

Getting Ahead of The Curve for Early Diagnosis of Preventable Diseases

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This pre-conference workshop is designed to discuss both the big-picture and the nitty-gritty-details for standardization of process and workflows for development of diagnostic tests. The title: Getting Ahead of The Curve for Early Diagnosis of Preventable Diseases is designed to get us thinking about how we can get ahead of a disease with early detection and how we may get there at a faster pace.

In a big picture way, as well as with analytical rigor in specific subfields, CPSA Metabolomics has been a vehicle to help drive towards standardization and harmonization in a complex field. In this mindset, the participants in this workshop will be driving the vehicle towards new goals. Thus, during the workshop sessions, we will look to collect a group action item list - one that should be actionable.

As a starting point, from the first workshop discussion at CPSA Metabolomics this year, we developed an initial framework for discussion and cross-talk from:

- different organizations,
- working in different modalities,
- working on different types of research.

http://www.cpsa-metabolomics.com/2019/CPSAMet19_Workshop.pdf

The workshop has been split into **3 Parts** with designed interactions with the attendees. For the **1st Part**, we will ask the questions - What is Patient Centric Care? We will also touch on the questions - What are preventable diseases? What are diseases that early detection can help alleviate?

The 2nd Part of the workshop is rooted in process control across the different subfields needed to generate bed side tests. We look at the Breadth-of-the-Field and Depth-of-Quality-Control needed for standardizing and Harmonizing our next round of diagnostic tests.

- With Regards to Breadth-of-the-Field - The Many Faces of Process Control
 - How we perform sampling, population and/or individual,
 - To biomarker discovery or mechanism-of-action studies,
 - To validation process for “Bed Side Tests”.

As part of this conversation, we also want to move past linguistic barriers that we may have, even within a small group or field of expertise. What “resolution” do you look at life and research, and how do you approach cross-talk in sub-fields of Diagnostic Test Development.

- *Sometimes we look at the behaviors of an organism.*
- *Sometimes we look at the phenotype of an organism.*
- *Sometimes we look at a hypothesis driven molecular system (like new born testing).*
- *Sometimes we like to have a molecular (biomolecular) view of a subpart of the organism.*
- *Sometimes we like to look at the process of validation of new diagnostic tests.*

The 3rd Part of this workshop is designed to discuss the success in the over-all big-picture and the future with regards to the Diagnostic Test Development Pipeline.

The last questions that we pose are:

Do we have most of the tools that we need to develop these tests? What are some of the barriers to developing diagnostic tests that are not technical limitations?