



CHANGE
HEALTHCARE

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The Change Healthcare 2021 Laboratory Ordering Utilization Index

A review of national laboratory utilization trends, with strategies to help providers increase laboratory order appropriateness and reduce laboratory spend.

Start



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Executive Summary

Executive Summary

The following insights—drawn from Change Healthcare’s CareSelect® Lab point-of-order decision support solution—give providers a unique glimpse into opportunities for decreasing clinically inappropriate laboratory ordering and unnecessary laboratory spend.

Overall, we found that approximately **7.7% of all lab orders are clinically inappropriate**. These inappropriate orders result in approximately **12% of total laboratory spend to be unnecessary**.

Opportunities to reduce inappropriate ordering and curtail unnecessary spend were not always where you would expect. Large financial and clinical wins exist across the spectrum of testing from genetics to daily labs.



Inappropriate & Unnecessary

7.7%
of Lab Orders

12%
of Lab Spend

Laboratory Utilization Index

Data Collection Methodology



The Change Healthcare 2021 Laboratory Ordering Utilization Index is based on an internal analysis of ~3.4 million provider ordering transactions processed by the CareSelect® Lab decision support solution over a three-month span (September to November 2021).

Ordering transactions were sourced from 84, geographically-dispersed hospitals with a broad range of laboratory volumes, including multiple academic medical centers.

The analysis focuses on ~150 unique laboratory exams with over 325 clinical indications. The exam list includes testing that is representative of frequently ordered laboratory testing, including routine screens and daily labs. For the purposes of this analysis, all financial data has been annualized.

Our Baseline: What is Appropriate Ordering?

To help address root causes of laboratory misutilization, CareSelect® Lab leverages clinical appropriateness criteria authored and maintained by experts at Mayo Clinic. All the ordering transactions in the Lab Ordering Index were measured against this criteria across the following categories.

In partnership with



Frequency

Repetitive ordering that is not clinically necessary



Genetic Tests

High cost of hereditary genetic tests



Interfering Substances

Tests that yield results that may be altered by other meds or OTC drugs



Superior Testing

Provides alternative test option based on updated standards



Cost

Provides generic cost information on expensive tests



Commonly Confused

Tests that may be confused with other tests



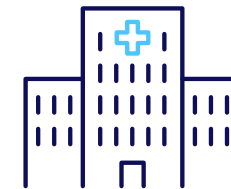
Specialty Restriction

Tests that could be restricted by specialty or location



Value-Based Testing

Provides guidance on appropriate clinical usage



Location

Tests that shouldn't be available in certain patient care locations



Sex/Age

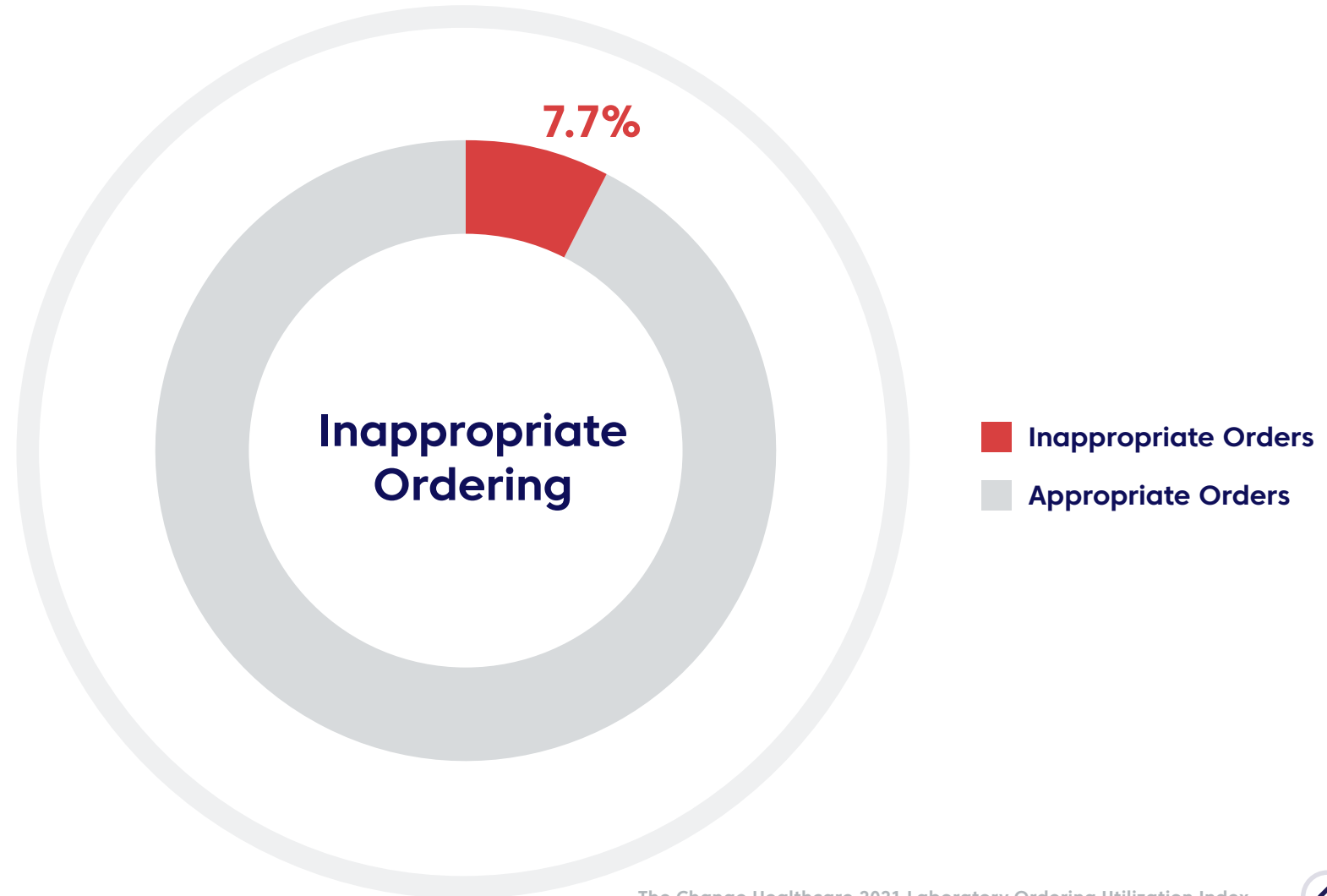
Tests that should be restricted based on patient sex/age

