An opportunity to inform yourself on <u>Value</u> and contemporize your approach to shoulder care…

Dear Colleagues:

I recently attended a meeting, which is an outgrowth of The Value-Based Care Initiative championed at HBS by Prof. Michael Porter and Prof. Robert Kaplan. To be sure, there are academics and non-academics moving this agenda forward. One such visionary businessman who merits attention is Derek Haas. He is a graduate of HBS and has created a wonderful company, which seeks to move the value agenda forward in an entrepreneurial venture. The name of this company is Avant-Garde Health (https://www.avantgardehealth.com). This is a clever and insightful name for such a venture as the definition fits this initiative very well:

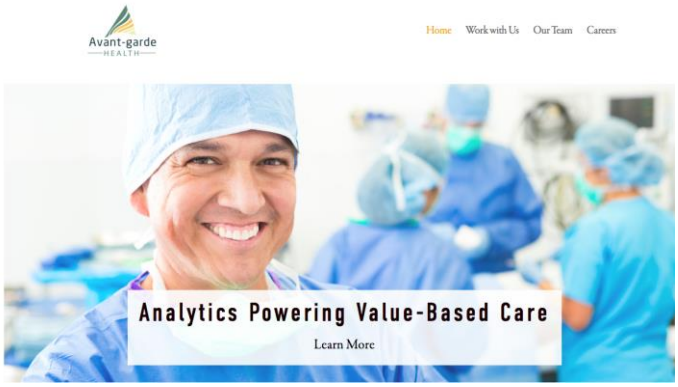
a·vant-garde
/ˌävänt ˈgärd/

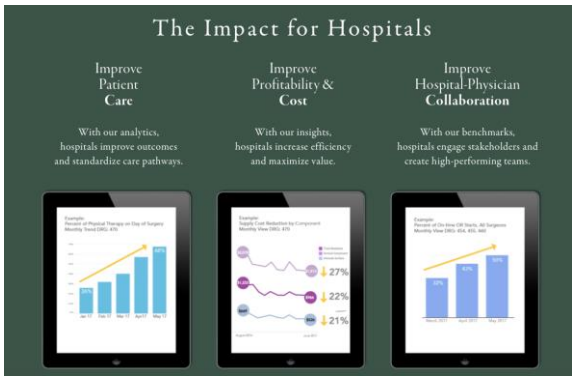
noun

1. new and unusual or experimental ideas, especially in the arts, or the people introducing them.
   "works by artists of the Russian avant-garde"

adjective

1. favoring or introducing experimental or unusual ideas.
   "a controversial avant-garde composer"
   synonyms: innovative, original, experimental, left-field, inventive, ahead of the times, cutting/leading/bleeding edge, new, modern, innovatory, advanced, forward-looking, state-of-the-art, trend-setting, pioneering, progressive, Bohemian, groundbreaking, trailblazing, revolutionary; More





I am happy and excited to introduce you to this group and share with you some of my notes from the meeting. The agenda and content of the meeting is included below. For those of you with a business background, this will resonate as a great company in the making. And for those of you with an interest in value-based care, be advised, this is your future. So, all should be informed.

Regards,

Jon JP Warner, MD
Boston Shoulder Institute

Avant-garde HEALTH

Avant-garde 2017 Value Improvement SUMMIT AGENDA

DAY ONE
Thursday, September 28th 1:00pm – 9:00pm

1:00 **Registration**

1:30 **Welcome**
Location: Hunsaker

1:45 **Lessons Learned in Implementing Bundles**
Derek Haas, Professor Robert Kaplan, Dr. Owen O'Neill, Dr. Scott Tromanhauser, and Luka Zhang
Location: Hunsaker

2:50 **Break** 20 minutes

3:10 **Harvard Business School Case Study: Martini Klinik**
Professor Robert Kaplan
Location: Hunsaker

4:20 **Break** 20 minutes

4:40 **Opportunities and Challenges in Leveraging Patient Reported Outcomes**
Dr. Larry Higgins, Dr. Michael Jellinek, Jacob Lippa, and Dr. JP Warner
Location: Hunsaker

5:30 **Harnessing Provider Analytics Across Hospitals**
Derek Haas, Dr. Lou Jenis, Andrew Johnston, and Michael West
Location: Hunsaker

6:45 **Dinner**
Viale Restaurant
502 Massachusetts Avenue

DAY TWO
Friday, September 29th 7:15am – 4:10pm

7:15 **Breakfast**

8:00 **Impact Highlights from Across the Cohort**
Danny Yagoda
Location: Hunsaker

8:20 **Transparency & Productivity**
Professor Ethan Bernstein
Location: Hunsaker

