

Managing clinical variation to drive cost efficiency and improve patient care

Webinar

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Contents

Managing clinical variation to drive cost efficiency and improve patient care

- **Understanding its importance**
- Identifying opportunities
- Capturing the value

How much effort does your hospital or health system put into reducing clinical variation compared to 2-3 years ago?

Pick the best answer from the following list

- More effort now

- The same amount of effort as before

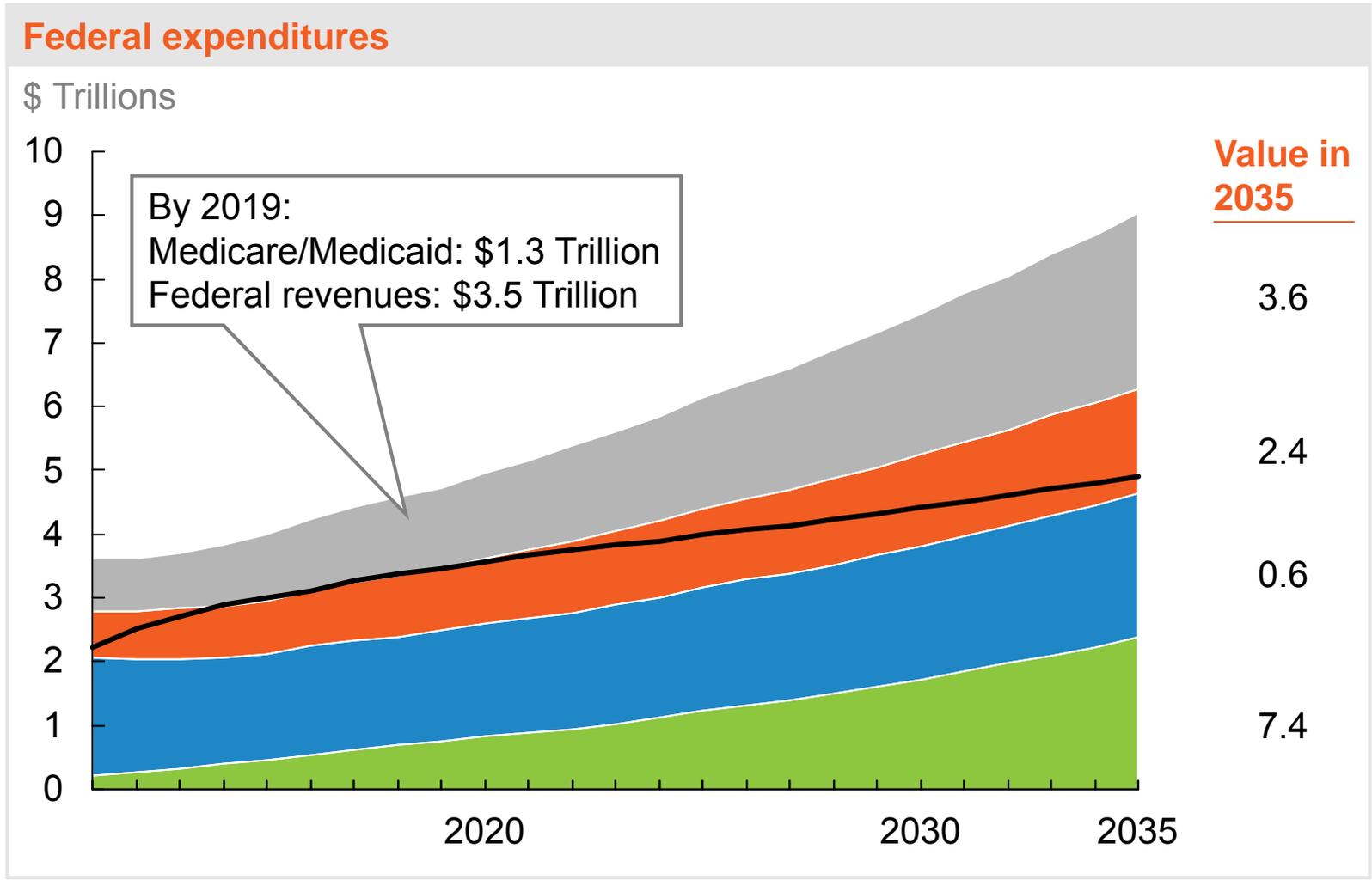
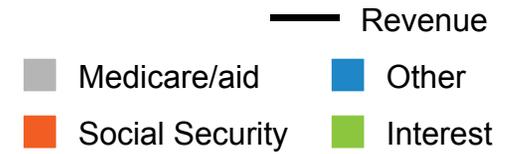
- Less effort than before



The healthcare industry faces unprecedented change



The federal government will not be able to support the nation's healthcare tab as it has in the past



Healthcare reform will incent hospitals to invest in quality and patient experience



Changes to Medicare Inpatient Reimbursement

- **Value based purchasing (VBP)** - up to 2% at risk based on a hospital's patient experience performance (30%) and quality performance (70%)
- **Readmissions penalty** - up to 3% at risk
- **Hospital acquired conditions penalty** – up to 1% at risk for hospitals in the bottom quartile of hospital acquired conditions performance

It's not good enough to simply improve on quality and patient experience – hospitals must improve *faster* than the national average to avoid penalties/earn incentives



Providers will increasingly be asked about their “value equation” – performance on quality and cost measures

