



# **The need for more up-to-date statistical data combined with a new common geographic area**

**For managing global problems**

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**EFGS 2020 Virtual Conference**

## The Problem Statement

- An outcome of the GSGF includes integrated statistical and geospatial information at small enough levels of geography and on a common geographic frame to address current and future challenges that likely is unattainable for many purposes on the current path.

## Observations

- From Dominik Rozkrut, President of Statistics Poland outlined important principles for this proposal of ideas
  - The correct resolution of the data is needed for decision-making, etc.
  - Variable methods of data collection is the right future for all of us
- Janusz Dygaszewicz reminded us of the unique and productive objectives of the EFGS where statisticians and geospatial experts come together from NSIs and NMCAAs on equal terms
  - The EFGS is expanding beyond Europe with 60 countries worldwide and influences future directions

## **“Absence of Statistical Data at Small-Enough Levels of Geography”**

- Globally, detailed characteristics of the population rarely are available at small or the smallest levels of geography.
- Where data is available, frequently it is made possible by a census, usually on a 10-year incremental cycle.
  - More frequent data collection (e.g. annual) on detailed characteristics is not conducted by many countries.
- Release of statistical data currently is increasingly challenged by privacy concerns.



## Annual Survey Benefits

- Data more accurately reflect current situation and conditions
- Decision-makers have up-to-date data reflecting current conditions
- Standard questions show longitudinal results for small areas
- New questions can be added to reflect new or changed circumstances.
- Positive impact on data user community

## Characteristics of an Annual Survey

- A maintained address list (IGIF Fundamental Data)
- Using the address list, establish the statistical survey Frame
  - Includes the universe of addresses in a census or survey
  - Assures national coverage
  - Used as a control for respondent participation
  - Serves as the source for sample survey selection based on specified criteria
  - Is an improvement for countries currently without an address list

## “Absence of Geospatial Information at Small-Enough Levels of Geography”

- There is an inconsistent network of geographic areas
  - Sometimes within the same country
  - Definitely from a global view
- Small areas sometimes have low numbers of data points triggering concerns about:
  - Disclosure avoidance, privacy (perceived and real), confidentiality, and differential privacy (to address linkage and other challenges)
    - Study has shown that with data on Zip code, gender, and birthday = Claim that 87% of Americans can be identified...
    - Differential privacy adds plausible deniability to the data so there's uncertainty in the accuracy of the final results. This is a proof to realize for publishing data.

