

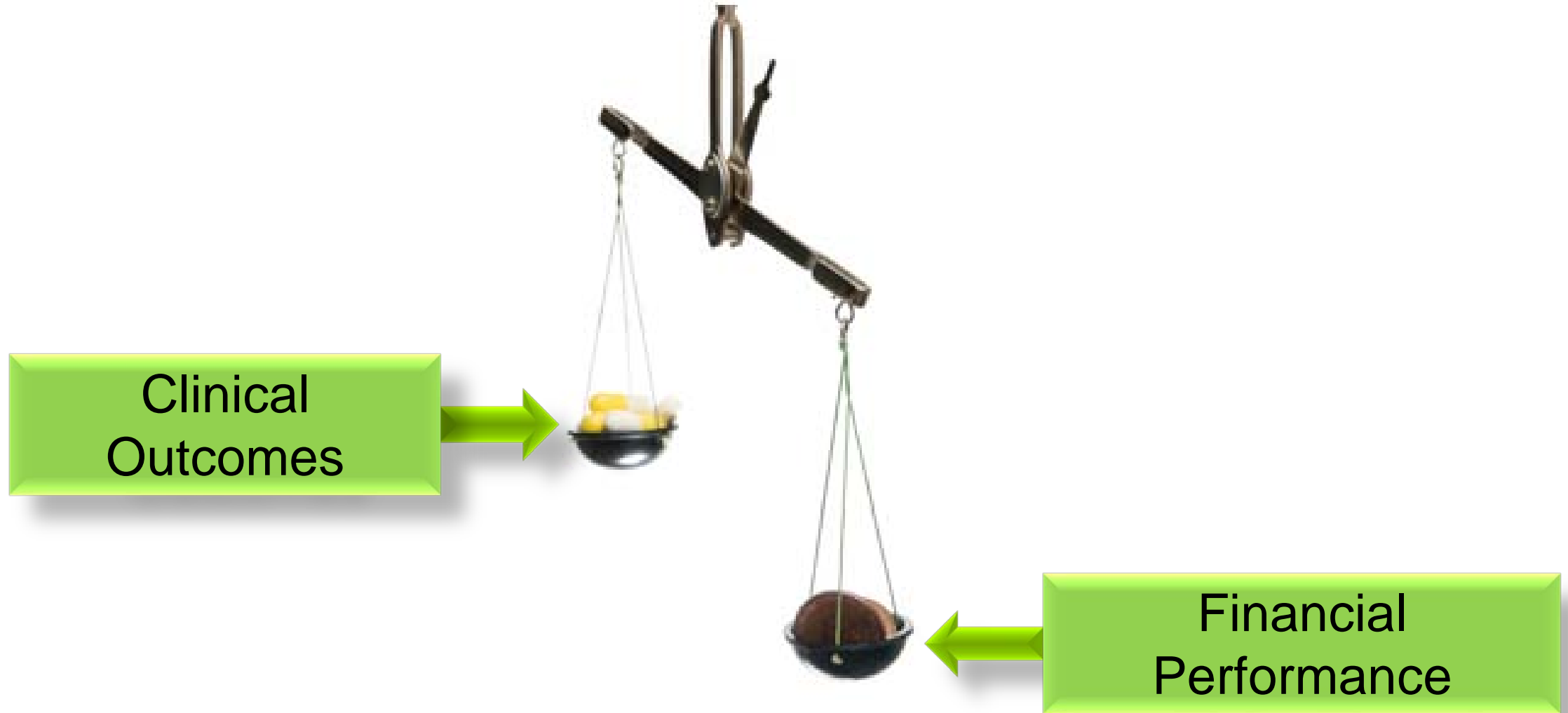
*EMR-enabled
Improved Outcomes and ROI:
International Examples of Local Adaptability*



Steven H. Shaha, PhD, DBA
Prof, Center for Public Policy & Administration
Principal Outcomes Consultant, Allscripts

