OSPREY™ MEDICAL

The Investment Proposition – Does the Means Justify the End?

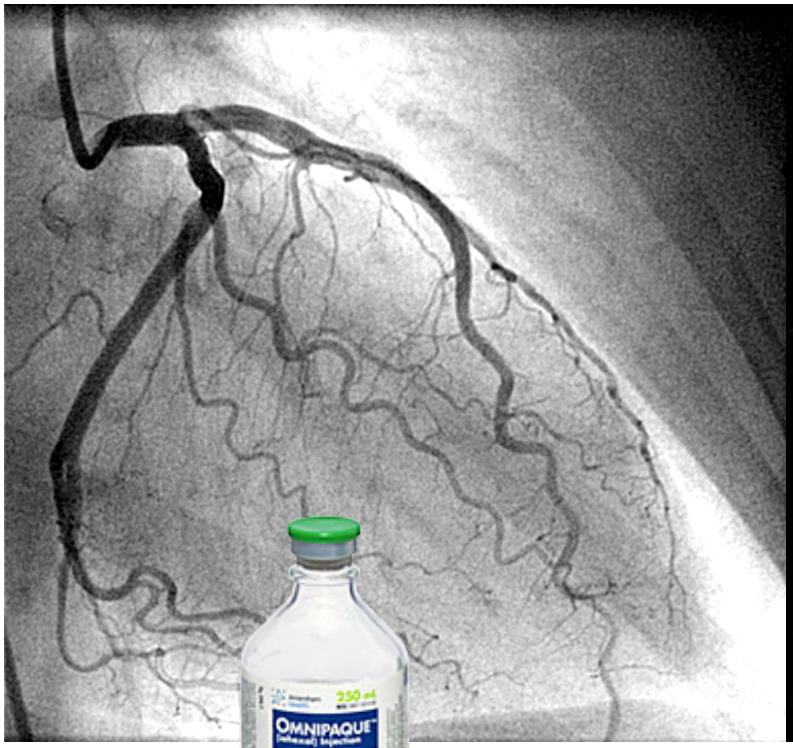
The 14th Bioshares Biotech Summit 2018

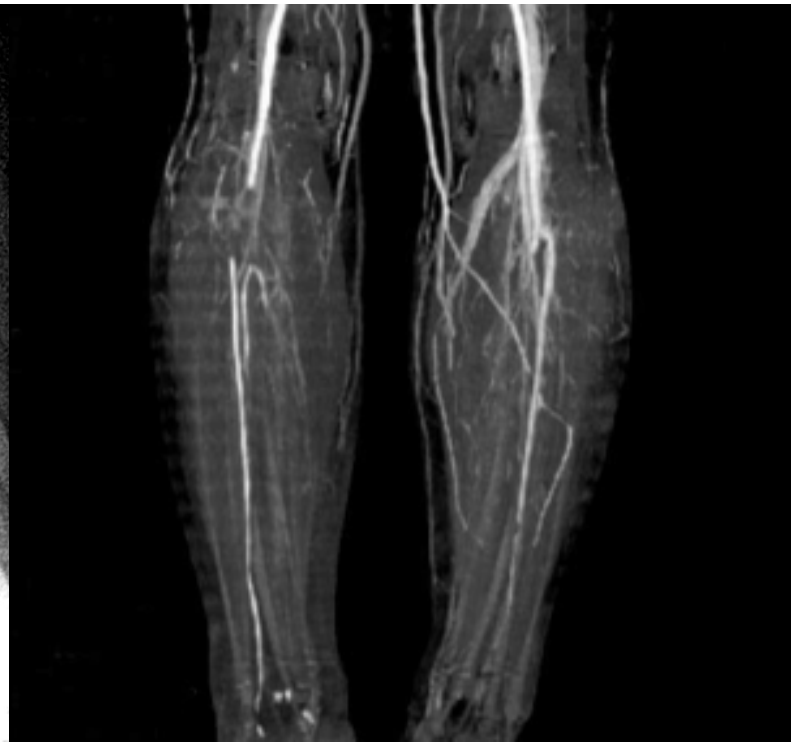
Presentation by Mike McCormick
President and CEO

be kind to KIDNEYS

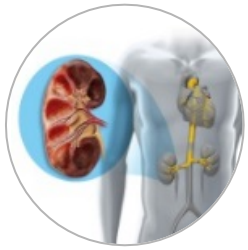
7-28-18

Problem – Protecting Kidneys From Dye





Heart and leg vessel imaging requires the use of x-ray dye which is cleared by the kidney and can cause Contrast Induced Acute Kidney Injury (CI-AKI)

