

Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Tuesday, January 11, 2022 3:01 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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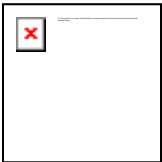
University of WI - Madison

Here's the latest activity across everything

Since 9am on Monday, January 10

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

Someone commented on [Follow-up with PLOS Pathogens](#)



Katarina Grande
Yep, can do!

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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Saturday, January 8, 2022 3:01 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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University of WI - Madison Here's the latest activity across everything

Since 9am on Friday, January 07

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

This was checked off on [2021-12-16 draft](#)

✓ [Read draft](#) Assigned to: Dave O.

This was checked off on [Cover letter](#)

✓ [Suggested and excluded reviewers?](#)

This was checked off on [Acknowledgements](#)

✓ [Make sure funding and ethical approvals are correctly acknowledged in letter format.](#) Assigned to: Dave O. and Thomas F.

This was added to [2021-12-16 draft](#)

□ [Follow-up with PLOS Pathogens](#) Due: Jan 17 • Assigned to: Katarina G.

SARS-CoV-2 sequencing

These were checked off on [Automation of ONT and Illumina library prep](#)

- ✓ [Send video of ONT workflow to Josh and colleagues](#) Assigned to: Gage M. and Kat B.
- ✓ [Schedule time for UWBC to get ARTICv3 primers for prototyping automation](#) Assigned to: Gage M. and Kat B.

This was checked off on [Accelerate data processing](#)

✓ [Automate Excel metadata files](#) Assigned to: David B.

These were checked off on [2021-1-18 huddle](#)

- ✓ [Determine percentage of sequences circulating in UW that contain problematic variants for Exact's...](#) Assigned to: Gage M.
- ✓ [Reach out to IRB office about following up interesting cases](#) Assigned to: Gage M. and Kat B.

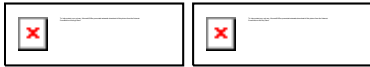
This was added to [UWHC sequencing](#)

☐ [Compare Delta and Omicron sequences in Dec 30-31 UWHC inpatient sequences \(26726\)](#)

Due: Jan 8 • Assigned to: Dave O.

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From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Friday, December 17, 2021 3:04 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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Since 9am on Thursday, December 16

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

This was added to [2021-12-16 draft](#)

☐ [Read draft](#) Assigned to: Dave O.

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From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
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To: Kocharian, Anna - DHS
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University of WI - Madison Here's the latest activity across everything

Since 9am on Sunday, December 12

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

A message was posted



Thomas F. posted [🔗 There is already a review article...](#)
...on breakthrough infections, led by Marc Lipsitch, in Nature Reviews Immunology.
Looks comprehensive.

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Wallock, Matthew J - DHS

From: Thomas Friedrich (Basecamp) <notifications@3.basecamp.com>
Sent: Sunday, December 12, 2021 4:49 PM
To: Kocharian, Anna - DHS
Subject: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) ✨ There is already a review article...

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...on breakthrough infections, led by Marc Lipsitch, in [Nature Reviews Immunology](#). Looks comprehensive.

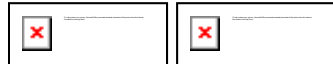


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This message was sent to Al Bateman, Anna Kocharian, Brittany Grogan, Dave OConnor, Hannah Segaloff, Kasen Riemersma, Katarina Grande, Kelsey Florek, Peter Halfmann, Ryan Westergaard, Sanjib Bhattacharyya, Thomas Friedrich, and Yoshihiro Kawaoka.

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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Wednesday, December 8, 2021 3:06 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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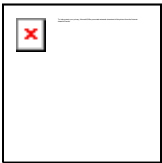


University of WI - Madison Here's the latest activity across everything

Since 9am on Tuesday, December 07

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

Someone commented on  [Relevant paper in Nature Medicine](#)



Katarina Grande
yep. well done!

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Wallock, Matthew J - DHS

From: Katarina Grande (Basecamp) <notifications@3.basecamp.com>
Sent: Tuesday, December 7, 2021 4:34 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) 📢 Relevant paper in Nature Medicine

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yep. well done!



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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Friday, December 3, 2021 3:06 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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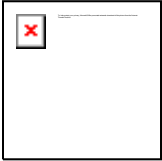


University of WI - Madison Here's the latest activity across everything

Since 9am on Thursday, December 02

m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

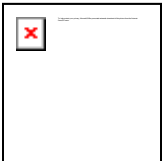
A message was posted



Thomas F. posted  [Relevant paper in Nature Medicine](#)

Hi all. I saw this recent brief communication in Nature Med today relevant to our paper. Key passage: " Focusing on the RdRp gene, regression coefficients for vaccinated over unvaccinated, representing the difference in Ct between the groups, started with 4.6 (95% confidence interval (CI), 2.2–6....

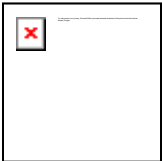
Someone commented on  [Relevant paper in Nature Medicine](#)



Dave OConnor

So, like, we were right?

Someone commented on [Manuscript update](#)

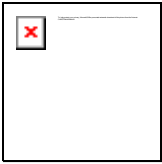


Brittany Grogan

Dave FYI we have included booster case rate data in our snapshot that was released this evening! We only release hospitalization and death data by vaccination status once a month, so we'll release that in the same format (not vaxxed/vaxxed initial series/vaxxed + boosted) in two weeks, for both O...

SARS-CoV-2 sequencing

People discussed [Getting the genomic surveillance ready for B.1.1.529 in Dane County](#)

**CHRISTINA NEWMAN**

Dave I used the Ceres Nanotrap reagent for the first time today. Luis kindly pulled primary samples that were not designated for sequencing. I used 15 of them (Ct 25-36) with a negative control (PCR water) and tested 3 different protocols: 1. Ceres Nanotrap + detergent/heat isolation (manual pr...

**Dave OConnor**

Awesome! Excited to see what it looks like.

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Wallock, Matthew J - DHS

From: Brittany Grogan (Basecamp) <notifications@3.basecamp.com>
Sent: Thursday, December 2, 2021 9:11 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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 Dave FYI we have included booster case rate data in our snapshot that was released this evening! We only release hospitalization and death data by vaccination status once a month, so we'll release that in the same format (not vaxxed/vaxxed initial series/vaxxed + boosted) in two weeks, for both October and November.

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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Thursday, December 2, 2021 9:48 AM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) 📢 Relevant paper in Nature Medicine

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So, like, we were right?



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Wallock, Matthew J - DHS

From: Thomas Friedrich (Basecamp) <notifications@3.basecamp.com>
Sent: Thursday, December 2, 2021 9:45 AM
To: Kocharian, Anna - DHS
Subject: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) 📧 Relevant paper in Nature Medicine

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Hi all. I saw this recent [brief communication](#) in Nature Med today relevant to our paper. Key passage:

Focusing on the *RdRp* gene, regression coefficients for vaccinated over unvaccinated, representing the difference in Ct between the groups, started with 4.6 (95% confidence interval (CI), 2.2–6.9) for BTI 7–30 d after the second vaccine dose, yet decayed over time down to 0.6 (95% CI, 0.05–1.12) after about 2 months ($P = 0.00005$, [Methods](#): 'Change in Ct over time'), and vanished to insignificant values for infections 6 months or longer after vaccination. Analyzing data for up to 34 d after inoculation revealed that this decline, however, was overturned after the booster shot, which was associated with an increase of 2.4 (95% CI, 2.0–2.9) in the Ct.



