

Microreact and Data.flo for more than genomic epidemiology

SPHERES Meeting

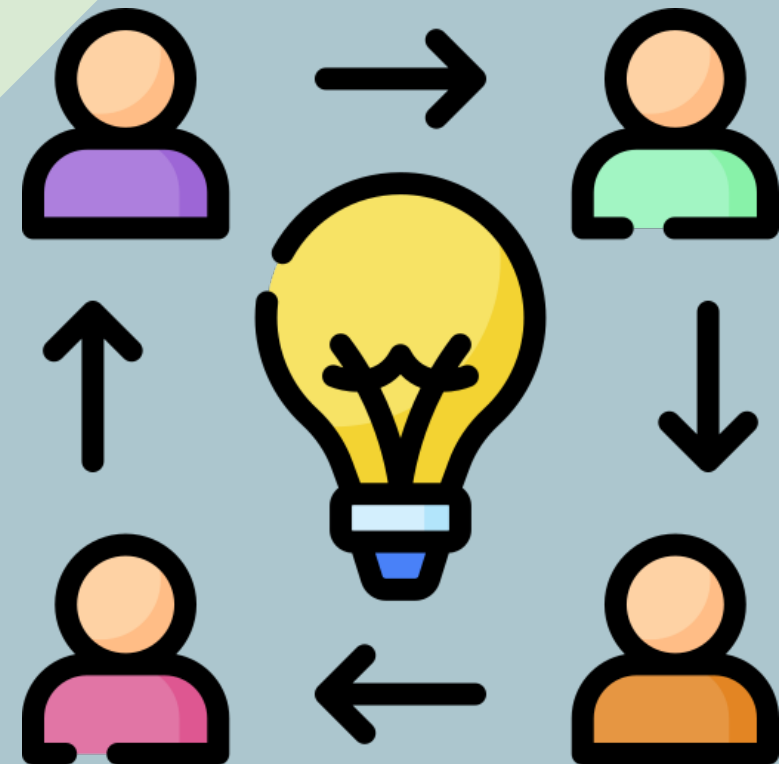
May 25th, 2022

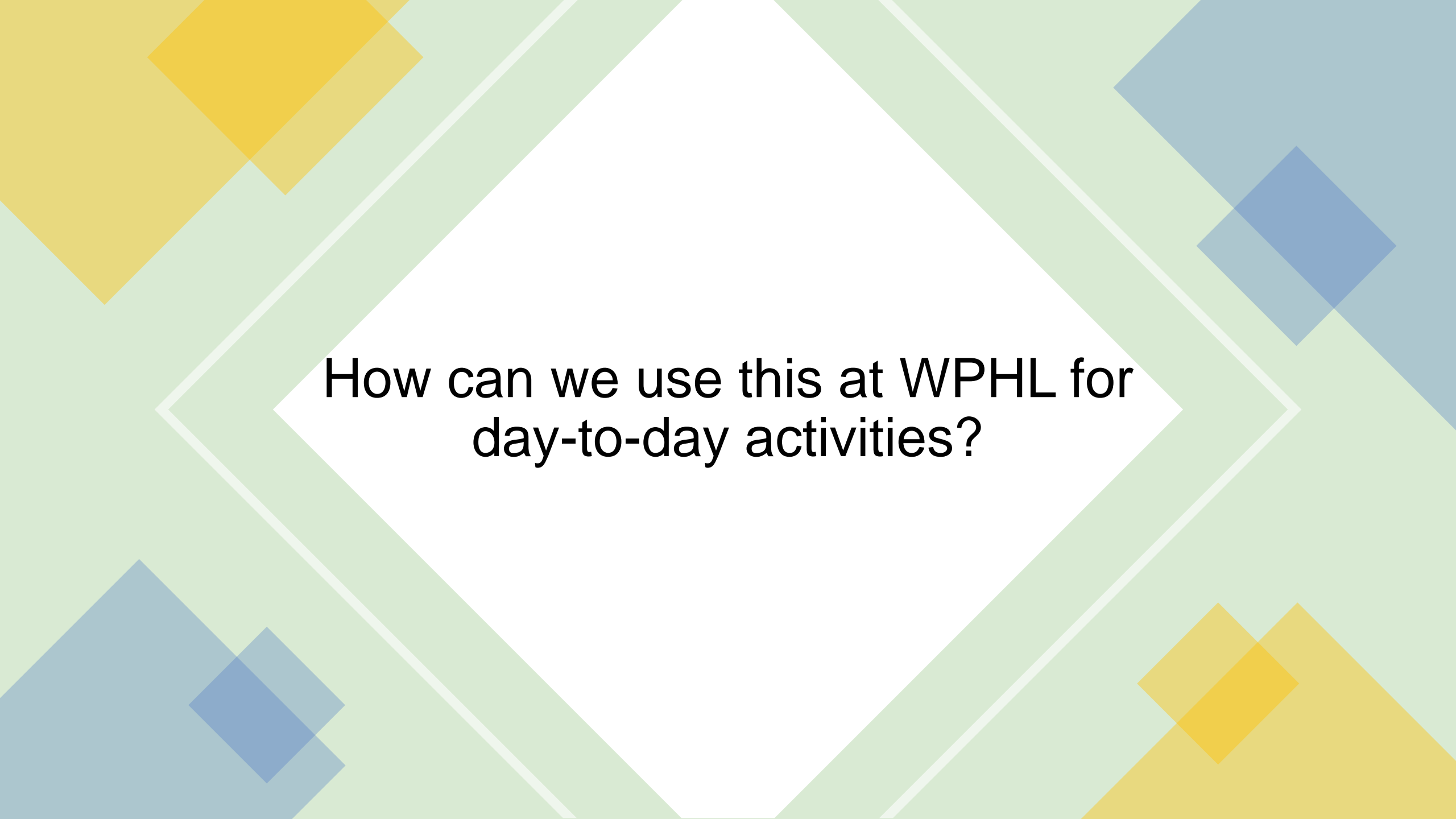
Robert A. Petit III, PhD



Wyoming Public Health
LABORATORY

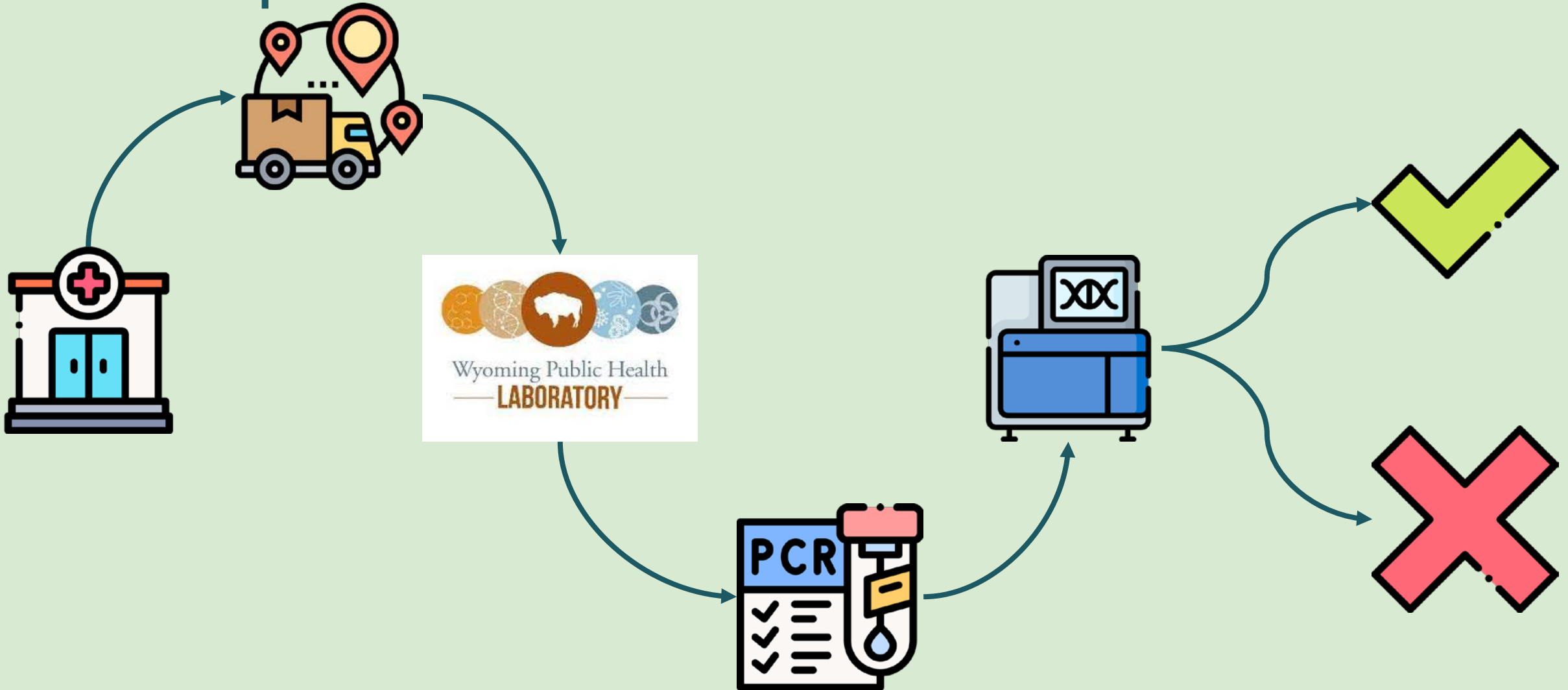
Yes!
Data.flo and Microreact
can do way more than
genomic epidemiology



