
From: King County Public Records <kingcountyexec@govqa.us>
Date: Monday, January 11, 2021 at 4:10 PM
To: FOIA <foia@americanoversight.org>
Subject: [Records Center] General Records Request :: G000492-053020

EXTERNAL SENDER

--- Please respond above this line ---

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Good afternoon Ms. Wishingrad,

I am attaching a unique link for your email account to access the installment records. Please let me know if you are still unable to access the records and we can look into other options via regular mail.

[Wishingrad OneDrive](#)

Thank you,

Jonathan Bibler, Public Records Officer
Health Information, Release and Records Management
Public Health – Seattle & King County
206-263-3032

[COVID19 Data Dashboard](#)

[Public Health Insider Blog](#)

[COVID19 PRR Index](#)

To monitor the progress or update this request please log into the

 Image removed by sender. GovQA logo

 Image removed by sender.

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD)
Sent: Monday, March 2, 2020 7:15 AM PST
To: Duchin, Jeff; Rao, Agam K. (CDC/DDID/NCEZID/DHCPP)
CC: Jernigan, John A. (CDC/DDID/NCEZID/DHQP); Kay, Meagan; Haynes, Benjamin (CDC/OD/OADC)
Subject: RE: Info for Press Conference

[EXTERNAL Email Notice!] External communication is important to us. Be cautious of phishing attempts. Do not click or open suspicious links or attachments.

We have 12 staff including: senior medical epidemiologist, several experts in infection prevention and control, medical and PhD epidemiologists, communications, and operations staff.

Assisting with protecting the health system and healthcare workers, evaluating cases to identify high-risk exposures, and understand whether there is community transmission.

Ben Haynes, our PIO, has arrived. Asking Ben to work on these this AM. Asking Agam (or her designee) to update the roster of contact info with people's expertise.

Thanks,

tom

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Sent: Monday, March 2, 2020 4:52 AM
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Cc: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>; Kay, Meagan K. (CDC kingcounty.gov) <meagan.kay@kingcounty.gov>
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Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
Adjunct Professor, School of Public Health

401 5th Ave, Suite 1250, Seattle, WA 98104

Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803

E-mail: jeff.duchin@kingcounty.gov

From: Rao, Agam K. (CDC/DDID/NCEZID/DHCPP)
Sent: Monday, March 2, 2020 7:20 AM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Duchin, Jeff
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I will update the roster now.

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Sent: Monday, March 2, 2020 10:15 AM
To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Rao, Agam K. (CDC/DDID/NCEZID/DHCPP) <ige4@cdc.gov>
Cc: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>; Kay, Meagan K. (CDC kingcounty.gov) <meagan.kay@kingcounty.gov>; Haynes, Benjamin (CDC/OD/OADC) <fxq2@cdc.gov>
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E-mail: jeff.duchin@kingcounty.gov

From: Olson, Christine (CDC/OCOO/OSSAM)
Sent: Monday, March 2, 2020 5:14 AM PST
To: Duchin, Jeff
CC: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Worsham, Dennis
Subject: Re: Hello from Atlanta by way of the SeaTac Q-Station

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Hi - you're up early! I'm here - headed to the Q-Station for my shift at 8am so available to talk later this am if that works!

Christine

Christine Olson MD, MPH
CAPT, United States Public Health Service
Medical Advisor, OSSAM
Centers for Disease Control & Prevention
phone: 770-488-6243(o) 404-293-7700(c)
e-mail: colson@cdc.gov

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>

Sent: Monday, March 2, 2020 5:12:26 AM

To: Olson, Christine (CDC/OCOO/OSSAM) <cco7@cdc.gov>

Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Worsham, Dennis
<Dennis.Worsham@kingcounty.gov>

Subject: Re: Hello from Atlanta by way of the SeaTac Q-Station

Great to hear from you, Christine. How soon can you get out here to help with COVID-19 response? We can probably bring you on as extra help immediately and if there is a way to get you assigned here through feds for this emergency response we would support that. If I'm hard to reach Dennis can help with follow up.

Thanks for your message and hope we see you in Seattle later today :)

Jeff

Jeffrey S. Duchin, MD

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Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803

E-mail: jeff.duchin@kingcounty.gov

From: Olson, Christine (CDC/OCOO/OSSAM) <cco7@cdc.gov>

Sent: Sunday, March 1, 2020 11:24:40 PM

To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>

Subject: Hello from Atlanta by way of the SeaTac Q-Station

[EXTERNAL Email Notice!] External communication is important to us. Be cautious of phishing attempts. Do not click or open suspicious links or attachments.

Hi Jeff,

I know you're very busy so am going to be as brief as possible and bullet-point this:

- I left PHSKC and Seattle after my PMR in 2009 b/c it was an awful time to find a public health job outside the federal system given the economics at that time; I would have loved to stay here at that time if it were possible

- I want to get back to the PNW now

- I have since had 10+ more years of increasing leadership experience at CDC

- I've worked effectively in both infectious and chronic disease: in Foodborne as an EISO involved in multiple national outbreaks; DGMQ in immigrant and refugee health screening; Div of Reproductive Health in maternal/infant morbidity and mortality (int'l and domestic) and emergency response, especially focused on "vulnerable populations" (e.g., Zika); Occupational Health Clinic and OSSAM as both an active clinician and as the OHC liaison to the Emergency Operations Center in a leadership position that produced tangible results; currently deployed as a medical officer to SeaTac for coronavirus

- I've worked effectively at all levels of public health over the past 20 years: county, state, nat'l, and int'l, been a team lead in different divisions at CDC, and have several years of clinical experience as an attending physician

- I've evolved to a level where I'm politically savvy, effective, and know how to (and have) leverage relationships to get things done in an efficient and effective way.

If you see a way I could be useful out here, especially if there might be a way I could stay federal for another 6.3 years (CEFO or other mechanism), please let me know. I think I could be an asset to any county or state health department at this point in my career, especially in the current climate.

Thank you,

Christine

Christine Olson MD, MPH

CAPT, United States Public Health Service

Medical Advisor, OSSAM, Office of the Director

Centers for Disease Control & Prevention

phone: 770-488-6243(o) 404-293-7700(c)

e-mail: colson@cdc.gov

From: Olson, Christine (CDC/OCOO/OSSAM)
Sent: Monday, March 2, 2020 3:50 PM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Duchin, Jeff
CC: Worsham, Dennis
Subject: Re: Hello from Atlanta by way of the SeaTac Q-Station

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Hi Tom - I'm sorry I missed this earlier, but please let me know when you have a free moment. I should be easy to reach the rest of today or tomorrow or am happy to call you whenever it's convenient. 404-293-7700 or 319-331-2166

Thank you,
Christine

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Sent: Monday, March 2, 2020 6:52:23 AM
To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Olson, Christine (CDC/OCOO/OSSAM) <cco7@cdc.gov>
Cc: Worsham, Dennis <Dennis.Worsham@kingcounty.gov>
Subject: RE: Hello from Atlanta by way of the SeaTac Q-Station

If we could do 9am PST that would be great

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Sent: Monday, March 2, 2020 6:45 AM
To: Olson, Christine (CDC/OCOO/OSSAM) <cco7@cdc.gov>
Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Worsham, Dennis <Dennis.Worsham@kingcounty.gov>
Subject: RE: Hello from Atlanta by way of the SeaTac Q-Station

Swamped – can you chat with Tom Clark, he's on site here and can help strategize how we might get you on board.

678-644-3269

Jeffrey S. Duchin, MD
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From: Rao, Agam K. (CDC/DDID/NCEZID/DHCPP)
Sent: Monday, March 2, 2020 7:38 AM PST
To: Jernigan, John A. (CDC/DDID/NCEZID/DHQP); Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Duchin, Jeff
CC: Kay, Meagan; Haynes, Benjamin (CDC/OD/OADC)
Subject: RE: Info for Press Conference
Attachments: Copy of CERT team 13 Washington contact table_3_2.xlsx

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Jeff,

Attached is the list of CDC team members and expertise.

- Briefly, there are 12 people from CDC currently here and 4 arriving very soon.
- Here is the breakdown:
 - 7 epis (including 2 senior epis, 1 midlevel epi, 3 EISOs, and 1 public health analyst)
 - 4 IPC experts + 1 NIOSH expert are currently in Seattle and 3 more IPC experts will be arriving shortly (possibly as soon as today)
 - 1 comms expert
 - 1 laboratory LLS fellow arriving today

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Sent: Monday, March 2, 2020 10:26 AM
To: Rao, Agam K. (CDC/DDID/NCEZID/DHCPP) <ige4@cdc.gov>; Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>
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Nimalie will give update at the 8:00 and we will have bullets regarding SNF

Get [Outlook for iOS](#)

From: Rao, Agam K. (CDC/DDID/NCEZID/DHCPP) <ige4@cdc.gov>
Sent: Monday, March 2, 2020 7:20:31 AM
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>
Cc: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>; Kay, Meagan K. (CDC kingcounty.gov) <meagan.kay@kingcounty.gov>; Haynes, Benjamin (CDC/OD/OADC) <fxq2@cdc.gov>
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From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Sent: Monday, March 2, 2020 10:15 AM
To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Rao, Agam K.

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E-mail: jeff.duchin@kingcounty.gov

NATIVE DOCUMENT PLACEHOLDER

Please review the native document KCPRRCV0085288.xlsx

From: Pogosjans, Sargis
Sent: Sunday, March 1, 2020 8:22 PM PST
To: tnc4@cdc.gov
CC: Duchin, Jeff; Kay, Meagan; Kawakami, Vance; Baer, Atar
Subject: COVID summary update 3/1 7:45pm
Attachments: COVID-19_Outbreak_Summary.pdf

Hi,

I've attached the summary report. I'll add you to the daily list tomorrow.

Thanks,
Sargis

Sargis Pogosjans, MPH

(Sar-kis Po-ghos-yan)

Epidemiologist

Analytic & Informatics Team

Communicable Disease Epidemiology & Immunization Section

Public Health – Seattle & King County

401 5th Ave Suite 1250 Seattle, WA 98104

206.263.9546 (direct) | 206.450.5762 (cell)

206.296.4774 (main) | 206.296.4803 (fax)

spogosjans@kingcounty.gov

Public Health Seattle-King County COVID-19 outbreak summary since Jan 21, 2020

Updated on March 1, 2020 7:44 PM

Since January 21, 2020, King County has assessed **436** persons for 2019 Novel Coronavirus (COVID-19). Of these persons, we have further investigated **61** King County residents and **7** out-of-jurisdiction persons who met the criteria for testing for COVID-19 after they developed symptoms.

- As of **March 1, 2020**, there have been **13** person(s) with lab-confirmed COVID-19 (**13** King County resident(s) and **0** out-of-jurisdiction person(s) being investigated by King County). Among confirmed cases, there have been **4** death(s) (**4** King County resident(s) and **0** out-of-jurisdiction person(s) being investigated by King County).
- As of **March 1, 2020**, there are currently **34** person(s) whose test results are pending (**32** King County resident(s) and **2** out-of-jurisdiction person(s) being investigated by King County). These individuals are considered persons under investigation (PUI) and are under active symptom watch.
- To date, there are a total of **21** persons who tested negative for COVID-19 (**16** are King County residents and **5** are out-of-jurisdiction).
- King County has placed a total of **562** persons on some form of symptom monitoring since Jan 21, 2020; this figure does not include returning travelers reported since Feb 14, 2020 whose symptom monitoring is managed by WA DOH. There have been **49** persons ever placed on active monitoring (**19** PUIs who were either close contacts of a case or had travel to high-risk area, plus an additional **28** close contacts of a case, and **2** persons who traveled to a high-risk area). In addition, there have been **507** persons who ever placed on passive monitoring or self-monitoring under public health supervision by King County (**100** close contacts of a PUI, **403** returning travelers who were placed under monitoring, and **4** with other exposures). King County has recommended self-observation for **6** persons with low-risk exposures.
- Currently, there are **35** person(s) on active monitoring, including **5** person(s) who had contact with a lab-confirmed case but are currently not a PUI themselves, and **28** person(s) with COVID-19 test results pending. There are an additional **2** person(s) on active monitoring. There are **56** person(s) currently on self-monitoring or self-observation.
- To date, King County has placed **4** persons in isolation at one of our isolation/quarantine facilities (**2** King County resident(s) and **2** out-of-jurisdiction person(s) being investigated by King County), for a total of **13** nights of stays. King County has provided wrap-around services, such as provision of food and supplies, to **10** persons, including **7** who were PUIs (**5** King County residents and **2** out-of-jurisdiction person(s) being investigated by King County), **1** under active monitoring (**0** King county resident(s) and **1** out-of-jurisdiction person(s) being investigated by King County) and **2** under passive monitoring (**2** King county residents and **0** out-of-jurisdiction person(s) being investigated by King County).
- The Harborview Home Assessment Team (HAT) has conducted **11** assessments of **10** suspected COVID-19 patients (n= **7** King County resident(s) and **3** out-of-jurisdiction person(s) being investigated by King County). The HAT has collected specimens for **7** patients (n= **5** King County resident(S) and **2** out-of-jurisdiction person(s) being investigated by King County).

Public Health Seattle-King County COVID-19 outbreak summary since Jan 21, 2020

Updated on March 1, 2020 7:44 PM

Table Summary

	Total	King County Residents	OOJ Case PHSKC Investigated
# of persons assessed	436	418	18
# of PUIs tested or pending results	68	61	7
# of PUIs tested negative	21	16	5
# of PUIs pending lab test results	34	32	2
# of confirmed cases	13	13	0
# of deaths	4	4	0
Total # of persons ever placed on any type of symptom watch since Jan 21, 2020	615	601	14
# of persons currently on active monitoring	35	33	2
# of returning travelers currently self-monitoring	6	6	0
# of other persons currently on self-monitoring or self-observation	56	56	0

*Please note that all data is subject to change as we assess data quality.

*Active monitoring = receive a call every day to assess symptoms.

*Self-monitoring = receive an initial call, self-monitor for fever twice a day, and are given a plan in case symptoms develop.

*Self-observation = receive guidance and should remain alert for symptoms.

From: Bialek, Stephanie R. (CDC/DDPHSIS/CGH/DPDM)
Sent: Tuesday, February 25, 2020 5:21 AM PST
To: Duchin, Jeff
Subject: Automatic reply: updates on sentinel surveillance activities

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I am currently out of the office and will be delayed in checking email.
Leigh Swaim (fwl2@cdc.gov) is acting Parasitic Diseases Branch Chief.

From: Pillai, Satish K. (CDC/DDID/NCEZID/DPEI)
Sent: Monday, March 2, 2020 1:10 PM PST
To: Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
CC: Kallen, Alexander (CDC/DDID/NCEZID/DHQP); Duchin, Jeff; Lofy, Kathy KL (CDC doh.wa.gov); Knutson, Donna (CDC/DDNID/NCEH/OD)
Subject: Re: surge capacity for personnel

[EXTERNAL Email Notice!] External communication is important to us. Be cautious of phishing attempts. Do not click or open suspicious links or attachments.