9:20 **Break** 20 minutes

9:40 **Care Pathways and Clinical Decision Making**
Breakout Sessions

General Session
Amy Nyberg and Dr. Emil Dilorio
Location: Hunsaker

Joint Replacement Session
Dr. Rich Santore
Location: Chu

Spine Session
Dr. Raymond Hwang, Dr. Conor O'Neill, and Dr. Tim Reiter
Location: Luscomb

10:50 **Break** 20 minutes

11:10 **Improving Operational Efficiency in the OR and Post-Operatively**
Dr. Joe Alhadeff, Dr. Chip Davis, and Dr. Ted Riley
Location: Hunsaker

12:30 **Lunch**

1:20 **Teaming in Health Care**
Professor Amy Edmondson
Location: Hunsaker

2:20 **Break**

2:40 **Aligning Hospital-Physician Incentives**
Sopida Andronaco, Dr. Mark Kelley, Jon Shaker, and Dr. Suzette Song
Location: Hunsaker

3:55 **Closing Remarks**
Location: Hunsaker

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2017 Value Improvement SUMMIT TEAM

Nicole Bassoff
Analyst

Tom De Santes
Director of Marketing

Irwin Grossman
Senior Recruiter

Derek Haas
CEO

Andrew Johnston
VP of Product

Bojan Krizanic
Developer

Robert Kuzma
Senior Developer

Tianxing (Lisa) Ma
Data Engineer
and Analyst

Suzanne Nylander
Executive Assistant

Matej Rogac
Developer

Danny Yagoda
VP of Client Success

Gil Yee
Manager of Data
and Informatics

Xiaoran (Luka) Zhang
Data Scientist

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2017 Value Improvement SUMMIT SPEAKERS

Robert S. Kaplan, PhD Senior Fellow and Marvin Bower Professor of Leadership Development, Emeritus at the Harvard Business School, is co-developer of both activity-based costing (ABC) and the Balanced Scorecard (BSC). Professor Kaplan joined the HBS faculty in 1984 after spending 16 years on the faculty of the business school at Carnegie-Mellon University, where he served as Dean from 1977 to 1983. His research, executive program teaching, and consulting focus on aligning cost and performance management systems to strategy execution. He currently works with Michael Porter on the HBS Value Based Health Care initiative to introduce time-driven activity-based costing (TDABC) and value-based bundled payments to health care. The goal is to motivate the health care sector to restructure around delivering superior patient outcomes at significantly lower total cost.

Ethan S. Bernstein, PhD, JD, MBA is an assistant professor in the Organizational Behavior unit and the Berol Corporation Fellow at the Harvard Business School. He teaches the second-year MBA course in Managing Human Capital, an MBA immersive field course in Tokyo on Innovation and Leadership through the Fusion of Digital and Analog, and various executive education programs. Professor Bernstein studies the impact of workplace transparency—the observability of employee activities, routines, behaviors, output, and/or performance—on productivity, with implications for leadership, collaboration, organization design, and new forms of organizing.

Amy C. Edmondson, PhD is the Novartis Professor of Leadership and Management at the Harvard Business School, a chair established to support the study of human interactions that lead to the creation of successful enterprises that contribute to the betterment of society. Professor Edmondson has been recognized in 2011, 2013 and 2015 by the biannual Thinkers50 global ranking of management thinkers. She speaks on teaming, psychological safety, and leadership to corporate and academic audiences around the world. Her books – Teaming: How organizations learn, innovate and compete in the knowledge economy and Teaming to Innovate (Jossey-Bass, 2012, 2103) – explore teamwork in dynamic work environments.

Joseph E. Alhadeff, MD provides care for all types of orthopedic problems with special expertise in primary and revision joint replacement of the shoulder, knee and hip. During his orthopedic residency training, he spent three months training at the Nuffield Orthopedic Clinic in Oxford, England and one month staffing a ski injury clinic at Sugarbush Ski Resort in Vermont. Dr. Alhadeff is recognized as a top performing provider in the Coventry Integrated Network.

Sopida Andronaco, RN is the Director of Performance Improvement and Clinical Outcomes at Hoag Orthopedic Institute. She oversees data collection and transparency for Hoag's Orthopedic Institute hospital and two affiliated surgery centers.

Charles M. Davis III, MD, PhD is the Chief of the Hip and Knee Joint Arthroplasty Division at the Penn State Hershey Medical Center. He did his residency training and fellowship at the Mayo Clinic in Rochester Minnesota and has been performing hip and knee replacements at the Hershey Medical Center for the last twelve years, currently performing about 300 hip and knee replacements per year. He is also the research committee chairman for the American Association of Hip and Knee Surgeons.

