Department of Veterans Affairs Veteran Health Administration

Ipsos Biosurveillance Atlas and
Empirically Based Disruption Response

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GAME CHANGERS

Ipsos

Measuring and Adapting to Disruption

As the pandemic involving the COVID-19 virus continues to mature in the U.S. and worldwide, the Department of Veterans Affairs (VA) and Veterans Health Administration (VHA) is in a unique position as the largest integrated healthcare system in the country. VA is tasked with the difficult challenge of addressing the health needs of our nation's Veterans while being highly scrutinized by public perceptions. VA is not a stranger to being held to an extremely high standard as they provide care at thousands of health care facilities including VA Medical Centers and outpatient sites of varying complexity in the national spotlight. Preparing to and serving more than 9 million enrolled Veterans during a global pandemic is the most disruption VA has seen since inception. Examples of this disruption are:

- **The Fourth Mission:** In times of national crisis, such as the current pandemic, VA provides services to the nation based on requests from states, while being clear that Veterans are first. On April 14th, 2020, VA Secretary Robert Wilkie announced "Helping Veterans is our first mission, but in many locations across the country we're helping states and local communities. VA is in this fight not only for the millions of Veterans we serve each day; we're in the fight for the people of the United States"
- **High-Risk Patient Population:** The majority of the VA patient population is considered especially vulnerable to COVID-19 due to age or pre-existing medical conditions
- **Telehealth, MISSION Act, and Community Care:** For routine appointments, VA recommends using telehealth (phone or video) to schedule, reschedule, or cancel appointments. Telehealth appointments will rise during the pandemic for both COVID-19 screeners and typical out-patient visits, which may create a new-normal for out-patient care at VA
- **Supply Chain:** The federal emergency stockpile of medical equipment and supplies including ventilators and Personal Protective Equipment (PPE) is dwindling and supply chains are forced to rapidly adapt like never before

Ipsos Biosurveillance Atlas

To remain agile in this rapidly changing environment, Ipsos, in partnership with VA through a Cooperative Research and Development Agreement (CRADA) created a tool **that combines real-time data social media, newspaper and other digital public opinion streams with traditional gold-standard survey** applying **proprietary algorithms** and **deep knowledge of environments** to make these data streams and outputs actionable. Our approach further relies on integrating insights from social media analytics, Internet of Things data, financial transaction and Human Movement data to assess both national and hyper-local social disruption associated with COVID-19, including local adaptation to health crisis, government countermeasures, and to identify health-related digital disinformation campaigns ("fake news"). These real-time data streams can be fully integrated with existing survey platforms, to create an omnichannel feedback tool. With the priority of creating better health outcomes for our Veterans and citizens, real-time knowledge of public perceptions and opinions can help inform VA on how to strategically communicate with patients, caregivers, and the nation.

Human Movement

Anonymized cell phone data provides insight into

1) local adaptation to disease, including decrease in attendance of business facilities

2) change in net migration due to COVID-19

3) change in staff attendance at local health facilities

4) access to underserved populations.

Anonymized Financial Transactions

Anonymized geoaggregated credit card transactions provide insight into

1) purchasing patterns associated with COVID-19 response

2) purchasing pattern associated with disease fleeing behavior

3) potential shortages of COVID-19 supplies.

Search Trend Data

Localized search patterns provide insight into

1) COVID-19 information awareness

2) population reaction to government countermeasures

3) attempted self-countermeasures (e.g. searching for a remedy, specific drug and/or facility).

Social Intelligence

Social media data captured by AI algorithms provide insight into

1) local adaptation to disease

2) public perceptions of government effectiveness in handling crisis

3) digital disinformation campaigns

4) effectiveness of individual medical facilities

5) patient/staff experience at designated COVID-19 facilities

6) local reaction to proposed changes in COVID-19 related regulations.

Website Traffic

Local, national, public health, and medical agencies' website traffic provide insights into

1) which agencies do people turn to for information about COVID-19

2) what policies/ public health/ medical advice are people looking for.

Digital Newspapers

U.S.-based newspapers data provide insight into

1) perceptions of local authorities' response to COVID-19 crisis

2) local adaptation to evolving public health event.

Filling the Gaps

The platform provides insights from real-time data sources to create a tool for analyzing public understanding on the most important issues for decision-makers regarding COVID-19 as they are happening. The platform allows users to aggregate insights at the national level or alternatively zoom in to a specific locality for hyper-local insights. The Biosurveillance Atlas places the power of narrative-building in the hands of the users through its interactive features, allowing users to explore for themselves what the data says.

