DEMONSTRATING THE VALUE OF THE LABORATORY: PARTNERSHIPS WITH CASE MANAGEMENT

Andrew Fletcher, MD, MBA, CPE, CHCQM, FCAP

ARUP LABORATORIES

Definition of Case Management

Case management is a collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to **promote patient safety, quality of care, and cost-effective outcomes.**

https://www.cmsa.org/who-we-are/what-is-a-case-manager/

§ 482.30 Condition of participation: Utilization review.

- The hospital must have in effect a utilization review (UR) plan that provides for review of services furnished by the institution and by members of the medical staff to patients entitled to benefits under the Medicare and Medicaid programs.

https://www.law.cornell.edu/cfr/text/42/482.30

Medicare Incentive Programs

3% Penalty

2% Penalty (or Bonus)

1% Penalty

6% Penalty

Hospital Readmissions Reduction Program (HRRP)
https://qualitynet.cms.gov/files/5f294d57f75e42002168c687?filename=FY2021_HRRP_FAQs.pdf

Hospital Value-Based Purchasing Program (VBP)
https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Hospital-Value-Based-Purchasing-

Hospital-acquired condition Reduction Program (HACRP)
https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HAC/Hospital-Acquired-Conditions

Topics Covered

- Length of Stay
- Transitions of Care
- Denial of Payment
- Readmissions
- Hospital-Acquired Conditions

Length of Stay

Patients with Chest Pain

Timely & effective care

Average (median) time patients spent in the emergency department before leaving from the visit

A lower number of minutes is better

226 minutes

Other Very High volume hospitals:

Nation: 169 minutes 25,26

https://www.medicare.gov/care-compare/

Creatine Kinase Muscle/Brain (CK-MB) versus Troponin

- Choosing Wisely guidelines recommend against using CK-MB tests for acute cardiac marker testing.

1,713 CK-MB tests ordered	17,878 troponin tests ordered
3-4 serial tests q6 hours	3 serial tests q3 hours
18-hour CK-MB rule out	6-hour troponin rule out

https://www.choosingwisely.org/clinician-lists/american-society-clinical-pathology-myoglobin-to-diagnose-acute-myocardial-infarction/

AMERICAN COLLEGE of CARDIOLOGY

Journal of the American College of Cardiology

Fourth Universal Definition of Myocardial Infarction (2018)

Expert Consensus Document

Kristian Thygesen, Joseph S. Alpert, Allan S. Jaffe, Bernard R. Chaitman, Jeroen J. Bax, David A. Morrow, Harvey D. White, and

... SEE ALL AUTHORS

J Am Coll Cardiol. 2018 Oct, 72 (18) 2231–2264

https://www.jacc.org/doi/full/10.1016/j.jacc.2018.08.1038

AACC Better health through laboratory medicine.

Clinical Chemistry

Best Practices for Monitoring Cardiac Troponin in Detecting Myocardial Injury FREE

Fred S Apple ✉, Allan S Jaffe, Scott Sharkey, Peter Kavsak, Michael C Kontos, Amy K Saenger, Stephen Smith

Clinical Chemistry, Volume 63, Issue 1, 1 January 2017, Pages 37–44,
https://doi.org/10.1373/clinchem.2016.257428
Published: 01 January 2017 **Article history** ▾