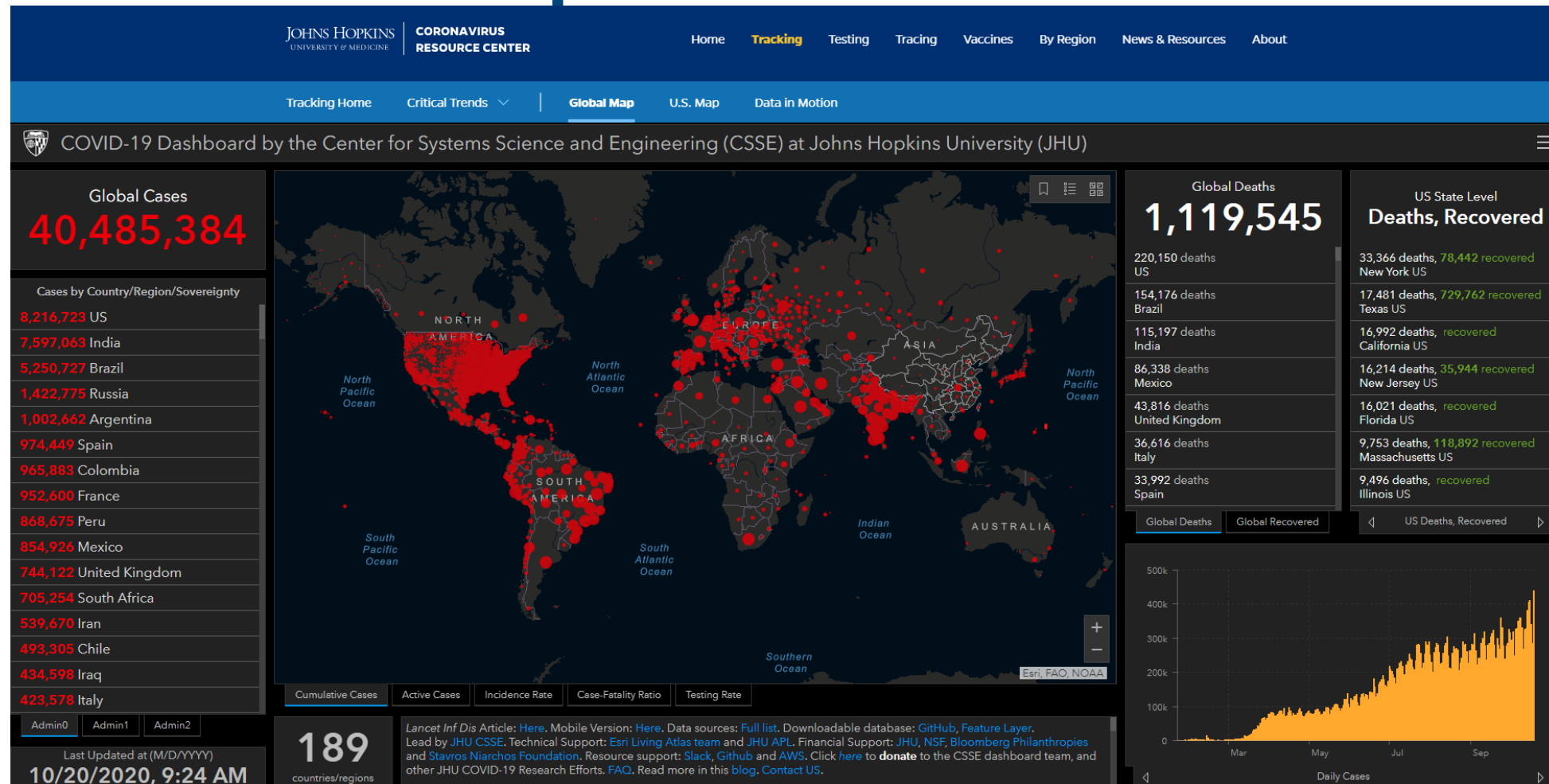
# The Geocoded Address – the “Bridge” to Linking Statistical with Geospatial Information

- The **address** is the most **elemental** geospatial object
  - Housing unit
  - Apartment within an apartment building
  - Room within an apartment for a separate household
  - Business establishment
  - Etc.
- The **household** is an **elemental** statistical unit

## Learning Lessons...

- The COVID pandemic has given us a greater appreciation for the power of data dashboards.
- On to the dashboards...

# Johns Hopkins COVID Dashboard



## Dashboards – What is offered and What is missing?

- Offered
  - Dashboards offer critically important information on different topics
    - Number of COVID cases
    - Where (generally) the number of cases occurred at a point in time
- Missing
  - Impact on the population
  - Impact on business



# What's Next?

## Household Pulse Survey Data Tables

The new experimental Household Pulse Survey is designed to quickly and efficiently deploy data collected on how people's lives have been impacted by the coronavirus pandemic.

Data collection for Phase 1 of the Household Pulse Survey began on April 23, 2020, ended on July 21, 2020, and included 12 weekly table releases.

