

Cloud Computing and the STAR Project



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Surveillance Driving Force of Public Health Mission

Translating Data into Action

“

Data are truly the engine of public health. Without appropriate data, we don't know how to chart the course ahead, how to know if we are headed in the right direction, or when and where we may have made a wrong turn.

”

- Ann Schuchat, MD, RADM, USPHS (Ret.)
Principal Deputy Director
Centers for Disease Control and Prevention

10 Essential Public Health Services



CDC Data Modernization Imperatives by 2024

DCPC a leader in CDC's agency-wide push for newer, smarter, faster surveillance systems

Goals

- Predictive Data Science
- Modern IT Platforms
- Enterprise Services to Support CDC's Public Health Mission



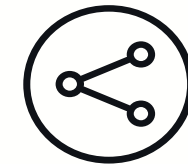
Cloud-Based



Interoperability



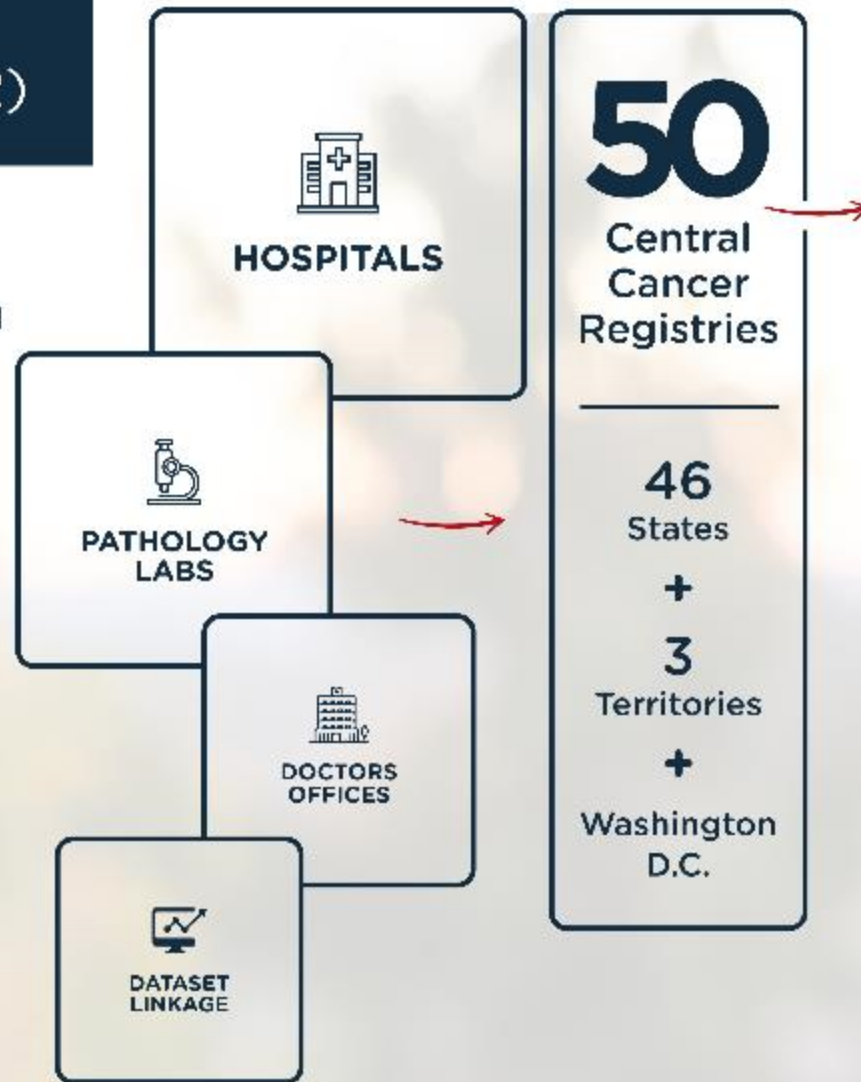
Analytical Tools



Data Sharing

National Program of Cancer Registries (NPCR)

- Coordinates collection, verification and reporting of important information on all reportable cancer cases.
- Helps identify better ways to prevent, treat and control cancer.



- Data Visualization Tool
- State Cancer Plans
- Public Use Dataset
- Reports & Research

Over 1.7 million new cases & nearly 600,000 deaths annually.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

