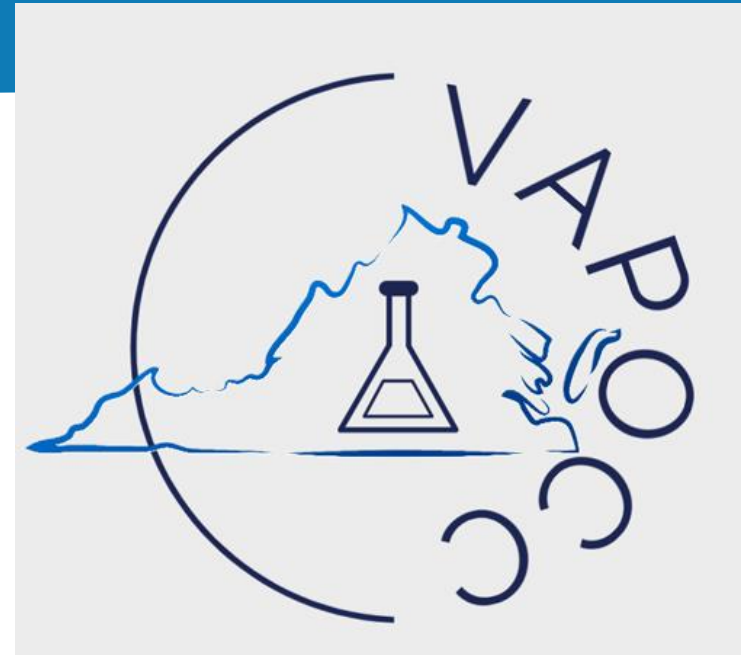


Laboratory Stewardship: What, Why, and How?



Learning objectives

1. Describe the importance of laboratory stewardship in the evolving healthcare landscape
2. Define the essential elements of a laboratory stewardship program
3. Compare and contrast the effectiveness of different laboratory stewardship intervention strategies

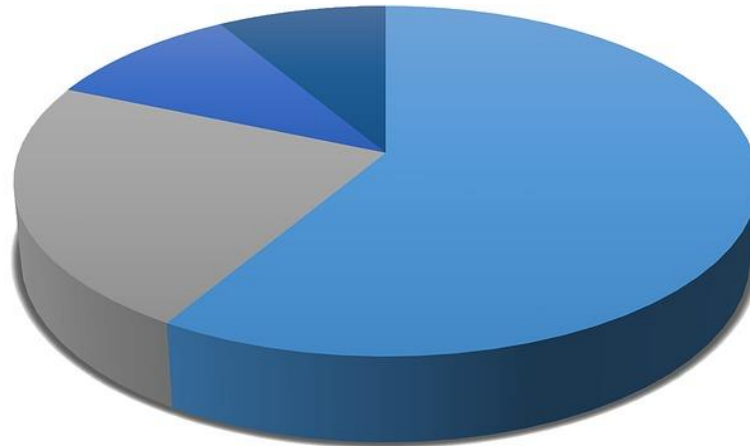
Poll question

Does your institution actively engage in laboratory stewardship, such as through a laboratory stewardship committee?

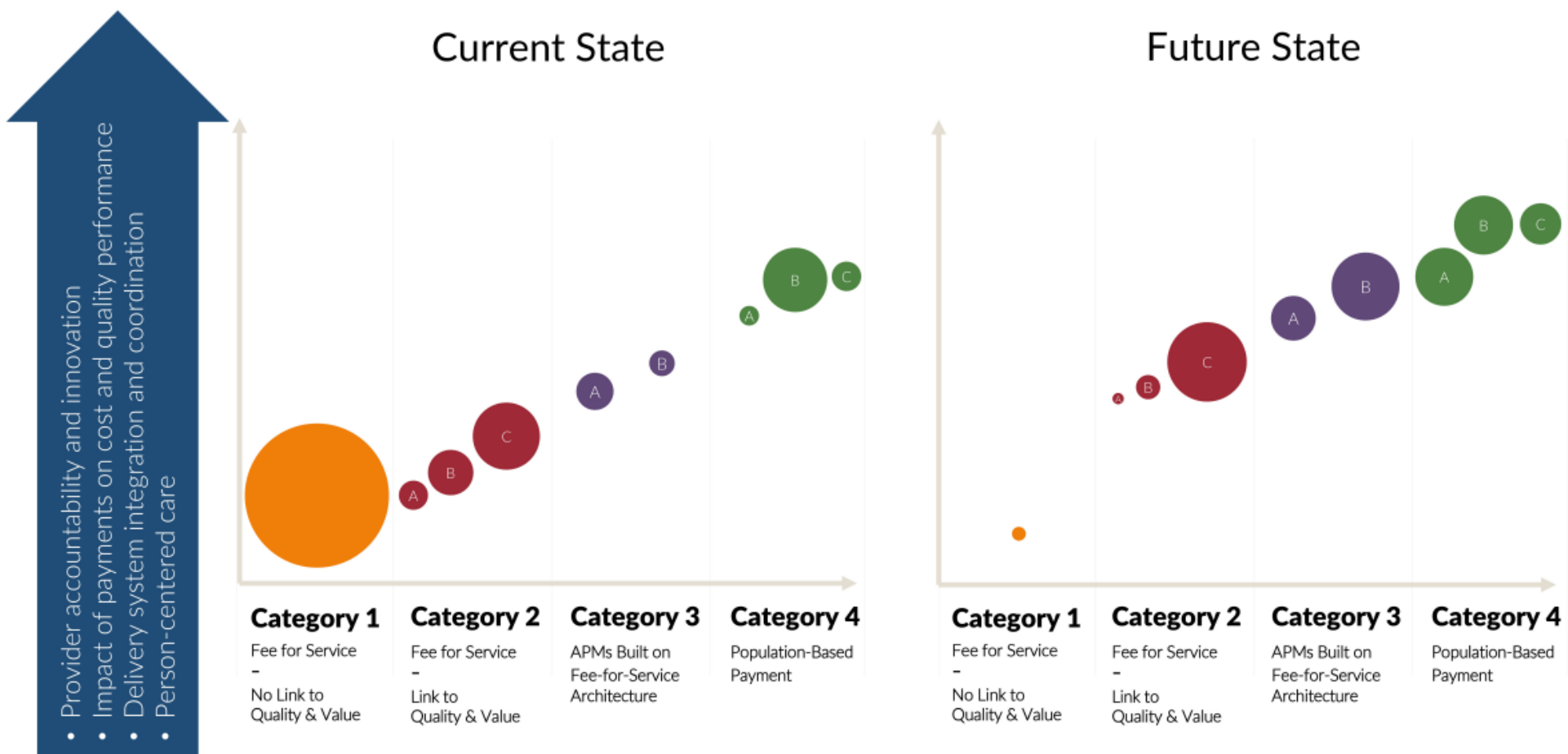


Poll results

Does your institution actively engage in laboratory stewardship, such as through a laboratory stewardship committee?



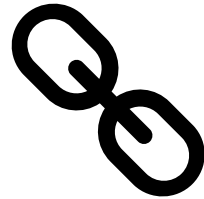
Healthcare delivery is evolving



Clinical labs must do more with less

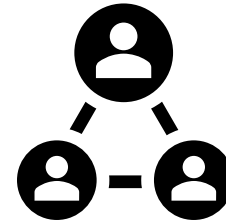


Expanding test
menus and volumes

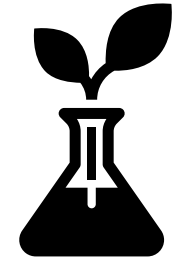


Mergers &
acquisitions

- Consolidation of
laboratory services



Labor shortages



Supply chain
shortages

Other examples of stewardship

- Blood product utilization
 - Limited availability, high cost, inherent risks associated with transfusion
 - Blood utilization committees
 - Lead to significant decreases in unnecessary transfusions, improved outcomes

UCLA Health reduced transfusions by 20% with clinical decision support, all-electronic bar code scanning

The system moved away from a hybrid approach including paper and electronic barcode scanning and sees it as a boon to patient safety.