Hi John - thanks for the note. What we had discussed was that this seemed a role that ASPR/DMAT could potentially support and with that in mind, I relayed the information to our LNO to ASPR (Donna), and also provided Kathy the ASPR Region X coordinator's (John Smart) contact information.

For the group, I've included that information here again, with his email too.

John Smart

Field Operations and Response Division - Region 10 (Seattle)

HHS/ASPR/Emergency Management and Medical Operations

206.615.2506 (office – typically forwarded to cell)

New cell: 202.304.0043

john.smart@hhs.gov

aspr.r10@hhs.gov (regional email)

New regional number: 206.615.2600 (on call duty officer and regional phone directory)

HHS ASPR Secretary's Operations Center: 202-619-7800

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From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>

Sent: Monday, March 2, 2020 4:02:48 PM

To: Pillai, Satish K. (CDC/DDID/NCEZID/DPEI) <vig8@cdc.gov>

Cc: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>

Subject: surge capacity for personnel

Satish—

Jeff mentioned that you might be taking steps to mobilize HCWs to help maintain continuity of care in case current work force fails to meet demand. Can you provide an update as to where that stands?

Thanks

JJ

John A. Jernigan, MD, MS

Director, Office of Prevention Research and Evaluation

Division of Healthcare Quality Promotion

Centers for Disease Control and Prevention

1600 Clifton Road, Mailstop A-31

Atlanta, Georgia 30333

Phone 404-639-4245

Fax 404-639-4046

From: Lofy, Kathy H (DOH)
Sent: Monday, March 2, 2020 1:07 PM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Duchin, Jeff; Onora Lien; Sakata, Vicki (DOHi); Chow, Eric (CDC/DDID/NCIRD/ID)
CC: Elsenboss, Carina; Rao, Agam K. (CDC/DDID/NCEZID/DHCPP)
Subject: RE: Monitoring Impact on Healthcare System

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We have a bank of questions ready to go based on our informational needed. At this morning's operational briefing, I asked out HC team to start situational awareness data collection.

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) [mailto:tnc4@cdc.gov]
Sent: Monday, March 2, 2020 10:09 AM
To: Duchin, Jeffery, MD (DOHi) <jeff.duchin@kingcounty.gov>; Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>; Chow, Eric (CDC/DDID/NCIRD/ID) <okl9@cdc.gov>
Cc: Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Rao, Agam K. (CDC/DDID/NCEZID/DHCPP) <ige4@cdc.gov>
Subject: RE: Monitoring Impact on Healthcare System

Thanks, Jeff. We have Eric Chow from the CDC team working on this. If we can set up a time to talk, that would be great. Maybe I can at least connect Eric with Vicki or Onora to understand your current capacity and thoughts

Tom

Thomas Clark, MD, MPH
Deputy Director
Division of Viral Diseases
National Center for Immunization and Respiratory Diseases
770.488.5229

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Sent: Monday, March 2, 2020 9:59 AM
To: Onora Lien <onora.lien@nwhrn.org>; Vicki Sakata <vicki.sakata@nwhrn.org>
Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Elsenboss, Carina <Carina.Elsenboss@kingcounty.gov>
Subject: Monitoring Impact on Healthcare System

Vicki, Onora,

Tom Clark is with CDC and helping us with a variety of COVID-19 response issues. I asked if he might help brainstorm how we can monitor impact on HC system, so I'm connecting him with you as I know this is work in progress.

Thanks much

Jeff

Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
Adjunct Professor, School of Public Health
401 5th Ave, Suite 1250, Seattle, WA 98104
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E-mail: jeff.duchin@kingcounty.gov

From: Lofy, Kathy H (DOH)
Sent: Monday, March 2, 2020 1:43 PM PST
To: Duchin, Jeff; Onora Lien; Sakata, Vicki (DOHi)
CC: Clark, Thomas A. (CDC/CCID/NCIRD); Elsenboss, Carina; Henry, Erika L (DOH)
Subject: RE: Monitoring Impact on Healthcare System

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We have a bank of questions ready to ask about space, staff and stuff.

From: Duchin, Jeff [mailto:Jeff.Duchin@kingcounty.gov]
Sent: Monday, March 2, 2020 9:59 AM
To: Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>
Cc: Clark, Thomas A. (CDC/CCID/NCIRD) <tnc4@CDC.GOV>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>
Subject: Monitoring Impact on Healthcare System

Vicki, Onora,

Tom Clark is with CDC and helping us with a variety of COVID-19 response issues. I asked if he might help brainstorm how we can monitor impact on HC system, so I'm connecting him with you as I know this is work in progress.

Thanks much

Jeff

Jeffrey S. Duchin, MD
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E-mail: jeff.duchin@kingcounty.gov

From: Mike Famulare
Sent: Monday, March 2, 2020 8:29 AM PST
To: Duchin, Jeff; Scott Dowell; Cowgill, Karen; Schrag, Stephanie (CDC/DDID/NCIRD/DBD)
CC: Keith Klugman; Clark, Thomas A. (CDC/CCID/NCIRD); Trevor Bedford (trevor@bedford.io)
Subject: RE: Coronavirus and Its Impact to Foundation Operations

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Hi Jeff,

Thanks for forwarding the questions. Here's the quick summary. I believe much of this was shared with you on the SFS communications thread yesterday, but I summarize and highlight the parts relevant to your question below.

As of March 1, we think there are around 500 (100 to 1500; 90% uncertainty interval) active infections associated with the Snohomish cluster alone, and that the local doubling time is 6.1 (5.1, 8.2) days. While this represents only 0.077 (0.004, 0.35) percent of the population around the cluster, the doubling time indicates that prevalence will reach 1% around March 24 (March 10, April 25) if nothing happens to effectively reduce transmission rates.

We haven't yet modeled the cases outside Snohomish, at least some of which I'm assuming are unrelated. But, I think it's reasonable to use that per-population prevalence estimate to think about any parts of the region that already have transmission ongoing.

Also, if mortality rates here are similar to China and other parts of the world, then we should expect to see deaths just starting to accumulate right now, about 6 weeks after the seeding event. We will be studying this question very closely and are hoping the mortality rates here will prove to be better, although our population is older overall than the one afflicted in China.

To all on the email thread, don't hesitate to reach out. We are eager to keep helping. Some more details on the modeling are summarized in the PS.

Thanks,

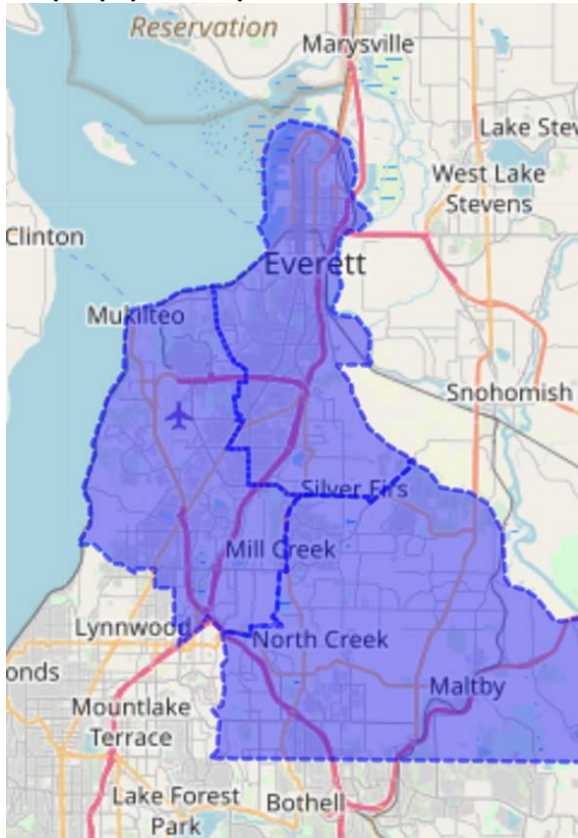
--Mike

Mike Famulare, PhD
Principal Research Scientist, Co-chair Epidemiology
Institute for Disease Modeling
idmod.org

For the Snohomish transmission cluster:

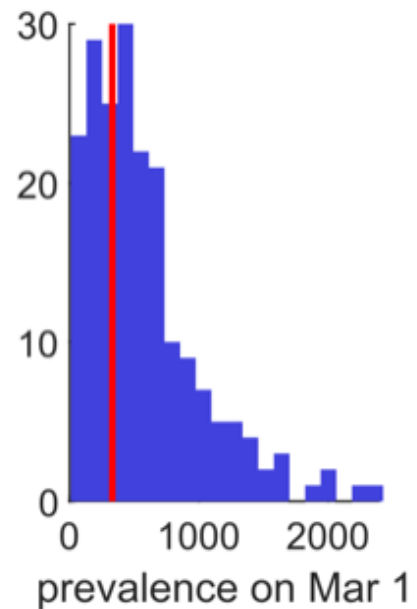
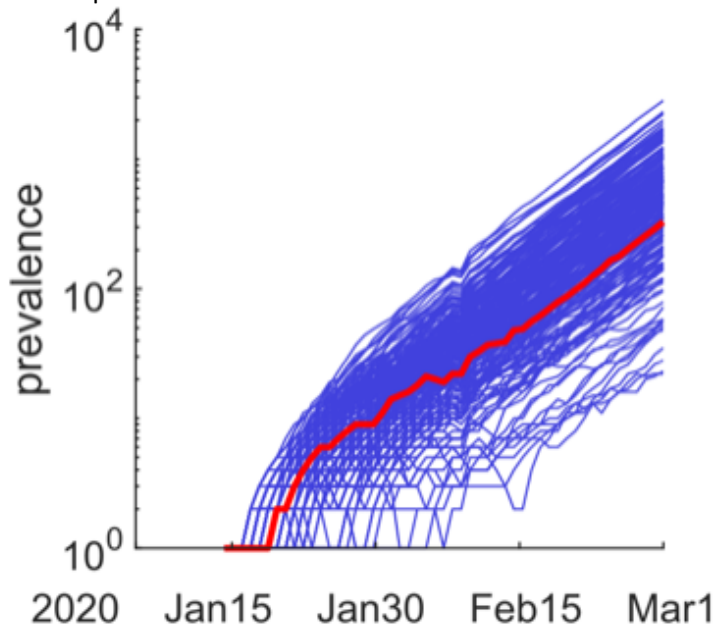
- we estimate with two different methods that **the prevalence on March 1** ranges from 80 to 1500, but **with point estimates of 330 or 570 active infections** (latent + infectious) depending on the method.
 - Method 1: top-down from sampling statistics and census data

- Method 2: transmission model shooting forward from Jan 15 importation, with parameters similar to the many published for China, Hong Kong, etc
- With the dynamical model, we estimate the **local doubling time is 6.1 (5.1, 8.2) days**. Again, similar to what's been seen globally. This corresponds to an R0 of roughly 3.2.
- Under the assumption that most of this transmission cluster is currently located in the region below, the **per population prevalence for this cluster on March 1 is 0.077 (0.004, 0.35) percent**.



- We will start gathering evidence for accurate local estimation of mortality statistics this week. But, assuming mortality will be similar to what's been seen in China, **we expect that there should be about 1 death associated just with this cluster as of March 1** (expected 0.6 (0.1, 1.4)).

- Modeled prevalence as of March 1 below



From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>

Sent: Monday, March 2, 2020 7:34 AM

To: Scott Dowell <Scott.Dowell@gatesfoundation.org>; Cowgill, Karen <n-kcowgill@kingcounty.gov>; Schrag, Stephanie (CDC/DDID/NCIRD/DBD) <zha6@cdc.gov>

Cc: Keith Klugman <Keith.Klugman@gatesfoundation.org>; Mike Famulare <mfamulare@idmod.org>; Clark, Thomas A. (CDC/CCID/NCIRD) <tnc4@CDC.GOV>

Subject: RE: Coronavirus and Its Impact to Foundation Operations

Thanks. Yes, number of projected ill over time would be great – not sure if you can say anything about severity or other impacts.

Jeffrey S. Duchin, MD

Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section

Public Health - Seattle and King County

Professor in Medicine, Division of Infectious Diseases, University of Washington

Adjunct Professor, School of Public Health

401 5th Ave, Suite 1250, Seattle, WA 98104

Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803

E-mail: jeff.duchin@kingcounty.gov

From: Scott Dowell <Scott.Dowell@gatesfoundation.org>

Sent: Monday, March 2, 2020 7:17 AM

To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>; Cowgill, Karen <n-kcowgill@kingcounty.gov>; Schrag,

Stephanie (CDC/DDID/NCIRD/DBD) <zha6@cdc.gov>

Cc: Keith Klugman <Keith.Klugman@gatesfoundation.org>; Mike Famulare <mfamulare@idmod.org>

Subject: RE: Coronavirus and Its Impact to Foundation Operations

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Hi Jeff,

I'm sure it is possible – copying Mike who is leading on this from the Institute for Disease Modeling. What specific questions did you have in mind? Projections of future numbers of cases?

Scott

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>

Sent: Monday, March 2, 2020 5:38 AM

To: Scott Dowell <Scott.Dowell@gatesfoundation.org>; Cowgill, Karen <n-kcowgill@kingcounty.gov>; Schrag, Stephanie (CDC/DDID/NCIRD/DBD) <zha6@cdc.gov>

Cc: Keith Klugman <Keith.Klugman@gatesfoundation.org>

Subject: Re: Coronavirus and Its Impact to Foundation Operations

PS - any additional / ongoing modeling of estimate impacts locally would be helpful. Not sure of how a case on Snohomish translates into estimates in Seattle metro/King county .

Also, can any modeling be done based on the number of cases reported through case reporting?

Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
Adjunct Professor, School of Public Health
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Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803
E-mail: jeff.duchin@kingcounty.gov

From: Scott Dowell <Scott.Dowell@gatesfoundation.org>

Sent: Sunday, March 1, 2020 9:40:15 PM

To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>; Cowgill, Karen <n-kcowgill@kingcounty.gov>; Schrag, Stephanie (CDC/DDID/NCIRD/DBD) <zha6@cdc.gov>

Cc: Keith Klugman <Keith.Klugman@gatesfoundation.org>

Subject: FW: Coronavirus and Its Impact to Foundation Operations

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Hi Jeff and all,

You are doing a superb job leading during a difficult time!

As we discussed with Karen and Stephanie this evening, the foundation has stepped up our restrictions on travel and event convenings (details below), and are looking to follow guidance from public health authorities regarding more pro-active work from home recommendations or requirements.

At some point we are anticipating hearing from you or other authorities that there is substantial community transmission, triggering recommendations for work-from-home for those who can (we can). You may already have such triggers in mind, but here is some recent thinking in case it helps.

If by Trevor Bedford's estimate there are currently 200-1,200 cases in the Seattle metro area population of 3.4m, that is about 1 in 10,000 or so. Wuhan medical facilities were overwhelmed with numbers peaking around 1/1,000. At Ro of 2.5 and serial interval of 8 days we might reach that level in about 2-4 weeks. If such social distancing is to be most effective you would want to implement it early – some time between now and then.