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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Tuesday, November 30, 2021 3:06 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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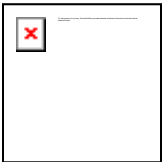


University of WI - Madison Here's the latest activity across everything

Since 9am on Monday, November 29

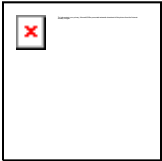
m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

People discussed [Manuscript update](#)



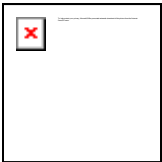
Katarina Grande

Current status is now "under review." Brittany, do we have the data file we need from DHS to gauge what our booster/3rd dose BTs are looking like right now?



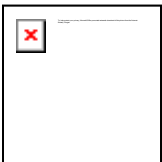
Brittany Grogan

We don't, Katarina, but it's something I can pull together manually, just have to download some files from WEDSS. I can work on developing a masterlist of booster breakthroughs today that we can use in the meantime until DHS adds those to our daily files! To be consistent with "regular" breakthro...



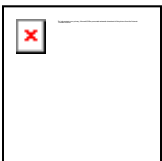
Dave OConnor

14 days is the definition I'd use if possible. Otherwise you run the risk of underestimating booster effectiveness. It would be excellent to start cross-checking these cases against viral load. I feel like I've asked this before, but is PHMDC also planning to break out booster vs. non-booster in...



Brittany Grogan

Dave I'll chat with Katarina and the rest of the data team at our meeting tomorrow morning, but I think that yes, we can certainly explore breaking out unvaccinated vs vaccinated non-booster vs vaccinated booster, perhaps even on this week's data snapshot. Should we send a list of booster breakt...



Thomas Friedrich

Thanks Brittany and Katarina. I think it is worth analyzing breakthrough viral loads stratified by booster vs. no booster in general, and in preparation of potential reviewer requests for more recent data. We can certainly sequence breakthroughs along with everything else. Luis is the person to c...

**Brittany Grogan**

Sounds good, I added a file to Teams with all of our booster breakthroughs so far where the lab was processed by Exact or UW. There are 43 on the list with the majority being from November.

**Dave OConnor**

Just to be clear, breakthrough equals ≥ 14 days after final dose? If so, that's surprisingly high to me.

**Brittany Grogan**

Correct; we have 80 total since 8/13/21. 56 of those are from November, compared to a total of 3,693 total cases so far in November. On last week's data snapshot we reported that so far 1/3 of Dane County residents who have completed the initial vaccine series have received a booster or third dose.

**Dave OConnor**

So if roughly 72% of Dane County is fully vaccinated, that means that roughly 24% have been boosted ($.72 * .3$) This would mean that if the vaccine was having no effect, you'd expect 886 of these November cases to be in vaccinees ($3693 * .24$). An actual number of 56 doesn't seem that bad - about 6...

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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 3:04 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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So if roughly 72% of Dane County is fully vaccinated, that means that roughly 24% have been boosted ($.72 * .3$)

This would mean that if the vaccine was having no effect, you'd expect 886 of these November cases to be in vaccinees ($3693 * .24$). An actual number of 56 doesn't seem that bad - about 6% as likely to be infected after boosting than if unvaccinated.

Unless I can't do math anymore, which is entirely possible :)



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Wallock, Matthew J - DHS

From: Brittany Grogan (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 2:19 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 1:57 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Just to be clear, breakthrough equals \geq 14 days after final dose?



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Wallock, Matthew J - DHS

From: Brittany Grogan (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 1:47 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Sounds good, I added a file to Teams with all of our booster breakthroughs so far where the lab was processed by Exact or UW. There are 43 on the list with the majority being from November.



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Wallock, Matthew J - DHS

From: Thomas Friedrich (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 12:28 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Thanks  Brittany and  Katarina . I think it is worth analyzing breakthrough viral loads stratified by booster vs. no booster in general, and in preparation of potential reviewer requests for more recent data. We can certainly sequence breakthroughs along with everything else. Luis is the person to coordinate with, yes.



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Wallock, Matthew J - DHS

From: Brittany Grogan (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 11:10 AM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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 Dave I'll chat with  Katarina and the rest of the data team at our meeting tomorrow morning, but I think that yes, we can certainly explore breaking out unvaccinated vs vaccinated non-booster vs vaccinated booster, perhaps even on this week's data snapshot.

Should we send a list of booster breakthroughs for potential sequencing? It's been a couple months since I've sent a request for sequencing; is this something I would send to Luis?

 You can reply to this email or [respond in Basecamp](#).

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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 9:25 AM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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14 days is the definition I'd use if possible. Otherwise you run the risk of underestimating booster effectiveness.

It would be excellent to start cross-checking these cases against viral load. I feel like I've asked this before, but is PHMDC also planning to break out booster vs. non-booster infection and severe case rates?



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Wallock, Matthew J - DHS



From: Brittany Grogan (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 8:29 AM
To: Kocharian, Anna - DHS
Subject: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Brittany G. @mentioned you in Re: Manuscript update

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m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

Brittany G. @mentioned you in [Re: Manuscript update...](#)

We don't,  Katarina, but it's something I can pull together manually, just have to download some files from WEDSS. I can work on developing a masterlist of booster breakthroughs today that we can use in the meantime until DHS adds those to our daily files!

To be consistent with "regular" breakthroughs, do we want to consider a 'booster breakthrough' as an episode date (i.e. earliest date between symptom onset or test collection date) 14 or more days after the booster shot? CDC said on a call last week that they're finding it takes about 7 days to see a benefit from the booster, and I know that the Israel data  Dave sent us shows more of a benefit at 12 days vs. 7 days. I'll reach out to  Anna to see if DHS is planning on presenting booster breakthrough data and if so, what interval they will use to define it.

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Wallock, Matthew J - DHS

From: Katarina Grande (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 29, 2021 8:12 AM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Current status is now "under review."

 Brittany, do we have the data file we need from DHS to gauge what our booster/3rd dose BTs are looking like right now?

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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Thursday, November 25, 2021 3:06 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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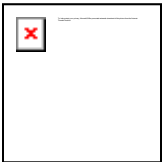


University of WI - Madison Here's the latest activity across everything

Since 9am on Wednesday, November 24

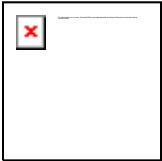
m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

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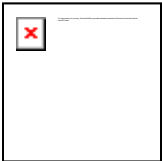
Thomas Friedrich

Any further updates Katarina ? One question for you and Dave -- we have continued to collect data on Ct value and vaccination status. We could update the figures if this version does not get sent out for review...



Dave OConnor

Great point Thomas



Dave OConnor

We could also start looking at third vaccine breakthroughs to see if there is any difference in VL in those cases.

