

Implementation of the Surgical Home and IT Implications

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Uncompromising quality in clinical care, research and education.

Compassionate. Creative. Committed. Collaborative.

Goals and Objectives

At the end of the presentation, the learner should be able to:

- Discuss the core, daily components for a successful Perioperative Consult Service (PCS)
- Discuss the importance of IT for implementing, scaling, and sustaining a PCS
- Understand the economic impact of implementing a PCS at their institution

Paradigm Shift: ERAS *via* APCS

- Key factors prolonging stay after surgery:
 - Ileus
 - Need for IV analgesia
 - Need for IVF secondary to gut dysfunction
 - Bed rest caused by lack of mobility due to the above
- **APCS + ERAS** represents a paradigm shift in perioperative care:
 - Re-examines traditional practices, replacing them with evidence-based best practices ***when necessary***.
 - Comprehensive in scope, covering ***all components*** of patient's perioperative journey with surgeon ***and*** anesthesiologist

Our Methods

- **Philosophy**

- Standardization and automation, where possible, improves routine processes of care
- Adherence to principles more important than recipe
- Warning, this is a protocol – it does not have a brain
- MUST be data driven

- **Metrics**

- LOS, Readmissions
- Pre-op/Intraop “Compliance”
- Postoperative “Compliance”
- PDSA to Learn of Other Areas for Improvement

**Auto-
mated
systems**



A Day in the Life of APCS

Automated Systems: VAPIR

Wardens, Jon

May 4, 2015, 10:02 PM

To: Tracy McGraw, Tucker Muthik

[View Details](#)

Cc: Matthew J McEvoy smatthew.j.mcevoy@wardenill.edu, Melissa Lee Bellomy, Travis Spain, Miran T Buntley, Dore Johnson, Mary W Morris, Susan Stephens, Dennis J Gardner, Betty Wilson, LaKenna White, Patrick T Connor, Denise Bourgen, Rhonda F Sanford, Adam Brian King, jon.wardens@wardenill.edu

Reply To: jon.wardens@wardenill.edu

VAPIR Periop Consult Service Cases

Cases Inserted in VAPIR for the Perioperative Consult Service tomorrow:

Start Time	Room	Status	Surgeon	MRN	Procedure
2015-05-05 07:30:00	VOPR RM 26	AW ADMIT	HEPLINE	1143884	LAPAROSCOPIC PARTIAL BOWEL RESECTION (J480)
2015-05-05 07:30:00	VOPR RM 26	AW ADMIT	DEXTER	803988	CLOSURE, LECTOMY+COLLECTOMY (J480)
2015-05-05 07:30:00	VOPR RM 30	AW ADMIT	WILLIAMS	8011803	LAPAROSCOPIC GASTRIC BYPASS (J484)
2015-05-05 11:30:00	VOPR RM 30	AW ADMIT	WILLIAMS	8708849	LAPAROSCOPIC GASTRIC BYPASS (J484)
2015-05-05 11:30:00	VOPR RM 26	AW ADMIT	DEXTER	8487410	LAPAROSCOPIC PARTIAL BOWEL RESECTION (J480)
2015-05-05 12:00:00	VOPR RM 26	AW ADMIT	HEPLINE	8078788	COLECTOMY W/ILEGUMAL POUCH (J418)
2015-05-05 14:30:00	VOPR RM 30	AW ADMIT	WILLIAMS	8012075	LAPAROSCOPIC VERTICAL SLEEVE GASTRECTOMY (J075)

Automated email generated by the Wardenill Anesthesiology and Perioperative Research Informatics Division. Contact [VAPIR Tech Support](#) for assistance.

Manual “IT”

Dear Team,

You will be caring for patients on the Anesthesiology Perioperative Consult Service tomorrow.

For perioperative 1 patients, the service will care for the patients while in-house, including writing preoperative medication orders and performing relevant blocks. The new patients on the perioperative 1 protocol tomorrow are below.

The clinical guidelines can be found here: https://www.mc.vanderbilt.edu/cgi-php/vunet/index.html?req_url=%2Fvunet%2Fvumc.php%3Fsite%3Danesfaculty%26doc%3D38656&vulf=1 (copy and paste if link is dead)

Please review the appropriate protocol for your patient if you are unfamiliar with these, as there are key intraoperative components of the protocols and differences between protocols. The surgical oncology patients follow the colorectal protocol.

We have added the new TRAM/DIEP free flap patients to the perioperative service, the new protocol has been added to the above link.

We have also added the new Donor Nephrectomy patients to the perioperative service, the new protocol has been added to the above link.

Please add the lidocaine infusion to your PACU orders and bring the drip to PACU.

*For bariatric surgery patients, please give either 1mg dialudid or 5mg methadone IV (preferred) if no contraindications.