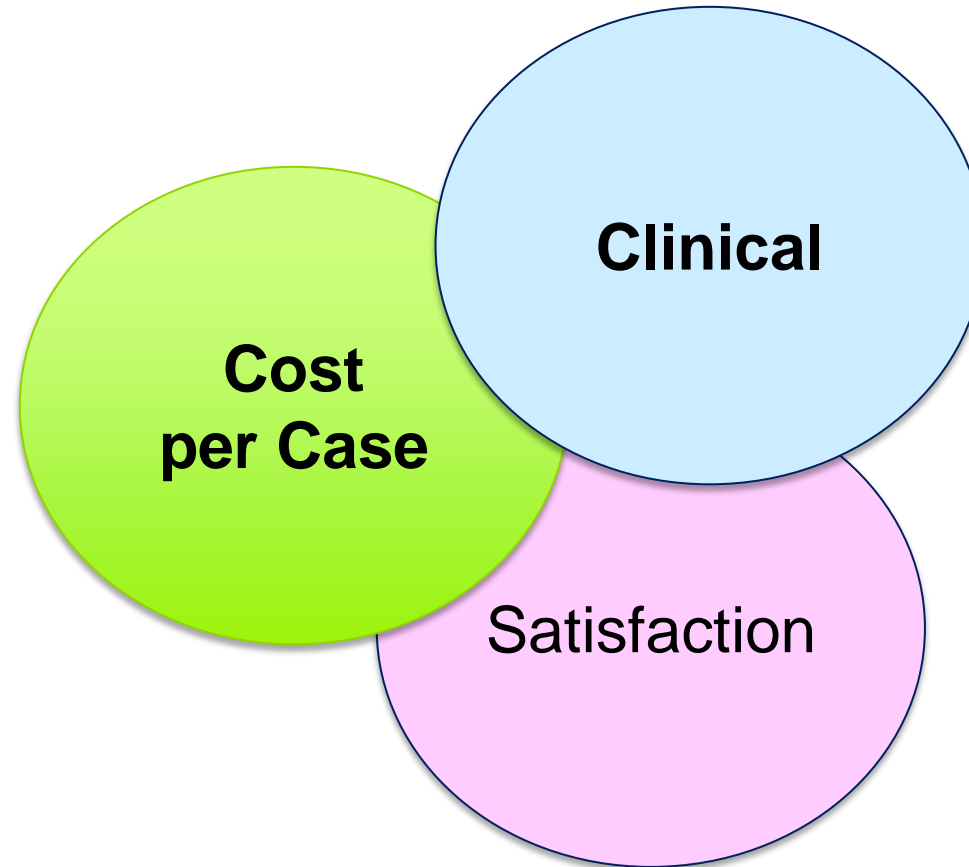


Delicate Balance in Needs and Objectives ...



