# RE: De-Brief Later Today

| | |
|---|---|
| **From:** | "Wilson, Matt B. EOP/OSTP" (b)(6)                  > |
| **To:** | "Kratsios, Michael J. EOP/OSTP" (b)(6)                  , "Droegemeier, Kelvin K. EOP/OSTP" (b)(6)                  >, "Waterman, Paige E. EOP/OSTP" (b)(6)                  , "Watson, Ian D. EOP/OSTP" (b)(6)                  , "Nichols, Lisa M. EOP/OSTP" (b)(6)                  "Lattimore, Tracie B. EOP/OSTP" <(b)(6)                  >, "Baum, Kristina R. EOP/OSTP" (b)(6)                  >, "Hunter, Jordan C. EOP/OSTP" (b)(6)                  , "Hernandez, Elena R. EOP/OSTP" (b)(6)                  "Parker, Lynne E. EOP/OSTP" (b)(6)                  , "Casey, Winter EOP/OSTP" (b)(6)                  |
| **Cc:** | "Bonyun, Sean C. EOP/OSTP" (b)(6)                  |
| **Date:** | Sun, 15 Mar 2020 20:23:17 -0400 |
| **Attachments:** | Tech Task Force 15Mar20 - Raw Notesv2.docx (26.76 kB) |

All-

(b) (5)

Matt

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**From:** Kratsios, Michael J. EOP/OSTP (b)(6)                  >
**Sent:** Sunday, March 15, 2020 7:20 PM
**To:** Droegemeier, Kelvin K. EOP/OSTP (b)(6)                  ; Wilson, Matt B. EOP/OSTP (b)(6)                  Waterman, Paige E. EOP/OSTP (b)(6)                  ; Watson, Ian D. EOP/OSTP (b)(6)                  ; Nichols, Lisa M. EOP/OSTP (b)(6)                  Lattimore, Tracie B. EOP/OSTP (b)(6)                  Baum, Kristina R. EOP/OSTP (b)(6)                  Hunter, Jordan C. EOP/OSTP (b)(6)                  ; Hernandez, Elena R. EOP/OSTP (b)(6)                  Parker, Lynne E. EOP/OSTP (b)(6)                  Casey, Winter EOP/OSTP <(b)(6)                  
**Cc:** Bonyun, Sean C. EOP/OSTP (b)(6)                  
**Subject:** RE: De-Brief Later Today

1

# (b) (5)

(b)(6)

Thanks!

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**From:** Droegemeier, Kelvin K. EOP/OSTP <(b)(6)
**Sent:** Sunday, March 15, 2020 3:30 PM
**To:** Wilson, Matt B. EOP/OSTP (b)(6) Waterman, Paige E. EOP/OSTP
(b)(6) Watson, Ian D. EOP/OSTP (b)(6) Nichols,
Lisa M. EOP/OSTP(b)(6) Lattimore, Tracie B. EOP/OSTP
(b)(6) Kratsios, Michael J. EOP/OSTP
(b)(6) Baum, Kristina R. EOP/OSTP (b)(6)
Hunter, Jordan C. EOP/OSTP (b)(6) ; Hernandez, Elena R. EOP/OSTP
(b)(6) ; Parker, Lynne E. EOP/OSTP (b)(6)
**Cc:** Bonyun, Sean C. EOP/OSTP(b)(6)
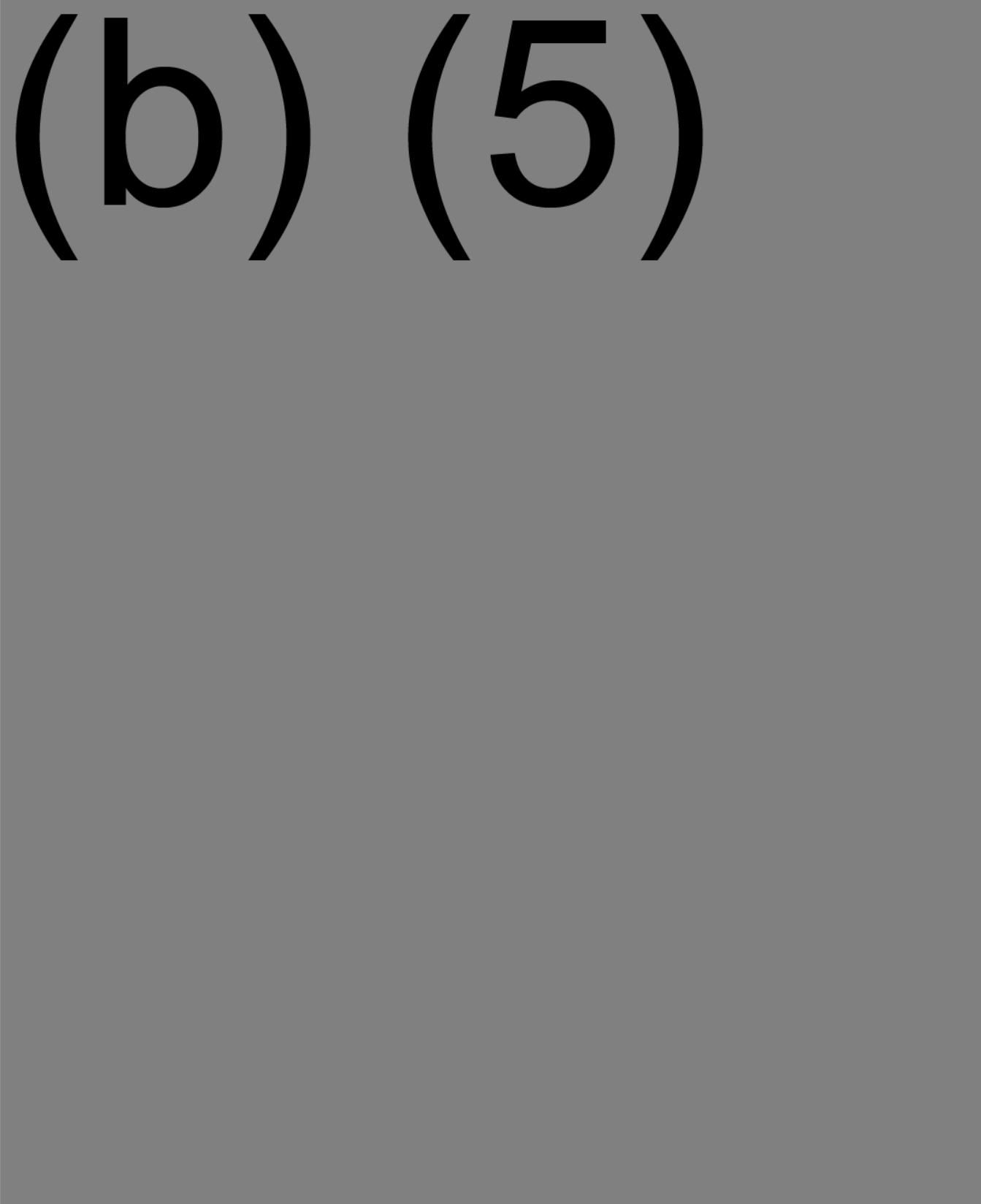**Subject:** De-Brief Later Today