Does that make sense? If not please let us know and we can adjust communications with our leadership.

Thanks so much,

Scott

From: Mark Suzman <Mark.Suzman@gatesfoundation.org>
Sent: Sunday, March 1, 2020 7:20 PM
To: All Foundation Staff <Allfoundationstaff@gatesfoundation.org>
Subject: Coronavirus and Its Impact to Foundation Operations
Importance: High

All,

By now most of you will have seen the news about COVID-19 hitting very close to our headquarters and I want to communicate some additional changes to the way we plan to operate in response. The ELT will follow up with further details soon.

[In our message last Friday](#), we updated our response to the coronavirus and said we were monitoring the situation closely. Later that evening, the Washington State Department of Health announced additional cases of COVID-19 in Snohomish and King counties. Since then the first U.S. deaths related to COVID-19 have been confirmed in the Seattle area as has community transmission. We fully expect additional cases to be reported in the coming days.

This situation is changing rapidly, and while the Seattle campus *remains open for now*, you should prepare for some significant changes in how you conduct foundation business – including working remotely if needed, cancelling all travel (any essential travel will require ELT-level approval according to our existing high-risk travel protocols), and cancelling on-site and off-site events through March. We are committed to providing more details on all of these steps within the next 24-48 hours. If you have immediate questions about travel please contact [Security@](#).

For strategy reviews specifically we are supportive of any employee currently scheduled to participate in person opting to do so remotely on an exceptional basis. Colleagues from regional offices who have

already traveled to Seattle in preparation for these important meetings are free to join in person as planned but encouraged to dial-in if they feel uncomfortable in any way.

This is a very fluid situation and we are anticipating that local public health officials may recommend moving to a more explicit mitigation strategy including an approach called social distancing – efforts might range from avoiding handshakes, closing schools, limiting public transportation, and canceling large gatherings.

We understand some of our decisions may sound alarming. However, in the same way the foundation has been at the forefront of the global response to the coronavirus because we believed in the importance of early action before the scope of the crisis was clear, we feel it important to take a careful approach with regard to our own policies and activities. We also feel a responsibility as a foundation focused on global health to take extra precautions to minimize the virus spreading unintentionally to family and community members with weakened immune systems. In addition to following public health officials and our own internal experts for guidance, we are also coordinating closely with the Gates family entities and referencing the actions and decisions of other Seattle-based businesses.

As we previously shared, the foundation is playing a unique role in the wider global response and to maximize our commitment of up to \$100M to accelerate global efforts to end the COVID-19 epidemic, [a working group](#) with foundation resources has been deployed to rapidly strengthen global detection and containment efforts; protect at-risk populations in Africa and South Asia; and help develop vaccines, treatments and diagnostics.

Although you've heard from us frequently via email over the last several weeks and we will continue to send important new guidance directly, please also make use of [Ampersand's COVID-19 page](#) as a reliable source of regularly-updated information.

Thank you for your flexibility, understanding, and patience as we navigate this evolving situation.

Mark

Mark Suzman

Chief Executive Officer
Bill & Melinda Gates Foundation

Executive Assistant Melissa Anderson

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E melissa.anderson@gatesfoundation.org

Bill & Melinda Gates Foundation

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Impatient Optimists

From: Paul Nevin
Sent: Monday, February 24, 2020 2:50 PM PST
To: Dan Wattendorf; Fry, Alicia (CDC/DDID/NCIRD/ID); Jernigan, Daniel B. (CDC/DDID/NCIRD/ID); Viboud, Cecile (NIH/FIC) [E]; gschroth@illumina.com; Keith Klugman; Scott Dowell; 'Goudsmit, Jaap'; Arnold Monto; Duchin, Jeff
CC: tishm; Tricia Jester; HLS Admins; Jay Shendure; Joanna Fuller; Mark J Rieder; Niranjana Bose; Sharon Bergquist; Robin A Prentice
Subject: RE: Seattle Flu Study Winter Advisory Committee Call
Attachments: SFS Winter Advisory Committee Meeting Notes 20200224.pdf

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Dear Seattle Flu Study Advisory Committee,

Thank you again for your participation during our Winter Advisory Committee call. I'm writing to share meeting notes, which you will find attached to this email, and provide a brief update on the team's COVID-19 response strategy.

We are happy to update that as of this week, it looks like there is an opportunity for the SFS platform to potentially support CDC COVID19 surveillance in Seattle. Coordination with relevant government stakeholders (CDC, WA DOH, etc.) is graciously being led by Jeff Duchin, Chief of Communicable Disease Epidemiology & Immunization Section at Public Health Seattle King County. The team is currently working with Jeff to develop a protocol to enable a limited number of SFS samples to be screened by the CDC test in authorized labs and will simultaneously and independently be using the team's own research assay to more broadly assess potential community burden of COVID19. Many details are still being finalized and the situation is dynamic, but we are encouraged by the team's nimble approach and motivation to support public health response.

We look forward to our May 1 Spring Advisory Committee Meeting and will touch base about logistics as we get closer and have a better understanding of the current context. Please do not hesitate to reach out with any questions.

Best,
Paul

From: Paul Nevin
Sent: Friday, February 7, 2020 4:37 PM
To: Mark J Rieder <mrieder@uw.edu>; Jay Shendure <shendure@uw.edu>; Chelsey D Graham <grahamcd@uw.edu>; Barry R. Lutz <blutz@uw.edu>; Matthew J. Thompson <mjt@uw.edu>; Helen Y Chu <helenchu@uw.edu>; janet.englund@seattlechildrens.org; Boeckh, Michael <mboeckh@fredhutch.org>; Debbie Nickerson <debnick@uw.edu>; Istarita@uw.edu; Trevor Bedford <trevor@bedford.io>; 'Mike Famulare' <mfamulare@idmod.org>; Jonathan Rosoff <jonathan@formativeco.com>; Jen Mooney <jenm@formativeco.com>; Dan Wattendorf

<Dan.Wattendorf@gatesfoundation.org>; Fry, Alicia (CDC/DDID/NCIRD/ID) <agf1@cdc.gov>; Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) <dbj0@cdc.gov>; Viboud, Cecile (NIH/FIC) [E] <viboudc@mail.nih.gov>; gschroth@illumina.com; Keith Klugman <Keith.Klugman@gatesfoundation.org>; Scott Dowell <Scott.Dowell@gatesfoundation.org>; 'Goudsmit, Jaap' <jgoudsmit@hsph.harvard.edu>; Arnold Monto <asmonto@umich.edu>; Joanna Fuller <joanna.fuller@gatesventures.com>; Duchin, Jeff <Jeff.Duchin@kingcounty.gov>; Robin A Prentice <robins4@uw.edu>; Sharon Bergquist (Sharon.Bergquist@gatesventures.com) <Sharon.Bergquist@gatesventures.com>; Niranjana Bose <Niranjana.Bose@gatesventures.com>; 3450 Large Conference Room <3450largeconf@gatesventures.com>

Cc: tishm <tishm@uw.edu>; Tricia Jester (Tricia.Jester@gatesventures.com) <Tricia.Jester@gatesventures.com>; HLS Admins <hlsadmins@gatesventures.com>; Anne Kruger <Anne.Kruger@gatesfoundation.org>; Gary Feldman <Gary.Feldman@gatesfoundation.org>; Soila-Sian Simintei <Soila-Sian.Simintei@gatesfoundation.org>; Colleen Davis <codavis@uw.edu>; Scappini, Stephanie <Stephanie.Scappini@kingcounty.gov>; Beth Lowry <lowrye2@uw.edu>; lea.starita@gmail.com; shendure@gmail.com; Lindsey Grays <Lindsey.Grays@gatesfoundation.org>; Mahulkar, Nikita Mitish <nmahulkar@hsph.harvard.edu>; Ray Minchew <Ray.Minchew@gatesventures.com>

Subject: RE: Seattle Flu Study Winter Advisory Committee Call

Hi Everyone,

I just wanted to take the opportunity to express our gratitude for your participation during today's Seattle Flu Study Advisory Committee Call. Special thanks to the study team for all the hard work that went into preparing for and facilitating the meeting and to the advisory committee members for taking time to provide important insights and guidance. It was a very productive and lively discussion. I will reach out with meeting materials soon. Have a nice weekend.

Best,
Paul

From: Paul Nevin

Sent: Thursday, February 6, 2020 9:11 AM

To: 'Mark J Rieder' <mrieder@uw.edu>; 'Jay Shendure' <shendure@uw.edu>; 'Chelsey D Graham' <grahamcd@uw.edu>; 'Barry R. Lutz' <blutz@uw.edu>; 'Matthew J. Thompson' <mjt@uw.edu>; 'Helen Y Chu' <helenchu@uw.edu>; 'janet.englund@seattlechildrens.org' <janet.englund@seattlechildrens.org>; 'Boeckh, Michael' <mboeckh@fredhutch.org>; 'Debbie Nickerson' <debnick@uw.edu>; 'Istarita@uw.edu' <istarita@uw.edu>; 'Trevor Bedford' <trevor@bedford.io>; 'Mike Famulare' <mfamulare@idmod.org>; Jonathan Rosoff <jonathan@formativeco.com>; Jen Mooney <jenm@formativeco.com>; Dan Wattendorf <Dan.Wattendorf@gatesfoundation.org>; 'Fry, Alicia (CDC/DDID/NCIRD/ID)' <agf1@cdc.gov>; Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) <dbj0@cdc.gov>; 'Viboud, Cecile (NIH/FIC) [E]' <viboudc@mail.nih.gov>; gschroth@illumina.com <gschroth@illumina.com>; Keith Klugman <Keith.Klugman@gatesfoundation.org>; Scott Dowell <Scott.Dowell@gatesfoundation.org>; 'Goudsmit, Jaap' <jgoudsmit@hsph.harvard.edu>; Arnold Monto <asmonto@umich.edu>; Joanna Fuller <joanna.fuller@gatesventures.com>; 'Duchin, Jeff' <Jeff.Duchin@kingcounty.gov>; 'Robin A Prentice' <robins4@uw.edu>; Sharon Bergquist (Sharon.Bergquist@gatesventures.com) <Sharon.Bergquist@gatesventures.com>; Niranjana Bose <Niranjana.Bose@gatesventures.com>; 3450 Large Conference Room

<3450largeconf@gatesventures.com>

Cc: 'tishm' <tishm@uw.edu>; Tricia Jester (Tricia.Jester@gatesventures.com)

<Tricia.Jester@gatesventures.com>; HLS Admins <hlsadmins@gatesventures.com>; Anne Kruger <Anne.Kruger@gatesfoundation.org>; Gary Feldman <Gary.Feldman@gatesfoundation.org>; Soila-Sian Simintei <Soila-Sian.Simintei@gatesfoundation.org>; 'Colleen Davis' <codavis@uw.edu>; 'Scappini, Stephanie' <Stephanie.Scappini@kingcounty.gov>; 'Beth Lowry' <lowrye2@uw.edu>; 'lea.starita@gmail.com' <lea.starita@gmail.com>; 'shendure@gmail.com' <shendure@gmail.com>; Lindsey Grays <Lindsey.Grays@gatesfoundation.org>; 'Mahulkar, Nikita Mitish' <nmahulkar@hsph.harvard.edu>; Ray Minchew <Ray.Minchew@gatesventures.com>

Subject: RE: Seattle Flu Study Winter Advisory Committee Call

Dear Seattle Flu Study Advisory Committee,

This is just a friendly reminder about our 2-hour [Winter SFS Advisory Committee Call](#) tomorrow, February 7th from 9-11am PDT. We look forward to a very productive conversation about SFS and 2019-nCoV.

To facilitate dialogue about future SFS strategy and nCoV response, the study team has prepared the attached brief prompt on which we will base the discussion.

Please do not hesitate to reach out with any questions.

Thanks,

Paul

From: Paul Nevin

Sent: Monday, February 3, 2020 3:47 PM

To: 'Mark J Rieder' <mrieder@uw.edu>; 'Jay Shendure' <shendure@uw.edu>; 'Chelsey D Graham' <grahamcd@uw.edu>; 'Barry R. Lutz' <blutz@uw.edu>; 'Matthew J. Thompson' <mjt@uw.edu>; 'Helen Y Chu' <helenchu@uw.edu>; 'janet.englund@seattlechildrens.org' <janet.englund@seattlechildrens.org>; 'Boeckh, Michael' <mboeckh@fredhutch.org>; 'Debbie Nickerson' <debnick@uw.edu>; 'Istarita@uw.edu' <istarita@uw.edu>; 'Trevor Bedford' <trevor@bedford.io>; 'Mike Famulare' <mfamulare@idmod.org>; Jonathan Rosoff <jonathan@formativeco.com>; Jen Mooney <jenm@formativeco.com>; Dan Wattendorf <Dan.Wattendorf@gatesfoundation.org>; 'Fry, Alicia (CDC/DDID/NCIRD/ID)' <agf1@cdc.gov>; Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) <dbj0@cdc.gov>; 'Viboud, Cecile (NIH/FIC) [E]' <viboudc@mail.nih.gov>; 'gschroth@illumina.com' <gschroth@illumina.com>; Keith Klugman <Keith.Klugman@gatesfoundation.org>; Scott Dowell <Scott.Dowell@gatesfoundation.org>; 'Goudsmit, Jaap' <jgoudsmit@hsph.harvard.edu>; Arnold Monto <asmonto@umich.edu>; Joanna Fuller <joanna.fuller@gatesventures.com>; 'Duchin, Jeff' <Jeff.Duchin@kingcounty.gov>; 'Robin A Prentice' <robins4@uw.edu>; Sharon Bergquist <Sharon.Bergquist@gatesventures.com>; Niranjana Bose <Niranjana.Bose@gatesventures.com>; 3450 Large Conference Room <3450largeconf@gatesventures.com>

Cc: 'tishm' <tishm@uw.edu>; Tricia Jester (Tricia.Jester@gatesventures.com)

<Tricia.Jester@gatesventures.com>; HLS Admins <hlsadmins@gatesventures.com>; Anne Kruger <Anne.Kruger@gatesfoundation.org>; Gary Feldman <Gary.Feldman@gatesfoundation.org>; Soila-Sian Simintei <Soila-Sian.Simintei@gatesfoundation.org>; 'Colleen Davis' <codavis@uw.edu>; 'Scappini, Stephanie' <Stephanie.Scappini@kingcounty.gov>; 'Beth Lowry' <lowrye2@uw.edu>; lea.starita@gmail.com; shendure@gmail.com; Lindsey Grays <Lindsey.Grays@gatesfoundation.org>;

Mahulkar, Nikita Mitish <nmahulkar@hsph.harvard.edu>; Ray Minchew
<Ray.Minchew@gatesventures.com>

Subject: Seattle Flu Study Winter Advisory Committee Call

Dear Seattle Flu Study Advisory Committee,

We look forward to having you join our 2-hour [Winter SFS Advisory Committee Call](#) **this Friday, February 7th from 9-11am PDT**. During this call, the study team will briefly present Year 2 progress updates and facilitate a discussion about future SFS platform strategies. **This includes an in-depth conversation about the role the SFS plays in and can be informed by the current 2019-nCoV outbreak.**

Below, you will find an agenda for the call, with some associated discussion questions from the study team. I have also attached 2 documents to review beforehand:

1. **Year 2 First Quarter Progress Report:** This report provides an overview of key findings, milestones, and progress toward achieving study goals and objectives during the last 3 months of the project.
2. **Year 1 Final Report (Optional):** This comprehensive report highlights the key activities, accomplishments, and lessons learned throughout Year 1 of the study.