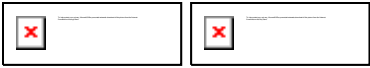


Thomas Friedrich

That is a great point yourself, Dave .

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Wallock, Matthew J - DHS

From: Thomas Friedrich (Basecamp) <notifications@3.basecamp.com>
Sent: Wednesday, November 24, 2021 3:00 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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That is a great point yourself,  Dave .



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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Wednesday, November 24, 2021 3:00 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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We could also start looking at third vaccine breakthroughs to see if there is any difference in VL in those cases.

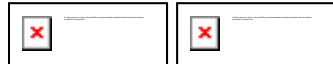


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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Wednesday, November 24, 2021 3:00 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Great point  Thomas



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Wallock, Matthew J - DHS

From: Thomas Friedrich (Basecamp) <notifications@3.basecamp.com>
Sent: Wednesday, November 24, 2021 2:52 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Any further updates  Katarina ?

One question for you and  Dave -- we have continued to collect data on Ct value and vaccination status. We could update the figures if this version does not get sent out for review...



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Wallock, Matthew J - DHS

From: Basecamp (University of WI - Madison) <notifications@3.basecamp.com>
Sent: Tuesday, November 23, 2021 3:07 AM
To: Kocharian, Anna - DHS
Subject: Basecamp (University of WI - Madison): Here's the latest activity

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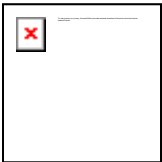


University of WI - Madison Here's the latest activity across everything

Since 9am on Monday, November 22

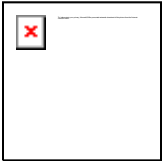
m: Shedding of Infectious SARS-CoV-2 Despite Vaccination

People discussed [Manuscript update](#)



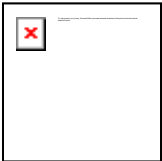
Katarina Grande

agreed, very annoying. same status today.



Dave OConnor

A bit of insight: I spoke to a journalist who told me how our paper is being weaponized by the far right. It might be that journals don't want to publish it and deal with the potential backlash.



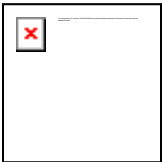
Katarina Grande

Ok, that's helpful context. Unfortunate! Wonder if there is a different frame we could build out in a submission that would help with this. Or is it a lost cause at this point...



Dave OConnor

Probably a "lost" cause, but I'm not sure I'd welcome the term "lost." A paper that has been seen by more than 100,000 people is arguably the most impactful thing I've ever been involved with. Even if it means that it just becomes an opportunity to educate about what the data says and why the wea...



Katarina Grande

Great point!

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Wallock, Matthew J - DHS

From: Katarina Grande (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 22, 2021 4:18 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Great point!



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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 22, 2021 3:09 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Probably a "lost" cause, but I'm not sure I'd welcome the term "lost." A paper that has been seen by more than 100,000 people is arguably the most impactful thing I've ever been involved with. Even if it means that it just becomes an opportunity to educate about what the data says and why the weaponization is wrong.

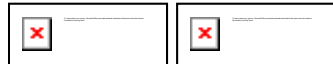


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Wallock, Matthew J - DHS

From: Katarina Grande (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 22, 2021 2:37 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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Ok, that's helpful context. Unfortunate! Wonder if there is a different frame we could build out in a submission that would help with this. Or is it a lost cause at this point...



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Wallock, Matthew J - DHS

From: Dave OConnor (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 22, 2021 2:31 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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A bit of insight: I spoke to a journalist who told me how our paper is being weaponized by the far right. It might be that journals don't want to publish it and deal with the potential backlash.

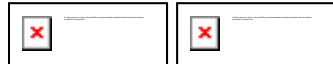


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Wallock, Matthew J - DHS

From: Katarina Grande (Basecamp) <notifications@3.basecamp.com>
Sent: Monday, November 22, 2021 1:33 PM
To: Kocharian, Anna - DHS
Subject: Re: (m: Shedding of Infectious SARS-CoV-2 Despite Vaccination) Manuscript update

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agreed, very annoying. same status today.



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Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Thursday, May 27, 2021 4:31 PM
To: Sterkel, Alana; Bateman, Allen (Allen.Bateman@slh.wisc.edu); Kelsey.Florek
Cc: Mason, Jordan L - DHS; Segaloff, Hannah E - DHS; Kangas, Sarah N - DHS (Medasource)
Subject: [SEND SECURE] Updated vaccine breakthrough investigations
Attachments: Vax Breakthrough Investig - ConfProbReinf COVID-19 DI with LabData for WSLH - 2021.05.27.xlsx

Hi Alana, Al, and Kelsey.

In follow-up to our conversation this morning, please find attached the updated line list of cases (1,272) meeting the vaccine breakthrough definition.

This includes the reported variant of concern field from WEDSS as well as lab data from ELR (test result positive (1) or negative (0), test date, test type, accession number, lab).

Please let me know if you have any questions or need additional information. I will be out tomorrow, and back Tuesday.

Have a good holiday weekend,

Anna

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Thursday, September 9, 2021 10:26 AM
To: Florek, Kelsey
Subject: [SEND SECURE] LL Vax Breakthrough Investig - WIR WEDSS Linkage Table
Attachments: LL Vax Breakthrough Investig - WIR WEDSS Linkage - 09.09.2021.xlsx

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Tuesday, July 20, 2021 3:11 PM
To: Florek, Kelsey; Alana.Sterkel
Subject: RE: Vaccine breakthroughs

Thanks, Kelsey! I'll see what I can find based on the information and let you know if I have any questions.

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Sent: Tuesday, July 20, 2021 3:05 PM
To: Alana.Sterkel <Alana.Sterkel@slh.wisc.edu>; Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: Re: Vaccine breakthroughs

Hi Anna,

I've attached a list of samples we identified as vaccine breakthroughs via self reporting and Exact's metadata. These are all using our sample ids and includes some of the exact metadata. If you need I can get the patient names and DOBs for the WSLH tested samples but I won't be able to get any of that information for the exact samples. Let me know if you have any questions.

Best,
Kelsey

From: Sterkel, Alana
Sent: Tuesday, July 20, 2021 2:58 PM
To: Florek, Kelsey
Subject: Vaccine breakthroughs

Hello Kelsey,

Would you please send Anna Kocharian a list of the samples we believe are vaccine breakthroughs in your analysis based on reports in Beaker or from Exact?

She is trying out the new WEDSS/WIR blended tool and can look these up to tell if they were fully vaccinated prior to specimen collection.

Thank you,
Alana

Alana Sterkel, PhD, D(ABMM), SM(ASCP)^{CM}
Associate Director, Communicable Disease Division
Assistant Professor, UW-Madison SMPH
Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive
Madison, WI 53718
(608) 224-4277

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Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Tuesday, September 7, 2021 10:53 AM
To: Florek, Kelsey; Segaloff, Hannah E - DHS
Subject: RE: WEDSS vax breakthroughs

Hi Kelsey,

Thursday morning before 11am is all open for me, and 2-3pm and after 4pm.

We've been using the WIR/WEDSS linkage PHAVR report for vaccine breakthrough cases. That might be something for you to have access to.