Laboratory Ordering Trends

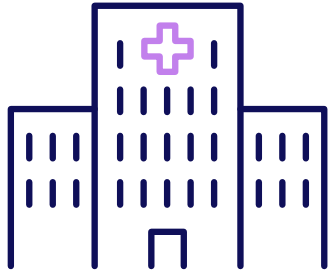
1 Out of 13 Lab Tests Ordered is Inappropriate



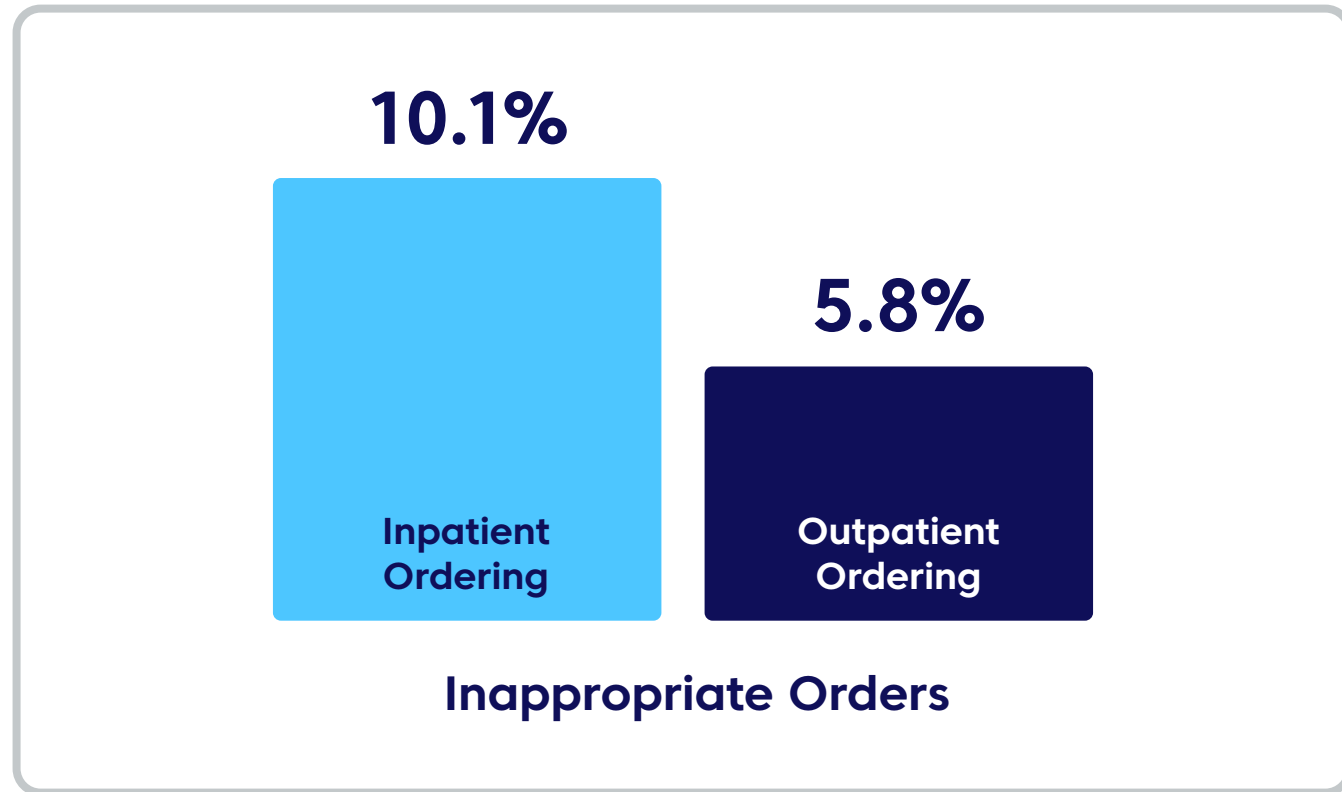
Our analysis of ~3.3 million laboratory ordering transactions showed that 7.7% of orders fail to meet appropriateness criteria and were deemed inappropriate.