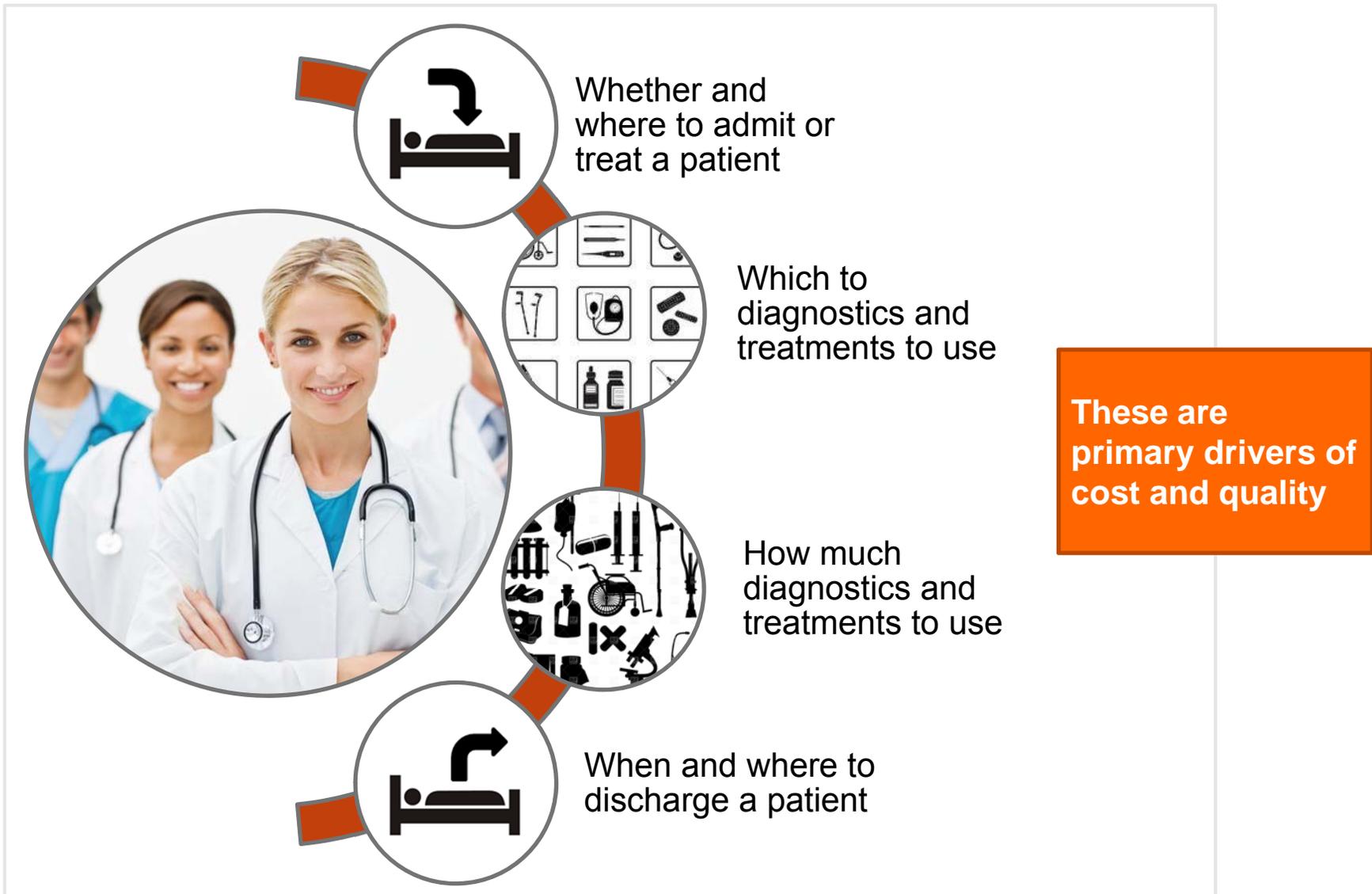
Current performance levers

- Improving labor productivity based on internal and external benchmarks
- Increasing patient throughput throughout the inpatient enterprise
- Reducing costs in purchasing and supply chain management
- Standardizing processes to reduce waste

Future performance levers

- Maintaining wellness and eliminating avoidable admissions
- Directing patients to the right care setting
- Reducing unwarranted clinical variation
- Ongoing tracking of population-health management metrics

In addition, health systems will need to work with physicians on care delivery



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Where have you found the greatest level of opportunity to reduce variation?

Pick the best answer from the following list

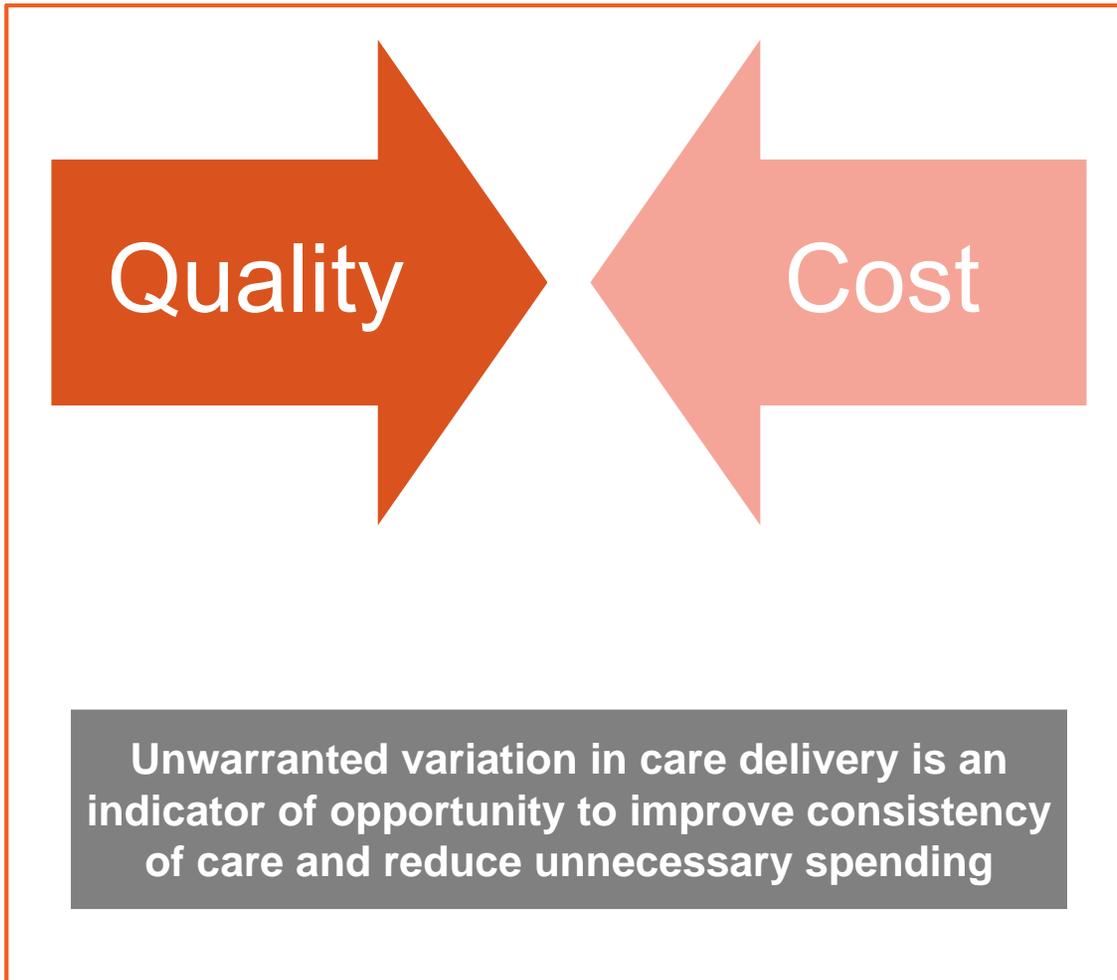
Surgery

Medicine

Maternity and pediatric medicine



Clinical variation is a lens by which to improve quality and cost efficiency



- Why should hip implant costs vary three fold among your orthopedic surgeons?
- Why are some sepsis patients routinely treated with one antibiotic as a first line rather than a more appropriate, and cheaper, alternative?
- Why do some physicians routinely keep pneumonia patients in house a full day longer?
- Why do some ED docs CT for light head trauma and not others?

