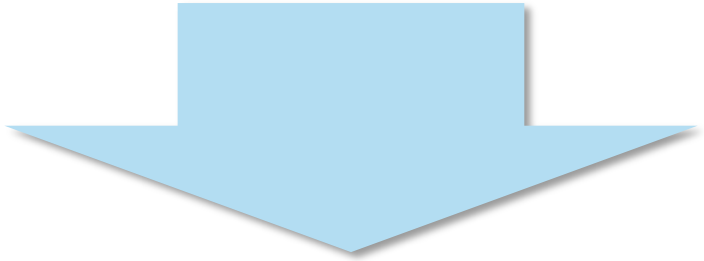
Note:
- Based on internal analysis of Premier, HCUP SASD and 2015 IMS data
- OP (HOPD) volume estimates based on internal 2013 CSR survey on 386 accounts with HOPDs

So What Has Changed?

Increasing Coverage

Rising Reimbursement

Enabling Technologies



An opportunity today, that wasn't as feasible yesterday

Driving Forces Shifting Site of Care

ASC access through surgeons high

~50% of ASC hernia performed by robotically trained surgeons

Increase CMS HOPPS/ASC payments

2017 % increases slightly favor ASCs

Site of care shift thru payors

UHC prior auth and Humana coverage decisions

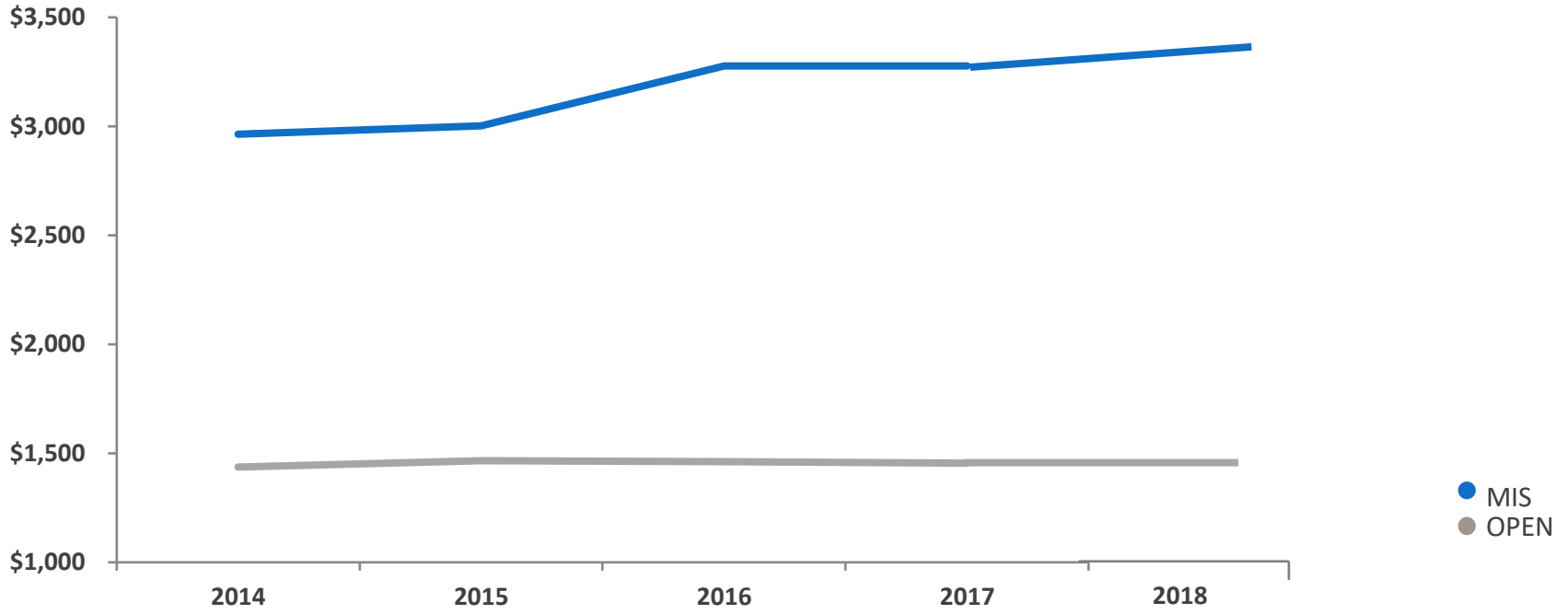
Da Vinci® enabling more OP hernia

e.g., ventral hernia – could accelerate site of care shift

ASC Reimbursement

Trends Favoring Outpatient MIS

Incisional Hernia - Medicare Outpatient Payments[3]