Hi all,

Let's do a call at 7 pm (b) (5) Sean, (b) (5)
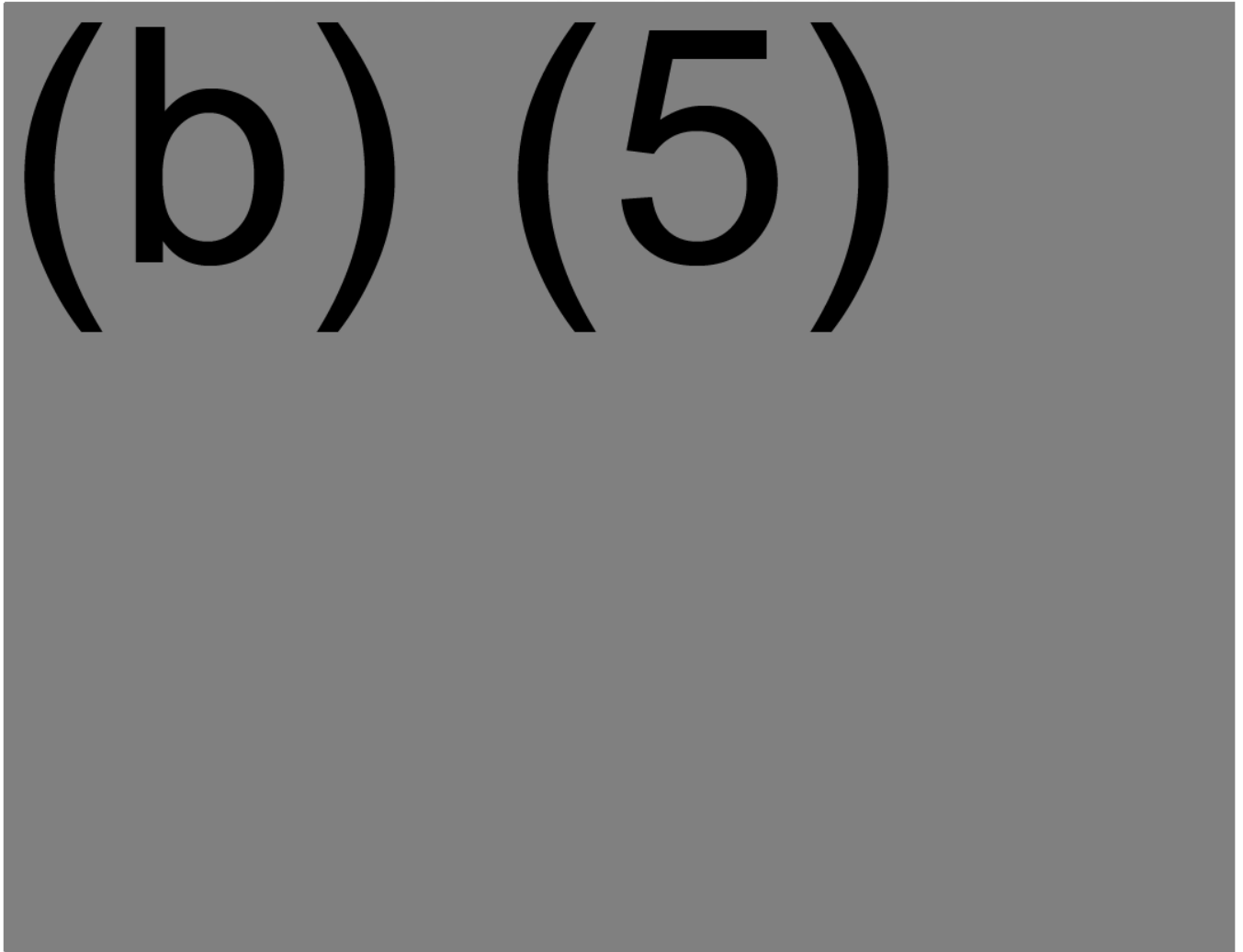
Thanks!