https://www.aacc.org/cln/articles/2014/may/cardiac-troponin

CLN

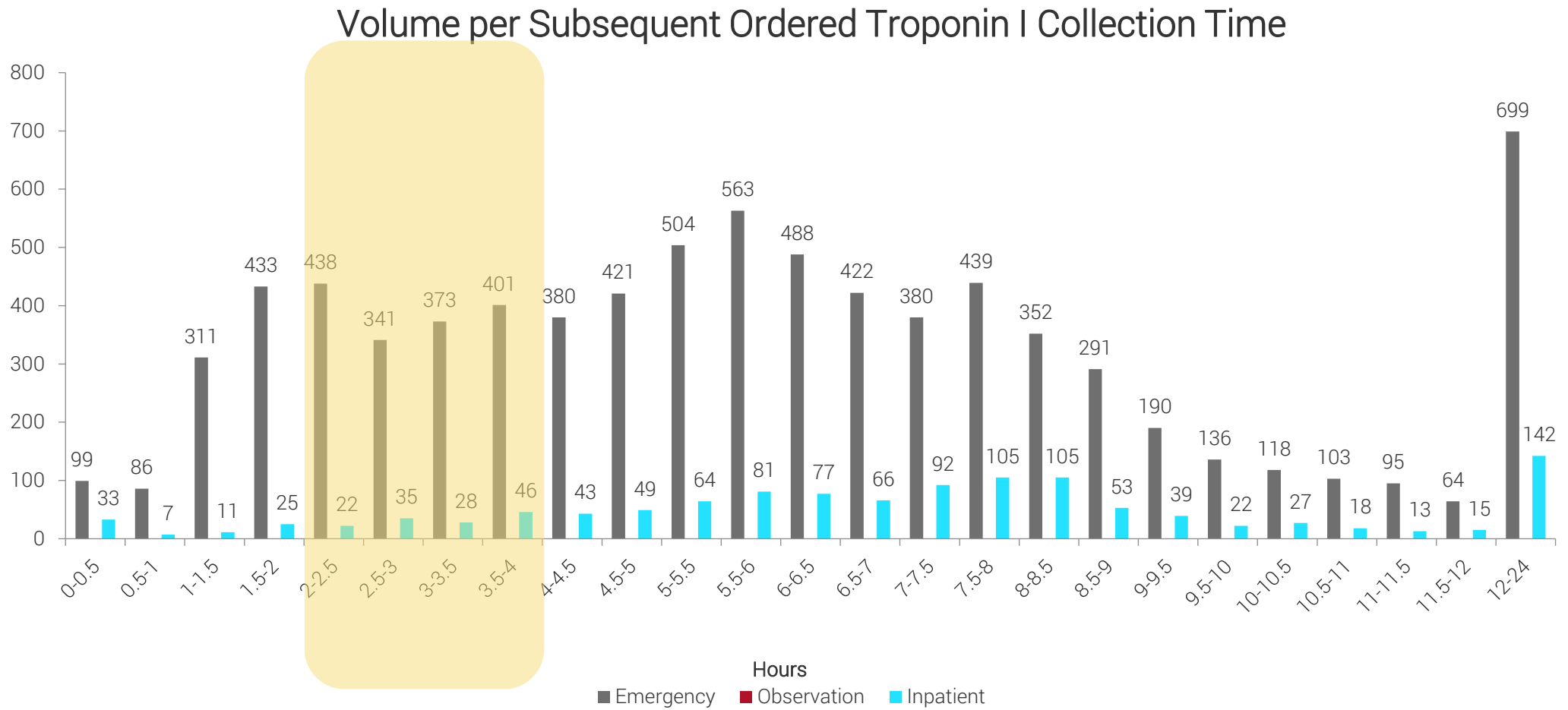
Cardiac Troponin

Serial Ordering Recommendations: For Today and Tomorrow

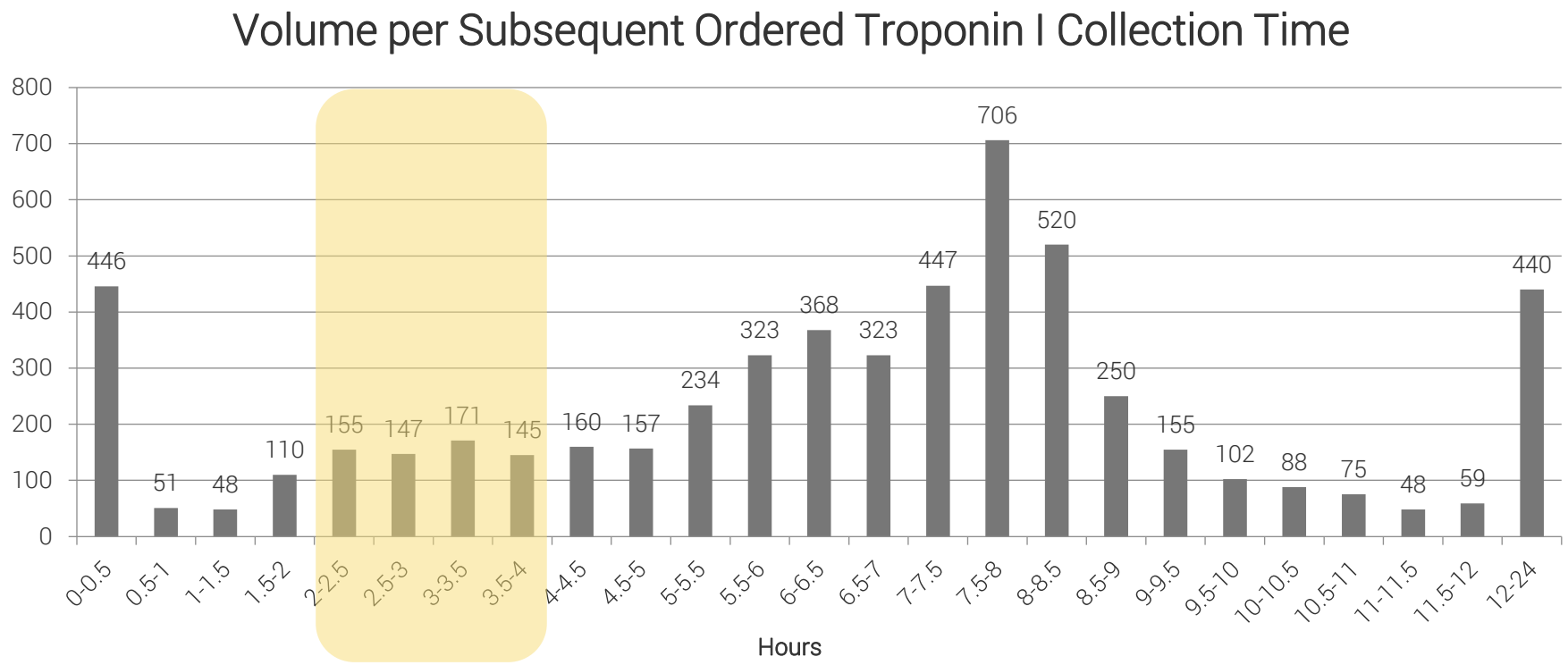
Author: Sara Love, PhD, and Fred Apple, PhD, DABCC // **Date:** MAY.1.2014 // **Source:** Clinical Laboratory News

