



The Importance of Partnerships in Pandemics

March 13, 2023



Sean Sierra-Patev

Sr. Env. Laboratory Scientist, Bioinformatics

Rhode Island State Health Labs

Rhode Island Department of Health

sean.sierrapatev@health.ri.gov

Chantal B.F. Vogels, PhD

Associate Research Scientist

Department of Epidemiology of Microbial Diseases

Yale School of Public Health



chantal.vogels@yale.edu



@VogelsChantal

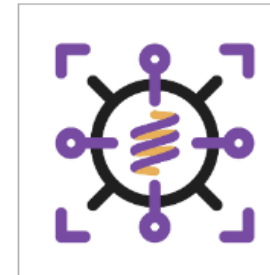
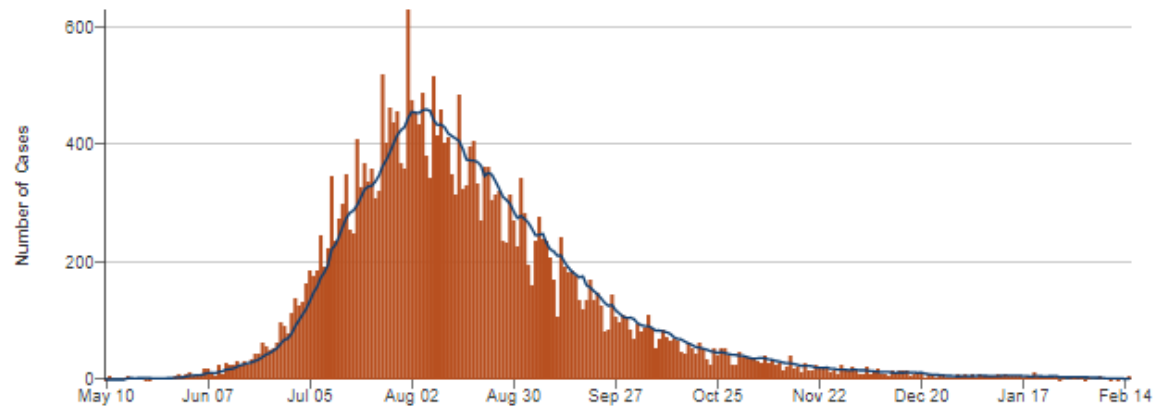
Yale SCHOOL OF PUBLIC HEALTH

Partnership between public health and academic labs

Development of an amplicon-based sequencing approach in response to the global emergence of human monkeypox virus

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Daily Mpox Cases and 7 Day Daily Average



VERSION 4 ▾

DEC 13, 2022

← SHARE

IN DEVELOPMENT

🌐 Monkeypox virus multiplexed PCR amplicon sequencing (PrimalSeq) V.4

DOI

dx.doi.org/10.17504/protocols.io.5qpvob1nbl4o/v4

Nicholas F.G. Chen^{*1}, Luc Gagne^{*2}, Matthew Doucette², Sandra Smole², Erika Buzby², Joshua Hall², Stephanie Ash², Rachel Harrington², Seana Cofsky², Selina Clancy², Curtis J Kapsak³, Joel Sevinsky³, Kevin Libuit³, Mallery I Breban¹, Chrispin Chaguza¹, Nathan D. Grubaugh¹, Daniel J. Park⁴, Glen R. Gallagher^{#2}, Chantal B.F. Vogels^{#1}

¹Department of Epidemiology of Microbial Diseases, Yale School of Public Health;

²Massachusetts Department of Public Health; ³Theiagen Genomics;