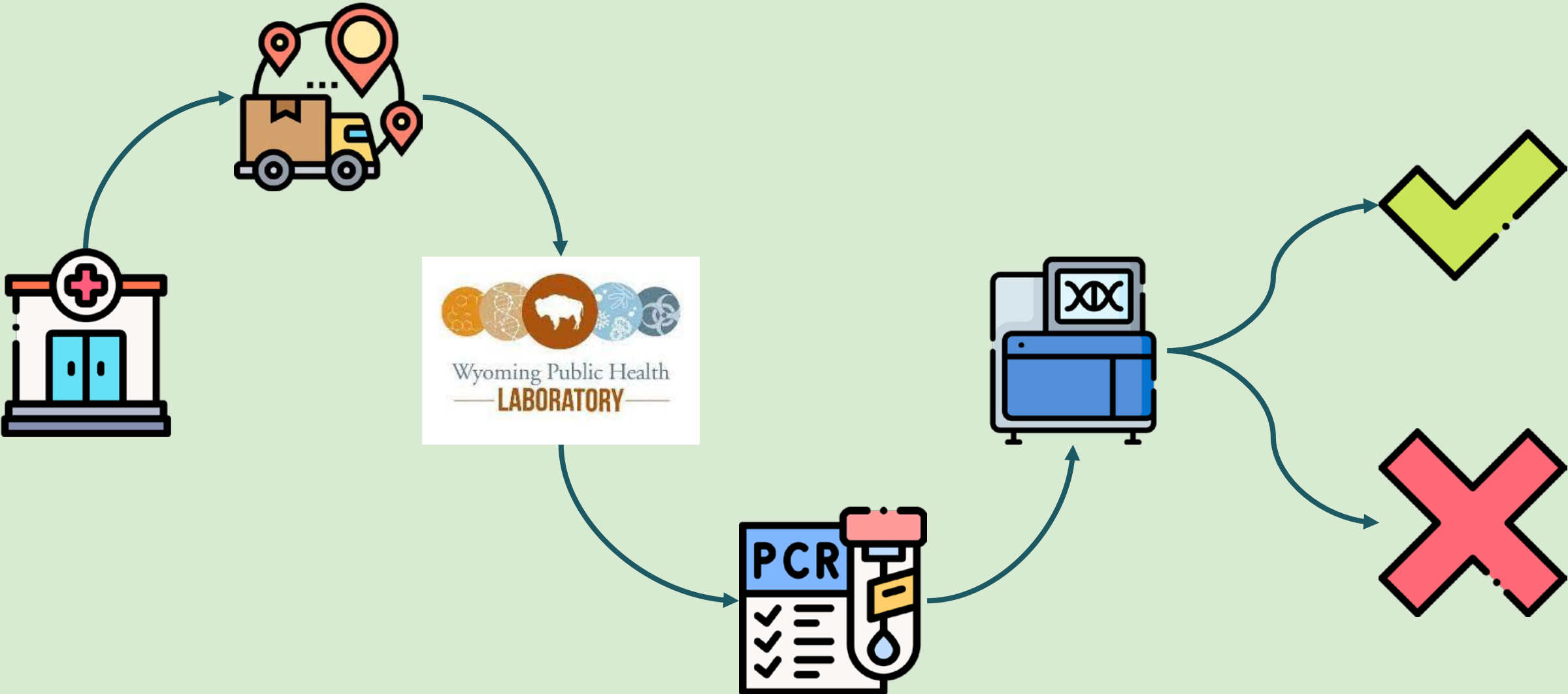


How can we use this at WPHL for
day-to-day activities?

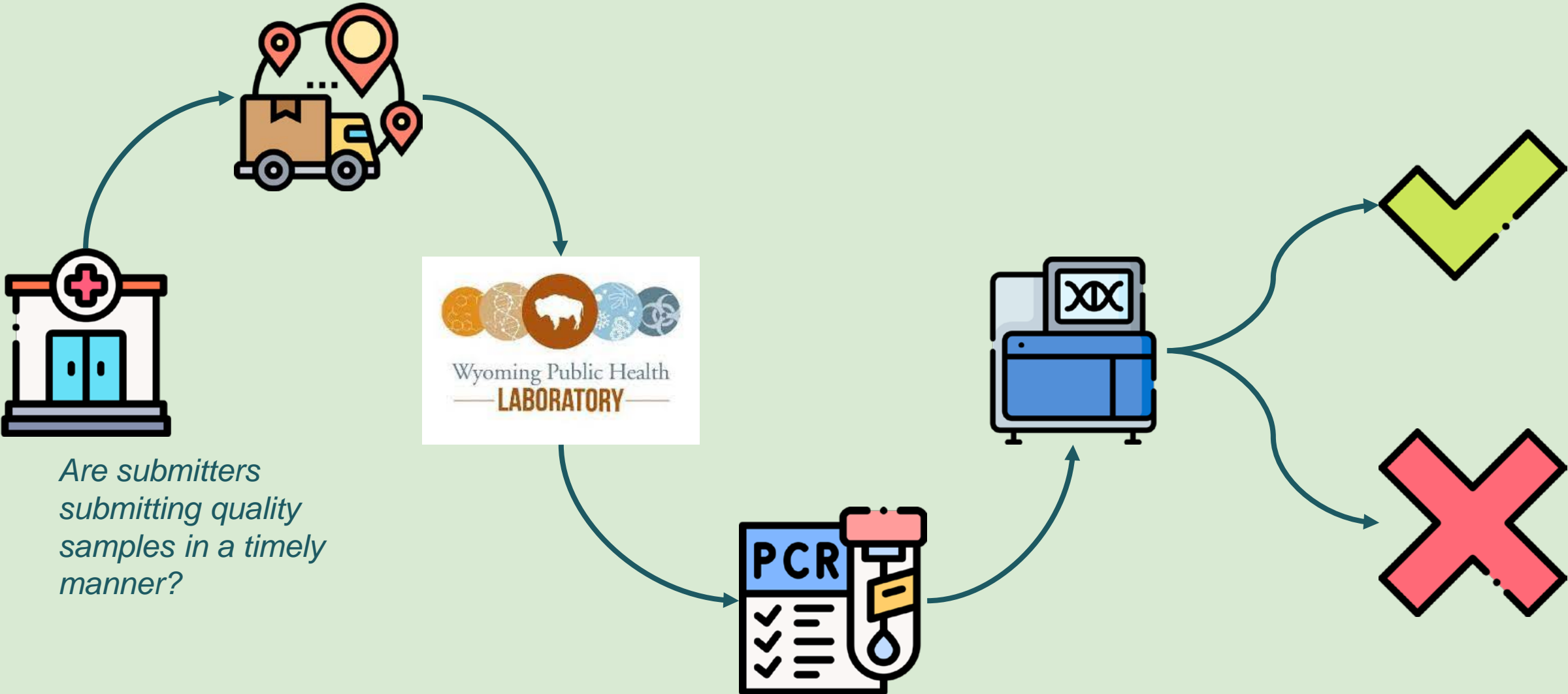
WPHL aims to sequence all PCR+ SC2 Samples



Can we identify ways to reduce poor sequencing outcomes?

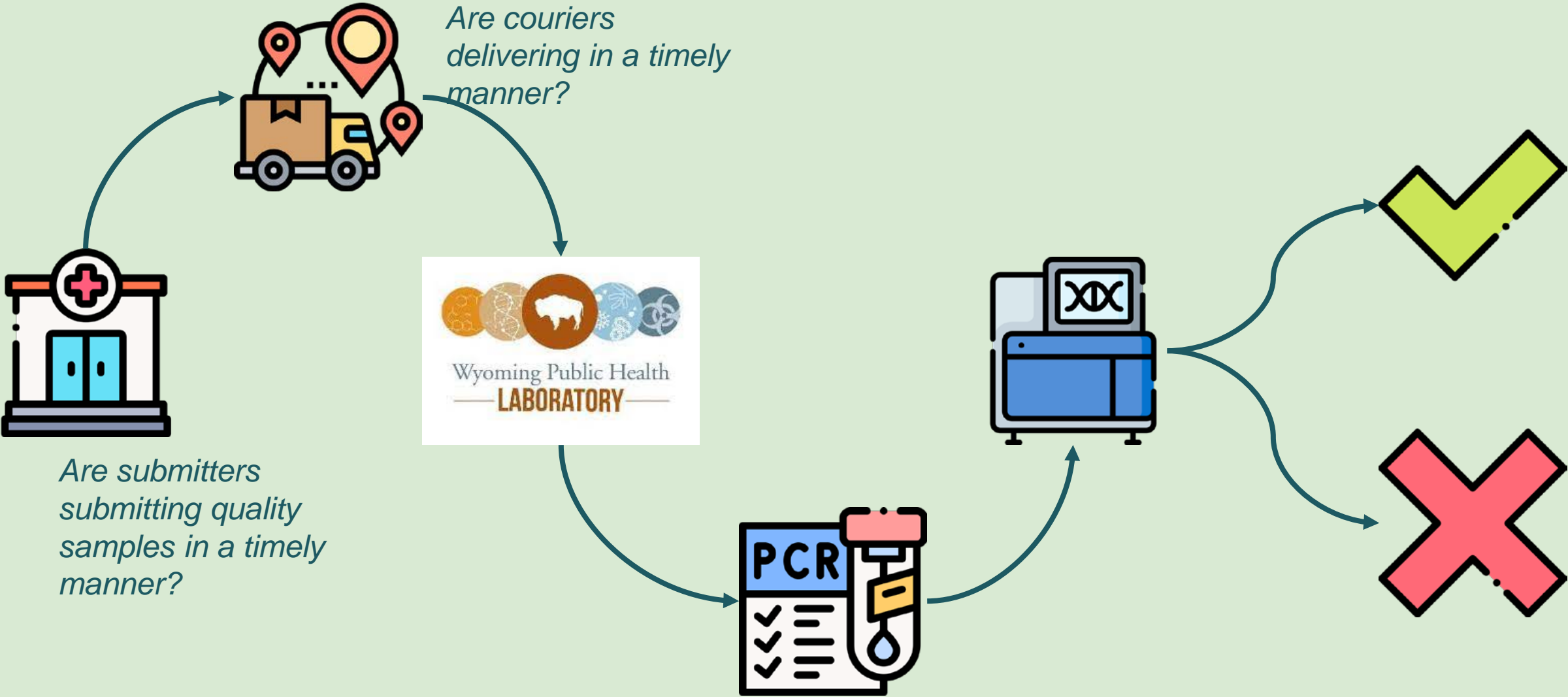


Can we identify ways to reduce poor sequencing outcomes?



Are submitters submitting quality samples in a timely manner?

Can we identify ways to reduce poor sequencing outcomes?