Thank you for your continued support of the SFS. Please do not hesitate to reach out with any questions.

Best,
Paul

Meeting Agenda

1. Introduction and Objectives (5 min)
2. Year 2 Update (25 min)
 - a. Project Metrics and Summary
 - b. Discussion: SFS Progress (Years 1/2)
3. Team overview of SFS 2019-nCoV response (45 min)
 - a. 2019-nCoV Overview
 - i. Planned Strategies and Activities
 - b. What questions is the team poised to answer on 2019-nCoV?
4. Year 3 2019-nCoV impacts (45 min)
 - a. Looking forward, what has nCoV demonstrated about strengths/potential gaps of the SFS surveillance platform overall?
 - b. What lessons have been learned to date and what can be learned throughout the remainder of the year to inform future plans?

Discussion Questions:

1. Although it leverages seasonal flu as a proxy, how does the SFS ensure that the surveillance platform is appropriately focused to respond to all potentially pandemic respiratory pathogens?
2. Given current 2019-nCoV status, what is the role of SFS to best support public health response? (e.g. local laboratory testing/triage, asymptomatic collection through logistical channels, community embedded recruitment infrastructure, collection and maintenance of seasonal acute respiratory infection biobank, etc.)

3. How can the team utilize lessons from the current 2019-nCoV outbreak to inform Year 3 planning?
4. What other aspects of the SFS platform are most useful as a potential surveillance and sample collection system? (e.g. logistical support for sample movement and potential delivery; early sample specimen collection for analysis; etc.)



Paul Nevin

Project Manager

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Seattle Flu Study: Advisory Committee Call

February 7, 2020

Attendees:	Jay Shendure, UW BBI Mark Rieder, UW BBI Helen Chu, UW Trevor Bedford, Fred Hutch Jan Englund, Seattle Children's Matthew Thompson, UW Barry Lutz, UW Michael Boeckh, Fred Hutch Lea Starita, UW Mike Famulare, IDM Jonathan Rosoff, Formative Jen Mooney, Formative Robin Prentice, UW BBI	Cecile Viboud, NIH Dan Wattendorf, BMGF Emily Turner, BMGF Keith Klugman, BMFG Scott Dowell, BMFG Arnold Monto, U Michigan Vivien Dugan, CDC (representing Dan Jernigan) Gary Schroth, Illumina Naranjan Bose, GV Sharon Bergquist, GV Paul Nevin, GV Joanna Fuller, GV
Unable to attend:	Debbie Nickerson, UW	Alicia Fry, CDC Dan Jernigan, CDC Jaap Goudsmit, Harvard Jeff Duchin, KCPHS

Agenda

1. Introduction and Objectives
2. Year 2 Update
3. SFS 2019-nCoV response
4. Year 3 2019-nCoV impacts

Year 2 Update

The study team presented aim-specific updates on implementation during the previous 4 months. The team was able to launch retrospective hospital collection and some community-based recruitment activities on October 1, enabling the team to capture the start of the earliest influenza season in 10 years. This early season was characterized by high rates of influenza B. The study team emphasized that sample collection and flu positives are on track (5,617 total samples with metadata, of which 1,544 are flu positive). The team reports that direct send-out swab collection (swab-and-send) is performing well, Ellume self-test kits are staged and pending launch, and community surveillance (King County and Kaiser Permanente) samples are being actively collected and are pending receipt for analysis. Led by Formative, the teams marketing plan is effectively supporting recruitment through multiple digital channels. The current turn-around-time from swab collection to flu test results is currently 6.2 days and the Flu Map is regularly updated. Phylodynamic transmission analysis (573 genomes) is already providing insight into the spread of an influenza B/Victoria antigenic variant driving large clusters, likely due to decreased immunity. Household and homeless shelter sub-studies are running and effectively recruiting participants.

The team outlined challenges associated with an inquiry from WA DOH about CLIA licensing, for which the team has needed to adapt study strategy for any components that return individual results to participants. This has delayed recruitment for self-test deployment and the team has established confirmatory testing protocol using CLIA-waived instruments. CLIA licensing requirements present significant complications for future strategies that return individual level results and may require full lab licensing, which is an expensive and lengthy process.

The advisory committee commended the team's progress and how well they've responded to various challenges. The committee suggested that swab-and-send and home-based self-testing have shown potential and should be considered for expansion with both seasonal flu and pandemic virus surveillance applications.

Immediate SFS 2019-nCoV response

The team provided a status update on the outbreak and outlined various SFS strengths for potential response strategies. SFS planned strategies, activities, and lessons learned in response to the nCoV outbreak were summarized in a previously circulated discussion prompt (see Appendix), which was used to facilitate discussion with the advisory committee.

CLIA Licensing and WA DOH

There was consensus during the call that SFS should expand efforts related to nCoV. However, the CLIA-licensing inquiry and other regulatory and logistical challenges are significant barriers to implementation. Washington State Department of Health Quality Assurance (WA DOH QA) is the ultimate authority within the state of Washington regarding approval for labs providing actionable, diagnostic return results to patients and study participants. The WA DOH requirement for a high complexity CLIA license will take the SFS more than six months, and possibly up to a year, to complete. Several suggested strategies for nCoV testing would not be feasible without high complexity CLIA licensing for the lab. This includes certifying the SFS genotyping lab as a Laboratory Research Network (LRN) lab ([link](#)) or as an early detection sentinel lab ([link](#)). Operating under an Emergency Use Authorization (EUA) by a non-authorized lab is not permitted by CMS ([link](#)).

SFS nCoV Testing

The team has developed and implemented an in-house research assay for nCoV (not the CDC test), that is non CLIA licensed and does not allow for individual nCoV results, according to the DOH. The SFS nCoV assay can detect less than 10 molecules in both patient and environmental samples and does not cross-react with the current season's circulating coronavirus. While it appears that non-CDC assays may be validated for use in EUA situations ([link](#)), the lab must still be CLIA-certified and EUA approved as described above. There are several significant ethical implications of testing samples and not providing individual results.

Emily Turner noted that BARDA has set up a national swab and send program for nCoV testing and suggested that the SFS team could play a role in testing. Dan Wattendorf noted that CLIA-waived tests will be available on multiple platforms within approximately 3 months, but pricing may not be scalable. There was consensus that self-testing and swab-and-send have a lot of potential, but Keith Klugman and others pointed out the potential challenges of shipping during a pandemic, when many businesses will be impacted by social isolation or illness. There was a good discussion about the opportunity to scale up an SFS-style platform in other locations throughout the world. Dan Wattendorf also referenced the \$100m commitment to nCoV by the BMGF and emphasized that \$60m would be for R&D, a space where SFS could play a role, leveraging its platform. Trevor Bedford highlighted that the 2 most important spaces in which SFS can play an immediate role in nCoV response are: 1) increased nCoV testing to support public health response and 2) leverage the platform to answer urgent scientific questions about nCoV epidemiology.

SeaTac Environmental Sampling

The SFS has been collecting environmental samples at the SeaTac airport and has the capability to test all samples this year for nCoV. Unfortunately, the CDC airport and security staff are overwhelmed, they are no longer able to provide an escort for continued sample collection (collection stopped at the end of January). Scott Dowell emphasized the importance of this work and has offered to follow-up with Marty Cetron at CDC, if helpful.

Action Items:

- Scott Dowell offered to connect with stakeholders at the CDC to provide guidance on CLIA licensing and testing authorization. The SFS team will initiate the request.
- The SFS team will reach out to Scott Dowell to communicate with Marty Cetron at CDC DGMQ regarding environmental sampling at SeaTac airport.
- The SFS team will follow up with Emily Turner regarding potentially testing BARDA samples, contingent upon legal standing and authorization to conduct nCoV.

Year 3 2019-nCoV impacts

The SFS Year 3 strategies and activities were also summarized in the previously circulated discussion prompt (see Appendix), which was used to facilitate discussion with the advisory committee.

Year 3 strategy discussion focused on contact tracing, incorporation of NPI, and an emphasis on nCoV relative to seasonal flu. It was emphasized that ultimately, this is a pandemic preparedness platform, so responding to nCoV should be a core component of future SFS strategy, should it be necessary. It is likely that nCoV is something that Seattle could be dealing with for a long time and thus, will significantly impact future iterations of SFS strategy and implementation.

Research findings that are relevant to nCoV, including modeling of the disease, understanding severity in the population, transmission dynamics, etc. are helpful in supporting public health efforts and should be prioritized. Detailed plans about how the SFS platform can support public health response to nCoV (e.g. assisting with contact tracing, community testing efforts, etc.) require continued planning and discussion.

To address challenges of the lengthy consent process part of a research study, the group discussed automation of consent and implementation of community-wide consent (e.g. by emergency public health decree). Supplementation of participant-named contact tracing with GPS movement data, household, work and school contact information and social device contacts were also discussed. One option for an NPI would be the integration of testing with opt-in isolation (until a test is negative).

There was consensus that the team should emphasize nCoV AND flu for Year 3 and leverage the fact that because of nCoV, community engagement and consent for surveillance and intervention activities will be high. Scott Dowell highlighted that the more SFS can do now to be ready to support nCoV response, the more impact the team can have. Dan Wattendorf noted that this has been a very helpful brainstorming discussion and that this is an opportune moment for impactful work with high resources and interest, but that it is a dynamic situation that will require substantial follow-up planning and strategy conversations.

Jay summarized and prioritized next steps for SFS:

1. Identify strategies and develop detailed plans with stakeholders for how SFS can support immediate local nCoV response, including overcoming regulatory barriers for testing
2. Test different intervention strategies that leverage the SFS platform
3. Learn from efforts in Seattle to inform broader SFS response and collaboration opportunities

Appendix

SFS Year 3 Planning and nCoV Response Discussion Prompt

Circulated to Advisory Board members February 6, 2020 and discussed during the Advisory Committee meeting.

Looking ahead to Year 3 and beyond, the SFS team proposes a community-based intervention study to “bend the epidemic curve” (i.e. a measurable reduction in seasonal influenza infections or transmissions) using the SFS platform. The study design and all learnings will have the potential to be exported to other locations and/or to be applied to other respiratory virus epidemic/pandemic responses.

We anticipate technological and social changes several years into the future that would facilitate a novel study design. Some of our assumptions include:

- (1) At-home flu testing will be available over the counter (OTC) to provide rapid results to consumers (participants)

- (2) Rapid household delivery (<2 hr) will be ubiquitous (beyond even today)
- (3) Telemedicine consults will be standard for home-based diagnosis of influenza
- (4) Anti-viral treatments will be available OTC (e.g. tamiflu or equivalent) or for a broader population (e.g. baloxavir for children or for household prophylaxis)
- (5) Large-scale population movement data will be available
- (6) Flu genome sequencing will be routinely possible in less than 10 days from collection
- (7) A 'nowcasting' Flu Map will be capable of rapidly integrating all incoming data

Our current working proposal is a multi-year community based, cluster-randomized trial with a pharmaceutical (antiviral) intervention for symptomatic flu-positive participants. Unlike traditional geographic or predefined randomized clusters (e.g. school districts), we propose a cluster definition based on index participants and influenza transmission phylogenies, combined with contact tracing ("interventional epidemiology"). Individuals will be randomized into one of two study arms: (1) no treatment or (2) antiviral treatment for index as well as antiviral prophylaxis of contacts. This study would employ approaches similar to those already in place within the SFS (e.g. interventional household study) combined into a unified intervention study. Participants would be enrolled into the study either before illness or at onset of illness through a variety of mechanisms (website or kiosk). Upon symptom onset, individuals would be provided a self-test for influenza (with confirmatory swab collected for viral sequencing). Those that are flu-positive will be directed to a telehealth provider for diagnosis, and subsequently randomized into one of the two above study arms. For the second study arm, antivirals for treatment and/or prophylaxis would be delivered to the home via 2-hour delivery. Sequence analysis would be used to confirm transmission between individuals/contacts.

Launching a city-wide intervention will require additional planning, partnerships, IRB and protocols, and study modeling that would likely take a year to fully and properly plan. We would therefore propose that Year 3 focuses on completion of ongoing studies and laying the groundwork for this multi-year trial, with enrollment into this study beginning in fall 2021.

SFS response to 2019-nCoV

The recent 2019-nCoV pandemic will greatly influence our final approach for what is practically useful. For example, the 2019-nCoV worldwide outbreak has provided the SFS an opportunity to consider how our expertise, resources and learnings, can be applied locally to support or enhance public health responses. We see our major SFS strengths around building a respiratory sample biobank and maintaining a pipeline complete with diverse community-based sample collection, sample testing, sequencing capabilities, delivery logistics and data analysis, as important pandemic response contributors. More specifically, during this time we have considered or are involved in the following activities which demonstrate the utility of the SFS platform:

- (1) We have implemented an in-house research assay for 2019-nCoV.
- (2) We have increased collection of hospital flu-negative residual samples (pediatric and adult). Once the nCoV assay is available, we will begin testing all samples collected starting in January 2020. This

may provide data on nCoV presence in the general community outside of hospital settings, and as the pandemic potential increases, provides a mechanism for testing of samples collected through diverse sampling mechanisms.

- (3) We will expand enrollment to allow individuals without symptoms to collect a swab for testing. This may provide data on asymptomatic or minimally symptomatic nCoV cases in the community.
- (4) We were contacted by the WA Dept of Health to support contact tracing and diagnostics for persons under investigation (PUI) through our swab-and-send study (website-based enrollment and self-collection of nasal swab). Ultimately, it was determined that our non-CLIA licensed nCoV assay and CDC testing protocol requirements will not allow us to share individual nCoV results with DOH.
- (5) We increased capacity to perform daily air and environmental sampling at SeaTac airport, however CDC is not able to allow us access to SeaTac due to staffing shortages.
- (6) In partnership with the NIH, we have an active IRB-approved protocol for enrollment and collection of biospecimens for nCoV patients in Washington state for work on development of therapeutics and vaccines.
- (7) Both the Bedford lab and Institute for Disease Modeling (IDM) are modeling nCoV origins and spread through phylodynamic modeling and nCoV transmission dynamics. The work is being continuously updated as sequences and incidence data become available.