If you go here: <https://sowapment.wi.gov/phavr.html>

You can request registration/access (do you have a WILMS account already? You probably do?) following the link below the logon button.

You may also need WIR access to be able to see the WIR/WEDSS linkage report, but I'm not 100% sure about that – if that's changed or not, but will find out before Thursday.

Thanks,

Anna

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Sent: Tuesday, September 7, 2021 10:41 AM
To: Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>; Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: WEDSS vax breakthroughs

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Hi Anna and Hannah,

I hope you are both doing well and had a chance to recover a bit this weekend.

I'm working through some data I was able to pull from WEDSS on vaccine breakthroughs and I have a few clarifying questions to be sure I'm looking at this data correctly. Do you have some availability Thursday for a quick call to look at the data I have been able to generate, I think a ½ hour meeting should be more than enough.

Best,
Kelsey

Kelsey Florek, PhD, MPH

Pronouns she/her

Senior Genomics and Data Scientist

Wisconsin State Laboratory of Hygiene

Communicable Disease Division

2601 Agriculture Dr

Madison WI 53718

(608) 224 4331

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Kocharian, Anna - DHS

From: Sterkel, Alana <Alana.Sterkel@slh.wisc.edu>
Sent: Wednesday, July 28, 2021 10:48 AM
To: Kocharian, Anna - DHS
Subject: RE: Weekly Surveillance Report - AVRIL

Thanks! This is helpful!

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Wednesday, July 28, 2021 10:40 AM
To: Sterkel, Alana <Alana.Sterkel@slh.wisc.edu>
Subject: FW: Weekly Surveillance Report - AVRIL

FYI, talk soon!
Thanks,

Anna

From: Kocharian, Anna - DHS
Sent: Tuesday, July 27, 2021 1:58 PM
To: Bateman, Allen <Allen.Bateman@slh.wisc.edu>; Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Subject: RE: Weekly Surveillance Report - AVRIL

Hi Al,

Based on the WIR/WEDSS linkage report (which is still a draft and we're working out kinks/discrepancies), as of today, these are the sequence frequencies among breakthrough cases that have any VOC/sequencing info in WEDSS (there is always a delay for this info to get into WEDSS).

I haven't yet had a chance to look through Kelsey's line list because things have been too crazy, but hoping to catch up at the end of the week.

SARSCoV2VariantCode

SARSCoV2VariantCode	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AY.2	1	0.45	1	0.45
B.1	2	0.90	3	1.35
B.1.1	1	0.45	4	1.80
B.1.1.318	1	0.45	5	2.25
B.1.1.7	154	69.37	159	71.62
B.1.351	7	3.15	166	74.77
B.1.427	1	0.45	167	75.23
B.1.429	1	0.45	168	75.68

SARSCoV2VariantCode

SARSCoV2VariantCode	Frequency	Percent	Cumulative Frequency	Cumulative Percent
B.1.526.1	1	0.45	169	76.13
B.1.526.2	1	0.45	170	76.58
B.1.526.3	1	0.45	171	77.03
B.1.617.2	23	10.36	194	87.39
B.1.621	1	0.45	195	87.84
P.1	27	12.16	222	100.00

Frequency Missing = 2814

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Bateman, Allen <Allen.Bateman@slh.wisc.edu>
Sent: Tuesday, July 27, 2021 1:47 PM
To: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>; Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: FW: Weekly Surveillance Report - AVR

Hi Anna,

Are you currently able to look at vaccine breakthrough infections and stratify by the variant type, to see if statewide Delta is causing more breakthroughs than other variants? If not, is there anything you need from us to allow this?

Also, for your information we're looking into ways to efficiently pull out our Ct values from the samples we've sequenced, due to a request from CDC (Hannah Kirking) and the discussion below.

Thanks,
 AI

From: Thomas Friedrich <tfriedri@wisc.edu>
Sent: Tuesday, July 27, 2021 11:51 AM
To: DAVID H O'CONNOR <dhoconno@wisc.edu>
Cc: Katarina Grande <KGrande@publichealthmdc.com>; Kasen Riemersma <riemersma@wisc.edu>; Grogan, Brittany <BGrogan@publichealthmdc.com>; Hatas Gabrielle M <GHatas@uwhealth.org>; Luis A Haddock Soto <haddockso@wisc.edu>; Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN

<acbateman@wisc.edu>; Jordan L - DHS <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan <Ryan.Westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>; Molly Accola <MAccola@uwhealth.org>; Amanda Kita-Yarbro <AKita@publichealthmdc.com>; Anderson Laura A <LAnderson6@uwhealth.org>; ROBERT MADDIX <rmaddox@wisc.edu>; ELIZABETH SOMSEN <esomsen@wisc.edu>; Ojha, Manjari <MOjha@publichealthmdc.com>
Subject: Re: Weekly Surveillance Report - AVRL

Hi all.

Quick follow-up. Our colleagues in the Madison Metropolitan School District are quite interested in the viral load data from vaccine breakthroughs, as these will guide their policies on masking in schools.

Kasen, could you please share with me an up-to-date summary plot and legend showing the distribution of CT values in our vaccine breakthrough and unvaccinated cases?

Kat, do you or others have any citations I can point to of CDC data comparing viral loads in vaccinated and unvaccinated individuals?

Thanks,

-T

Thomas Friedrich

Professor
Dept. Pathobiological Sciences
University of Wisconsin
School of Veterinary Medicine
@tcfriedrich
@tcf-lab
www.vetmed.wisc.edu/friedrichlab

On 27 Jul 2021, at 11:05, Thomas Friedrich <tfriedri@wisc.edu> wrote:

Hi all.

I love these surveillance email threads because they are full of great discussion. Shout-out to Kasen here for his excellent work in coordinating our sequencing efforts and providing such clear, timely, and cogent communications about results.

I agree completely that the data showing high viral loads/low CTs in vaccine breakthrough infections is quite concerning, and indicates that there would be value in testing even vaccinated people in circumstances including congregate settings. Happy to talk more about either policy or communication implications.

Best,

-Tom

Thomas Friedrich

Professor
Dept. Pathobiological Sciences
University of Wisconsin
School of Veterinary Medicine
@tcfriedrich
@tcf-lab
www.vetmed.wisc.edu/friedrichlab

On 27 Jul 2021, at 09:23, DAVID H O'CONNOR <dhocconno@wisc.edu> wrote:

Just saw that too.

What I'd also like to see is an end to the "get vaccinated or be frequently tested" dichotomy. I think this will ultimately do more harm than good. Why? Because we *will* need vaccinated people to get tested too. I see that Patrick is on this thread - I really hope UW reconsiders their testing policies for dorms in light of this data.

Kat, could this be put out as a blog post on PHMDC's website? I don't think we have enough data to make it into a scientific paper, but it would be good to be able to point to a graph when making the case that when people are getting tested for COVID, viral loads aren't different between unvaccinated and breakthrough infections. It might be that vaccinated people are getting sicker before they get tested which could skew the data (since they don't think they have COVID until they are pretty symptomatic) so there could be skewing of the data, but the upshot is that there are breakthrough infections with Ct < 20 - if those individuals are walking around without masks, they could be putting a lot of others at risk.

dave

Grande, Katarina wrote on 7/27/21 9:12 AM:

[This](#) will help!