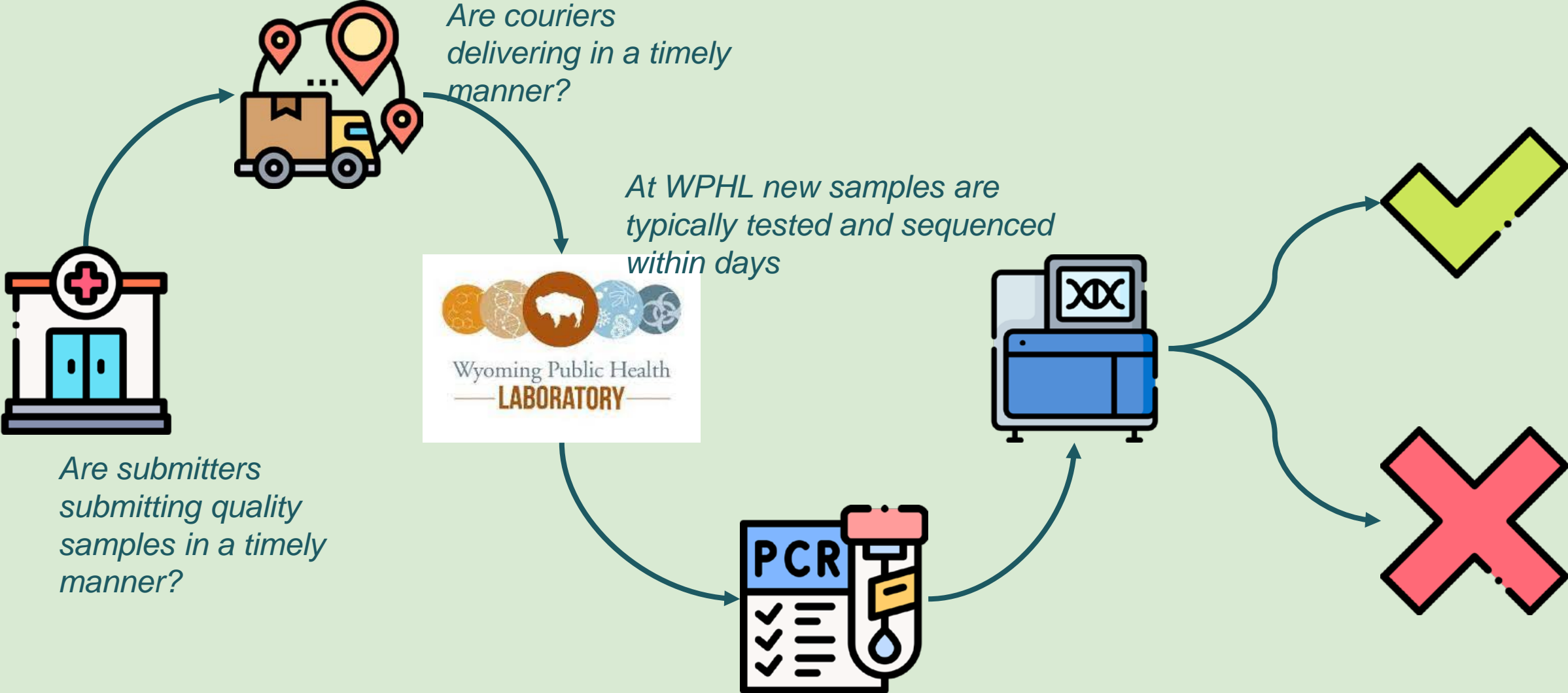


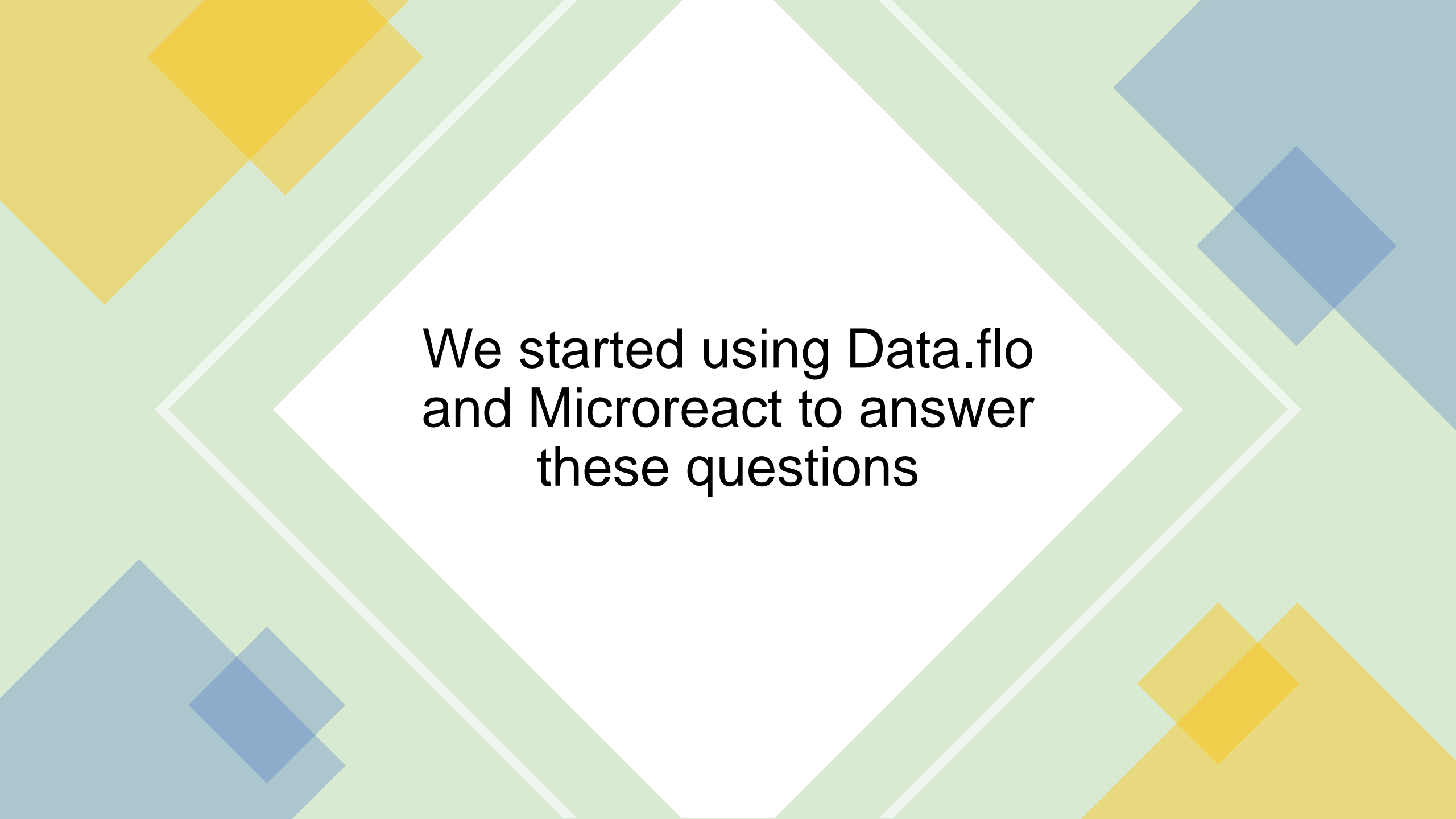
Are submitters submitting quality samples in a timely manner?

Are couriers delivering in a timely manner?



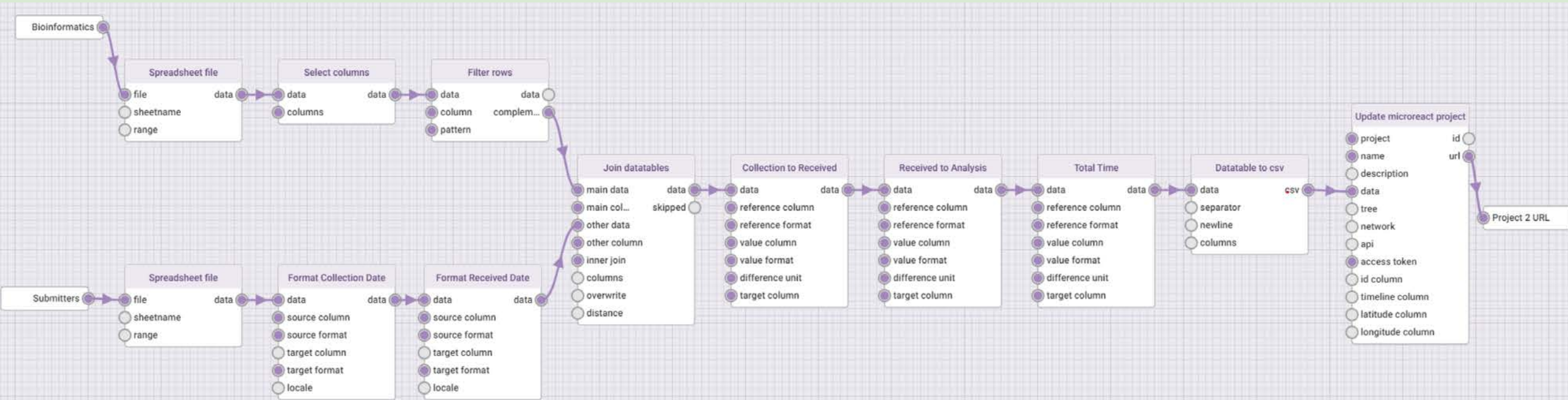
Can we identify ways to reduce poor sequencing outcomes?





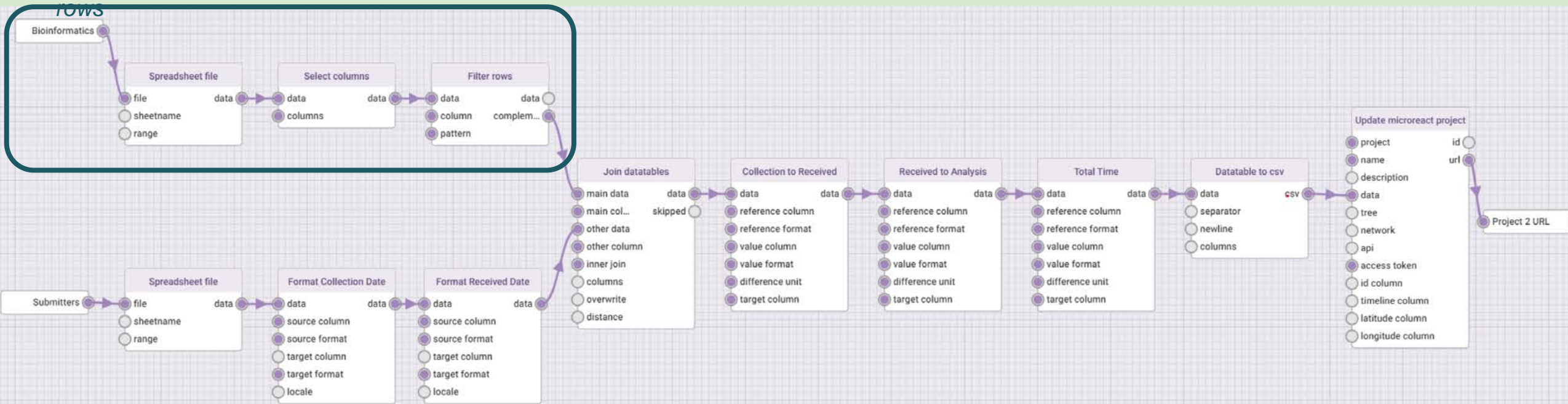
We started using Data.flo
and Microreact to answer
these questions