By [John Andrews](#) | January 11, 2017 | 07:05 AM



Other examples of stewardship

- **Blood product utilization**
 - Limited availability, high cost, inherent risks associated with transfusion
 - Blood utilization committees
 - Lead to significant decreases in unnecessary transfusions, improved outcomes
- **Antibiotic stewardship**
 - CDC estimates 30% of abx are unnecessary
 - Risks to individual and public health
 - CMS requires acute care hospitals to implement abx stewardship programs
 - § 482.42(b) and § 485.640(b)

UCLA Health reduced transfusions by 20% with clinical decision support, all-electronic bar code scanning

The system moved away from a hybrid approach including paper and electronic barcode scanning and sees it as a boon to patient safety.

By [John Andrews](#) | January 11, 2017 | 07:05 AM



 Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™



The Core Elements of
Hospital Antibiotic Stewardship Programs: 2019

Labs are responsible for utilization monitoring

DEPARTMENT OF HEALTH AND
HUMAN SERVICES

Office of Inspector General

Publication of OIG Compliance Program
Guidance for Clinical Laboratories

2. Medical Necessity

Laboratory compliance programs, to be effective, should communicate to physicians that claims submitted for services will only be paid if the service is covered, reasonable, and necessary for the beneficiary, given his or her clinical condition. Laboratories should take all reasonable steps to ensure that it is not submitting claims for services that are not covered, reasonable and necessary.⁷ Upon request, a laboratory should be able to produce or obtain from the treating physician (test ordering), authorized person on the physician's staff or other individual authorized by law to order tests the documentation to support the medical necessity of the service the laboratory has provided and billed to a Federal or private health care program. We recognize that laboratories

e. **Test utilization monitoring:** The OIG believes that laboratories can and should take the steps described in this compliance guidance to help ensure appropriate billing of lab tests. We also believe that there are steps laboratories can take to determine whether physicians or other individuals authorized to order tests are being encouraged to order medically unnecessary tests. More importantly, if the laboratory discovers that it has in some way contributed to the ordering of unnecessary tests, the OIG believes the laboratory has a duty to modify its practices, as well as notify the physician(s) or other authorized individual(s) of its concerns and recommend corrective action.

Rationale for Lab Stewardship

Table 1. Benefits of Optimizing Laboratory Test Utilization

Benefit	Laboratory	HCP	Patient	HCO	General Populations
Decreased total cost of care	X		X	X	X
Decreased laboratory costs	X		X	X	X
Accurate and timely diagnosis		X	X	X	X
Reduced referred testing	X	X	X	X	
Decreased phlebotomy	X		X	X	
Improved patient satisfaction		X	X	X	X
Improved patient outcomes		X	X	X	X

Abbreviations: HCO, health care organization; HCP, health care provider.

Just some (of the many) adverse effects of over-testing

- Hospital-acquired anemia
 - ~20% of hospitalized patients
- Increased chance of clinically misleading or falsely abnormal results
- Potential for unnecessary workup, patient anxiety
- Increased laboratory costs and labor
 - Increased TATs



Defining Lab Stewardship

- Also known as lab utilization management

- Focuses on test *value*

- 2 primary goals (PLUGS Guidelines):

$$\text{Value} = \frac{\text{Quality}}{\text{Cost}}$$

- *“Improving the ordering, retrieval, and interpretation of appropriate laboratory tests.”*
- *“Developing, maintaining, and improving systems to provide proper financial coverage for medically necessary testing.”*

Much of the focus has been on over-utilization

- Increased rates of referral lab testing (e.g., molecular)
- 10-30% of tests are either unnecessary or inappropriate¹
- ~30% of genetic test orders are inappropriate²
 - ~5% of genetic test orders are frank medical errors³
- 7% of test results are never retrieved, or retrieval is significantly delayed⁴
- Labs may be ordered in duplicate or too soon in frequency
 - e.g., HbA1c within 3 mos. of the last result

What contributes to over-utilization?

TABLE 1. Residents' Self-Reported Frequency of and Factors Contributing to Perceived Unnecessary Inpatient Laboratory Ordering

	Residents (n = 116)*
Reported he or she orders unnecessary routine labs, no. (%)	96 (82.8)
Frequency of ordering unnecessary labs, no. (%)	
Daily	47 (49.0)
2–3 times/week	44 (45.8)
1 time/week or less	5 (5.2)
Agreement with statement as factors contributing to ordering unnecessary labs, no. (%)†	
Practice habit; I am trained to order repeating daily labs	105 (90.5)
Lack of cost transparency of labs	100 (86.2)
Discomfort with diagnostic uncertainty	96 (82.8)
Concern that the attending will ask for the data and I will not have it	88 (75.9)
Lack of role modeling of cost conscious care	78 (67.2)
Lack of cost conscious culture at our institution	76 (65.5)
Lack of experience	72 (62.1)
Ease of ordering repeating labs in EHR	60 (51.7)
Fear of litigation from missed diagnosis related to lab data	44 (37.9)

Defining problems and goals

Risks of patient harm

- Misordering
 - Ordering an unnecessary test
 - Ordering the wrong test/mistake
- Misinterpreting results
- Failure to retrieve and act on results
- Unnecessary costs to patients and health system

Defining problems and goals

Risks of patient harm

- Misordering
 - Ordering an unnecessary test
 - Ordering the wrong test/mistake
- Misinterpreting results
- Failure to retrieve and act on results
- Unnecessary costs to patients and health system

Stewardship goals

- Avoid duplicate testing
- Stop erroneous orders
- Define and implement best practices/order algorithms
- Establish consistent testing practices across the system
- Influence provider and ordering culture towards high quality, fiscally responsible practices

Resources and guidelines



SPECIAL REPORT

Transforming Laboratory Utilization Review into Laboratory Stewardship: Guidelines by the PLUGS National Committee for Laboratory Stewardship

Jane A. Dickerson,^{1,2*} Andrew H. Fletcher,³ Gary Procop,⁴ David F. Koren,⁵ Ila R. Singh,⁶ Joaquin J. Garcia,² Robert B. Carpenter,² Joe Miles,² Brian Jackson,² and Michael L. Aston^{1,2}

Appropriate utilization of clinical laboratory services is important for patient care and requires institutional stewardship. Clinical laboratory stewardship programs are dedicated to improving the ordering, retrieval, and interpretation of appropriate laboratory tests. In addition, these programs focus on developing, maintaining, and improving systems to provide proper financial coverage for medically necessary testing. Overall, clinical laboratory stewardship programs help clinicians improve the quality of patient care while reducing costs to patients, hospitals, and health systems. This document, which was created by a new multinstitutional committee interested in promoting and formalizing laboratory stewardship, summarizes core elements of successful hospital-based clinical laboratory stewardship programs. The core elements will also be helpful for independent commercial clinical laboratories.