Emil Dilorio, MD is an orthopedic surgeon and the CEO and founder of Coordinated Health, a specialized hospital network that delivers simple, value-based care in Orthopedics, Women's Health, Primary Care & Employer Services. He holds a Master of Science degree in Anatomy from the University of Ghent and a Doctor of Medicine degree from Boston University. He founded Coordinated Health in the Lehigh Valley in 1988.

Larry Higgins, MD is the Chief of the Sports Medicine/Shoulder Service in the Department of Orthopedic Surgery at the Brigham and Women's Hospital and is Board Certified in Orthopedic Surgery. Dr. Higgins completed his medical degree at State University of New York at Stony Brook School of Medicine. He completed his residency at the Hospital for Special Surgery in New York City, and his fellowship in Sports Medicine and Shoulder Surgery at The Center for Sports Medicine at the University of Pittsburgh Medical Center. Dr. Higgins is the Fellowship Director for the Brigham and Women's/Massachusetts General Shoulder and Elbow Fellowship Program. He specializes in sports medicine and shoulder injuries.

Raymond Hwang, MD is a spine surgeon at New England Baptist Hospital in Boston. He received both Bachelor of Science and Master of Engineering degrees from the Massachusetts Institute of Technology, a Doctor of Medicine from Harvard Medical School, and a Master of Business Administration from Harvard Business School. Dr. Hwang underwent residency training at the Harvard Combined Orthopedic Surgery Residency Program where he also served as Administrative Chief Resident. He completed his fellowship in Spine Surgery at New England Baptist and joined New England Orthopedic and Spine Surgery after serving as Medical Director of the KishHealth Spine Center and spine surgeon at Midwest Orthopedic Institute in Illinois. He has authored over 25 peer-reviewed journal articles, publications and presentations.

Michael S. Jellinek, MD is a Professor of Psychiatry and of Pediatrics at Harvard Medical School. He has served as Chief Clinical Officer at Partners HealthCare (2012-2014) and as President of Newton Wellesley Hospital (2001-2012). Dr. Jellinek was previously Chief of Child Psychiatry at Massachusetts General Hospital for 32 years from 1979-2012. He has written or co-written over 300 original reports, articles, and chapters, and with Michael Murphy, Ed.D., he developed the Pediatric Symptom Checklist, which is the most widely used brief screening instrument that has been validated to help primary care pediatricians identify children with emotional problems. This questionnaire has recently achieved endorsement by the National Quality Forum and is being used both in the United States and internationally.

Louis G. Jenis, MD is Co-Chair of Residents Education and Graduate Medical Education at the New England Baptist Hospital and a Clinical Associate Professor of Orthopedic Surgery at Tufts University School of Medicine. He received his medical degree from Boston University School of Medicine and completed a general surgical internship and an orthopedic surgery research fellowship at the University of Massachusetts Medical Center Department of Surgery. Dr. Jenis manages multiple research endeavors including basic science projects investigating the efficacy of bone morphogenetic proteins, clinical studies involving cervical and lumbar fusion, prosthetic disc replacement, and minimally invasive spine surgery.

continued on back

Jacob Lippa is Implementation Director for the Americas and Asia-Pacific at the International Consortium for Health Outcomes Measurement (ICHOM) and manages its partnerships with strategic partners and health information technology firms globally. Since 2015, he has also served on the faculty for Harvard Business School's courses and seminars on value-based health care delivery. Prior to joining ICHOM in 2014, he worked across the Institute for Healthcare Improvement and The Commonwealth Fund, conducting research on health system performance and trends in private health insurance markets. Mr. Lippa is trained as a health care quality improvement advisor and patient safety officer, and he holds a master's degree in health care policy and management from Columbia University.

Mark A. Kelley, MD is a physician executive educator at Massachusetts General Hospital where he is the Director of the Faculty Leadership Initiative for the Department of Medicine. He is a faculty member at Harvard Medical School and Harvard Business School where serves as an advisor to its MD-MBA program. As Vice Dean for Clinical Affairs at the University of Pennsylvania School of Medicine, Dr. Kelley was the lead physician in development of its Health System. He subsequently served as Executive Vice President and Chief Medical Officer for the Henry Ford Health System, one of the nation's largest integrated academic delivery systems. In 2013, Dr. Kelley was as an Advanced Leadership Fellow at Harvard University, where he studied health care economics and policy at the Kennedy School of Government.