With a few clicks, we created a complex Data.flo



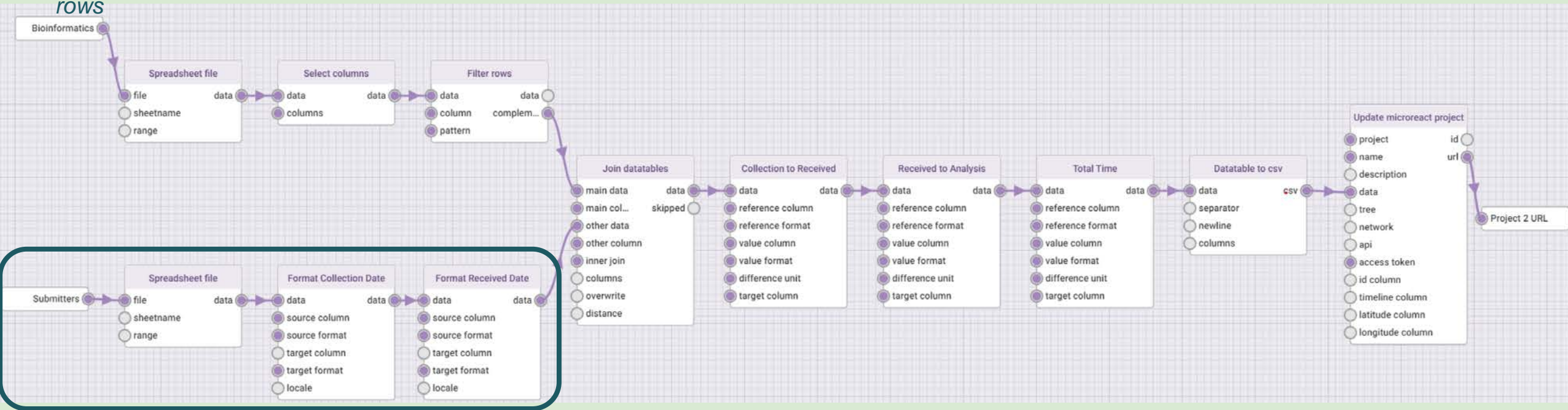
With a few clicks, we created a complex Data.flo

Read binf results, select columns, and filter



With a few clicks, we created a complex Data.flo

Read binf results, select columns, and filter rows



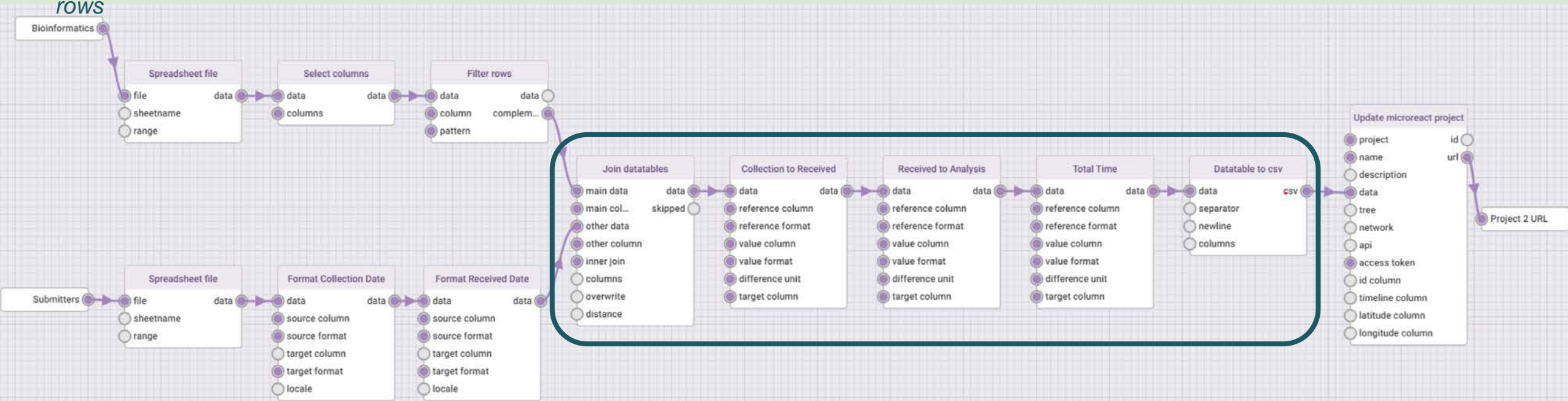
Read submitter info and format dates

With a few clicks, we created a complex Data.flo

Read binf results, select columns, and filter rows

ROWS

Join tables and add columns based on dates

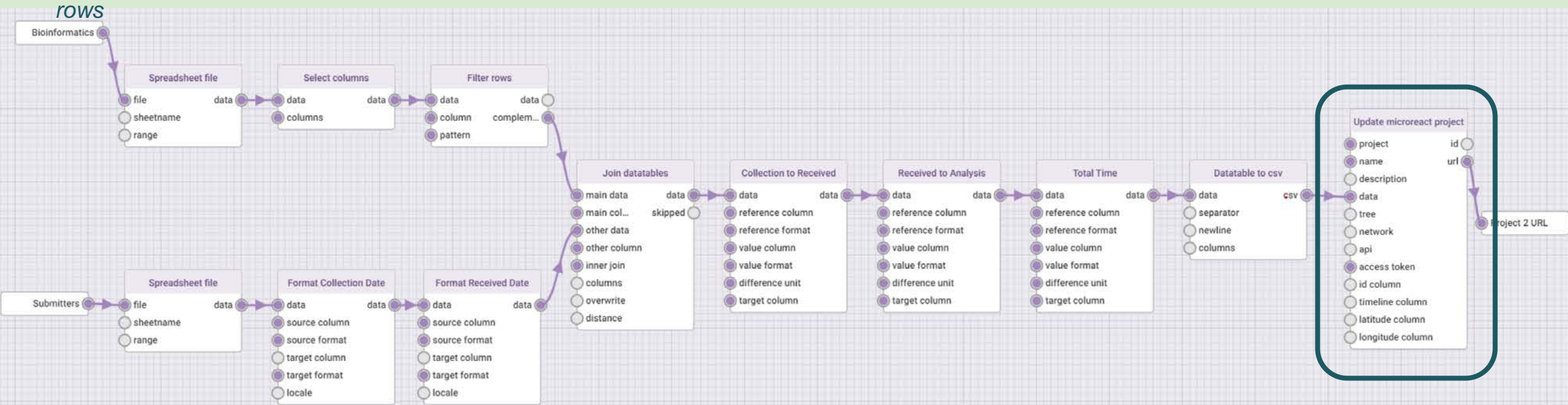


Read submitter info and format dates

With a few clicks, we created a complex Data.flo

Read binf results, select columns, and filter rows

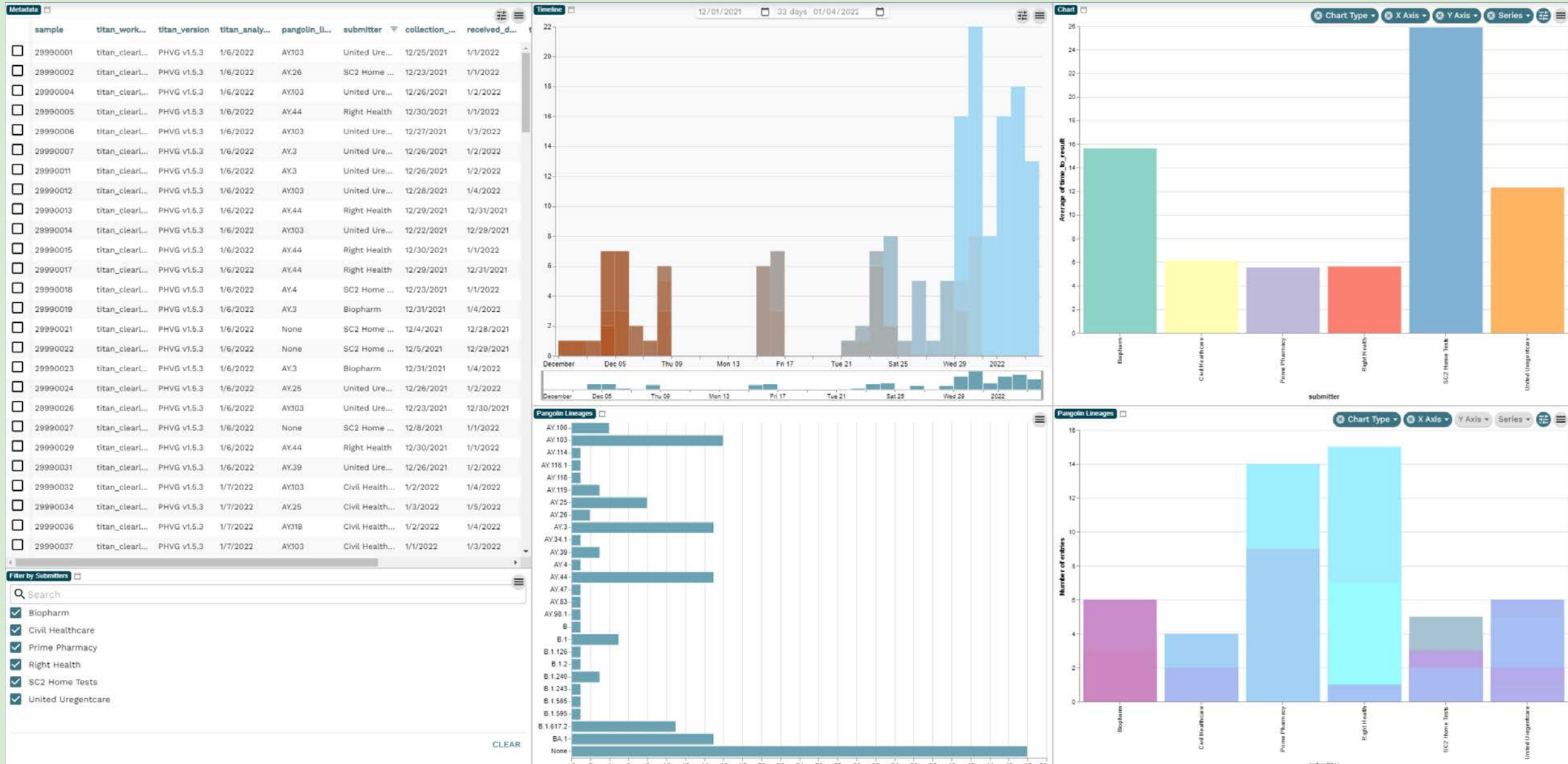
Join tables and add columns based on dates



