**SCOPE OF COVERAGE**
Directly applicable to all Ryan White Part B funded service providers.

**PURPOSE OF PRIMER**
In order to assist providers in understanding the variety of ways that lab results are reported.

**BACKGROUND**
Lab results are a required document for consumers who apply for benefits in the Ryan White HIV/AIDS Programs in Nevada. HIV Viral Load and CD4 T-Cell lab results are required for initial and annual enrollment for all consumers. All lab results are required to be entered into the Encounters tab and Lab Results subtab within CAREWare. Please review the 15-21 CAREWare User Guide for additional information on how to do that.
In CAREWare for this individual – the HIV Viral Load number was put in as <1.3 which is connected to the HIV logarithmic scale number. Using the logarithmic scale number is incorrect. The purpose of the logarithmic scale is to turn large numbers into more manageable numbers for data presentation. For example, 10,000,000 (ten million) can also be written as 7.0 \log_{10}. Remember to use to actual Copy number, the assay would be listed as PCR.
This lab result is more unusual because the sensitivity of the test was able to capture 19 viral load copies. CAREWare had the correct entry at =19. The client’s medical provider might explain that the individual can consider themselves viral.

The reportable viral load for this individual would be =20 with PCR listed as the assay.

The HIV Viral Load would be entered in CAREWare for this client as =48 with Other listed as the assay.
The HIV Viral Load would be **=97** in CAREWare with PCR selected as the assay.

The HIV Viral Load would be **=1140** in CAREWare with PCR selected as the assay

Another way you might see the HIV Viral Load is looking at the RNA Quant number. This means the quantity of HIV RNA per milliliter of blood specimen collected.
This lab result is different in that the value is Not Detected – so the indication on what would be entered into CAREWare will come from looking at the detection range of 20 to ten million. Since the lower end of the range is 20, undetectable will be <20.

This lab result shows the HIV viral load as <20.
This lab result is a qualitative immunoassay that detects the presence of a specific HIV antigen (Ag) and HIV antibodies (Ab). This is not a test that indicated quantitative viral load. This can be used for Proof of Diagnosis along with a document of detectable HIV RNA or a different assay that is not the HIV Ag/Ab Combo Assay.

The quantitative HIV Viral Load for this lab is =41.

1 This lab result is a qualitative immunoassay that detects the presence of a specific HIV antibody (Abs). This is a lab test that tests for the presence of HIV-1 and HIV-2 antibodies. This can be used for Proof of Diagnosis along with a document of detectable HIV RNA or a different assay that is not the “HIV 1/2 Ab Diff.”

Vendor note: This test was performed using the COBAS(R) AmpliPrep/COBAS(R) TaqMan(R) HIV-1 test kit version 2.0. (Roche Molecular Systems, Inc.)
This combination document can be used as Proof of Diagnosis and current viral load. The Proof of Diagnosis is determined from a detectable viral load of 2,400,000 (two-million, four-hundred-thousand) and an immunoassay of the HIV Ag/Ab Combo Assay. You might notice that the individual is negative for the HIV Antibody test – this means that this sample was collected soon after infection and the body has not yet produced antibodies specific to HIV.

<table>
<thead>
<tr>
<th>CD3 (Mature T Cells)</th>
<th>67</th>
<th>57-85 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4 (Helper Cells)</td>
<td>3 L</td>
<td>490-1740 Cells/uL</td>
</tr>
<tr>
<td>CD8 (Suppressor T Cells)</td>
<td>3 L</td>
<td>12-42 %</td>
</tr>
<tr>
<td>CD16/CD56 (NK Cells)</td>
<td>21</td>
<td>4-25 %</td>
</tr>
<tr>
<td>NK Cells</td>
<td>35 L</td>
<td>70-760 Cells/uL</td>
</tr>
<tr>
<td>B Cells</td>
<td>12</td>
<td>6-29 %</td>
</tr>
<tr>
<td>CD19+ Cells</td>
<td>20 L</td>
<td>110-660 Cells/uL</td>
</tr>
<tr>
<td>Absolute Lymphocytes</td>
<td>174 L</td>
<td>850-3900 Cells/uL</td>
</tr>
</tbody>
</table>

The result to be entered into CAREWare is the Absolute CD4+ Cells value of =3.
The result entered into CAREWare is the Absolute CD 4 Helper value of =543

The result for this lab result may seem odd but the result to be entered into CAREWare for CD4 is the Absolute CD 4 Helper value of =20. The x1000 is not necessary. You can tell that 20 is the correct answer because it is tagged with a [L] meaning it is a low result outside of the range; if it was 20,000 then it would be tagged with a [H].
The results entered into CAREWare can be both of the Absolute CD 4 Helper entries. The first one on 02/03/17 for =1,642 and for 07/06/16 for =1,190.

Figure 2 – These results indicates the CD4+/CD3+ (Helpers) rather than the CD4+ alone. CD3s represent the total number of T lymphocytes. All T Cell Lympocytes (immune cells) have CD3 receptors on them but they can either have CD4 receptors or CD8 receptors. The result entered into CAREWare would be =675.