Inpatient Ordering is Almost 2x More Inappropriate Than Outpatient



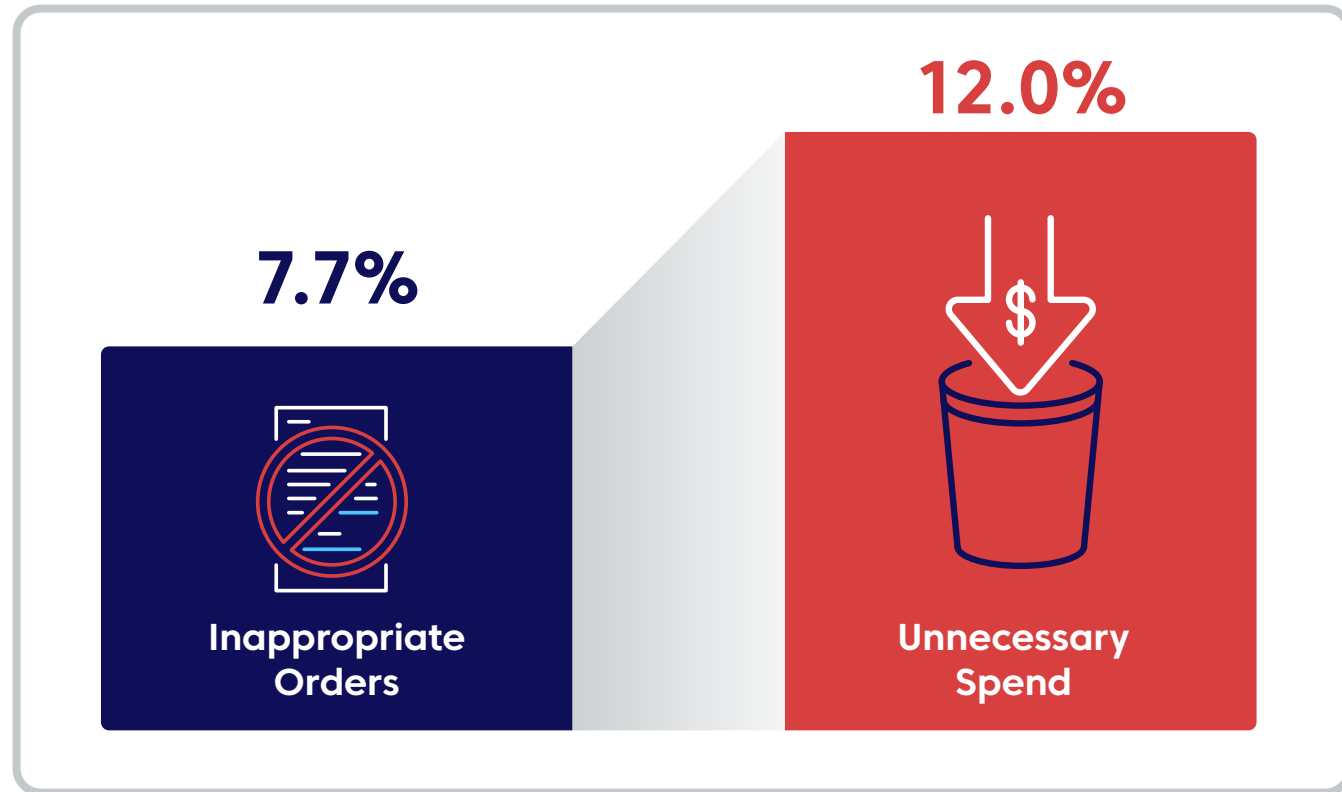
Inpatient and outpatient ordering showed markedly different levels of inappropriateness. Compared to outpatient ordering, inpatient ordering was almost twice as likely to be inappropriate.



The Rate of Unnecessary Spend is ~1.5x Greater Than The Rate of Inappropriate Orders