Kelvin

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[APG]

(b) (5)

[APG]

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[APG]

# (b) (5)

[APG]

(b) (5)

# FW: Raw Notes from Call

**From:** "Kratsios, Michael J. EOP/OSTP" (b)(6)

">

**To:** "Hernandez, Elena R. EOP/OSTP"(b)(6)

**Date:** Sun, 15 Mar 2020 20:07:37 -0400

**Attachments:** Tech Task Force 15Mar20 - Raw Notes.docx (26.04 kB)

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**From:** Wilson, Matt B. EOP/OSTP (b)(6)
**Sent:** Sunday, March 15, 2020 4:14 PM
**To:** Parker, Lynne E. EOP/OSTP (b)(6)
**Cc:** Kratsios, Michael J. EOP/OSTP (b)(6)
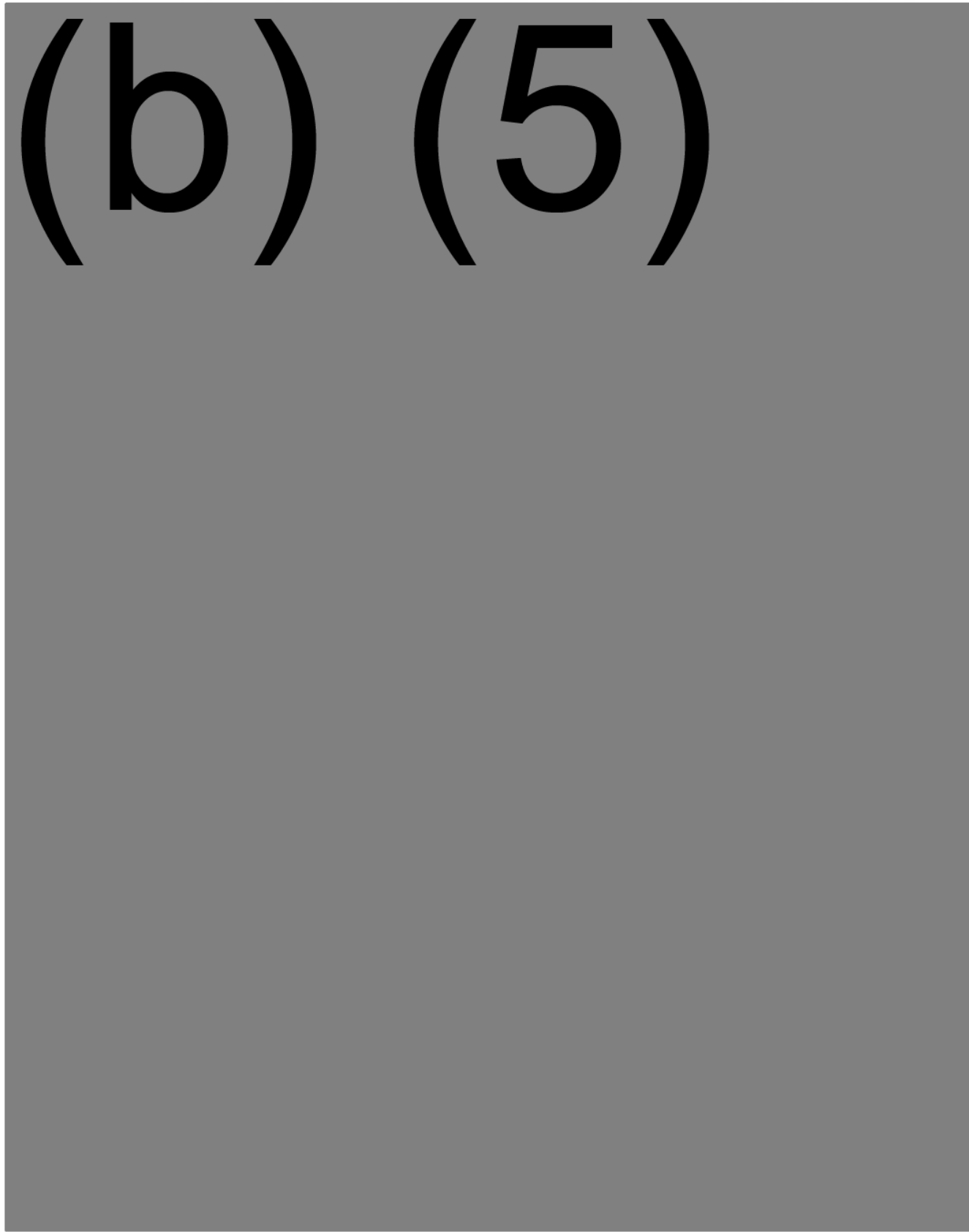**Subject:** Raw Notes from Call

Lynne-

(b) (5)