Outcomes, Benefits, Return(s) on Investment

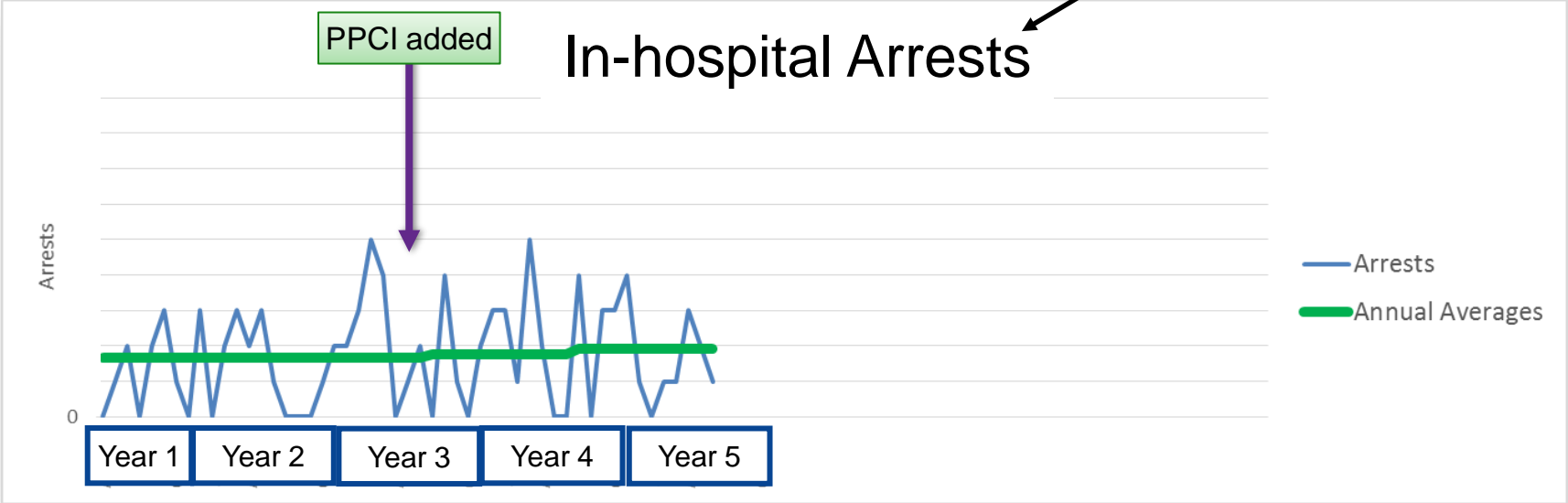
TCO



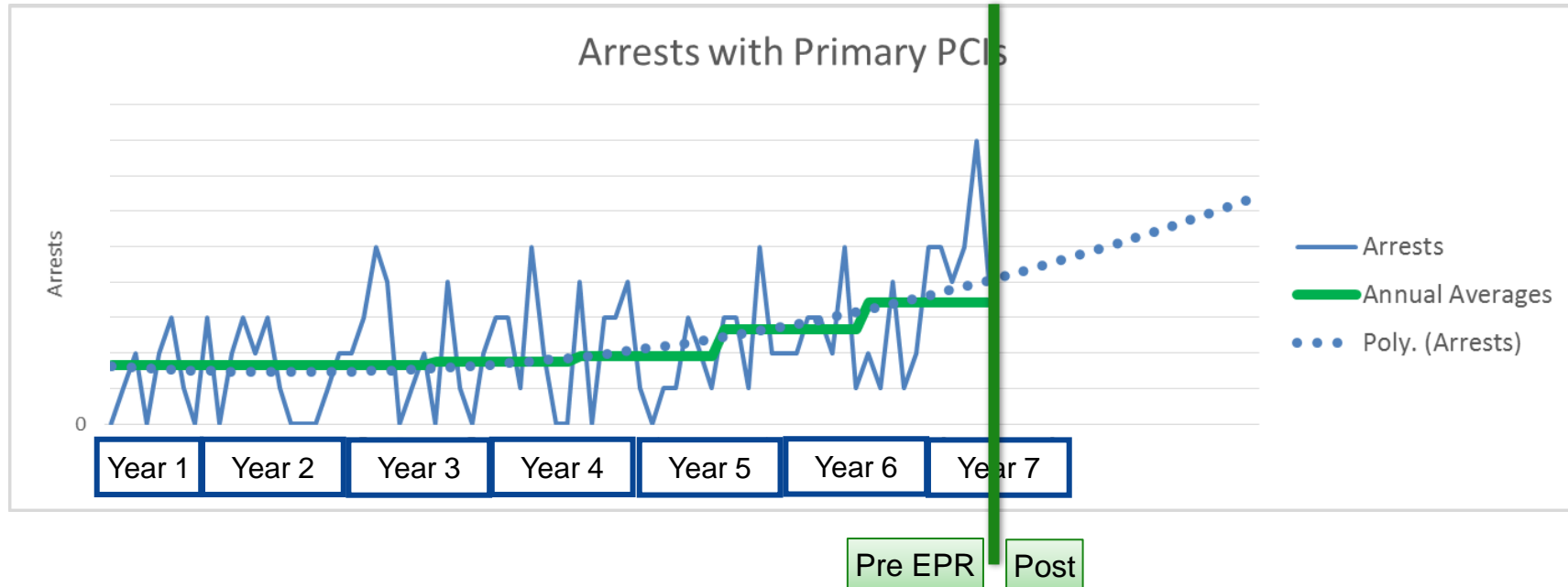
Clinical
and Quality

Improved Outcomes

Non-ICU



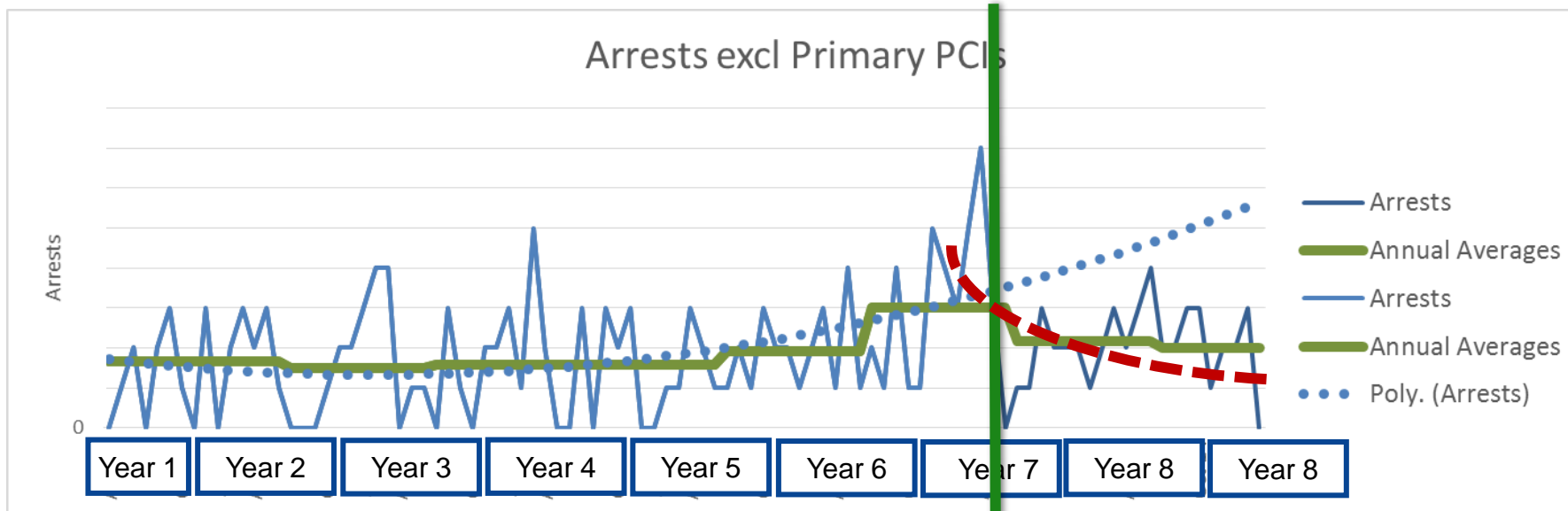
Improved Outcomes



- Clear trend of increased patient severity (80% more, 1.67 to 3.0)
- Less severe now treated through other healthcare alternatives
- The unfortunate outcomes !