Amy Nyberg, MBA is Chief Integration Officer for Coordinated Health and has been with CH since 2013. In her current role, Ms. Nyberg leads the innovation and growth strategy for the organization, including business development, physician integration and clinical process innovation. In the last 3 years, CH has developed an innovative approach to bundling health care delivery, resulting in a 10% reduction in cost for joint and spine surgery while already excellent outcomes have been sustained or improved, and total episode of care costs for joints are 15% below the market. Ms. Nyberg previously held executive positions at Centura Health, the largest Health System in Colorado and Allina Health in Minnesota.

Conor O'Neill, MD joined UCSF in 2015 as a Clinical Professor in both the Departments of Orthopedics and Anesthesia, after 24 years of private practice. Specializing in diagnostic and non-surgical treatment for patients with chronic back and neck pain, he has performed more than 40,000 back and neck interventional pain-management procedures. Dr. O'Neill also sits on several scientific and editorial boards, and he is an active researcher who has contributed to more than 100 articles and presentations. He also founded the California Spine Diagnostics Medical Group in San Francisco. At UCSF, he leads the development of a value-based non-operative spine program.

Owen O'Neill, MD is an orthopedic surgeon in practice for over 20 years and has performed thousands of joint surgeries. He trained at Mayo Clinic and Johns Hopkins University, where he completed a Shoulder and Knee Sports Fellowship. He has attained a Certificate of Added Qualification in Sports Medicine and continues to pursue training in the newest orthopedic techniques. He is highly experienced in Direct Anterior Hip Replacement, having performed over 700 of this procedure.

George T. Reiter, MD is a neurosurgeon and Associate Director of the Spine Center at Penn State Milton S. Hershey Medical Center. He received his medical degree from Hahnemann University School of Medicine in 1995, and completed a Residency and Fellowship in Neurological Surgery at the Hospital of the University of Pennsylvania in 2001 and 2002.

Edward H. Riley, MD graduated from University of Minnesota Medical School in 1987 and has been in practice for 30 years. He completed a residency at Santa Clara Valley Medical Center. Dr. Edward Riley is an orthopedic surgeon in La Crosse, Wisconsin and is affiliated with Gundersen Health System-La Crosse. He received his medical degree from Mayo Clinic School of Medicine and has been in practice for more than 20 years.

Richard Santore, MD is a Clinical Professor of Orthopaedic Surgery at UCSD (Vol.), President and CEO of Orthopaedic Medical Group of San Diego, the Founder and Director of the San Diego Hip Preservation Center and the Founder of Santore Consulting, Inc. He is the past Chief of Staff of the 1,200 Physicians of Sharp Memorial Hospital in San Diego, where he led the medical staff during the implementation of the electronic medical record, the opening of a new hospital and a successful Joint Commission full review. He is a Harvard trained (Massachusetts General Hospital) orthopaedic surgeon who specialized in hip and knee surgery and is one of the world's leading authorities on hip dysplasia and osteotomy surgery of the hip. He is a Past President of the American Association of Hip and Knee Surgeons, the California Orthopaedic Association, the Western Orthopaedic Association, and the San Diego Surgical Society, and is a member of the Hip Society, the Knee Society, the International Hip Society, the American College of Surgeons, AAOS, the Orthopaedic Research Society, and the American College of Physician Executives.

Jon Shaker graduated with an M.S. in Health Systems Administration from Georgetown in 2012 and has since been at New England Baptist Hospital, where he has served as Business Manager of Surgical Services since 2014 and as the Administrative Director of Arthroplasty & Spine Surgery since 2016.

Suzette J. Song, MD practices at OSS Health in York, Pennsylvania where she treats all orthopedic problems with special emphasis on foot and knee surgery, from trauma care to reconstruction and deformity correction. While not a hand specialist, Dr. Song treats carpal tunnel, wrist fractures, and trigger fingers. She also performs total and partial knee replacements. Dr. Song works with each of her patients to return them to healthy, active lifestyles.

Scott G. Tromanhauser, MD, MBA, MHCDS specializes in the diagnosis and surgical treatment of adult degenerative spinal disorders of the middle and lower back (thoracic and lumbar regions). He is the Chief Medical Quality Officer at New England Baptist Hospital. In this role, Dr. Tromanhauser is responsible for providing oversight and coordination for all perioperative care. He is also the Director of Research Administration responsible for day to day oversight and development of the Division of Research. Dr. Tromanhauser and his colleagues have authored 19 peer-reviewed publications, 8 poster presentations and 3 book chapters, and he has been involved in 14 FDA medical device trials. He is an Assistant Clinical Professor of Orthopaedic Surgery for Tufts University School of Medicine.