Questions for discussion with Advisory Committee

Our responses above, combined with the SFS mission to build a sample collection and surveillance platform for an actionable disease map (FluMap) and pilot intervention approaches, prompts us to pose the following questions for discussion with the Advisory Committee:

- Although it leverages seasonal flu as a proxy, how does the SFS ensure that the surveillance platform is appropriately positioned to respond to *all* potentially pandemic respiratory pathogens?
- Given current 2019-nCoV status, what is the role of SFS to best support public health response? (e.g. local laboratory testing/triage, asymptomatic collection through logistical channels, community embedded recruitment infrastructure, collection and maintenance of respiratory sample biobank, etc.)
- How can the team further utilize lessons from the current 2019-nCoV outbreak to inform Year 3+ planning? (e.g. Non-pharmaceutical interventions (NPI) may be the only immediate recourse during a pandemic. Whether and how to also test NPI as a part of an interventional study design is an active discussion that would be helpful to discuss)
- What other aspects of the SFS platform are most useful as a potential surveillance and sample collection system? (e.g. logistical support for sample movement and potential delivery; early sample specimen collection for analysis; etc.)

This discussion will be placed in the context of several early 'Lessons Learned' related to 2019-nCoV such as:

- **Better understanding of the full regulatory environment around assay implementation and return of results.** Laboratory-developed assays needed in pandemic, emergency situations should be established and maintained during the execution of the SFS (e.g. CLIA/CDC)
- **Ensure that IRBs are broad enough to allow for expansion of SFS efforts during pandemic situations to collect samples.** Collaboration with public health agencies involved in pandemic response (e.g. CDC, NIH, etc.) is critical along with an understanding of inter-agency jurisdiction.
- **Retrospective hospital samples should be biobanked.** These samples provide a critical resource and baseline In the event that retroactive testing is needed to define the extent of a pandemic.
- **Review requirements for chain of custody for collection of nasal swabs.** In a pandemic scenario could our swab-send platform (along with self-swabbing) be further adapted to supplement a public health collection.
- **Put in place predefined protocols with public agency partners (e.g. CDC, WA DOH, NIH).** Define how the SFS would function as a supplemental resource in a pandemic response (e.g. ensuring that environment monitoring may continue with agency resource limitations? Ensuring sample acquisition routines are in place?)
- **Need for rapid scale up of self-tests for nCoV.** Several lateral flow assays are in development, but long lead time to field testing/deployment. Identifying potential self-test assays (lateral flow, NAAT) that can be rapidly scaled up and deployed in self/home testing situation utilizing the SFS logistics and app guidance would have transformed many efforts.

From: Jernigan, Daniel B. (CDC/DDID/NCIRD/ID)
Sent: Sunday, March 1, 2020 6:14 PM PST
To: Duchin, Jeff; Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
Subject: RE: Syndromic updates

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Thanks. Is this through Essence?
Dan.

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Sent: Sunday, March 1, 2020 8:39 PM
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Cc: Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) <dbj0@cdc.gov>
Subject: FW: Syndromic updates

FYI. Suggestions to inform our approach as we move from containment to mitigation will be much appreciated.

Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
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401 5th Ave, Suite 1250, Seattle, WA 98104
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E-mail: jeff.duchin@kingcounty.gov

From: Baer, Atar <Atar.Baer@kingcounty.gov>
Sent: Sunday, March 1, 2020 4:01 PM
To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>; Kay, Meagan <Meagan.Kay@kingcounty.gov>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; 'Close, Natasha (DOH)' (<Natasha.Close@DOH.WA.GOV>
<Natasha.Close@DOH.WA.GOV>
Cc: data, cdimms <cdimms.data@kingcounty.gov>
Subject: RE: Syndromic updates

Updated dashboard link [here](#) and reattaching the image in case you were not able to access it.

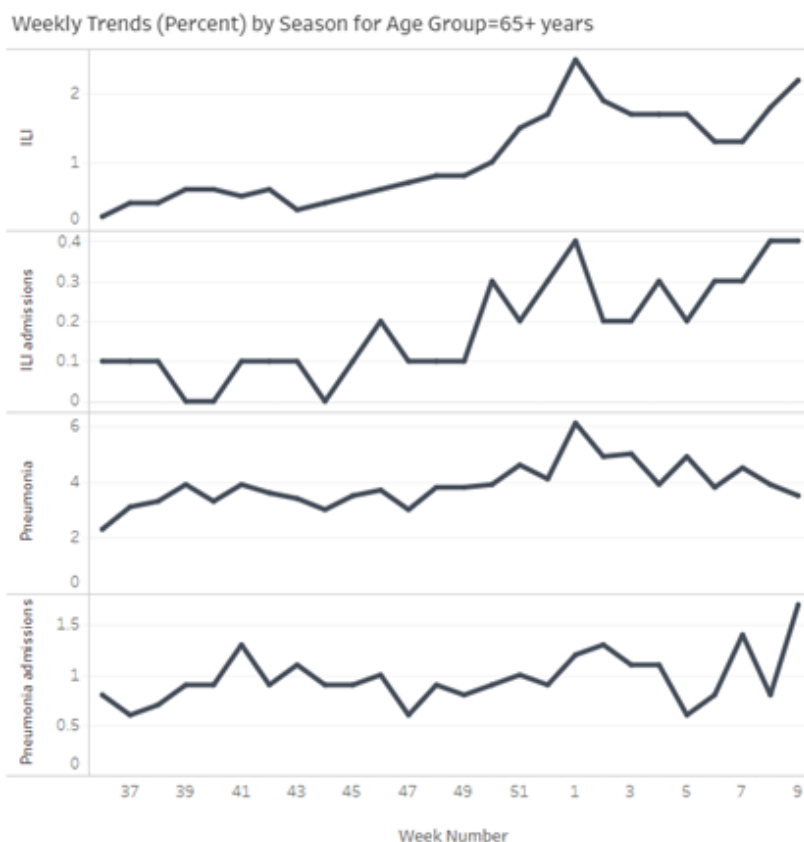
From: Baer, Atar
Sent: Sunday, March 1, 2020 3:55 PM
To: Jeff Duchin (<jeff.duchin@kingcounty.gov> <jeff.duchin@kingcounty.gov>; Kay, Meagan <Meagan.Kay@kingcounty.gov>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; 'Close, Natasha (DOH)' (<Natasha.Close@DOH.WA.GOV> <Natasha.Close@DOH.WA.GOV>

Cc: data, cdimms <cdimms.data@kingcounty.gov>

Subject: Syndromic updates

The weekly figures for our local syndromic surveillance system's Tableau dashboard have been updated [here](#) (reminders: only accessible when logged into the KC network at the office or via AnyConnect VPN; these weekly aggregate data are updated on Sundays).

Of note, the percent of visits related to pneumonia was down relative to the previous week, but there was an increase in percent of pneumonia admits, particularly among the 65+ age group, where pneumonia admissions are now at or above peak levels observed during each of the past 5 seasons. Among this age group, the percent of ED ILI visits is also elevated relative to the prior week, and the percent of ILI admissions is the same as the prior week. Here is a sampling for those who cannot access our Tableau dashboards (filtered just for the current season to make it easier on the eye):



These trends are similar among adults ages 45-64 years: Increase in percent of ILI visits, flatline for % ILI admits, and increase in percent of pneumonia admits relative to the prior week.

Among 18-44 year-olds, the percent of ILI visits and pneumonia visits are edging higher than last week, but % admits are down.

The pediatric age groups overall look in the clear across these four indicators.

I'm attaching a summary based on the ESSENCE data as well, which tells a similar story. The team is working to pull data from ESSENCE into a Tableau dashboard, but this is a task that might not be done until the end of the week. Amanda Morse from DOH is coming to give an ESSENCE just-in-time training tomorrow afternoon for anyone who hasn't already had an introduction (thank you!!). We also need to explore and monitor several other syndrome defs that Natasha set up in in ESSENCE. If there is any additional capacity at DOH to help monitor the King County facilities, that would be very much appreciated. We still have some work to do on syndrome def validation, and you are steps ahead of us (thanks, Natasha!!).

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
Sent: Monday, March 2, 2020 1:15 PM PST
To: Duchin, Jeff
CC: Clark, Thomas A. (CDC/DDID/NCIRD/DVD)
Subject: FW: surge capacity for personnel

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Should I reach out, or would you prefer someone from your shop do so?

From: Pillai, Satish K. (CDC/DDID/NCEZID/DPEI) <vig8@cdc.gov>
Sent: Monday, March 2, 2020 4:11 PM
To: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Cc: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Knutson, Donna (CDC/DDNID/NCEH/OD) <dbk2@cdc.gov>
Subject: Re: surge capacity for personnel

Hi John - thanks for the note. What we had discussed was that this seemed a role that ASPR/DMAT could potentially support and with that in mind, I relayed the information to our LNO to ASPR (Donna), and also provided Kathy the ASPR Region X coordinator's (John Smart) contact information.

For the group, I've included that information here again, with his email too.

John Smart
Field Operations and Response Division - Region 10 (Seattle)
HHS/ASPR/Emergency Management and Medical Operations
206.615.2506 (office – typically forwarded to cell)
New cell: 202.304.0043
john.smart@hhs.gov
aspr.r10@hhs.gov (regional email)
New regional number: 206.615.2600 (on call duty officer and regional phone directory)
HHS ASPR Secretary's Operations Center: 202-619-7800

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From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Sent: Monday, March 2, 2020 4:02:48 PM
To: Pillai, Satish K. (CDC/DDID/NCEZID/DPEI) <vig8@cdc.gov>
Cc: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>
Subject: surge capacity for personnel

Satish—
Jeff mentioned that you might be taking steps to mobilize HCWs to help maintain continuity of care in case current work force fails to meet demand. Can you provide an update as to where that stands?

Thanks

JJ

John A. Jernigan, MD, MS
Director, Office of Prevention Research and Evaluation
Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention
1600 Clifton Road, Mailstop A-31
Atlanta, Georgia 30333
Phone 404-639-4245
Fax 404-639-4046

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD)
Sent: Monday, March 2, 2020 1:16 PM PST
To: Jernigan, John A. (CDC/DDID/NCEZID/DHQP); Duchin, Jeff
Subject: RE: surge capacity for personnel

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I gave Jeff the info—I believe he reached out already.

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Sent: Monday, March 2, 2020 1:15 PM
To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>
Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Subject: FW: surge capacity for personnel

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Cc: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Knutson, Donna (CDC/DDNID/NCEH/OD) <dbk2@cdc.gov>
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For the group, I've included that information here again, with his email too.

John Smart
Field Operations and Response Division - Region 10 (Seattle)
HHS/ASPR/Emergency Management and Medical Operations
206.615.2506 (office – typically forwarded to cell)
New cell: 202.304.0043
john.smart@hhs.gov
aspr.r10@hhs.gov (regional email)
New regional number: 206.615.2600 (on call duty officer and regional phone directory)
HHS ASPR Secretary's Operations Center: 202-619-7800

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From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Sent: Monday, March 2, 2020 4:02:48 PM
To: Pillai, Satish K. (CDC/DDID/NCEZID/DPEI) <vig8@cdc.gov>

Cc: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>

Subject: surge capacity for personnel

Satish—

Jeff mentioned that you might be taking steps to mobilize HCWs to help maintain continuity of care in case current work force fails to meet demand. Can you provide an update as to where that stands?

Thanks

JJ

John A. Jernigan, MD, MS
Director, Office of Prevention Research and Evaluation
Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention
1600 Clifton Road, Mailstop A-31
Atlanta, Georgia 30333
Phone 404-639-4245
Fax 404-639-4046

From: Travis Nichols
Sent: Monday, March 2, 2020 2:20 PM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Henry, Erika L (DOH); Onora Lien; Lofy, Kathy KL (CDC doh.wa.gov); Duchin, Jeff; Sakata, Vicki (DOHi); Carolyn Cartwright
CC: Elsenboss, Carina
Subject: RE: Monitoring Impact on Healthcare System

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4 p.m. works for us.



Regional Emergency & Disaster Healthcare Coalition
Supporting Eastern Washington Communities

Travis Nichols | Project Coordinator
Direct: 509.324.1465 | Fax: 509.324.3623 | tnichols@srhd.org
24/7 Duty Officer: 509.362.0041 | srhd.org/hcc



From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Sent: Monday, March 2, 2020 2:04 PM
To: Henry, Erika L (DOH) <erika.henry@doh.wa.gov>; Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>; Travis Nichols <tnichols@srhd.org>
Cc: Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>
Subject: RE: Monitoring Impact on Healthcare System

I can do 4pm

From: Henry, Erika L (DOH) <erika.henry@doh.wa.gov>
Sent: Monday, March 2, 2020 1:59 PM
To: Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>; Travis Nichols <tnichols@srhd.org>

Cc: Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>

Subject: RE: Monitoring Impact on Healthcare System

Hi, all –

Thanks for connecting the right people for this conversation.

DOH is hosting a very large call today with external partners that we will need to be on. We can meet 4pm or later. Sorry to throw a wrench in the plan.

We do have a large bank of questions and would want to focus the conversation around the specific data points we think could be most informative, look at where we might be able to source those without an additional info ask to providers, and then decide next steps (method, frequency of ask, etc). I'm sure we're all on the same page, just want to re-iterate the importance of being intentional around any asks.

Thanks for the great partnership! And again, I'm sorry about the 3:00 conflict. Looking forward to discussing more with all of you.

~erika

Erika Henry

Emergency Operations Supervisor
Division of Emergency Preparedness and Response
101 Israel Road SE
Tumwater, WA 98504
erika.henry@doh.wa.gov
360.701.7532 | www.doh.wa.gov



From: Onora Lien [mailto:onora.lien@nwhrn.org]

Sent: Monday, March 2, 2020 1:48 PM

To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; Duchin, Jeffery, MD (DOHi) <jeff.duchin@kingcounty.gov>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>

Cc: Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Henry, Erika L (DOH) <erika.henry@doh.wa.gov>

Subject: RE: Monitoring Impact on Healthcare System

Yes on behalf of Northwest Healthcare Response Network

From: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>

Sent: Monday, March 2, 2020 1:46 PM

To: Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Onora Lien <onora.lien@nwhrn.org>; Vicki Sakata <vicki.sakata@nwhrn.org>

Cc: Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Henry, Erika L (DOH)

<erika.henry@doh.wa.gov>

Subject: RE: Monitoring Impact on Healthcare System

Would enough interested parties be able to participate in a quick call today for situational awareness and brainstorming at 3pm? If so, I can send a number.

tom

From: Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>

Sent: Monday, March 2, 2020 1:43 PM

To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>

Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Henry, Erika L (DOH) <erika.henry@doh.wa.gov>

Subject: RE: Monitoring Impact on Healthcare System

We have a bank of questions ready to ask about space, staff and stuff.

From: Duchin, Jeff [<mailto:Jeff.Duchin@kingcounty.gov>]

Sent: Monday, March 2, 2020 9:59 AM

To: Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>

Cc: Clark, Thomas A. (CDC/CCID/NCIRD) <tnc4@CDC.GOV>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>

Subject: Monitoring Impact on Healthcare System

Vicki, Onora,

Tom Clark is with CDC and helping us with a variety of COVID-19 response issues. I asked if he might help brainstorm how we can monitor impact on HC system, so I'm connecting him with you as I know this is work in progress.