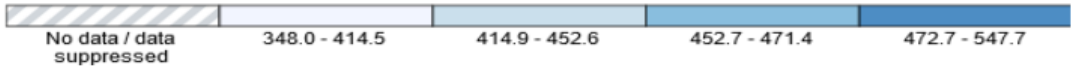
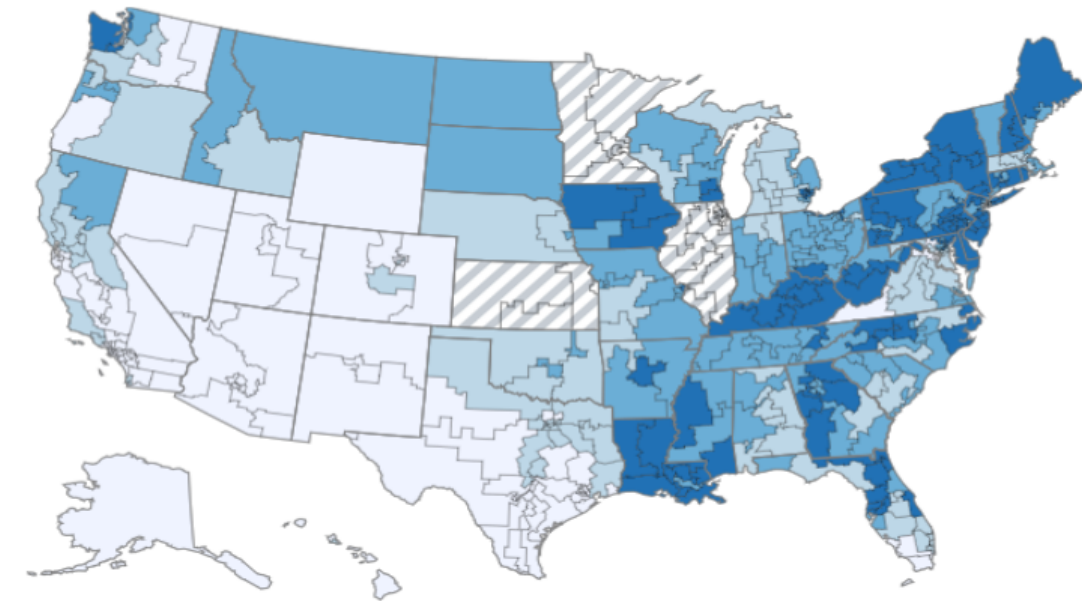
Measuring Progress. Targeting Action.

Data Accessibility



Estimated Rate of New Cancer Cases in the United States, by Congressional District, 2013-2017

All Types of Cancer, All Races/Ethnicities, Male and Female



Estimated rate per 100,000 people

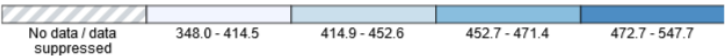
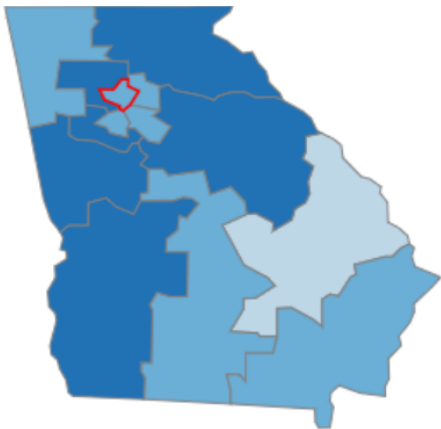
Data source – U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2019 submission data (1999-2017): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, June 2020.

Source: [cdc.gov/cancer/dataviz](https://www.cdc.gov/cancer/dataviz)



Estimated Rate of New Cancer Cases in the United States, by Congressional District, 2013-2017

Georgia, Congressional District 6, All Types of Cancer, Male and Female, All



Estimated rate per 100,000 people

Data source – U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2019 submission data (1999-2017): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, June 2020.



“

The best way to predict your future is to create it.

- Abraham Lincoln
16th U.S. President

”

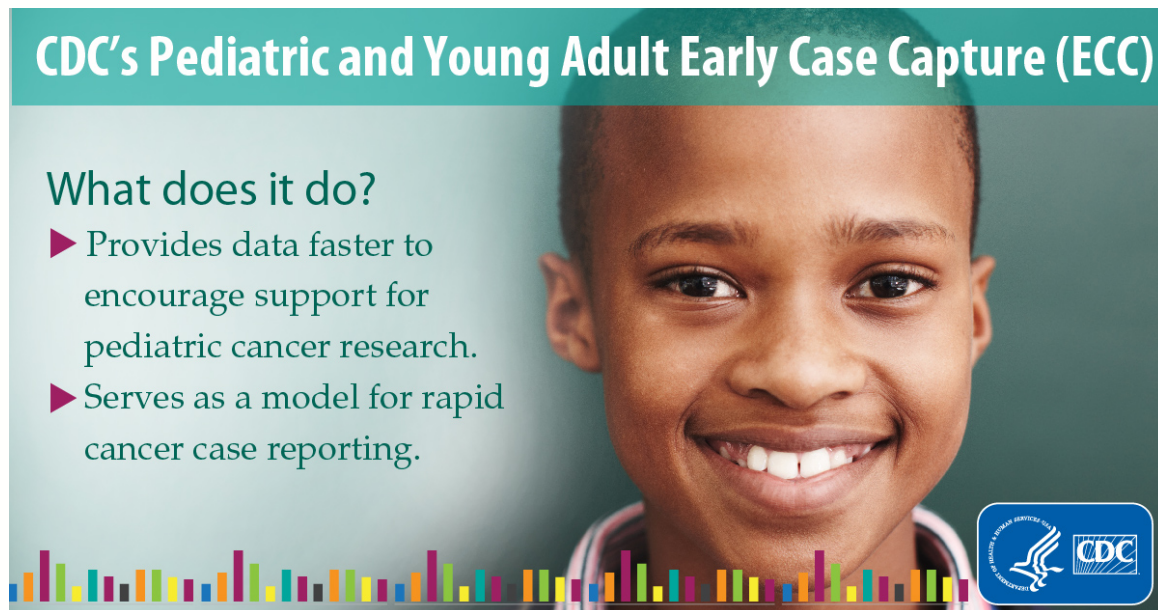
Early Pediatric and Young Adult Case Capture

