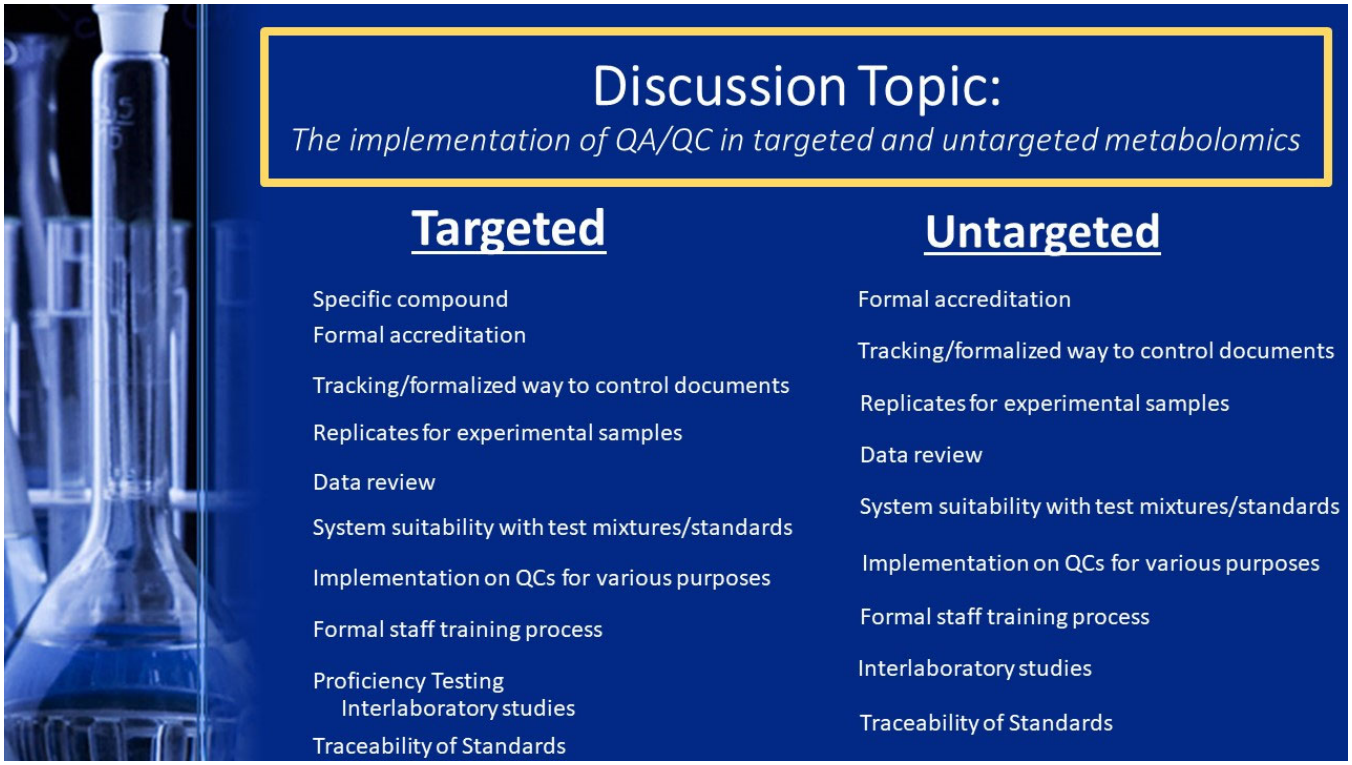
Clinical Chemistry Interest Group Report for the 68th ASMS Conference Virtual Reboot's Clinical Chemistry Workshop

Submitted 6/25/2020 by Dr. Candice Z. Ulmer, Co-Chair of the ASMS Clinical Chemistry Interest Group