Pathology and laboratory medicine have transformed the practice of medicine by providing tests and services for diagnosis, treatment, monitoring, and prevention of disease and driving advances in all fields of medicine. Laboratory testing is the single highest-volume medical activity with an estimated 1.3 billion tests performed in the US each year (1). In addition, about 70% of downstream medical decisions are based on pathology and laboratory medicine results (2). The 3 most significant causes of patient harm related to laboratory services are ordering the wrong test, failing to retrieve a test, and misinterpreting a test result (3). A number of studies, as well as review of insurance claims, reveal that 10%-30% of laboratory tests performed in the US are either unnecessary or inappropriate (4). About 30% of genetic test orders are inappropriate (5), and about 5% of genetic test orders are frank medical errors (6). About 7% of test results are never retrieved or retrieval is significantly delayed (7). Like all medical interventions, inappropriate laboratory test ordering and interpretation have serious effects, including delayed

¹Department of Laboratory, Seattle Children's Hospital, Seattle, WA; ²Department of Laboratory Medicine, University of Washington, Seattle, WA; ³WGLP Laboratories, Salt Lake City, UT; ⁴Department of Pathology, Cleveland Clinic, Cleveland, OH; ⁵Department of Pathology, University of Michigan, Ann Arbor, MI; ⁶Department of Pathology, Texas Children's Hospital, Houston, TX; ⁷Department of Laboratory, Mayo Clinic, Rochester, MN. *Address correspondence to this author at: Seattle Children's Hospital, 4800 Sand Point Way NE, MS DC 8.720, Seattle, WA 98105. E-mail: jane.dickerson@seattlechildrens.org. DOI: 10.1373/jclin.2017.013626. © 2017 American Association for Clinical Chemistry. *Nomenclature abbreviations: LM, utilization management; PLUGS, Pediatric Laboratory Utilization Guidance Service; CPOE, computerized provider order entry.

September 2017 | 02:02 | 259-268 | JALM | 259

Optimal Testing

ADLM's Guide to Lab Test Utilization



All Sites | Search

- Member Resources
- Advocacy
- Laboratory Improvement
- Education
- Protocols and Guidelines
- Publications

Home > Laboratory Improvement > Test Ordering Program

Test Ordering Program

Lead your organization's laboratory stewardship to drive operational excellence, achieve diagnostic confidence, and ensure the best patient care.



Better Laboratory Stewardship

Read about utilization management techniques to help you allocate resources more effectively for better patient care.

[Read the article](#)

Choosing Wisely

An initiative of the ABIM Foundation

Optimal Testing

ADLM's Guide to Lab Test Utilization

The content for *Optimal Testing: ADLM's Guide to Lab Test Utilization* has been developed and approved by the the Academy of Diagnostics & Laboratory Medicine and ADLM's Science and Practice Core Committee.

[72 Hour Quantitative Fecal Fat](#)

[Amylase](#)

[Anti-Gliadin Antibody Assay](#)

[Bleeding Time](#)

[CKMB](#)

[Estradiol Testing in Men](#)

[Ferritin in Pediatrics](#)

[Fetal Lung Maturity Testing](#)

[Hemoglobin A1c](#)

[High-sensitivity C-reactive Protein \(hs-CRP\)](#)

[Homocysteine](#)

[IgG Food Allergen](#)

[Lyme Disease Nucleic Acid Amplification Testing](#)

[Oral Glucose Tolerance Test](#)

[Plasma Qualitative Methylated Septin 9](#)

[Prostatic Acid Phosphatase PAP PSAP](#)

[Qualitative Serum Human Chorionic Gonadotropin](#)

[Reverse Triiodothyronine \(rT3\)](#)

[Serum Free Light Chains](#)

[Stool Reducing Sugars](#)

[T3 uptake](#)

[Testosterone Testing in Women](#)

[Total Thyroxine](#)

[Vitamin B1 or Thiamine](#)

[Vitamin B12 or Cobalamin](#)

[Vitamin D](#)

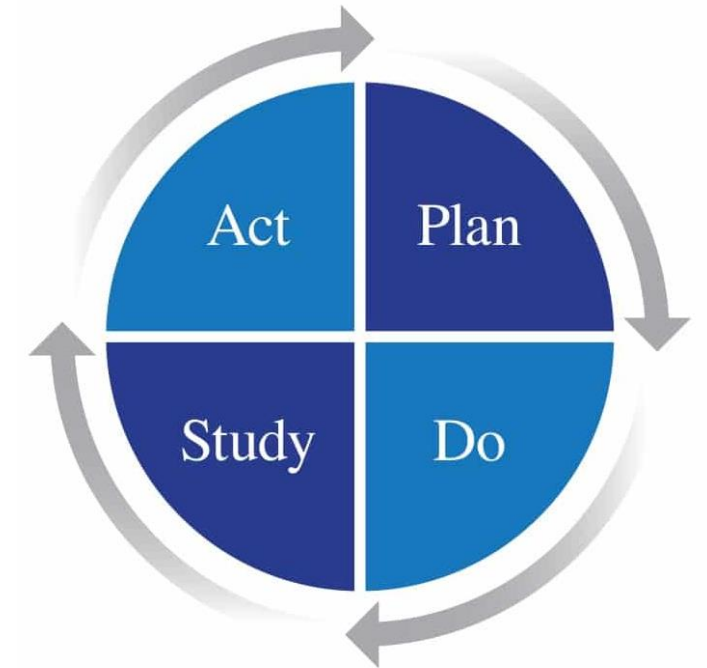
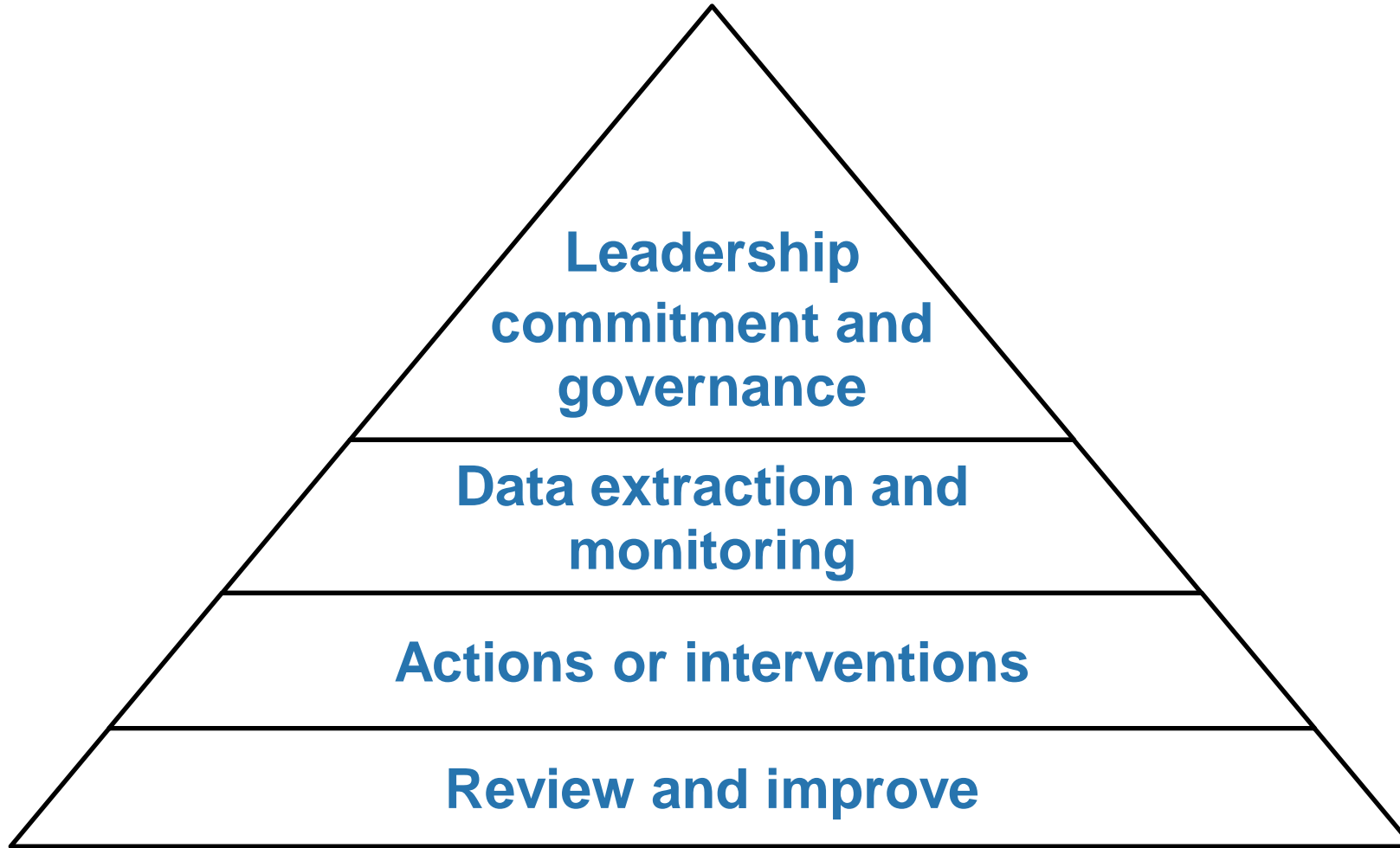
To recommend a test of limited clinical utility or suboptimal utilization that has sufficient evidence to formulate impactful recommendations, follow [this link](#) to fill out our test recommendation form.