Some clinical variation is warranted, but unnecessary variation takes three forms

**Underuse****Misuse****Overuse**

- Discontinuity of care (which tends to worsen when more physicians are involved in the patient's care)
- Lack of systems that would facilitate the appropriate use of these services

Results in insufficient use of effective care

- Failure to accurately understand or communicate the risks and benefits of the alternative treatments
- Inappropriate prescribing of medications or tests (e.g. antibiotics for viral infection)

Results in improperly utilized care

- Overdependence on the acute care sector
- Lack of the infrastructure necessary to support the management of chronically ill patients in other settings

Results in inappropriate use of care

It can be useful to pursue top-down and bottom-up approaches in parallel

Top-down, evaluate high value levers



OR/Cath lab practices

- Implant/device choice
- OR preference cards
- Cath/IR/EP preference cards



Medical protocols

- Disease protocols
- Location of care protocols
- Floor/ICU protocols



Resource utilization

- Lab test variability
- Radiology CT/MRI variability
- Antibiotics stewardship
- Blood stewardship

Bottom up, find highly variable DRGs

Identify
DRGS

- Identify DRGs with high variability for further assessment

Assess
variability

- Confirm variability is unwarranted and not due to legitimate factors

Specify
drivers

- Identify the key drivers of variability within each DRG

Estimate
impact

- Estimate the potential value of reducing unwarranted variation

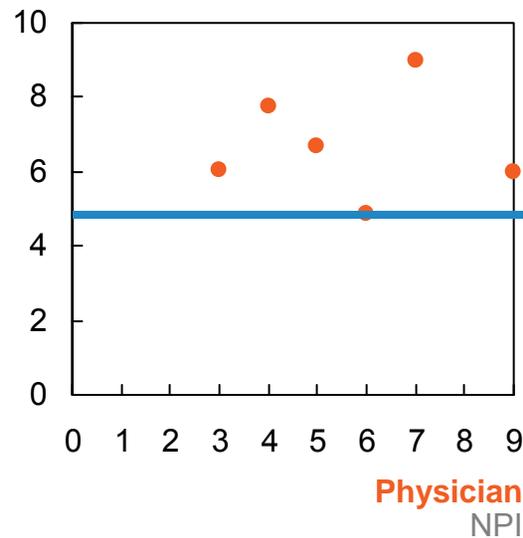
The DRG assessment assumes all physicians in a DRG match the lowest average cost physician

ILLUSTRATIVE

— Lowest average physician cost

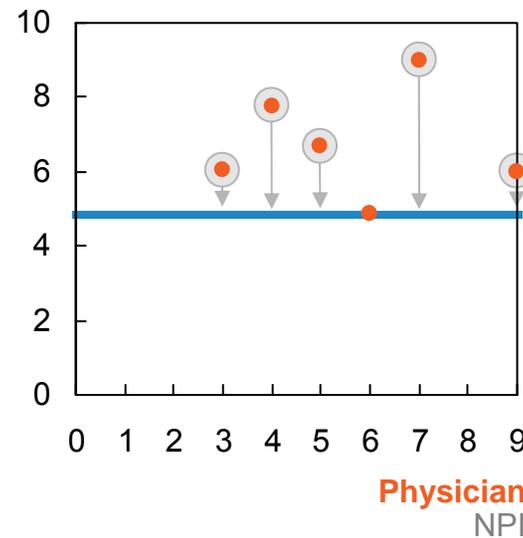
For each DRG, variability exists in avg. cost per case by physician ...

Avg. cost per physician
\$ thousands



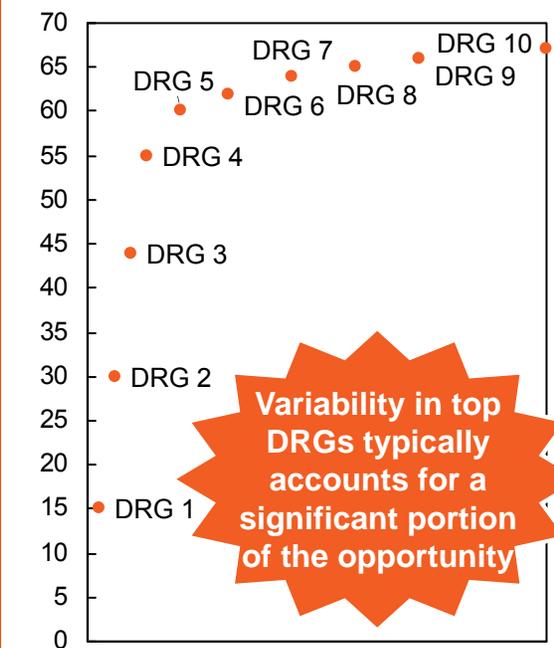
... which can be translated into a potential cost of variation calculation ...

Avg. cost per physician
\$ thousands



... and compared across DRGs to determine which conditions drive the majority of cost variation