Matt

_____

Matthew B. Wilson, PhD
Senior Policy Analyst
Office of Science and Technology Policy
Executive Office of the President
1650 Pennsylvania Avenue, NW
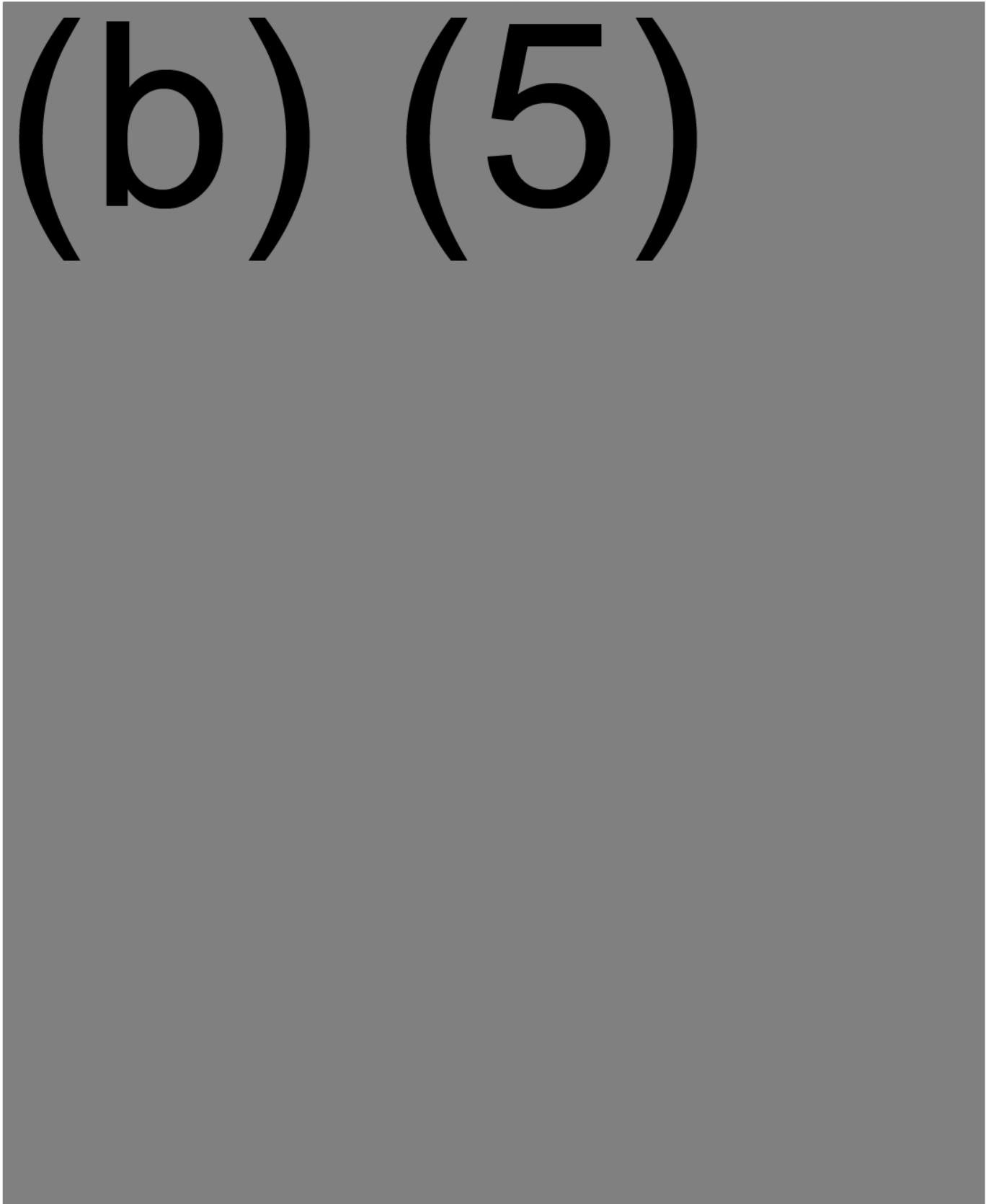Washington, DC  20502
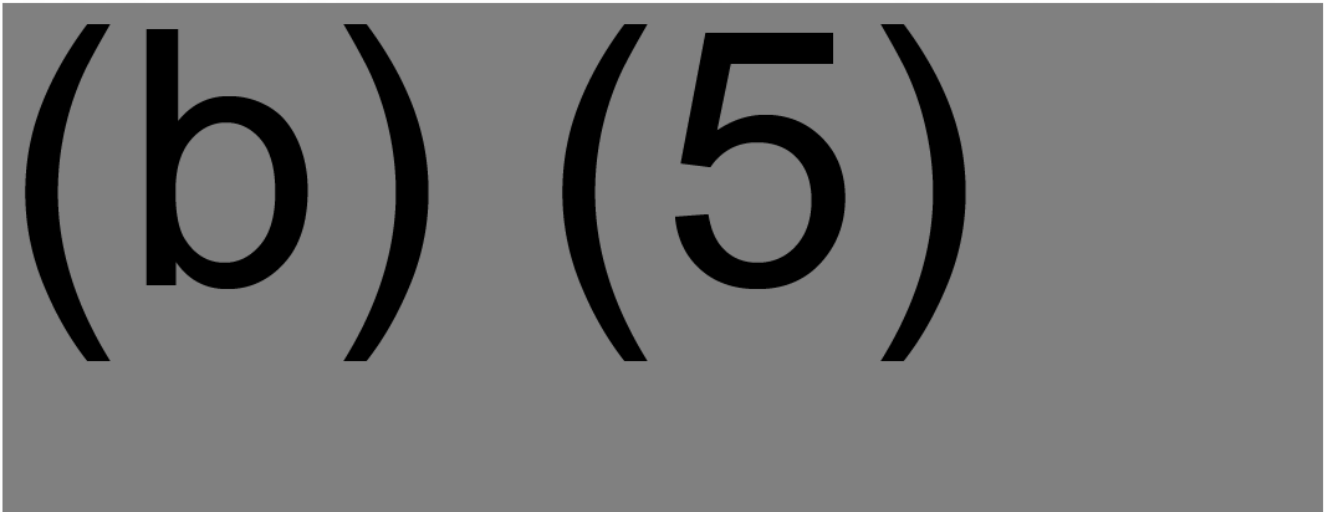(b)(6)

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[APG]

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[APG]

(b) (5)

[APG]

# (b) (5)

[APG]

(b) (5)

[APG]

# Re: [EXTERNAL] Follow-Up to Today's COVID-19 Task Force Call

**From:** Madi Jacox (b)(6)

**To:** "Kratsios, Michael J. EOP/OSTP" (b)(6)

**Date:** Sun, 15 Mar 2020 18:58:42 -0400

Truly nothing I'd rather be doing! Born and raised in Seattle, now live in New York – need to do whatever we can.

