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Coronavirus Standards Working Group Meeting Summary

Dear Colleagues –

Thanks for working together at our meeting on Friday 21 May 2021. We had two topics on our agenda -- a data review for the Viral RNA Harmonization Study, and an overview of a project that Arend Sidow and I are leading in partnership with the Rockefeller Foundation to develop a "Standards Architecture" for Pathogen Genomic Surveillance. This meeting was recorded, and can be [viewed with transcript and chat contents here](#).

RNA Harmonization Study

We had fun with an interactive look at and review of the RNA Standards Harmonization Study results, using an [analysis dashboard linked here](#). I will continue to work on the dashboard to add the NIB data, refine the calibration model, debug, and add approaches for robust population summaries for the results on the 8 materials. That web-based dashboard is live, and you can use it interactively to consider and review the data on your own.

There are some potentially interesting trends to consider in the data, with differences amongst the population of labs and genomic targets that might correlate to properties of the different standards & controls. We also need to review unitage of the results, which are now calculated assuming uniform sample volumes in the labs and calibration with a full vial of the International Standard (which should normalize amongst the actual practices at each lab). We have more work to do together on this!

Standards Architecture for Pathogen Genomic Surveillance

Thanks so much to the CSWG also for your reactions and helpful discussion of our "Standards Architecture" for Pathogen Genomic Surveillance. This work will be considered by the community at a series of meetings that will constitute a "workshop" to build a consensus architecture. The workshop is open and public. [The link to register for](#)

[this event is here](#). There are 5 Zoom sessions from June 10-15. Please attend, and please share the registration link and invitation as you see fit. A [Workshop Prospectus is here](#).

This architecture (inspired by [some work I did for clinical human genomics in 2015](#), see Fig 1 and Table 2) is intended to support growth of a harmonized national and global enterprise for genomic epidemiology. This can be a starting point for developing integrated and comprehensive standards to achieve the ultimate goal of generating consistent, reliable, rapidly-shareable genomic data to inform public health action.

A strawperson will be shared broadly (and to all registered participants) in advance of the workshop, and we will host 4 technical sessions to react, revise, refine, and review it: 1) [Samples and Sequencing](#), 2) [Sequence Bioinformatics](#), 3) [Data Integration](#), and 4) [Epidemiology](#); and a plenary session where we will synthesize what we learned in the technical reviews. This vetted, consensus architecture will be offered for consideration to actors and funders in the public health ecosystem. Our most critical objective is to identify gaps in available standards infrastructure that are holding us back.

Cheers and stay safe!

Marc

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