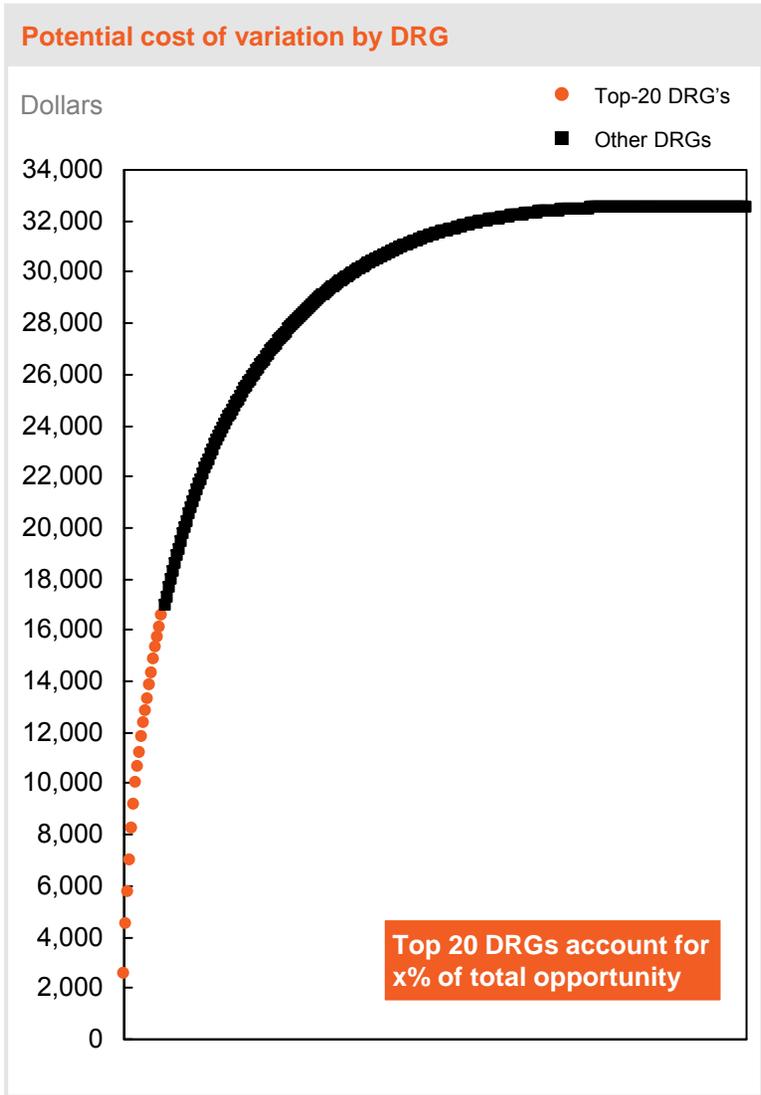
Potential cost of variation by DRG
\$ thousands



Variability in top DRGs typically accounts for a significant portion of the opportunity



The bottom-up assessment first aims to identify pockets of high variation



Top 20 DRGs with highest clinical cost variability

Rank	DRG	Name
1	470	Major joint replacement or reattachment of lower extremity w/o MCC
2	392	Esophagitis, Gastroent and misc digest disorders w/o MCC
3	945	Rehabilitation with CC/MCC
4	460	Spinal fusion except cervical without MCC
5	313	Chest pain
6	552	Medical back problems without MCC
7	847	Chemotherapy without acute Leukemia AS secondary diagnosis w/ CC
8	247	Perc cardiovasc proc with drug-eluting stent without MCC
9	951	Other factors influencing health status
10	490	Back & neck proc EXC spinal fusion with CC/MCC or disc device
11	470	Major joint replacement or reattachment of lower extremity w/o MCC
12	392	Esophagitis, Gastroent and misc digest disorders w/o MCC
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20	490	Back & neck proc EXC spinal fusion with CC/MCC or disc device

Subsequently, we assess whether that variation is truly unwarranted, identify the key drivers and estimate the potential value at stake

Is the clinical variation unwarranted?

- 1
 - Is the variation explained by multiple ICD9 codes or different payors within the DRG?
 - Can clinically-warranted variation inherent to the DRG explain the total observed variation?

What are the drivers of unwarranted clinical variation?

- 2
 - Which cost sub-category is the largest driver of variation?

What is the potential impact of addressing unwarranted clinical variation?

- 3
 - What is the target to address the variation?
 - What is the potential savings opportunity?
 - What is the potential quality impact of reducing variation?

What is the willingness and ability of the organization to address this area?

- Clinical and administrative leadership
- Level of physician engagement/ openness / buy-in
- Existing or potential forums
- Past experience / successes

DRG 470¹ – There is a significant and addressable opportunity to reduce variation

- High impact
- Low impact

1 A significant component of variation is likely unwarranted

- A portion of clinical variation is an artifact of ICD-9 mix, so drivers must be examined separately for each major code
- Clinical factors inherent to DRG are unlikely to explain observed variation (note CC/MCC cases are not included in this DRG while revision cases have been excluded)

2 Clinical products are a significant driver of variation

- Clinical products are the primary driver of cost variation
- Variation within clinical products is significant at a physician level, with average cost ranging from \$3,000 to \$7,000 for total knee and \$3,400 to \$6,300 for total hip

3 There is a clear target and significant total opportunity

- Clinical variation can be addressed by developing device usage guidelines
- We estimate a total potential savings opportunity of \$1.6 million through reducing variation in clinical product costs to a selected peer target

\$1.6M

What is the willingness and ability of the organization to target this area?

- Clinical and administrative leadership
- Level of physician engagement / openness / buy-in
- Existing or potential forums
- Past experience / successes

¹ DRG 470 - Major joint replacement or reattachment of lower extremity w/o MCC

ILLUSTRATIVE

1 DRG 470¹ - Variation is partially a result of ICD-9 mix

Primary ICD9 codes for DRG 470, Percent		Case count	Avg. cost, K USD
All physicians		2241	8.8
Physician 1		144	8.0
Physician 2		43	8.6
Physician 3		19	7.3
Physician 4		16	8.2
Physician 5		10	8.9
Physician 6		9	11.8
Physician 7		9	10.4
Physician 8		41	10.9
Physician 9		132	7.5
Physician 10		99	7.8
Physician 11		284	7.8
Physician 12		51	8.6
Physician 13		204	11.4
Physician 14		242	8.1
Physician 15		407	9.2
Physician 16		50	9.7
Physician 17		309	7.8
Physician 18		164	11.1

- 81.54 – Total knee replacement
- 81.52 – Partial hip replacement
- 81.51 – Total hip replacement
- Other

- Total knee replacement is the predominant procedure
- Some variation is likely unwarranted as there is little correlation between ICD-9 code mix and average cost per case for total joints
- Variable cost analysis should be done separately by ICD-9 code for this DRG