Improved Outcomes



Pre EPR Post

Impacts & Benefits with the EPR:

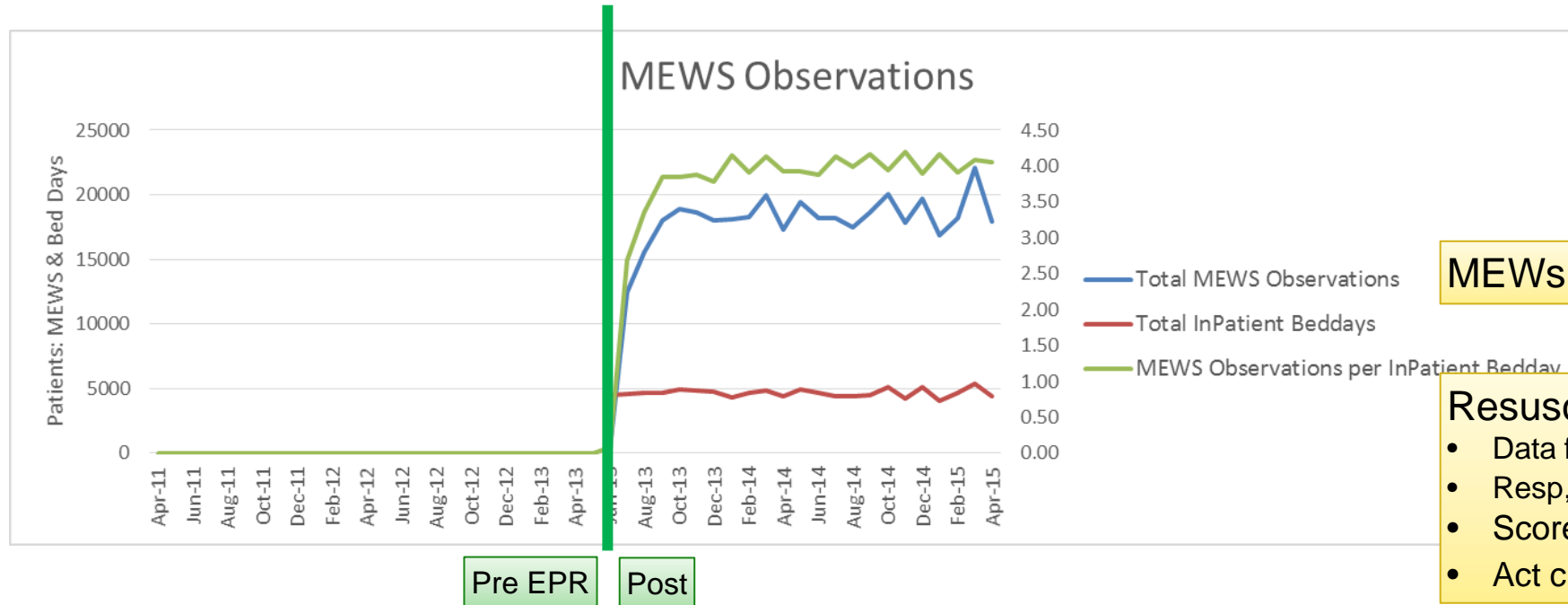
- Despite increased patient severity (80% increase)
- Controlled and decreased negative outcome
33.3% lower pre versus post yearly
 100% first post month vs. recent
- First zero since Q1 Year 5.
- Continuing decreasing trend ...

£ 975,150
Annual Cash Release Est.

\$1,444,000 (Ca)
Annual Cost Savings Est.



How was it achieved?