Benefits of Utilizing New Data Streams

- Does not add to survey fatigue
- Allows for unbiased data self-reporting
- Improves efficiency of traditional sampling designs
- Improves staff response times and lessens staff burden for data collection
- Connects patients with needed resources more quickly
- Monitor the behaviors of patients remotely and forecast mobile health demand

Examples of Biosurveillance Atlas Data that Enables Insights into Critical VA Issues

- Sentiment towards new policies, programs, and legislation
- Real-time reactions to news and media about the agency
- Outpatient/inpatient wait times as monitored by third-party data streams
- VA Mobile Application usage, e.g. myHealtheVet
- Data from those Veterans that are not plugged into VA care and feedback from hard-to-reach populations
- Data collection from a growing number of Digital Natives who may be seeking care elsewhere or not seeking care at all
- Veteran posts about frustrations or complaints on Twitter
- Caregiver posts on Facebook about confusion connecting to community provider
- Cell phone triangulation data to estimate how long it takes a Veteran to travel to a facility, how long their visit is for, and back home
- Monitor reactions to news coverage of VA policy changes, including Fourth Mission protocol updates
- Track time in waiting rooms using cell phone data for both patients and staff

Sample Use-Cases from Biosurveillance Atlas

- **Supply Chain Efficiencies:** Use the Atlas to predict where shortages in medical supplies in COVID-19 hot spots, e.g. ventilators, Personal Protective Equipment (PPE), and bed shortages
- **Test Kit Administration:** Leverage Atlas indicators and insights to inform test kit administration at national, state, and county level
- **Manage Vulnerable Patient Populations:** Track those who might delay seeking care for a stroke or heart attack because they do not want to risk going to a hospital amidst the pandemic
- **Mental Health Monitoring:** Monitor patients currently suffering from or who are at-risk for mental health crises due to social isolation
- **Telehealth Monitoring:** Track how patients are using telehealth and their satisfaction with these services
- **Extend Respondent Sample Reach:** Capture Caregiver issues, behaviors, and sentiments such as experiences navigating VHA for the Veteran(s) in their care
- **Employee Wellness/Mental Health Checks:** Track employee to patient ratio, employee discussion of working conditions, and hours through quick surveys
- **Violence Tracking:** Track instances of domestic or self-directed violence discussions and points for intervention
- **Media Monitoring:** Monitor COVID-19 related media reactions to identify fake-news sources and general sentiment
- **Manage Patient Experience Expectations:** Measure the changing attitudes of patients as they adapt to healthcare at VA facilities, in the community, and via telehealth
- **Fourth Mission Patient Data:** Gather patient experience data from non-Veterans that receive care at a VA facility
- **Telehealth "site" Visit:** Conduct in-depth qualitative research on the experience of patients using telehealth from the perspective of the patient, provider, and other touchpoints along the way
- **Journey Mapping:** Map a patient's journey through receiving atypical VA care by way of telehealth, community care, or other outlets
- **Unearth Connection Points:** Identify specific subpopulations of Veterans where VA could host a virtual community, craft tailored messaging, and engage the population

Monitoring a world that changes drastically each day requires flexibility in developing and integrating data sources. VA must utilize multiple data streams gain a unified picture of the Veterans, families, caregivers and survivors they serve to stay abreast of current issues. Ipsos, LLC has a team dedicated to the collection, integration, and interpretation of data obtained from a variety of sources. We are uniquely positioned as we are intimately familiar with current VA experience data collection, and we look forward to helping VA further its mission by fully integrating new data streams with existing survey platforms to create an omnichannel feedback tool. During these unprecedented times, our duty is to help VA make sense of what will likely be one of the biggest behavioral shifts in our lifetime by making it possible to be intimately connected and engaged with stakeholders. Agile crisis management is needed more than ever during times of uncertainty so we all emerge stronger, faster, and smarter.

Beyond the Atlas

Ipsos has a wide range of capabilities to further provide insights into unique populations and emerging trends with world renowned researchers, patented data analytic tools, and expert advisory professionals. These services include:

Focus Groups & In-Depth Interviews: Ipsos has expertise in discussion guide development and in-depth interview techniques to capture detailed information on people's lives and views and are trained in focus group moderation to get more in-depth information on the "hows and whys" of knowledge, attitudes, beliefs and behaviors. Focus groups can be conducted both in-person and virtually.

Online Bulletin Boards & Community Panels: Community panels provide a quick turnaround, cost-effective tool for reaching target audiences. Ipsos hosts online bulletin boards where participants interact over a 3-day period, allowing more time for reflection and encouraging interaction.