Jon J.P. Warner, MD is currently Chief of the MGH Shoulder Service and director of the MGH/BWH Shoulder Fellowship at Harvard Medical School. He came to Boston in April of 1998 from the University of Pittsburgh Medical Center where he served as Chief of the Shoulder Service for 8 years. He is also Professor of Orthopaedic Surgery at Harvard Medical School and the Current President of the New England Shoulder and Elbow Society. He served as President of the American Shoulder and Elbow Society (ASES) in 2012. He has authored over 100 peer review publications, more than 200 book chapters and 5 textbooks in shoulder surgery.

Michael E. West, CPA, MBA is CEO of the Rothman Institute, a 130-physician, private orthopedic practice based in Philadelphia, PA. He is responsible for strategic, financial and operational oversight of the medical practice as well as a number of the organization's ownership interests in ambulatory surgery centers, specialty hospitals, real estate and start-up technology companies. In addition, he oversees the orthopedic clinical research department of the Rothman Institute, and the Department of Orthopedics at Thomas Jefferson University and Hospital. Mr. West has been at the Rothman Institute since 1999.

Notes on the Meeting:

I. Harvard Business School Case Study: The Martini Klinik (click here for Program PDF)

- Robert Kaplan discussed this landmark case study in providing value for treatment of prostate cancer.
- Take home points:
    1. Specialization and Volume result in better outcomes with reduced complications and thus more value.
    2. The US Healthcare system is not built on this kind of model, for the most part.
    3. Critical introspection through systematic measurement allows for accountability necessary to improve outcomes and this is essential if you are motivated by a patient-first commitment and the delivery of value.
    4. Building great teams leads to commitment which endures and to stability in such teams which are loyal to the mission. Most US healthcare systems are not structured for such a commitment.
    5. Specialization and stable teams allow for systematic process improvement.
    6. Specialized and stable teams committed to the patient outcome first motivate mentorship and transfer of knowledge to the outside world.
    7. Volume growth and profitability are essential to any such venture. No innovation survives unless it delivers a profit at the same time it improves value and outcomes. Martini Klinik had an 11% profit margin.
    8. This Klinik became an international referral center due to its superior outcomes with lower complication rates (many patients came from Switzerland to Germany, which is not something Swiss would undertake usually).
    9. Employee loyalty is an ingredient for success.
    10. Being academically productive is good for business as it establishes you as an expert and this is the draw for business (Martini Klinik surgeons and researchers were prolific).
    11. Integrate all care around the needs of the patient. To do this one must break down silos and other barriers so that surgeons, anesthesiologists, radiologists, physical therapists, nurses, etc all work together for the care mission. This is NOT the structure of most academic programs in the USA (Cleveland Clinic may be an exception- see HBS case study).
    12. Collect data to improve. Martini Klinik had many biostatisticians to collect data and then the team used this for analysis to improve on treatment and outcomes.

II. Care Pathways and Clinical Decision-Making (Dr. Emil Dilorio and Amy Nyberg of Coordinated Health: www.coordinatedhealth.com, and comments by others)

- Data Analytics is the reality of the future for Value-Based care.
- You will all be measured on the impact of your care: Outcomes and Cost
- Who measures you and how they measure will be the key issue.
- Many concepts will need to be embraced.
- One concept offered by Mike West, CEO of Rothman Institute is "***Demand Matching***" for shoulder arthroplasty.
    1. So, age and activity level may be a basis for selecting the optimum implant based on cost of technology.
    2. For example, a younger, active male might benefit from more expensive implant designs due to biomechanical implications etc.; in contrast, an 80-plus year old individual might not need such complex and expensive an implant.
- ***Length of Stay (LOS)***: Many of you know that a focus going forward will be to reduce length of stay and manage the 90-day post-acute care cycle.
    1. This is a big driver of costs for an episode of arthroplasty, for example. Many innovations were discussed about how to achieve this. Reduction in LOS results in lower costs for the episode of care as well as greater capacity for use of hospital resources.
    2. One of the major savings is reduced personnel cost.
- ***Operating Room Time (OR Time***): Reducing variability among surgeons improves efficiency, as do many other initiatives, which were discussed.
    1. Imagine where you are and how much variability exists with your surgeons providing the service line of shoulder care.
    2. There is no question that some of your colleagues will be margin positive for the hospital and some margin negative. If hospitals are not currently measuring this, they will. Avant-Garde is the vehicle to accomplish this and many other tasks.
    3. Ways which you can address this are:
        - **a.** Proper preoperative planning (Blueprint™, VIP™ and other planning programs for arthroplasty).
        - **b.** Inventory management using such planning programs.
        - **c.** Clear communication to a team prior to surgery.
        - **d.** Navigation of the preoperative process.
        - **e.** Navigation of the day of surgery.
        - **f.** Building great teams with integration of care.
- ***Supply Costs***: This will be analyzed in detail by provider, so be advised. If you are lucky enough to work in an environment where this information is collected and shared with you then you can be a participant in delivering value for each case you perform.