Funded States (2014-2019)

- KY, LA, MN, NE, NY, RI, WI

Goals

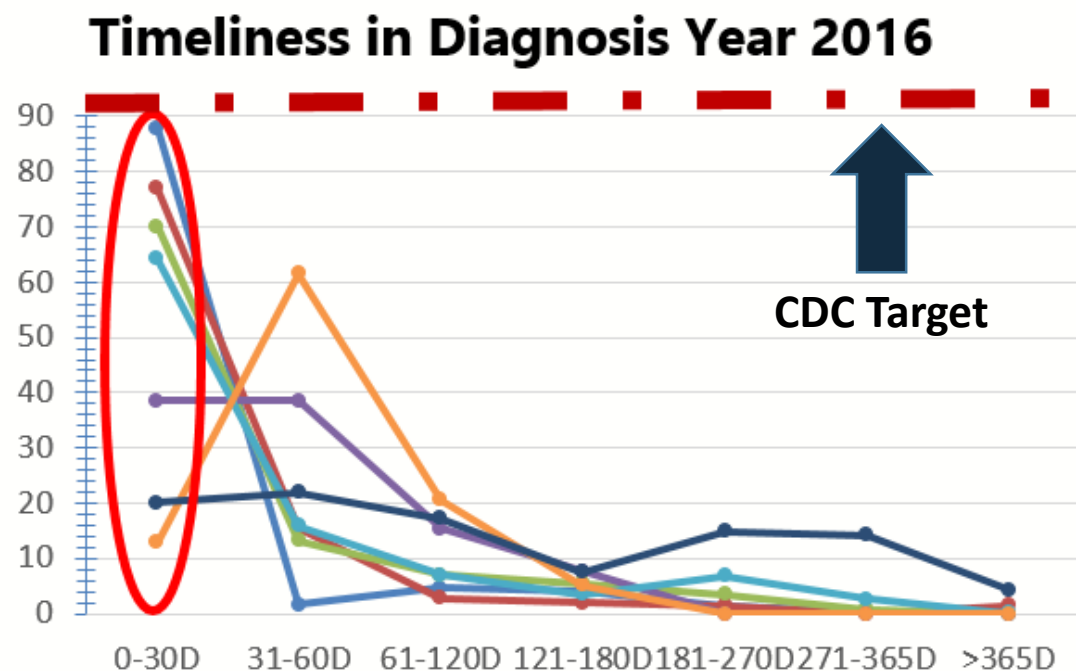
- Rapid electronic reporting (30 days)
- Expand reporting relationships with facilities
- Monitor data quality, completeness, and timeliness
- Increase availability of pediatric data



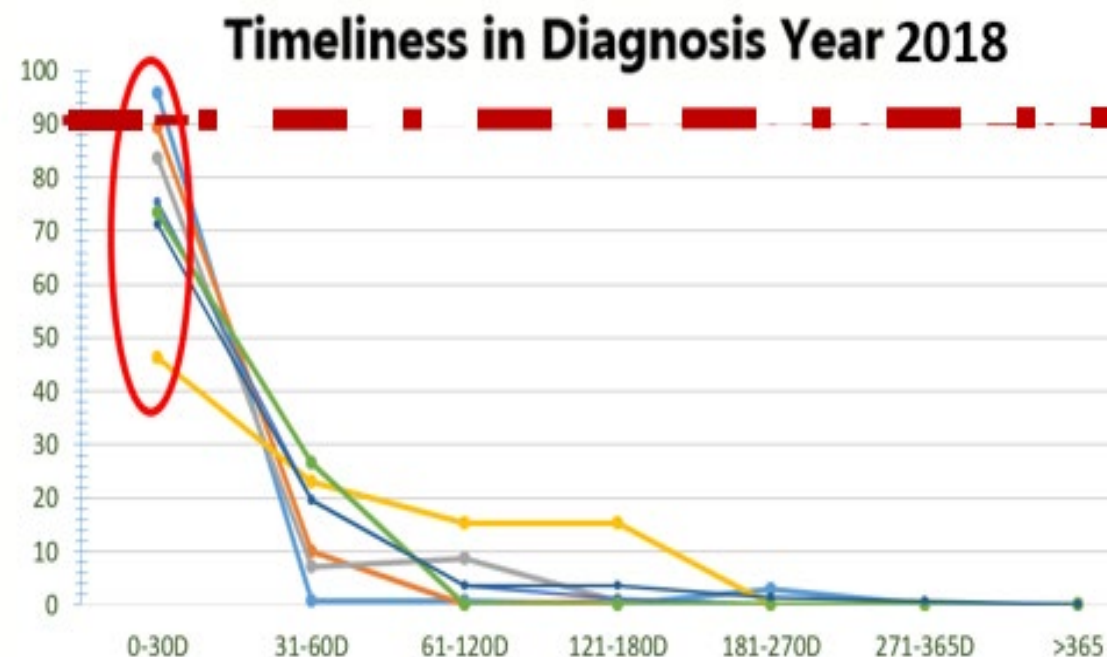
Source: cdc.gov/cancer/npcr/early-case-capture.htm

