INTRODUCTION

This report is the quarterly summary of all data reported within the specified data-reporting period for Quarter 1, 2016. The attached tables provide the certification profiles for the distributed specimens, the verification of your reported data, the statistical analysis of the quantitative data, and the frequency distribution summaries for expected interpretations. We distribute this proficiency testing (PT) report to all participants, and program colleagues by request.

On January 11, 2016, a panel of five unknown dried blood spot (DBS) specimens prepared with different enrichments of two biomarkers for X-linked adrenoleukodystrophy (X-ALD) was distributed to six domestic laboratories and five foreign laboratories. DBS specimens were prepared at 50% hematocrit.

Please note that in order to receive an evaluation, you must use the current data report form and fill in all relevant information. This form can be downloaded from our website at http://www.cdc.gov/labstandards/nsqap_resources.html#QCReportForms

We processed data from seven participants. Laboratories were asked to report concentrations of 24:0-lysophosphatidylcholine (24:0-LPC) and 26:0-lysophosphatidylcholine (26:0-LPC) results in µmol/L whole blood. For the statistical summary analysis, we did not include data that were outside the 99% confidence interval.

The analyte concentration values were based on CDC expected values, and are provided in Table 1. The frequency distribution of participants’ clinical assessments for screening results is shown in Tables 2a and 2b. Overall statistics from MS/MS (Table 3) methods were combined so as to not identify an individual laboratory. Two participants reported using Flow Injection Analysis (FIA) MS/MS non-kit and five reported using LC-MS/MS. Five laboratories reported quantitative results for 24:0-LPC, with one not reporting a clinical assessment. Seven reported quantitative results and clinical assessments for 26:0-LPC. One participant reported cutoffs for 24:0-LPC using female, indeterminate, and male categories.

Expected interpretations (qualitative assessments) may differ by participant because of specific assessment practices. When the reported clinical assessment differs from our expected clinical assessment, the grading algorithm is used to evaluate test performance. An explanation of the grading algorithm can be found on the NSQAP data reporting web site or in the annual summary report. Overall, participants reported one false-negative for specimen 11623 and no false-positive results.

All data are presented in units of µmol/L whole blood. In order to expedite the issuance of this report, data that are not submitted in the requested units (µmol/L whole blood) will not be accepted. The conversion factor from µg/mL to µmol/L whole blood is provided on the XALD PT Data Report Form. Please contact us for guidance on conversion factors if needed.

NSQAP will ship the next X-ALD PT specimens on July 11, 2016. If you have any comments or questions about X-ALD MS/MS quality assurance issues, contact Dr. Christopher A. Haynes at 770-488-7019, by fax at 770-488-7459, or by e-mail at cph7@cdc.gov.
Table 1. Specimen Certification

<table>
<thead>
<tr>
<th>Specimen Number</th>
<th>Expected 24:0-LPC (µmol/L)</th>
<th>24:0-LPC Assessment Code*</th>
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<tr>
<td>11621</td>
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<tr>
<td>11622</td>
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<table>
<thead>
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<th>Specimen Number</th>
<th>Expected 26:0-LPC (µmol/L)</th>
<th>26:0-LPC Assessment Code</th>
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* 1 = Within Normal Limits  2 = Outside of Normal Limits
Table 2a. Frequency of reported Clinical Assessments: 24:0-LPC*

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* Three participants did not report assessments for 24:0-LPC

Table 2a. Frequency of reported Clinical Assessments: 26:0-LPC

<table>
<thead>
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<th>Outside Normal Limits</th>
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**NEWBORN SCREENING QUALITY ASSURANCE PROGRAM**

X-linked Adrenoleukodystrophy (X-ALD)

In Dried Blood Spots

Quarter 1 – February 2016

**OVERALL STATISTICS**

Table 3a. 24:0-LPC

<table>
<thead>
<tr>
<th>Specimen</th>
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<th>Mean (µmol/L whole blood)</th>
<th>SD</th>
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Table 3b. 26:0-LPC

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