From: Grande, Katarina
Sent: Tuesday, July 27, 2021 8:57 AM
To: 'Kasen Riemersma' <riemersma@wisc.edu>; Grogan, Brittany <BGrogan@publichealthmdc.com>; DAVID H O'CONNOR <dhocconno@wisc.edu>; 'Hatas Gabrielle M' <GHatas@uwhealth.org>; Luis A Haddock Soto <haddocksooto@wisc.edu>; 'Anna - DHS' <Anna.Kocharian@dhs.wisconsin.gov>; 'Kelsey' <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN <acbateman@wisc.edu>; 'Jordan L - DHS' <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>; 'Accola Molly' <MAccola@uwhealth.org>; Kita, Amanda <AKita@publichealthmdc.com>; 'Anderson Laura A' <LAnderson6@uwhealth.org>; ROBERT

MADDOX <rmaddox@wisc.edu>; ELIZABETH
SOMSEN <esomsen@wisc.edu>; Thomas Friedrich <tfriedri@wisc.edu>
Cc: Ojha, Manjari <MOjha@publichealthmdc.com>
Subject: RE: Weekly Surveillance Report - AVRL

Thanks, Kasen.

Notably, CDC mentioned on a call yesterday while describing the [Provincetown cluster](#) that they were seeing similar patterns of Ct values in this cluster—the same Ct values for breakthroughs and non-breakthroughs. CDC called the Ct finding ‘alarming,’ and that they are studying how transmissible these breakthroughs with low Ct values are. DHS, any advice for LHDs given all these emerging findings over the past week?

-Kat

KATARINA GRANDE, MPH (pronouns: she/her/hers)
Public Health Supervisor/COVID-19 Data Team Lead | [Public Health Madison & Dane County](#)
2300 South Park St, Rm 2010, Madison, WI 53713
Phone: (608) 243-0409 | Cell: (608) 640-9430 | Fax: (608) 266-4858

Healthy People. Healthy Places.

<image.png>

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<image.png>

From: Kasen Riemersma <riemersma@wisc.edu>
Sent: Monday, July 26, 2021 8:48 PM
To: Grogan, Brittany <BGrogan@publichealthmdc.com>; DAVID H O'CONNOR <dhocunno@wisc.edu>; 'Hatas Gabrielle M' <GHatas@uwhealth.org>; Luis A Haddock Soto <haddockso@wisc.edu>; 'Anna - DHS' <Anna.Kocharian@dhs.wisconsin.gov>; 'Kelsey' <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN <acbateman@wisc.edu>; 'Jordan L - DHS' <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>; 'Accola Molly' <MAccola@uwhealth.org>; Grande, Katarina <KGrande@publichealthmdc.com>; Kita, Amanda <AKita@publichealthmdc.com>; 'Anderson Laura A' <LAnderson6@uwhealth.org>; ROBERT MADDOX <rmaddox@wisc.edu>; ELIZABETH SOMSEN <esomsen@wisc.edu>;

Thomas Friedrich <tfriedri@wisc.edu>
Cc: Ojha, Manjari <MOjha@publichealthmdc.com>
Subject: Re: Weekly Surveillance Report - AVRL

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Hi Brittany,

Thanks for sharing, and we'll be sure to add Manjari to the emails!

Here's a plot of the Ct values for the 8 Dane County samples from Exact by vaccination status. Comparison across groups is limited by the sample size, but again this highlights that fully vaccinated individuals are capable of shedding high viral loads. The remaining UWHC samples from Dane County were excluded because all but one were tested by a qualitative assay.

<image.png>

Cheers,
Kasen

From: Grogan, Brittany <BGrogan@publichealthmdc.com>
Date: Monday, July 26, 2021 at 4:36 PM
To: DAVID H O'CONNOR <dhocomno@wisc.edu>, 'Hatas Gabrielle M' <GHatas@uwhealth.org>, Luis A Haddock Soto <haddockso@wisc.edu>, 'Anna - DHS' <Anna.Kocharian@dhs.wisconsin.gov>, 'Kelsey' <Kelsey.Florek@slh.wisc.edu>, Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>, ALLEN BATEMAN <acbateman@wisc.edu>, 'Jordan L - DHS' <Jordan.Mason@dhs.wisconsin.gov>, Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>, Patrick Kelly <george.kelly@wisc.edu>, NASIA SAFDAR <ns2@medicine.wisc.edu>, 'Accola Molly' <MAccola@uwhealth.org>, Grande, Katarina <KGrande@publichealthmdc.com>, Amanda Kita-Yarbro <AKita@publichealthmdc.com>, 'Anderson Laura A' <LAnderson6@uwhealth.org>, ROBERT MADDUX <rmaddox@wisc.edu>, ELIZABETH SOMSEN <esomsen@wisc.edu>, Thomas Friedrich <tfriedri@wisc.edu>, Kasen Riemersma <riemersma@wisc.edu>
Cc: Ojha, Manjari <MOjha@publichealthmdc.com>
Subject: RE: Weekly Surveillance Report - AVRL

CORRECTION: a few cases were missed in the initial match, I've updated the spreadsheet and attached it. We were able to link **ten** Delta infections to Dane County residents in WEDSS and of those, **four** were fully vaccinated. We also had a B.1.526 case that was not fully vaccinated.

From: Grogan, Brittany
Sent: Monday, July 26, 2021 3:42 PM
To: 'DAVID H O'CONNOR' <dhoconno@wisc.edu>; Hatas Gabrielle M <GHatas@uwhealth.org>; Luis A Haddock Soto <haddockso@wisc.edu>; Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN <acbateman@wisc.edu>; Jordan L - DHS <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>; Accola Molly <MAccola@uwhealth.org>; Grande, Katarina <KGrande@publichealthmdc.com>; Kita, Amanda <AKita@publichealthmdc.com>; Anderson Laura A <LAnderson6@uwhealth.org>; ROBERT MADDOX <rmaddox@wisc.edu>; ELIZABETH SOMSEN <esomsen@wisc.edu>; Thomas Friedrich <tfriedri@wisc.edu>; Kasen Riemersma <riemersma@wisc.edu>
Cc: Ojha, Manjari <MOjha@publichealthmdc.com>
Subject: RE: Weekly Surveillance Report - AVRL

Hi all,

I've attached the match with vaccine breakthrough status. I was able to link 7 of the Delta infections to Dane County residents in WEDSS. Of those 7, three were fully vaccinated.

I'll be out on vacation this Thursday 7/29 through Wednesday 8/10. For the next two weeks my colleague, Manjari (cc'd), will be sending this file. Kasen/Luis, could you add her to this email list when you send out the weekly surveillance report for the next two weeks?