Clinical Pathways

Vanderbilt Institutional Guidelines:

- [Acute Ischemic Stroke - Anesthetic Management \(PDF\)](#)
- [Rational Perioperative Use of Albumin \(PDF\)](#)
- [Ventral Hernia Repair Guidelines \(PDF\)](#)
- [Anesthesia for Weight Reduction Surgery \(PDF\)](#)
- [Anesthesia Guidelines for Colorectal Surgery \(PDF\)](#)
- [Anesthesia for Mastectomy \(PDF\)](#)
- [Living Donor Nephrectomy Anesthesia Guideline \(PDF\)](#)
- [Protocol for TRAM/DIEP free flap Surgery \(PDF\)](#)

Guidelines Published by External Sources:

- [American Society of Anesthesiologists \(ASA\)](#)
- [Am. College of Cardiology \(ACC\)/Am. Heart Association \(AHA\) Joint Guidelines \(full list\)](#)

VUMC Department of Anesthesiology Standard Operating Procedures

- [Radiofrequency Ablation \(RFA\) for Trigeminal Neuralgia \(PDF\)](#)
- [Bronchoscopy Room \(PDF\)](#)

[Anesthesiology Clinical Intranet Sitemap](#)

[Careers](#)

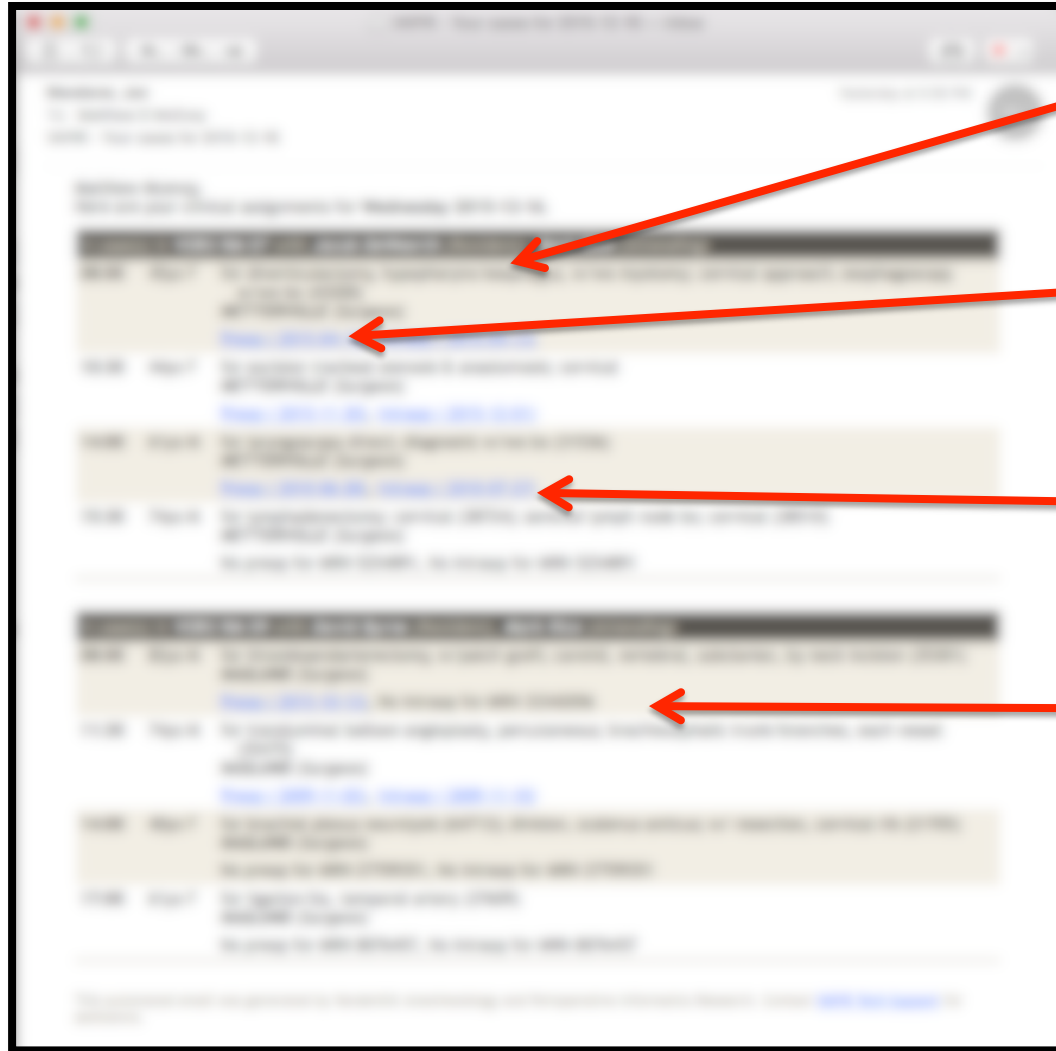
[Volunteer](#)

[Giving](#)

[Feedback](#)

This page was last updated August 28, 2015 and is maintained by Jennifer Cook

V2.0: Automated Daily Case Email



Daily Case Assignments
by Location

Preop Evaluation Record

Last Anesthesia Care
Record

Link to Care Pathway

Major Limitation

Major Perioperative Outcomes

Outcomes:

LOS

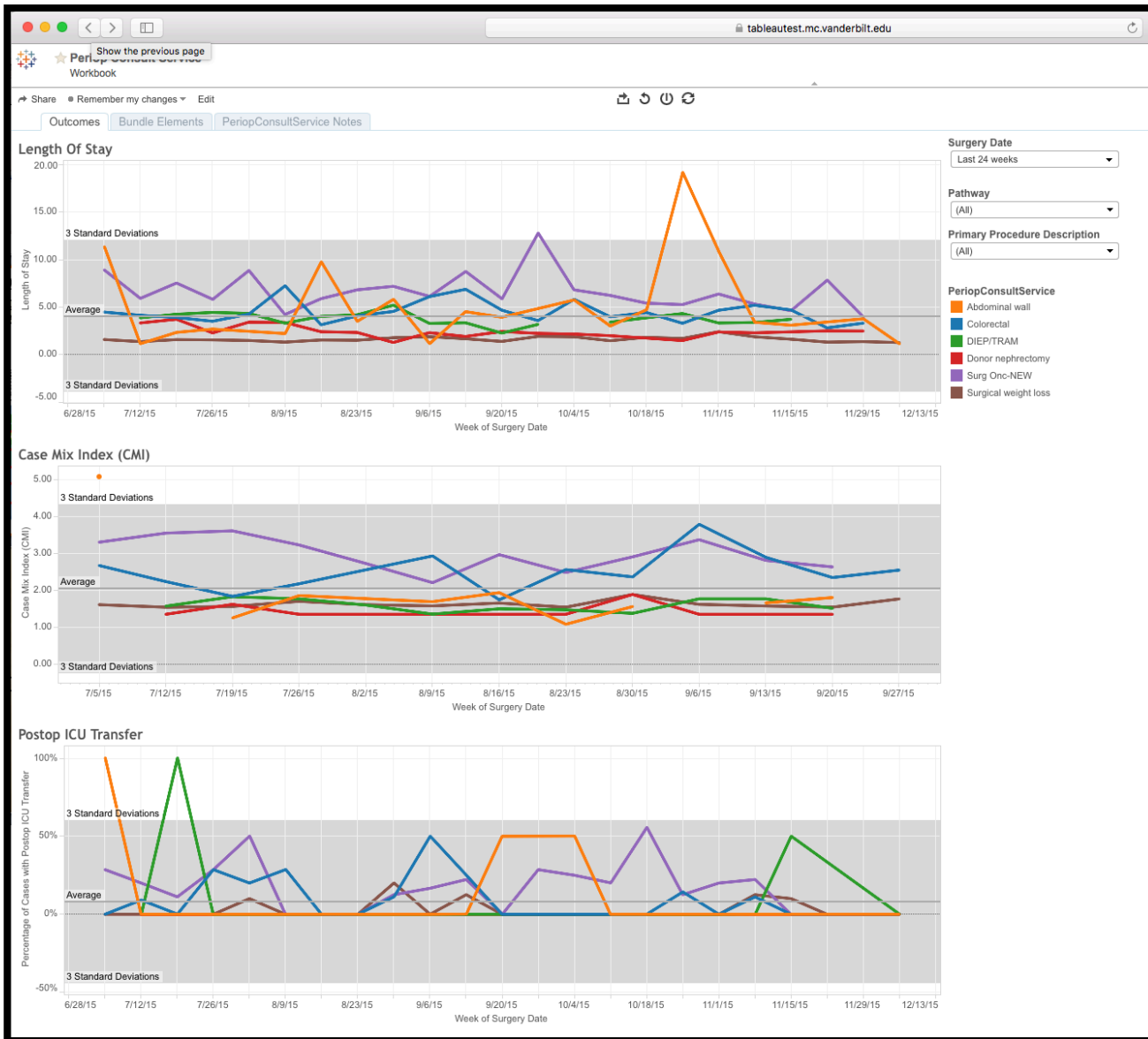
CMI

Postop ICU Txfr

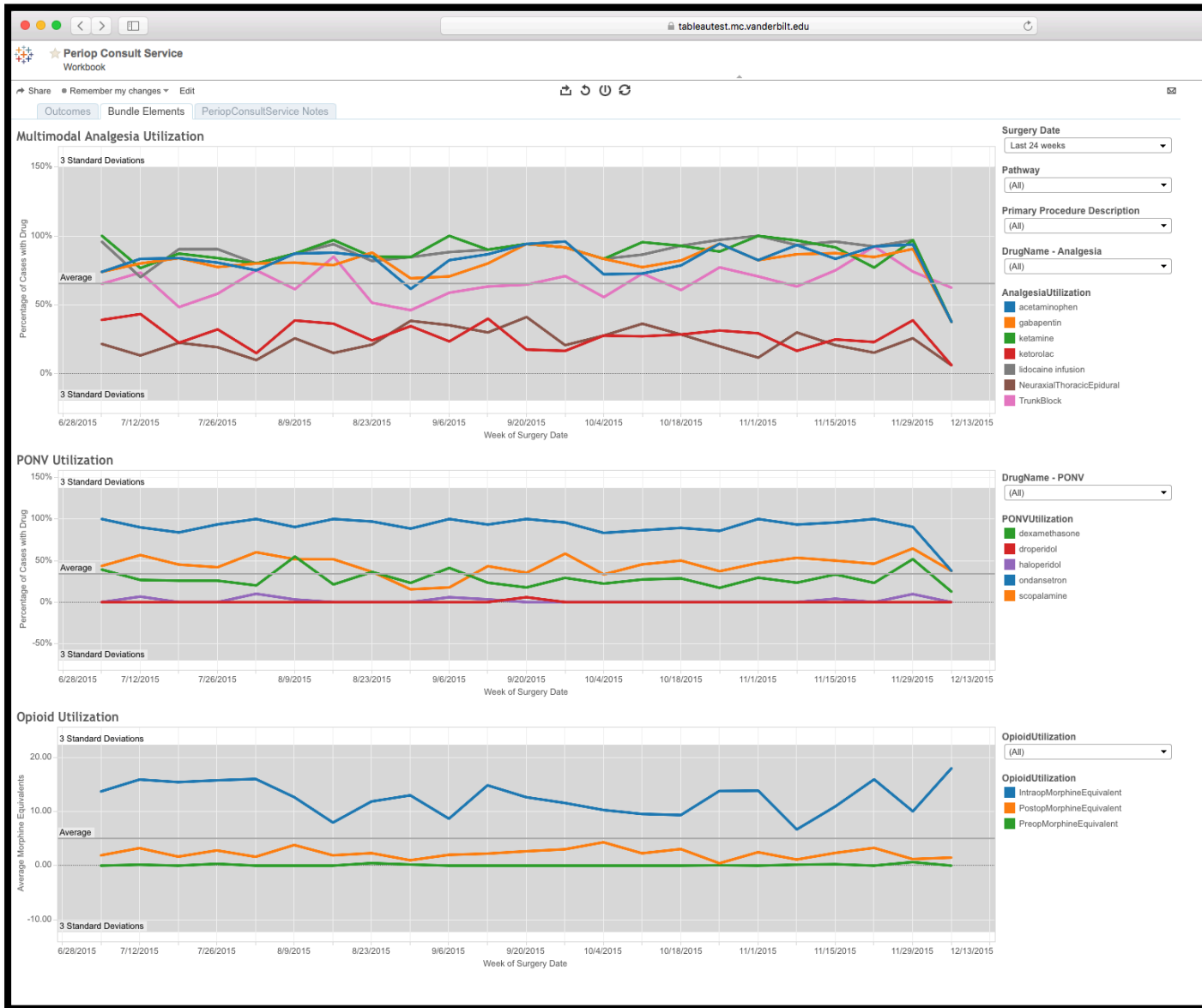
Postop Intub

Readm w/in 30d

- All services covered by PCS
- Can select by service line or case type
- Can alter timeline