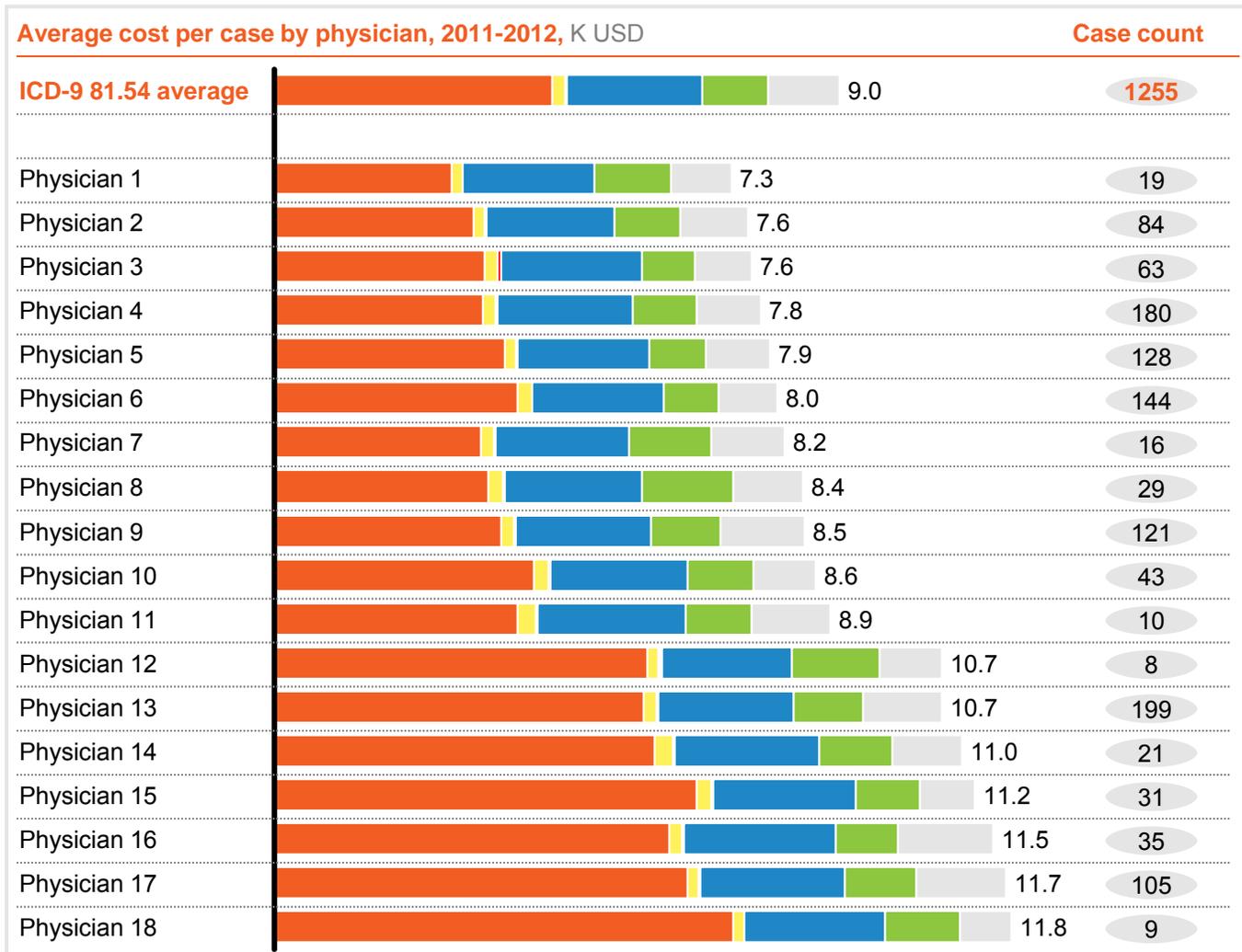
1 DRG 470 - Major joint replacement or reattachment of lower extremity w/o MCC

Source: Client patient level data, Aug 2011-Jul 2012, OH analysis, Physician roster

2 DRG 470¹ ICD-9 81.54 knees – Clinical products are the primary driver of cost variation

ILLUSTRATIVE

- Clinical products
- Drug
- Lab
- Imaging
- Room & board
- Surgical procedures
- Other



Findings about the drivers of clinical variation:

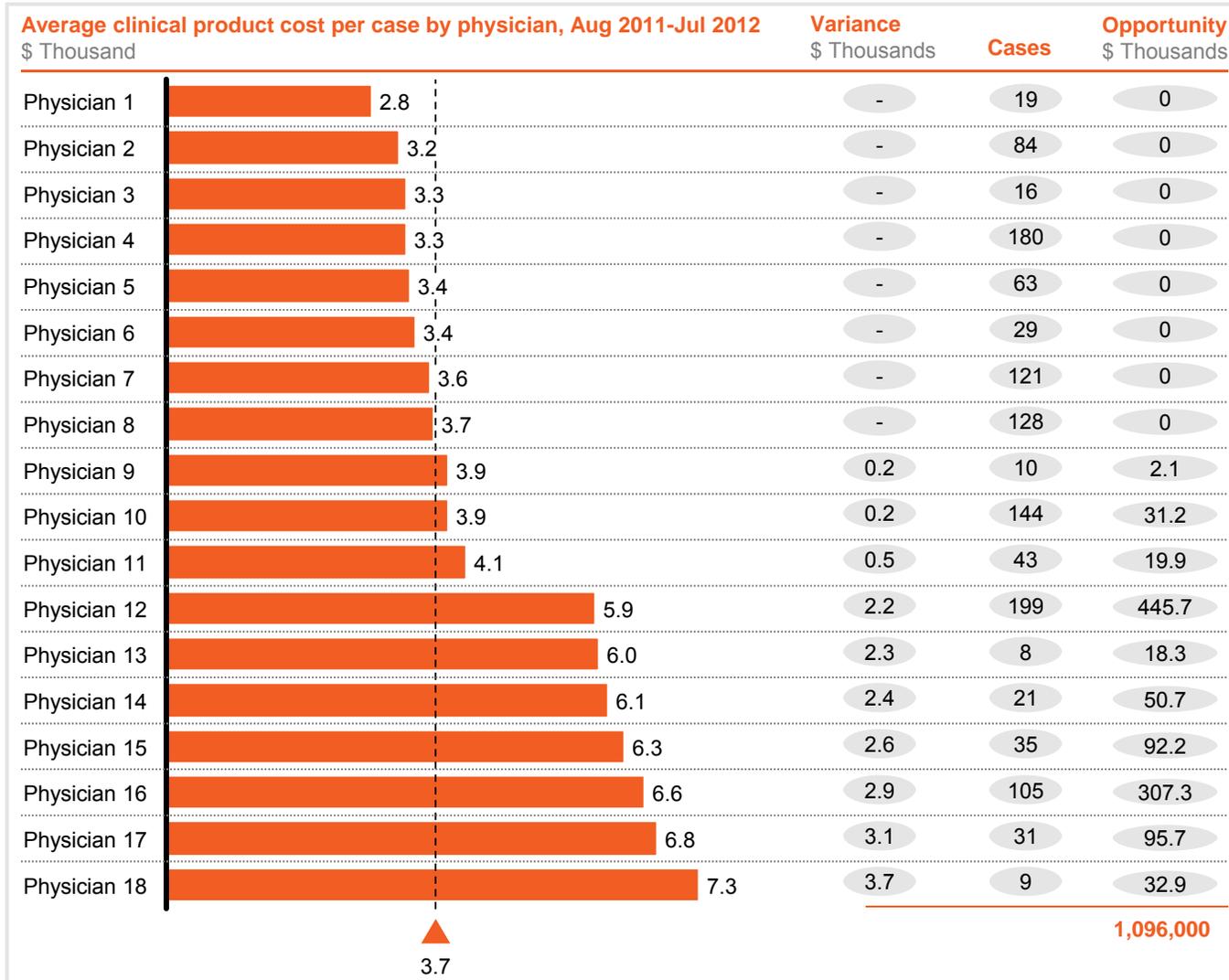
- The majority of variation in variable cost for DRG 470 comes from the spend on clinical products
- Spend on clinical products ranges from ~\$3,000 to ~7,000 per case across physicians