Real-time Results in Today's Practice Environment

Timeliness Standard: 90% of cases received within 30 days



Year 1



Year 3

Impact of System Limitations

1

Data are at least
24 months old

2

States struggle to
meet data quality
standards

3

Effort is duplicated
per state

4

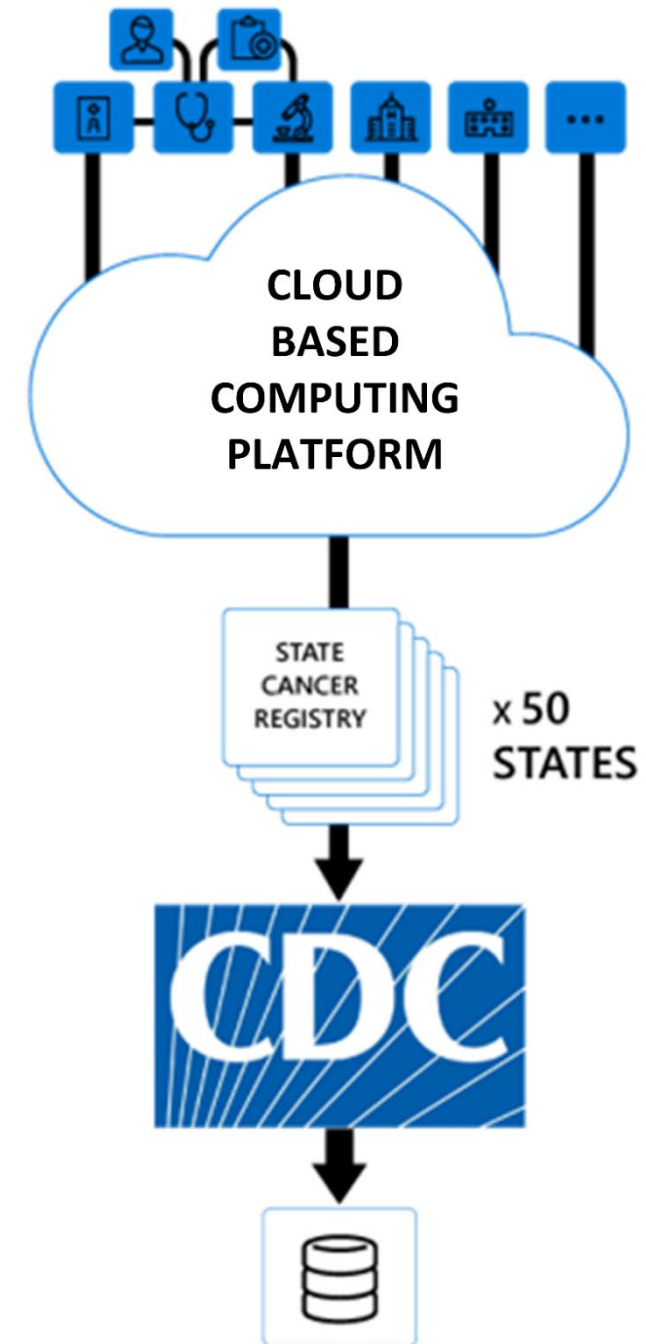
Reporting is labor-
intensive and
costly

What is the solution?



Future Reporting Structure

- Access by key stakeholders to the latest data
- Rapid processing
- Timely/accurate/complete data reporting



Reliable. Trusted. Scientific.