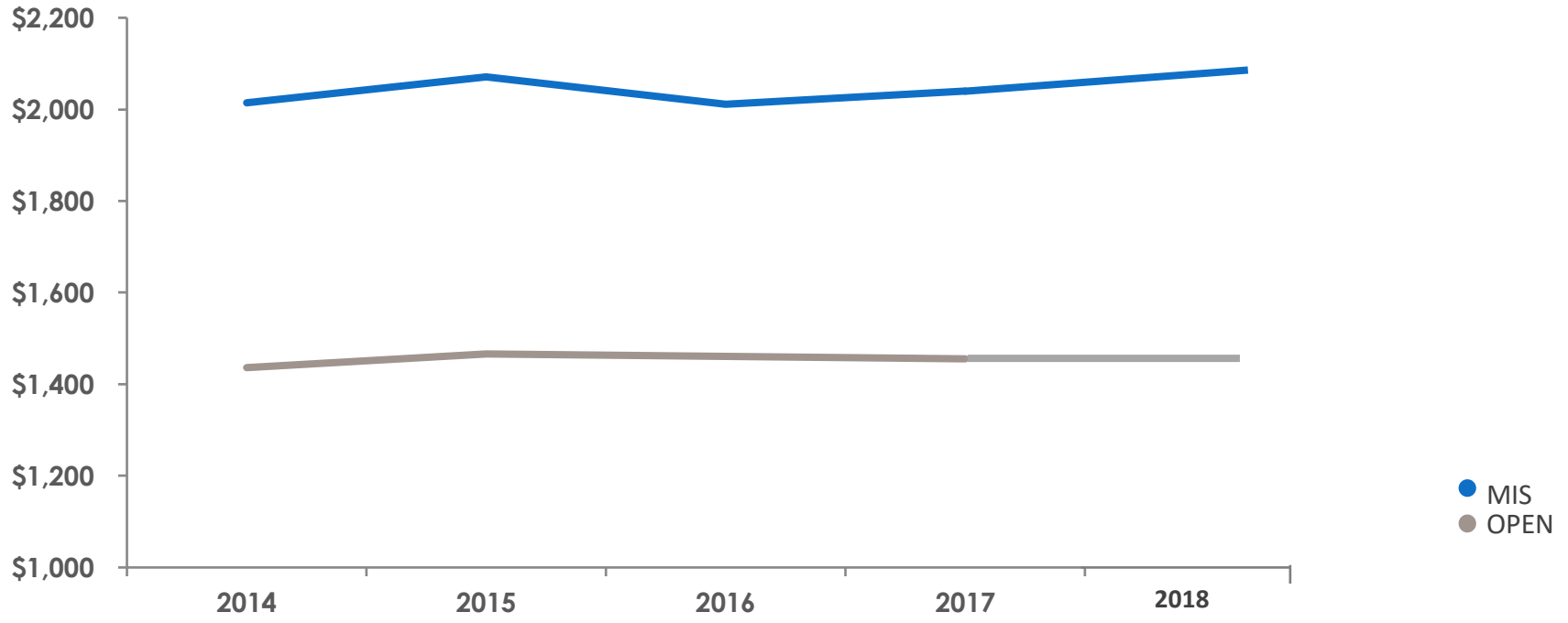


3. Note: Outpatient CPTs (49560, 49561, 49565, 49566) used for open incisional hernia, outpatient CPTs (49654-49657) used for MIS incisional hernia

ASC Reimbursement

Trends Favoring Outpatient MIS

Inguinal Hernia - Medicare Outpatient Payments[4]



4. Note: Outpatient CPTs (49505, 49507, 49520, 49521, 49525) used for open inguinal hernia, outpatient CPTs (47562, 49561) used for MIS inguinal hernia

Total Laparoscopic Hysterectomy >250g

CPT 58572
Outpatient Dept.

$6,861
National Avg.

vs.