- Engaging Clinical and Administrative Champions in each specialty area, with regular meetings to analyze impact of the initiatives: This is the formula for success in such endeavors.
- Team Alignment and prioritizing opportunities and setting goals with regular testing and tracking of progress to redirect accordingly.

- ***<u>FIVE FORCES FOR TRANSFORMATION (IN HEALTHCARE)</u> — Dr. Emil Dilorio, CEO, Coordinated Health***
    1. ***Risk Assumption***: Self-funded employers are taking the risk not insurance companies.
    2. ***Consumerism***: Revolution in products and services; customer experience; When a product becomes a commodity and anyone can produce it the customer experience becomes more important***.***
    3. ***Consolidation:*** This happens as transformation occurs. Few large consolidations bring down price and improve quality. (Look at airline industry)
    4. ***Integration***: Failure in communication and handoffs; EPIC and EMR are example
    5. ***Management Science***: cost analysis and management moving to analytics and data-analysis.
- Service Line (i.e. Orthopedics) → to the product line → (i.e. Joint replacement or spine) → to the product (which is the service you deliver i.e., joint replacement episode of care)

- ***Amy Nyberg, Chief Integration Officer for Coordinated Health***:
    1. There has been a shift from Healthcare 1.0 to Healthcare 2.0
    2. We have moved from "Tertiary care" to "Patient-centric care"
    3. There has been a paradigm shift to product management across an episode of care.
    4. ***<u>The Five Elements of "The Product":</u>***
        - **a.** Design Specifications: The design engineers are the physicians: The Clinical Decisions regarding care and the standardization of practice through analysis
        - **b.** Manufacturing process: (Industrial engineers): The Care Process
        - **c.** Packaging: Connectivity
        - **d.** Brandings: Promise
        - **e.** Pricing and Distribution: Market price and channels for distribution.
    5. Some examples:
        - **a.** Engaging physicians to standardize Total Joint Replacement Clinical Practice guidelines and track variations in decision-making.

   b. Showing physicians implications of cost of decisions they make, changes the way physicians design and engineer their own products (services they offer).
   c. Manufacturing process: Enable process visibility through CPM.
   d. Engaging patients through interactive guides (Our packaging in healthcare is very poor) … completely patient centric to anticipate all needs and milestones and expected recovery.
   e. Preop and postop navigation to delivery more efficient product (service). They manage the entire EPISODE of care.
6. Key: Analysis to reduce variation.
7. Risk stratification: Collaboration with cardiology, anesthesia etc. in advance of surgery…avoid wasted capacity.
8. If predictive modeling allows for determination of when not to do a case, we can make money on avoiding unnecessary use of resources.
9. Do the operation the right way, reduce variation: saves money
   a. Demand matching: see above definition and description.
10. **Results of the above approach in our system**:
   a. Costs declined 8-10% over 9 months and 1/3 of saving returned to physicians through incentive.
   b. LOS reduced 20%
   c. Anesthesia clearance 7 days before surgery (reduced loss of capacity through cancellations) cancellation rate cut by 2/3.
   d. Expanded profitability of each product line.
   e. Lower post-acute care costs (rapid recovery suite to avoid rehab. Facility which is more expensive).
   f. Product design expansion was possible.
11. Defining the population that you treat first allows use to allocate resources appropriate to each category of patient and their problem:
   a. Within a population of patients:
      i. Those ready for surgery
      ii. Those not ready for surgery
      iii. Those who had surgery which failed
      iv. Use of navigators prior to surgery to determine where the patient falls in terms of risk and resource needs.
12. Comment from ***Mike West***, CEO, Rothman Institute: How do we incentivize physicians to take risk to do a complex or revision case?
   a. Managing patient's disease processes with ongoing dashboards to monitor patients and using this

surveillance to determine whom needs to be seen and who does not. This affects management of that population and cost of this.

b. The **decisions** consumers make to access healthcare will be driven by financial implications of the burden they bare to go out of their network, more and more. Freedom of choice will become less as employers' contract with certain healthcare organizations.

c. ***M. West***: Tiering providers on cost not on outcome or quality is a fact with many employers who look for contracts with healthcare organizations.

d. Most major payers are not interested in bundles or risk. They simply want lower cost.

e. Direct deal with employers not insurance companies is the strategy.

f. Isolated MSK is at a disadvantage. An integrated large network is what the large employers want.

g. Employers are struggling so they are looking for alternatives for lower cost healthcare…. This may reduce access of patients who decide quality of care is what they want…they'll be captured.

h. You must control the episode of care to deliver real value in the care.