<https://www.aacc.org/advocacy-and-outreach/optimal-testing-guide-to-lab-test-utilization>

Stewardship intervention techniques by strength (and likely effectiveness)

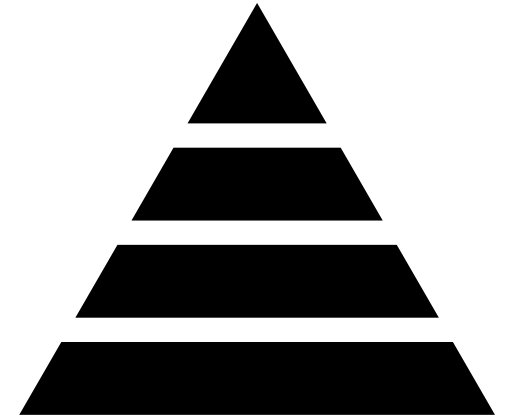
Gentle	Medium	Strong
Posting guidelines on the requisition	Utilization report cards	Utilization report cards with peer or leadership review
Computerized reminders regarding utilization guidelines	Changes to manual requisitions	Privileging specific tests to specialty providers
Educational lectures	Hiding tests in CPOE systems	Laboratory formulary including send-out formulary
Consensus reference laboratory preselection for specialized testing	Periodically reviewing and updating physician preferences	Requirement for high-level approval or consultation
Providing relative cost information in CPOE		Rules requirement CPOE: Hard stops