KnowledgePanel®: KnowledgePanel® is the largest and most well-established online panel that is representative of the adult U.S. population with 60,000+ members and 2,200+ profile variables. Probability-based sampling produces credible unbiased point estimates that can be reported with confidence intervals. The Panel is used by clients to inform public debate and policy, meet regulatory reporting requirements, or advance business strategy through accurate market sizing and more.

Ipsos Omnibus: *Ipsos eNation* is a daily overnight online omnibus, that provides a fast turnaround, affordable custom research, flexibility, and attention to detail in a rapid environment. Ideal for gauging public opinion and reactions to specific issues, crisis communications planning, understand attitude, usage, and awareness of brands and services. *Ipsos Global Advisor* is in 28 countries, monthly, online research service used to generate information for our media partners and clients. International Research completed within two weeks from questionnaire to final tables.

Impact Evaluation: Assessment of impact on outcomes, based on data and accompanied by recommendations. Examples: business process impact on performance, customer experience, and cost efficiency; Policy change impact on agency programs or constituents; Social program impact on targeted outcomes.

Program and Research Design: Trusted research and advisory experts to optimize the design of health services programs and research projects to drive meaningful results. Examples: Project planning for research and intervention projects; Mission engineering and organizational strategic planning; Advanced data analytics to guide program direction; Development of performance measures and assessment of key objectives.

Technical Assistance and Quality improvement: Clinical intervention and organizational strategy and implementation support to streamline and improve health services delivery. Examples: On-site technical assistance guided by data-driven recommendations; Pilot interventions; Business process mapping, planning, and improvement; Best practices and guidance documents.

Change management and Insight Delivery: Uncovering strategic insights from multiple complex data streams and corresponding delivery of them throughout client organization. Examples: Advanced analytics to integrate data from multiple sources; "Big Data" delivery via dashboards and data portals; Socialization of results via strategic communications efforts, trainings, and webinars; Clearinghouse services and knowledge management.

System Improvement, Interface Design, and Usability Testing: Ipsos Human Centered Design/User Experience approach can be applied to a variety of user experience evaluation methods and techniques that add insight into the technical design process, including observation techniques, qualitative and quantitative research, the creation of personas, journey mapping, ethnographic research, longitudinal studies, expert review, iterative user testing. These methods focus on understanding the needs, barriers and goals of the end users—our Veterans, VA employees, and (potentially) their families. Customer research for technical designs can involve conducting qualitative research such mentioned previously, and other methods as appropriate to conduct such as usability tests, A/B tests, and other experiments to improve requirements.

Mystery Shopping: is an observational research methodology that ensures consistent delivery on promises made. Trained "shoppers" to go through product or service interactions across your enterprise and report back with a detailed and objective account of their experience. Mystery shopping can help clients understand what their average customer is experiencing, what staff behaviors should be acknowledged or rewarded, and what parts of the customer service journey can be improved. The results can be aggregated and used to identify and remedy systemic breakdowns of the desired and intended customer experience. This information can then be analyzed in multiple ways—by location, time—to support tactical and strategic perspectives.

About Ipsos

Ipsos is the third largest social science research firm globally, employing over 18,000 research professionals around the world and conducting millions of surveys per year. The Ipsos team includes researchers trained at the PhD and Master levels with experience in all stages of the research life cycle who are committed to providing the VA with rigorous research that can inform policy and treatment options for Veterans. Our broad experience includes providing strategic survey research, data analytics, and advisory services on healthcare quality improvement for government, hospitals, integrated health systems, national and regional health insurers, and other health provider organizations. For over 20 years, we have managed and implemented large-scale surveys, studies, and other healthcare research programs for the Veterans Health Administration (VHA), the Defense Health Agency, the Army Medical Command, and a number of major civilian health insurers and providers.

Ipsos maintains a dedicated in-house research group that specializes in conducting patient experience research for the nation's largest private and public-sector healthcare providers. We have a proven track record of providing our clients with methodological innovations, highly cost-effective data collection strategies, and improved reporting structures. Supporting this research group, Ipsos' RAD **Risk Analytics Division (RAD)** combines **real-time data streams** with traditional survey data, applying **proprietary algorithms** and **deep knowledge of environments** to make these data streams and outputs useful. The team uses social media analytics, Internet of Things data, Human Movement data, and satellite imagery to provide political risk forecasting, rapid humanitarian crisis assessments, and real-time monitoring of population attitudes.