Thanks!
Brittany

From: DAVID H O'CONNOR <dhoconno@wisc.edu>
Sent: Saturday, July 24, 2021 11:07 AM
To: Hatas Gabrielle M <GHatas@uwhealth.org>; Luis A Haddock Soto <haddockso@wisc.edu>; Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN <acbateman@wisc.edu>; Jordan L - DHS <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>; Accola Molly <MAccola@uwhealth.org>; Grande, Katarina <KGrande@publichealthmdc.com>; Grogan, Brittany <BGrogan@publichealthmdc.com>; Kita, Amanda <AKita@publichealthmdc.com>; Anderson Laura A <LAnderson6@uwhealth.org>; ROBERT MADDOX

<rmaddox@wisc.edu>; ELIZABETH SOMSEN <esomsen@wisc.edu>
Cc: Kasen Riemersma <riemersma@wisc.edu>; Thomas Friedrich
<tfriedri@wisc.edu>
Subject: Re: Weekly Surveillance Report - AVRL

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Luis,

This is excellent work. Thank you for putting together such a nice and comprehensive summary. Can you work with Brittney and others to once again calculate vaccine breakthrough rates, and also determine how many different delta “fingerprints” are circulating in Dane County. In other words, how many concurrent clusters do we have? Is there any evidence of expansion of any specific clusters week to week?

Dave

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From: Hatas Gabrielle M <GHatas@uwhealth.org>
Sent: Friday, July 23, 2021 3:50:10 PM
To: Luis A Haddock Soto <haddockso@wisc.edu>; Anna - DHS
<Anna.Kocharian@dhs.wisconsin.gov>; Kelsey
<Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS
<Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN
<acbateman@wisc.edu>; Jordan L - DHS
<Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS
<ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly
<george.kelly@wisc.edu>; NASIA SAFDAR <ns2@medicine.wisc.edu>;
Accola Molly <MAccola@uwhealth.org>; Katarina
<KGrande@publichealthmdc.com>; Brittany
<BGrogan@publichealthmdc.com>; Amanda Kita-Yarbro
<AKita@publichealthmdc.com>; Anderson Laura A
<LAnderson6@uwhealth.org>; ROBERT MADDUX
<rmaddox@wisc.edu>; ELIZABETH SOMSEN <esomsen@wisc.edu>
Cc: Kasen Riemersma <riemersma@wisc.edu>; Thomas Friedrich
<tfriedri@wisc.edu>; DAVID H O'CONNOR <dhoconno@wisc.edu>
Subject: RE: Weekly Surveillance Report - AVRL

Please see attached for UWHC WEDSS IDs.

Gabby Hatas BSN, RN, CAPA
Infection Control Practitioner
University of Wisconsin Hospital and Clinics
608-444-8168

ghatas@uwhealth.org

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From: Luis A Haddock Soto <haddockso@wisc.edu>
Sent: Friday, July 23, 2021 3:16 PM
To: Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <Hannah.Segaloff@dhs.wisconsin.gov>; ALLEN BATEMAN <acbateman@wisc.edu>; Jordan L - DHS <Jordan.Mason@dhs.wisconsin.gov>; Westergaard, Ryan P - DHS <ryan.westergaard@dhs.wisconsin.gov>; Patrick Kelly <george.kelly@wisc.edu>; Safdar Nasia <ns2@medicine.wisc.edu>; Accola Molly <MAccola@uwhealth.org>; Katarina <KGrande@publichealthmdc.com>; Brittany <BGrogan@publichealthmdc.com>; Amanda Kita-Yarbro <AKita@publichealthmdc.com>; Anderson Laura A <LAnderson6@uwhealth.org>; Hatas Gabrielle M <GHatas@uwhealth.org>; ROBERT MADDUX <rmaddox@wisc.edu>; Somsen Elizabeth <esomsen@wisc.edu>
Cc: Kasen Riemersma <riemersma@wisc.edu>; Thomas Friedrich <tfriedri@wisc.edu>; Oconnor David H <DHOCONNO@WISC.EDU>; Luis A Haddock Soto <haddockso@wisc.edu>
Subject: Weekly Surveillance Report - AVRL

Hello All,

My name is Luis A. Haddock, PhD student with Dr. Friedrich, and I am covering for Kasen this week. Below is the weekly SARS-CoV-2 genomic surveillance report*:

Delta update in Dane County:

- For the third week in a row, Delta was the most prevalent variant in Dane County—91% of cases (10/11)
- No B.1.1.7 cases were detected in the county this week.

Delta summary from other counties:

- Brown County—100% (8/8) were Delta variants
- Milwaukee County—73% (11/15) were Delta variants

- Columbia County—100% (1/1) was a Delta variant
- Sauk County—100% (1/1) was a Delta variant
- Winnebago County in WI— 100% (2/2)
- Winnebago County in IL— 100% (3/3)

For all WI samples, a total of 87% (33/38) were Delta variants.

*Due to a shortage in reagents, this report only includes **UWHC samples picked on 2021-07-16** and **Exact samples picked on 2021-07-16 and 2021-07-19**. We will include the Exact samples from 2021-07-21 in next week's reporting. Attached you will find two spreadsheets with the samples we received from Exact and UWHC for the above-mentioned pick-up dates, including samples that we did not sequence because the Ct values were too high. The third spreadsheet attached lists the lineage summaries for each county. A summary for WI counties is below as well:

State	County	CDC/WHO	Pango Lineage	Count
Wisconsin	Brown County	VOC/Delta	B.1.617.2	8
Wisconsin	Columbia County	VOC/Delta	B.1.617.2	1
Wisconsin	Dane County	VOC/Delta	B.1.617.2	9
Wisconsin	Dane County	VOC/Delta	AY.2	1
Wisconsin	Dane County	VOI/Iota	B.1.526	1
Wisconsin	Milwaukee County	VOC/Delta	B.1.617.2	11
Wisconsin	Milwaukee County		B.1.623	4
Wisconsin	Sauk County	VOC/Delta	B.1.617.2	1
Wisconsin	Winnebago County	VOC/Delta	B.1.617.2	2

Please let us know if you have any questions.

Have a nice weekend,

Luis Antonio Haddock III Soto (He/Him)

PhD Candidate, Friedrich lab
Cell and Molecular Biology Program
UW-Madison, WI

--
<http://dho.pathology.wisc.edu>
@dho • 608-890-0845

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Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Tuesday, August 3, 2021 10:04 AM
To: Florek, Kelsey
Cc: Sterkel, Alana
Subject: [SEND SECURE] WSLH CTValues - COVID VaxInfo From WIR WEDSS - 08.03.2021.xlsx
Attachments: WSLH CTValues - COVID VaxInfo From WIR WEDSS - 08.03.2021.xlsx

Hi Kelsey,

I'm going to see if Chris from the WEDSS team can help with additional matching, but this is what I have so far. Is this spreadsheet providing the info that you need? I'll continue to work on finding additional matches.

Best,

Anna

Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Tuesday, October 5, 2021 8:18 AM
To: Florek, Kelsey
Subject: Re: Linking EPI to SARS-CoV-2 Genomics

You're welcome! Thank you!

From: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Sent: Monday, October 4, 2021 4:46 PM
To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>
Subject: RE: Linking EPI to SARS-CoV-2 Genomics

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Hi Anna,

This is great, thanks a bunch for putting this together!!

