Developing the Population Cancer Assessment and Surveillance Engine (PopCASE)

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BACKGROUND

- **Spatially linking cancer registry data to place-based contextual data**
  - Enhances the utility of registry data
  - Can help fulfill the mandate of NCI-designated cancer centers to understand and address catchment cancer burdens
  - Requires substantial resources that many registries and cancer centers may lack.

GOALS

We describe
- The ongoing development of a population cancer data platform, the **Population Cancer Assessment and Surveillance Engine (PopCASE)**, that spatially links patient-level cancer registry data with community data describing the social and healthcare environment of patients,
- An associated application—**PopCASE Setup**—that will allow central cancer registries or cancer centers with access to patient-level registry data to establish a region-specific instance of PopCASE.

SOLUTION

Components
- PostgreSQL database – Community and healthcare access data linked to registry data by geocoded patient address
- User interface for querying and viewing the data
- "Controller" layer – Preforms calculations needed to generate certain results (e.g., age-adjustment for user-specified patient subgroups)
- A software container bundling all necessary components to allow deployment across computing environments

Design Process
- Informed by an 18-member steering committee from 13 agencies and institutions in 12 states
  - Researchers
  - Community Outreach and Engagement (COE professionals
  - Cancer registry officials

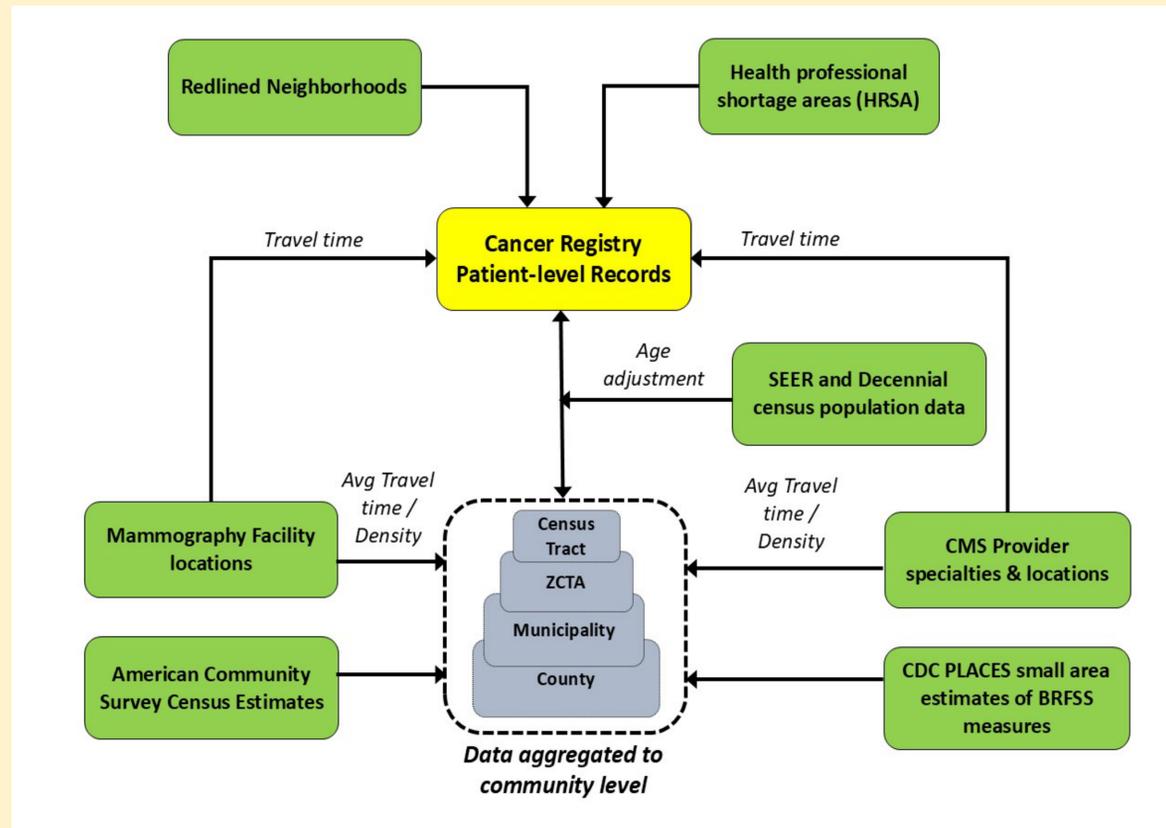*Registry data is not shared outside of the environment where PopCASE is installed.*
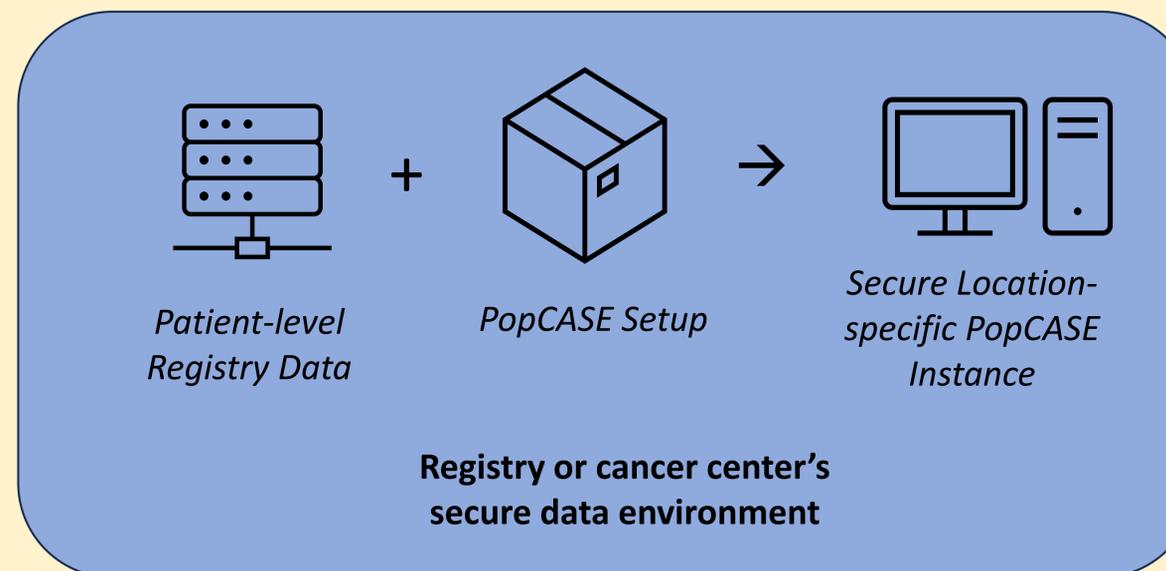

Figure 1 – PopCASE data sources and linkages

Figure 2 – Creating a location-specific instance of PopCASE

Figure 3 – Selecting measures in the User Interface

NEXT STEPS

Halfway through the 36-month development cycle, we
- Have built the database and a preliminary interface
- Are preparing to build PopCASE Setup (will allow other registries or cancer centers to implement PopCASE)
- Will launch LA-CASE, the first instance of PopCASE outside of Ohio in 2027