CPT 58572
Ambulatory Surgery Center

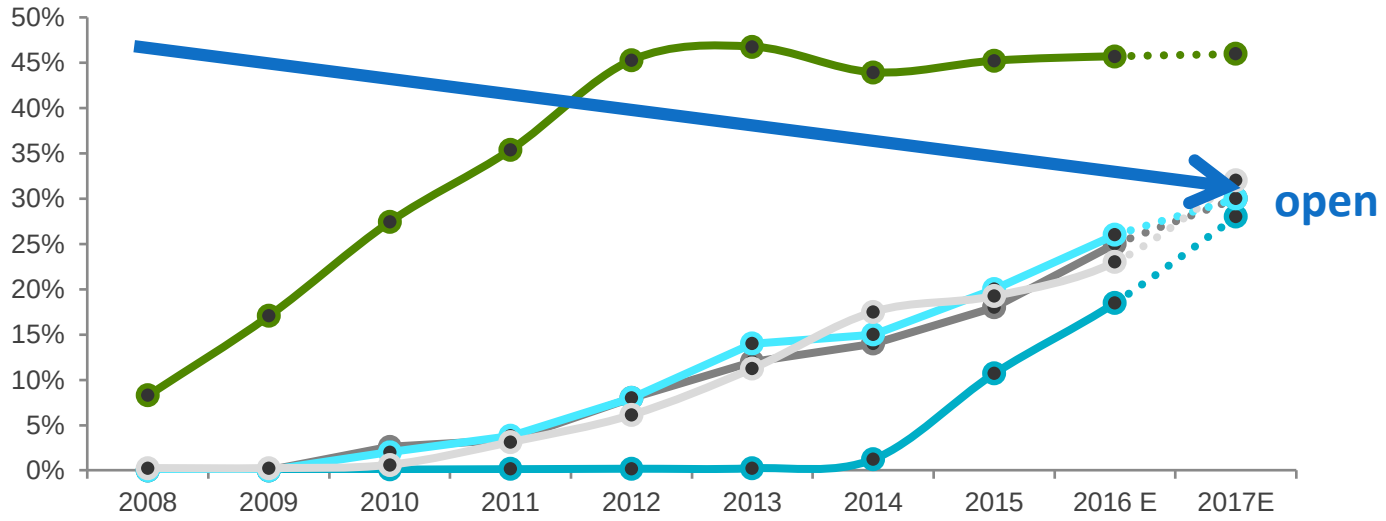
$3,281
National Avg.

Yes, ASC reimbursed in 2018!

Predicted Growth Trends in MIS—Laparoscopy & da Vinci®

Predicting the need for convenient access by service line

National Adoption of *da Vinci* by Procedure[1,2]



Growth Trends in Laparoscopy and *da Vinci*

3 Yr CAGR (Compound Annual Growth Rate)

	LAP[3]	DA VINCI[4]
Hernia	-11%	347%
Hysterectomy	-16%	3%
Colectomy	-10%	63%
Rectal Resection	-14%	48%
Lobectomy	-3%	20%

1. 2016 and 2017 adoption rates for Hernia, hysterectomy, colectomy and rectal resection based on Goldman Sachs Financial Model 02/06/16
2. 2016 and 2017 adoption rates for Lobectomy based on JP Morgan Financial Model 04/19/2016
3. Intuitive Surgical Analysis of 2008-2015 Premier database
4. Intuitive Surgical internal analysis – 3 year CAGR based on Q1 2014 to Q1 2016 procedure volume

A Win-Win-Win-Win Situation?

Win for
the patient

Win for the
surgeons

Win for
our ASC

Win for
the payors

Do You Have the Right Success Equation?

Right Surgeons

+

Right Case Mix & Technology

+

Right Reimbursement

=

Cases Appropriate for the Robot in an ASC

Patient Selection is Important

General Surgery

Cholecystectomy

Inguinal Hernias

Ventral Hernias

Benign Gynecology

Hysterectomy

Myomectomy

Salpingectomy

Oophrectomy

Evolving…

Urologic cases (Pyeloplasty)

Nissen Fundoplication

Hiatal Hernia Repair

LINX Insertion

Sleeve Gastrectomy

Robotic System Considerations

We firmly believe X is best for an ASC

X is ~2/3rd the price of an Xi

- Where Xi is superior: generally not ASC-appropriate cases
- Docking an X is a little more cumbersome (no rotating boom)

So maybe this means that an Xi would work better in an ASC…?

WRONG!!!