Thanks much

Jeff

Jeffrey S. Duchin, MD

Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County

Professor in Medicine, Division of Infectious Diseases, University of Washington

Adjunct Professor, School of Public Health

401 5th Ave, Suite 1250, Seattle, WA 98104

Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803

E-mail: jeff.duchin@kingcounty.gov

From: Onora Lien
Sent: Monday, March 2, 2020 1:47 PM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD); Lofy, Kathy KL (CDC doh.wa.gov); Duchin, Jeff; Vicki Sakata
CC: Elsenboss, Carina; Henry, Erika L (DOH)
Subject: RE: Monitoring Impact on Healthcare System

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Yes on behalf of Northwest Healthcare Response Network

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Sent: Monday, March 2, 2020 1:46 PM
To: Lofy, Kathy KL (CDC doh.wa.gov) <kathy.lofy@doh.wa.gov>; Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Onora Lien <onora.lien@nwhrn.org>; Vicki Sakata <vicki.sakata@nwhrn.org>
Cc: Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Henry, Erika L (DOH) <erika.henry@doh.wa.gov>
Subject: RE: Monitoring Impact on Healthcare System

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tom

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Sent: Monday, March 2, 2020 1:43 PM
To: Duchin, Jeff (CDC kingcounty.gov) <jeff.duchin@kingcounty.gov>; Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>
Cc: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>; Henry, Erika L (DOH) <erika.henry@doh.wa.gov>
Subject: RE: Monitoring Impact on Healthcare System

We have a bank of questions ready to ask about space, staff and stuff.

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Sent: Monday, March 2, 2020 9:59 AM
To: Lien, Onora (DOHi) <Onora.Lien@NWHRN.org>; Sakata, Vicki (DOHi) <Vicki.Sakata@NWHRN.org>
Cc: Clark, Thomas A. (CDC/CCID/NCIRD) <tnc4@CDC.GOV>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; Elsenboss, Carina (DOHi) <Carina.elsenboss@kingcounty.gov>
Subject: Monitoring Impact on Healthcare System

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Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
Adjunct Professor, School of Public Health
401 5th Ave, Suite 1250, Seattle, WA 98104
Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803
E-mail: jeff.duchin@kingcounty.gov

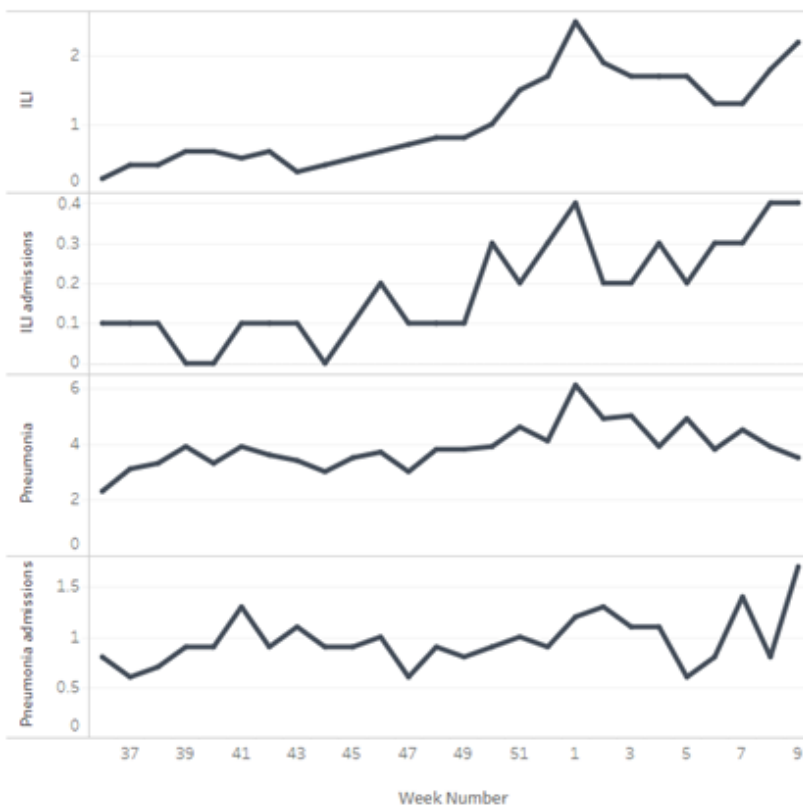
From: Duchin, Jeff
Sent: Sunday, March 1, 2020 6:25 PM PST
To: Dan Jernigan (dbj0@cdc.gov)
Subject: Fwd: Syndromic updates
Attachments: Data summary 01March2020.docx

Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
Adjunct Professor, School of Public Health
401 5th Ave, Suite 1250, Seattle, WA 98104
Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803
E-mail: jeff.duchin@kingcounty.gov
From: Baer, Atar <Atar.Baer@kingcounty.gov>
Sent: Sunday, March 1, 2020 3:54:38 PM
To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>; Kay, Meagan <Meagan.Kay@kingcounty.gov>; Lofy, Kathy H (DOH) <Kathy.Lofy@DOH.WA.GOV>; 'Close, Natasha (DOH)' (Natasha.Close@DOH.WA.GOV) <Natasha.Close@DOH.WA.GOV>
Cc: data, cdimms <cdimms.data@kingcounty.gov>
Subject: Syndromic updates

The weekly figures for our local syndromic surveillance system's Tableau dashboard have been updated [here](#) (reminders: only accessible when logged into the KC network at the office or via AnyConnect VPN; these weekly aggregate data are updated on Sundays).

Of note, the percent of visits related to pneumonia was down relative to the previous week, but there was an increase in percent of pneumonia admits, particularly among the 65+ age group, where pneumonia admissions are now at or above peak levels observed during each of the past 5 seasons. Among this age group, the percent of ED ILI visits is also elevated relative to the prior week, and the percent of ILI admissions is the same as the prior week. Here is a sampling for those who cannot access our Tableau dashboards (filtered just for the current season to make it easier on the eye):

Weekly Trends (Percent) by Season for Age Group=65+ years



These trends are similar among adults ages 45-64 years: Increase in percent of ILI visits, flatline for % ILI admits, and increase in percent of pneumonia admits relative to the prior week.

Among 18-44 year-olds, the percent of ILI visits and pneumonia visits are edging higher than last week, but % admits are down.

The pediatric age groups overall look in the clear across these four indicators.

I'm attaching a summary based on the ESSENCE data as well, which tells a similar story. The team is working to pull data from ESSENCE into a Tableau dashboard, but this is a task that might not be done until the end of the week. Amanda Morse from DOH is coming to give an ESSENCE just-in-time training tomorrow afternoon for anyone who hasn't already had an introduction (thank you!!). We also need to explore and monitor several other syndrome defs that Natasha set up in in ESSENCE. If there is any additional capacity at DOH to help monitor the King County facilities, that would be very much appreciated. We still have some work to do on syndrome def validation, and you are steps ahead of us (thanks, Natasha!!).

Syndromic Surveillance Data Summary for COVID-2019

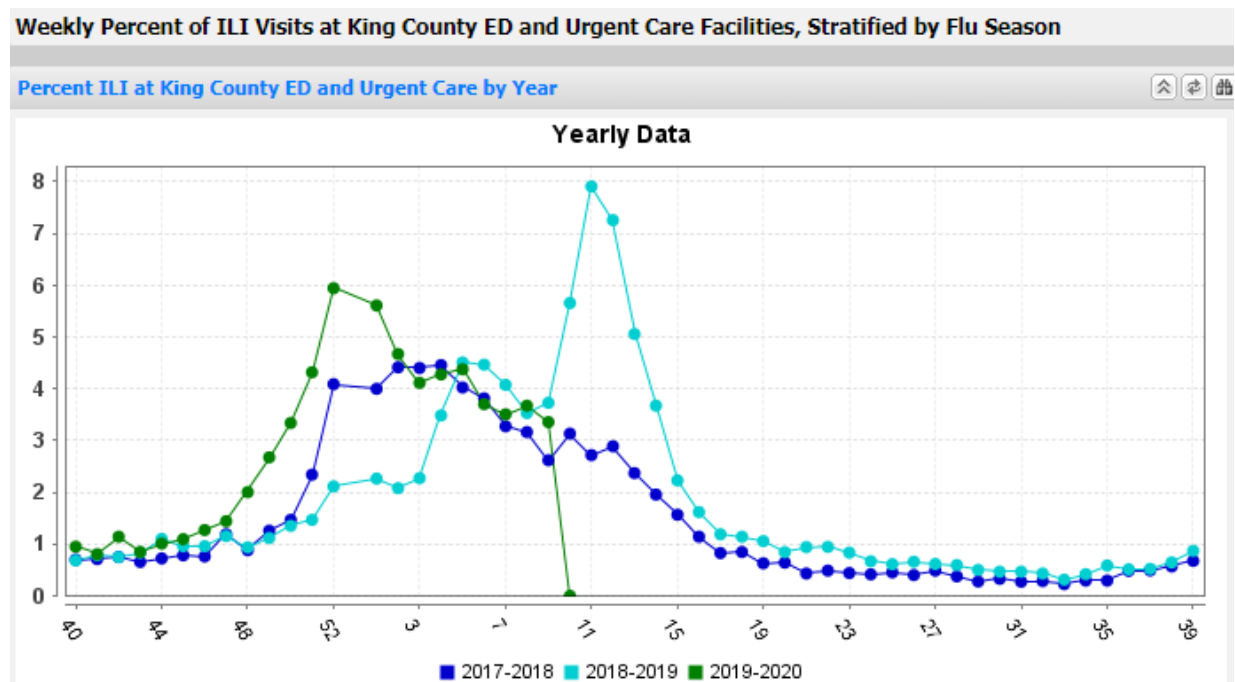
Updated March 1, 2020

Note that ESSENCE data do not include visits from Seattle Children's or Virginia Mason Medical Center.

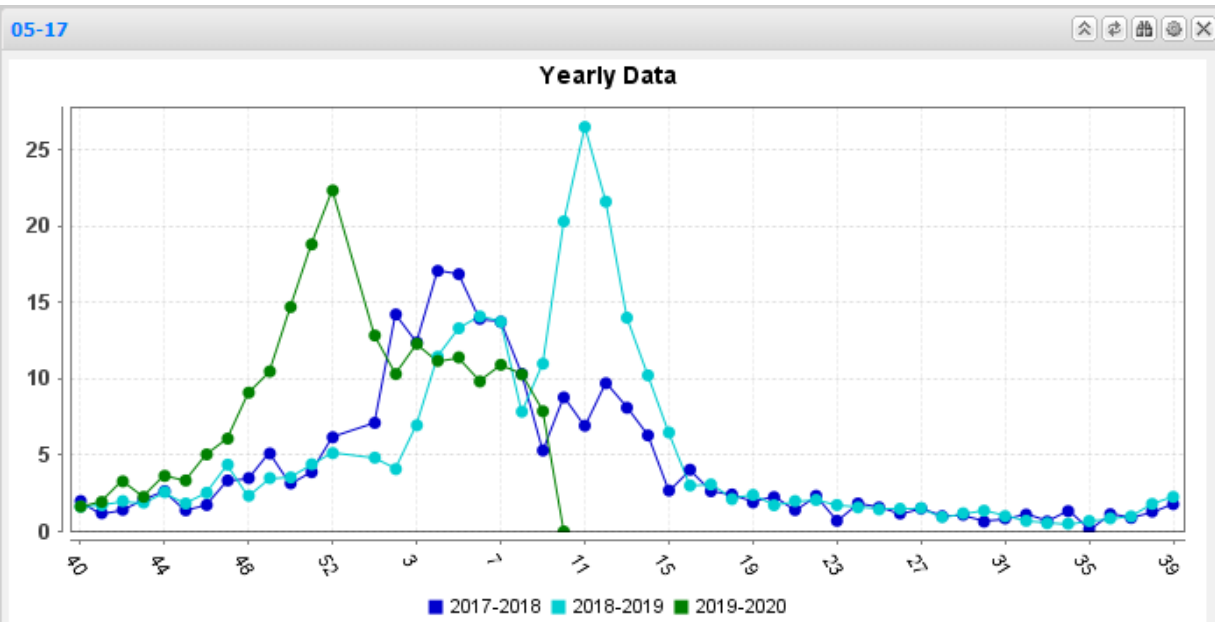
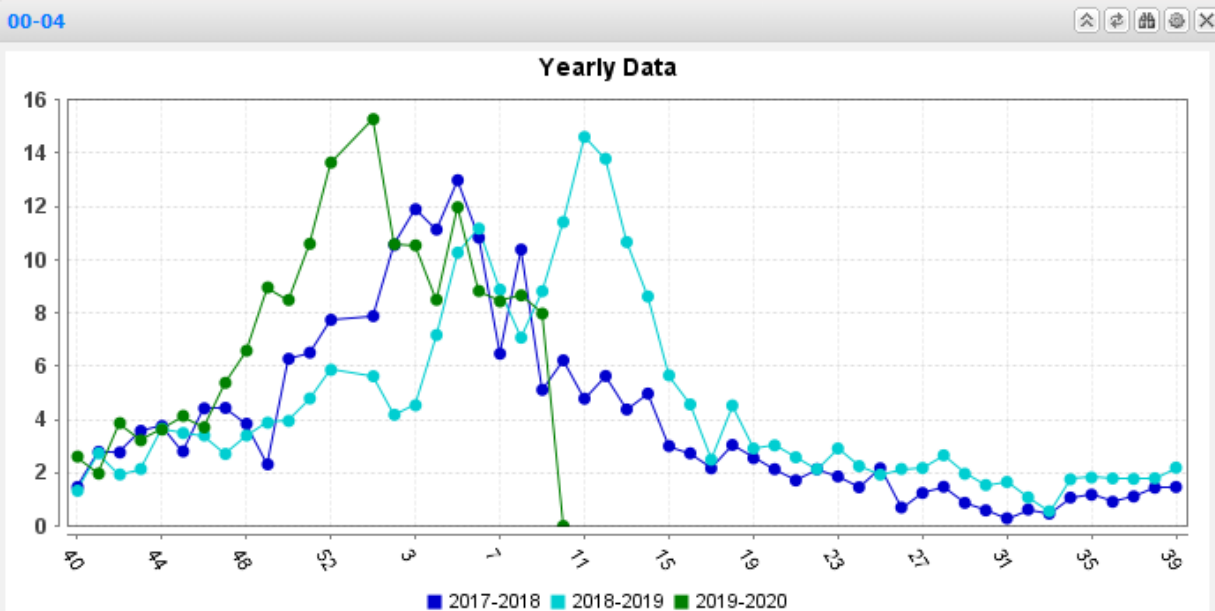
ED ILI visits

As of the week ending February 23rd, the percent of visits for ILI at King County ED and urgent care facilities has been on a decreasing trend since a peak on December 22nd. The peak percent of visits this season is higher than peaks observed during the 2017-18 season, but lower than observed last year.