Essentials of a Stewardship Program

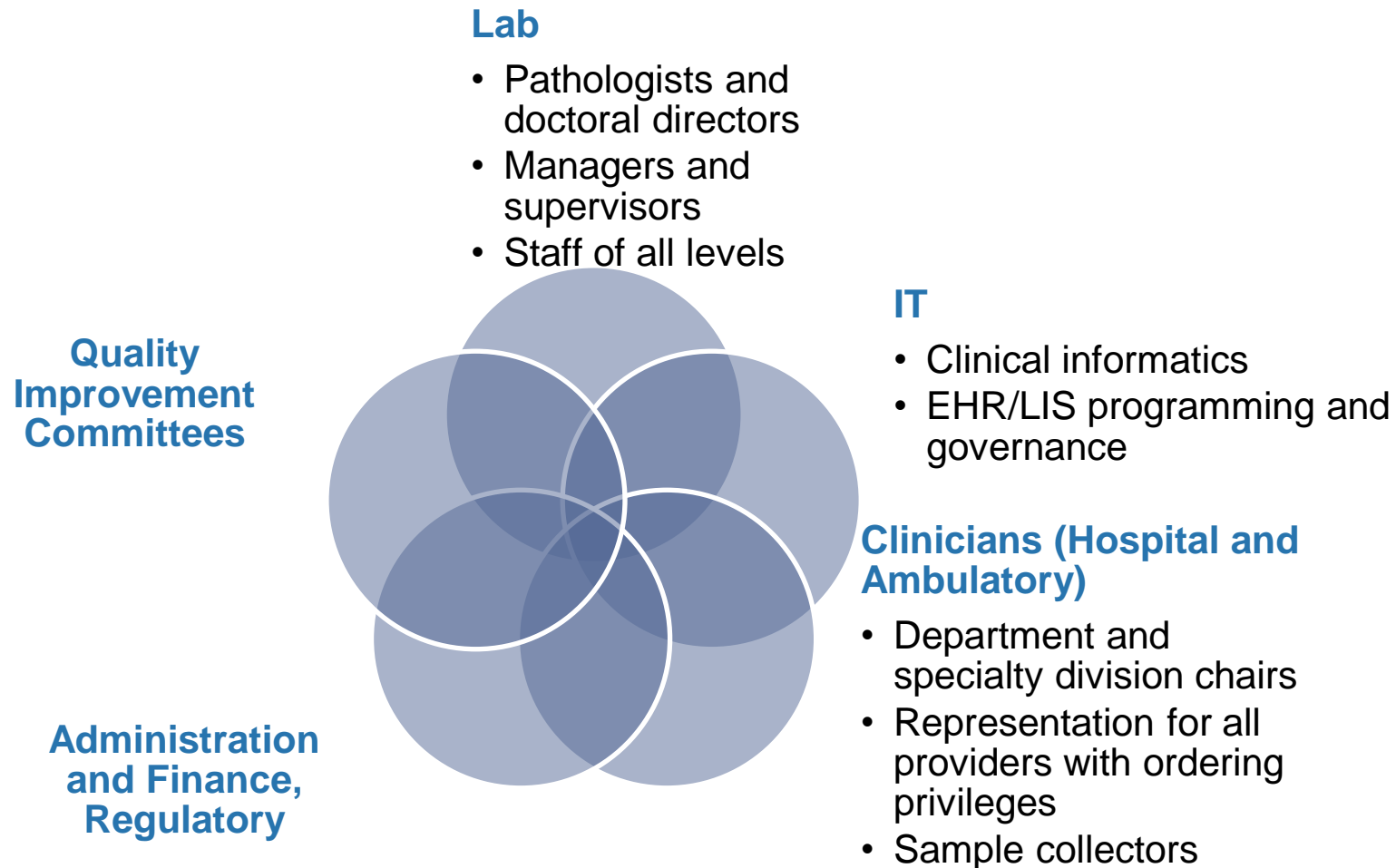


Importance of governance and buy-in

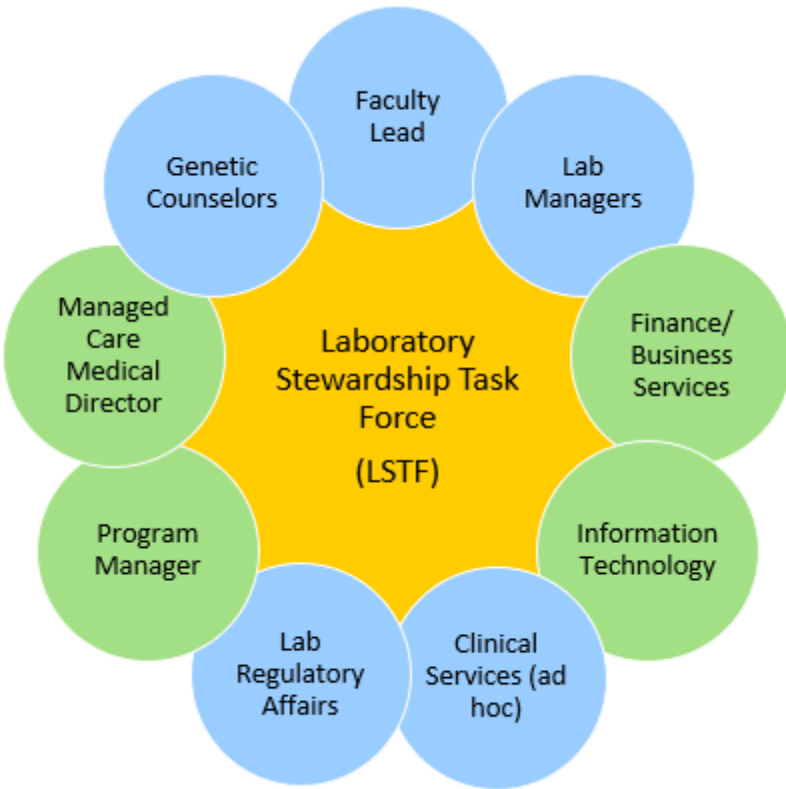
- Effective stewardship often involves changes to:
 - In-house test menu and/or send-out test formulary
 - Laboratory and hospital written policies
 - Electronic health record/order system design
- These changes require **high-level approvals**
- Enforcement requires cooperation by ordering providers
 - High-level (beyond Pathology) support enhances compliance
 - Engagement of non-Pathology providers in the whole process
 - Multidisciplinary expertise for different clinical contexts and workflows



Key stakeholders

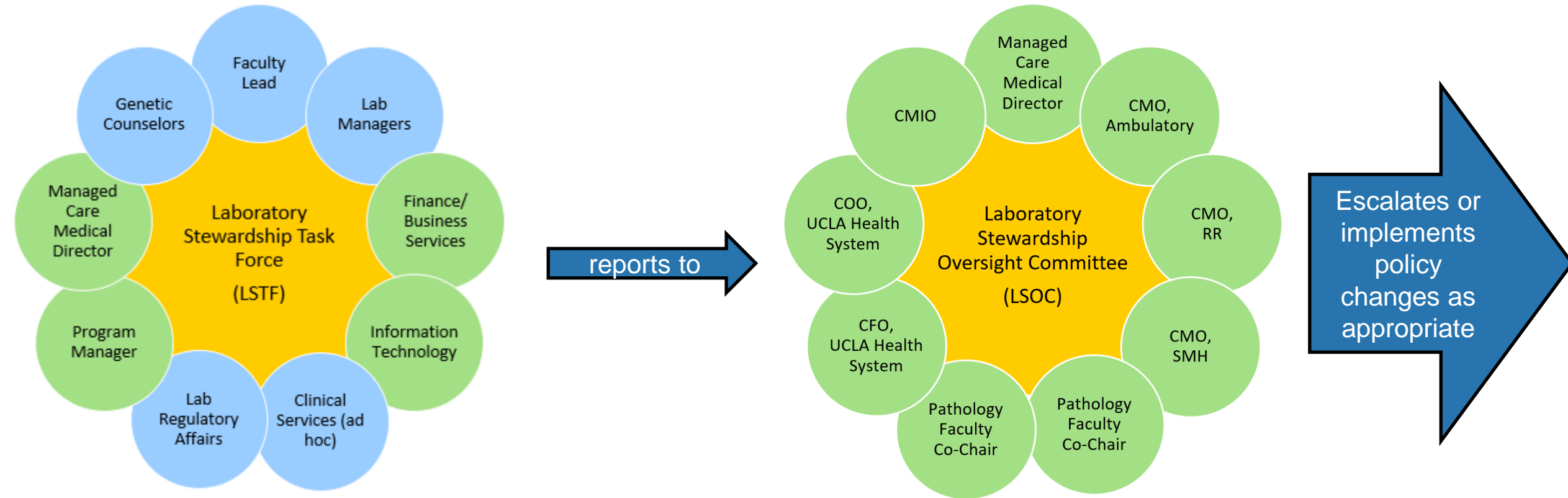


UCLA Lab Stewardship governance



graphics courtesy of Dr. Josh Deignan and Monique Trinh

UCLA Lab Stewardship governance



Examples of stewardship interventions

Gentle example: scary screensaver

Gentle

Posting guidelines on the requisition

Computerized reminders regarding utilization guidelines

Educational lectures

Consensus reference laboratory preselection for specialized testing

Providing relative cost information in CPOE

Unnecessary Testing Costs US Healthcare \$200 Billion/Yr

1. Do NOT order "daily" labs

2. Only order a test that will change your management

3. Reduce low-yield tests

- ESR (very rarely indicated)
- Portable CXR (90% read as "unchanged"—don't order daily!)
- Daily CBCs, Mg, Phos

only order these if the results will change management

Gentle example: cost transparency

Gentle

Posting guidelines on the requisition

Computerized reminders regarding utilization guidelines

Educational lectures

Consensus reference laboratory preselection for specialized testing

Providing relative cost information in CPOE

Procedures

Name

1,5 Anhydroglucitol Quant, Serum/Plasma (Send-out, \$47 (\$), 4 days)

5' Nucleotidase (Send-out, \$12 (\$), 2 days)

11-Deoxycortisol Quantitative, Serum (Send-out, \$27 (\$), 5 days)

17-Alpha-OH Progesterone (Send-out, \$19 (\$), 4 days)

17-OH-Pregnenolone (Send-out, \$27 (\$), 4 days)

21-Hydroxylase Antibody (Send-out, \$45 (\$), 10 days)

Acetylchol Recep Modulating Ab (Send-out \$35 (\$), 7 days)

Cost group	
\$	\$4-50 (\$4 min.)
\$\$	\$51-150
\$\$\$	\$151-450
\$\$\$\$	\$451+ (\$3,500 max.)