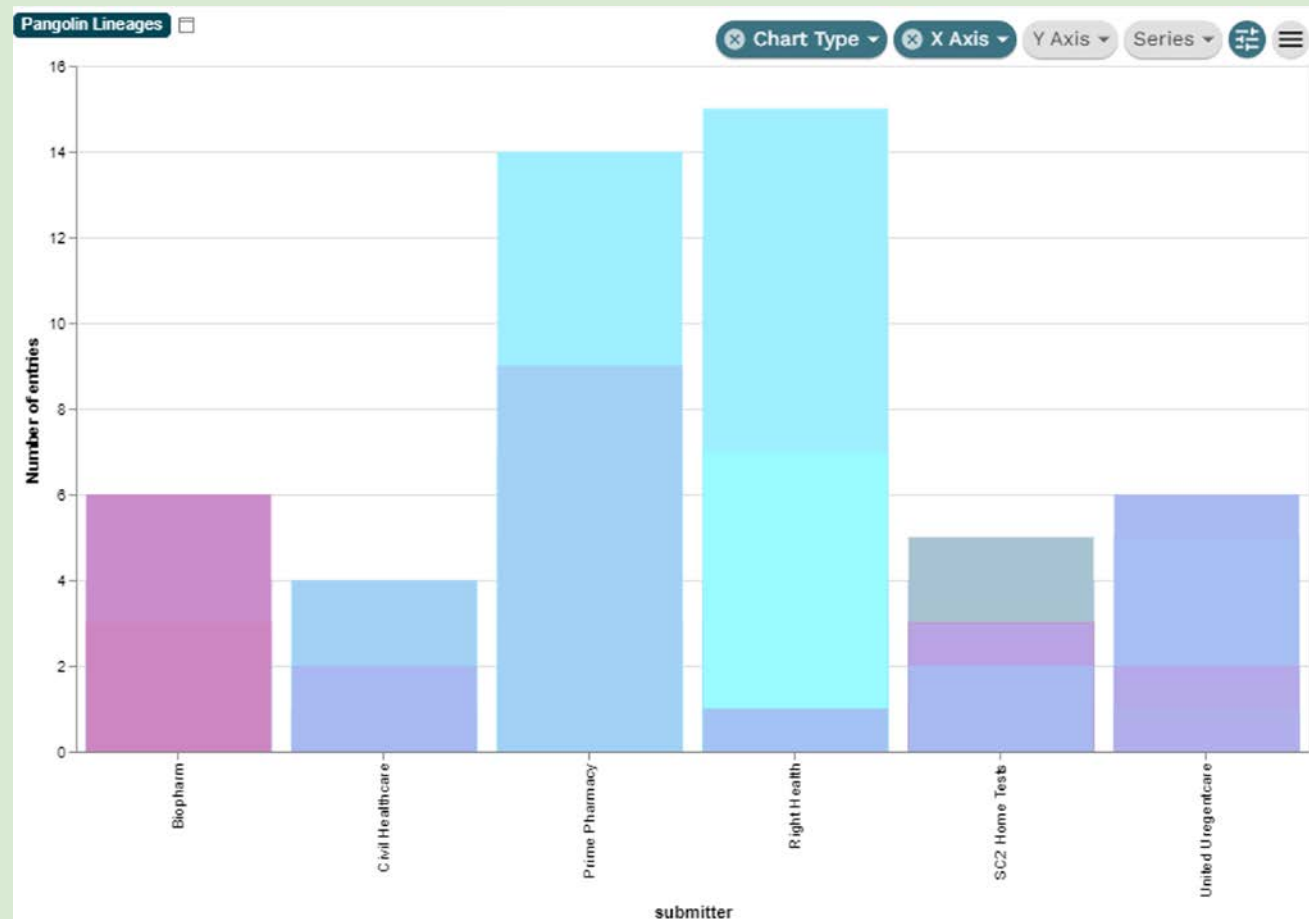
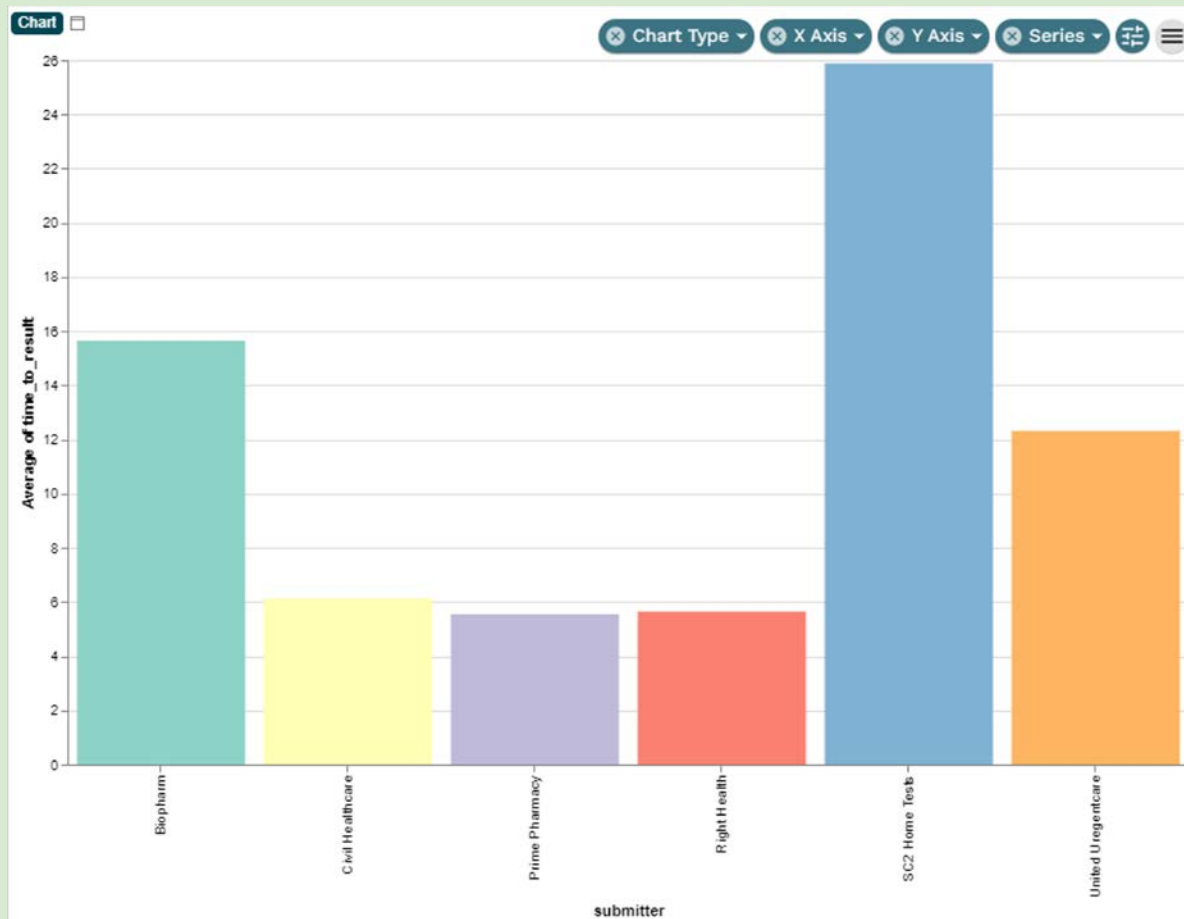
Read submitter info and format dates

