Better Data for Local Decisions in Times of Crisis: The Promise of the Curated Data Enterprise to Advance Sustainable Development Goals

“Data, COVID-19 and the SDGs”
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Making Sense of the Headlines

Gig Workers


Migration Patterns

“In 2020, fewer Americans moved, exodus from cities slowed.” Pew Research Center, December 2021

“New census data shows a huge spike in movement out of big metro areas during the pandemic.” Brookings, April 2022

Nursing Homes


Introducing the Curated Data Enterprise

The U.S. Census Bureau has begun modernization activities towards creating a **universal frame** that could form the foundation for a transformative capability to **integrate** the Bureau’s demographic and economic **surveys and censuses** with administrative and third-party data.

This new innovative state is called the **Curated Data Enterprise (CDE)**.

- Both an infrastructure and a continuously evolving ambition to **empower and enable** Bureau scientists and their data users to develop **new measures** of people, places, and the economy.

- Exploits **multiple data sources**, from sample surveys, censuses, and other official administrative and third-party data, which can provide **more robust, timely, and comprehensive measures** when combined.
**Goal:** Illuminate the needed capabilities of the CDE and support its development

- Start with how to capture purpose and use
- Develop information collection processes for each box in the CDE framework
- Give insights into standards and automation
- Develop theory and methods

**Curated Data Enterprise Framework**

- **Purpose & Use:** Questions & Working Hypotheses
- **Data Discovery:** Inventory • Screening • Acquisition
- **Data Ingestion & Governance**
- **Data Wrangling:** Profiling • Preparation • Linkage • Exploration
- **Fitness-for-Purpose**
- **Statistical Modeling & Analyses**

*Curation applied at every step*
Thinking Like a “Local”

More than 70 percent of the 31,600 Places in the U.S. have fewer than 4,000 persons.

Local Planners as Consumers of data: Knowledge of population and the local economy permit an assessment of decisions and strategies adopted by local officials.

Local Planners as Directors: Decisions and strategies affect the quality-of-life of residents.
Reacting to the Pandemic: Questions and Strategies

Thinking Like a “Local” - Three Key Knowledge Areas for the local town planner:

1. Local economy/business: How are residents able to sustain themselves economically?
2. Are residents reacting to the pandemic “with their feet”? What is the impact on population?
3. What about those who are most vulnerable, e.g., persons in nursing homes?
Art of the Possible
• Comprehensive picture of elder care
  • Residents (vulnerable populations)
  • Staff
  • Owners

Data Sources
• Group Quarters (GQ) population-based on decennial census, ACS
• CMS administrative data
• BLS, CDC, NIH surveys

CDE Capability to Exercise
• Develop cross-agency partnerships
• Integrating data with different units of analysis, timing, geography
Applying the CDE in Response to a Climate Event

Baseline Curated Data Enterprise

**County Level Measures**
- # of nurses for every 1000 persons >= 65
- # of home health agencies for every 1000 persons >= 65
- # of hospital beds for every 1000 persons >= 65
- # of empty nursing home beds divided by the # of nursing homes

**Skilled Nursing Home Measures**
- **Residents**
  - Demographic:
    - Percentage
    - Minority
    - Percentage > 65
    - Mental Health
    - Physical Health
    - Cognitive Function
    - Percentage on Medicaid
    - Total # of residents
- **Workers**
  - Hours:
    - RN hours/resident day
    - LPN hours/resident day
    - CNA hours/resident day
  - Turnover:
    - Total nursing staff turnover
    - # of administrators who have left

**Owners**
- Facility type
- Whether the facility is a chain
- Whether the facility changed hands in the last 12 months

**Facility Safety Assessment**
- Total # of safety deficiencies over the last 3 years

**Emergency Preparedness**
- Total # of emergency preparedness deficiencies over the last 3 years

**Severe Climate Event**
- Hurricane, flooding, and riverine flooding predictions
- Past hurricane and extreme flooding events

**Data Products**
- Building Knowledge Base (BKB)
- Transportation infrastructure
- How workers get to the nursing home
- Worker demographics
- Where workers live

**Census Linked Frames**
- Geography
- People
- Jobs
- Businesses

**Census Tract Level Measures**
- CDC Social Vulnerability Index
- Climate and Economic Justice Screening Tool climate disadvantaged census tract designation

A comprehensive picture of nursing homes

Applying the CDE in Response to a Climate Event
Postal Service Data, Covid-19 and Migration: New York City

Net residential movement was highest in areas with higher incomes


Map 1: Change in Net Residential Moves from Pre-Pandemic Trend in 2020 (Change in Net Residential Moves per 1,000 Residents in 2020, as Compared to 2019)

Note: Includes temporary and permanent moves.

Note: Per capita figures based on 2020 decennial census data, includes temporary and permanent moves.
What is the “Art of the Possible?”
From the Local Planner’s Perspective

Goal is to
Forge a path that leads to evidence-based decisions to mitigate shorter-term impacts related to the pandemic and devise longer-term strategies to promote economic growth

Based on
A timely and accurate view of the current demographic and social characteristics of the population and the economic conditions of individuals and businesses

Using
Data products that are actionable at a local level
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