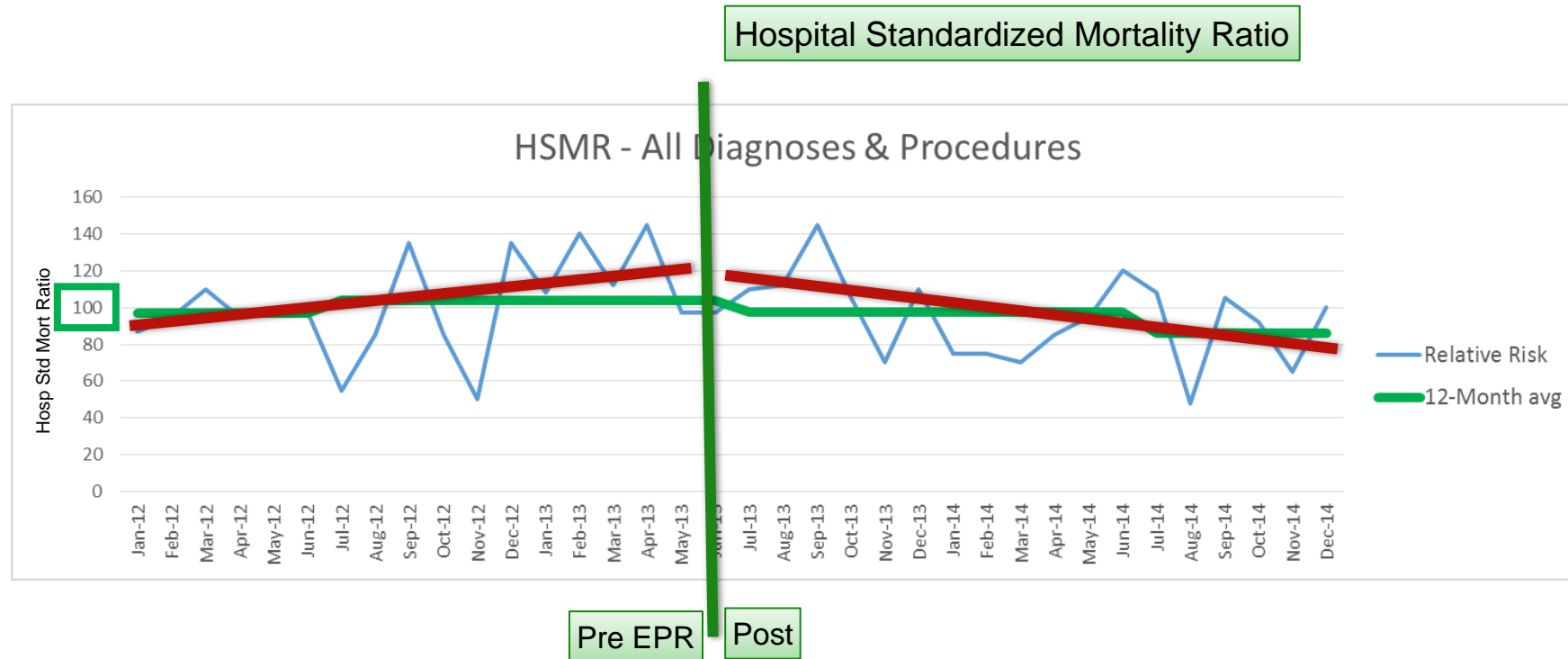
MEWs – Deterioration

- Resuscitation committee**
- Data from EPR
 - Resp, HR, BP, temp ... EBM
 - Score change/jump
 - Act c clinical judgment

- Locally researched
- Locally defined – our cases, our clinicians, our processes
- Locally designed, programmed and implemented
 - Constancy of 4-per-day
 - All cases re deterioration ...



Improved Mortality Rates



Impacts & Benefits with the EPR:

- Decreased negative outcome
16.7% lower pre-post year-over-year



Lesson Learnt

- Encouraging, building and enabling In-house teams
 - Clinicians, IT professionals, performance and analytics
 - What, how, when and by what means
- Locally-capable, fully-relevant adaptability
- Locally-capable programmable and adjustable
- Reflective of local populations, healthcare models, clinician mixes, layouts
- Focused on optimizing clinician decisions, from which all stakeholders see goals met
- Patients as individuals
- Insight-based over opinions or hopes



Sepsis: An example of infections and “avoidables”

EPR role

Sepsis: An example of infections and “avoidables”

EPR role

Document

- Vitals
- Device integration
- Key CCs

Query

- Key Indicators

Calculate

- Score via Matrix

Notify

- Does score exceed threshold?