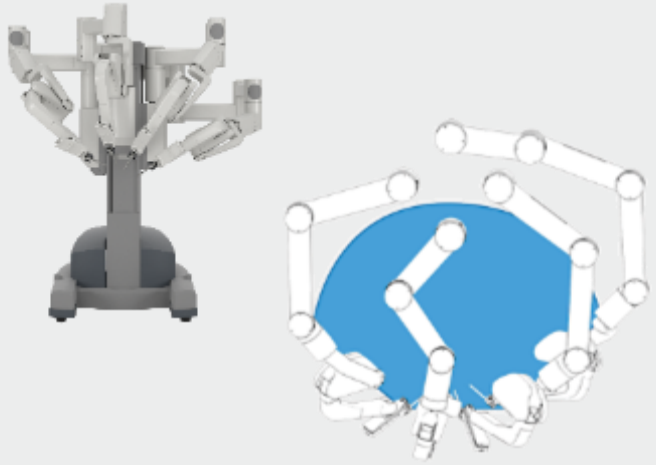
Robotic System Considerations

Da Vinci X

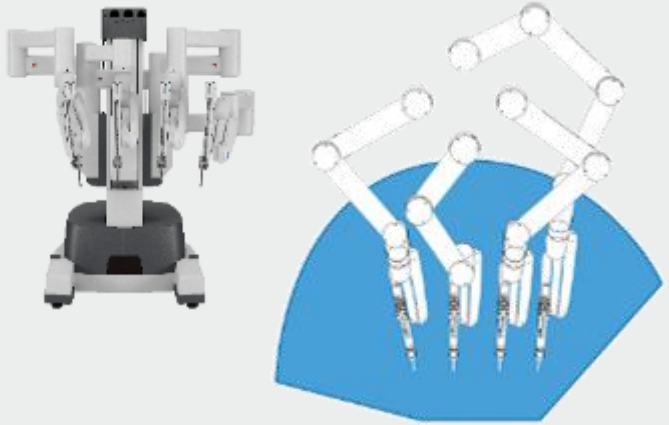
is ~2/3rd the price of da Vinci Xi

Which System is Right for Your ASC?

da Vinci Si®



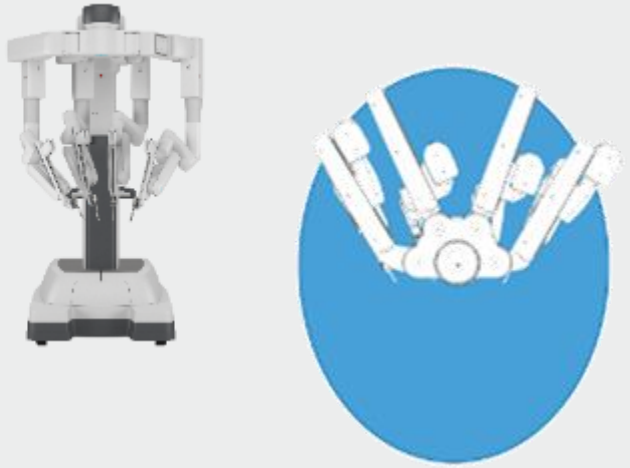
da Vinci X®



1.5X Greater

than the *da Vinci Si* Surgical System

da Vinci Xi®



2X Greater

than the *da Vinci X* Surgical System

Important Considerations to Making the Investment

- OR time available to add more cases
- Varying physician mix and proficiency
- Capital outlay
- Volume of Cases x Reimbursement

A Successful Program: Where to Start

Operational Impact

- SPD
- Turn Over
- 23 hour observation

Room Staffing

- Motivated, interested, positive people that WANT to be on the TEAM

Block Time Availability

- Must have available OR time for convenient access

Committed Surgeons

- Specialty and volume
- Administrator must be involved and supportive of program

Reduction of Operational Cost

- Minimized robotic tray instrumentation
- Minimized pick sheet items
- Decreased waste

Operational Considerations

Question #1

Can your ASC do 23-hour observation?

If not, it may be worth looking into it

- Some hysterectomies require
- Certain ventral hernias (such as ETEP)
- Urology
- Sleeve
- Nissen
- Simple hiatal hernia
- LINX

Operational Considerations

Question #2

Are my ORs big enough to do robotic surgery?

- Most rooms are 20 x 20 ft or bigger
- This is an easy, comfortable fit
- When not used for robotic cases, room is easily used for most non-robotic ASC appropriate cases

Operational Considerations

Question #3

Do I have the right electrical setup?

