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Viral RNA Standards Harmonization:

Data Review: Trends, Anomalies, Summaries

Coronavirus Standards Working Group

What should a Coronavirus Standards Working Group do?

Assure development and availability of standards, controls, interlab testing, knowledge to support successful rollout & scaling of 2019-nCoV testing
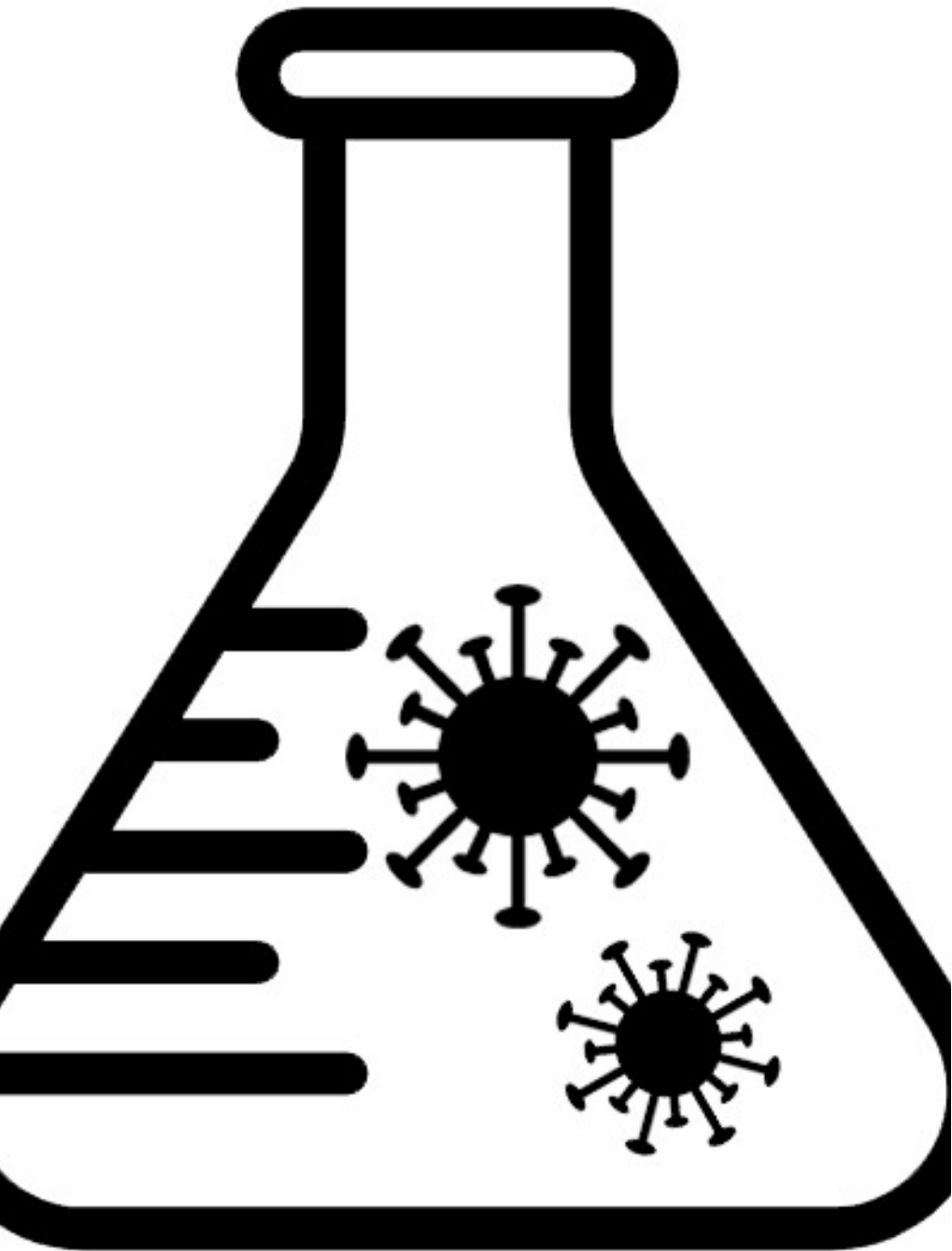
Identify and develop critical infrastructure to support...

confidence in test results

interoperability

scale-up

long-term capacity

Identify best practices that should be institutionalized

Learn what we need to so next time we have a global network in place ready to make standards.