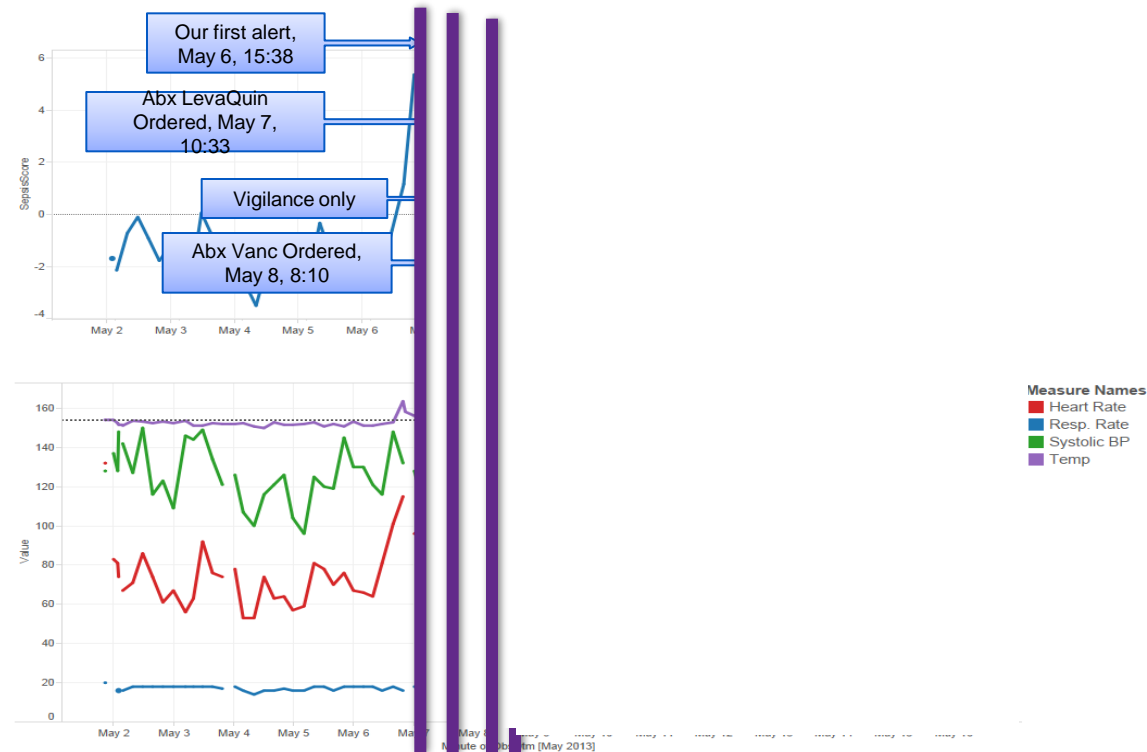


LOC	Status	Patient	Age	Admit Diagnosis	AC	PEWS	Physician	Lab	VRE	Wt	Temp C	Pain Rate	Line Day
461-A	PLAY	Ortiz, Dominique	5y	FUD	5	●	Bridges, Victoria	✓	■	41	40	7	1
462-A	IN	Cooke, Sophie	4y8m	Asthma	3	●	Chandler, Blake	✓	■	37	37.3	0	2
463-A	IN	Ormond, Donna	5y	Resp Distress	4	●	Bridges, Victoria	✓	■	41	40	4	1
464-A	THERAPY	Benson, Elizabeth	6m1w	Pneumonia	4	●	Winfrey, Opal	✓	■	13	38		1
465-A	RAD	Clinton, Chris	7y10m	Fx Clavicle	3	●	Burns, Chris	✓	■	55	37	2	
466-A	IN	Johnson, Mary	5y	Brain Injury	6	●	Miller, Zan	✓	■	42	37.7	7	1
467-A	Ready												
468-A	PLAY	Trent, Cameron	6y4m	Fx TibFib	2		Morgan, Leonard						
469-A	PD	Francis, Daniel	3y3m	T&A	2		Harris, Sean						

Red is very sick

Green is stable

- **Illustrations (i.e. individual-level impacts)**



Shaha SH (2014) *The EMR as an Effective Tool for Boosting Medication Adherence*. Invited Presentation: 2nd Annual World Congress Summit to Improve Adherence and Patient Engagement, March 10-11, 2014, Philadelphia.

Shaha SH, Hutchinson M (2014). *EPR Impacts: The Real ROI*. HC 2014: The National Health IT Conf & Exh, Manchester, England, March 20, 2014.

Shaha SH, et.al. (2014). *CPOE's Predictive Impact on LOS: Three Case Studies Illustrate the Impact of High Capability EMRs*. HIC 2014 Health Informatics Society of Australia, Melbourne.