⁴Broad Institute, Cambridge, Massachusetts

Yale SCHOOL OF PUBLIC HEALTH



Massachusetts
Department of
Public Health

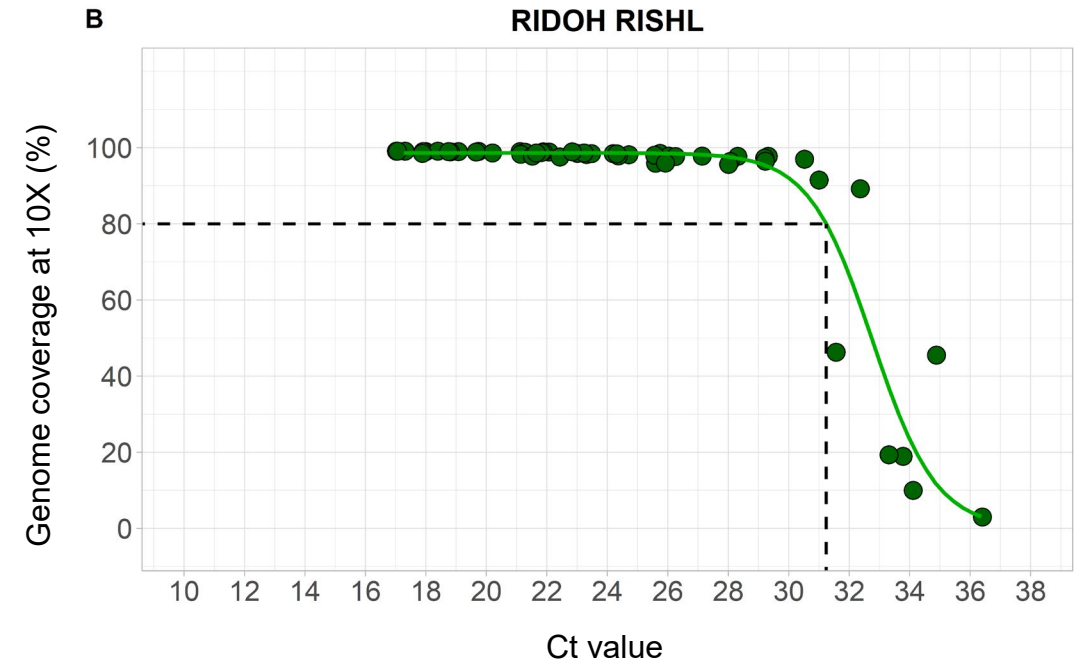


Analysis. Answers. Action

www.aphl.org

Our success story

More than 10 public health labs across the US and internationally quickly adapted their SARS-CoV-2 amplicon sequencing workflows to sequence human monkeypox virus

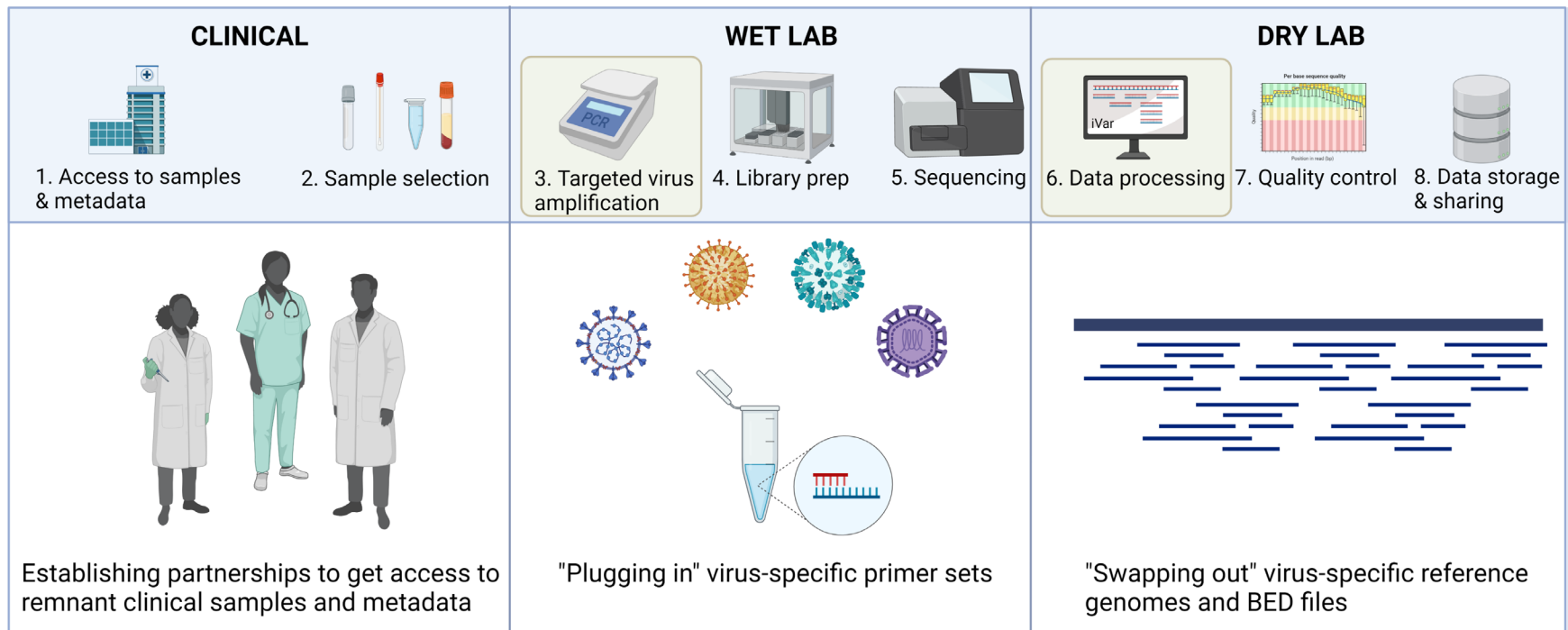


Chen et al. (2022) MedRxiv

Lessons Learned

The power of partnerships between public health and academic labs:

- Development of new primer schemes
- “Plugging” primer schemes into existing amplicon sequencing workflows
- Rapid response to newly emerging pathogens by utilizing established genomic infrastructure



Hill et al. (*in press*) Cell Host & Microbe

Panel Discussion