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Exam One and Optimum Re Collaborate On A New Lab Result Trending Project: Pulling Back The Curtain On Insurance Lab Test Results

Lab Trending

- In life underwriting, the rationale for the requirements of fluid testing and a paramedical exam are to precisely assess and stratify mortality risk based on a series of blood and urine chemistry tests and paramedical exam findings in applicants 18 years old and older.
- Fluid testing results and findings from the paramedical exam have proven to be very valuable tools in risk selection and in helping to maintain excellent actual to expected mortality results.

A Collaboration of ExamOne and Optimum Life Reinsurance

- Optimum Re and Exam One have embarked on an exclusive project to review lab and exam results to determine if any new lab result trends are present.
- US and Canadian lab samples and exam variables will be reviewed on a quarterly basis.
- Monthly “mean” data is derived from all the ExamOne fluid samples tested per month.
- Trends that are noted will be highlighted to determine if they can provide any useful predictive insights that can affect life underwriting.

What Does Lab Trending Analysis Provide?

- **Lab trending can highlight both:**
 - Subtle changes in the applicant pool.
 - Prospecting in higher or lower risk groups.
 - Deeper penetration into new groups.
- **Lab result variation due to Exam One technical lab analysis changes.**
 - Analytical or standardization changes.
 - Less than ideal paramedical specimen collection or pre-analytic delays.



Three Key Insights Noted In The Fall 2024 Quarterly Lab Trending Report

1. ExamOne Converted From The Abbott Architect Platform To The Roche Cobas Platform In March 2024

Advice from Exam One:

- During the laboratory validation testing conducted at Quest, the Abbott Architect showed a slight negative bias while the Roche Cobas showed a slight positive bias, both within the allowable limits, when compared to target HbA1c values established through the National Glycohemoglobin Standardization Program (NGSP).
- However, it should be noted that the slightly positive bias of the Roche platform could potentially increase the number of patients who are classified as having prediabetes or diabetes compared to the Abbott Architect platform.

The lab trends show that the mean hemoglobin A1c levels are approximately 0.3% higher following the platform change, and that these trends of higher A1c levels have persisted into the 4th quarter of 2024. This A1c trend has persisted across all age ranges and policy size.

2. HDL testing and the Total Cholesterol / HDL ratio

Since March 2024, an upward trend in the mean HDL levels has been noted. The HDL levels rose from a mean of 57 to 62, or an 8.8% increase, and that increase has persisted into the 4th quarter of 2024.

Therefore, the total cholesterol/HDL ratios have decreased from a mean of 3.5 to 3.2, or a drop of 8.6%, and that drop has persisted into the 4th quarter of 2024. The higher HDL trends have persisted across all age ranges and policy sizes.

If this trend extends to previously rated total cholesterol/HDL ratios which now have dropped to a non-rated status, life insurance candidates may receive more favorable offers.



3. Pre-Analytic Events That Can Alter Lab Results Resulting In Glycolysis

Ideally, when a blood sample is drawn from an insurance applicant, it is immediately centrifuged to separate the serum from the cells. If a mobile paramedical examiner draws a blood sample from an applicant at the applicant's home or office, it should be cooled while in transit before centrifugation. However, if the sample is neither cooled or immediately centrifuged, glycolysis can begin to alter the level of glucose in the sample and other changes affecting the blood test results can take place.

- We noted that the glycolysis rate spiked in certain Canadian provinces in the Spring and Summer of 2024 which may be due to unexpected extreme heat waves, however, that higher rate of glycolysis persisted into the 4th quarter of 2024. British Columbia and Ontario had very high glycolysis rates compared to Alaska or the upper tier of US States, including Washington, Idaho, Montana, North Dakota, Michigan and Wisconsin.
- This finding may be instructive that new measures are required by paramedical examiners in previously temperate climates to protect blood samples from the downstream effects of multi-season climate changes.

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