https://academic.oup.com/clinchem/article/63/1/37/5612807

Troponin Interval Example #1



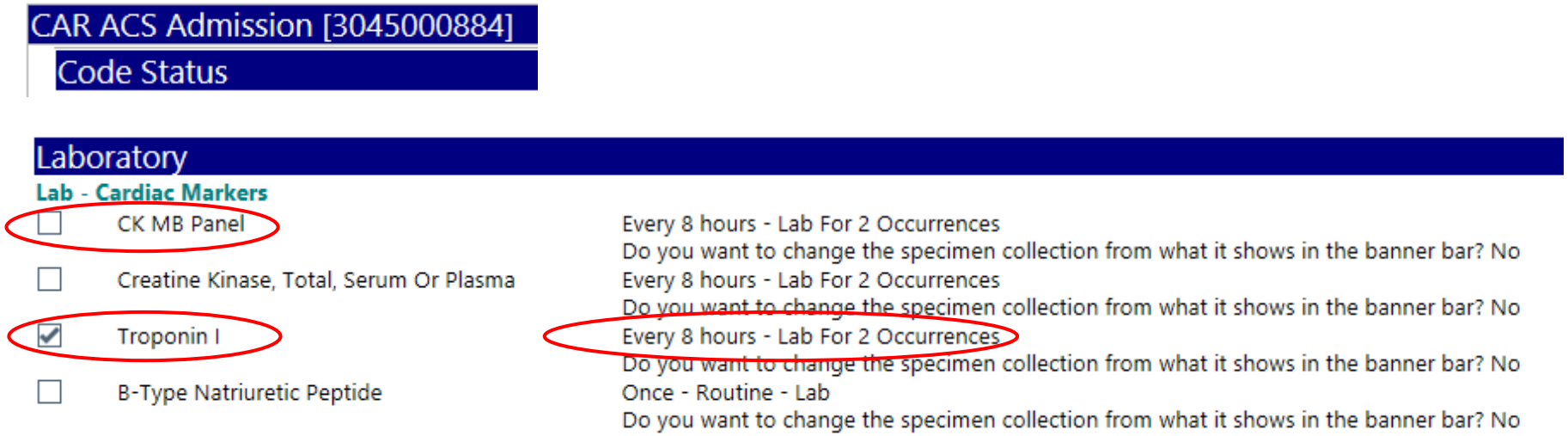
Troponin Interval Example #2



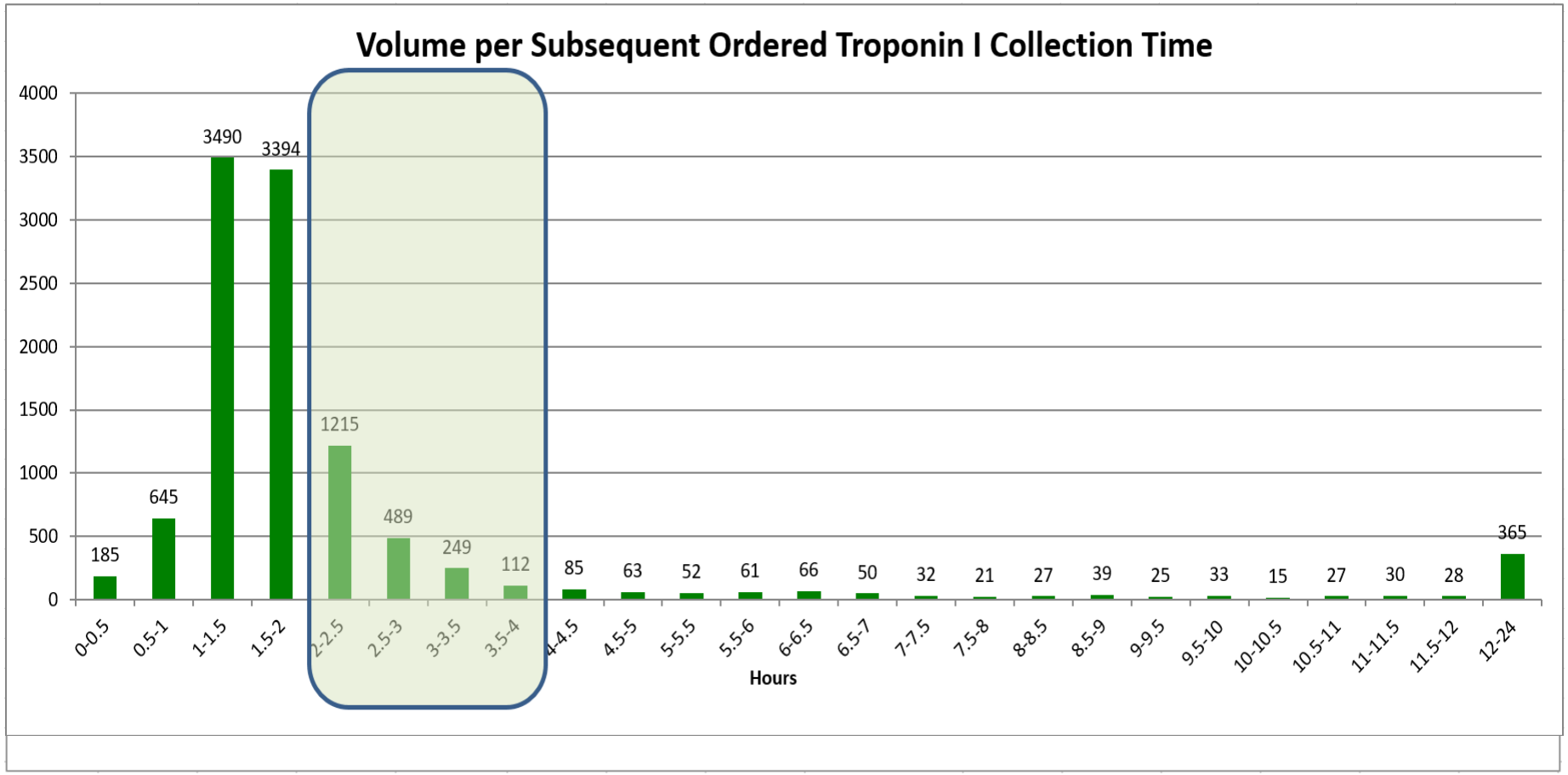
Troponin Interval Example #2 Order Set

"Every system is perfectly designed to get the result that it does."

—W. Edwards Deming



Troponin Interval Example #3



The Journal of
APPLIED LABORATORY MEDICINE

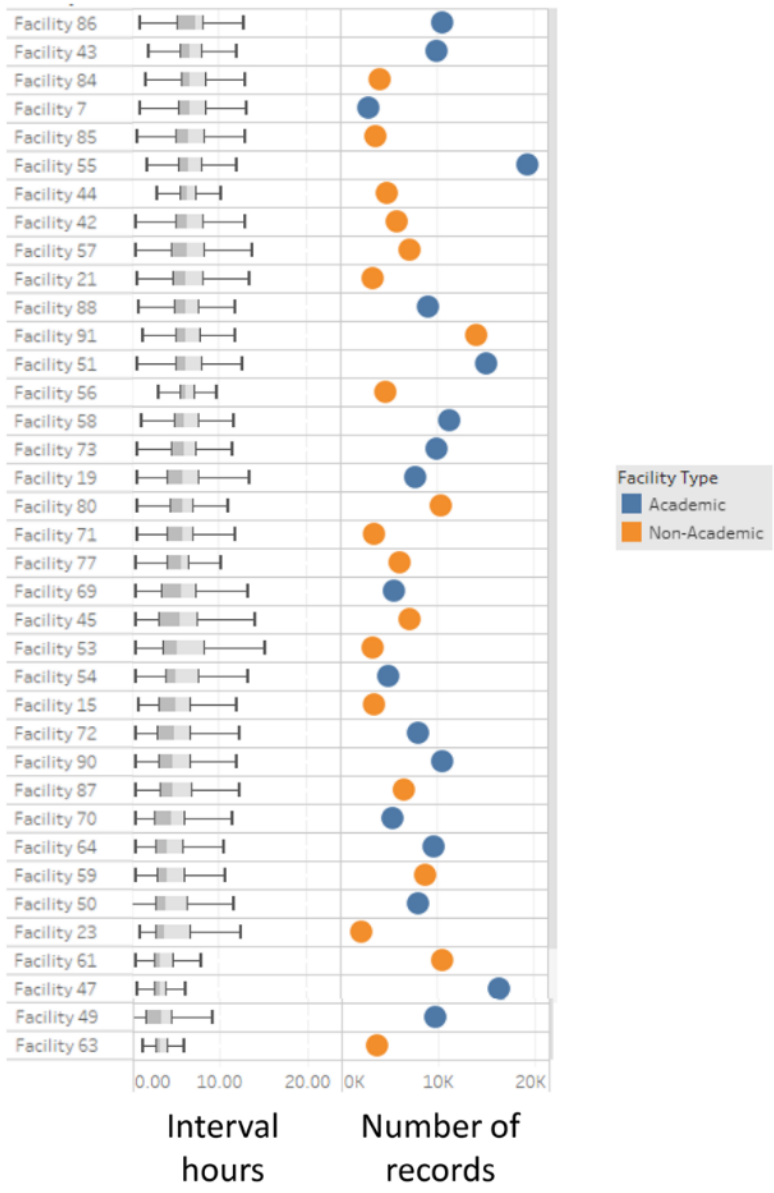
Analysis of Inpatient and Emergency Department Serial Troponin Testing Intervals in the United States

Andrew Fletcher ✉, Erik Forsman, Brian R Jackson

The Journal of Applied Laboratory Medicine, jfaa185,
https://doi.org/10.1093/jalm/jfaa185
Published: 09 November 2020 **Article history** ▾

https://pubmed.ncbi.nlm.nih.gov/33169147/

Inpatient cTn Intervals



Recommendations

Discuss intervals with lab

Review order sets and provider preferences

Standardize ordering protocol

Transition of Care

Tests Pending at Discharge (TPADs)

Unplanned hospital visits

Overall

Rate of readmission after discharge from hospital (hospital-wide)

18%
Worse than the national rate

National result: 15.6%

Number of included patients: 2382

https://www.medicare.gov/care-compare/

Springer | JGIM Journal of General Internal Medicine
springer.com | This journal | Toc Alerts | Submit Online | Open Choice

J Gen Intern Med. 2018 May; 33(5): 750–758.
Published online 2018 Jan 19. doi: 10.1007/s11606-017-4290-9

PMCID: PMC5910344
PMID: 29352419

A Systematic Review of Interventions to Follow-Up Test Results Pending at Discharge

Patrick J. Darragh, MD, MSc,[1,2] T. Bodley, MD,[1] A. Orchanian-Cheff, BA, MISt,[3] K. G. Shojania, MD,[1] J. L. Kwan, MD, MPH,[1] and P. Cram, MD, MBA[1]

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5910344/

41%–100%
of discharges have at least 1 TPAD

30%-40%
are likely to change management

45%
of patients with TPADs are readmitted

66%
of outpatient physicians reported preventable errors

NATIONAL QUALITY FORUM
Driving measurable health improvements together

Serious Reportable Event, a.k.a. "Never Event"

Patient death or serious injury resulting from failure to follow up or communicate laboratory, pathology, or radiology test results (new)