Gentle example: cost transparency

Gentle

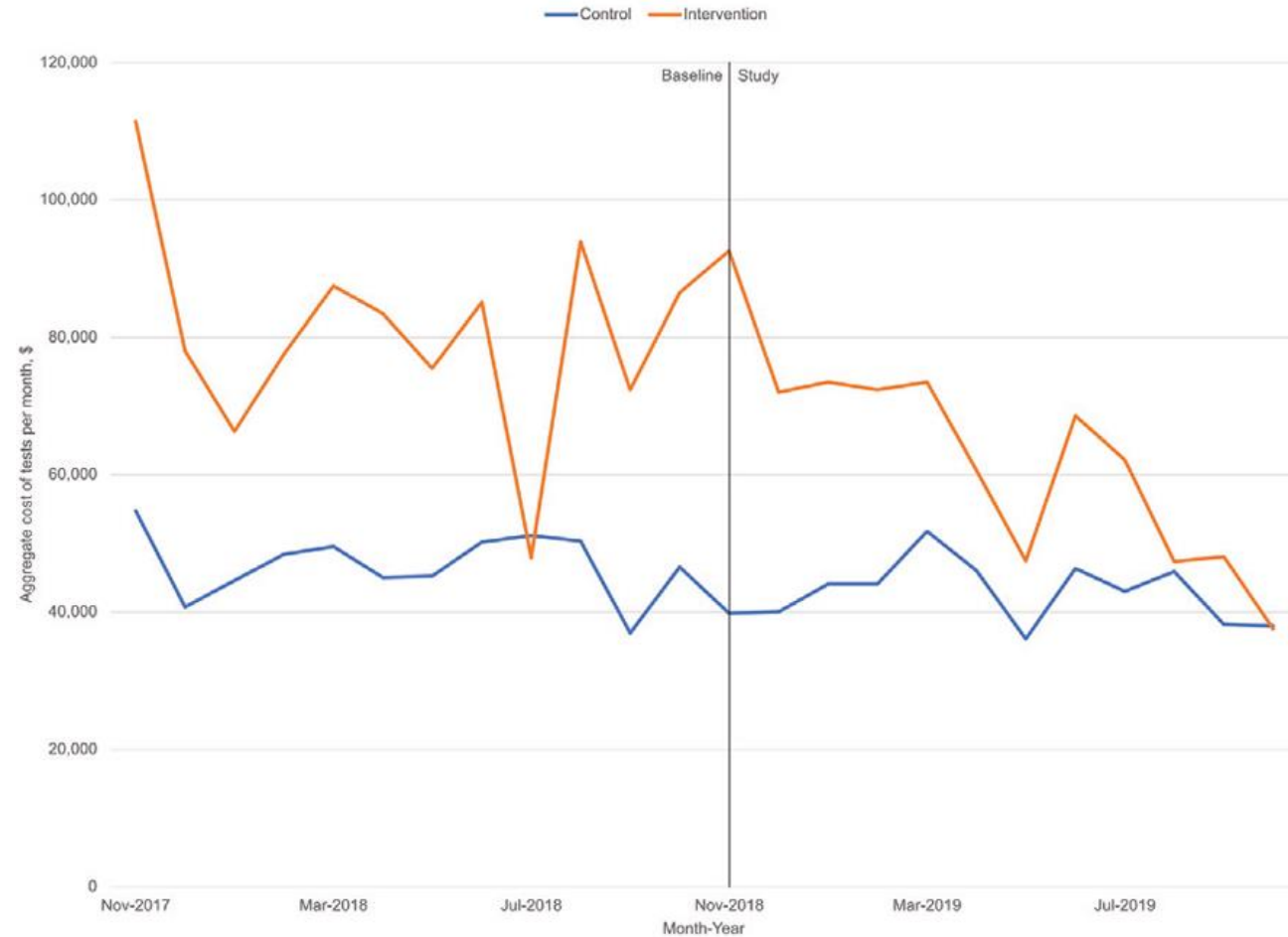
Posting guidelines on the requisition

Computerized reminders regarding utilization guidelines

Educational lectures

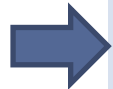
Consensus reference laboratory preselection for specialized testing

Providing relative cost information in CPOE



Medium example: report cards

Medium



Utilization report cards

Changes to manual requisitions

Hiding tests in CPOE systems

Periodically reviewing and updating physician preferences

Laboratory Utilization Report Card Exerpt; 2011 Quarter 1; Clinic X						
TARGETS (tests/100well visits)			0	<5.5	<2.5	0
Practitioner	TOTAL VISITS	TOTAL WELL VISITS	CMP	CBC	TSH	VIT D
MD 1	660	136	0	0	1	0
MD 2	683	86	0	0	0	0
MD 3	439	79	0	0	0	0
MD 4	794	62	0	0	0	5
MD 3	379	68	0	0	0	0
ARNP 1	375	31	0	0	0	0
ARNP 2	520	82	0	0	0	0
Clinic Ave			0	5	0	0
GHC Ave			0	3	2	0

Data is de-identified. CMP=comprehensive metabolic panel; CBC=complete blood count; TSH=thyroid stimulating hormone; VIT D= vitamin D

Medium example: order set presentation

Medium

Utilization report cards

Changes to manual requisitions

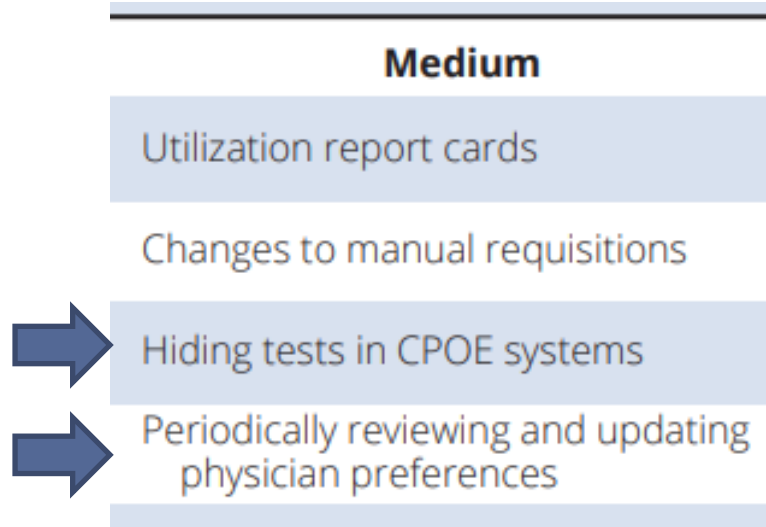
Hiding tests in CPOE systems

Periodically reviewing and updating physician preferences

Admission morning draw order set

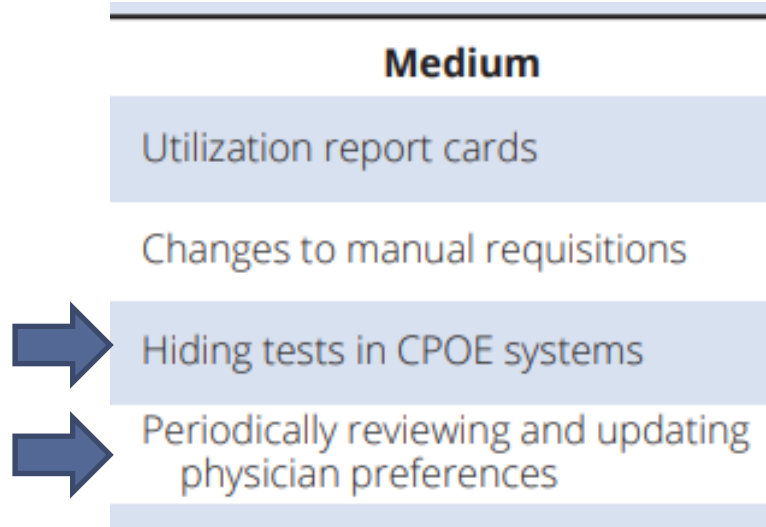
<input type="checkbox"/>	Laboratory
<input type="checkbox"/>	Hematology
<input type="checkbox"/>	<input checked="" type="checkbox"/> CBC w/ Diff
<input type="checkbox"/>	Chemistry
<input type="checkbox"/>	<input checked="" type="checkbox"/> Basic Metabolic Panel
<input type="checkbox"/>	<input checked="" type="checkbox"/> Comprehensive Metabolic Panel
<input type="checkbox"/>	<input checked="" type="checkbox"/> Hepatic Function Panel
<input type="checkbox"/>	<input checked="" type="checkbox"/> Lactate Level
<input type="checkbox"/>	<input checked="" type="checkbox"/> Magnesium Level
<input type="checkbox"/>	<input checked="" type="checkbox"/> Phosphorus Level
<input type="checkbox"/>	<input checked="" type="checkbox"/> Creatine Kinase (CPK)
<input type="checkbox"/>	Coagulation
<input type="checkbox"/>	<input checked="" type="checkbox"/> APTT (Partial Thromboplastin Time)
<input type="checkbox"/>	<input checked="" type="checkbox"/> Prothrombin Time with INR