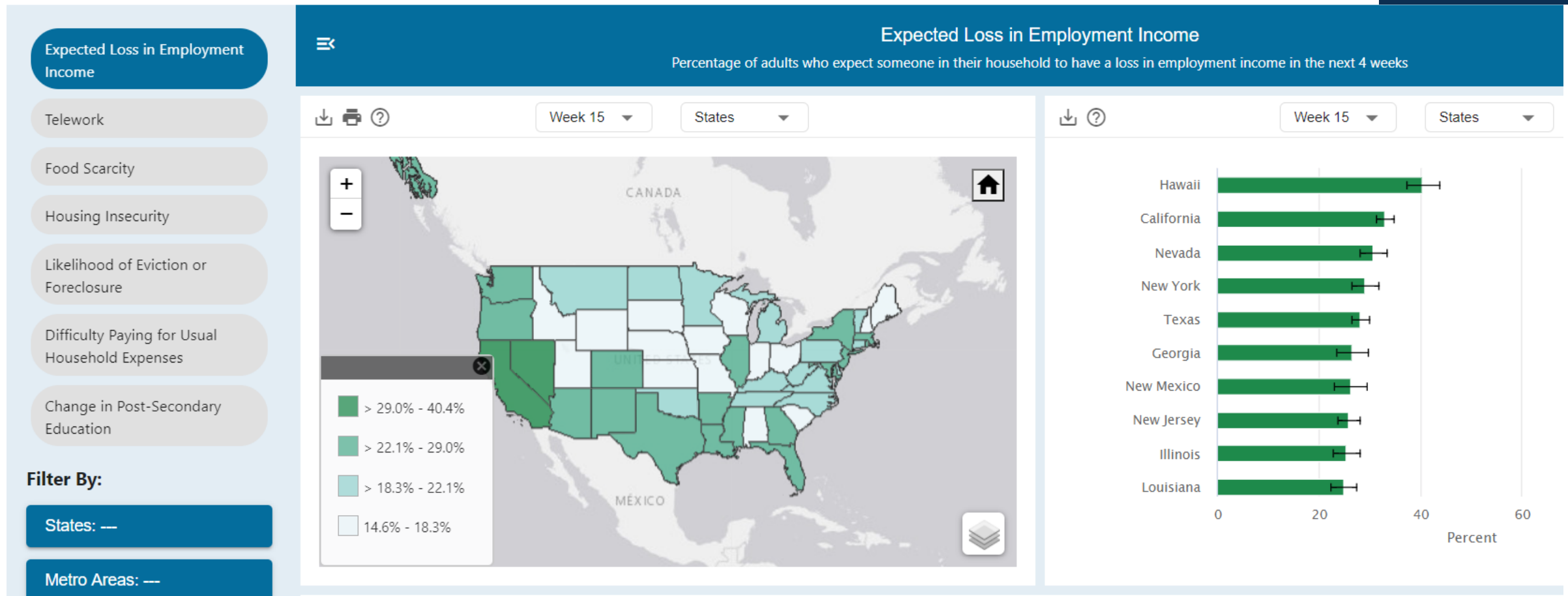
Phase 2 of the survey begins on August 19, 2020, and the Census Bureau expects to collect data through October, 2020, releasing data every two weeks. The links below will take you to the downloadable tables in XLS for each period of release.

Note: Phase 1 of the Household Pulse Survey was collected and disseminated on a weekly basis. Phase 2 has a two-week collection and dissemination period. Despite going to a two-week collection period, the Household Pulse Survey continues to call these collection periods "weeks" for continuity with Phase 1.



# A Different Dashboard...

## Household Pulse Survey



## Household Pulse Survey

Expected Loss in Employment  
Income

Telework

Food Scarcity

Housing Insecurity

Likelihood of Eviction or  
Foreclosure

Difficulty Paying for Usual  
Household Expenses

Change in Post-Secondary  
Education



## US Demographic and Economic Data At A Glance

Population Aged 65 Years and Older

49,238,581

American Community Survey (ACS) 2014-2018

Total Uninsured Population

29,752,767

American Community Survey (ACS) 2014-2018

Total Employer Establishments

7,860,674

County Business Patterns (CBP) 2017

Total Non-Employer Establishments

25,701,671

Nonemployer Statistics (NES) 2017

Census COVID-19 Impact Report

Select State: New York

Select County: Back to State

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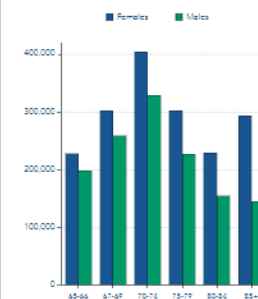


### STATE COVID-19 IMPACT PLANNING REPORT

New York (FIPS 36)



#### POPULATION 65 AND OLDER



#### KEY FACTS

19,618,453 Total Population  
7,316,537 Total Households  
2.60 Average Household Size  
38.7 Median Age  
81.2% Internet At Home