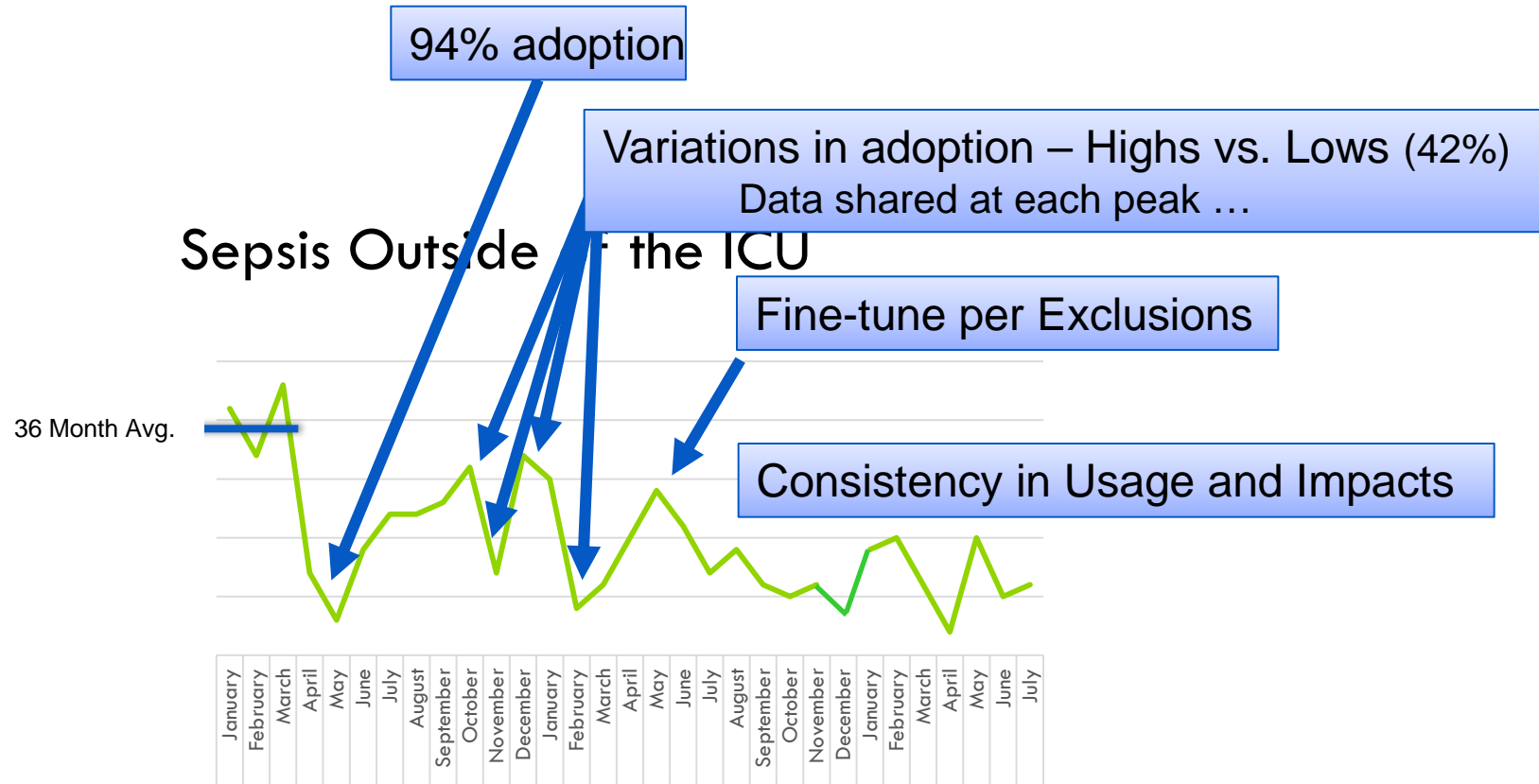
- **Collective impacts**

Measure	Pre	Post
Timeliness of Recognition ¹	571.2 minutes	Down to 28.8 min
Cardiopulmonary Arrest Rate Outside ICU ²	5.54%	Down to 51.8 min
ICU Length of Stay ³	3.8 days	

Shaha SH (2014) *The EMR as an Effective Tool for Boosting Medication Adherence*. Invited Presentation: 2nd Annual World Congress Summit to Improve Adherence and Patient Engagement, March 10-11, 2014, Philadelphia.

Shaha SH, Hutchinson M (2014). *EPR Impacts: The Real ROI*. HC 2014: The National Health IT Conf & Exh, Manchester, England, March 20, 2014.

Shaha SH, et.al. (2014). *CPOE's Predictive Impact on LOS: Three Case Studies Illustrate the Impact of High Capability EMRs*. HIC 2014 Health Informatics Society of Australia, Melbourne.