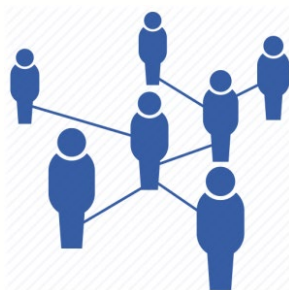
Benefits of a Cloud-Based Computing Platform

High-quality Data



*Better data; easier access
and quality benchmarking*

Resource Conservation



*Reduces health care provider
burden and improves public
health linkages*

Shared Common Platform



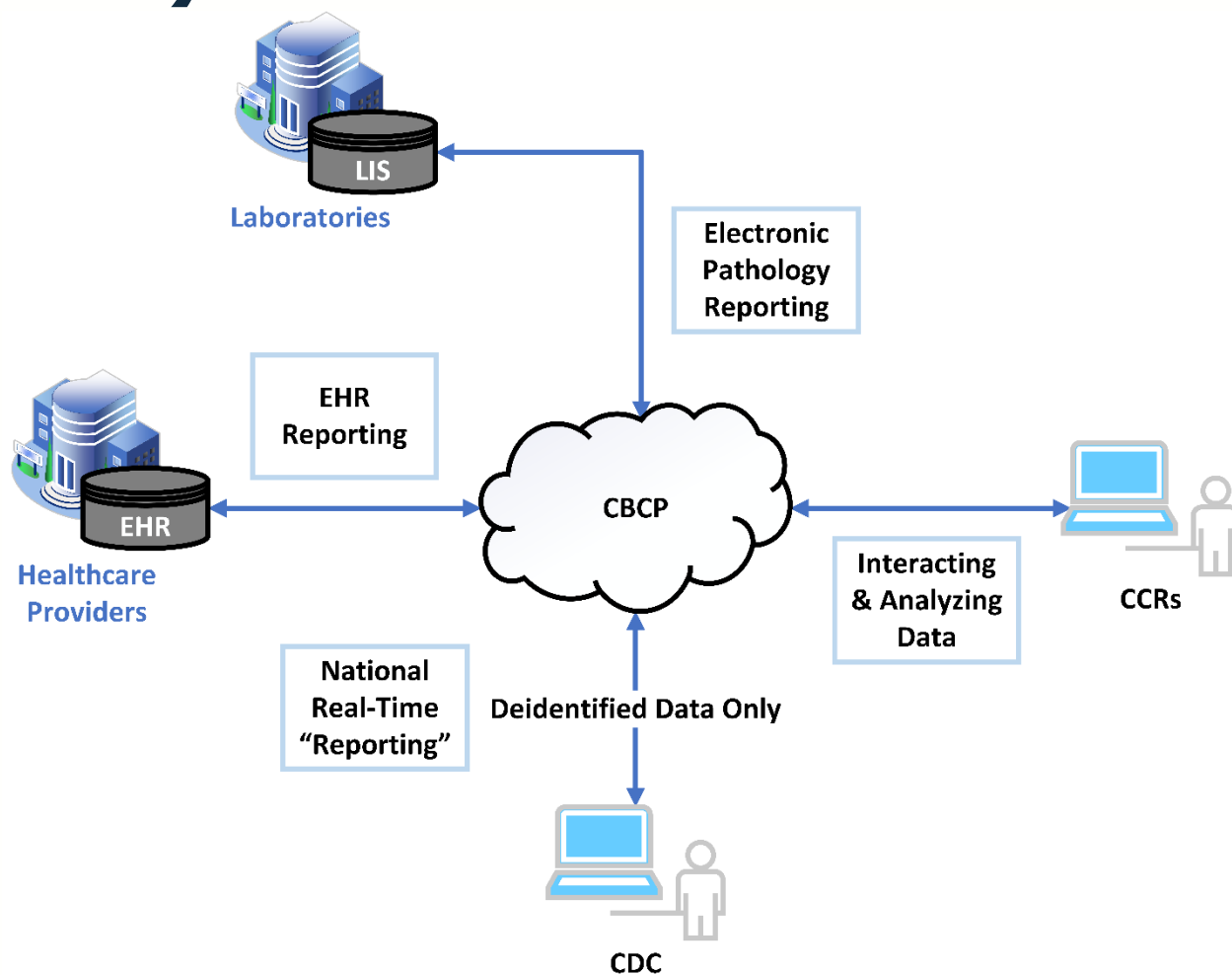
*Automation, efficiency
and standardization*

Streamlined Process



*Faster case identification;
better intervention and
resource allocation*

Cancer Surveillance Cloud-Based Computing Platform (CBCP)