¹ DRG 470 - Major joint replacement or reattachment of lower extremity w/o MCC

ILLUSTRATIVE

3 DRG 470¹ ICD-9 81.54 knees – Reducing variation of clinical products could save \$1.1M

■ Clinical products

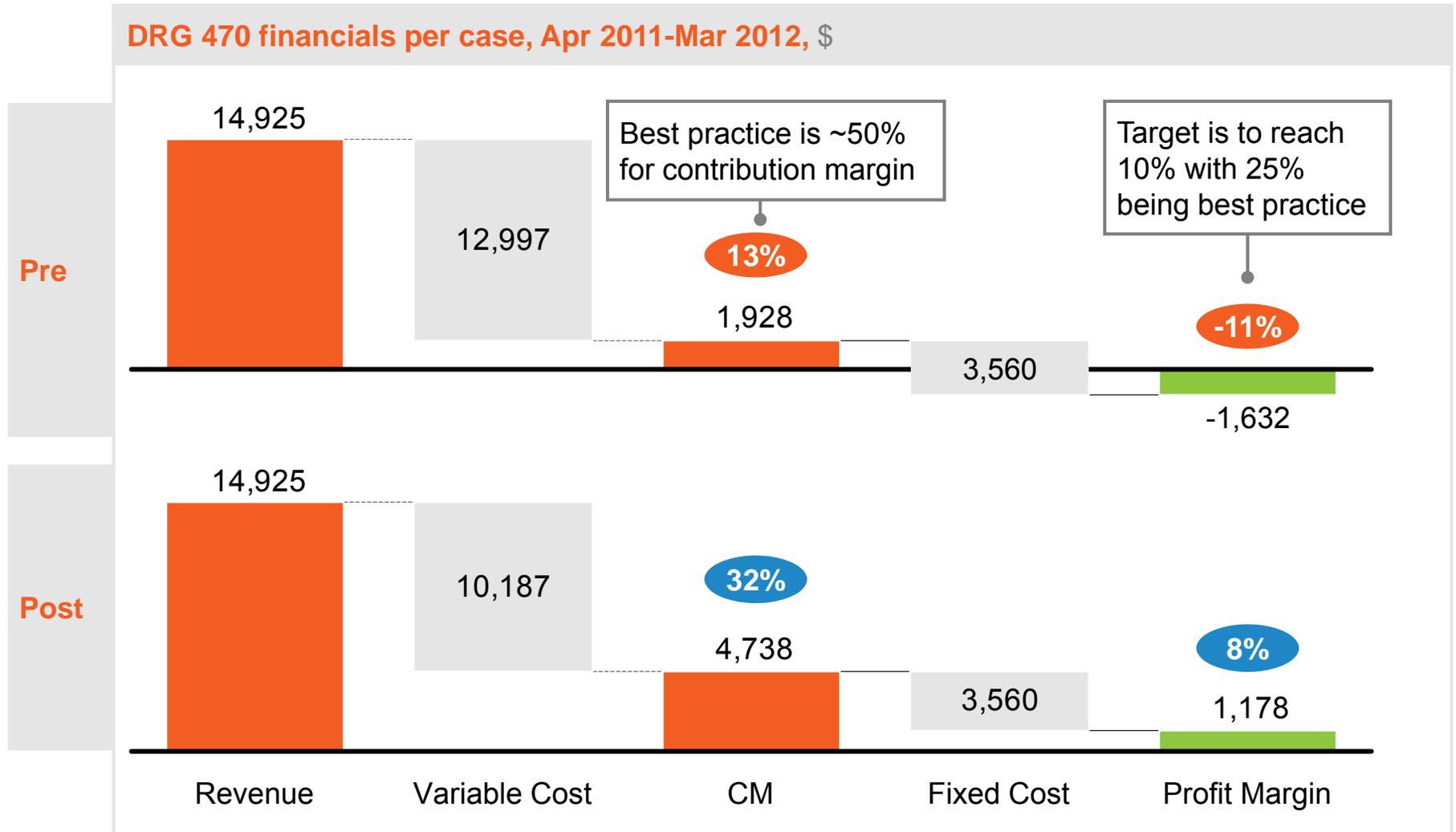


- There appears to be a significant price differential in average variable cost between two physician cohorts – what could be driving this?
- Variation in clinical products can be addressed by developing device usage guidelines
- Assuming reduction in variable costs to the midpoint of the more cost-effective cohort yields a potential savings opportunity of \$1.1M

¹ DRG 470 - Major joint replacement or reattachment of lower extremity w/o MCC

ILLUSTRATIVE

DRG 470¹ – This would increase profit margin from -11% to 8%



1 DRG 470 - Major joint replacement or reattachment of lower extremity w/o MCC

2 Benchmark is 75th percentile of 300-600 bed hospitals



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In your experience, how difficult is it to go after these types opportunities as compared to more traditional areas?