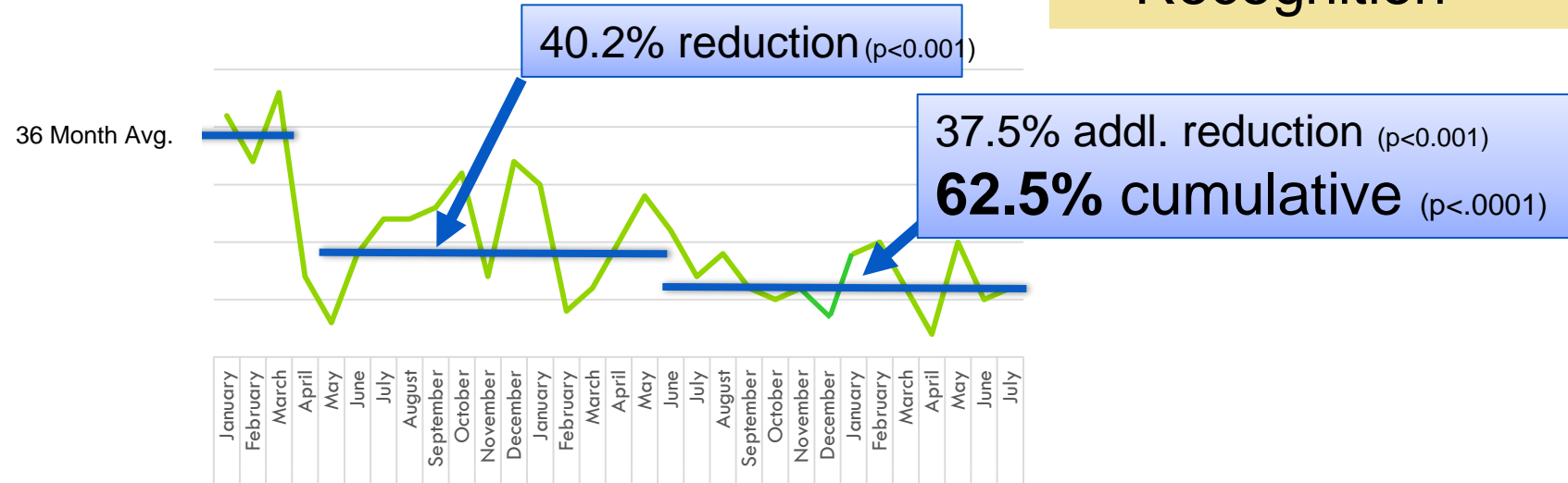


Data access for tracking, fine-tuning and continuous improvement

• House-wide time series

Clinical Excellence and Cost-Effectiveness

- Motivation
- Recognition



Don't be American

£ 8.9 Million est. Cash Release

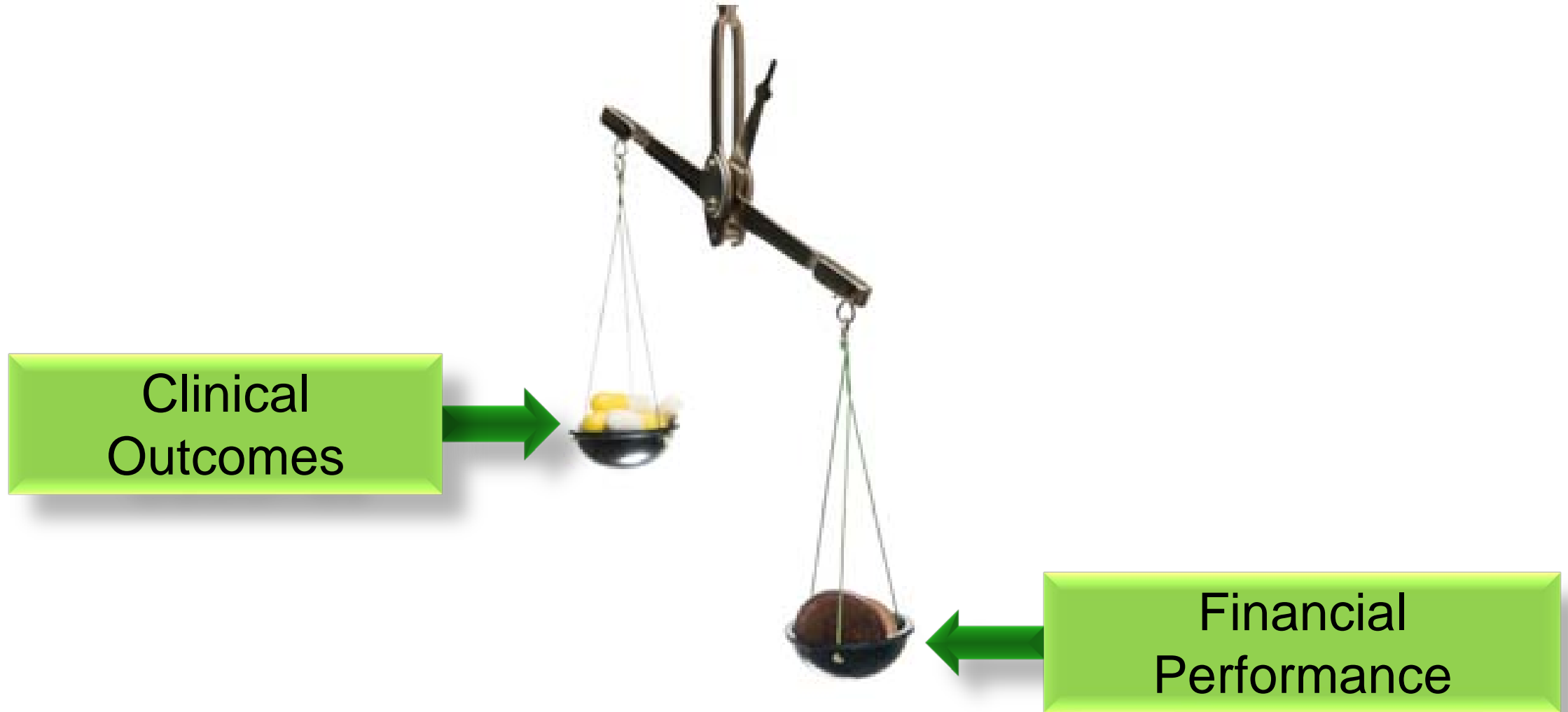
Clinical Decision Support in synch with clinical excellence

Lesson Learnt

- Encouraging, building and enabling In-house teams
 - Clinicians, IT professionals, performance and analytics
- Locally-capable, fully-relevant adaptability
- Locally-capable programmable and adjustable
- Reflective of local populations, healthcare models, clinician mixes, layouts
- Focused on optimizing clinician decisions, from which all stakeholders see goals met
- Patients as individuals
- Insight-based over opinions or hopes



Delicate Balance in Needs and Objectives ...



*EMR-enabled
Improved Outcomes and ROI:
International Examples of Local Adaptability*



Steven H. Shaha, PhD, DBA

Prof, Center for Public Policy & Administration

Principal Outcomes Consultant, Allscripts