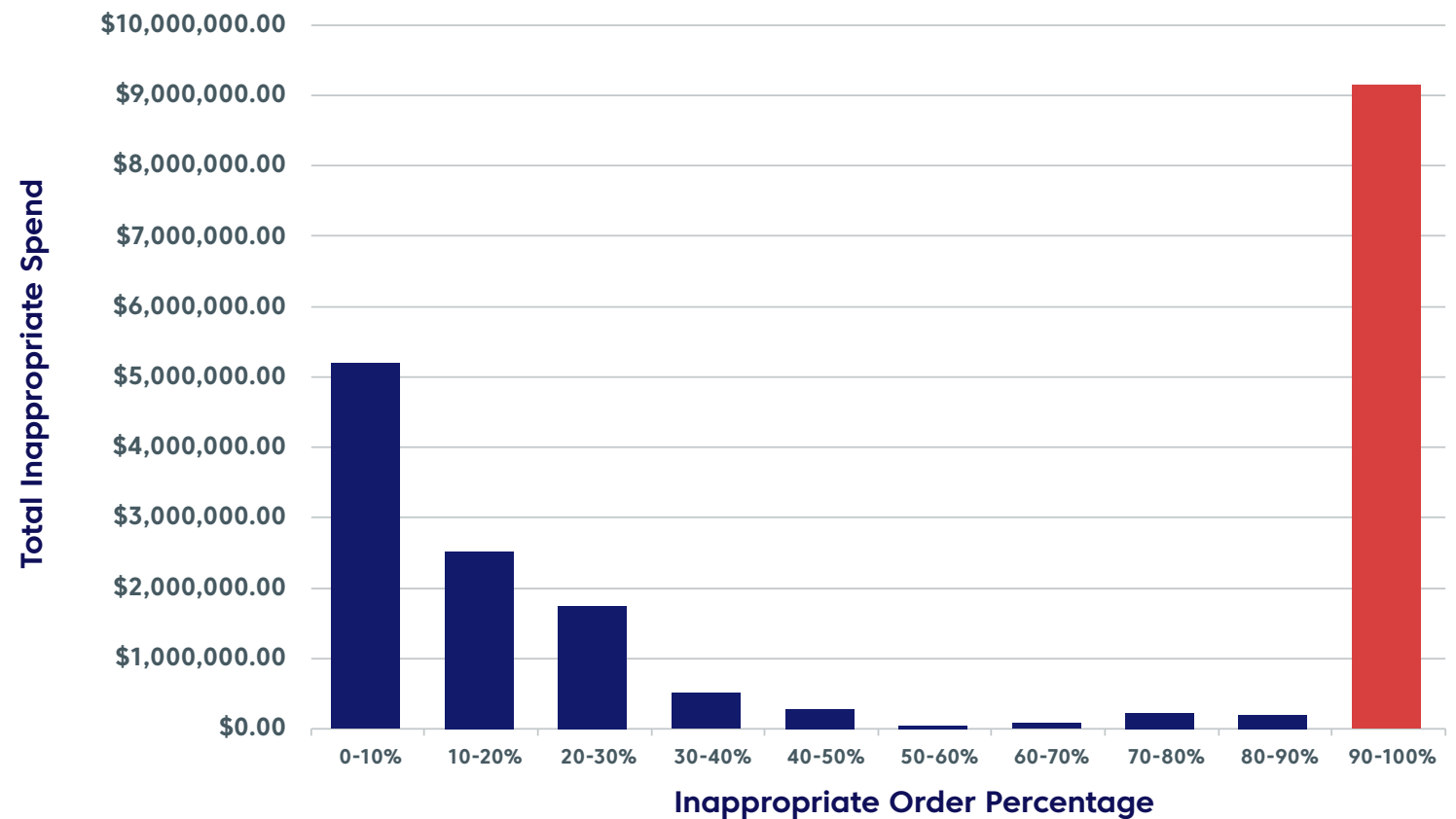


When inappropriate orders are matched against the CMS fee schedule to simulate costs, we found that the 7.7% rate of inappropriate ordering drives a 12.0% rate of unnecessary laboratory spend, a ~1.5x discrepancy.



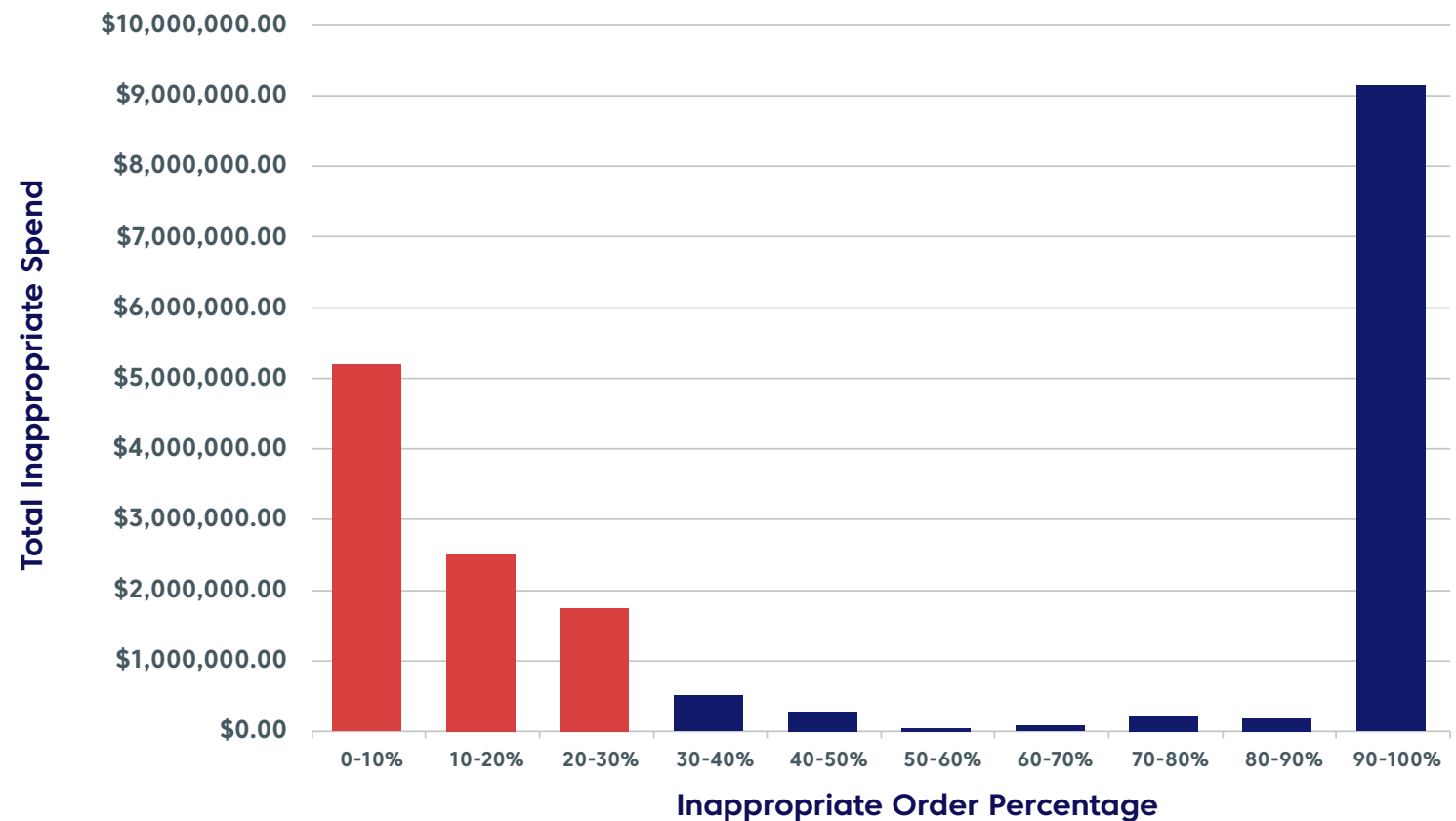
Consistently Inappropriate Orders Drive Over 45% of Unnecessary Spend

Orders placed inappropriately more than 90% of the time drive over 45% of unnecessary spend. These orders tend to be lower volume, but high inappropriateness rates combine with a high average cost-per-test to present a large financial opportunity.