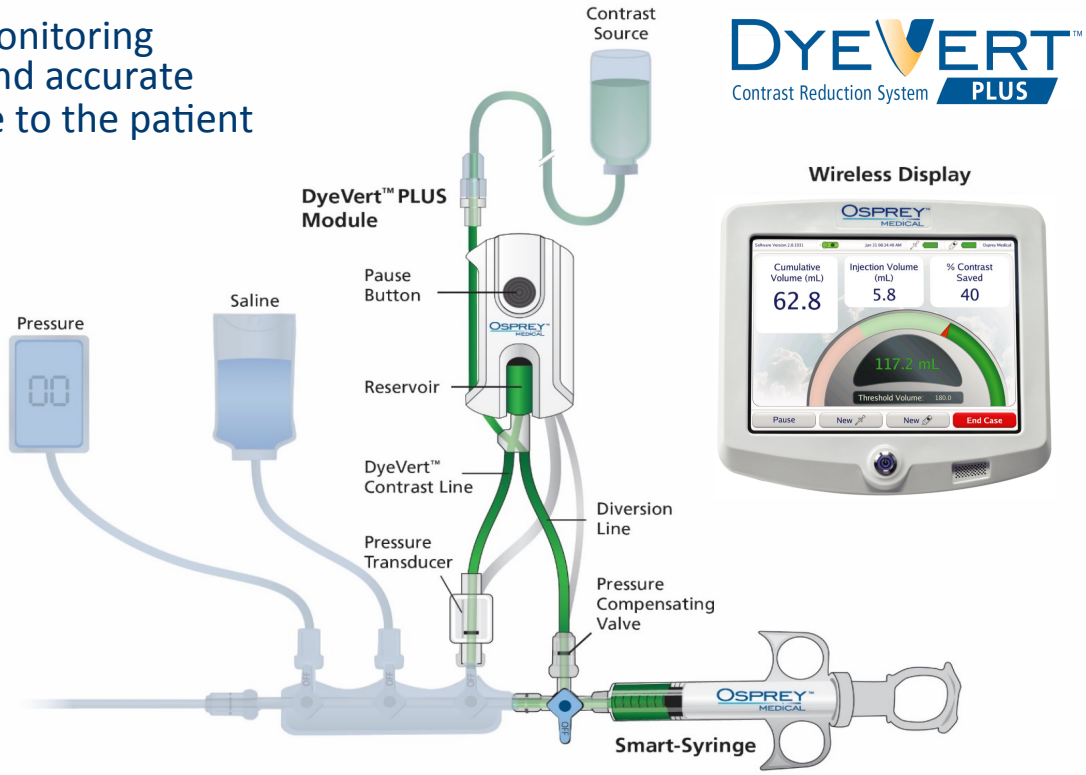


Osprey's Therapy Solution

Osprey's technologies are the only FDA cleared product clinically proven to:

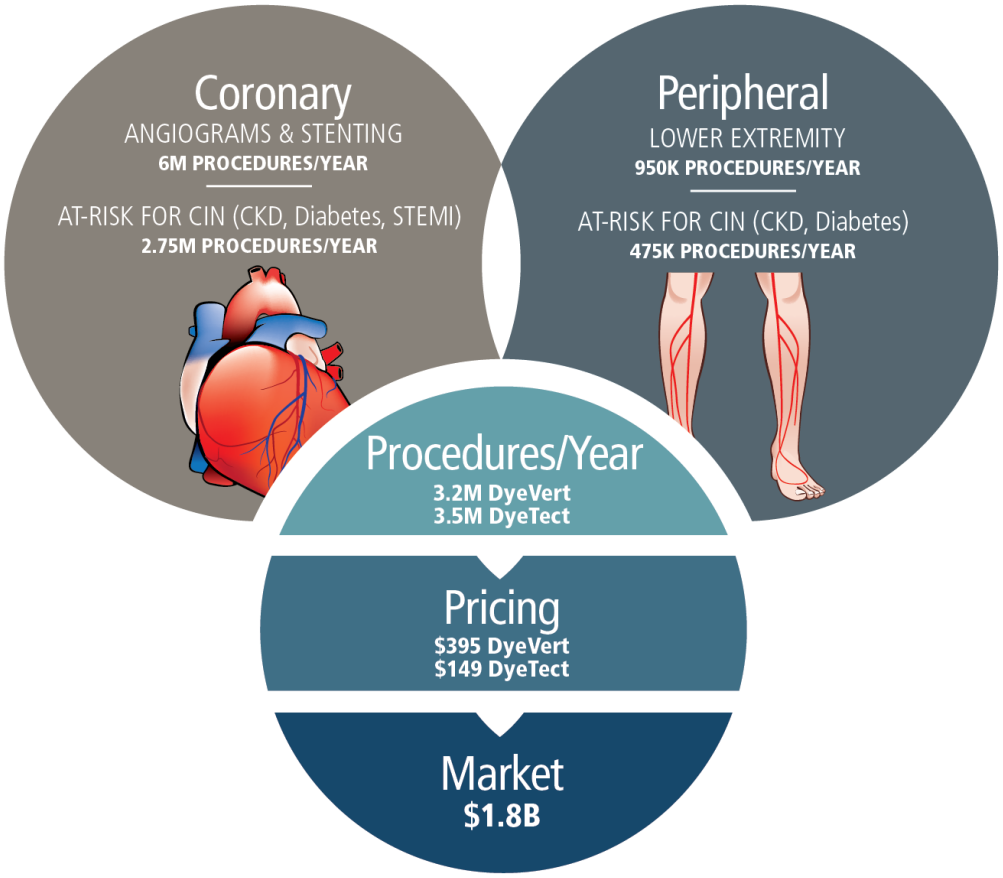
1. Reduce dye in angiographic procedures
2. No compromise to image quality
3. Allow for real-time contrast monitoring of maximum allowable dose and accurate measure of total contrast dose to the patient

Over 40% average dye reduction[1]



1 Desc, S. A Novel System to Save Contrast During Coronary Angiography – The DyeVert™ Randomized Controlled Trail. Presented abstract to TCT Annual Meeting, Washington DC, October 2016.

Large market opportunity



Why does it take so long to drive market adoption

Traditional path for new technology adoption

Science (Research), Evidence (Translation) & Care (Delivery) Operate in Silos All Have Impact on the Patient Experience

*Charles Friedman; "Towards a Complete and Sustainable Learning Health System"; July 2015

17 Year Latency

between knowledge discovery & use in practice

$3 Trillion spent on health is wasted

100,000 deaths/year related to medical errors

Providers need access to cutting edge knowledge to become high performers and succeed in value-based care