Pick the best answer from the following list

- Easier than other opportunities

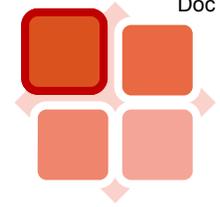
- About the same as other opportunities

- More difficult that other opportunities



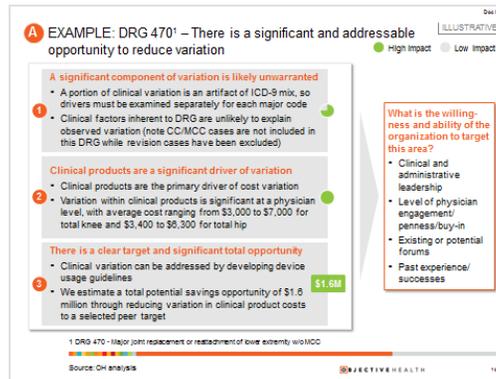
Four elements need to be in place in order to successfully capture opportunities in clinical variation

- 
- Clinical leadership and broad engagement of physician and nursing staff is required to drive sustainable change
 - The ongoing ability to assess opportunities, share information and measure impact is critical to focusing efforts and providing feedback
 - Dedicated resources, both people and capital, are essential to the successful completion of any project
 - An application of the principles that support change will help ensure success



Any effort to address clinical variation will require that you engage physicians and clinical staff

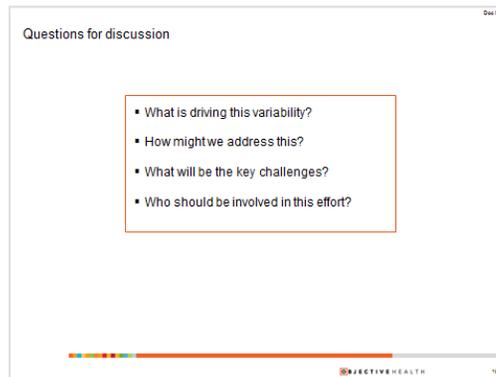
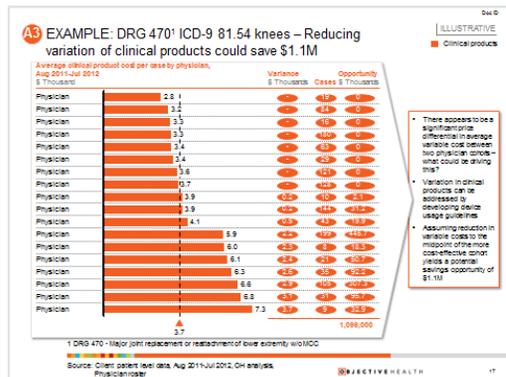
Share data and rationale with key clinical staff

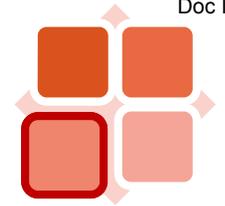


What is the willingness and ability of the organization to target this area?

- Clinical and administrative leadership
- Level of physician engagement/penness/buy-in
- Existing or potential forums
- Past experience/successes

- Build understanding and support for the effort
- Gather input to help guide the early phases of the effort
- Rely on clinicians to drive the initiatives, from design to completion





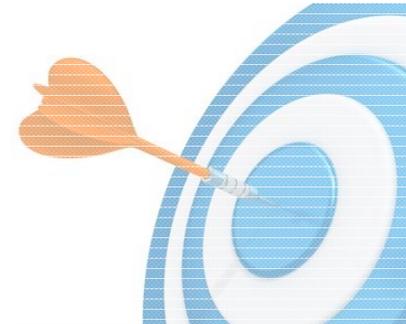
Next, assemble a cross-functional team around each initiative...

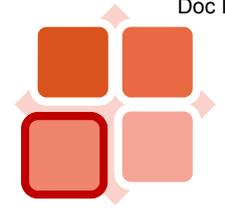
Orthopedic team

- Project sponsor: Ortho surgeon
- Project leader: Nurse
- Team members:
 - Ortho Surgeon
 - OR Business Manager
 - Main OR Manager
 - Nurse
 - Surgical tech
 - Decision support analyst

Team objectives

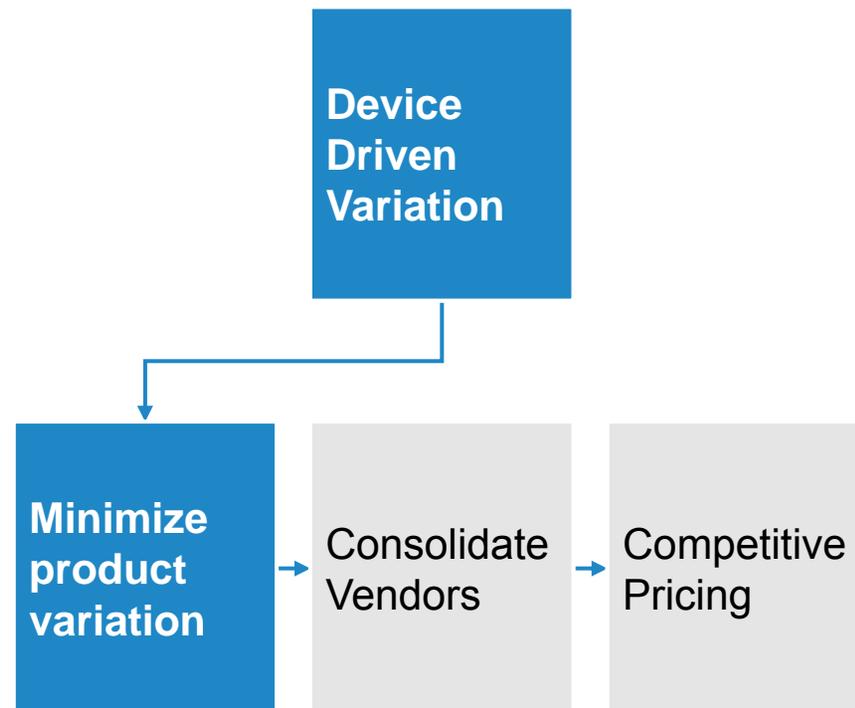
- Build a robust, transparent process for surgeons to make evidence-based choices about knee implants and other OR supplies that maintain or improve:
 - Quality of patient care
 - Physician satisfaction
 - Cost of providing care
- Facilitate conversations about both new and existing products





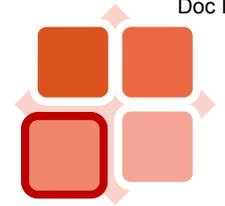
... And provide these teams with the knowledge, resources and support they need to be successful

Device standardization



Initiatives to minimize product variation

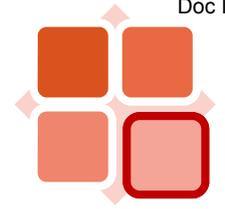
- Standardize device options
 - Research device technology and capability
 - Select a few appropriate high-, medium- and low-end device choices
- Establish a physician-created protocol for demand matching
 - Create clinical criteria to categorize patients as requiring low, medium, or high cost devices
 - Require justification or approval process for use of devices outside of agreed upon protocol
 - Track physician adherence to and deviation from protocol on monthly basis
 - Create transparency amongst physicians