Read it all into Microreact

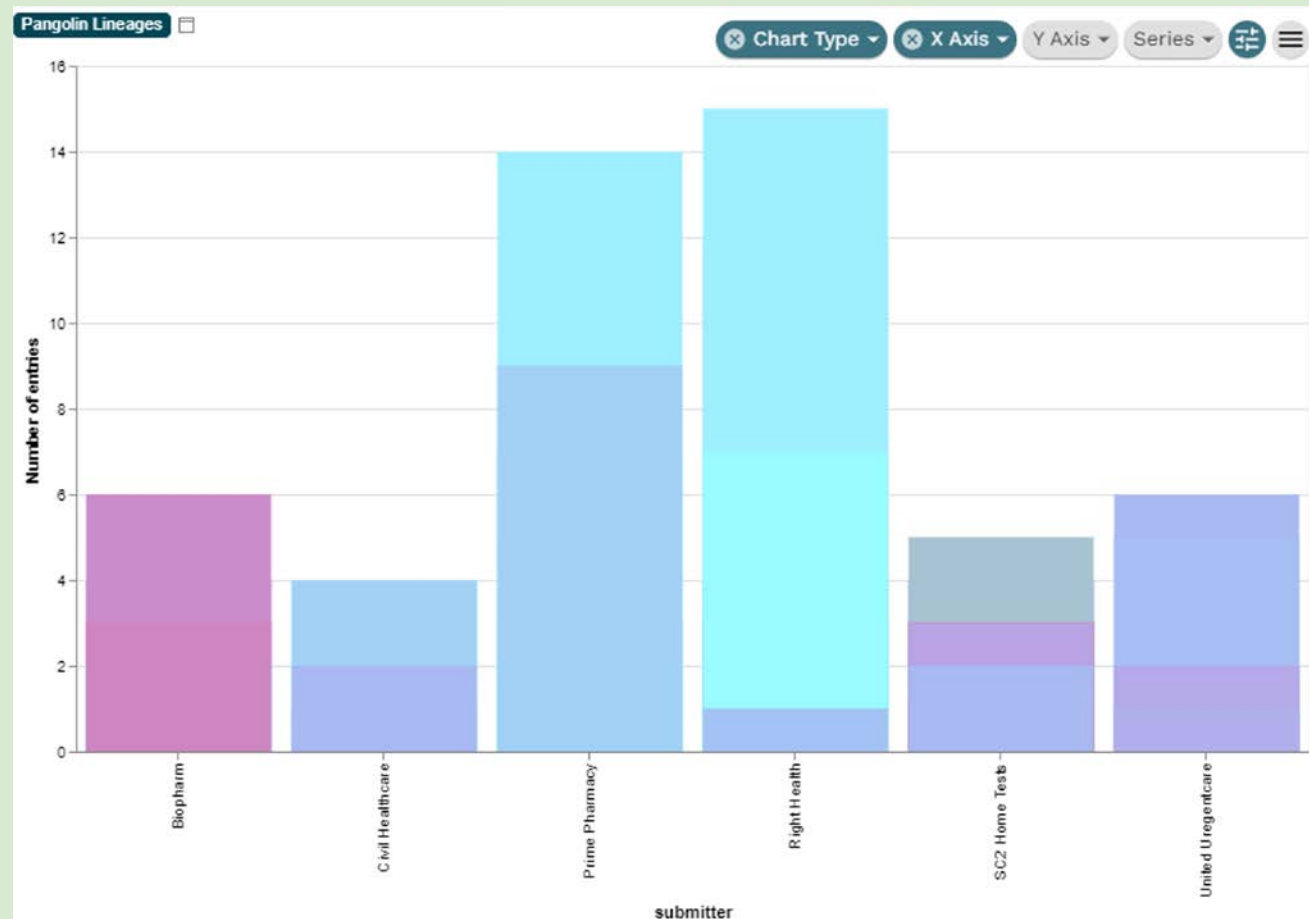
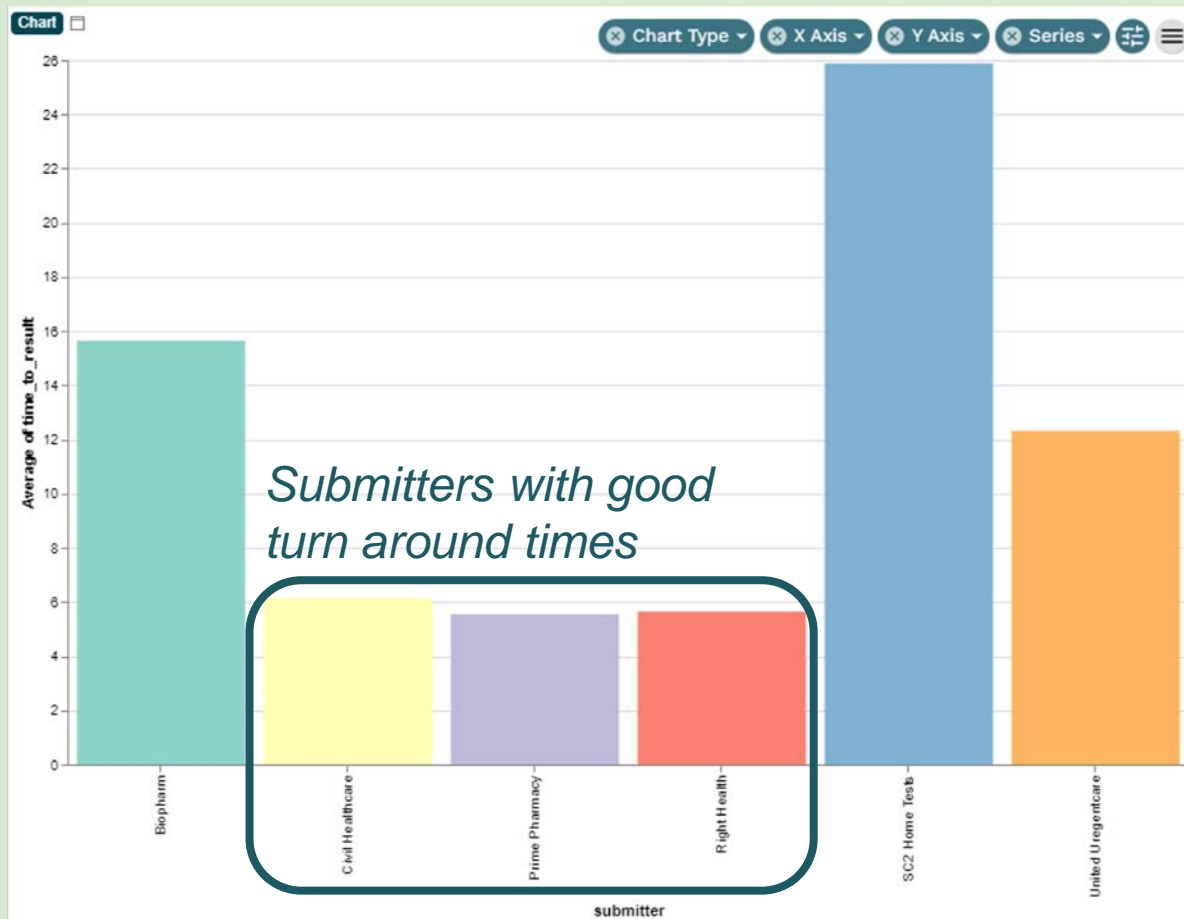
With a few more clicks, we have a dashboard in Microreact



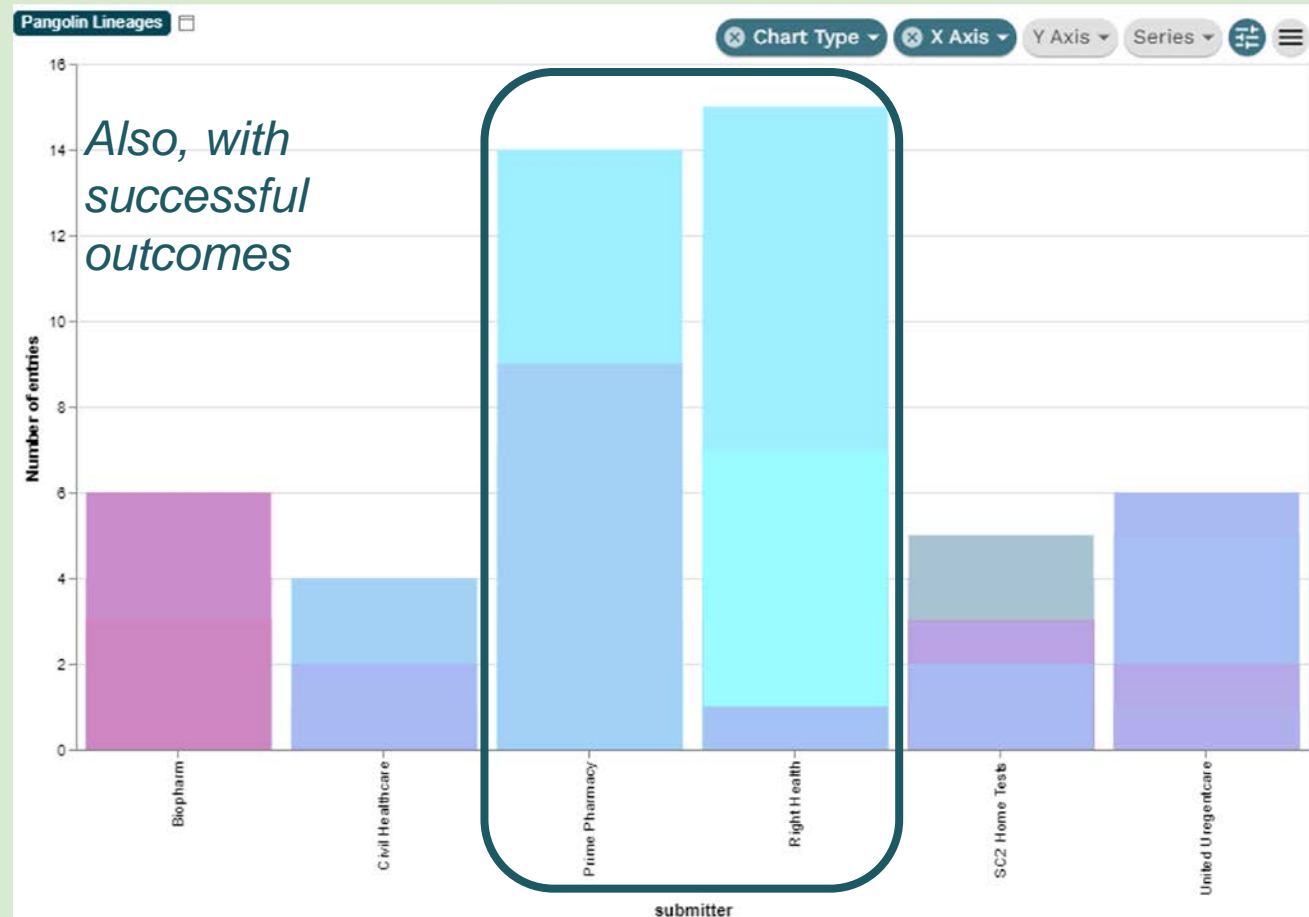
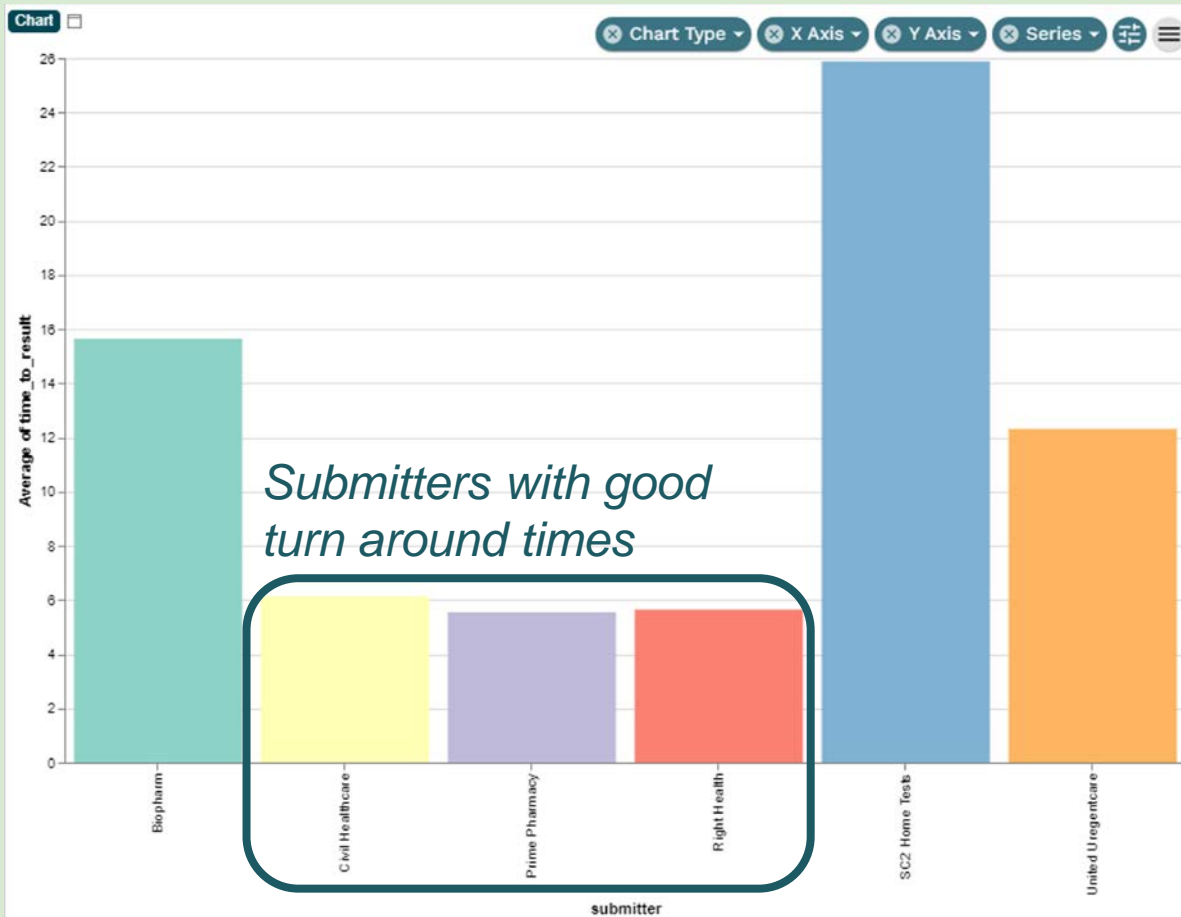
Looking into turn around times, and successful outcomes