Applicable in: hospitals, outpatient/office-based surgery centers, ambulatory practice settings/office-based practices, long-term care/skilled nursing facilities

http://www.qualityforum.org/Topics/SREs/List_of_SREs.aspx#sre4

Transition of Care TPADs

28,776
Tests resulted post-discharge

→

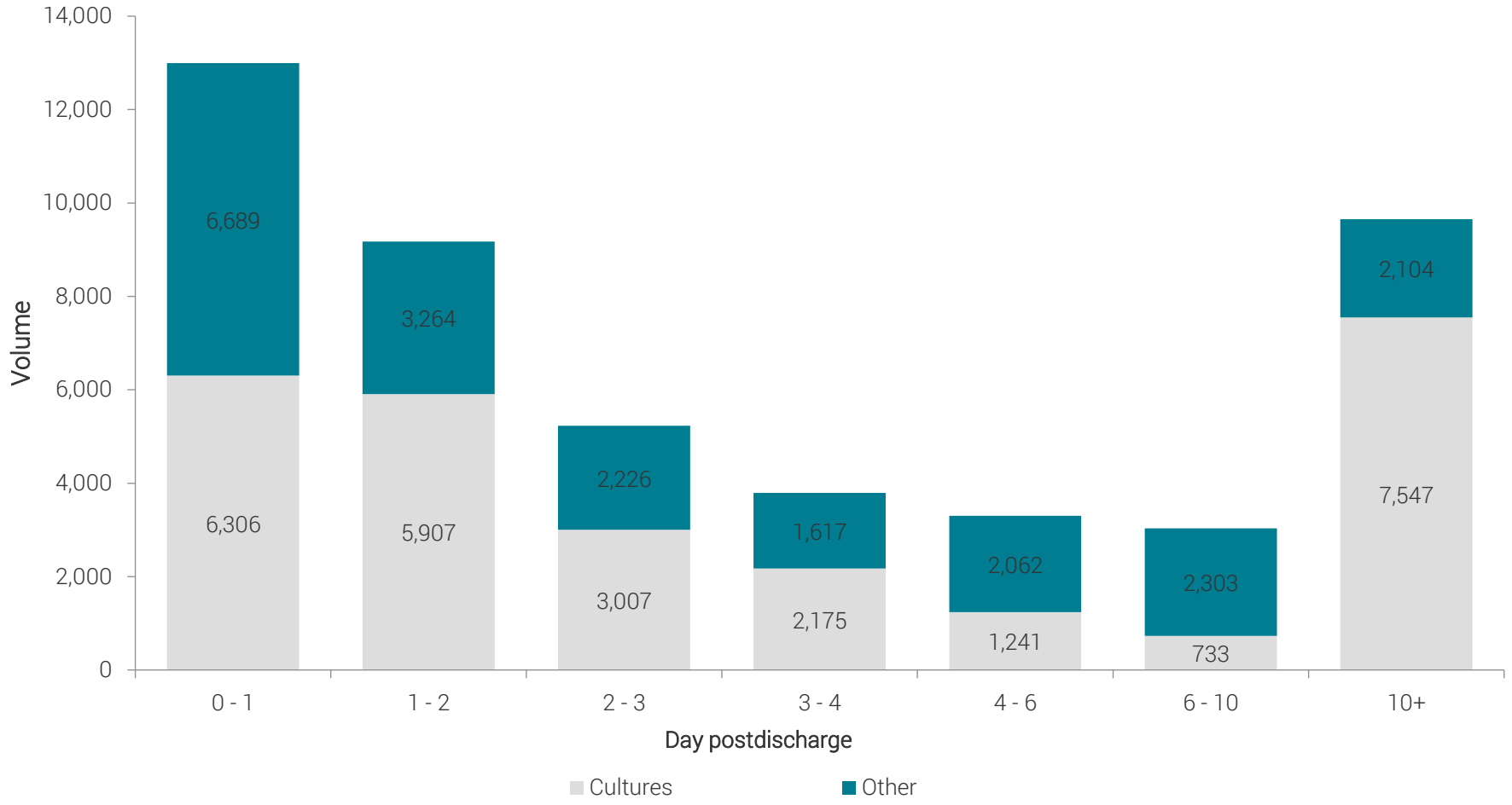
7,728
Excluding cultures

$702,624
total lab cost

→

$290,234
Excluding cultures

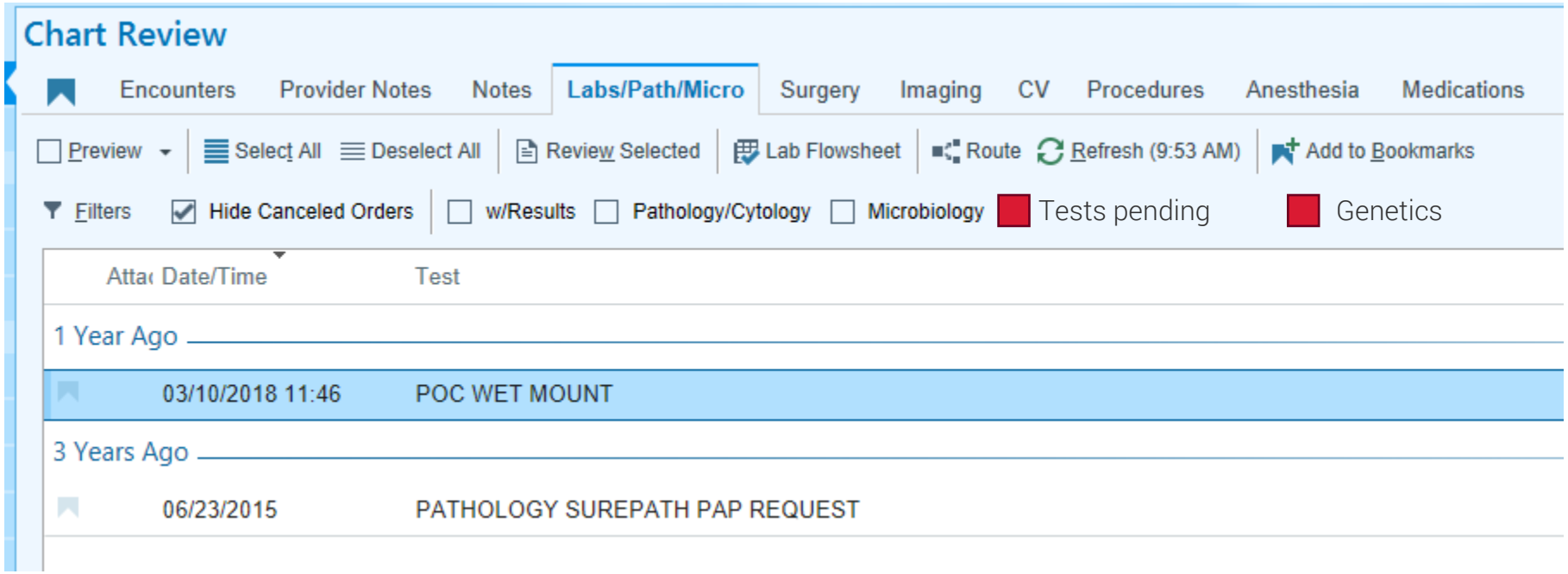
Results after Discharge



Top Tests Resulted Postdischarge - Example

Test Name	Volume	% Postdischarge
Cytology, Nongynecologic	314	28.6%
Hemoglobin A1c	307	5.4%
CBC with Plt Count and Auto Diff	148	0.2%
Ferritin	121	5.0%
Vitamin B1 (Thiamine), Whole Blood	107	43.1%
Cytomegalovirus DNA Quantitation by PCR	102	10.1%
Tacrolimus by HPLC-MS/MS	101	2.4%
Leuk/Lymph Phenotyping, Flow Cytometry	91	10.2%
Hepatitis B Surface Ag w/ Reflex to Conf	90	6.3%
Serum Protein Electrophoresis Reflex	80	26.7%
Vitamin D, 25-Hydroxy	78	4.1%
ANCA Vasculitis Profile w/Rflx to Titer	76	21.2%
ANA by IFA, IgG	75	22.4%
Drug Screen (Nonforensic), Urine	75	42.1%