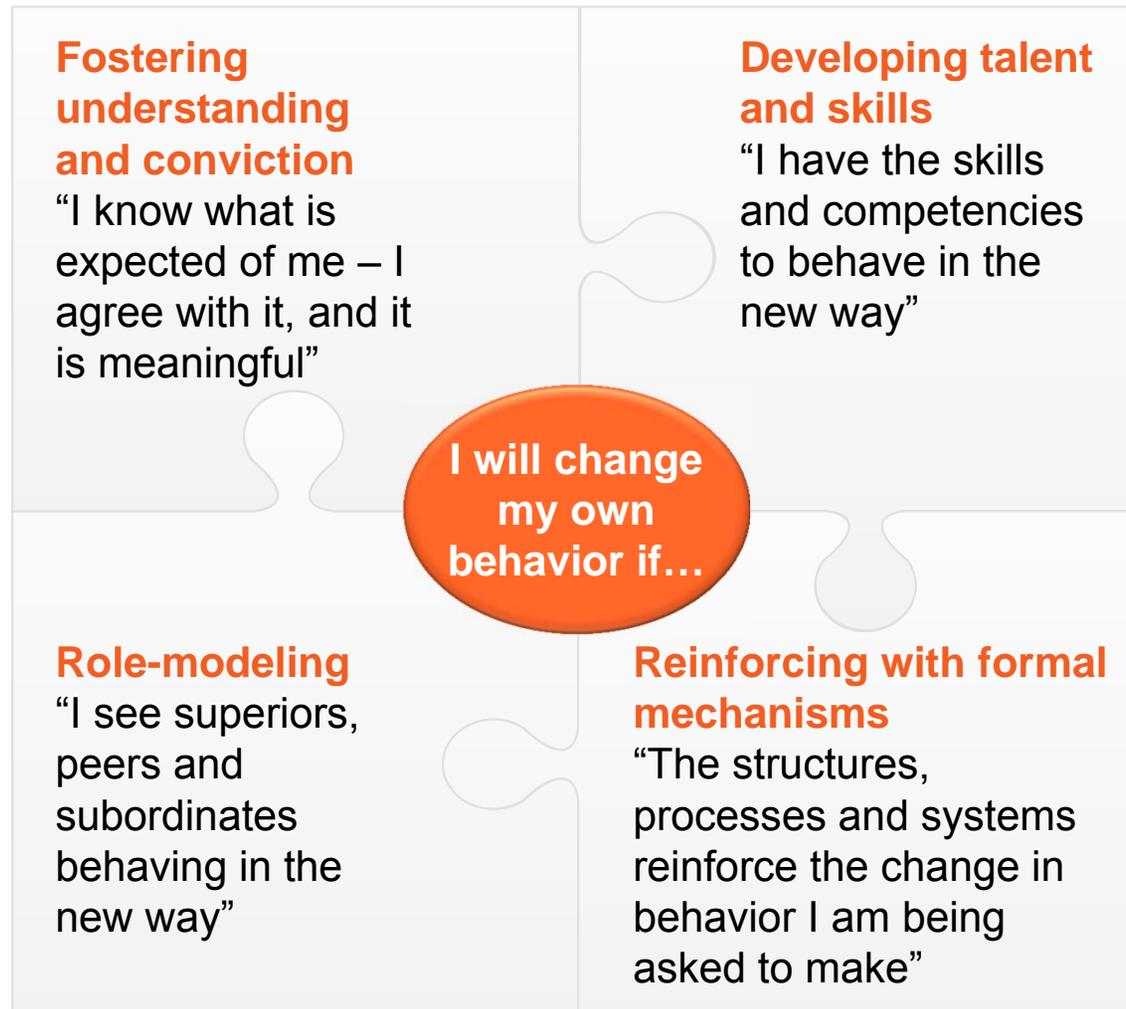
EXAMPLE: Factors relevant to device standardization

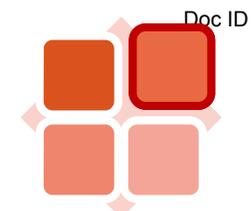
	Key factors	Examples of supporting levers
Data & literature	<ul style="list-style-type: none"> ▪ National data registries ▪ Peer-reviewed literature ▪ National and society meetings 	<ul style="list-style-type: none"> ▪ Provide relevant device-specific journal articles ▪ Invite discussion with field leaders on the device
Product attributes	<ul style="list-style-type: none"> ▪ Product design (including physicians' personal contributions) ▪ Ease of use ▪ Outcomes experience 	<ul style="list-style-type: none"> ▪ Demonstrations to establish ease of use ▪ Peer testimonials to share patient outcomes experiences
Personal familiarity	<ul style="list-style-type: none"> ▪ Use during training ▪ Relationship with device rep ▪ Familiarity with the company 	<ul style="list-style-type: none"> ▪ Training sessions to allow physicians to familiarize themselves with the device ▪ Training of support staff (e.g. OR Nurses, scrub techs) to familiarize with the device ▪ Presence of a knowledgeable and implant representative at all cases during learning period

The relative importance of each factor will vary by specialty, department and surgeon



Successful implementation is highly dependent on being able to support a shift in mindsets and behaviors





It is essential to define a baseline, set specific targets, track and report on pilot performance

	Metrics	2012	Pilot	Target	
		Baseline		ST	LT
Blood product utilization (CABG)	▪ Proportion of patients receiving RBC during entire stay (%)	63%	42%	57%	15%
	▪ RBC consumption per patient (units)	2.2	1.6	1.5	1.0
	▪ Portion of patients receiving non RBC blood products (FFP, platelets, cryo) (%)	34%	27%	32%	32%
	▪ Non RBC blood consumption per patient (units)	2.1	1.3	1.5	1.0
Extubation protocol (CABG)	▪ Vent time (hours)	8.0	6.8	5.0	2.5
	▪ ICU LOS (days)	3.3	2.3	3.2	1.5
Orderset/pathways (Joints)	▪ LOS for patients discharged to rehab (days)	4.3	4.0	3.0	3.0
	▪ LOS for all patients discharged home (days)	3.1	3.1	3.0	2.8
	▪ LOS for patients discharged with home health (days)	3.5	3.4	3.0	2.8

Q & A

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