#### BUSINESSES

547,034 Total Employer Establishments  
8,261,269 Total Employees  
\$547,344,236 Total Annual Payroll (\$1,000)

1,751,378 Total Non-Employer Establishments  
\$92,939,642 Total Non-Employer Revenue (\$1,000)

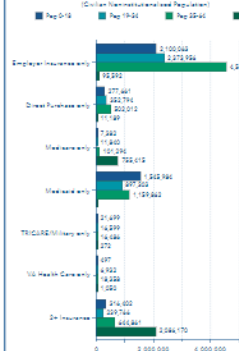
#### POVERTY

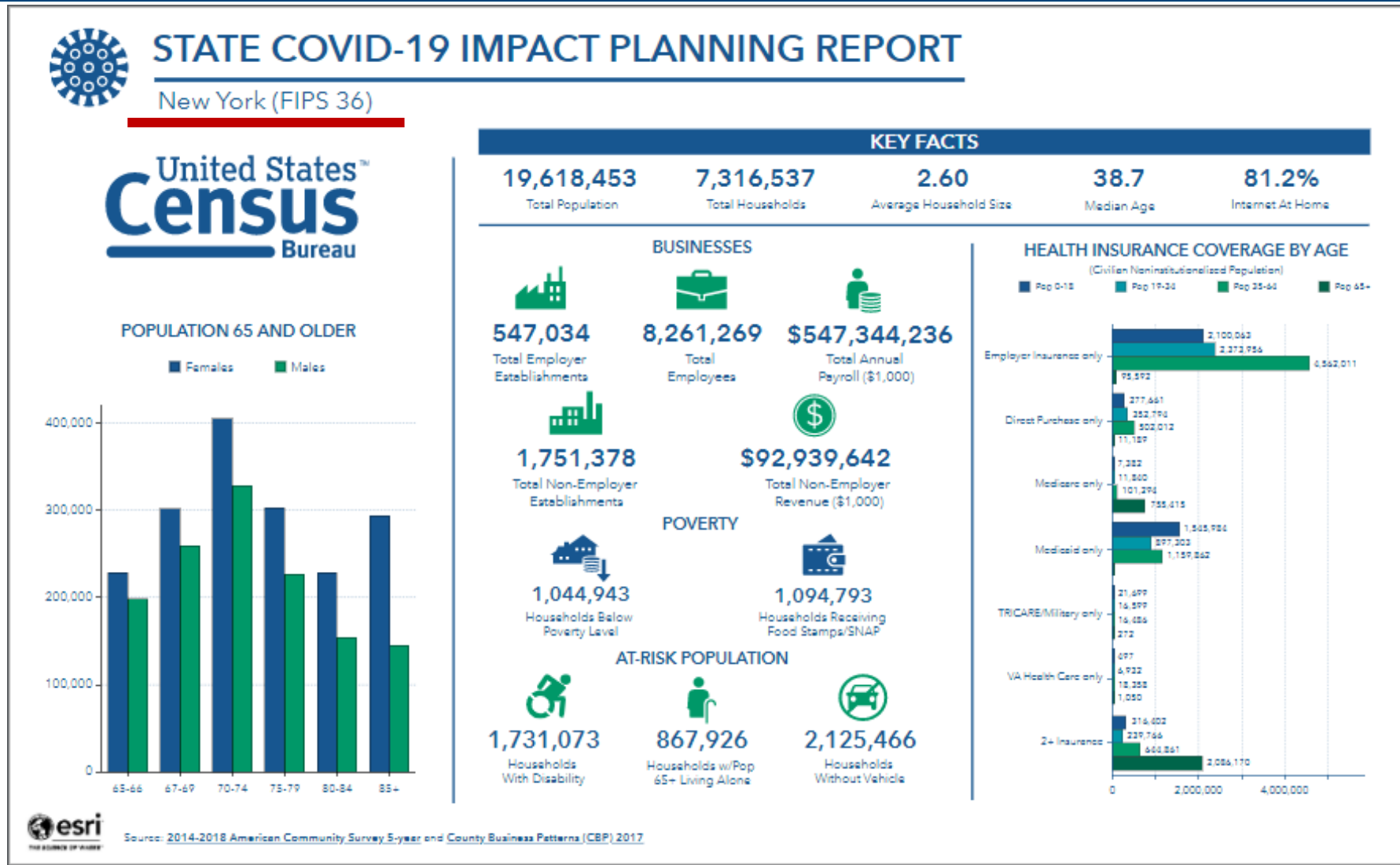
1,044,943 Households Below Poverty Level  
1,094,793 Households Receiving Food Stamps/SNAP