Don't hesitate to email or call (206 817 6017) if I can be of help.

Thanks,

Madi

On Sun, Mar 15, 2020 at 3:55 PM Kratsios, Michael J. EOP/OSTP <(b)(6) wrote:

> Many thanks for all your help pulling this together!

**From:** Madi Jacox (b)(6)
**Sent:** Sunday, March 15, 2020 6:35 PM
**To:** Dave Zvenyach (b)(6)
**Cc:** Kaplan, Melanie (b)(6) Anderson, Blair
(b)(6) ; Ward, Michael <(b)(6) Bud Tribble <(b)(6) ;
Ian Allen <(b)(6) Navin Vembar <(b)(6) ; Maria Comella
(b)(6) Othman Laraki (b)(6) Alicia Zhou
(b)(6)
Patty Mims <(b)(6) David Blazes
(b)(6) ; Micah Gellman (McKinsey Secondment)
(b)(6) >; Ruha Devanesan (b)(6) ; Lee Carosi Dunn
(b)(6) Joel Minton (b)(6) Josh Mendelsohn (b)(6) ;
Madison Jacox <(b)(6) Mike Ference <(b)(6)
(b)(6) ; Peter Lee (RESEARCH) (b)(6)
(b)(6) ; Sarah Cummings (b)(6) >; Mainak Mazumdar
(b)(6) ; Adam Greenberg (b)(6) ; Auren Hoffman
(b)(6) ; Cheryl Timoney (b)(6)
(b)(6) ; Ben Finkel (b)(6) ; Ron Conway <(b)(6) Julie
Samuels (b)(6) ; Liz Lee <(b)(6) Matthew Devlin
(b)(6) >; Thomas Walle (b)(6)
Parker Ence <(b)(6) ; Parker, Lynne E. EOP/OSTP
<(b)(6) >; Wilson, Matt B. EOP/OSTP <(b)(6)
Kratsios, Michael J. EOP/OSTP (b)(6)
**Subject:** [EXTERNAL] Follow-Up to Today's COVID-19 Task Force Call

Hi, All –

Many thanks for joining us in kicking off our response to COVID-19.

A few notes and next steps, below –

If you shared dial-in information for today's call with a colleague, please let me know. I will add their email to future communications. In the interim, please forward this email to those you included.

We've divided into three workstreams:
1. Location data source / inputs.
2. Clinical health data sources / inputs.
3. Data hosting, aggregation, and privacy.

If you would like to participate in these workstreams, please send Dave Zvenyach an email at (b)(6) . In an effort to be comprehensive about that work, identify what gaps exist, and what challenges remain, Dave is developing draft charters for each workstream that will anchor our work in the immediate future and beyond Wednesday's call (an example of these draft charters is attached). He will be setting up meetings on Tuesday afternoon for each of the workstreams.

Picking up on Peter Lee's comment, we want to ensure that we have raised / discussed major considerations before reconvening as a larger group on Wednesday afternoon. To that end, if you have any specific comments or concerns on any of the workstreams that you want raised during the Tuesday workstream meeting, please email the comments, concerns, and questions to Dave ASAP.

Thank you for the suggestion about ensuring tight coordination with various other workstreams. In the spirit of that suggestion:
1. Josh will be working closely with Lynne to ensure that we are plugged in

appropriately with other existing government coordination mechanisms;
2. We will defer specific work on the telemedicine initiative to that being led by

CTIA; and
3. For each workstream, we are including a topic of discussion to source other

known working groups, efforts, and opportunities to coordinate our efforts.


Finally, you should have been added to a Slack channel for increased and coordinated communication. Please email me if you still need to be added.


Any additional questions, don't hesitate to be in contact.


A huge thank you for working so quickly, let's get moving –


Madi Jacox

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Investor | [hangar.is](hangar.is)

# RE: [EXTERNAL] Follow-Up to Today's COVID-19 Task Force Call

| | |
|---|---|
| **From:** | "Parker, Lynne E. EOP/OSTP" (b)(6) |
| **To:** | Madi Jacox (b)(6) |
| **Cc:** | "Parker, Lynne E. EOP/OSTP" (b)(6) |
| **Date:** | Sun, 15 Mar 2020 19:36:55 -0400 |

Many thanks.

**From:** Madi Jacox (b)(6)
**Sent:** Sunday, March 15, 2020 7:01 PM
**To:** Parker, Lynne E. EOP/OSTP (b)(6)
**Subject:** Re: [EXTERNAL] Follow-Up to Today's COVID-19 Task Force Call

Hi, Lynne –

Thanks for the notes. I was too quick to send this out! The names you copied should be added now.