- I have no clue. The last time I considered anything relating to physics was back when I took the MCAT
- When you are investigating, the Intuitive ASM can help answer this question

Operational Considerations

Question #4

What other equipment do I need?

- Biggest equipment issue will be a sterilizer and ultrasonic to handle the longer robotic instruments
- Cost was around $100K

Operational Considerations

Question #5

Do I have the right staff to do robotic surgery?

- **YES**
- When we got our Si robot in 2016 (Si is harder to work with vs. an X), all of our circulating nurses and scrub techs had done zero robotic cases

Avoid the Road Blocks

- *Administrator support*
- *Physicians who dabble*
- *Negative connotation to the program*
- *No standard workflow*
- *Staff training*

Making the Investment… Volume

1

Do we have the right surgeons? *Efficient, proficient and cost conscious*

2

How much volume do I need to make a robot in my ASC work?

3

Volume Required: ***Varys depending on payer mix, case type, reimbursements***

This leads to our final topic…

Alignment of Value Across Stakeholders

Patients

Patient Journey
Open rates, coordination of care, and opioid exposure

Physicians

Physician Satisfaction
Access, belief, and coordination

Providers

Provider
Productivity analysis and variation reduction strategies

Payors

Payer
Mapping and reimbursement update

Policy Makers

Policy Makers
CMS and society policy changes

Becker's Hospital Review

Analysts find ASCs earned $26B in 2016 — 60% of eligible procedures to be performed in ASCs by 2020

Written by Eric Oliver | January 11, 2018 | Print | Email

A Research and Markets report analyzed the U.S. ASC market, finding centers earned $26 billion in 2016.

Here's what you should know:

1. Research and Markets believes there are 6,150 ASCs nationwide. Of the ASCs, 57 percent are independent/physician owned, 22 percent are corporate/for-profit and 21 percent are hospital-owned/nonprofit.

2. Analysts believe corporate ASC companies are taking control of the market, citing a 43 percent increase from 2010 to 2015 in ASC company-owned facilities.

3. The reduced cost of performing procedures in ASCs saves patients up to $5 billion annually, analysts report. The savings the government reaps from Medicare and commercial payers having procedures performed in ASCs are at $18.7 billion and $12.4 billion respectively.

The government reaps savings to the tune of $18.7 billion annually when Medicare-insured patients undergo procedures at an ASC. Similarly, the government saves $12.4 billion when commercially insured patients receive surgical treatment at an outpatient center.

4. Analysts believe by 2020, 60 percent of all eligible procedures will be performed in the outpatient space.

5. Concerning physician specialties, 25 percent of all gastroenterology cases are performed in ASCs, but cataract surgery is the most common procedure in an ASC.

6. Orthopedics, ENT and urology remain the most profitable ASC procedures.

BECKER'S ASC REVIEW

3. The reduced cost of performing procedures in ASCs saves patients up to $5 billion annually, analysts report. The savings the government reaps from Medicare and commercial payers having procedures performed in ASCs are at $18.7 billion and $12.4 billion respectively.

https://www.beckersasc.com/asc-turnarounds-ideas-to-improve-performance/analytics-find-ascs-earned-26b-in-2016-60-of-eligible-procedures-to-be-performed-in-ascs-by-2020.html

Planning Your Interaction With Payors

Robotic Surgery

- Showing advantages, better quality outcomes
- Increasing in market share, especially in general surgery

ASC Cases

- Moving back into the hospital
- This is because they are better on the robot
- Payors are feeling it

Payor Impact

- They become motivated to support robotics in the ASC if…
- They can see they are losing ASC cases to the hospital because of robotics

Better Contracts

- We've seen payors giving better contracts to surgeons doing more ASA 1 & 2 outpatient cases in the ASC setting