Recommendations – EMR TPAD Filter



Recommendations: Test Formulary

Review

all sendout testing performed in 1 year

Eliminate

test listing in menu if ordered <4 times in 1 year

Review

remaining tests on menu to see if reasonable

EMR Optimization

- [ ] CELIAC SEROLOGY (REF,$$,3d)
- [ ] IMMUNOGLOBULIN E (IGE) (REF,$$,5d)
- [ ] LEVETIRACETAM LEVEL (REF,$$,2d)
- [ ] PROTEIN C/S PANEL, FUNCTIONAL (REF,$$,3d)
- [ ] RENIN (REF,$$,2d)
- [ ] THYROID Abs (REF,$$,2d)
- [ ] ALPHA-FETOPROTEIN (AFP) (REF,$$,3d)
- [ ] B2 GLYCOPROTEIN I ABS IGG IGM (REF,$$,3d)
- [ ] BUPRENORPHINE and METABOLITES, URINE (REF,$$,5d)
- [ ] CARDIOLIPIN Abs (IgG, IgM, IgA) (REF,$$,2d)
- [ ] GLUTAMIC ACID DECARBOXYLASE AB (REF,$$,4d)
- [ ] ISLET CELL (REF,$$,4d)
- [ ] LAMOTRIGINE LEVEL (REF,$$,2d)
- [ ] OXCARBAZEPINE (TRILEPTAL) (REF,$$,3d)
- [ ] THYROID STIMULATING IMMUNOGLOB (REF,$$,3d)
- [ ] THYROXINE BINDING GLOBULIN (REF,$$,3d)
- [ ] TISSUE TRANSGLUTAMINASE IGA AB (REF,$$,3d)
- [ ] TOPIRAMATE (TOPRAMAX) LEVEL (REF,$$,3d)
- [ ] TPMT ENZYME (REF,$$,2d)
- [ ] VON WILLEBRAND MULTIMERIC PANEL (REF,$$,4d)
- [ ] ACTIVATED PROTEIN C RESISTANCE (REF,$$,5d)
- [ ] ADRENOCORTICOTROPHIC HORMONE (ACTH) (REF,$$,3d)
- [ ] ALDOSTERONE, SERUM (REF,$$,5d)
- [ ] ALDOSTERONE/RENIN ACT RATIO (REF,$$,6d)

Topics Covered

- Length of Stay
- Transitions of Care
- Denial of Payment
- Readmissions
- Hospital-Acquired Conditions

Denial of Payment

Sepsis

Sepsis care

Sepsis is a complication that occurs when your body has an extreme response to an infection. It causes damage to organs in the body and can... Read more

Percentage of patients who received appropriate care for severe sepsis and septic shock

Higher percentages are better

48% 2
of 75 patients

National average: 60%

https://www.medicare.gov/care-compare/

Centers for Medicare & Medicaid Services
CMS Measures Inventory Tool

Severe Sepsis and Septic Shock: Management Bundle (Composite Measure)

NQF ENDORSEMENT STATUS: Endorsed | **NQF ID:** 0500 | **MEASURE TYPE:** Process | **INFO AS OF:** Not available | **CMIT ID:** 1017 | **REVISION:** 1

This measure focuses on adults 18 years and older with a diagnosis of severe sepsis or septic shock. Consistent with Surviving Sepsis Campaign guidelines, the measure contains several elements, including measurement of lactate, obtaining blood cultures, administering broad spectrum antibiotics, fluid resuscitation, vasopressor administration, reassessment of volume status and tissue perfusion, and repeat lactate measurement. As reflected in the data elements and their definitions, these elements should be performed in the early management of severe sepsis and septic shock.

https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=1017

Diagnostic Related Group (DRG): 194, $5,694.01

J11.08 *Influenza due to unidentified influenza virus with specified pneumonia*

J45.901CC *Unspecified asthma with (acute) exacerbation* [complication and comorbidity]

E87.2CC *Acidosis*

J15.1 *Pneumonia due to pseudomonas*

R09.02 *Hypoxemia*

J42 *Unspecified chronic bronchitis*

DRG: 871, $10,621.61

A41.9 *Sepsis, unspecified organism*

J11.08

J45.901CC

E87.2CC

J15.1

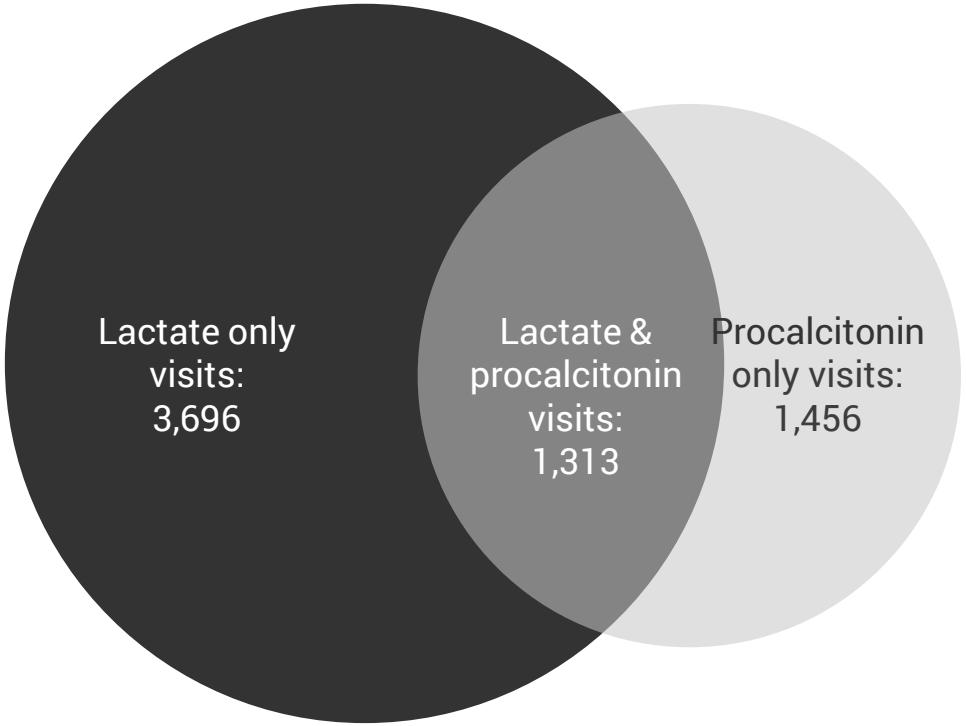
R09.02

J42

https://www.aapc.com/blog/31689-sepsis-and-sirs-in-icd-10-cm/

DRG: 871, $10,621.61
A41.9 *Sepsis, unspecified organism*

$15,465,000



https://www.aapc.com/blog/31689-sepsis-and-sirs-in-icd-10-cm/

Recommendations

LIS/data warehouse reports

Audit sepsis denials

Physician queries/clinical documentation integrity (CDI)

Topics Covered

- Length of Stay
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- Readmissions
- Hospital-Acquired Conditions