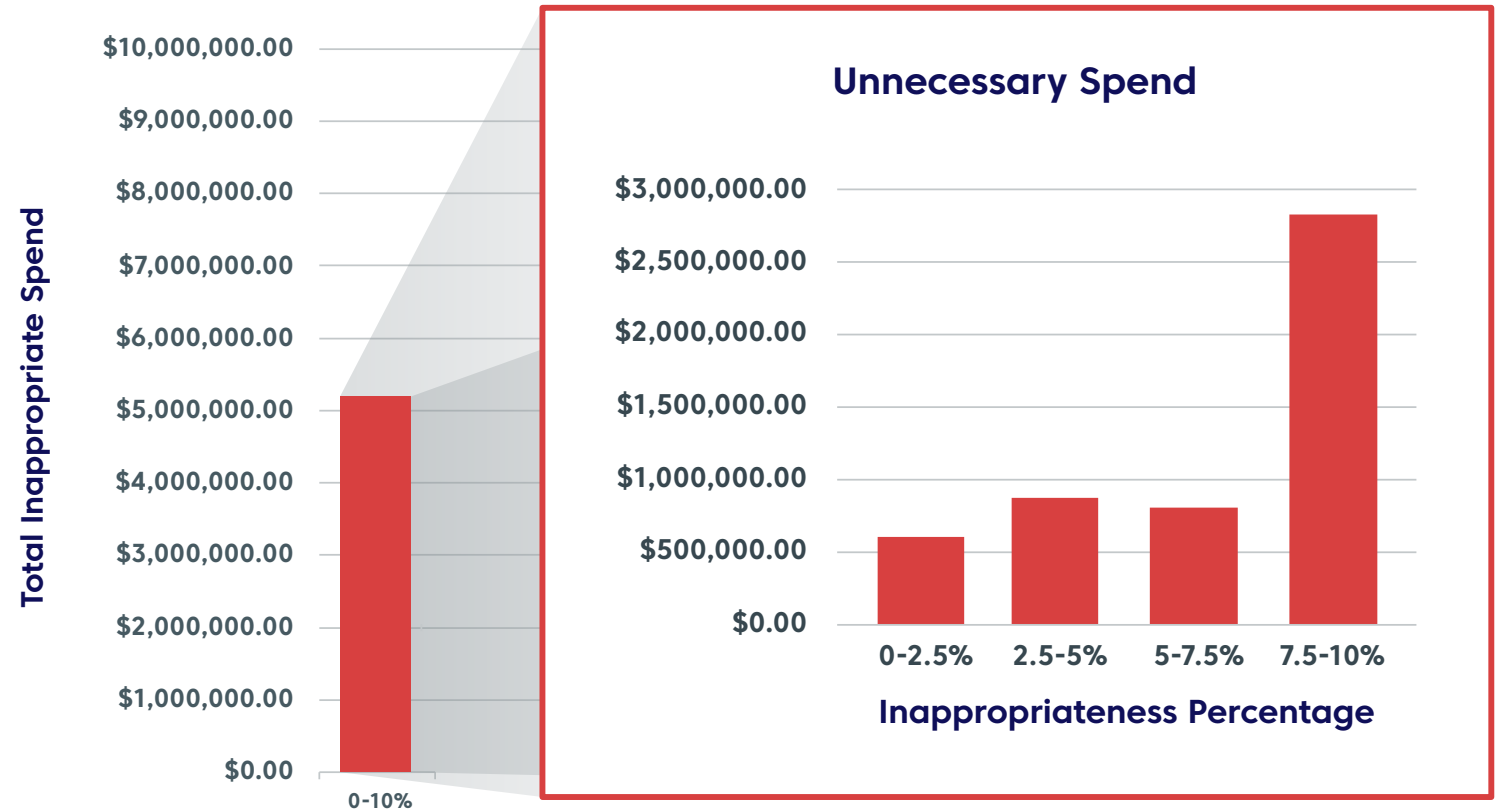
High-Volume Orders Drive Over 47% of Unnecessary Spend

Orders placed inappropriately less than 30% of the time drive over 47% of unnecessary spend. While a majority of these tests are ordered appropriately, these orders are placed in such high volumes that they have a disproportionate effect on unnecessary spend.