Note: ESSENCE weekly aggregate data for the week ending February 29th are not yet available. However, the daily data are up-to-date through February 29th, and there are no notable areas of concern (visually or statistically) when examining the trends by day for each individual age group.



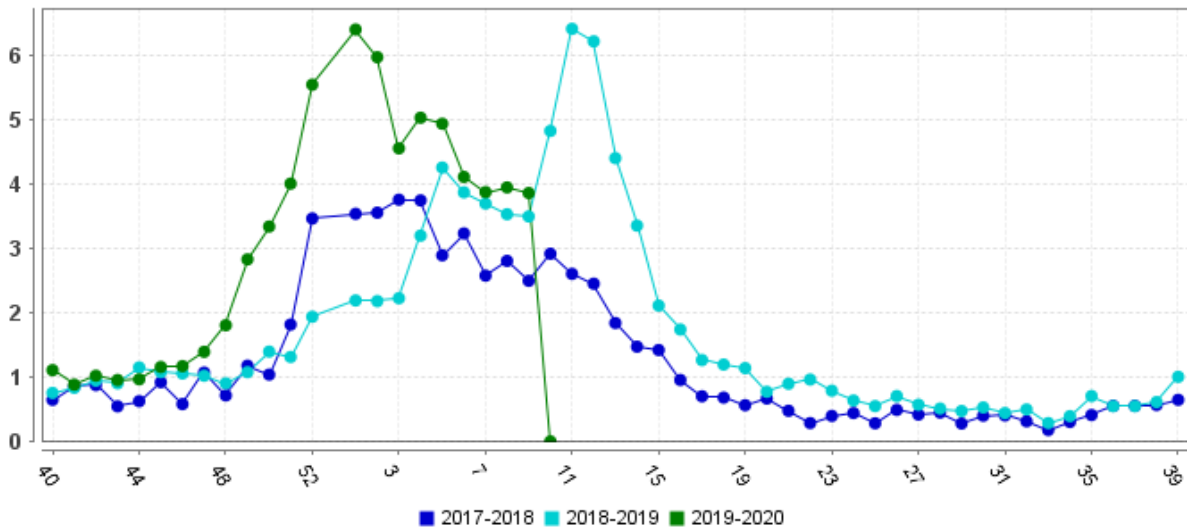
Below are graphs showing the weekly percent of ED visits for ILI, broken down by age group. In general, there has been a decrease in the percent of ED ILI visits over the past two months; however, trends among 45-64 year-olds have not been consistently decreasing, and among 65+ year-olds, there was a slight increase in visits over the last 3 weeks. These fluctuations are not out of the ordinary, but could represent a COVID-19 signal in this age group.



18-44



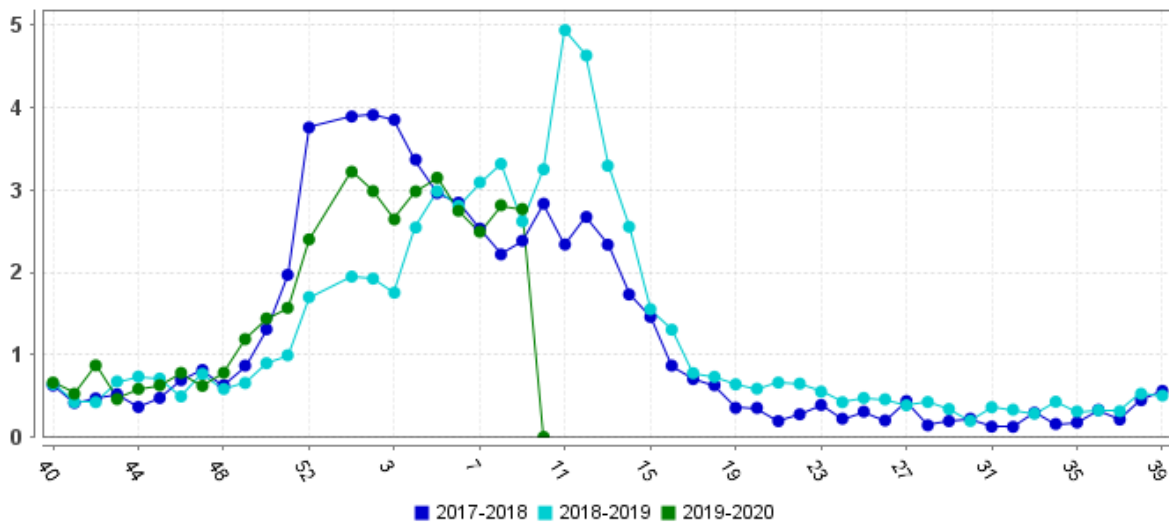
Yearly Data



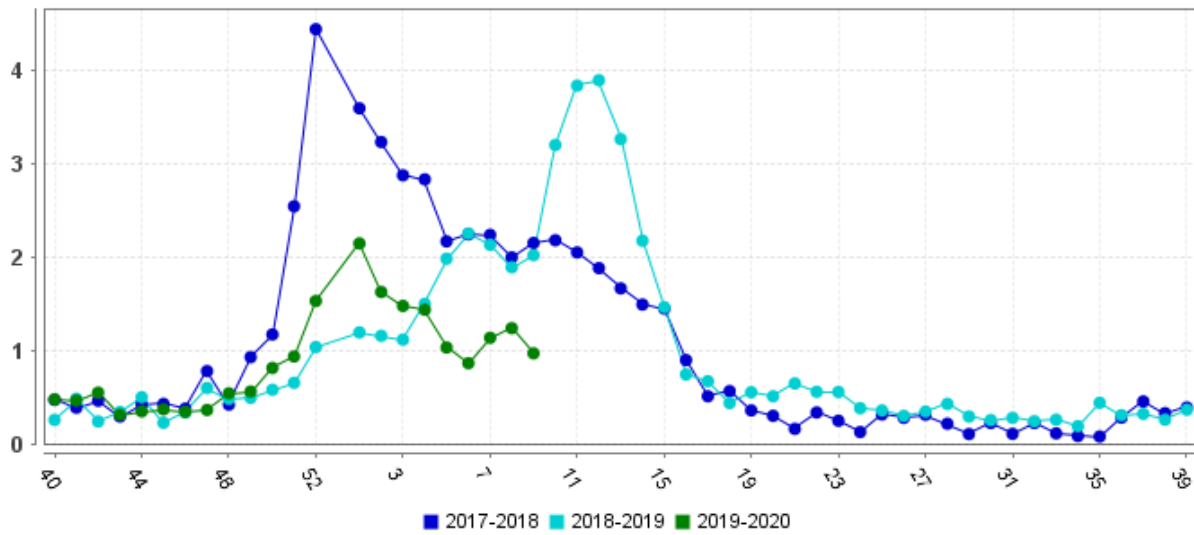
45-64



Yearly Data



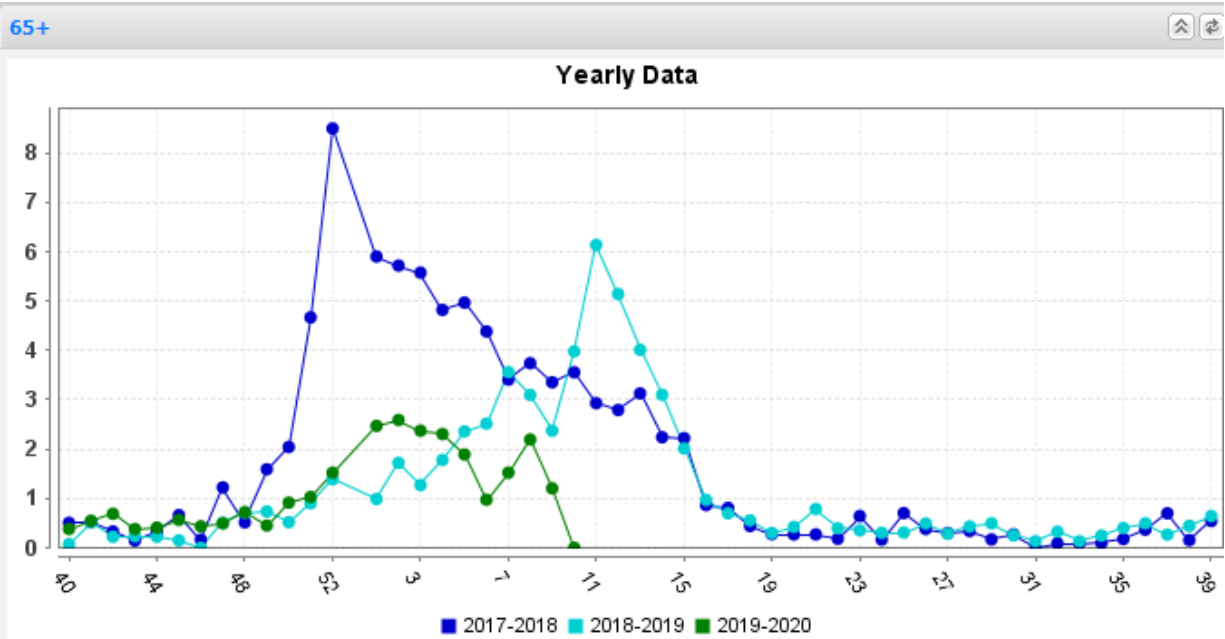
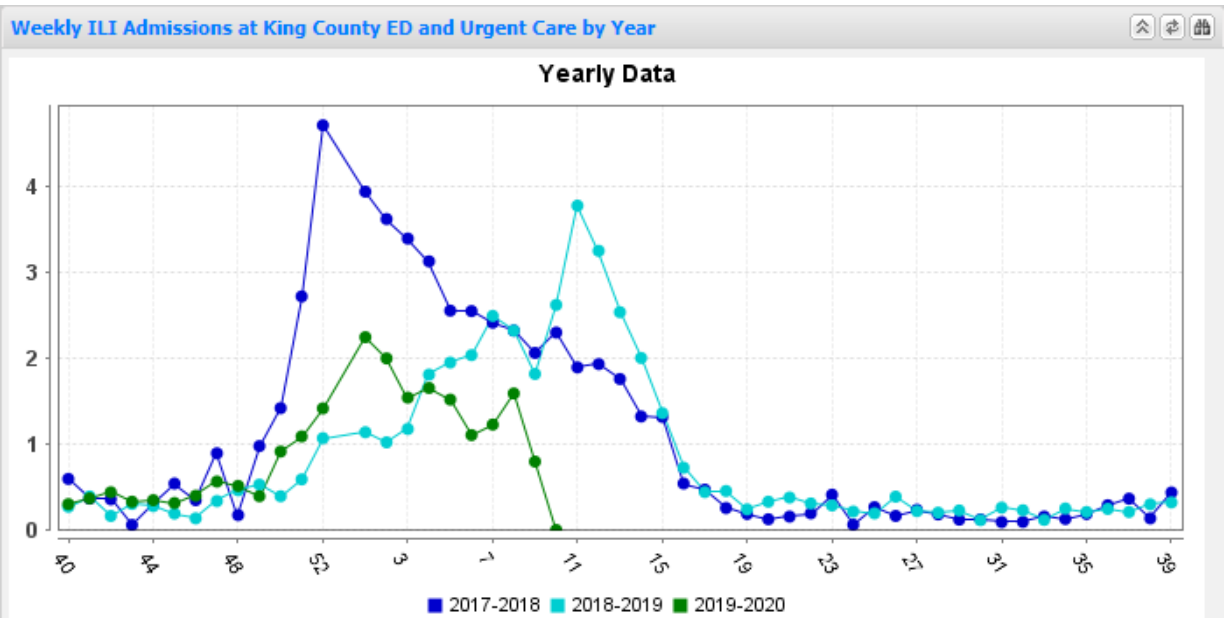
Yearly Data



ED ILI admissions

The percent of admissions for ILI at King County ED and urgent care facilities was on a decreasing trend from the season peak on December 29th through the week ending February 2nd, but increased between the week ending February 2nd through the week ending February 16th. This increase was primarily driven by admissions among adults ages 65+ years of age. Overall, the peak percent of admissions for ILI this season was lower than observed during the 2017-18 season as well as last year.

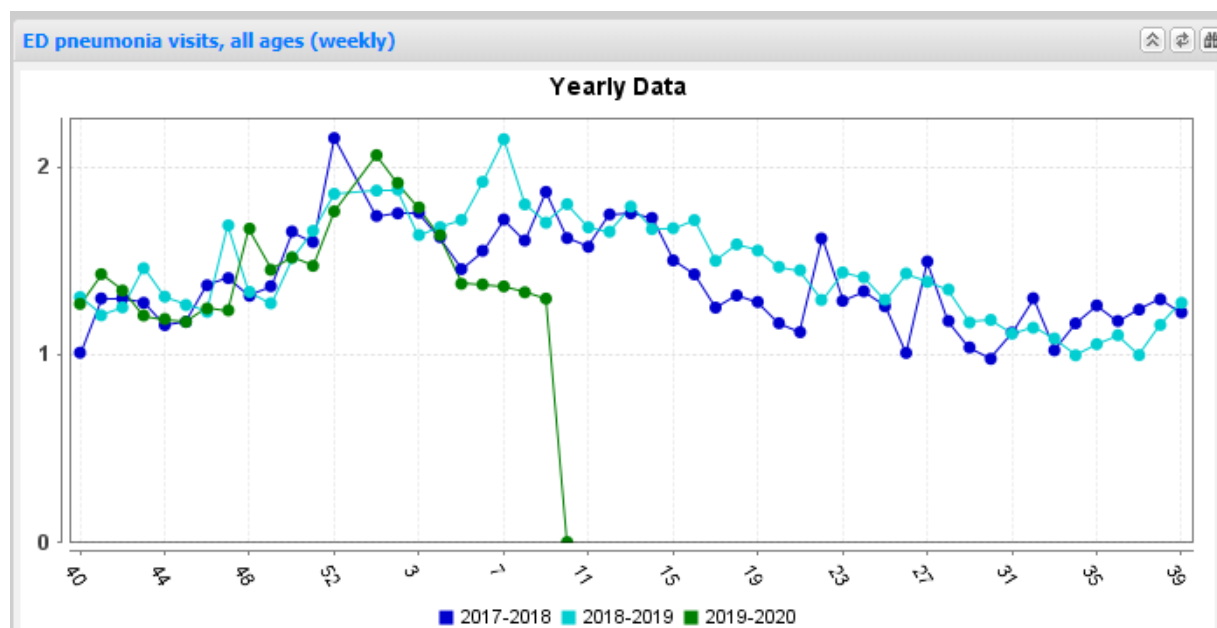
Note: ESSENCE weekly aggregate data for the week ending February 29th are not yet available. However, the daily data are up-to-date through February 29th, and there are no notable areas of concern (visually or statistically) when examining the trends by day for each individual age group.