The Success Equation

Right Surgeons

+

Right Case Mix & Technology

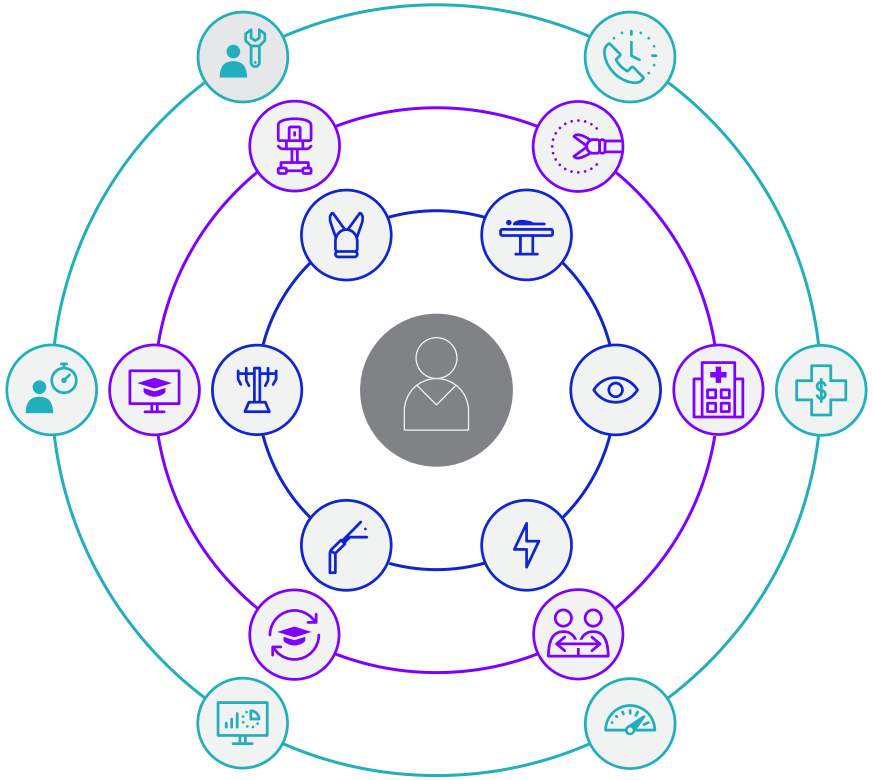
+

Right Reimbursement

=

ASC Ecosystem

- Genesis (more efficient trays)
- Customer portal to analysis per case I&A
- Advanced training
- Steering committee collaboration



A Win-Win-Win-Win Situation!

Win for the patient

Win for our ASC

Win for the surgeons

Win for the payors


Q.
A.

Reference Slides

2017 vs 2018 ASC CMS Reimbursement

FREE-STANDING AMBULATORY SURGERY CENTER (ASC) SETTING

Commonly performed procedures include, but are not limited to:

HCPCS Code	Short Descriptor	Final CY 2017 Payment Weight	Final CY 2017 Payment Rate
GYN			
58570	TLH uterus 250 g or less	72.7007	$3,272.69
58571	TLH w/t/o 250 g or less	72.7007	$3,272.69
58573	TLH w/t/o uterus over 250 g	72.7007	$3,272.69
GENERAL SURGERY			
47562	Laparoscopic cholecystectomy	45.2517	$2,037.05
49650	Lap ing hernia repair init	45.2517	$2,037.05
49651	Lap ing hernia repair recur	45.2517	$2,037.05
49652	Lap vent/abd hernia repair	45.2517	$2,037.05
49653	Lap vent/abd hern proc comp	45.2517	$2,037.05
49654	Lap inc hernia repair	72.7007	$3,272.69
49655	Lap inc hernia repair comp	72.7007	$3,272.69
49656	Lap inc hernia repair recur	72.7007	$3,272.69
49657	Lap inch hern recur comp	72.7007	$3,272.69

Source: *CMS Addendum AA – Final ASC Covered Surgical Procedures for CY 2017*

Source: *CMS Addendum A.-Final OPPS APCs for CY 2018*

FREE-STANDING AMBULATORY SURGERY CENTER (ASC) SETTING

Commonly performed procedures include, but are not limited to:

