Reference Guide for Interpreting RVetQual Results

This document will serve as a reference guide for interpreting the results that are output by the RVetQual program. Included are definitions of the details (such as table headers and tab labels) within the contents of each document that is generated.

1. **Accuracy Output**: Excel tabs include *Accuracy Results, Duplicate Count, PCV Comparison* and *Mismatches per case*
   1. Accuracy Results – This contains results on the comparisons between the variables of the VetCOT trauma registry and hospital’s EMR. Below are descriptors of each table header:
      1. **Variable** – Data variable name as recorded by the trauma registry
      2. **Total** – # of cases included in the analysis
      3. **Comparisons possible** - # of cases where both datasets have a data entry.
      4. **Matches** - # of cases where both the data entry in REDCap and EMR match
      5. **Mismatches** - # of cases where data entries are different
      6. **% Mismatched** – (total mismatches)/Comparisons possible\*100
      7. **Min Diff** – Minimum difference (REDCap – EMR) between mismatches of quantitative data
      8. **Max Diff** – Maximum difference (REDCap – EMR) between mismatches of quantitative data
      9. **Median Diff** – Median difference (REDCap – EMR) between mismatches of quantitative data
      10. **% Min Diff** – Min Diff/REDCap data entry\*100
      11. **% Max Diff** – Max Diff/REDCap data entry\*100
      12. **% Median Diff** – Median Diff/REDCap data entry\*100
      13. Columns ‘M’ to ‘S’ take the absolute values of each “Diff” calculation
   2. Duplicate Count – This is an output that filters out unique cases with multiple trauma presentations that erroneous was entered multiple times into REDCap.
      1. **Case.Number** – Unique case ID
      2. **Number.of.Occurrences** – # of REDCap entries corresponding to the case number
      3. **Presentation.Date.Matches** – # of entries where the presentation date matches between multiple entries of the same case
      4. **Presentation.Date.Mismatches** - # of entries where the presentation date mismatches multiple entries of the same case
   3. PCV Comparison – This serves as an example of results that the program may generate that serves a specific research goal. This output includes the PCV of each dataset, as well as if a transfusion were used for the case, and the case outcome.
      1. **Case number** – Unique case ID
      2. **ID** – REDCap unique case ID
      3. **RedCap** – PCV entered into REDcap
      4. **EMR** – PCV entered into EMR
      5. **Blood Products** – REDCap blood products entry for each case
      6. **Outcome** – REDCap outcome entry for each case
   4. Mismatches per case: This screens cases that have multiple mismatches. For these entries, it may be that wrong case information was entered. REDCap may use this as a way to screen for cases with erroneous information. The species and presentation date should match between REDCap and the EMR if the same case is being compared. Species and presentation date are the “Critical Factors”.
      1. **Case.Number** - Unique case ID
      2. **Total.Mismatches** – # of variables mismatched between REDCap and EMR per case
      3. **Total.Variables.screened** – # of variables compared per case
      4. **Species.Match**.- Does the species variable match? Yes or No.
      5. **Presentation.Date.Match**.- Does the presentation date variable match? Yes or No.
      6. **All.Critical.Factors.Match.**- Do both the species AND presentation date variable match? Yes or No.
2. **Consistency and Completeness Output**: This serves to filter out cases where inconsistencies may be screened for multiple variables. The tabs are examples of either impossible scenarios or scenarios that are unlikely and can manually be interpreted for error. Excel tabs include *Small Canines > 10kg, Canines > 40kg, Felines > 10kg, Large Breeds > 3mo and < 15kg, Presentation Date < Trauma Date, Outcome (Date) < Presentation (Date),* and *Completeness*. All but the *Completeness* tab are filters of the criteria listed in the tab name, which are self-explanatory. Description of the *Completeness* tab is below.
   1. Completeness: This is an output that assesses the amount of data collected per variable.
      1. **Variable** - Data variable name as recorded by the trauma registry
      2. **Total entries** - # of case entries into REDCap
      3. **Fields left blank** - # of instances where an entry was not entered for a variable (NOTE: This does not necessarily mean an error, but rather the entry may have been optional).
      4. **Percent completeness** – (# data entries)/Total entries\*100
3. Clinically Relevant Cases Output: This output includes cases that have been filtered based on data found in the literature corresponding to trauma case outcome. The following trends were found to be associated with a worse trauma case prognosis: *ATT > 0, MGCS < 18, AFAST fluid score >= 3, Base excess <-6.6,* and an *ionized calcium < 1.24*. In the output, there are tabs for each of these trends that filter out all cases and case information based on such criteria. This acts as an output that may be used as one that can be modified based on research interest.