Uncovering Orders that Disproportionately Impact Unnecessary Spend

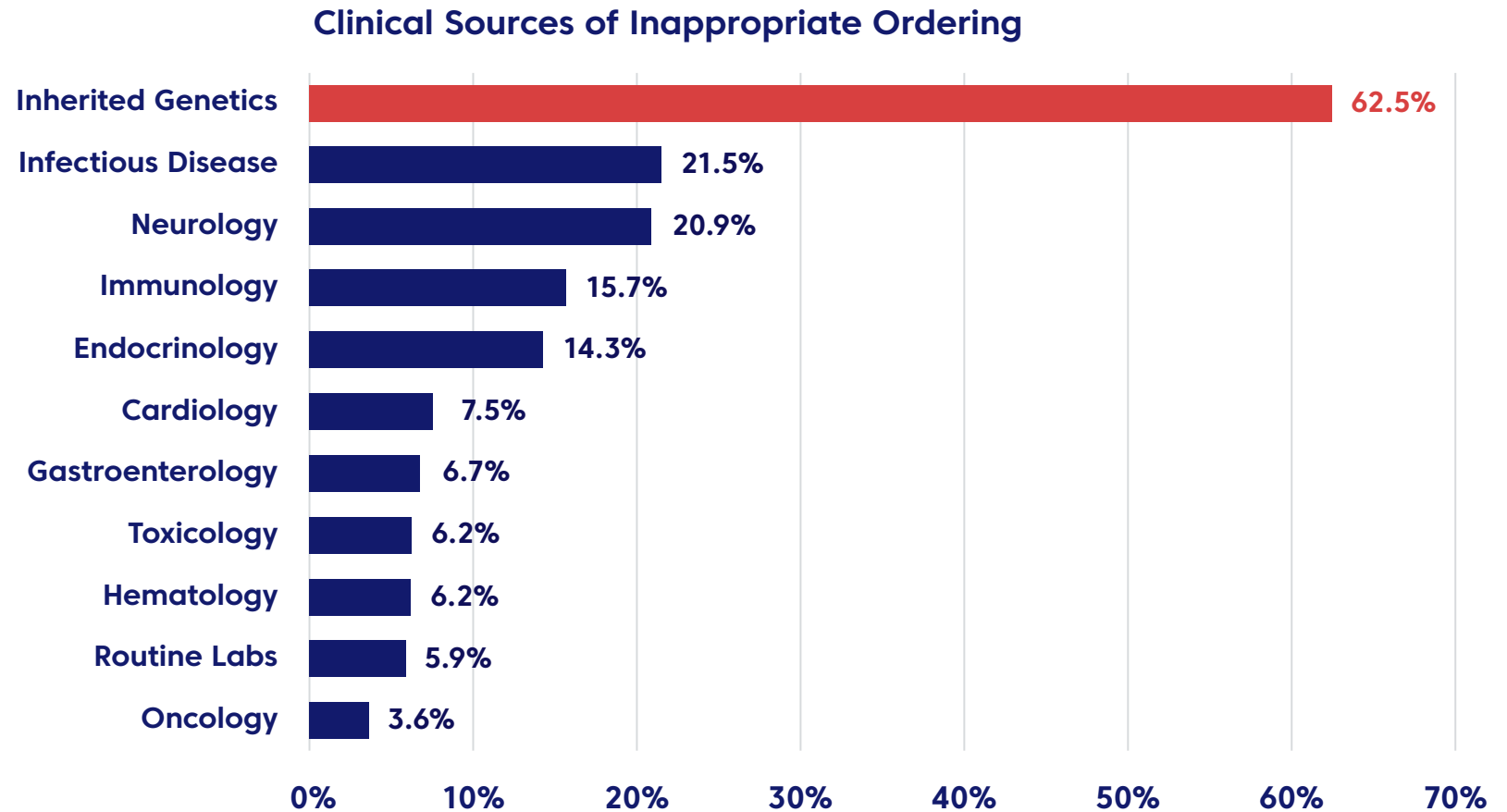
The bottom end of the appropriateness spectrum reveals a group of exams that feature the biggest disparity between inappropriate percentage and unnecessary spend. **Orders placed inappropriately between 7.5% and 10% of the time drive over 14% of unnecessary spend.**



Sources of Inappropriate Ordering and Unnecessary Spend

Where Does Inappropriate Ordering Originate?

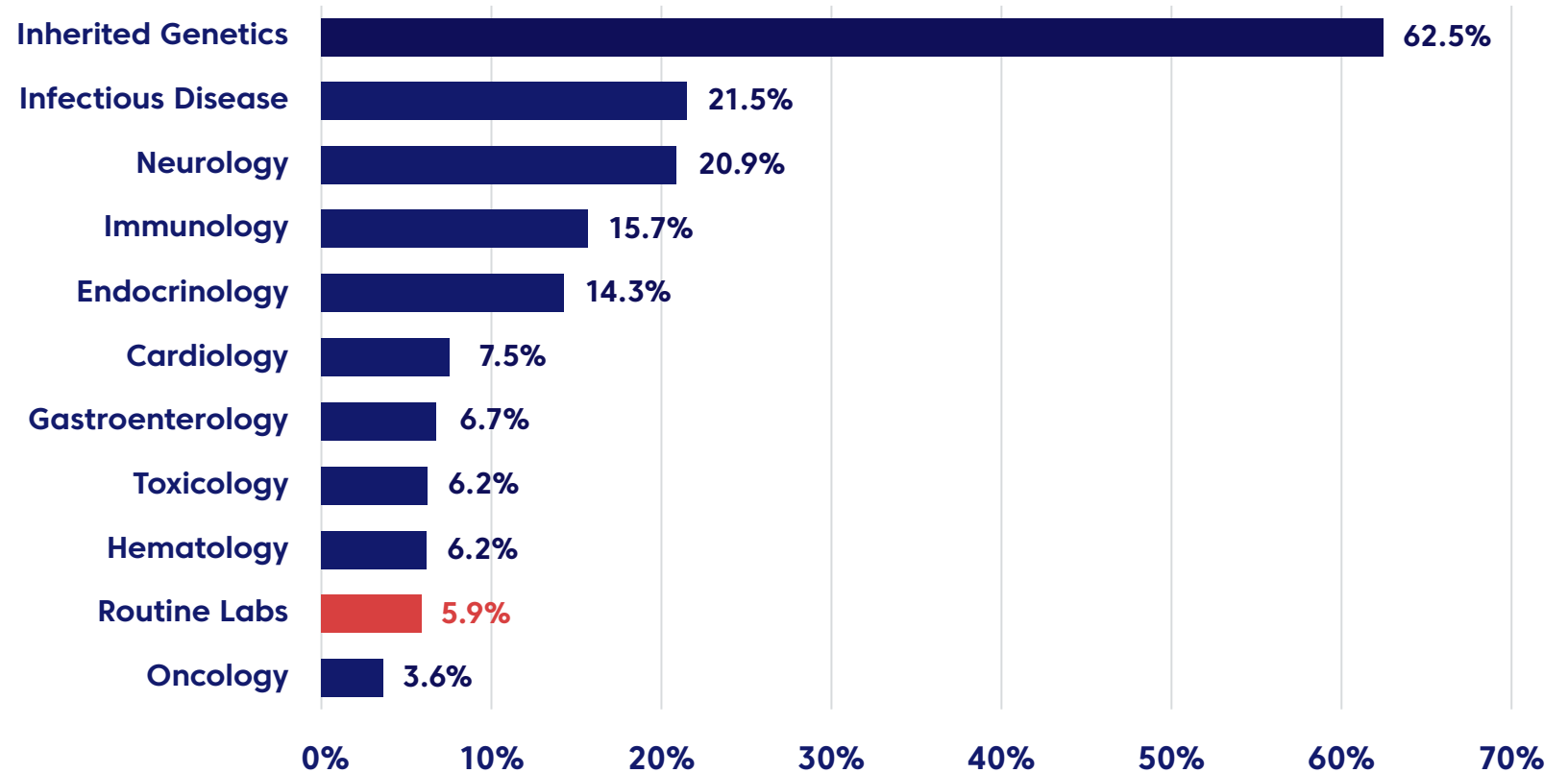
The highest rates of clinically inappropriate ordering originate from more specialized and rapidly evolving laboratory testing. Orders for Inherited Genetics lead the pack for their rate of inappropriate ordering. As new tests are brought to market and best-practice recommendations are updated the ordering of genetic testing is only becoming more complicated for providers.