Need for constant improvement

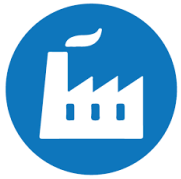
Sales execution

Marketing message

Improvements and new technology platforms

FDA claims

Publications and Podium



Quality, predictability and cost

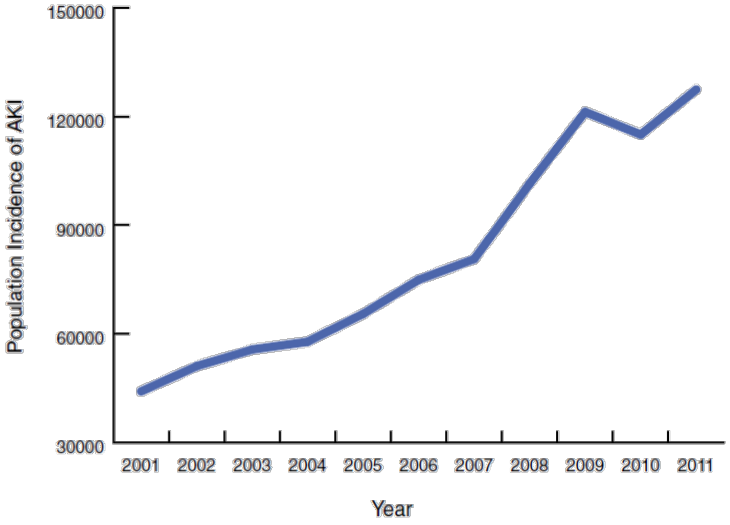
GPO partnerships

Improves outcomes and reduces cost

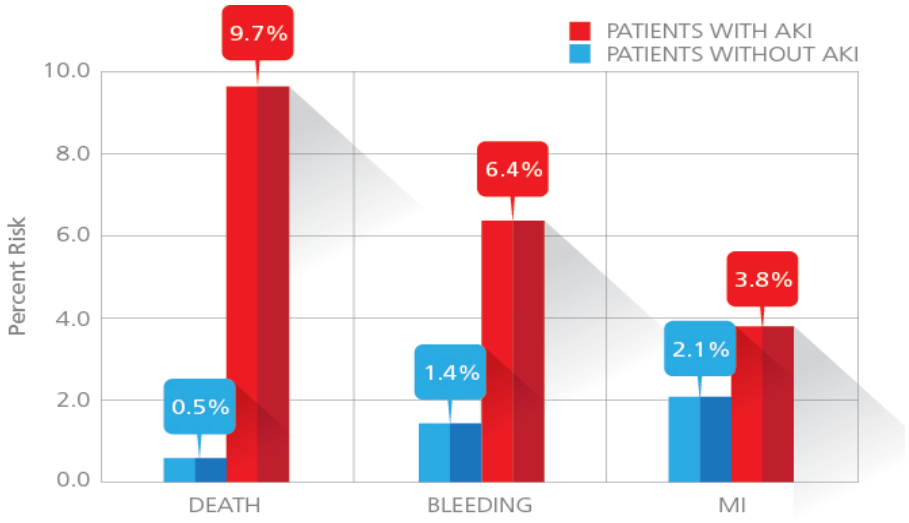
Patient Impact From CI-AKI

Improves outcomes and reduces cost

CI-AKI is a growing problem associated with poor patient outcomes after coronary angiography or intervention



AKI incidence: population incidence of acute kidney injury among cardiac cath. and PCI patients in the United States from 2001 to 2011. AKI indicates acute kidney injury. Brown J et al. *J Am Heart Assoc*. 2016;5:e002739.



Tsai TT, Patel UD, Chang TI et al. Contemporary Incidence, Predictors, and Outcomes of Acute Kidney Injury in Patients Undergoing Percutaneous Coronary Interventions: Insights from the NCDR Cath-PCI Registry. *J Am Coll Cardiol Intv* 2014;7:1-9.

Hospital Impact From CI-AKI

Improves outcomes and reduces cost

Hospital costs increase for patients with CI-AKI as most procedure-related poor outcomes are the responsibility of the hospital

1. Increased length of stay[1]

2. Increased 30-day readmissions[2]

3. Increased bundled payment risk[3]

1 Subramanian S, et al. Economic Burden of CIN: Implications for Prevention Strategies. *Journal of Medical Economics*. 2007;10:119-134.
1 Pfunter A, et al. Agency for Healthcare Research and Quality Statistical Brief #168. December 2013. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb168-Hospital-Costs-United-States-2011.pdf
2 Center of Medicare and Medicaid Services Website: http://www.cms.gov/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-ReductionpProgram.html
2 American Hospital Association Factsheet: Hospital Readmission Reduction Program. April 14, 2014. http://www.aha.org/content/13/fs-readmissions.pdf
3 American College of Cardiology CMS Releases Proposed 2018 Medicare QPP Rule http://www.acc.org/latest-in-cardiology/articles/2017/06/20/17/40/cms-releases-proposed-2018-medicare-qpp-rule

Physician Consensus Position on CI-AKI

Improves outcomes and reduces cost

Practice guidelines from cardiovascular societies for reduction of CI-AKI[1-3]

Class 1 Level B recommendation for CI-AKI reduction:

1. Patients should be assessed for risk of CI-AKI before PCI
2. Patients undergoing cardiac angiography should receive adequate hydration
3. In patients with CKD (eGFR <60 mL/min), the volume of contrast media should be monitored in real time and minimized as low as clinically possible

American Heart Association

1 Levine GN, et al. ACCF/AHA/SCAI – Guideline for Percutaneous Coronary Intervention. A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions. *Circulation*. 2011; 124:e574-e651.