Best,
Kelsey

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Monday, October 4, 2021 4:35 PM
To: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>
Subject: RE: Linking EPI to SARS-CoV-2 Genomics

Hi Kelsey,

In addition to the lab variables that you listed, here are the case-specific variables that I pull. The first list is from WEDSS Prod, and the second list is from PHAVR which includes some calculated WEDSS Prod variables (AnySymptoms, Hospital [which outputs whether case was hospitalized, not hospitalized or unknown], and AdmittedToICU [1 = Yes, 0 = No] are derived from multiple fields in WEDSS).

FYI, DateOfDeath is a field that's manually entered into WEDSS, whereas SVRISDateOfDeath is completed via an import from the state vital records system (although it can be manually entered, too).

Let me know if you have any questions about specific fields.

Thanks,

Anna

Disease,
ResolutionStatus,
RecordType,


```

ClientID,
IncidentID,
Lastname,
Firstname,
DOB,
Age,
Sex,
Pregnant,
Race,
Ethnicity,
CensusTract,
Zip,
Jurisdiction,
DerivedCounty,
EpisodeDate,
CreateDate,
SARSCoV2VariantCode,
SARSCoV2VariantConfirmedDate,
vaccdatel,
vaccdater,
vaccdater,
vaccdater,
vaccdater,
VaccineManufacturer1,
VaccineManufacturer2,
VaccineManufacturer3,
VaccineManufacturer4,
VaccineManufacturer5,
VaccineType1,
VaccineType2,
VaccineType3,
VaccineType4,
VaccineType5,
PatientHospitalized,
PatientDiedOfThisIllness,
DateOfDeath,
SVRISDateOfDeath

```

```

FROM   odbc dsn="Prod_WEDSSReport" schema=dbo view = nCoV_v
where
        (disease in ('CORONAVIRUS, NOVEL 2019 (COVID-19)') and resolutionstatus in
('Confirmed' 'Probable'))
        or (disease in ('CORONAVIRUS, NOVEL 2019 (COVID-19) REINFECTION
INVESTIGATION'))
        and recordtype = 'Disease Incident'

```

```

PROC SQL;
CREATE TABLE CasesInPHAVRCaseTable AS
SELECT
IncidentID,
FirstConfirmedDt,
FirstProbableDt,
AnySymptoms,
Hospital,
AdmittedtoICU,
HealthCareWorker,
WorkInGroupLivingSetting,
WorkInGroupLivingSettingType,
GroupLivingSetting,
GroupLivingSettingType

```

FROM odbcdsn="PHAVR_Prod" schema=ddi view = WedssCovid19_BCD_v

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Sent: Thursday, September 30, 2021 11:08 AM
To: Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>; Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: RE: Linking EPI to SARS-CoV-2 Genomics

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I think next week Monday at 3 would work best for me. I'll schedule a meeting, no worries if you can't make it Hannah.

Best,
Kelsey

From: Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>
Sent: Wednesday, September 29, 2021 2:21 PM
To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>; Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>
Subject: RE: Linking EPI to SARS-CoV-2 Genomics

I'll be heading to Fort McCoy tomorrow until the 15th of October- if you put it on the calendar I can do my best to join.

Hannah

Hannah Segaloff, PhD, MPH | LT, U.S. Public Health Service
Epidemic Intelligence Service Officer
U.S. Centers for Disease Control and Prevention

Bureau of Communicable Diseases
Wisconsin Department of Health Services
Currently Teleworking
Cell: 608-320-4696
Hannah.Segaloff@dhs.wisconsin.gov
Qdz0@cdc.gov

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Wednesday, September 29, 2021 1:09 PM
To: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>; Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>
Subject: RE: Linking EPI to SARS-CoV-2 Genomics

Hi Kelsey,

Yes, I think a discussion would be helpful.

I know Hannah has been super busy with Ft. McCoy investigations, but for me this Friday noon-1:30pm and after 2pm is open. Next week, Monday after 3pm, Tuesday before 10am, and almost all of Thursday and Friday should work.

Thanks,

Anna

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Florek, Kelsey <Kelsey.Florek@slh.wisc.edu>

Sent: Wednesday, September 29, 2021 10:43 AM

To: Segaloff, Hannah E - DHS <hannah.segaloff@dhs.wisconsin.gov>; Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>

Subject: Linking EPI to SARS-CoV-2 Genomics

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Hi Hannah and Anna,

Things are moving forward with regularly getting data out of WEDSS!!! One of the things I have been asked for is a list of all the data columns I would want from WEDSS. This is the list of data that I am currently working from:

Incident_ID
Client_ID
Last_Name
First_Name
DOB
2019nCoVVacStatus
DILR_Set
DILR_AccessionNumber
DILR_SpecCollectedDate
DILR_ResultValue
Vax_Set
Vaccdate
COVID19VaccineType
VaccineManufacturer
LotNum

With the eventual goal of connecting genomic information to epi information in some sort of future dashboard or interactive platform are there any additional data points you think might be helpful to connect to genomic information. For example is there a case where you might want to look at a variant distribution in a specific zip code or associated with a specific symptom. Let me know what data points you think might be useful to your work and I can get them included in our request. Also if a call would be helpful to discuss this, let me know and I can set one up!

Best,
Kelsey

Kelsey Florek, PhD, MPH

Pronouns she/her
Senior Genomics and Data Scientist
Wisconsin State Laboratory of Hygiene
Communicable Disease Division
2601 Agriculture Dr
Madison WI 53718
(608) 224 4331

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Kocharian, Anna - DHS

From: medicine@us.nature.com
Sent: Tuesday, November 2, 2021 2:05 PM
To: Kocharian, Anna - DHS
Subject: NMED-BC116676 Receipt of New Paper by Nature Medicine

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Dear Dr. Kocharian,

Please note that you are listed as a co-author on the manuscript "Shedding of Infectious SARS-CoV-2 Despite Vaccination" (reference number: [REDACTED], which was recently submitted to Nature Medicine.

The corresponding author is solely responsible for communicating with the journal and managing communication between co-authors. Please contact the corresponding author directly with any queries you may have related to this manuscript.

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Our flexible approach during the COVID-19 pandemic

If you need more time at any stage of the peer-review process, please do let us know. While our systems will continue to remind you of the original timelines, we aim to be as flexible as possible during the current pandemic.

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Kocharian, Anna - DHS

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To: riemersma@wisc.edu; BGrogan; Kita-Yarbro, Amanda; peter.halfmann@wisc.edu; Qdz0@cdc.gov; Kocharian, Anna - DHS; kelsey.florek@slh.wisc.edu; RYAN WESTERGAARD; Bateman, Allen; gjeppson@exactsciences.com; yoshihiro.kawaoka@wisc.edu; dhoconno@wisc.edu; tfriedri@wisc.edu; Katarina Grande
Subject: New England Journal of Medicine - 21-14060

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Thank you for submitting your manuscript, "Shedding of Infectious SARS-CoV-2 Despite Vaccination" to the New England Journal of Medicine.

Your manuscript has been forwarded to members of our editorial staff, who will make an initial evaluation and decide whether it merits further consideration. You will be notified of the decision as soon as possible.