Readmissions

Pharmacogenetics

Unplanned hospital visits

Heart attack

Rate of readmission for heart attack patients

17.2%
No different than the national rate

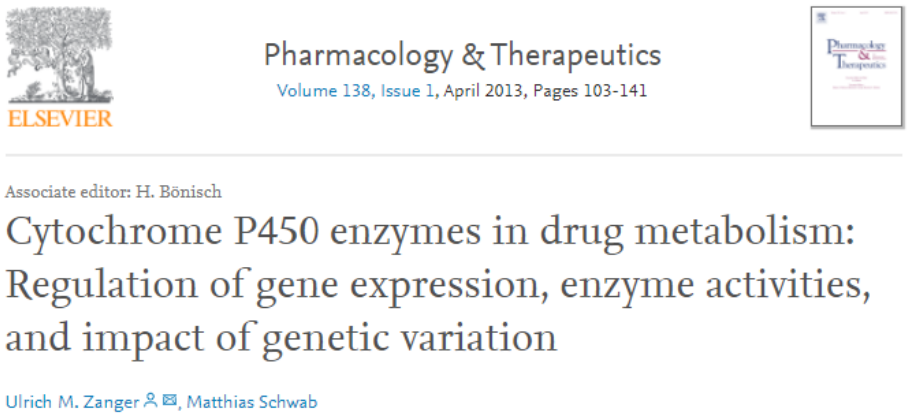
National result: 16.1%

Number of included patients: 128

https://www.medicare.gov/care-compare/

Pharmacogenomics: the study of how genes affect a person's response to drugs

- More than 85% of patients have significant genetic variation in the cytochrome P450 (CYP450) genes that metabolize the majority of the most commonly prescribed medications. [4, 5]



https://www.sciencedirect.com/science/article/pii/S0163725813000065?via%3Dihub

https://science.sciencemag.org/content/286/5439/487

Pharmacogenomics: the study of how genes affect a person's response to drugs

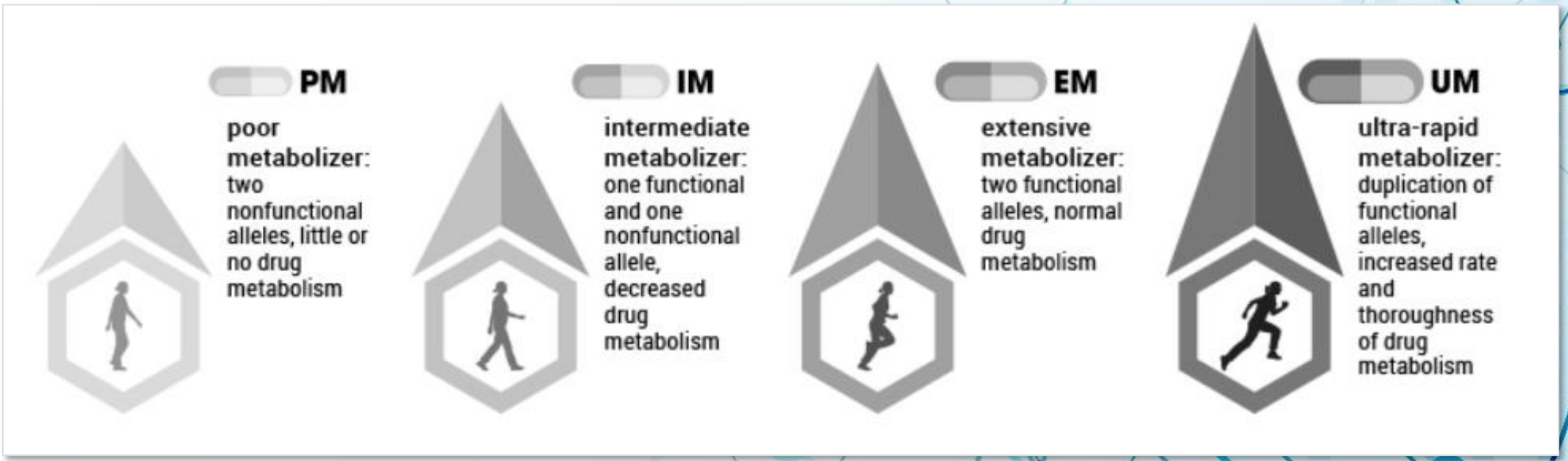
- An estimated 35% of seniors experience adverse drug events (ADEs), nearly half of these preventable, [10] and 10–17% of hospitalizations of older patients are directly related to adverse drug reactions (ADRs). [11]

https://www.healthaffairs.org/doi/10.1377/hlthaff.W5.152

https://www.nejm.org/doi/full/10.1056/nejmsa1103053

Coagulation

- Clopidogrel (Plavix)
- CYP2C19



HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use PLAVIX safely and effectively. See full prescribing information for PLAVIX.

PLAVIX (clopidogrel bisulfate) tablets
Initial U.S. Approval: 1997

WARNING: DIMINISHED EFFECTIVENESS IN POOR METABOLIZERS

See full prescribing information for complete boxed warning.

- **Effectiveness of Plavix depends on activation to an active metabolite by the cytochrome P450 (CYP) system, principally CYP2C19. (5.1)**
- **Poor metabolizers treated with Plavix at recommended doses exhibit higher cardiovascular event rates following acute coronary syndrome (ACS) or percutaneous coronary intervention (PCI) than patients with normal CYP2C19 function. (12.5)**
- **Tests are available to identify a patient's CYP2C19 genotype and can be used as an aid in determining therapeutic strategy. (12.5)**
- **Consider alternative treatment or treatment strategies in patients identified as CYP2C19 poor metabolizers. (2.3, 5.1)**

----------RECENT MAJOR CHANGES----------

Boxed Warning	03/2010
Dosage and Administration (2.3, 2.4)	08/2010
Warnings and Precautions (5.1, 5.2, 5.3)	08/2010

----------INDICATIONS AND USAGE----------

Plavix is a $P2Y_{12}$ platelet inhibitor indicated for:

- Acute coronary syndrome
  - For patients with non-ST-segment elevation ACS [unstable angina (UA)/non-ST-elevation myocardial infarction (NSTEMI)] including patients who are to be managed medically and those who are to be managed with coronary revascularization, Plavix has been shown to decrease the rate of a combined endpoint of cardiovascular death, myocardial infarction (MI), or stroke as well as the rate of a combined endpoint of cardiovascular death, MI, stroke, or refractory ischemia. (1.1)
  - For patients with ST-elevation myocardial infarction (STEMI), Plavix has been shown to reduce the rate of death from any cause and the rate of a combined endpoint of death, re-infarction, or stroke. The benefit for patients who undergo primary PCI is unknown. (1.1)
- Recent myocardial infarction (MI), recent stroke, or established peripheral arterial disease. Plavix has been shown to reduce the combined endpoint of new ischemic stroke (fatal or not), new MI (fatal or not), and other vascular death. (1.2)

----------DOSAGE AND ADMINISTRATION----------

- Acute coronary syndrome (2.1)
  - Non-ST-segment elevation ACS (UA/NSTEMI): 300 mg loading dose followed by 75 mg once daily, in combination with aspirin (75-325 mg once daily)
  - STEMI: 75 mg once daily, in combination with aspirin (75-325 mg once daily), with or without a loading dose and with or without thrombolytics
- Recent MI, recent stroke, or established peripheral arterial disease: 75 mg once daily (2.2)

----------DOSAGE FORMS AND STRENGTHS----------

Tablets: 75 mg, 300 mg (3)

----------CONTRAINDICATIONS----------

- Active pathological bleeding, such as peptic ulcer or intracranial hemorrhage (4.1)
- Hypersensitivity to clopidogrel or any component of the product (4.2)