2 Nallamothu, BK, et al. ACC/AHA/SCAI/AMA-Convened PCPI/NCQA 2013 Performance Measures for Adults Undergoing PCI: A report of the ACC/AHA Task Force on Performance Measures, the SCAI and AMA-Convened Physician Consortium for Performance Improvement, and the National Committee for Quality Assurance. Circulation 2014:129(8):926-949.

3 Naidu, et al. SCAI Expert Consensus Statement: 2016 Best Practices in the Cardiac Cath. Lab. CCI (published on line ahead of print, April 2016. doi:10.1002/ccd.26551.

Economic Impact

Improves outcomes and reduces cost

CI-AKI increases hospital costs through increased length of stay and 30-day readmissions

15x

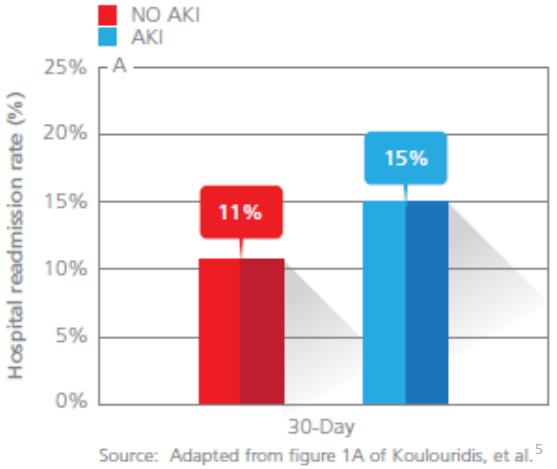
CI-AKI patients are 15 times more likely to be hospitalized over 4 days

37%

CI-AKI patients have a 37% increase in 30-day readmissions

- CI-AKI patients average 4 days of extended hospitalization[1-3]
- Additional hospitalization costs ~ $12,000 for each CI-AKI patient[4]

NCDR®
NATIONAL CARDIOVASCULAR DATA REGISTRY



Source: Adapted from figure 1A of Koulouridis, et al.[5]

1 Pfunter A, et al. Agency for Healthcare Research and Quality Statistical Brief #168. December 2013. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb168-Hospital-Costs-United-States-2011.pdf.
2 Chertow GM, et al. Acute Kidney Injury, Mortality, Length of Stay, and Costs in Hospitalized Patients. J AM Soc Nephrol. 2005, 16:3365-3370.
3 Liangos O, et al. Economic Burden of CIN: Implications for Prevention Strategies. Journal of Medical Economics. 2007;10:119-134.
4 Subramanian S, et al. Economic Burden of CIN: Implications for Prevention Strategies. *Journal of Medical Economics*. 2007;10:119-134.
5 Koulouridis I, et al. Hospital - Acquired Acute Kidney Injury and Hospital Readmissions: A Cohort Study. Am Kidney Dis. 2015;65(2):275-282.

Osprey's Cost Neutrality Rebate (LoS)

Improves outcomes and reduces cost

Osprey's "Be Kind to Kidneys" program rebates DyeVert Plus product costs that are not offset by savings related CI-AKI reduction

Southeastern US Medical Center

Cost of AKI to Hospital[1,2]	
Number of Annual Diagnostic and PCI Procedures	6,376
Risk Adjusted-AKI Rate per the NCDR Cath PCI Registry	15%
Estimated Number of At-Risk Patients Developing AKI Annually	956
Cost per AKI Patient – Additional Length of Stay[1,2]	$12,000
Total Annual Cost of AKI	**$11,472,000**

Device Cost to Hospital	
Number of Annual PCI's	6,376
DyeVert Plus (25% of Patients)	1,594
DyeVert Plus Price	$350
Total Annual Device Cost to Hospital	**$557,900**

Clear value proposition

1 Subramanian, *Jour Med Economics*; 2007; 10:119-134.
2 Pfunter A, et al. Agency for Healthcare Research and Quality Statistical Brief #168. December 2013. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb168-Hospital-Costs-United-States-2011.pdf.