How Do We Identify Opportunities for Improvement?

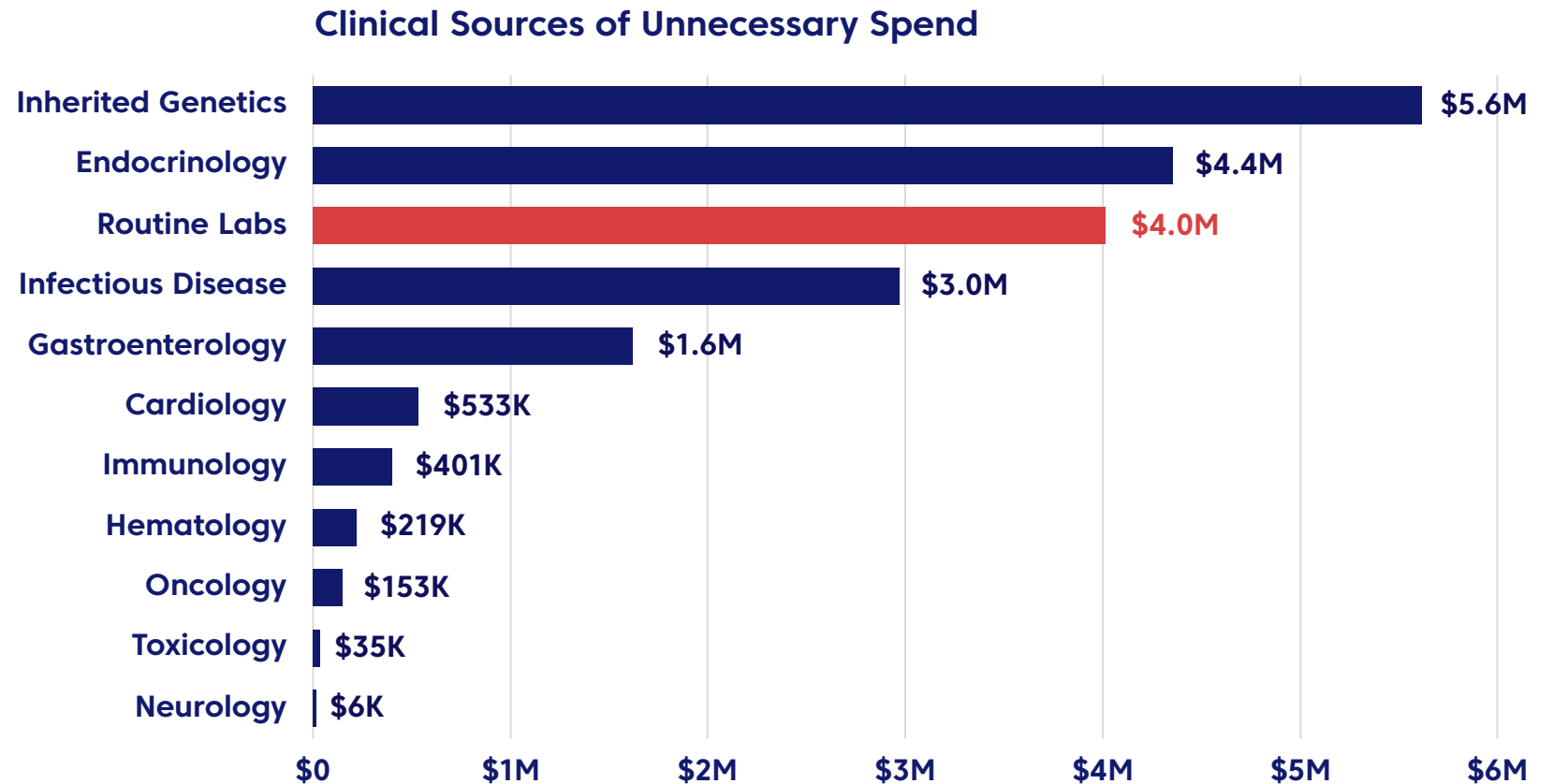
Orders with high rates of inappropriate ordering, like Inherited Genetics, are the some of the easiest opportunities to identify. However, focusing solely on inappropriateness percentage can ignore the impact of order volume. While Routine Labs only has an inappropriateness rate of 5.9%, it contains tests that are performed at extremely high volumes which has a disproportionate impact on clinical outcomes and spend.