#### AT-RISK POPULATION

1,731,073 Households With Disability  
867,926 Households w/ Pop 65+ Living Alone  
2,125,466 Households Without Vehicle

#### HEALTH INSURANCE COVERAGE BY AGE





# Household and Business Updates



## Household Pulse Survey Updates

[Explore Data](#)

[See Data Tables](#)

Based on responses collected  
**September 16 through September 28**, the Household Pulse Survey estimates that:



## Small Business Pulse Survey Updates

[Explore Data](#)

[See Data Tables](#)

Based on responses collected  
**September 27 through October 3**, the Small Business Pulse Survey estimates that:

# Pulse Data Examples...Impact on People and Households

- **24.0%** of American adults expect someone in their household to experience a **loss in employment income** in the next 4 weeks
- **10.1%** of American adults lived in households where there was either sometimes or often **not enough to eat** in the previous 7 days
- **36.6%** of adults live in households where at least one adult **substituted** some or all in-person **work for telework** because of the coronavirus pandemic
- Of adults living in households not current on rent or mortgage, **32.1%** report **eviction or foreclosure in the next two months** is either somewhat or very likely
- **31.9%** of adults live in households where it has been somewhat or very **difficult to pay usual household expenses** during the coronavirus pandemic

# Pulse Data Examples...Impact on Businesses

- **23.8%** of U.S. small businesses have **increased their use of online platforms** to offer goods or services since March 13, 2020

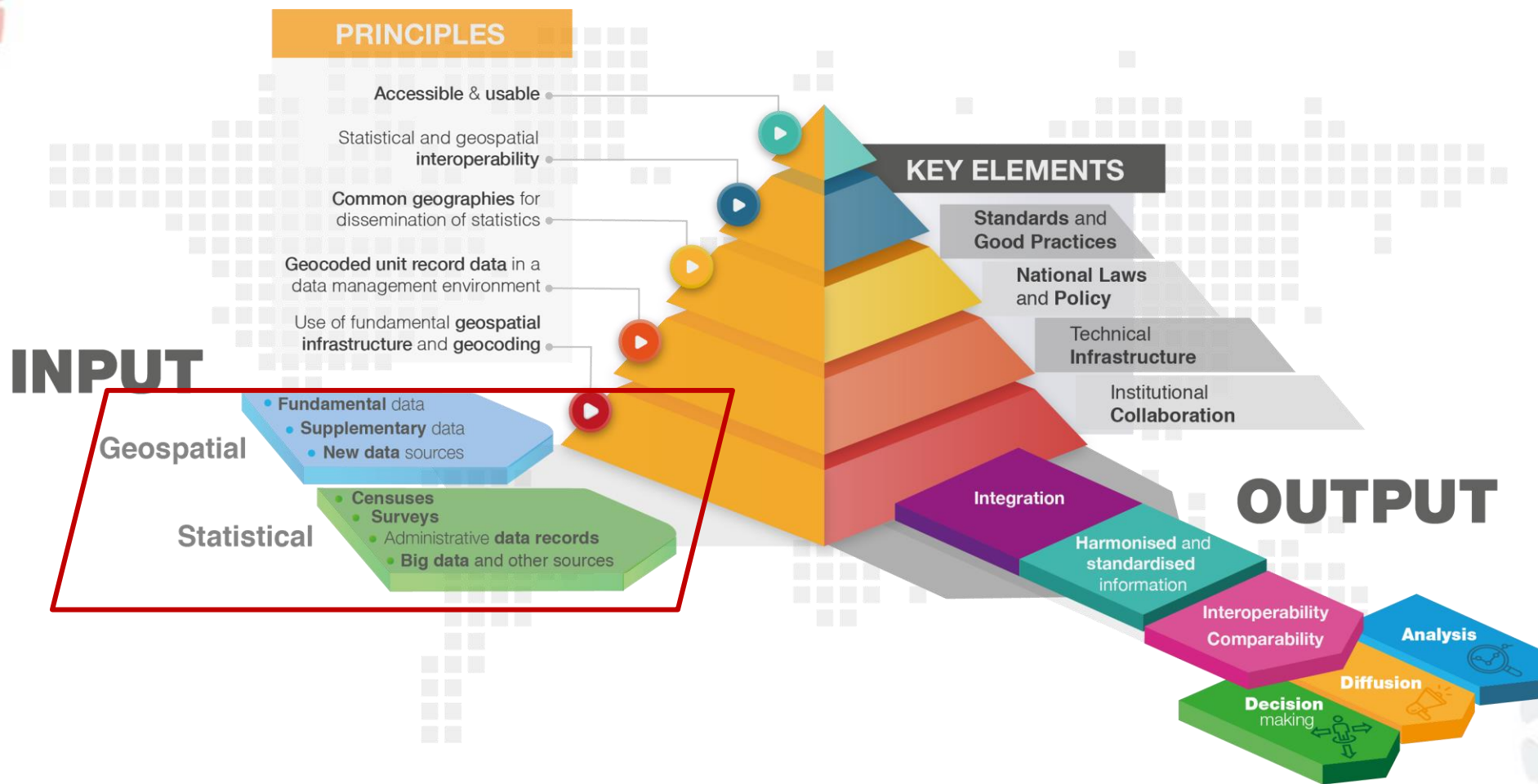
- **62.1%** of U.S. **small businesses** have **experienced no change in operating revenues** in the last week