Reducing Readmission Penalties

Improves outcomes and reduces cost

CI-AKI reduction will lower unplanned 30-day readmissions - reducing hospital readmission penalties

Southeastern US Medical Center

Medical Discharges, Reimbursements, Readmissions Reduction Program Penalty	
FY 2017 Readmission Penalty	0.39%
Total Medicare Reimbursement	$142,940,832
Readmission Penalty	**$557,469**

	Excess Readmission Ratio	Number of Cases
Acute Myocardial Infarction	.99	1,166
Heart Failure	.99	1,221

AKI related complications driving readmissions penalty

* Estimates assume number and type of discharges remain at 2015 values.

Unreimbursed Charges for AKI

Improves outcomes and reduces cost

CI-AKI is a source of Medicare unreimbursed charges for the care of patients with kidney damage

Southeastern US Medical Center

2016 Hospital Charges for DRG 698, 699, 700 Description - Other Kidney and Urinary Tract Diagnosis including Radiographic Contrast Agent Nephropathy	
Hospital Charges for DRG 698, 699, 700	$7,794,148
Payments to Hospital	$2,379,969
Payment Percentage	30%
Unreimbursed Hospital Charges	**$5,414,179**

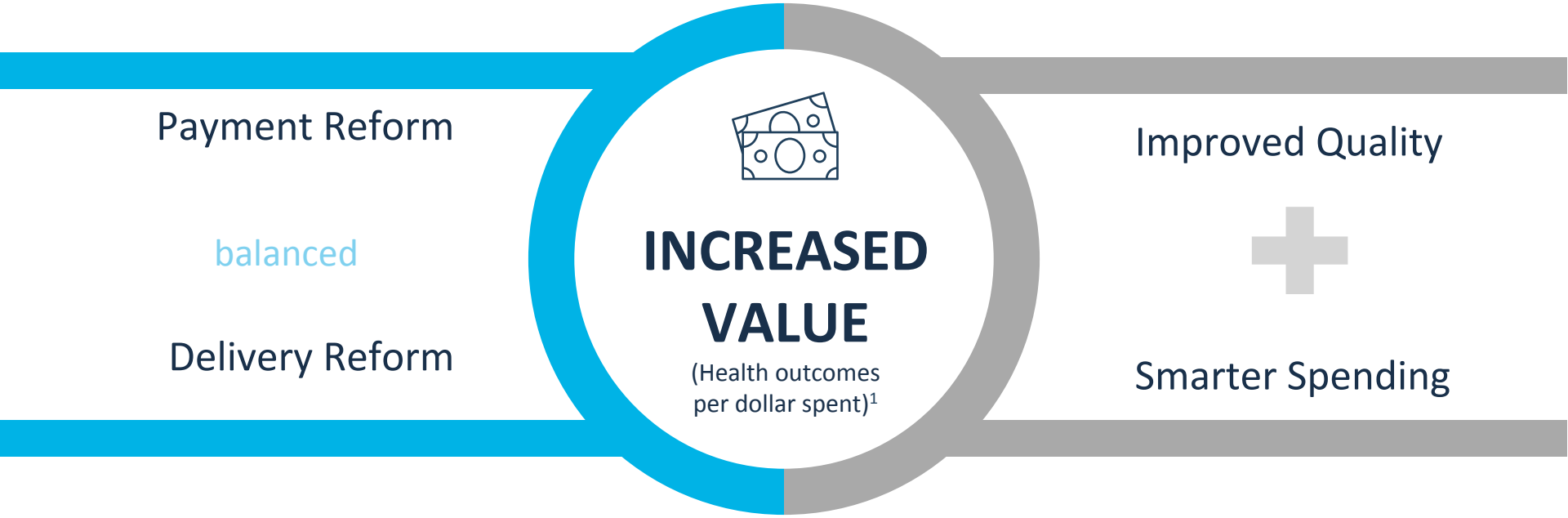
Medicare normally pays 60-70% of charges

The shift to value based care is underway

GPO partnerships

Supporting the triple aim:

BETTER CARE • SMARTER SPENDING • HEALTHIER POPULATION

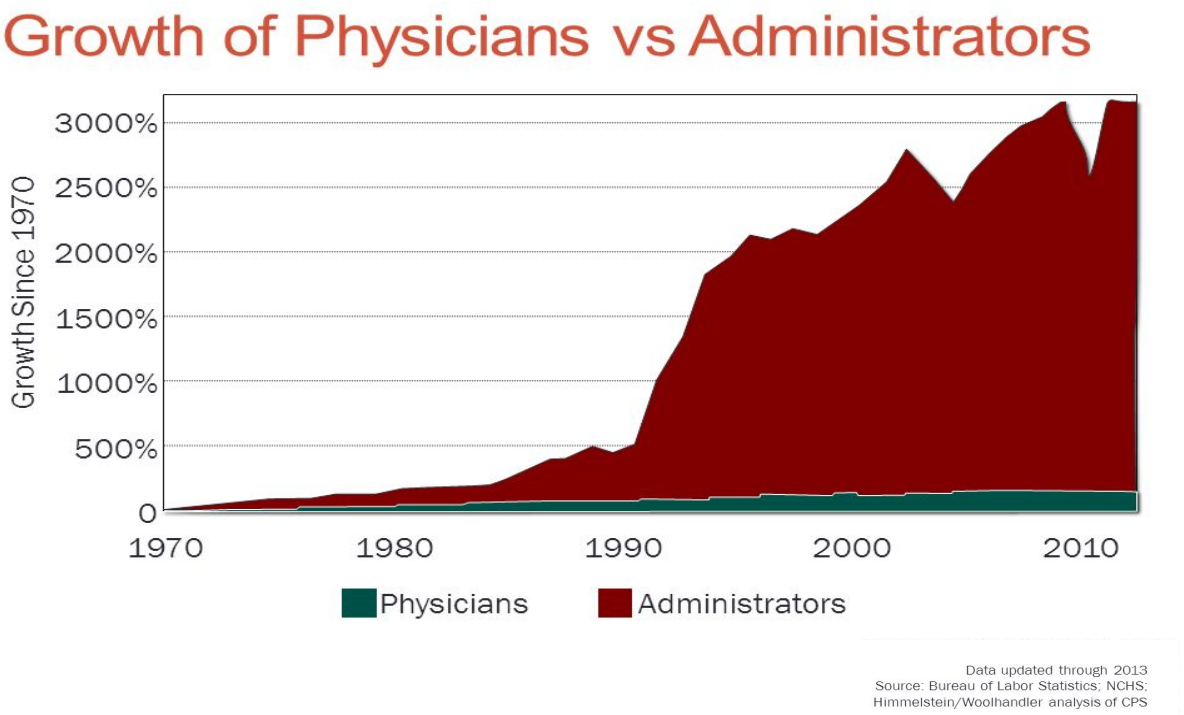


An ongoing shift from **volume to value** requires all healthcare stakeholders to use **quality measures** to better define their value and aid consumer decision-making