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Fax: (617) 739-9864



Kocharian, Anna - DHS

From: em.ppathogens.0.77467c.eff3e03c@editorialmanager.com on behalf of PLOS Pathogens
<em@editorialmanager.com>
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Subject: PLOS Pathogens: Please confirm your authorship - [EMID:161d270f68e14c82]

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You are receiving this email because Ms. Katarina M Grande listed you as an author on the manuscript titled "Shedding of Infectious SARS-CoV-2 Despite Vaccination," recently submitted to PLOS Pathogens.

All co-authors MUST confirm their authorship before a manuscript can be accepted for publication.

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The Corresponding Author has entered your name into our online submission system as indicated below. Please ensure your name is entered correctly, as this impacts indexing. If your name is not entered correctly, please confirm your authorship and then email the journal office at plospathogens@plos.org.

First Name: Anna
Middle Name:
Last Name: Kocharian

Alternatively, if you are not aware of this submission, or if you should not be listed as a co-author, then please contact the journal office at plospathogens@plos.org.

We appreciate your timely response. The abstract follows below, for your reference.

Kind regards,

PLOS Pathogens Staff
plospathogens@plos.org

Manuscript Title:
Shedding of Infectious SARS-CoV-2 Despite Vaccination

Article Type:

Authors:

Katarina Maria Grande; Kasen K. Riemersma; Brittany E. Grogan; Amanda Kita-Yarbro; Peter J. Halfmann; Hannah E. Segaloff; Anna Kocharian; Kelsey R. Florek; Ryan Westergaard; Allen Bateman; Gunnar E. Jeppson; Yoshihiro Kawaoka; David H. O'Connor; Thomas C. Friedrich

Abstract:

The SARS-CoV-2 Delta variant is highly transmissible and contains mutations that confer partial immune escape. We compared RT-PCR cycle threshold (Ct) data from 699 test-positive anterior nasal swab specimens from fully vaccinated (n = 310) or unvaccinated (n=389) individuals. We observed low Ct values (<25) in 212 of 310 fully vaccinated (68%) and 246 of 389 (63%) unvaccinated individuals. Testing a subset of these low-Ct samples revealed infectious SARS-CoV-2 in 15 of 17 specimens (88%) from unvaccinated individuals and 37 of 39 (95%) from vaccinated people. To determine whether infectious virus titers differed in vaccinated and unvaccinated persons, we performed plaque assays on an additional set of 48 samples with Ct <25, finding no difference in infectious virus titer between groups.

In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: [REDACTED])

[REDACTED]). Please contact the publication office if you have any questions.

Kocharian, Anna - DHS

From: Kocharian, Anna - DHS
Sent: Monday, August 2, 2021 12:09 PM
To: Steward, Christopher R - DHS
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

Thanks, Chris! I'm trying to run my query on Kelsey's new sheet and incorporate your matches and will let you know what I end up with.

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Sent: Monday, August 2, 2021 12:06 PM
To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

Here are few more matches.

Sheet 1 is a more board match on CollectionDate and record type/res status (and those that don't have names to actually match on).

Sheet 2 is looking for records within 3 months based on episode date. There are still ~90 that don't have matches which means something is really off (e.g. typos somewhere).

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Monday, August 02, 2021 10:16 AM
To: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

I just got another report from Kelsey with additional info (facility info, etc.). I will send that to you shortly...

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Sent: Monday, August 2, 2021 10:10 AM
To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

Did you want me to attempt to match any of the ~200 that didn't have a match? Or you going to have people search for those manually.

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Saturday, July 31, 2021 8:13 AM
To: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Subject: Re: WEDSS magic request (linking by name, DOB, specimen ID)

Thank you so much!!!!

From: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Sent: Friday, July 30, 2021 4:21 PM
To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

Here is attempt one, I got a good chunk to match.

Orange are duplicates (2)
Yellows are matches without DOB (7)
Green are non matches (~200)

The reset are pretty good matches.

I spot checked a few of the non-matches and records exist but the collection dates are off.

From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>
Sent: Friday, July 30, 2021 2:46 PM
To: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>
Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

Hi Chris,

Yes, just incidentID will be fine (or you could do client and incidentIDs in case someone gets merged and whatnot)... then I can find the linkage with the other tables.

The SID (first column) is from Kelsey and it's the sequencing sample ID.

I will ask Kelsey for additional information about the specimens, like Specimen Collection Date Time and Facility Submitting the specimen, but I don't know if they're planning to submit older specimens via ELR or just new ones going forward.

Thanks,

Anna

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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From: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>

Sent: Friday, July 30, 2021 2:18 PM

To: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>

Subject: RE: WEDSS magic request (linking by name, DOB, specimen ID)

So do you just want the Incident ID?

Also, where did you get the specimen numbers?

I ask because I can find these people and their correspond DI (based on collection date), but they don't have a result from the state lab. Eg. the first one on the list ([REDACTED]) is for IncidentID [REDACTED], but they only have lab results from the VA.

My assumption is that these are from sequencing.

Since WLSH is able to report the genotypes via ELR now, do you know if they are planning on sending all of the old records which would have the Accession numbers? If not, do you know if the WLSH has any additional information, like where they got the specimen or that facilities accession number?

Christopher Steward, MPH
WEDSS Program Administrator

Office of Health Informatics
Division of Public Health
Wisconsin Department of Health Services
WEDSS support: DHSWEDSS@wi.gov
Email: christopher.steward@wi.gov
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From: Kocharian, Anna - DHS <Anna.Kocharian@dhs.wisconsin.gov>

Sent: Friday, July 30, 2021 1:50 PM

To: Steward, Christopher R - DHS <Christopher.Steward@dhs.wisconsin.gov>

Subject: WEDSS magic request (linking by name, DOB, specimen ID)

Hi Chris,

Kelsey sent me [this spreadsheet](#) with 4,000-ish records with name, accession number (SID), and DOB (although some are missing and some are clearly entered wrong/future births). She's trying to link and analyze CT cutoff values with vaccination status (whatever info we have based on WIR/WEDSS linkage).

I was able to link through this [SAS code](#) and find matches to quite a few of them in [this spreadsheet](#), but there are still 1,300-ish that I couldn't link/find by Accession Number/SID (please see [this spreadsheet](#) "No DI ID" worksheet). Ruth shared some code with me about finding/matching via name/partial name and DOB, but DOB is missing in the BCD_Lab view (right?), and it would take me quite a bit of time to try to figure this out with linkages and what not (this isn't something I have done before and would need to teach myself), and I thought I would ask you since you probably have a quick code and query.

If this isn't something that would take up too much of your time, could you please (maybe Monday or Tuesday?) try to find DI IDs for those specimens that are in [this spreadsheet](#) **No DI ID** worksheet?

Let me know if you prefer to chat. I'm pretending to be off so I can work on data, but will be actually off after 3pm. We can chat next week, too.

Thank you so much!

Have a great weekend,

Anna

Anna Kocharian, M.S. ([pronouns](#): she/her/hers) | Epidemiologist | Wisconsin Department of Health Services | Division of Public Health | Bureau of Communicable Diseases | Tel: (608) 267-9004 | Cell: (608) 800-2807 | Fax: (608) 261-4976 | anna.kocharian@wisconsin.gov



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