Re: existing government coordination, fellow by the name of Rakesh Bharania, I believe: Director, Humanitarian Impact Data at Salesforce (b)(6)

Madi

On Sun, Mar 15, 2020 at 3:54 PM Parker, Lynne E. EOP/OSTP (b)(6) wrote:

> Thanks, Madi. We forwarded the invitation to Joe Bresee (b)(6) ), Matt Biggerstaff (b)(6) ), Alan Davidson (b)(6) , Rob Sentz (b)(6) Andrew Crapuchettes (b)(6) ), and Daniel Gross (b)(6) ). I hope I'm not forgetting someone!
>
> Also, for the second item #2, the industry association is CTA (not CTIA).
>
> Also, who was the gentleman who talked about existing government coordination mechanisms? Can you share his email?
>
> Thanks,
> Lynne

**From:** Madi Jacox <(b)(6)

**Sent:** Sunday, March 15, 2020 6:35 PM

**To:** Dave Zvenyach (b)(6)

**Cc:** Kaplan, Melanie (b)(6)                    ; Anderson, Blair
(b)(6)                    ; Ward, Michael (b)(6)              Bud Tribble
(b)(6)                ; Ian Allen (b)(6)              Navin Vembar
(b)(6)                    Maria Comella (b)(6)              >; Othman Laraki
(b)(6)                ; Alicia Zhou (b)(6)
                              Patty Mims (b)(6)
                    ; David Blazes (b)(6)                    Micah Gellman (McKinsey
Secondment) (b)(6)                    Ruha Devanesan (b)(6)              ; Lee
Carosi Dunn (b)(6)                Joel Minton <(b)(6)              ; Josh Mendelsohn
(b)(6)              ; Madison Jacox (b)(6)              Mike Ference (b)(6)
                              ; Peter Lee (RESEARCH)
(b)(6)                    ; Sarah Cummings
(b)(6)                    ; Mainak Mazumdar (b)(6)              >; Adam
Greenberg (b)(6)              Auren Hoffman (b)(6)              >; Cheryl Timoney
(b)(6)                    Ben Finkel
(b)(6)              ; Ron Conway (b)(6)              ; Julie Samuels (b)(6)              ; Liz Lee
(b)(6)                    ; Matthew Devlin (b)(6)              Thomas
Walle <(b)(6)                    Parker Ence
<(b)(6)              ; Parker, Lynne E. EOP/OSTP (b)(6)              >; Wilson, Matt B.
EOP/OSTP (b)(6)                    ; Kratsios, Michael J.
EOP/OSTP <(b)(6)                    >

**Subject:** [EXTERNAL] Follow-Up to Today's COVID-19 Task Force Call

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If you shared dial-in information for today's call with a colleague, please let me know. I will add their email to future communications. In the interim, please forward this email to those you included.

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Any additional questions, don't hesitate to be in contact.

A huge thank you for working so quickly, let's get moving –

Madi Jacox

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Investor | hangar.is

# RE: [EXTERNAL] COVID-19 Tech and Research Task Force:
# Working Group Calls

**From :**    "Parker, Lynne E. EOP/OSTP" (b)(6)

**To:**    "Wilson, Matt B. EOP/OSTP" (b)(6)                    , "Kratsios, Michael J. EOP/OSTP" (b)(6)                    >

**Cc:**    "Parker, Lynne E. EOP/OSTP" (b)(6)

**Date:**    Mon, 16 Mar 2020 20:16:35 -0400

Thanks, Matt. (b) (5)

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**From:** Wilson, Matt B. EOP/OSTP (b)(6)
**Sent:** Monday, March 16, 2020 7:42 PM
**To:** Parker, Lynne E. EOP/OSTP <(b)(6)                    Kratsios, Michael J. EOP/OSTP (b)(6)
**Subject:** RE: [EXTERNAL] COVID-19 Tech and Research Task Force: Working Group Calls

Just MK and Lynne

# (b) (5)

Matt

**From:** Madi Jacox (b)(6)
**Sent:** Monday, March 16, 2020 7:34 PM
**To:** Parker, Lynne E. EOP/OSTP (b)(6)                    ; Wilson, Matt B. EOP/OSTP (b)(6)                    ; Kratsios, Michael J. EOP/OSTP (b)(6)
**Cc:** Dave Zvenyach (b)(6)                    Josh Mendelsohn (b)(6)
**Subject:** [EXTERNAL] COVID-19 Tech and Research Task Force: Working Group Calls

Hi, Lynne, Matt, and Michael –

Informing you of three working group calls taking place tomorrow,
1. Privacy and Hosting (1:00-2:20pm EST)
2. Location Data (2:30-3:50pm EST)
3. Clinical Data (4:00-5:20pm)

The goal is to illicit initial ideas and concerns from the community that is participating in each call – our broader Task Force has broken into these three sub-groups for quick sprints around charter-drafting and work output.

Including you on calendar invites in the event you would like to listen in, although no pressure to do so.

We'll be coming back together as a broader group on Wednesday (03/18) at 3pm EST to share learnings.

Thanks,

Madi


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Investor | [hangar.is](hangar.is)

# RE: [EXTERNAL] COVID-19 Tech and Research Task Force: Working Group Calls

| | |
|---|---|
| **From:** | "Parker, Lynne E. EOP/OSTP" (b)(6) |
| **To:** | Madi Jacox (b)(6) "Wilson, Matt B. EOP/OSTP" (b)(6) , "Kratsios, Michael J. EOP/OSTP" (b)(6) |
| **Cc:** | Dave Zvenyach (b)(6) Josh Mendelsohn (b)(6) >, "Parker, Lynne E. EOP/OSTP" (b)(6) > |
| **Date:** | Mon, 16 Mar 2020 20:18:54 -0400 |

Thanks much, Madi!  We look forward to getting an update from you, at your earliest convenience.