HCPCS Code	Short Descriptor	Final CY 2018 Payment Weight	Final CY 2018 Payment Rate
GYN			
58570	TLH uterus 250 g or less	73.9182	$3,368.82
58571	TLH w/t/o 250 g or less	73.9182	$3,368.82
58572	TLH uterus over 250 g	73.9182	$3,368.82
58573	TLH w/t/o uterus over 250 g	73.9182	$3,368.82
GENERAL SURGERY			
47562	Laparoscopic cholecystectomy	46.0213	$2,097.42
49650	Lap ing hernia repair init	46.0213	$2,097.42
49651	Lap ing hernia repair recur	46.0213	$2,097.42
49652	Lap vent/abd hernia repair	46.0213	$2,097.42
49653	Lap vent/abd hern proc comp	46.0213	$2,097.42
49654	Lap inc hernia repair	73.9182	$3,368.82
49655	Lap inc hernia repair comp	73.9182	$3,368.82
49656	Lap inc hernia repair recur	73.9182	$3,368.82
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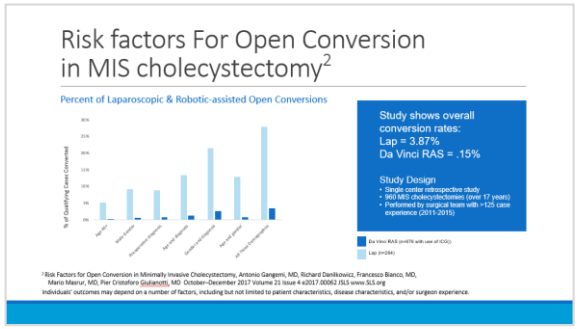
Source: *CMS Addendum AA – Final ASC Covered Surgical Procedures for CY 2018*

STUDY INFORMATION

Risk factors for open conversion in MIS cholecystectomy[1]

Study shows overall conversion rates: lap = 3.87%; robotic-assisted = .15%



[1]Risk Factors for Open Conversion in Minimally Invasive Cholecystectomy, Antonio Gangemi, MD, Richard Danilkowicz, Francesco Bianco, MD, Mario Masrur, MD, Pier Cristoforo Giulianotti, MD October–December 2017 Volume 21 Issue 4 e2017.00062 JSLS www.SLS.org

Study Design

- Single center retrospective study of 960 MIS cholecystectomies at University of Illinois Chicago (2011-2015)
- Authors cite ~4.9%[2-4] of traditional lap choles are converted to open for a variety of reasons

Patient Population

- N=284 lap; 676 robotic with use of ICG
  - Same surgical team
  - Performed >125 robotic and lap surgeries in total
- Patient demographics and outcomes were analyzed for the major indicators that may predispose to OC
- Inclusion criteria for the study were all patients age 17 and older who underwent cholecystectomy during the study period.
- Patient demographics and surgical outcomes including gender, age, BMI, prior surgical history, intra-operative diagnosis, case duration, and ASA class were compiled and analyzed for the major indicators that may predispose a patient to open conversion.