----------WARNINGS AND PRECAUTIONS----------

- Reduced effectiveness in impaired CYP2C19 function: Avoid concomitant use with drugs that are strong or moderate CYP2C19 inhibitors (e.g., omeprazole). (5.1)
- Bleeding: Plavix increases risk of bleeding. Discontinue 5 days prior to elective surgery. (5.2)
- Discontinuation of Plavix: Premature discontinuation increases risk of cardiovascular events. (5.3)
- Recent transient ischemic attack or stroke: Combination use of Plavix and aspirin in these patients was not shown to be more effective than Plavix alone, but was shown to increase major bleeding. (5.4)
- Thrombotic thrombocytopenic purpura (TTP): TTP has been reported with Plavix, including fatal cases. (5.5)

----------ADVERSE REACTIONS----------

Bleeding, including life-threatening and fatal bleeding, is the most commonly reported adverse reaction. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Bristol-Myers Squibb/Sanofi Pharmaceuticals Partnership at 1-800-633-1610 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

----------DRUG INTERACTIONS----------

- Nonsteroidal anti-inflammatory drugs (NSAIDs): Combination use increases risk of gastrointestinal bleeding. (7.2)
- Warfarin: Combination use increases risk of bleeding. (7.3)

----------USE IN SPECIFIC POPULATIONS----------

Nursing mothers: Discontinue drug or nursing, taking into consideration importance of drug to mother. (8.3)

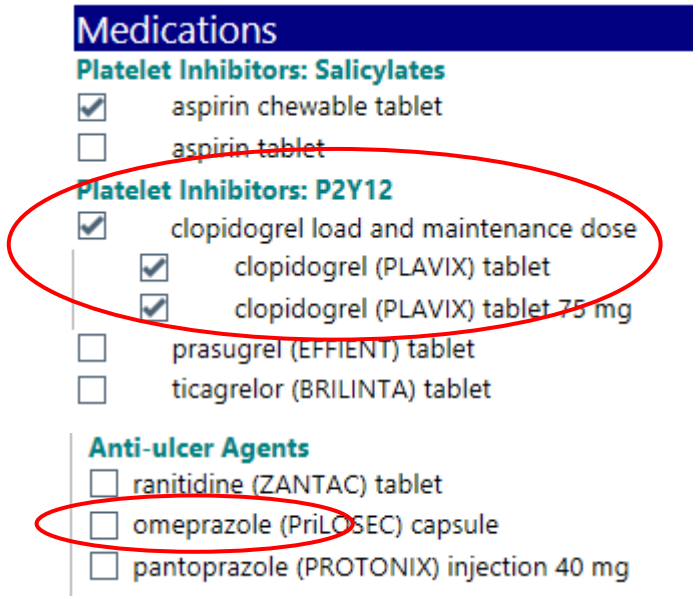
See 17 for PATIENT COUNSELING INFORMATION.

Revised: August 2010

CYP2C19

- Example: 5,000 patients discharged on Plavix without *CYP2C19* testing
  - » 30% no *CYP2C19* expression
  - » 10% weak *CYP2C19* expression
  - » 40% of total patients on ineffective antiplatelet agent
  - » 5,000 x 0.4 = 2,000 patients at risk

Acute Coronary Syndrome Order Set



No orders for CYP2C19

Cardiovascular Drugs and Therapy
https://doi.org/10.1007/s10557-019-06896-8

ORIGINAL ARTICLE

Cost-Effectiveness of Strategies to Personalize the Selection of $P2Y_{12}$ Inhibitors in Patients with Acute Coronary Syndrome

Kibum Kim[1] · Daniel R. Touchette[2,3] · Larisa H. Cavallari[4] · Amer K. Ardati[5] · Robert J. DiDomenico[2,6]

https://pubmed.ncbi.nlm.nih.gov/31367811/

The Outcomes of Implementing and Integrating Pharmacogenomics within Comprehensive Medication Management in Team-Based Care: *A Review of the Evidence on Quality, Access and Costs, October 2020*

DEVELOPED BY THE GTMRX PRECISION MEDICINE VIA ADVANCED DIAGNOSTICS WORKGROUP:

https://gtmr.org/wp-content/uploads/2020/11/The-Outcomes-of-Implementing-and-Integrating-PGx-within-CMM-in-Team-Based-Care-A-Review-of-the-Evidence-on-Quality-Access-and-Costs-11252020-1.pdf

Stratified Medicine

The effect of pharmacogenetic profiling with a clinical decision support tool on healthcare resource utilization and estimated costs in the elderly exposed to polypharmacy

D. Brixner, E. Biltaji, A. Bress, S. Unni, X. Ye, T. Mamiya, ...show all

Pages 213-228 | Accepted 15 Oct 2015, Accepted author version posted online: 19 Oct 2015, Published online: 11 Nov 2015

https://www.tandfonline.com/doi/full/10.3111/13696998.2015.1110160

Cost Reduction

64%

resulted in medication change recommendation

87%

of recommendations accepted by prescribers

Resulting in:

11% reduction in pharmacy spend

22% reduction in hospitalizations

27% reduction in slip and falls

Download this table (CSV) - Last modified: Jun 12, 2020

# (N=377)	GENE (UNIQUE = 127)	DRUG (UNIQUE = 240)	GUIDELINE	CPIC LEVEL	PHARMGKB LEVEL OF EVIDENCE	PGX ON FDA LABEL	CPIC PUBLICATIONS (PMID)
1	HLA-B	abacavir	Guideline	A	1A	Testing required	• 24561393 • 22378157
2	HLA-B	allopurinol	Guideline	A	1A		• 23232549 • 26094938
3	CYP2D6	amitriptyline	Guideline	A	1A	Actionable PGx	• 23486447 • 27997040
4	CYP2C19	amitriptyline	Guideline	A	1A		• 23486447 • 27997040
5	UGT1A1	atazanavir	Guideline	A	1A		• 26417955
6	CYP2D6	atomoxetine	Guideline	A	1A	Actionable PGx	• 30801677
7	TPMT	azathioprine	Guideline	A	1A	Testing recommended	• 21270794 • 23422873 • 30447069
8	NUDT15	azathioprine	Guideline	A	1A	Testing recommended	• 21270794 • 23422873

CPIC®
Clinical Pharmacogenetics Implementation Consortium

https://cpicpgx.org/genes-drugs/

Topics Covered

- Length of Stay
- Transitions of Care
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- Readmissions
- Hospital-Acquired Conditions

Hospital-Acquired Conditions

C-Diff and Catheter-Associated Urinary Tract Infections (CAUTIs)

Complications & deaths

Infections

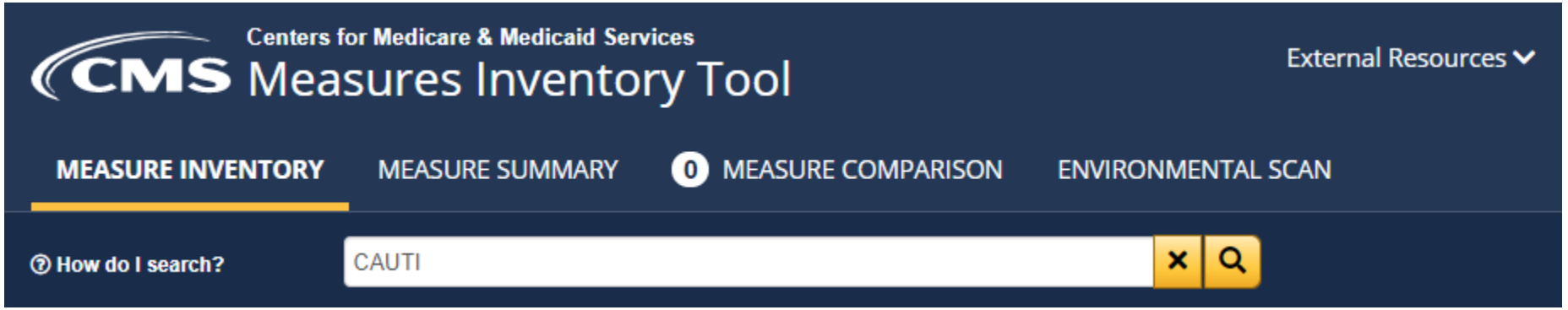
Catheter-associated urinary tract infections (CAUTI) in ICUs and select wards