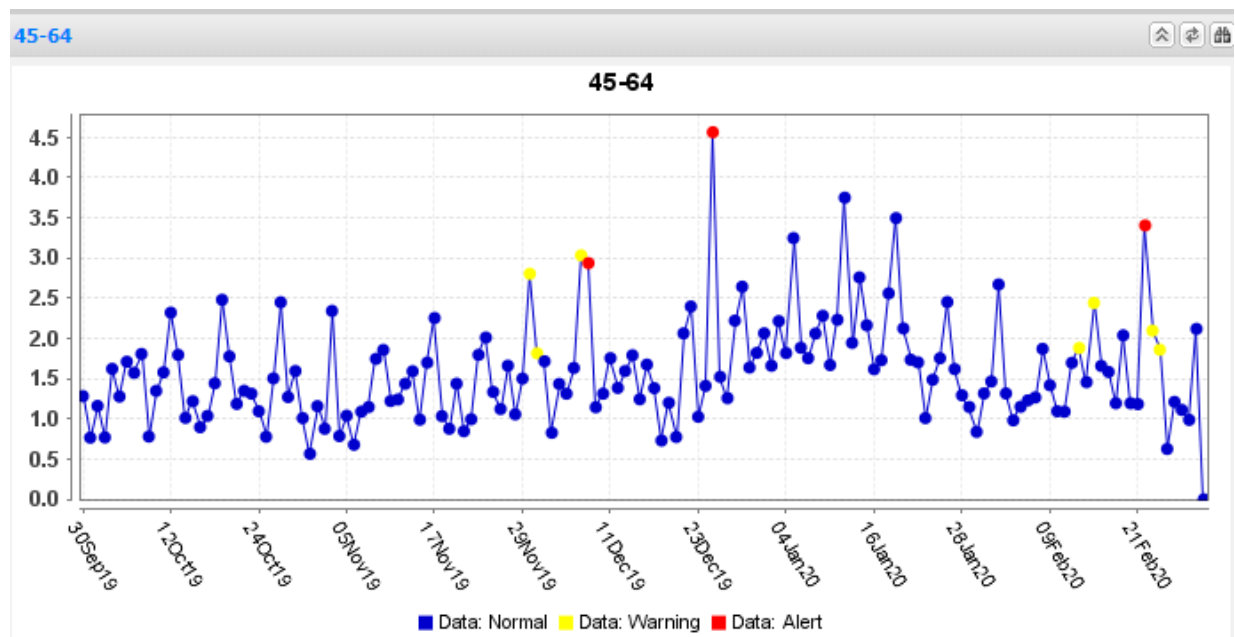
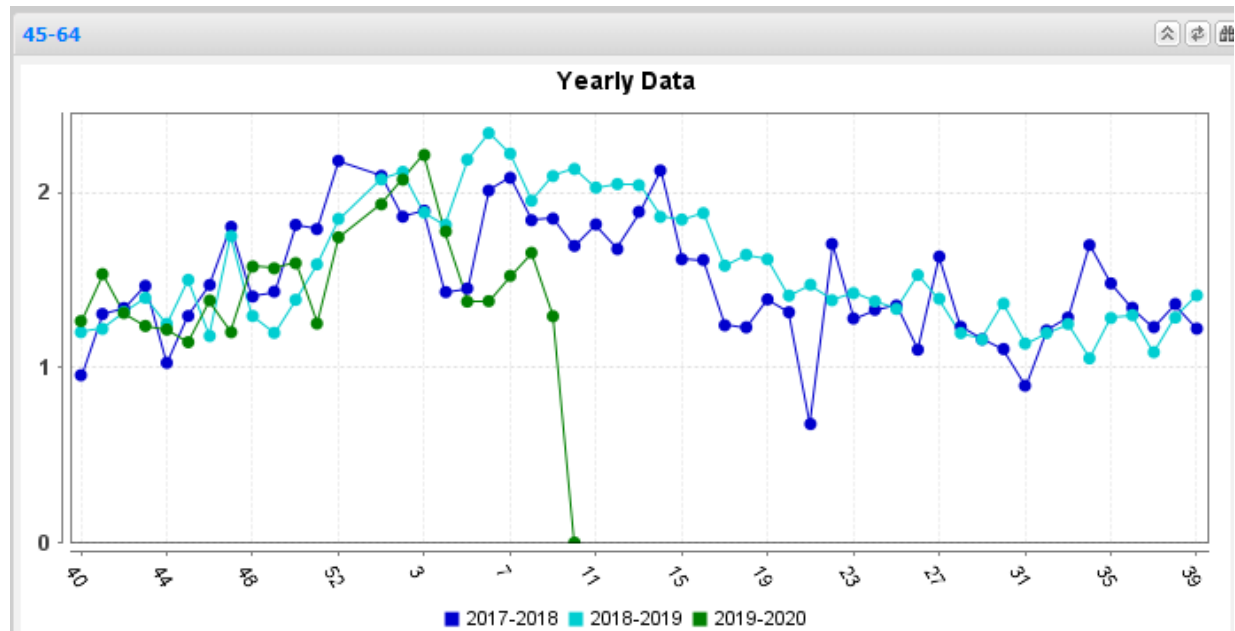
ED pneumonia visits

The peak percent of pneumonia visits at King County ED and urgent care facilities this season is comparable to peaks observed during the 2017-18 and 2018-19 seasons. The percent of visits for pneumonia has been on a decreasing trend since a peak occurring the week ending December 29th.

Note: ESSENCE weekly aggregate data for the week ending February 29th are not yet available. However, the daily data are up-to-date through February 29th. Between February 22-29, there were three days where pneumonia visits among adults ages 45-64 years had a statistically higher level of pneumonia visits.



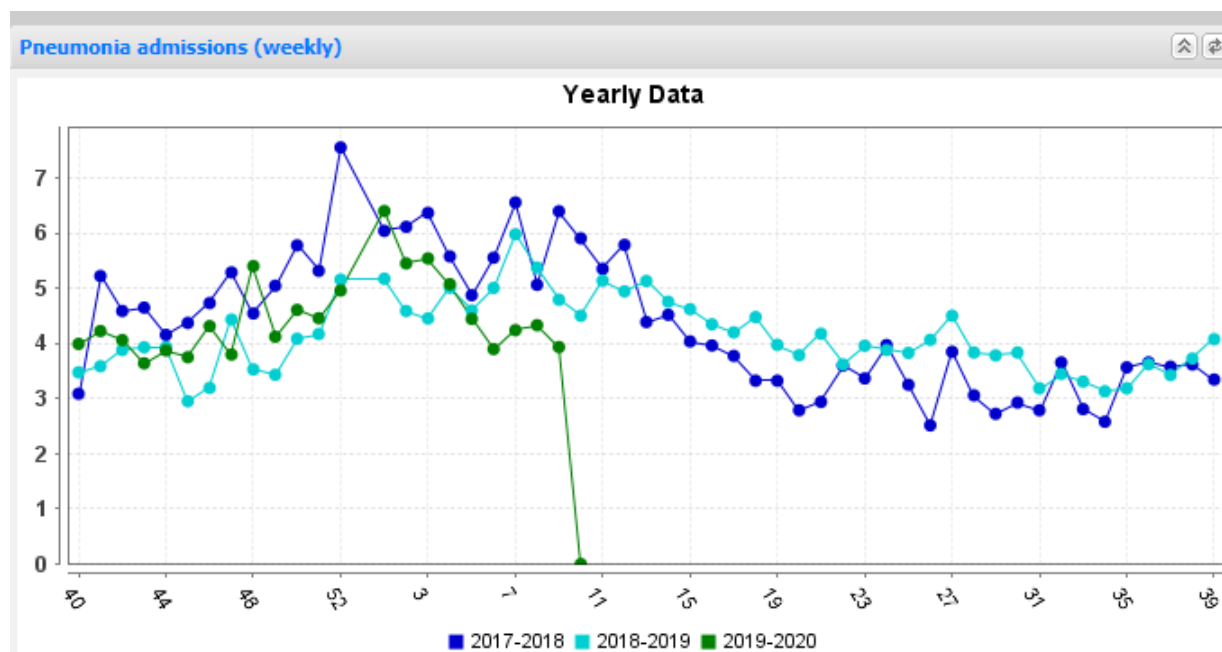
Among patients ages 45-64 years, there was an uptick in visits for pneumonia during the weeks ending February 9th and 16th, but levels dropped down to baseline levels the following week.



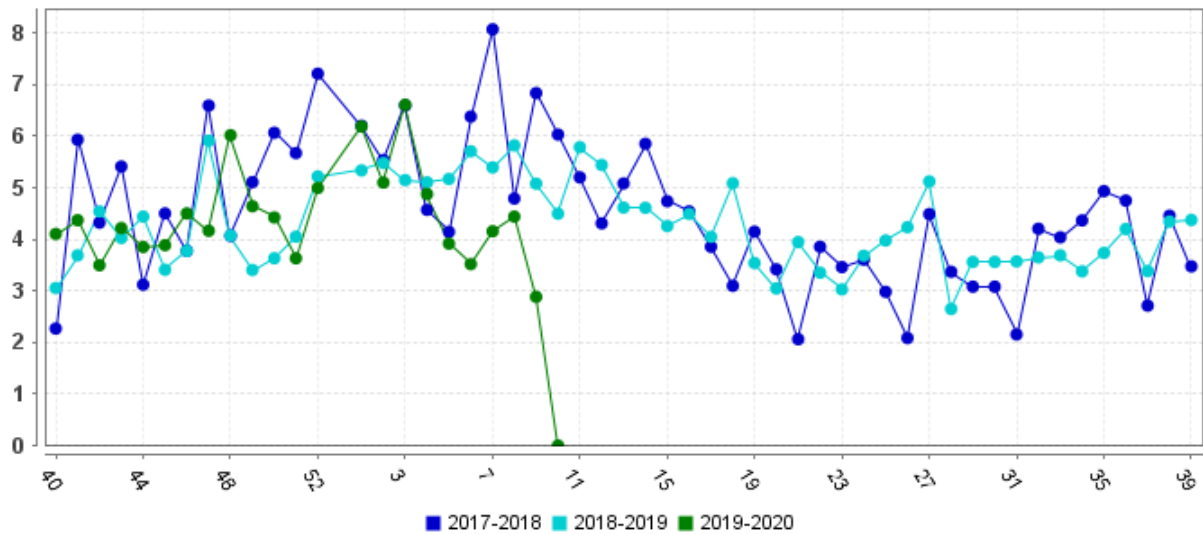
ED pneumonia admissions

Overall, the peak percent of admissions for pneumonia this season was lower than observed during the 2017-18 season and higher than levels observed last year. The percent of admissions for pneumonia at King County ED and urgent care facilities was on a decreasing trend from the season peak on December 29th through the week ending February 2nd, but increased between the week ending February 9th through the week ending February 16th. This increase was primarily driven by admissions among adults ages 45-64 years of age.

Note: ESSENCE weekly aggregate data for the week ending February 29th are not yet available. However, the daily data are up-to-date through February 29th, and there are no notable areas of concern (visually or statistically) when examining the trends by day for each individual age group.



Yearly Data



From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
Sent: Monday, March 2, 2020 1:12 PM PST
To: Duchin, Jeff; Clark, Thomas A. (CDC/DDID/NCIRD/DVD)
Subject: RE: one pager for exposed HCP
Attachments: Considerations for HCP on Furlough for contact with COVID_ak.docx

[EXTERNAL Email Notice!] External communication is important to us. Be cautious of phishing attempts. Do not click or open suspicious links or attachments.

Sorry-a bit confused. That's what this is intended to be.

From: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Sent: Monday, March 2, 2020 4:06 PM
To: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>; Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Subject: Re: one pager for exposed HCP

Thanks, John. I sent to a few colleagues for comments - is it possible do do one for exposed asymptomatic HCW on work furlough?

Jeffrey S. Duchin, MD
Health Officer and Chief, Communicable Disease Epidemiology & Immunization Section
Public Health - Seattle and King County
Professor in Medicine, Division of Infectious Diseases, University of Washington
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Tel: (206) 296-4774; Direct: (206) 263-8171; Fax: (206) 296-4803
E-mail: jeff.duchin@kingcounty.gov

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP) <jqj9@cdc.gov>
Sent: Monday, March 2, 2020 5:32:32 AM
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD) <tnc4@cdc.gov>
Cc: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Subject: FW: one pager for exposed HCP

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Tom

FYI. Jeff asking about similar document for public with CoV and contacts of CoV case for when we move away from individual case management

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
Sent: Monday, March 2, 2020 8:21 AM
To: Duchin, Jeff <Jeff.Duchin@kingcounty.gov>
Subject: one pager for exposed HCP

Jeff-as requested. It is not an official CDC document but you can modify as needed. It mainly takes from existing guidance. If you need cleared CDC document this will probably take 3 days or so. Is this what you needed?

This document highlights actions healthcare personnel should take during the 14-day period they are restricted from work due to a medium- or high-risk exposure to COVID-19.

1. Do not report to work or your office.
 - a. HCP with high-risk exposures should remain at home and not participate any public activities.
 - b. HCP with medium-risk exposures should, to the extent possible, remain at home. They should avoid congregate settings, limit public activities, and practice social distancing. They should avoid long-distance travel.
2. Take your temperature twice a day and monitor yourself for respiratory symptoms (e.g., cough, shortness of breath, sore throat).
3. As long as you do not have a fever or respiratory symptoms you do not need to isolate yourself from household members but you should:
 - a. Clean your hands often and avoid preparing food for others.
 - b. Avoid sharing personal household items such as dishes, drinking glasses, cups, eating utensils, towels with other people or pets in your home. After using these items, they should be washed thoroughly with soap and water.
 - c. As long as remain asymptomatic your laundry and household cleaning can be performed per your usual practice.
4. If you develop a temperature $\geq 100.0^{\circ}\text{F}$ or respiratory symptoms you should:
 - a. Notify your established contact, which should either be your occupational health program or the health department.
 - b. Self-isolate in the home. Ideally you should have your own bedroom and bathroom.
 - c. Wear a facemask for source control if you are in a room with others or must leave the house for medical evaluation.
 - d. If presenting for medical evaluation, call ahead to notify the healthcare facility so they can prepare for your arrival.
 - e. Refer to [Interim Guidance for Preventing the Spread of COVID-19 in Homes and Residential Communities](#) for additional actions to prevent transmission of COVID-19 to others in the home.

From: Jernigan, John A. (CDC/DDID/NCEZID/DHQP)
Sent: Monday, March 2, 2020 5:32 AM PST
To: Clark, Thomas A. (CDC/DDID/NCIRD/DVD)
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 - b. Self-isolate in the home. Ideally you should have your own bedroom and bathroom.
 - c. Wear a facemask for source control if you are in a room with others or must leave the house for medical evaluation.
 - d. If presenting for medical evaluation, call ahead to notify the healthcare facility so they can prepare for your arrival.
 - e. Refer to [Interim Guidance for Preventing the Spread of COVID-19 in Homes and Residential Communities](#) for additional actions to prevent transmission of COVID-19 to others in the home.

	A	B	C	D
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36	*Changes from previous version highlighted in yellow			