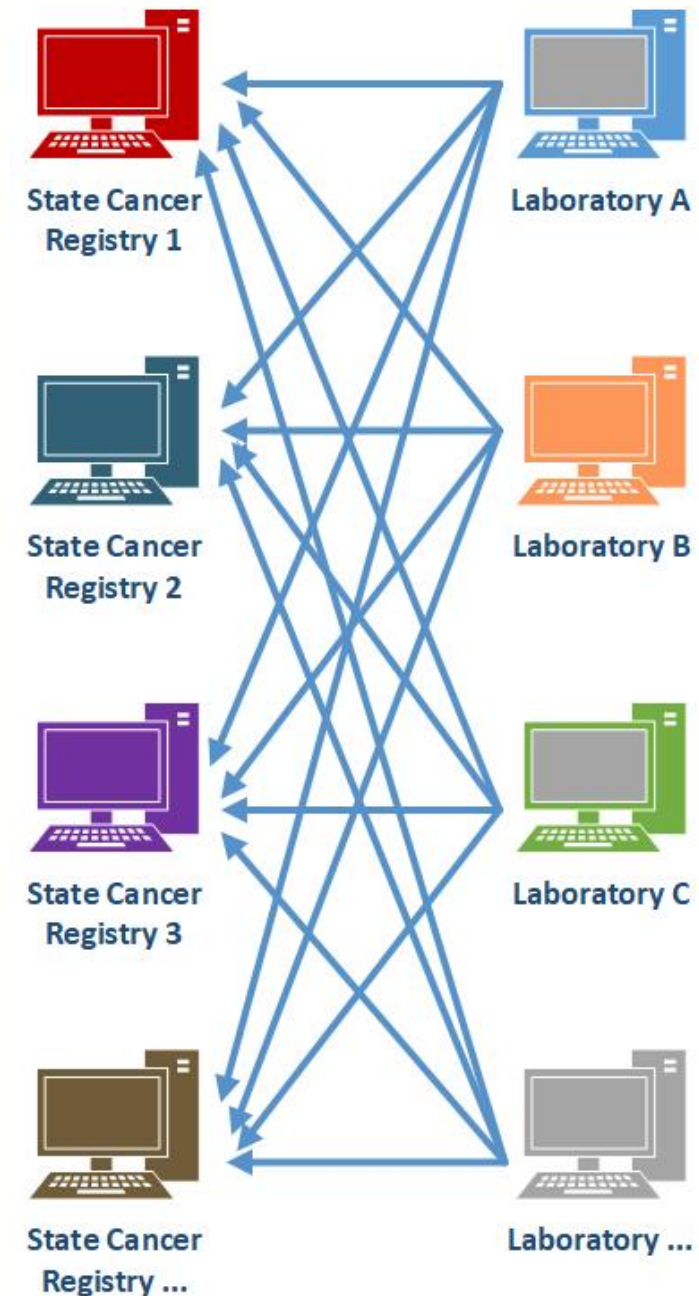


Pathology Reporting Quality and Efficiency

Electronic Pathology reporting Pilot

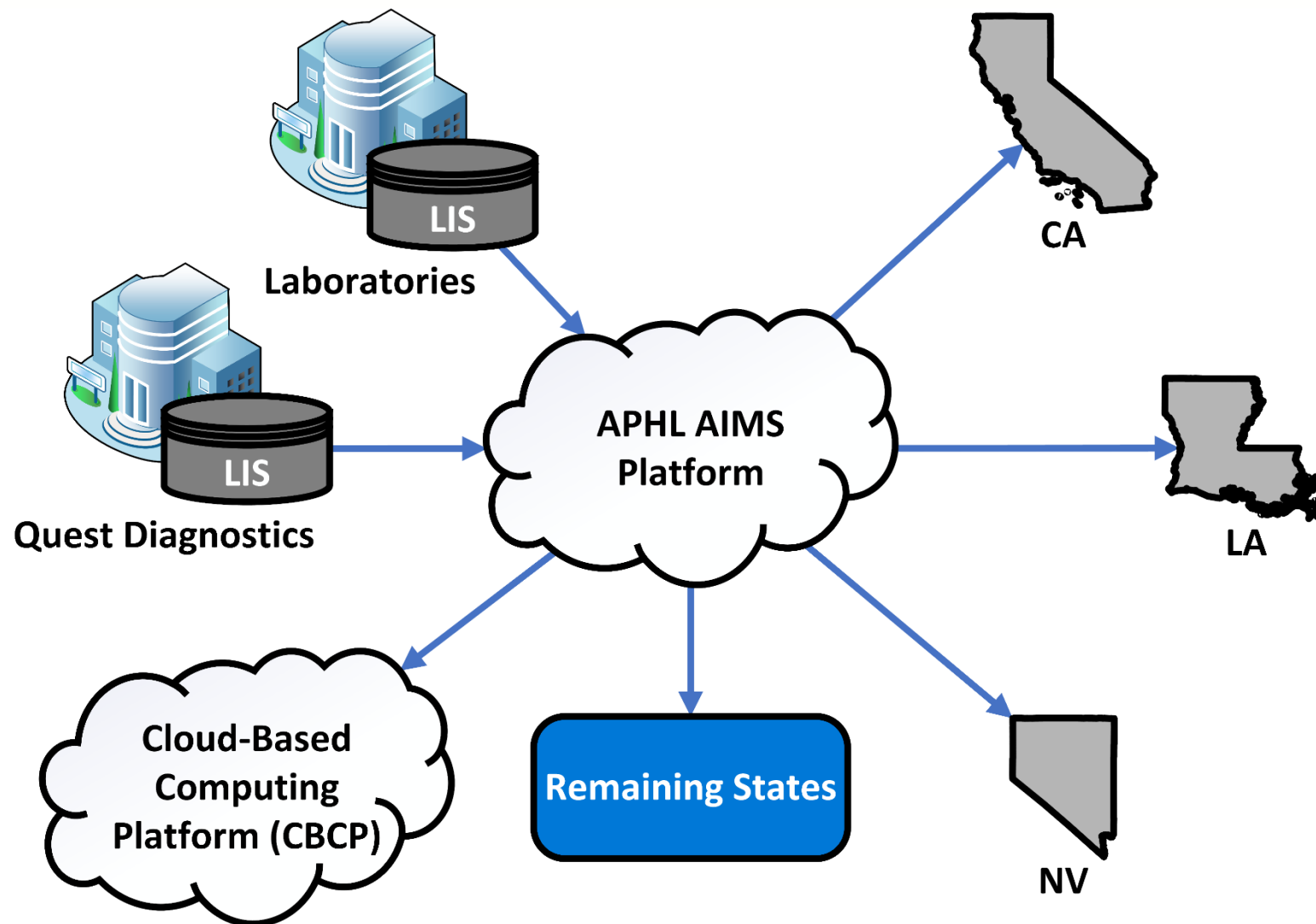
57 participating national/regional laboratories