Clinical Sources of Inappropriate Ordering



Where Does Unnecessary Spend Originate?

The highest rates of unnecessary spend originate from across the spectrum of laboratory tests. While Inherited Genetics, due to its high average cost-per-test, remains the leader in unnecessary spend, Routine Labs climbs all the way into 3rd place. This disparity is a result the high order volumes and frequent ordering of routine labs.



Focus on Orders That Disproportionally Affect Outcomes

“Reducing inappropriate laboratory ordering begins with understanding not just where inappropriate ordering is most likely to occur, but where its reduction will create the greatest impact. Identifying orders that are routinely placed inappropriately is a good start, but it’s also critical to be able to identify ordering patterns that can disproportionately affect clinical, operational, and financial outcomes.”

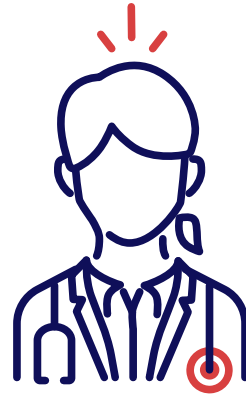
Caroline Liebscher
Product Manager, CareSelect® Lab
Change Healthcare



The Impact of Repetitive Ordering

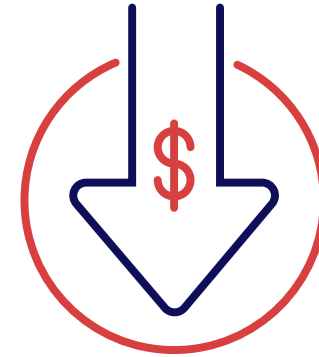
Ordering Tests Too Often Adds Up Quickly

Frequency criteria measures repetitive ordering that is not clinically necessary. Many laboratory studies, including most Routine Labs, have best-practice guidelines for inpatient ordering frequency. Tests may only be appropriate to order once a day, once every three days, once a year, or even once in a lifetime. This analysis examines 130 clinical indications that can be measured against Frequency criteria.



6.6%

**Average Inpatient
Inappropriateness Rate**



\$638,669

**Average Unnecessary
Spend Per Organization**

Frequency Example

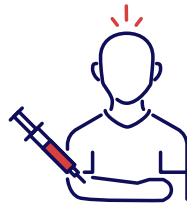
Test: Basic Metabolic Panel (BMP)

Frequency Rule: Only 1 per Day

Reducing Daily Labs Helps Improve the Quality of Care

Due to their extremely high volumes and frequent ordering, the 19 daily labs included in our analysis represent a unique opportunity for organizations to reduce unnecessary spend, increase laboratory efficiency, and, perhaps most importantly, improve the quality of care.

Help improve patient outcomes and satisfaction



Reduction of blood draws

Fewer needle sticks and lower risk of hospital acquired anemia



Increased laboratory and phlebotomist efficiency

Rescheduled blood draws to allow patients to sleep through the night



Reduction of costs

Lower out-of-pocket cost for patients

Standard Daily Labs

58% of total lab order volume

4.7% inappropriate

Alanine Aminotransferase (ALT)
Aspartate Aminotransferase (AST)
Basic Metabolic Panel (BMP)
Bicarbonate
Bilirubin, Direct and Total
Bilirubin, Direct
Bilirubin, Total
Blood Urea Nitrogen (BUN)
Calcium (Ionized)
Calcium (Total)
CBC with Differential
Comprehensive Metabolic Panel (CMP)
Creatine Kinase (CK)
Creatinine with eGFR
Gamma Glutamyltransferase (GGT)
Hepatic Function Panel
Magnesium
Phosphorus (Inorganic)
Renal Function Panel

Focus on Orders that Maximize the Opportunity to Improve Care

“Daily labs make up such a high volume of inpatient laboratory testing that they have an outsized impact on patient outcomes. Reducing lab tests per discharge by effectively managing daily labs presents a distinct opportunity to improve patient quality of care while reducing risk of hospital-acquired anemia.”

Rachael Hulshizer

Manager of Clinical Products and Services

Value-Based Medicine | Mayo Collaborative Services



Recommendations

Managing Laboratory Utilization: Five Tips

1. Create a governance structure to oversee your utilization management program

Effective governance is crucial to align your clinical and financial goals and successfully manage a data-driven laboratory stewardship program.

2. Establish a standard of care for laboratory appropriateness

Identifying and measuring against a referenceable baseline for laboratory appropriateness is the key to driving successful utilization management.

3. Leverage data to prioritize your clinical quality goals

Prioritization is crucial to ensuring your efforts are targeted and improve care.

4. Align remediation strategies based on which actions will have the greatest ROI

Provider education, EHR configuration updates, and point-of-order guidance can all help to increase appropriate utilization and reduce unnecessary costs.

5. Choose the right partner to optimize your laboratory stewardship program

Partner with a vendor that is committed to helping you build a successful and comprehensive laboratory stewardship program.

How We Can Help

CareSelect® Lab addresses the root causes for inappropriate utilization. Point-of-order EHR integrations allow you to audit, analyze, and guide provider ordering and manage acute areas of misutilization.

To realize your lab's full potential, engage Change Healthcare to create a personalized savings analysis. We leverage ordering appropriateness data collected from our CareSelect Lab customers, as featured in this analysis, against your laboratory's test catalog and volumes to illustrate your organization's baseline savings opportunity and discover your lab's financial potential.

**Learn More
About CareSelect Lab**

**Request Your Personalized
Laboratory Savings Analysis**