Lynne

**From:** Madi Jacox (b)(6)
**Sent:** Monday, March 16, 2020 7:34 PM
**To:** Parker, Lynne E. EOP/OSTP (b)(6) Wilson, Matt B. EOP/OSTP
<(b)(6) Kratsios, Michael J. EOP/OSTP (b)(6)
**Cc:** Dave Zvenyach (b)(6) ; Josh Mendelsohn <(b)(6) >
**Subject:** [EXTERNAL] COVID-19 Tech and Research Task Force: Working Group Calls

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Thanks,

Madi


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Investor | [hangar.is](hangar.is)

# [EXTERNAL] Re: COVID19 Tech group

**From:** Madi Jacox <(b)(6)

**To:** Christopher Padilla (b)(6)

**Cc:** Josh Mendelsohn <j(b)(6)

**Date:** Mon, 16 Mar 2020 14:08:15 -0400

Many thanks, Lynne, moving you to bcc.

Chris, wonderful to be connected and hear that IBM is eager to help. Happy to jump on the phone today to give you a high-level overview of work to date. 3-4pm EST and 6pm EST on are open.

In advance, we have three working groups moving forward on initiatives:
1. Location data to enable researchers and decision makers
2. Clinical data to enable researchers decisionmakers
3. Hosting and privacy to architect a safe and secure environment for the above
Would love to plug IBM in wherever might be best.

Finally, we have calls scheduled tomorrow for our smaller working groups (Privacy/Hosting at 1pm Location Data at 2:30pm), and Wednesday (3-4pm EST) with the broader Task Force. Calendar invites forthcoming, but of course more than happy to include any additional folks from IBM.

On Mon, Mar 16, 2020 at 10:52 AM Parker, Lynne E. EOP/OSTP (b)(6)                    > wrote:

> Hi Chris -- I'm copying Josh Mendelsohn and Madi Jacox, from Hangar, who have set up this industry group to help collectively address some tech-based COVID-19 activities. They can fill you in on this industry group's efforts.
>
>
> Madi/Josh – IBM is eager to help. Please loop them into your industry group's activities.
>
>
> Many thanks,
>
> Lynne
>
>
> *Lynne E. Parker, Ph.D.*
>
> Deputy Chief Technology Officer of the United States
>
> The White House

Office: (b)(6)

--
Investor | hangar.is

# [EXTERNAL] COVID-19 Tech and Research Task Force:
# Updated Workstream Documents

| | |
|---|---|
| **From:** | Madi Jacox (b)(6) |
| **To:** | "Parker, Lynne E. EOP/OSTP" (b)(6) , "Wilson, Matt B. EOP/OSTP" (b)(6) , "Kratsios, Michael J. EOP/OSTP" (b)(6) |
| **Cc:** | Dave Zvenyach (b)(6) Josh Mendelsohn (b)(6) |
| **Date:** | Tue, 17 Mar 2020 20:19:12 -0400 |
| **Attachments:** | Clinical Health Data Workstream.pdf (56.45 kB); Hosting & Privacy Data Workstream.pdf (45.54 kB); Location Data Workstream.pdf (64.75 kB) |

Good Evening, OSTP –

Attached, please find our updated workstream documents. In advance of tonight's update email, I want to make sure you have access to what will otherwise be presented via Google Doc.

Looking forward to diving into these further on tomorrow's call.

Be well,

Madi

--
Investor | hangar.is

**COVID-19 Tech Taskforce**
**Workstream Name: Clinical Health Data**

**Members: AWS, Color Genomics, ESRI, Gates, Google, Ro, NAVIGO**

**Goals and opportunities**

- Assist researchers at the CDC, academic institutions, and other public-health officials to capture clinical location data to assess resource capacity, effectiveness of policy interventions, community education, and disease surveillance.
- Gather patient information (including behaviors, symptoms, and risk factors) in order to create a model that can act as a high-value entry point.
- Assist health systems with de-identification and anonymization tasks.
- Understand and comply with relevant privacy and health regulation without impeding our effectiveness.
- Clearly define the problem we are trying to solve so we can coordinate and execute as quickly and effectively as possible.
- Leverage data to help prevent an unnecessary bottleneck on our medical resources.
- Clearly identify the symptoms of COVID-19 in particular geographies to promote effective testing and healthcare response.

**Planned operation outcome**

Identify and provide clinical datasets for use in developing forecasting models and informing disease surveillance.

**Ideal operation outcomes [disclaimer: we don't know whether any/all of these are likely or their feasibility; they're meant to be illustrative of the types of analyses possible with broader clinical-data availability]**

- Aggregate accurate information at federal, state, and county level.
- Develop forecast models predicting incidences and correlating them to key data points, like number of available hospital beds and resource needs.
- Maximize limited testing resources by ensuring that the right groups of individuals are tested. For instance, this could be determined based on the location data of individuals who have tested positive.
- Along with location-based information, determine the cause of the spread of COVID-19 and mitigate continued spread. For instance, consider creating a rating system indicating the danger of the spread of COVID-19 in certain communities.
- Track the different strains and expressions of the illness. There are multiple strains of varying severity in Europe.
- Develop contact tracing solutions to help reduce spread at the top of the funnel. This approach has been used successfully in other countries.