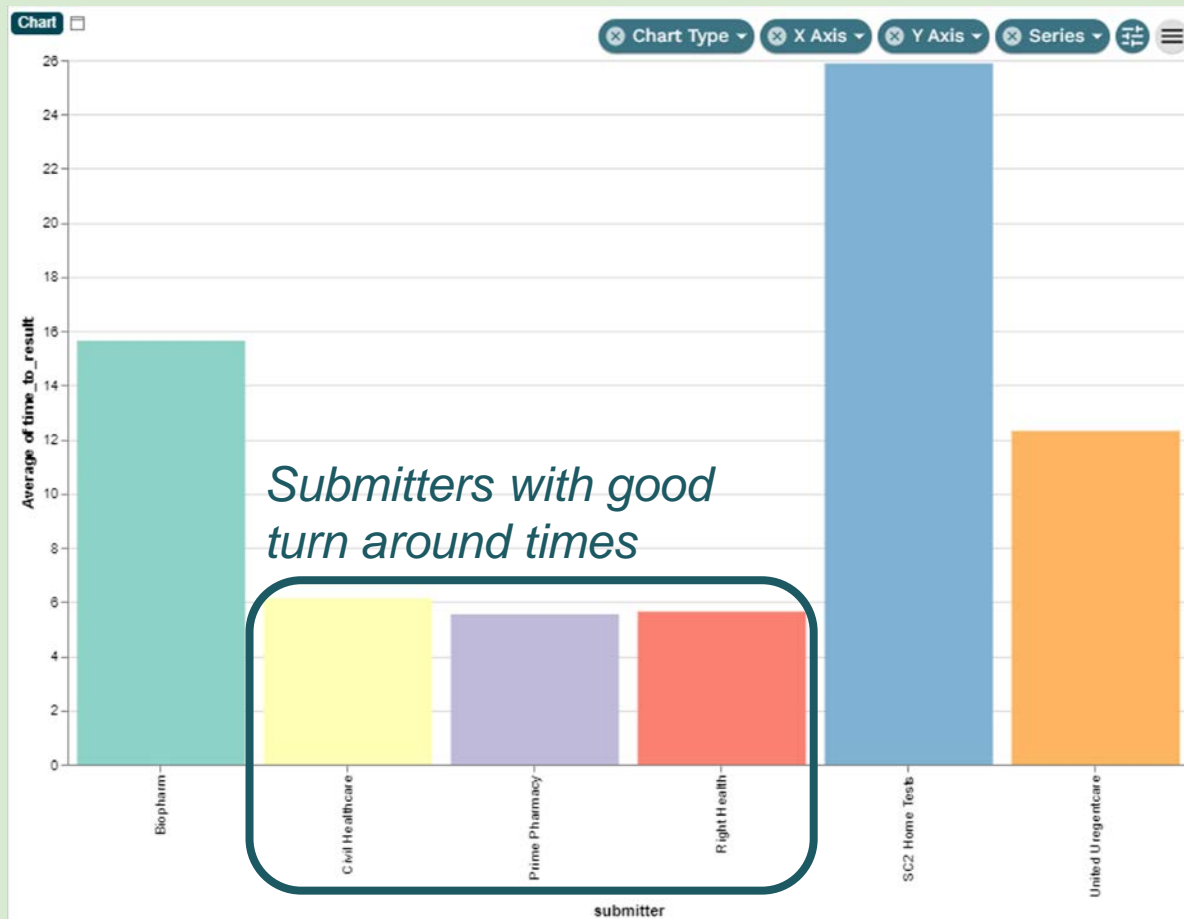
Looking into turn around times, and successful outcomes



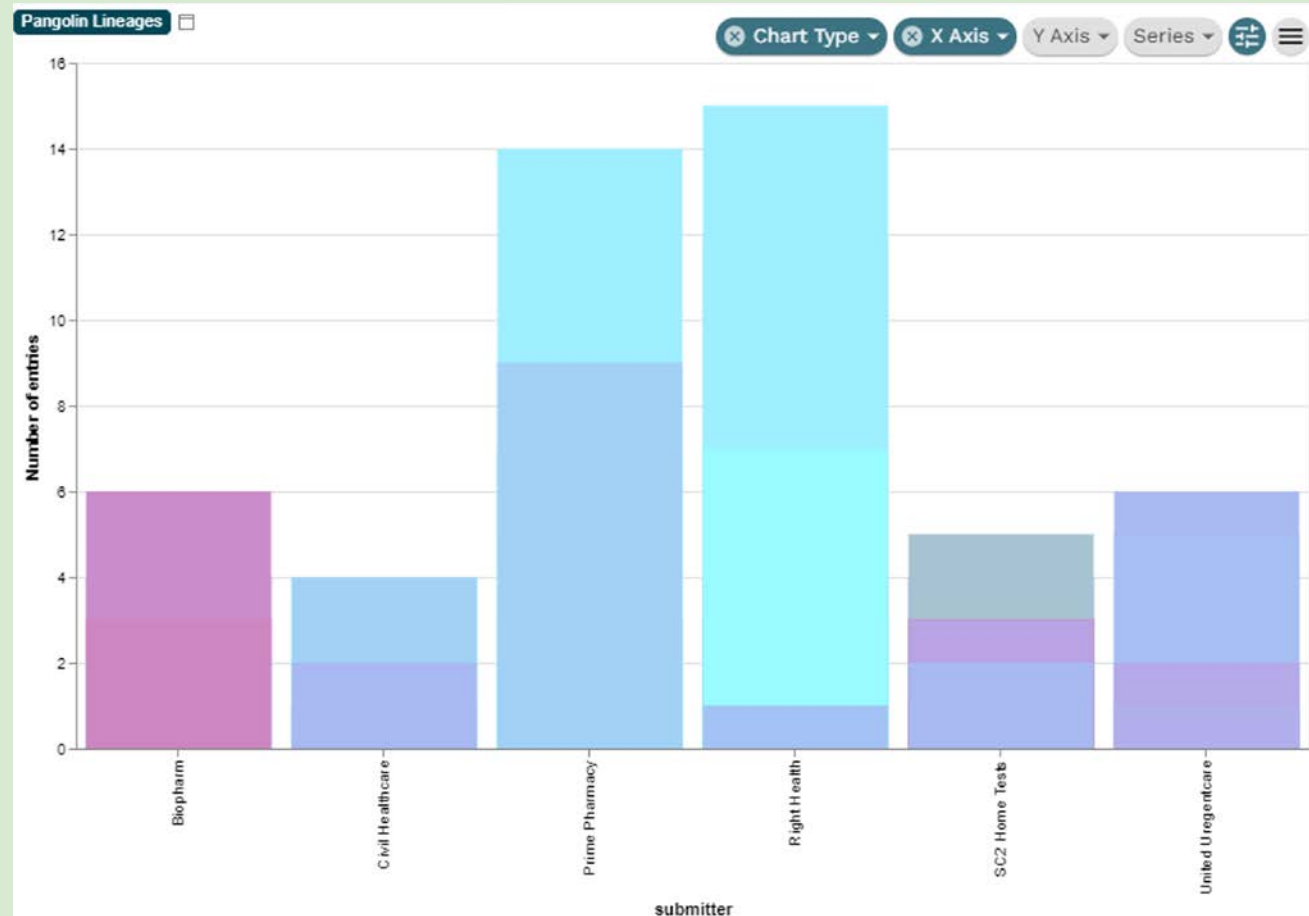
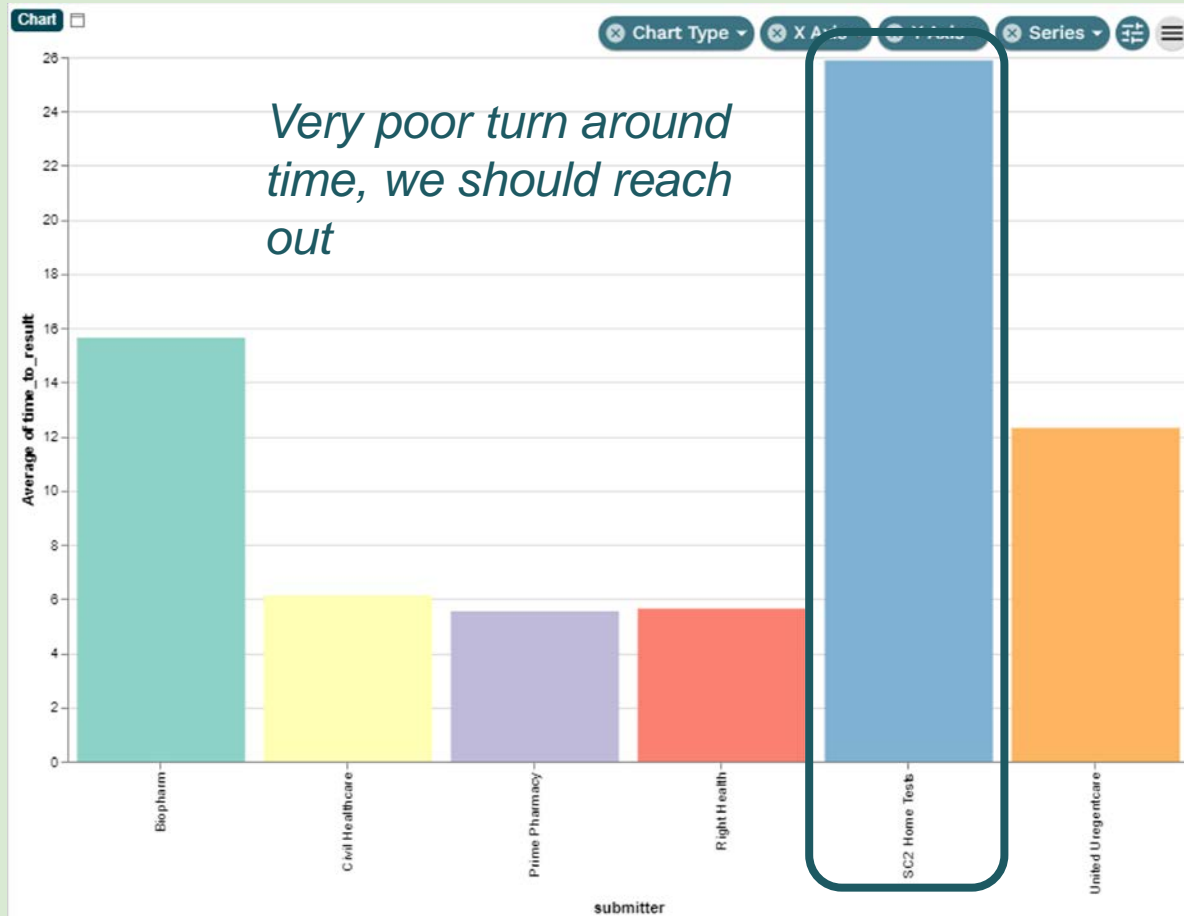
Looking into turn around times, and successful outcomes