Care Pathway Bundle Compliance



Multimodal
Analgesia

PONV
Utilization

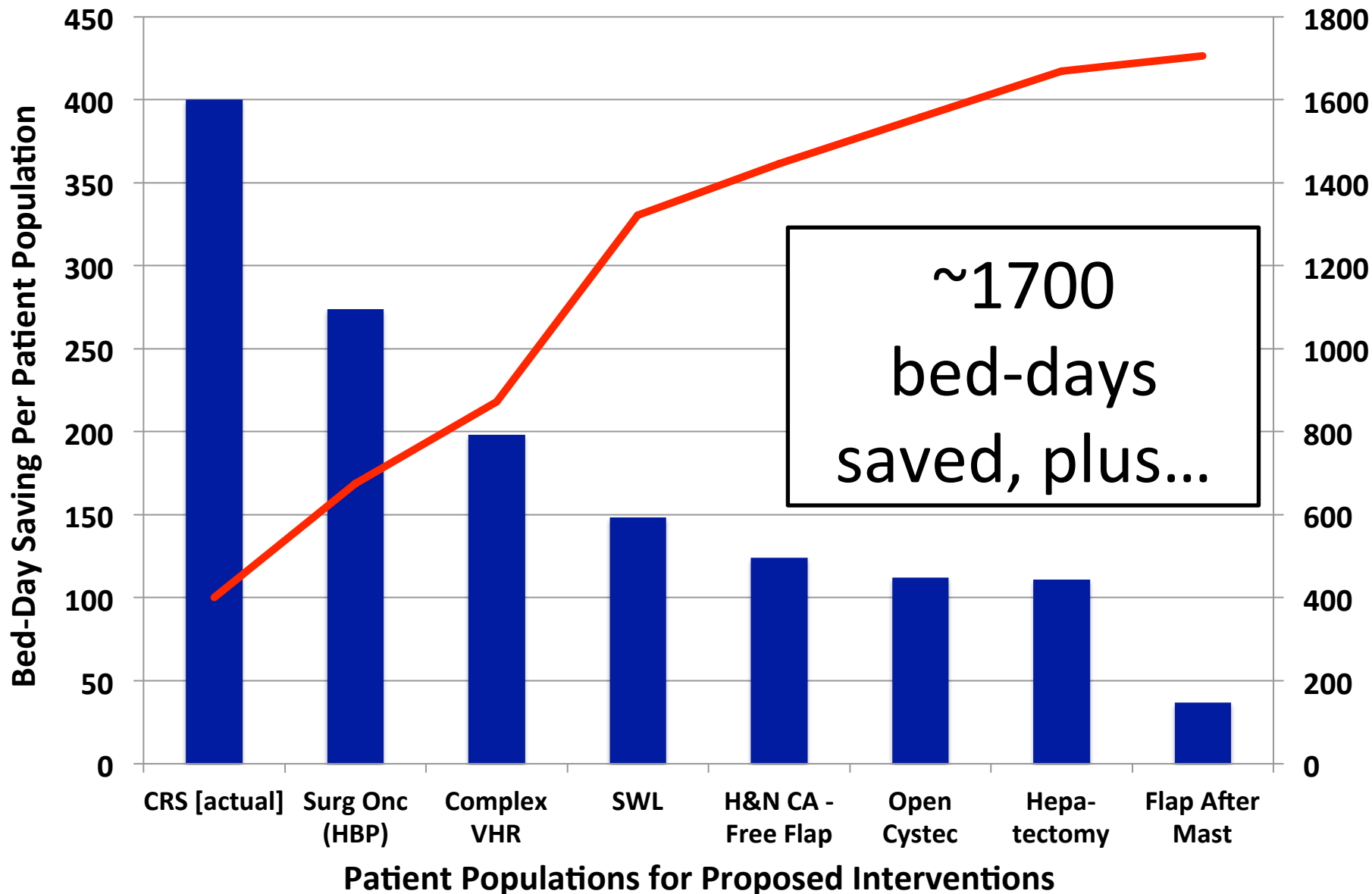
Opioid Use

- preop
- intraop
- PACU

Savings by Service

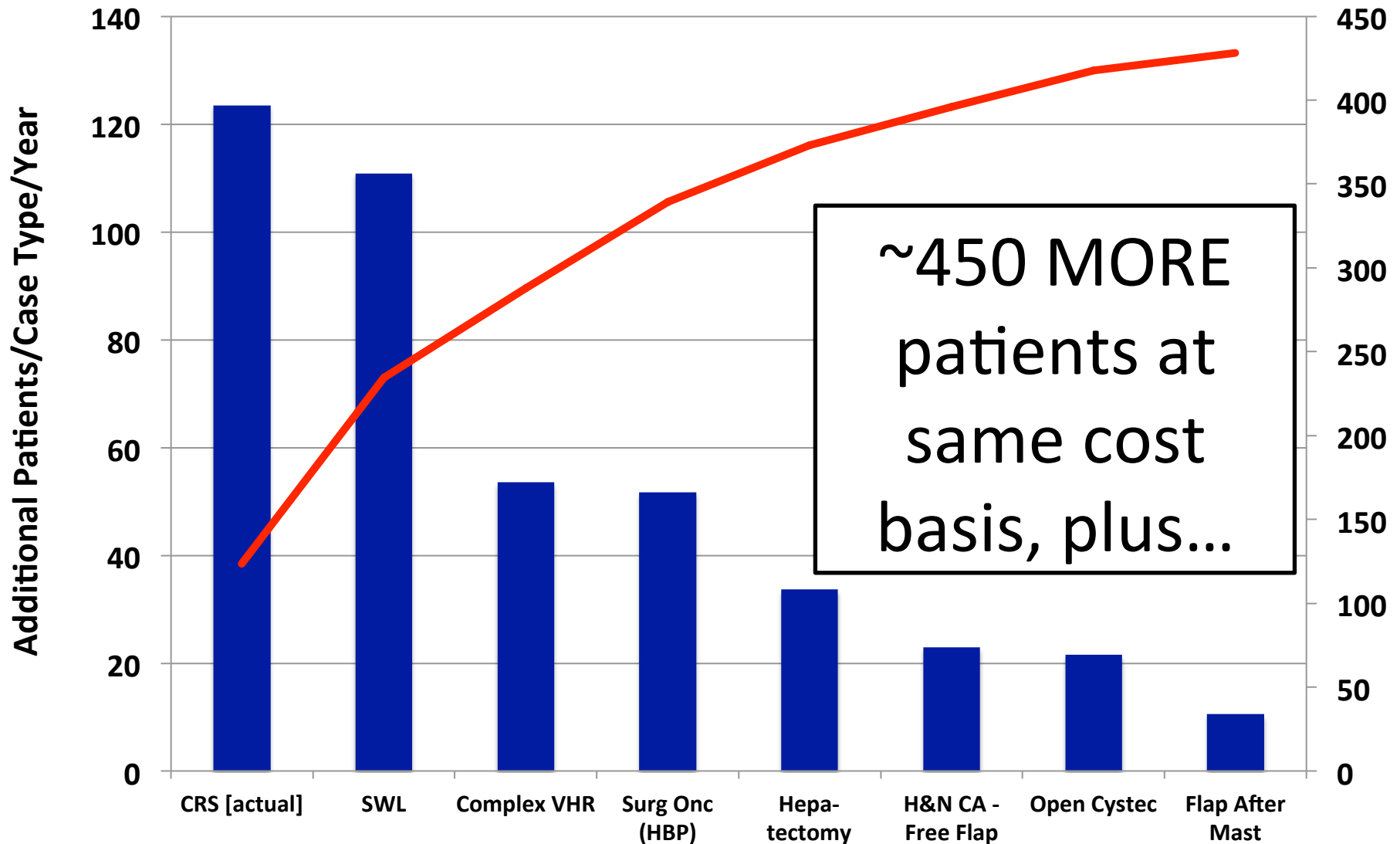
Projected Savings for
Continuing and Expanding
the ERP and APCS at VUMC:
A Model for Savings

Estimated Annual Bed-Day Savings with ERP and APCS Expansion*



*This model assumes saving 1 day of median rLOS per population, which was actually accomplished in CRS patients in FY 15.

Estimated Additional Patients Per Case Type Per Year at Same Total Bed Utilization with ERP and APCS Expansion*



*This model calculates the additional patients to be served at the same hospital bed utilization/cost basis as baseline and assumes saving 1 day of median rLOS, which was actually accomplished in CRS patients in FY 15.