1. Porter ME. What is value in healthcare? NEJM 2010; 363:2477-2481.

Rise in GPO's

GPO partnerships



PROVIDENCE Healthcare

PREMIER

vizient

Advocate Health Care

Bon Secours

Northwell Health

HEALTHTRUST

KAISER PERMANENTE

Banner Health

Dignity Health

Department of Veterans Affairs

ASCENSION

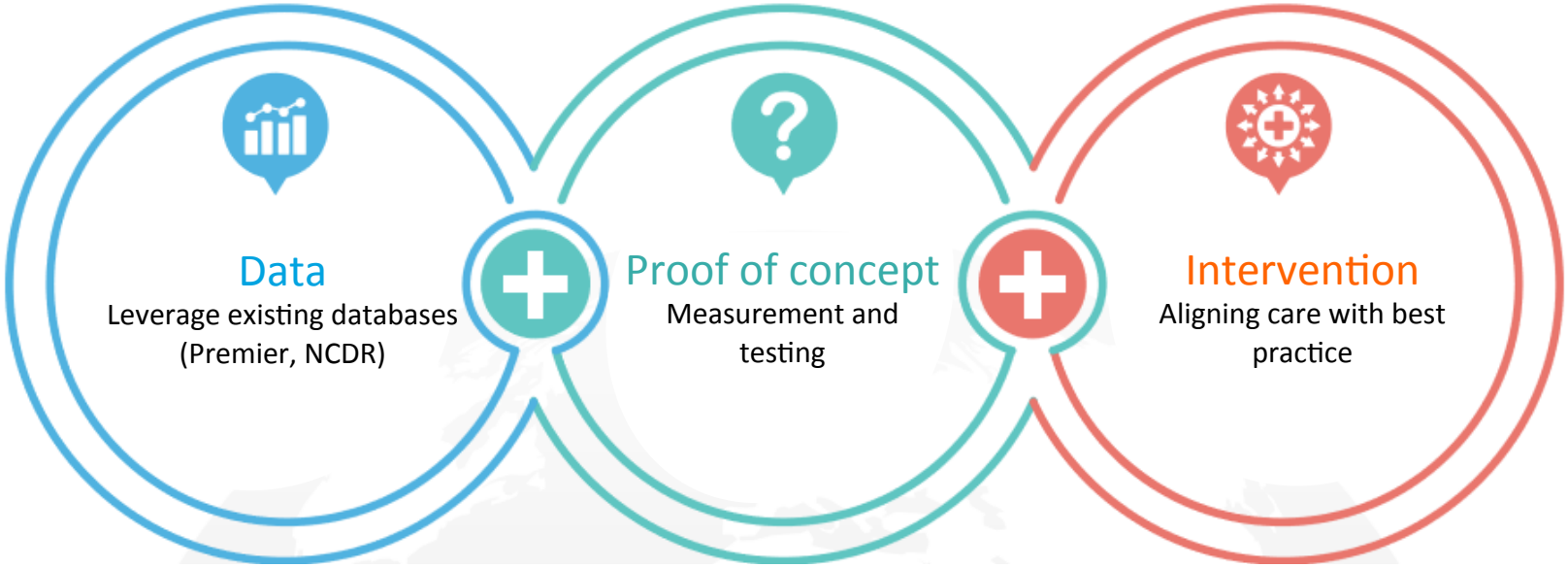
HCA Hospital Corporation of America

CHRISTUS Health

UHS

Osprey's GPO strategy

GPO partnerships



Burden of illness
- Awareness of AKI
- Cost of disease
- DyeVert impact on AKI

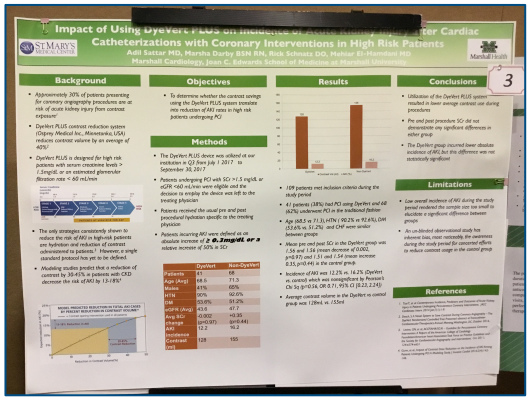
Support IDN's to publish:
- CKD Care-Path-Protocol
- Establish benchmarks
- Evidence generation, publication

Socialize Best Practice
- Kidney Care Protocol
- Clinical decision support
- Benchmark tracking

AKI Reduction Studies

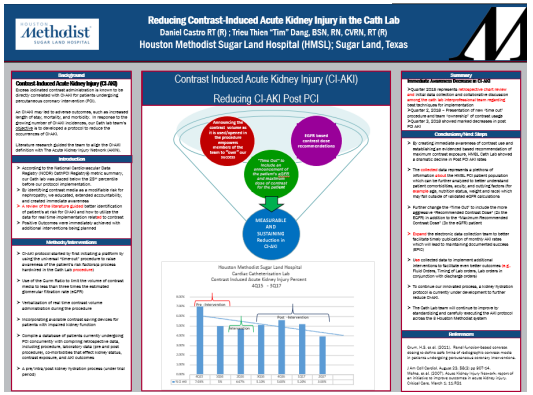
GPO partnerships

ST. MARY'S MEDICAL CENTER



- Presented at ACC West Virginia meeting April 2018
- 25% AKI reduction with DyeVert Plus
- Full manuscript planned

HOUSTON Methodist SUGAR LAND HOSPITAL



- Presented at NCDR meeting March 2018
- 22% AKI reduction with DyeVert Plus
- June Cathlab Digest publication

Focused on improving patient outcomes