Agenda

Updates

- Standards for Genomic Surveillance

Viral RNA Harmonization Study

- Data Review

Viral RNA Harmonization Study Data

- Data in from 13/14 labs
- Analysis Dashboard pretty refined
- Feedback from a few folks has been really helpful

CSWG Viral RNA Harmonization Study Status

	NIST	NML/LGC	NIB (Slovenia)	Bio-Rad	Western	MUSC	Mayo	Labcorp	Quest	Biogazelle	MassCPR Diagnostics	Stanford Medicine	Los Alamos	biodesix
Panel Received	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Lab Metadata Entry Initiated	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Lab Metadata Entry Complete	☑	☑	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	☑	☑
Lab Data Received	☑	☑	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	☑	☑
Data Summarized	☑	☑	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	☑	☑
Data Analyzed	☑	☑	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	☑	☑

Pending analysis refinements I know about…

is there a concentration value for results, or is it simply IU (or IU/unit volume)?

how do we summarize multiple targets from a laboratory?

does it matter?

can we identify trends in results
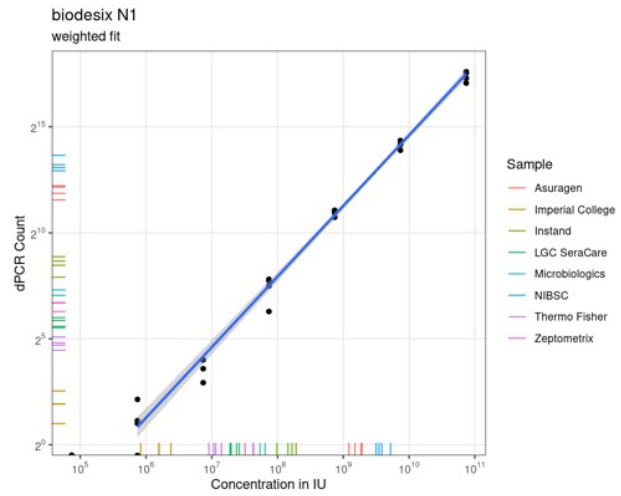
extraction effects from different labs?

how do we estimate measurement uncertainty?

CSWG RNA Harmonization Study

Calibration Curves

Lab:

| biodesix ▼ |

Target:
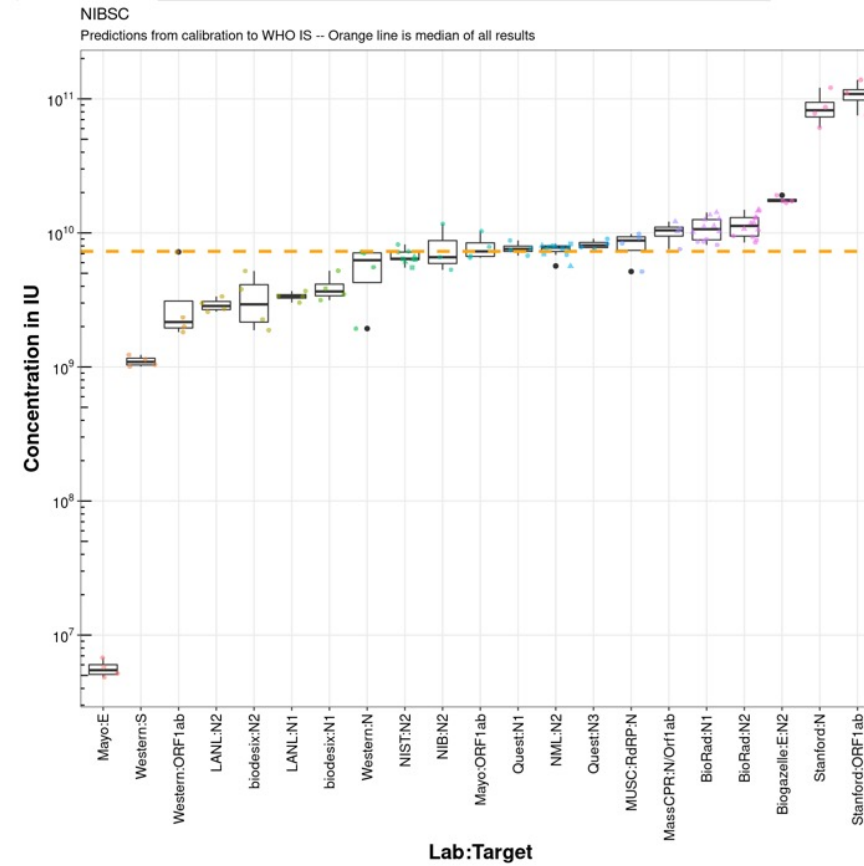
| N1 ▼ |

biodesix N1
weighted fit

Sample
- Asuragen
- Imperial College
- Instand
- LGC SeraCare
- Microbiologics
- NIBSC
- Thermo Fisher
- Zeptometrix

Calibration Curve Fit

	logSig	
Predictors	Estimates	CI
(Intercept)	-18.71	-19.94 – -17.49
logConc	3.33	3.20 – 3.46
Observations	20	
R^2 / R^2 adjusted	0.994 / 0.994	

Material Results

Material:

| NIBSC ▼ |

Material Plot   Material Table

NIBSC
Predictions from calibration to WHO IS -- Orange line is median of all results

Lab:Target