Precision Medicine and Perioperative IT

Egypt Divided / Pot's Big Moment / Best of 2012

Movies, Music,
Books & More

TIME

Want to Know My Future?



New genetic tests can point to risks—
but not always a cure

BY BONNIE ROCHMAN

www.time.com

THE PRECISION MEDICINE INITIATIVE®



WHAT IS IT?

Precision medicine is an emerging approach for disease prevention and treatment that takes into account people's individual variations in genes, environment, and lifestyle.

The Precision Medicine Initiative® will generate the scientific evidence needed to **move the concept of precision medicine into clinical practice.**

WHY NOW?

The **time is right** because of:

Sequencing
of the human
genome



Improved
technologies for
biomedical analysis



New tools
for using large
datasets



WITHOUT
PRECISION MEDICINE



PATIENT

SAME THERAPY



SOME BENEFIT,
OTHERS DO NOT

BENEFIT



NO BENEFIT



ADVERSE EFFECTS



WITH
PRECISION MEDICINE



EACH PATIENT BENEFITS

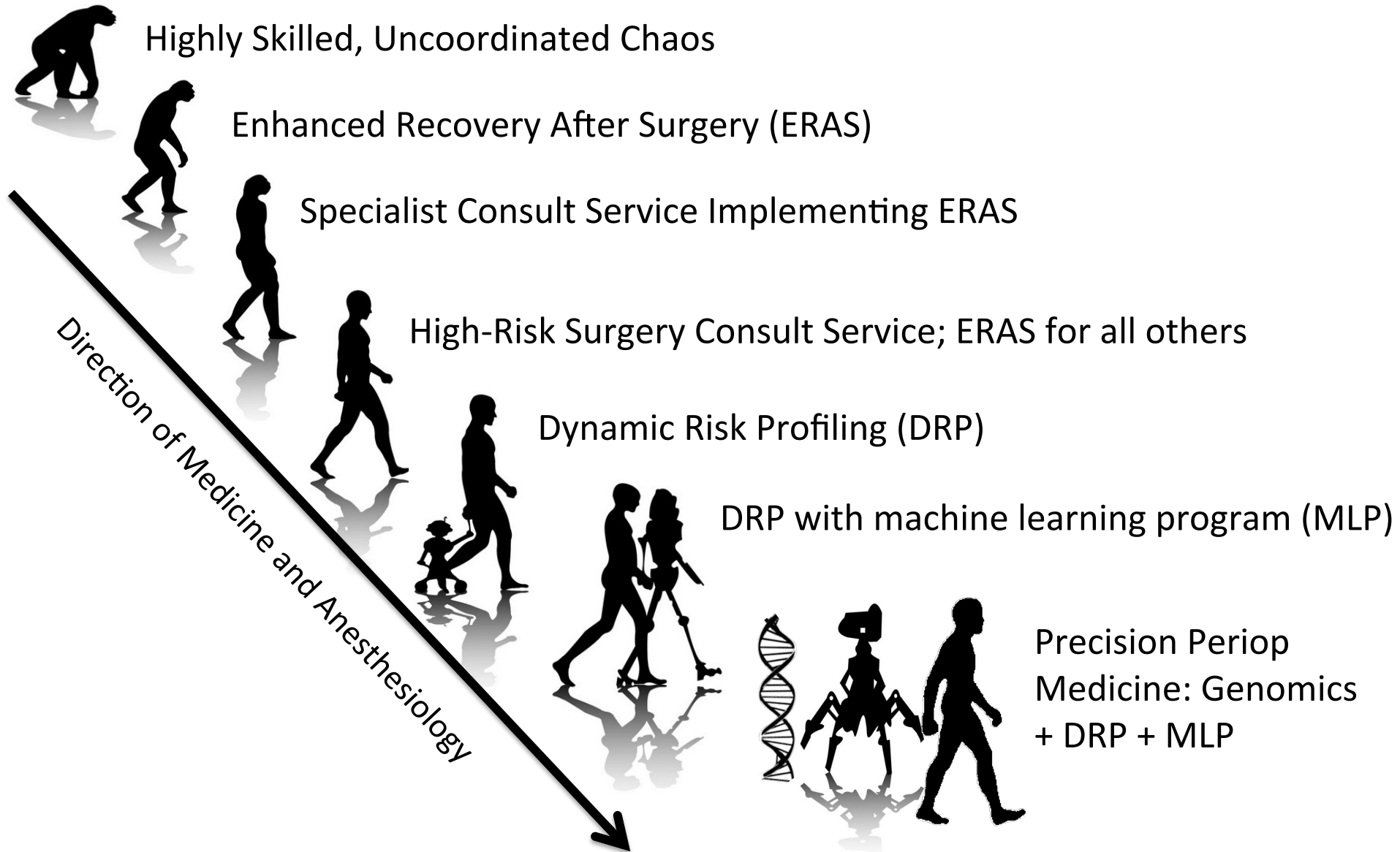
DNA TESTS



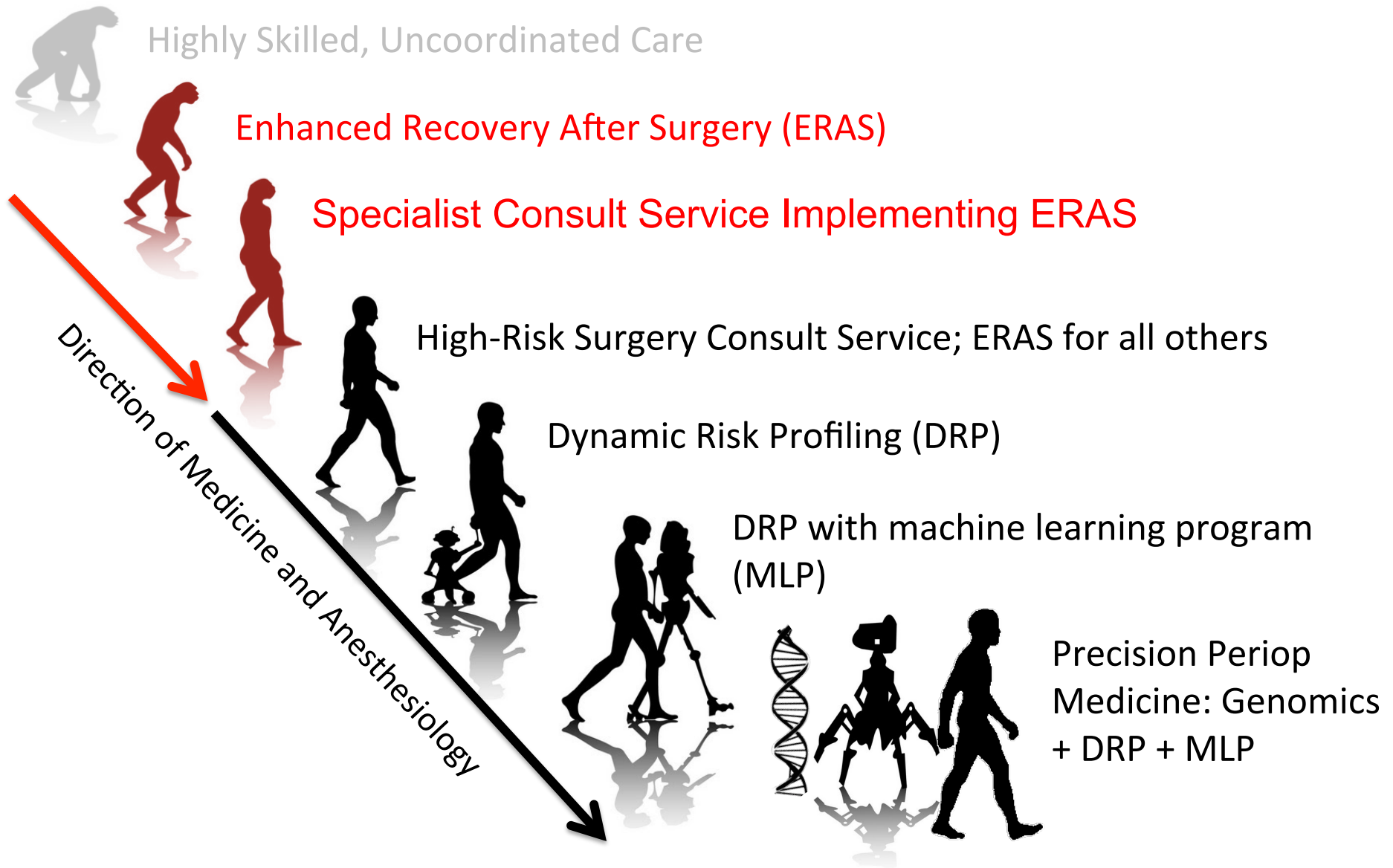
TAILORED
THERAPY



The Missing Link



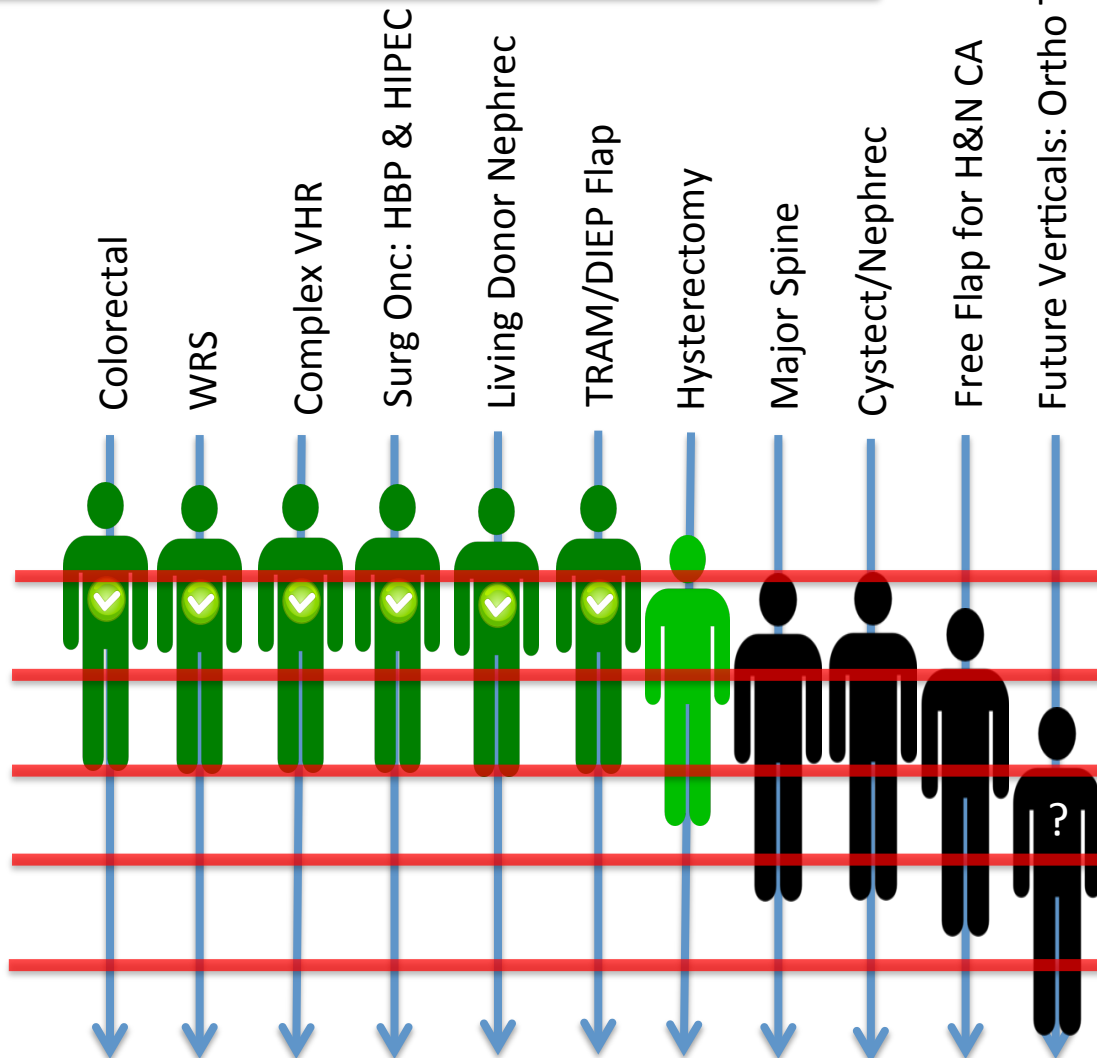
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Dynamic Risk Profiling:

Next Steps Beyond Care Pathways and Guidelines

Verticals: Longitudinal through the care path of a patient population or procedure type - ERAS