- **74.0%** of U.S. **small businesses** have **requested financial assistance** from the Paycheck Protection Program since March 13, 2020

- **44.1%** of U.S. **small businesses** believe **more than 6 months of time will pass before their business returns to its normal level of operations**

- **21.9%** of U.S. **manufacturing businesses** have **experienced production delays** in the last week

# GSGF Full framework



UN-GGIM

United Nations Secretariat  
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org

## Proposal: A Two-Pronged Approach

- UN Statistical Commission to communicate and encourage the benefits of an annual survey of detailed characteristics and engage countries in strategies for how to achieve success in its adoption.
  - UN-GGIM to propose small-area geographic delineation criteria in concert with statisticians and data users that results in a global approach for a common small area geography.
- 
- A shared collaborative effort by the UN Statistical Commission and the UN-GGIM working toward timely detailed statistical data geocoded to addresses tabulated to a new small area geography.

## A Path Forward...

- Recommend continuing current work streams of the UN EG-ISGI as defined. Each of the 5 workstreams will continue to yield important discoveries, information, and results.
- Consider and evaluate assumptions, ideas, suggestions, and challenges proffered in this presentation for further exploration and research.

## A Path Forward (2)...

- Share ideas and challenges with other bodies and efforts.
  - UN Statistical Commission
  - UN-GGIM Expert and Working Groups
    - EG-ISGI
    - WG on Policy and Legal Issues
    - IGIF Fundamental Data Theme on Functional Areas, Population Distribution,
- Begin to test assumptions, ideas, and/or proposals
- Prepare position papers for greater exposure and engagement

## A Path Forward (3)...

- Efforts and accomplishments
  - Keynote by Hannes Reuter on Building a European address database shows the collection and standardization of addresses for European countries – a very good beginning
    - How to expand this accomplishment to all countries?
  - Capitalize on address data management experiences from other countries including the U.S Census Bureau's management of more than 150 million unique addresses.

## R&D Agenda

- Determine the criteria for a common small area global geography based on the number of households
- Explore if the use of both small geographic areas in combination with a grid contributes to confronting privacy disclosure by creating sufficient identification and location uncertainty.
- Formulate good practices in address management hygiene including addressing anomalies using standards and experience

## First Action...?

- To share this proposal within the newly formed UN Global Network of Data Officers and Statisticians to seek their reaction, opinions, suggestions, and guidance for next steps.