- Follow interoperability standards like FHIR to allow for easier collaboration.
- Understand comorbidity, including the symptoms displayed and how they manifest so healthcare can improve outcomes.
- Determine whether task force resources are best spent assisting CDC and other agencies with their own questions, or in posing our own.
- Reduce the likelihood of additional mutagenesis. This could include a review of the potential presence of the virus in the United States at an earlier stage.
- Provide treatments tailored to specific strains of COVID-19. Two key considerations:
  - (1) Maintain a supply chain that accurately allocates emerging medicines;
  - (2) Set clear guidelines and establish a decision tree reflecting the risk/reward of particular kinds of treatments in different geographies.
- Understand interagency / intergovernmental collaboration and information sharing.

**Other known working groups / efforts**
- NAVIGO has a public-facing assessment that could be used for screening, education, data creation/collection, and other ideas to help improve the interaction at testing centers. Prototype here:
  (b) (4)
- CTA's public link to telehealth companies questionnaire
- There is a substantial amount of interagency / intergovernmental work that is already happening; one of the challenges will be to ensure appropriate coordination among government entities and the task force.

**Concerns**

- Working effectively while complying with regulation, including HIPAA and PHI, and maintaining ethical data-sharing policies. Key considerations here will be understanding who is using the data (e.g., is it open source) and what level of precision will be provided.
- One meta-consideration is the government's tolerance for data aggregation / centralization. I.e., should we (1) gather large amounts of data and allow for good centralized governance to use that data to make decisions or (2) should we work to narrow the scope of questions now so we don't expend time sorting through information after we've gathered it?

**COVID-19 Tech Taskforce**
**Workstream Name: Hosting and Privacy**

**Members: AWS, Camber, ESRI, Facebook, Google, Harvard School of Public Health, Microsoft, Mozilla, R4, SAP, Salesforce**

**Goals and opportunities**
To assist researchers at the CDC, academic institutions, and other public-health officials, capture non-clinical location data to assess contact rates, social distancing, effectiveness of policy interventions, and disease surveillance.

**Planned operation outcome**
Create a secure, privacy respecting environment for researchers to aggregate and analyze data to forecast and model COVID-19 related location and clinical data.

**Existing data**
At the moment, there are no publicly available, or aggregated datasets generally available to researchers. Although some companies have aggregated data, the aggregated data are not made publicly available and, at the moment, are limited only to a set of academic researchers and epidemiologists. As of Tuesday, March 17, 2020, none of the members of the task force have agreed to share data through the task force without further definition of requirements.

**Concerns**
The primary concerns related to privacy relate to understanding the extent of consent at the point of data collection, considerations around deidentification and aggregation, guarding against re-identification, maintaining clear guidelines around use of data (including the roles of individuals accessing data, data storage/retention, and data reuse), and around transparency of work. Additionally, security and compliance (both technical and regulatory) present challenges for any data sharing effort.

**Anticipated Deliverables**
- A "Principles" document. We need a set of agreed-upon principles to help guide technical and implementation details. This will guide all subsequent deliverables for the task force.
- Assistance to entities around deidentification/anonymization efforts (provided sufficient regulatory / legal approval/authority)

**COVID-19 Tech Taskforce**
**Workstream Name: Location Data**

**Members: Camber, ESRI, Facebook, Google, Harvard School of Public Health, Nielsen, Unacast, Uber, Veraset**

## Goals and opportunities
To assist researchers at the CDC, academic institutions, and other public-health officials, capture non-clinical location data to assess contact rates, social distancing, effectiveness of policy interventions, and disease surveillance.

## Planned operation outcome
Identify and provide non-clinical geolocation datasets for use in developing forecasting models and informing disease surveillance and policy actions to prevent further spread of the disease. We should leverage existing data to make mathematically informed decisions regarding where to place resources.

## Possible questions to be answered with our models

- Are social distancing policies being obeyed? Are they effective?
- Are people staying at home? How do we support them?
- What kind of specific messaging works and what doesn't to encourage desired outcomes?
- What is causing spread in one area, and how does it allow us to mitigate the risk of spread in other areas?
- What patterns are we seeing in transportation? Are people moving away from public transportation in favor of private means?
- How can we use data collected to ensure we maintain a supply chain that allows the necessary resources to be allocated to those communities that need them most (e.g., respirators, test kits, etc.)?
- How can we coordinate inbound requests to private industry for information to different companies from different agencies and branches of government?

## Possible products

What are the deliverables that government needs from us? We proposed the following:

- Development of a data pipeline
- Development of coordinated dashboards
    - Ideally dashboards will be considered an authoritative source
    - Information could be gathered from WHO, CDC, and foreign governments

- Information gathered could include: number of individuals tested, confirmed infected, still under investigation, school closures, unemployment, other business metrics, etc.

**Existing data**

- Mobile location data (Camber/Veraset/Unacast)
- Trip data (Uber)
- Dashboards (ESRI)
  - Data on hospital beds, number of beds (existing), staffed beds (supported), ICU beds and bed utilization rates.
  - https://coronavirus-resources.esri.com/
- Media behavior changes (Nielsen)
- Potential sociodemographic information and point of interest information

**Other known working groups / efforts**

**Concerns**

- Engaging federal, state, and county government so we don't lose time in coordinating
- Complying with regulation and establishing the appropriate data aggregation threshold
  - Clear messaging that data is aggregated and not personalized
  - Clear about our data aggregation threshold. This will be different based on size and density of community, and whether it's an open or closed dataset
- Privacy (see Hosting/Privacy workstream)
- Coordination
- Redundancy
- Sparsity of data / data quality
- Pipeline access/aggregation/hosting
- Update frequency
- Ethics/punitive use of data
- Ensuring the models we build are effective in future, and not models of past. We need to start predicting, or we won't be helpful in allowing gov to execute on plans and policies for current use case of prevention

**Requests to the government**