2016 - ???

Horizontals: Across all or many patients by disease or entity

PONV Prophylaxis by #RF

Mgmt of patient w/ CHF - biomarkers

Mgmt of CV medications

Intraoperative Vent/NMB mon

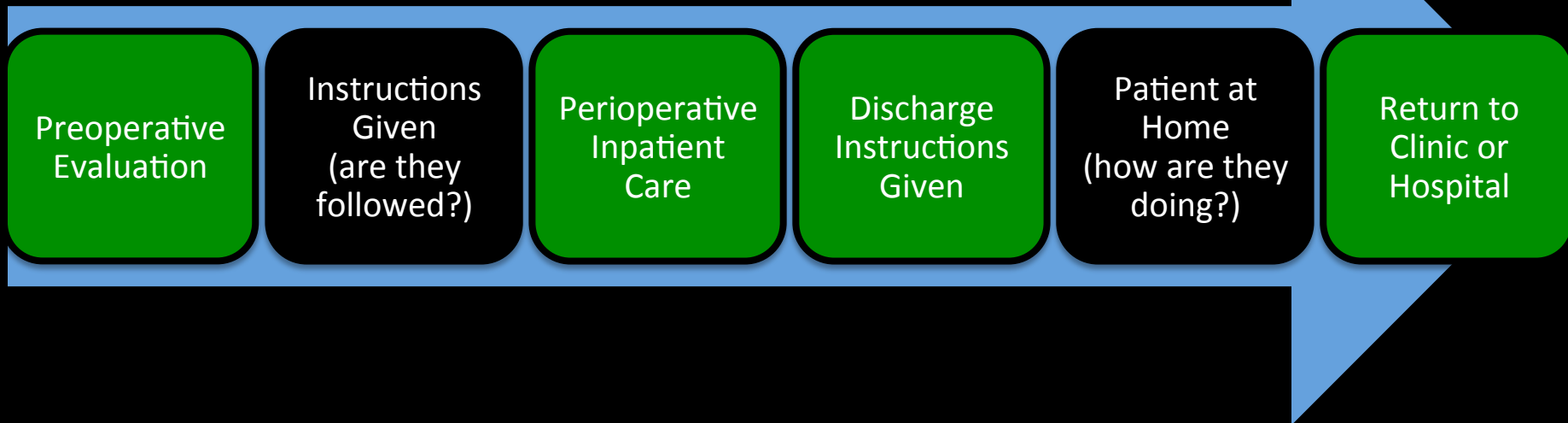
Dynamic Risk Profiling— PPC, MACE, Delirium, etc

The Block Box(es):

1) Unless they contact us with a question/problem, how do we know what happens to a patient before and after surgical hospitalization?

2) We want to know in order to:

- improve customer service outside of hospital
- improve compliance with perioperative plan
- prevent unnecessary and costly readmissions





A Novel Patient-Centered App for
Perioperative Care