Looking into turn around times, and successful outcomes



Looking into turn around times, and successful outcomes





*Can we identify ways to reduce
poor sequencing outcomes?*



YES

Other WPHL use-cases for Data.flo and Microreact



- Targeted SARS-CoV-2 interviews by WDH Epidemiologists

- Monitoring primer drop-outs for guidance on switching primers



- Tracking sequence submissions to public databases

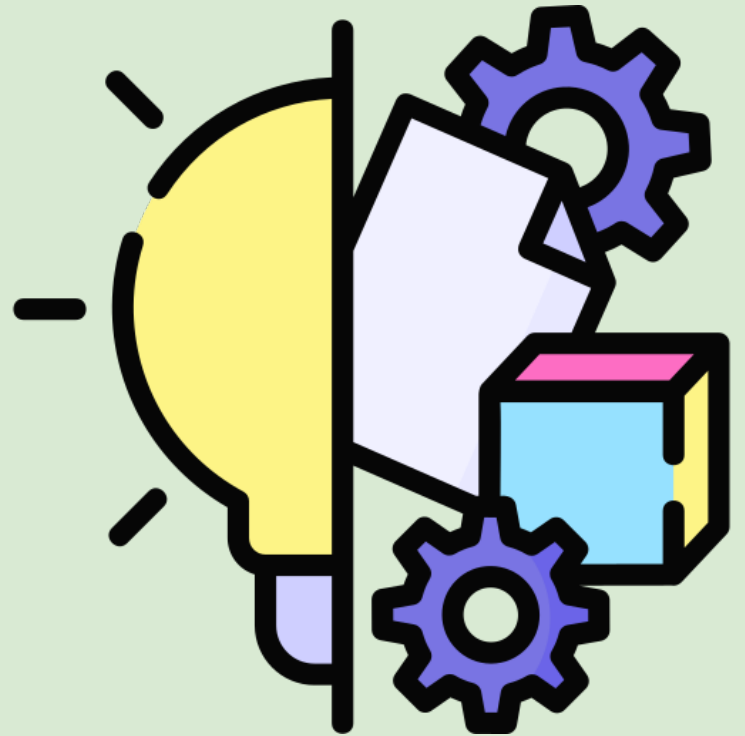


- Expanded usage for HAI, AMR, foodborne, wastewater, etc...

- Many more!

Summary

- Data.flo allows complex data manipulations
 - Joins, replacements, filters, regex, in a few clicks
- Microreact allows complex visualizations
 - Many charts, tables, trees, in a few clicks
- Very intuitive to get started
- ***This leads to more science***



Acknowledgements



Angela Blanton

Heather Shane

Dr. Khalil
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Kristen Connolly

Taylor Fearing

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Mildenberger

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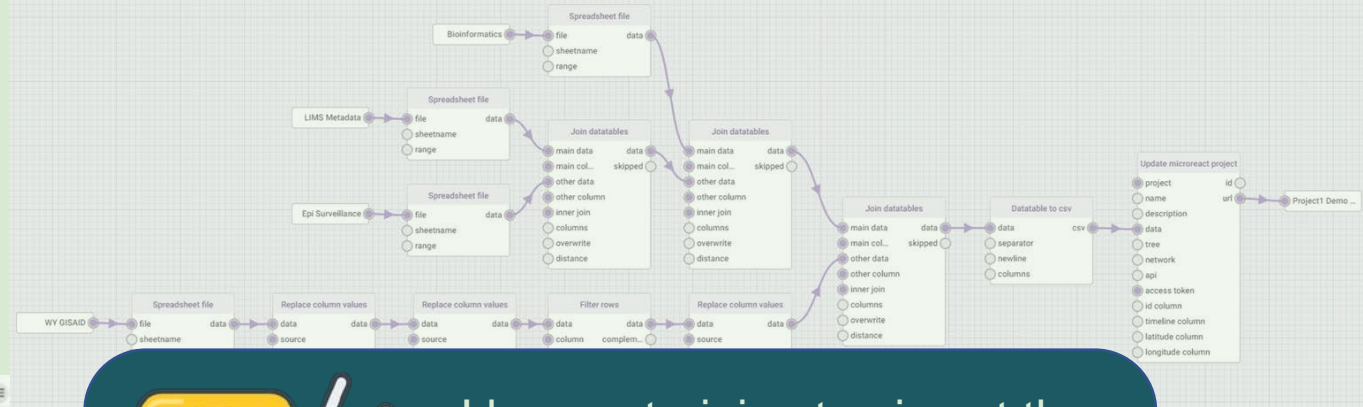
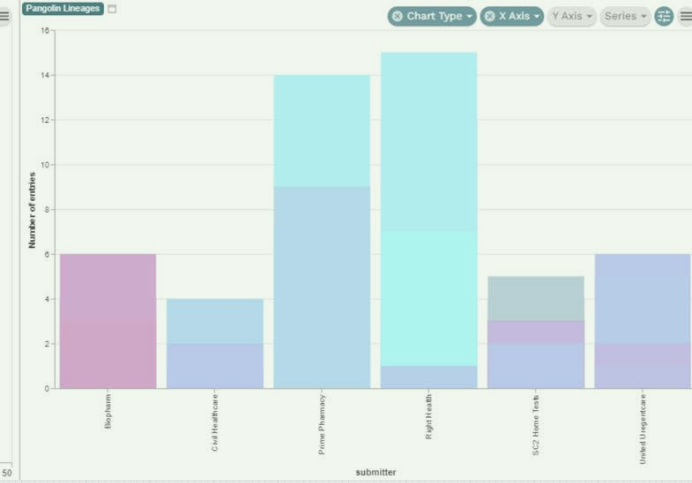
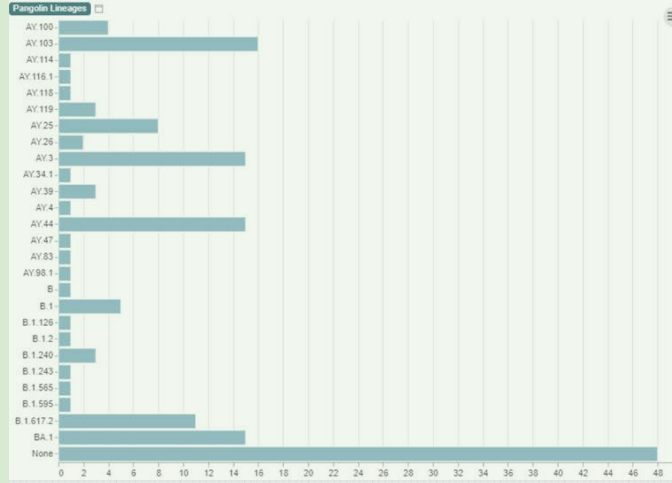
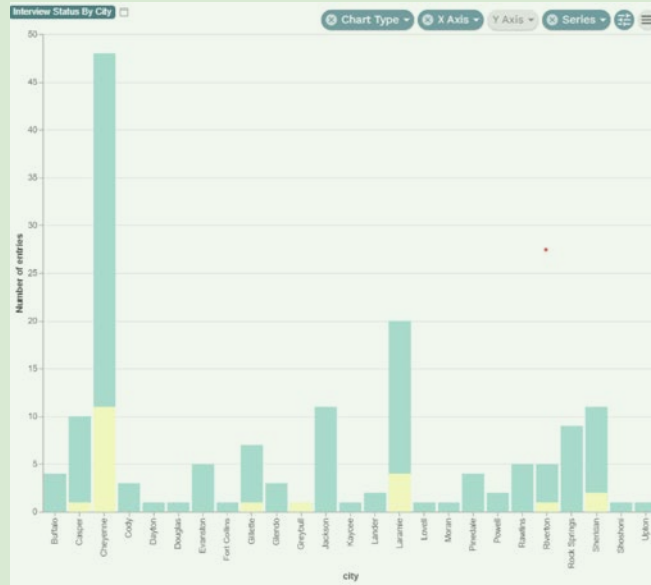
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Christensen

Dr. Joe Reed

Elisha Sprong



 I have a training to give at the top of the hour. In case I'm not around, please feel free to reach out at:
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