JPW Thoughts — On a competitive advantage for you:

(1) We need to do better job-preparing patients for the postop recovery process as an added value. Make someone your "Care Navigator". Give them this title and have them embrace it. This will enhance the value you deliver. Some of you do this already with a PA or NP, but redefine this role.

(2) Can we connect with patients better and in a proactive fashion after surgery? Manage your patient's recovery. Engage them and be proactive not passive. It will improve value and avoid problems.

(3) Think added value: Before surgery, during hospitalization, after surgery. Manage each component of the episode of care.

(4) The definition of quality becomes the patient experience as more surgeons can deliver the same outcomes with a surgery…this was not the case many years ago but we've trained so many experts now and competition on outcomes has changed. Differentiation must be by the experience and other value-add ons.

III. "**Transparency and Alignment (Ethan Bernstein, Harvard Business School)**

- "Making Transparency Transparent": Organizations have a quest to improve worker productivity and "transparency" is a strategy, which may be part of this initiative. This can be transparency in the workspace, in the data, etc.
- What happens when data meets human resources? (Your work habits are being watched and managed)
- Definition of Transparency: "Perviousness to light"; openness; freedom of information.
- The Evolution of Transparency:
    1. Monitoring (let us see your activities) …. Process visibility (let us watch your workflow) …Surveillance (few watching the many; aka Compliance; aka "Conflict of Commitment") …Disclosure (Let me tell you about our work; market efficiency and interorganizational relationships).
- The trend to do away with traditional performance reviews and move to transparency.
- The social penalty that starts to feel in the work place.
- His work shows that performance may improve more in individuals who have less supportive supervisors (Possibly a motivation).
- Open workspaces reduce communication as everyone can see how busy every one else is and thus choose not to interrupt but to send email instead of personal communication.
- Human Behavior: People are more willing to have a machine see their data of performance rather than a person.
- ***There is a big difference in the way we use data for learning vs. the way we use it for control…***

IV. **Improving Operational Efficiency in the OR and Post-Operatively (Chip Davis, Chief of Joint Replacement, Hershey Med Ctr)**

- Improving patient experience and financials
    1. Length of stay
    2. Discharge home
    3. Supply costs
- Rapid Recovery Program:
    1. Team based: focus on individual patient
    2. Setting expectations
    3. Improve pain control
    4. Reduce blood loss
    5. Early ambulation
- Our Goal: We want every patient to recovery quickly enough to go home on day of surgery
- We reduced average LOS from 2.5 to 1.5 days average LOS…average savings per case is $1400 and most is personnel costs.

- LOS reduction gave way to more capacity (4.3mil in additional revenue in 2014).
- Less complications if patients discharged to home rather than care facility.
- Discharge home led to Savings/case: $4000/case over episode of care.
- Supply costs: Re-negotiated contracts, educated surgeons on cost.
- Implant costs were the major driver of inpatient care.
    JPW Thought — How to deal with this given surgeon preferences and Conflicts of Interest; and what is innovation worth? How will implant companies respond to the price pressure? We analyze individual surgeons on their overall cost based on implants, etc.
- Cost transparency to surgeons: Everyone knows their costs…. this has implications to higher cost implant using surgeons.
    JPW Thought — This will force implant companies to reassess their customer focus
- Implant savings - $1800/case.
- PAC costs dropped $4000/case.
- Overall cost savings - 6K/case.
- Dedicated anesthesia teams.
- Standardized/reduced instruments.
- Assigned tasks.
- Model process in Sim center.

- ***Panelists: Dr. Chip Davis and Ted Riley (Gunderson Health System, LaCross, WI)***
    1. ***Wheels in to incision time:***
        - ***a.*** Does everybody know his or her role?
        - ***b.*** Duel rooms are faster than single rooms in terms of wheels in and incision start.
            - ***i.*** Comment from Danny Yagoda on study they have done on this, unpublished
        - ***c.*** Is the surgeon the point of delay?
        - ***d.*** Is the surgeon participating?
        - ***e.*** Teams communicating room to room.
        - ***f.*** What is value-added time for the surgeon.
    2. ***Drivers of efficiency:***
        - ***a.*** Staggered rooms: Does this increase or reduce capacity?
        - ***b.*** Hawthorn effect: Do surgeons watch over the team during prep?
        - ***c.*** Team Communication
        - ***d.*** Dedicated teams
        - ***e.*** Upstream tasks: What is done before the patient enters the room?
        - ***f.*** Variety of vendors: May slow down setup
        - ***g.*** Type of anesthesia: General or ISB
        - ***h.*** Staffing composition: timing and availability vs. breaks

i. Medical education (residents or not)
j. Unionized staff
k. Employment model: Affects motivation. What behavior do you incentivize?
l. Responsibilities: Are roles clearly specified? Checklists?
m. Training: Do you do any before surgery to avoid learning curve during surgery
n. Transparency: Do we monitor processes?
o. Goals: Do we have goals and hold people to these?
p. Accountability: Are there carrots or sticks associated with team performance?