Lower numbers are better

2.417
Worse than the national benchmark

National benchmark: 1.000

https://www.medicare.gov/care-compare/



Total number of observed healthcare-associated CAUTIs among patients in bedded inpatient care locations (excluding patients in Level II or III NICUs)

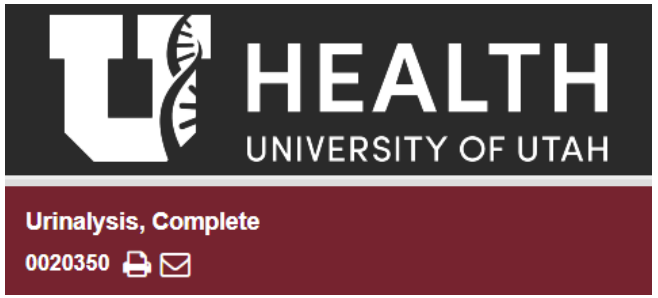
https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=1364

CDC

CENTERS FOR DISEASE CONTROL AND PREVENTION

Laboratory services leader:

Provide information about the number of cultures collected, adherence to collection processes, and number of cultures that are contaminated when collected.



Stability (from collection to initiation)

Ambient: 2 hours; refrigerated: 24 hours; frozen: unacceptable

https://www.cdc.gov/hai/prevent/cauti/indwelling/structure.html

https://www.testmenu.com/uu/Tests/439036

Protocolized Urine Sampling is Associated with Reduced Catheter-associated Urinary Tract Infections: A Pre- and Postintervention Study

Jennifer A Frontera ✉, Erwin Wang, Michael Phillips, Martha Radford, Stephanie Sterling, Karen Delorenzo, Archana Saxena, Shadi Yaghi, Ting Zhou, D Ethan Kahn ... Show more

Clinical Infectious Diseases, ciaa1152, https://doi.org/10.1093/cid/ciaa1152

https://academic.oup.com/cid/advance-article-abstract/doi/10.1093/cid/ciaa1152/5890408

Open Forum Infectious Diseases

Open Forum Infect Dis. 2018 Nov; 5(Suppl 1): S620.
Published online 2018 Nov 26. doi: 10.1093/ofid/ofy210.1768

PMCID: PMC6253693

2112. Assessing the Accuracy of Catheter-Associated Urinary Tract Infections (CAUTI) Identification Using Urinalysis Results

Sarah Pender, MSc, Michael Phillips, MD, and Anna Stachel, MPH, CIC

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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6253693/

Complications & deaths

Infections

Clostridium difficile (C.diff.) intestinal infections

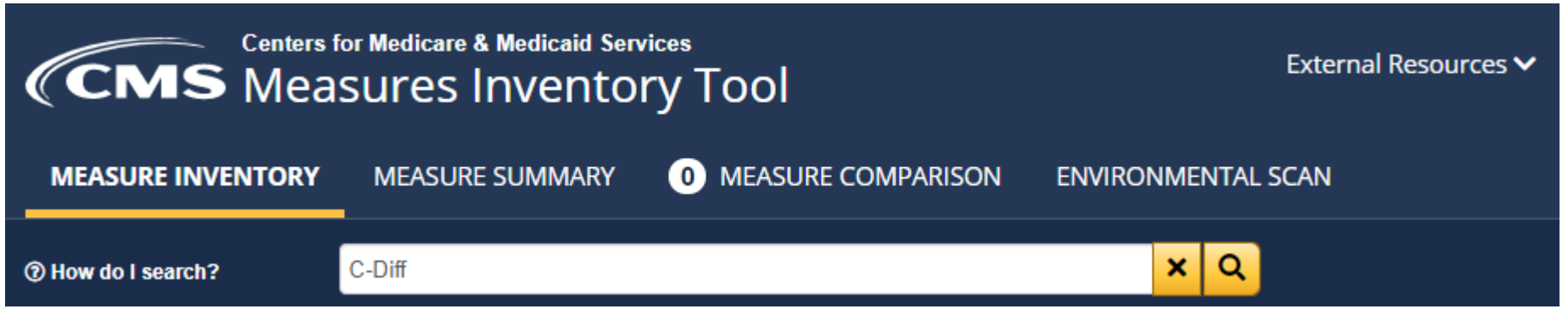
Lower numbers are better

1.547

No different than national benchmark

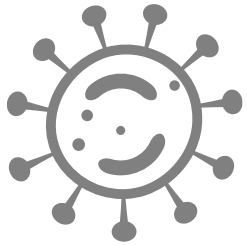
National benchmark: 1.000

https://www.medicare.gov/care-compare/



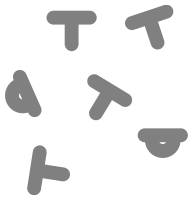
Total number of observed hospital-onset CDI LabID events among all inpatients in the facility, excluding well-baby nurseries and NICUs

https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=831



Molecular tests:

Molecular assays can be positive for C. diff in individuals who are asymptomatic.



Antigen detection for C. diff:

These are rapid tests (<1 hour) that detect the presence of C. diff antigen.

https://www.cdc.gov/cdiff/clinicians/faq.html

Open Forum Infectious Diseases

Open Forum Infect Dis. 2017 Fall; 4(Suppl 1): S1–S2. PMCID: PMC5631575
Published online 2017 Oct 4. doi: 10.1093/ofid/ofx162.002

Testing Stewardship: A 'Hard Stop' to Reduce Inappropriate *C. diff* Testing

Marci Drees, MD, MS,[1,2,3] Robert Dressler, MD, MBA,[1,2,3] Kim Taylor, BSN, RN,[3] Jamie Ayala, MSN, RN-BC,[3] Gaynelle Kahigian, EdD, MSN, RN,[3] Carol Briody, MT (ASCP), CIC,[3] Brian Stephan, BA,[3] S Rani Singh-Patel, DO,[3] Sajid Noor, DO,[3] and Stephen Eppes, MD[1,3]

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- Patients on laxatives and bowel preparations
- Solid stools: "Please pre-mix stool with saline prior to submitting to lab."

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5631575/

What is the role of repeat testing, if any? Are there asymptomatic patients in whom repeat testing should be allowed, including test of cure?

Recommendation

» Do not perform repeat testing (within 7 days) during the same episode of diarrhea and do not test stool from asymptomatic patients, except for epidemiological studies (strong recommendation, moderate quality of evidence).

GUIDELINES

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA) FREE

L Clifford McDonald ✉, Dale N Gerding, Stuart Johnson, Johan S Bakken, Karen C Carroll, Susan E Coffin, Erik R Dubberke, Kevin W Garey, Carolyn V Gould, Ciaran Kelly ... Show more

Clinical Infectious Diseases, Volume 66, Issue 7, 1 April 2018, Pages e1–e48, https://doi.org/10.1093/cid/cix1085

Published: 15 February 2018

https://academic.oup.com/cid/article/66/7/e1/4855916

Topics Covered

- Length of Stay
- Transitions of Care
- Denial of Payment
- Readmissions
- Hospital-Acquired Conditions

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