Medium example: order set presentation

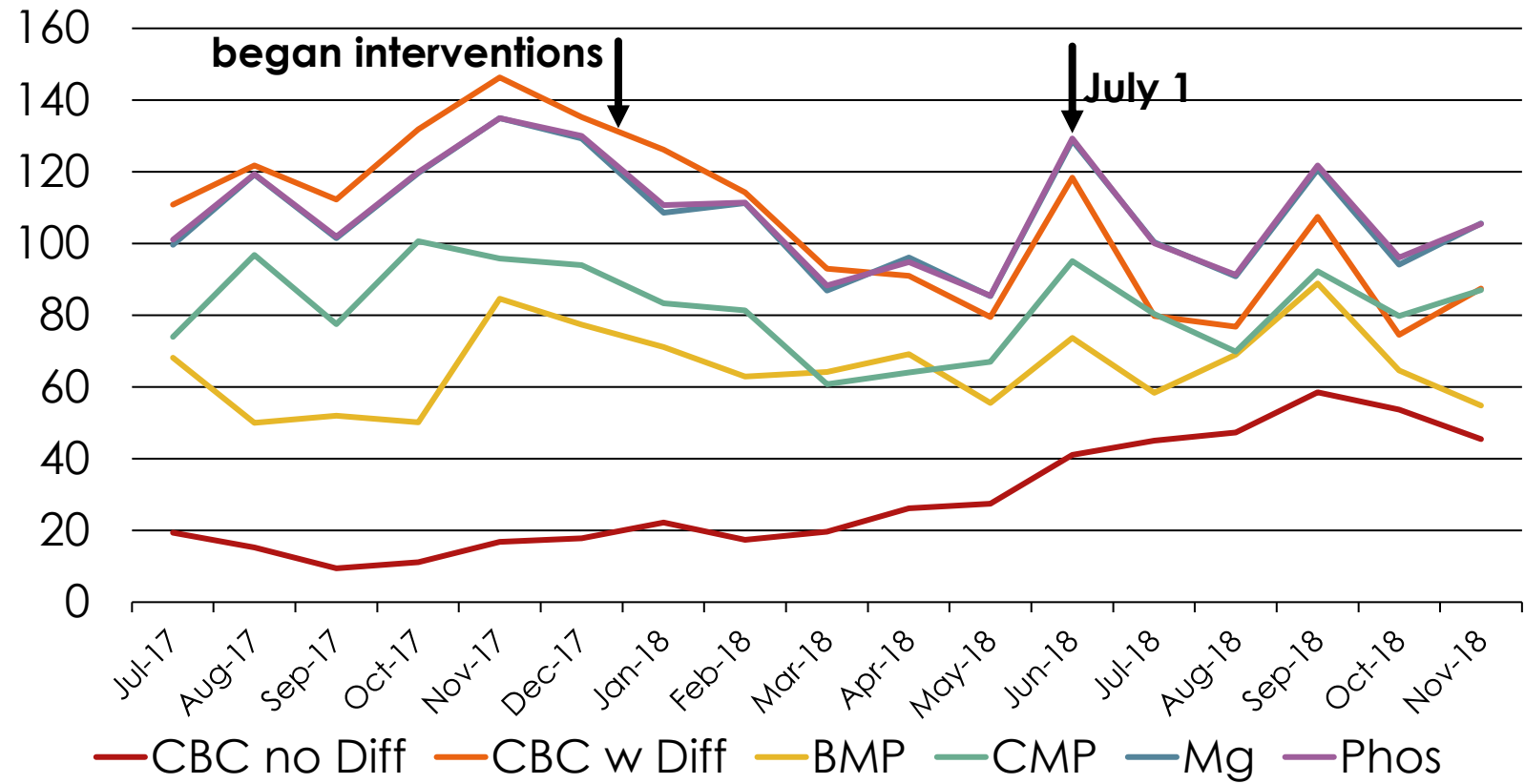


	Pre-intervention	Post-intervention	Change (%)
Median labs per day (all, total)	529 (2.06 labs/patient-day)	454 (1.77 labs/patient-day)	-14%
CBC with differential	127	91	-28%
CBC (no differential)	16	27	+69%
CBC (all, total)	143	118	-17%

Medium example: order set presentation



Total Ordered Labs/Day Normalized by Census In Department of Medicine



Medium example: Duplicate order alerts (if a “soft stop”)

Discern: (1 of 1)

Cerner **WARNING: Duplicate Liver Function Test**

Repeat testing is typically not warranted for this analyte within 24 hours.

An order for Liver Function Test was found within 24 hours. The most recent results are included below:

Albumin Lvl:	4.1	2022-05-04 13:32 PDT
Alk Phos:	44	2022-05-04 13:32 PDT
AST:	47	2022-05-04 13:32 PDT
ALT:	43	2022-05-04 13:32 PDT
Bili Total:	1.0	2022-05-04 13:32 PDT
Bili Direct:	0.2	2022-05-04 13:32 PDT
Protein Total:	6.0	2022-05-04 13:32 PDT

See results review tab for reference ranges, result comments, unit of measure and any flagging of abnormal results.

Alert Action:

Cancel Liver Function Test order

Continue ordering Liver Function Test

OK

<u>Lab test</u>	<u>Ordered within</u>
CBC w/Diff	8 hours
CBC no diff	8 hours
BMP	24 hours
CMP	24 hours
Liver Function Panel	24 hours
Magnesium Level	24 hours
Phosphorus Level	24 hours
Hemoglobin A1c	90 days

Medium example: Duplicate order alerts (if a “soft stop”)

Potential Duplicate Orders Found

Your New Order

This germline genetic test was previously ordered and resulted. Duplicate orders for germline genetic tests are usually not indicated.

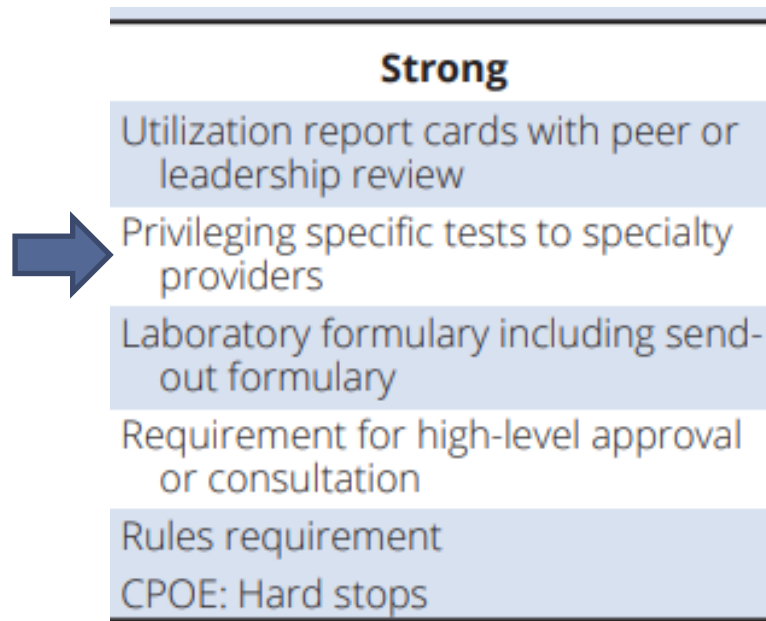
Admark Phospho-Tau Total/Ab42	Once today at 0840. ⌵	Do Not Order
----------------------------------	-----------------------	--------------

Existing Signed Order

Admark Phospho-Tau Total/Ab42	Starting today at 0840. ⌵ Ordering provider: Pfeffer, Michael A., MD	Discontinue
----------------------------------	--	-------------

Continue Cancel

Strong example: specialty restrictions



- Orders for autoimmune encephalopathy antibody panels (>\$1000) must be ordered by a Neurologist
- Orders for serum allergen testing (strict CMS coverage criteria) must be ordered by an Allergist or a Pulmonologist
- Clinical exome sequencing requires genetic counseling prior to testing

It is only considered as “strong” if you have a way to enforce or gate-keep it via CPOE design or screening all orders, etc.