****JPW Question*** — Does your hospital share data with you as surgeon and work with you and your colleagues to improve on efficiency in the operating room?

q. Can we compare teaching hospitals to non-teaching hospitals in terms of metrics for efficiency?
r. Consider surgeon experience, resident training, on impact on metrics for OR efficiency

V. The Vital Role of Teaming in Healthcare (Prof. Amy Edmondson, HBS)

- Teaming…Delivers value
- Stable bounded group of individuals who are interdependent in achieving a shared goal.
- "Teaming is teamwork on a fly-coordinating and collaborating, across boundaries, without the luxury of stable team structures."
- Teaming by Amy C. Edmondson
- A lack of teaming at "University Hospital"
    1. People do competent work, but…
    2. People part of a different silo without coordination of timely care
    3. Keys: Virtual team, coordinating handoffs and defining roles
    4. Teams become habit
- Teaming is a verb
- Teaming is especially needed when the work is complex and unpredictable.
- Healthcare workers face interpersonal risks every day
- A strategy to avoid risk is to not offer ideas, admit weakness or mistakes, ask questions.
- Psychological safety is a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns or mistakes. (Permission for candor)
- Inclusive leadership fosters openness for taking personal risks as above... creating and environment of candor

- Create the right climate for psychological safety to avoid "Apathy zone" or "Anxiety Zone". "Learning zone" is when performance standards and psychological safety are optimized.
- "What Google Learned in its quest to build the perfect team" by Charles Duhigg. (NYT publication: click here for link to article)
- Hierarchy can be problematic
- Teaming to Innovate:
    1. Study of minimally invasive CT surgery
    2. Alters operating room team routines and dynamics
    3. Studied 16 CT departments, same excellent training
    4. Fewer than half implemented the technique successfully
    5. Many teams employed an execution frame by default and force of habit. Wrong reasons to do it: I am an expert, or others will do it and take our business
    6. Framing for Learning (Teaming): Aspirational purpose or mission, helping patients, interdependent team leader, empowering team (right reasons)
- How to coordinate despite fluid personnel (as in EW)
    1. Roles structures as a means to coordinate fluid teams
    2. "By establishing shared accountability and making it psychologically safe, teaming effectiveness improves."
- How do you create psychological safety
    1. Frame the work accurately in an innovation consultancy ("Fail often in order to succeed sooner…"). Deal with uncertainty better.
        - ***a.*** Blueprint ….to…Brainstorm (from routine to unknown)
        - ***b.*** 3 types of failures: Preventable failures, Complex failures, and Intelligent failures (teach you)
    2. Acknowledge your own limits
    3. Embrace messengers: Usually they bring bad news…that can be helpful.
- Failures: Praiseworthy…or blameworthy
    1. What percentage of failures in your organization are caused by blameworthy acts?
    2. What percentage of failures in your organization are treated as blameworthy acts?
    3. Culture of acceptable failure leads to comfort with taking risks or speaking up to improve.
- References:

    1. Amy C. Edmondson, HBS: "Teaming". John Wiley and Sons, San Francisco, CA, 2012.
    2. Amy C. Edmondson, HBS: "Teaming to Innovate". John Wiley and Sons, San Francisco, CA 2013

VI. Aligning Hospital-Physician Incentives:

- **Panel: Mark Kelly, MGH/HBS; Jon Shaker, NEBH; Sopida Adronaco, Hoag Orthopaedic Institute; Suzette Song, OSS Health, York, PA**
    1. HOAG: Specialty Orthopedic Hospital in Orange County with Physician Co-ownership. Not part of a healthcare system.
    2. ***NEBH: Specialty hospital built on co-management with physicians: Patient experience, quality cost and efficiency; All physicians are in private practice. Not part of a healthcare system…discussion with BIH and Lahey to join the group***.
    3. OSS Health: Physician-owned hospital and health system.
    4. Competition: all around but these are specialty hospitals with physician engagement or ownership.
    5. ***NEBH: "Low cost high volume provider" is way we compete!***
        a. ***Co-management is way to partner and incentivize Drs. To have skin in the game***