- Direct standardized reporting to state cancer registries
- Establishing ePath standards and secure connectivity a resource-intensive process



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Leveraging Existing Infrastructure



Scaling High-quality, Rapid Reporting

Complete electronic pathology reporting in 30 days for Pediatric and Young Adult Cancer Cases



Goals

- Minimize pathology lab burden.
- Capture all data from labs and filter to Central Cancer Registries.
- Configurability across states.
- Direct reporting from facilities to the Central Cancer Registries.

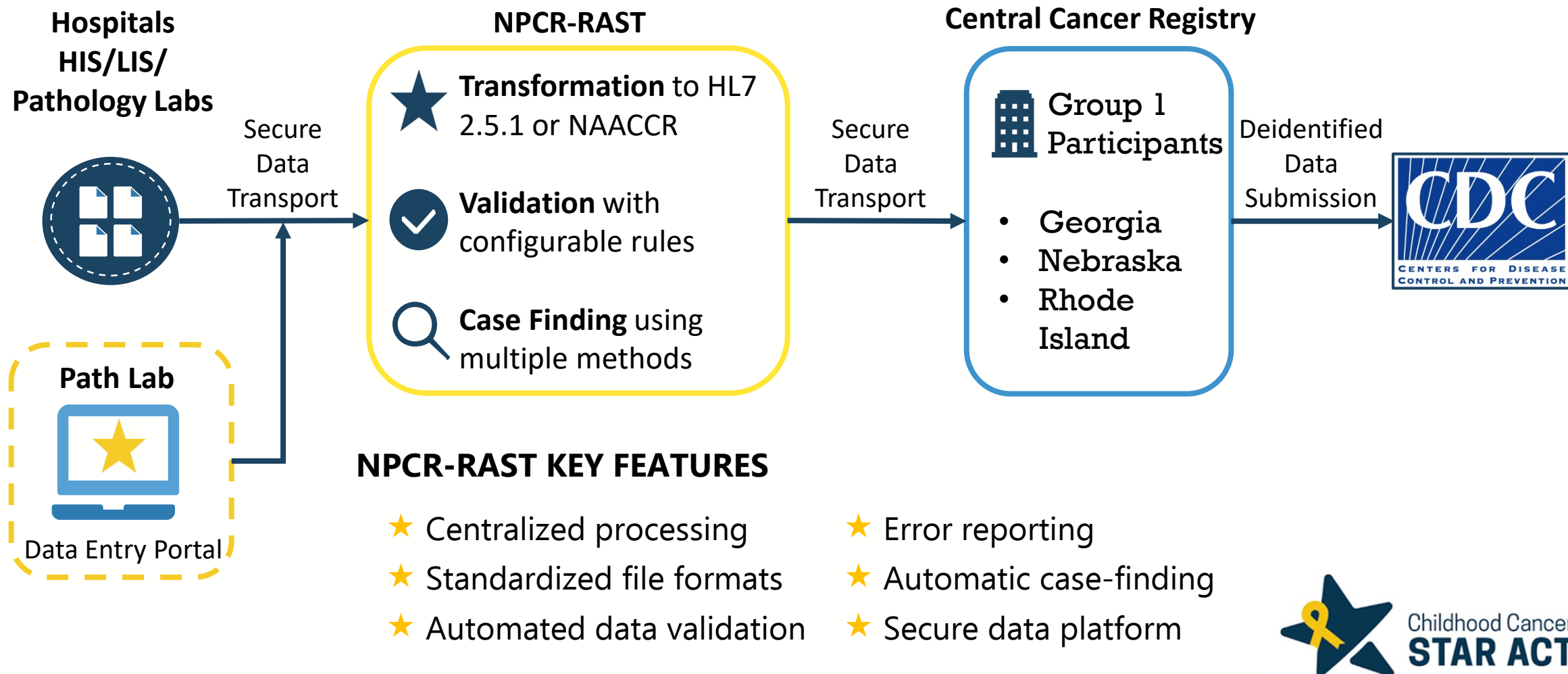


STAR Pilot

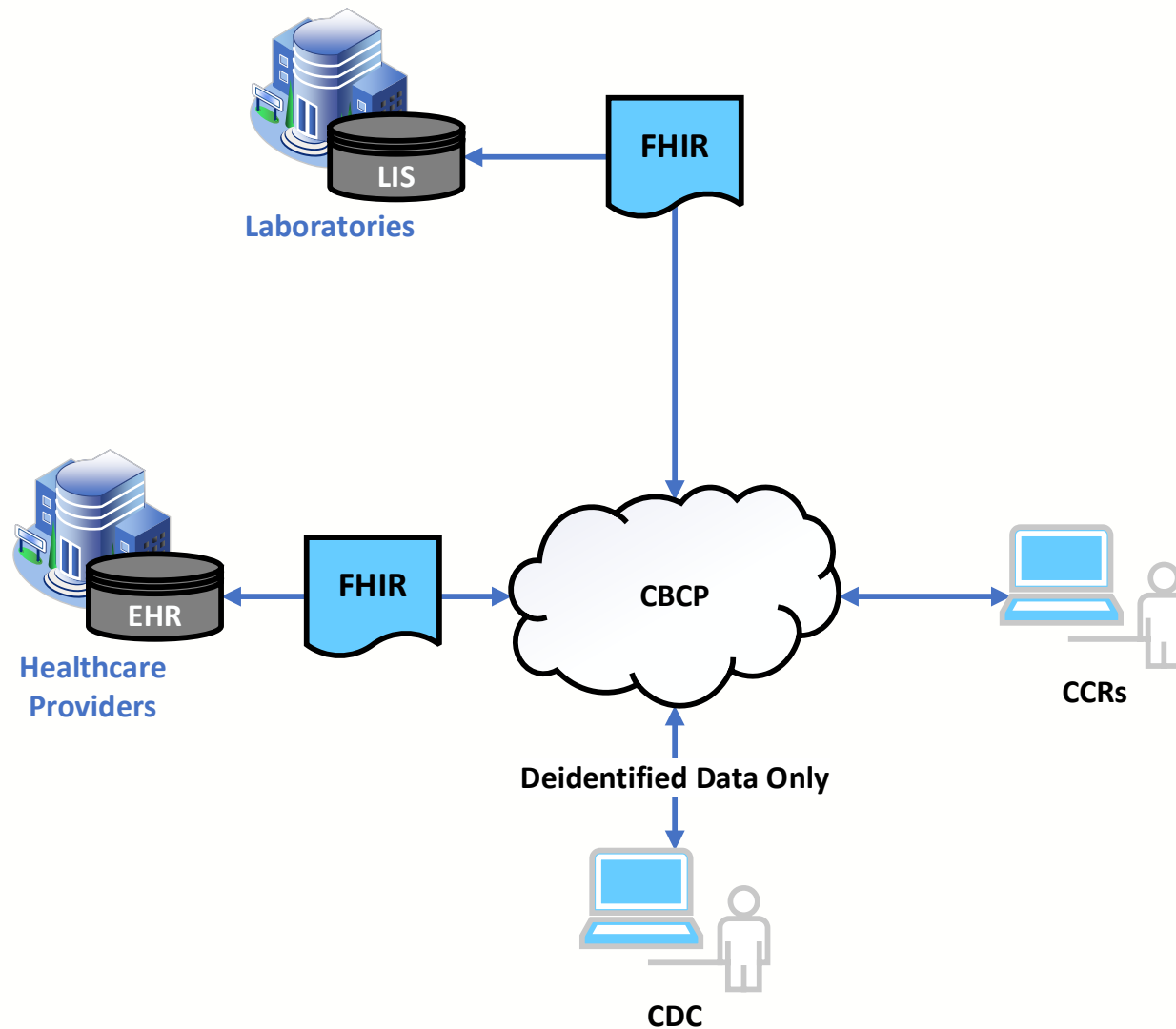
NPCR-Rapid Ascertainment Surveillance Tool (RAST) Framework and STAR Participants

Release 1

Future



Future Data Push and Pull Capabilities



Thank you!

Go to the official federal source of cancer prevention information:
www.cdc.gov/cancer



Division of Cancer Prevention and Control

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.