Strong example: test approval/consultation

Strong

Utilization report cards with peer or leadership review

Privileging specific tests to specialty providers

Laboratory formulary including send-out formulary

➔ Requirement for high-level approval or consultation

Rules requirement
CPOE: Hard stops

Care Guidance (1)

According to [HS Policy 3169](#), ordering this inpatient genetic test first requires a discussion with a Molecular Diagnostics Laboratory (MDL) director to ensure that it is the most appropriate test to assess the condition of interest.

ⓘ Please enter the details in the Consult to Genetic Testing, and an MDL director will contact you by the close of the next business day.

If you override the defaults below to keep ordering the genetic test, another alert will prevent you from signing the order.

Remove the following orders?

Remove

Keep

Fragile X Repeat Analysis

Routine, Once, today at 0850, For 1 occurrence Clinical history/indications for procedure (requir...

Apply the following?

Order

Do Not Order

Consult to Genetic Testing

✓ Accept

Dismiss

- A genetic test order on an inpatient prompts the provider to cancel the order and add a “Consult to Genetic Testing.”
- Once the Consult is complete, and if the request approved from a Molecular Medical Lab Director, only then will the order go through.

Strong example: test approval/consultation

Strong

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Rules requirement

CPOE: Hard stops



Impact of a Pathology Resident Case Review Process on Cost Reduction of Expensive Send-Out Tests at a Large Public Hospital

Emily T. Lo, D.O., Allison B. Chambliss, PhD
LAC+USC Medical Center, Los Angeles, CA



Disclosure statement: The authors of this abstract have indicated they have no conflict of interests that relate to the contents of this abstract

2.5 year retrospective review at LAC+USC*

Expensive send-out tests	Total # of requests	% of requests denied or diverted	Total reference lab cost savings
Test 1	25	12%	\$3,000
Test 2	67	24%	\$18,505
Test 3	94	22%	\$16,170
All tests	366	15%	\$56,237

*molecular tests not included in analysis

Strong example: send-out formulary

Strong

Utilization report cards with peer or leadership review

Privileging specific tests to specialty providers

Laboratory formulary including send-out formulary

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Rules requirement

CPOE: Hard stops



UCLA Health

Request for a New Send Out (Reference Lab) Test

In accordance with HS 1309, please submit the completed form to the [Smartsheet portal](#) to request approval for a new test that is not orderable in CareConnect.

The Department of Pathology and Laboratory Medicine has a process for evaluating new test requests and qualifying reference laboratories to ensure quality of patient care, as well as compliance with accreditation requirements and applicable State/Federal laws including, but not limited to, possession of CLIA certification and a California State Laboratory license. The review process for a new laboratory test may take approximately 8-10 weeks. Avoid collecting the specimen until the request has been approved. For urgent requests, please also send a copy of the form to LabSupportMngmntGrp@mednet.ucla.edu.

Date request submitted:	
NEW LABORATORY TEST INFORMATION	
Test name:	
Medical justification:	
Patient population:	
Is this test being requested to replace a current test? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Test Code:	CPT/MolDx Codes:
Estimated Annual Test Volume:	Estimated Cost Per Test:
TESTING LABORATORY INFORMATION	
Lab Name:	
Lab Address:	
Why does this test need to be performed by the above named laboratory?	
<input type="checkbox"/> Not applicable. Requested test could be performed by a UCLA Clinical Laboratory.	
<input type="checkbox"/> Sole provider of the test.	
<input type="checkbox"/> Higher quality results (Explain in "Additional Comments" section below.)	
<input type="checkbox"/> Shorter turn-around-time (Explain in "Additional Comments" section below.)	
<input type="checkbox"/> Other reason (Explain in "Additional Comments" section below.)	
Additional Comments:	

Strong example: CPOE hard stops

Strong

Utilization report cards with peer or leadership review

Privileging specific tests to specialty providers

Laboratory formulary including send-out formulary

Requirement for high-level approval or consultation

Rules requirement
CPOE: Hard stops



Order Validation

The following information is missing or may need your attention

Warning:
This lab test has been ordered in the last 24 hours; repeat testing is usually not warranted for this analyte within 24 hours. If you feel you need to override the alert please call Lab Client Services (216-444-5733).
HGB A1C was ordered on 5/13/10 at 1:10 PM by provider **KNOTT, PHILIP D**

Date/Time	Component	Result	Ref Range	Flag
5/13/10 1:37 PM	Hemoglobin A1C	7.2	4.0 - 6.0 %	H
5/13/10 1:37 PM	Estimated Average Glucose	160	mg/dL	

These orders cannot be accepted

OK

Strong example: CPOE hard stops

Strong

Utilization report cards with peer or leadership review

Privileging specific tests to specialty providers

Laboratory formulary including send-out formulary

Requirement for high-level approval or consultation

Rules requirement
CPOE: Hard stops

- >1200 tests not allowed more than once per 24 h
- 2-year data review:
 - 11,790 test orders blocked
 - Clinician called to request the test still be run 3% of the time
 - Cost savings of \$183,586
 - No adverse events

What about targeting under-utilization?

“I receive lots of requests to prevent underutilization in response to external quality programs and internal safety incidents:

- Hgb A1c for patients diagnosed with diabetes*
- PTH for patients with repeated hypercalcemia*
- INR levels for patients on warfarin*
- Blood cultures for patients suspected of sepsis*

I get much fewer requests to prevent overutilization...

-Eric Cheng, MD

CMIO, UCLA Health

“Sepsis lactate” at UCLA

CMS Core Measure SEP-1: Early Management Bundle, Severe Sepsis/Septic Shock

Severe Sepsis

Within three hours of presentation

>36 mg/dL

- An initial lactate level measurement must be obtained. If the results are >4mmol/L, resuscitation with 30ml/kg crystalloid fluids should be started
- Blood cultures drawn prior to antibiotic administration
- Broad spectrum or other antibiotics must be administered

Within six hours of presentation

>18 mg/dL

- Repeat lactate level measurement should be done if the initial lactate measurement was elevated (> 2mmol/L).

Lactate Panel ✓ Accept

To evaluate patients for sepsis or infection please order Sepsis Lactate. If Sepsis Lactate is >18 mg/dL, a repeat lactate level will automatically be performed per CMS Sepsis Bundle requirements (SEP-1).

Sepsis Lactate

Lactate

Lab Stewardship: What works well

- Multidisciplinary lab committee
- High-level oversight committee and clinical leadership champions
- Pathology is included in health system strategy planning
- A program manager(s) dedicated to stewardship and quality
- Faculty and staff dedicated to:
 - Stewardship
 - Quality
 - Informatics

Lab Stewardship: Remaining challenges

- Genetic testing
- Expanding health systems
 - Mergers and acquisitions
- Access to data
- Quantifying successes
 - Benchmarking
 - Outcomes

Questions?