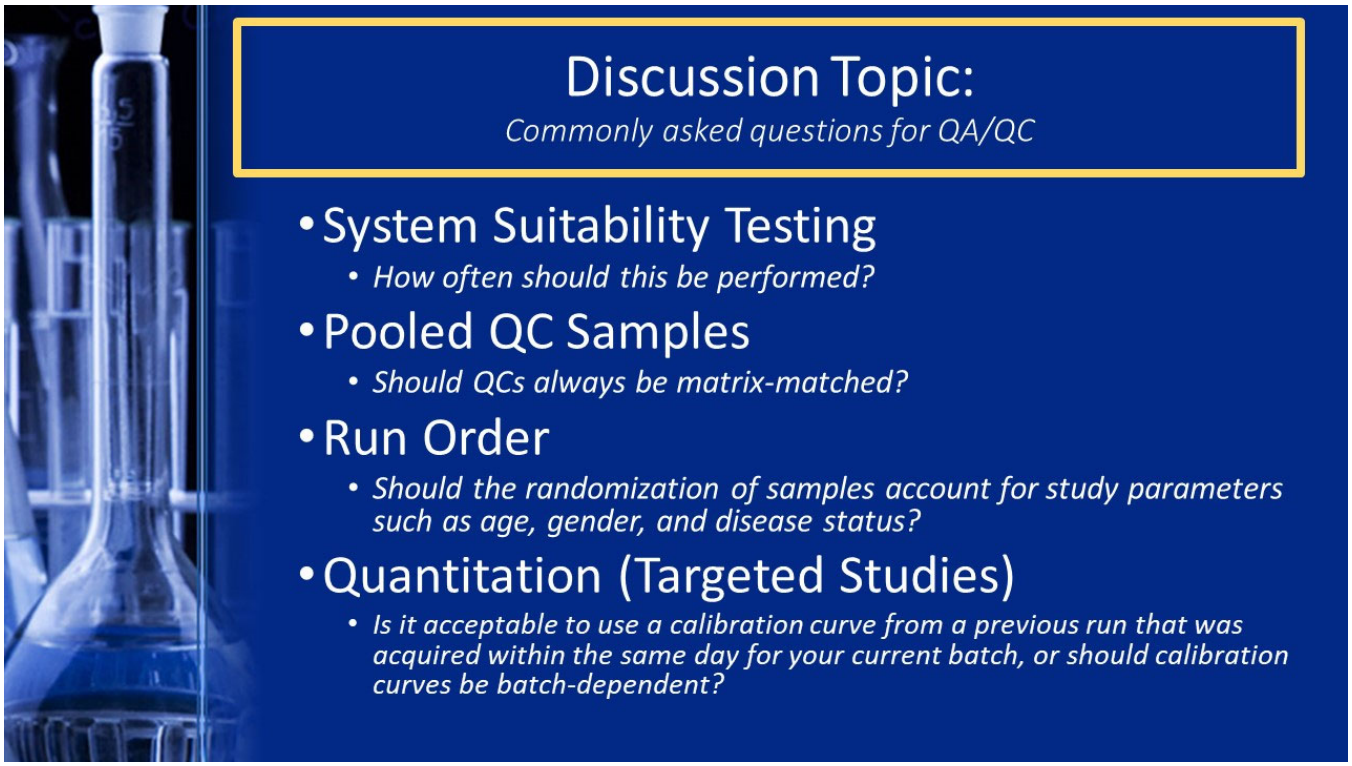
The Clinical Chemistry Workshop for the 68th ASMS Conference Virtual Reboot entitled "The Multidimensional Clinical Space – From Discovery to Practice in Screening and Diagnostics", was held on Thursday, June 4th from 12:00 – 1:30 pm EST. The workshop was organized by Clinical Chemistry Interest Group co-chairs, Dr. Donald Chace and Dr. Candice Z. Ulmer. The purpose of this workshop was to highlight the need for the implementation of quality control and quality assurance (QA/QC) procedures to ensure accuracy/reliability in laboratory measurements, consistent disease diagnosis, and appropriate treatment for patients.

Approximately 34 conference attendees, not including the workshop co-chairs and panelist, participated in the clinical chemistry workshop zoom session. The workshop was organized to [1] define the terms QA and QC, [2] explain what laboratory practices constitute as QA or QC, [3] discuss the ways that QA and QC best practices can be implemented in targeted and untargeted metabolomics, [4] address common misconceptions in QA and QC, and [5] highlight existing initiatives for creating best practice guidelines for untargeted metabolomics studies.

After a brief explanation of the unique differences between QA and QC approaches, participation from the attendees was encouraged to propose how QA/QC best practices can be implemented in targeted and untargeted metabolomics studies. The attendees brainstormed a list of QA/QC approaches for each type of metabolomic analysis (i.e., targeted vs. untargeted) as shown below. Dr. Ulmer wrote the suggestions from the workshop attendees in real time during the discussion.



In an effort to make the workshop interactive for the audience, polls were implemented to gauge the attendees' opinions of the discussion topics shown below. However, due to technical difficulties, we were unable to have the participants complete the poll. We instead had the attendees respond to the discussion prompts in the chat/Q&A box. Dr. Chace and Dr. Ulmer responded to the discussion prompts and engaged in a dialogue about the responses obtained from the attendees.



Dr. Christina M. Jones, member of the Metabolomics Quality Assurance & Quality Control Consortium (mQACC), in a 5-10 minute presentation, highlighted some of the initiatives of the organization regarding metabolomics best practice QA/QC standards and how to get involved with their efforts. Discussions that resulted from Dr. Jones's presentation were led by Dr. Ulmer and involved best practice QC/QA approaches that can be applied in targeted and multi-analyte assays across multiple applications and mass spectrometric platforms.

Both, Dr. Ulmer and Dr. Chace will be extending their terms for two years and one year, respectively, as co-chairs of the ASMS Clinical Chemistry interest group.