Outcomes Measured / Evaluated

- Purpose of study is to identify predictors of open conversion

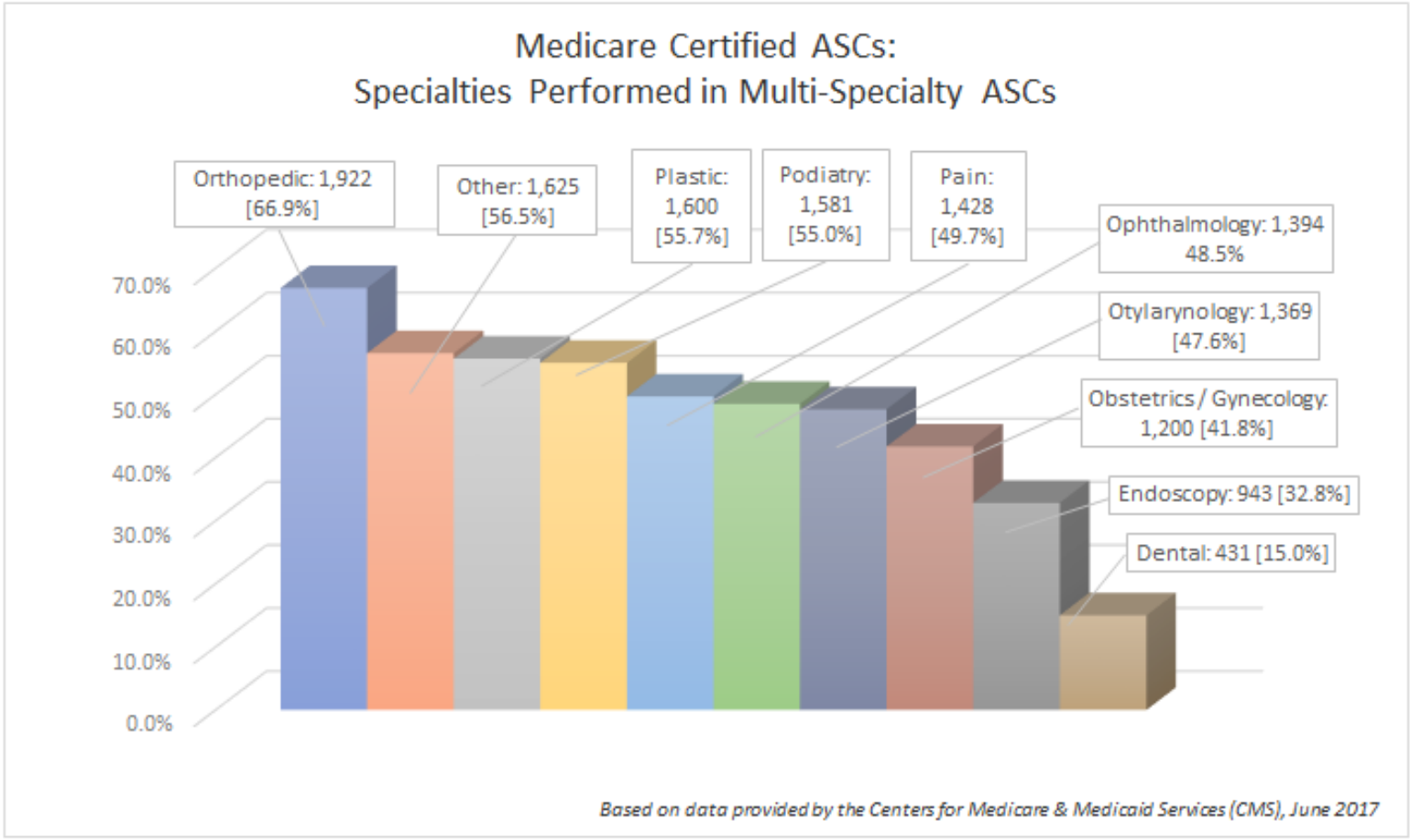
Results / Conclusions

- **Overall conversion rate lap = 3.87%; robotic = .15%**
- Male gender and intraoperative diagnosis of acute or gangrenous cholecystitis were statistically significant individual predictors of open conversion.
- When compared with same key demographic subsets in patients who underwent robotic procedures, a statistically significant decrease was seen in each subgroup in Z-scores calculated based on the single categorical characteristic of open conversion

Study Limitations

- A clear limitation of our study is the single-institution retrospective design and the inherent biases that accompany it.

ASC Specialty Type… Does it Matter?



Advisory Board – OP General Surgery

Advisory Board | Planning 20/20

2017 Surgical Services Market Trends

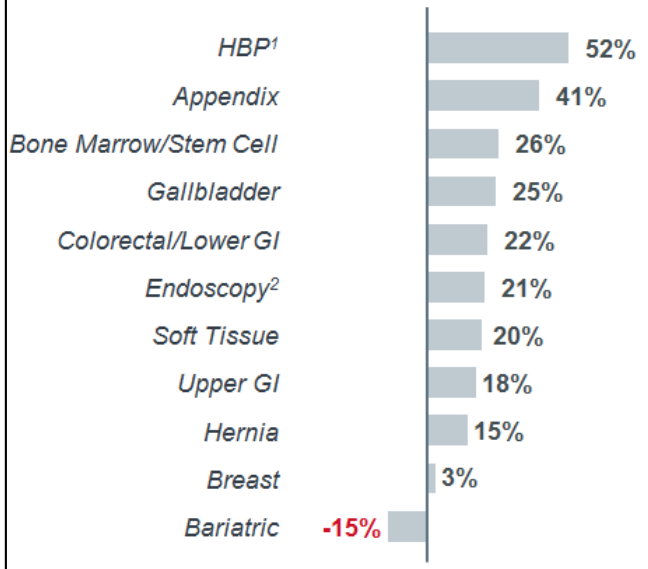
Prepared February 2017

High OP Growth Driven By Consumerism, Technology

Patient Convenience, Payer Pressures Shifting Care to Non-HOPD Sites

National General Surgery Volume Growth Projections, by Subservice Line

Outpatient, 2016-2021



Site of Care Volume Growth

2016-2021

11%
Projected HOPD[3] Volume Growth

28%
Projected ASC Volume Growth

31%
Projected Endoscopy Center Volume Growth