

# COMMUNITYVIEWER

## Integrated Data System

March 2014

# WHY?

## Integrated Data Needs

Need	Examples
Identify <b>people or households</b> needing specific interventions	<ul style="list-style-type: none"> <li>• Identify schoolchildren who have just missed the third school day in a row</li> <li>• Public housing households generating multiple emergency room visits and school absences for respiratory problems</li> </ul>
Identify <b>locations</b> needing specific interventions	<ul style="list-style-type: none"> <li>• Site early childhood programs in block groups with high density of young children</li> <li>• Target financial literacy programs to areas with a few banks and a high density of payday and title lenders</li> </ul>
Track <b>individual, family, or HH progress</b> on measures of success	<ul style="list-style-type: none"> <li>• Change in EPN student math grade after four weeks of tutoring</li> <li>• Change in child’s behavioral issues after non-custodial father secures and retains employment</li> <li>• Change in child’s absences as Wheatley family moves to Sutton Oaks and back to redeveloped Wheatley Courts</li> </ul>

Need	Examples
<p><b>Track population progress</b> on measures of success</p>	<ul style="list-style-type: none"> <li>• Change in percent of EPN students missing 10% or more of school instruction days</li> <li>• Change in percent of EPN students transitioning on time from 8<sup>th</sup> to 9<sup>th</sup> grade</li> </ul>
<p>Conduct formative and summative <b>evaluation</b></p>	<ul style="list-style-type: none"> <li>• Implementation fidelity: Determine the percent of EPN students needing at least 20 hours of math tutoring over eight weeks who actually received at least that dosage</li> <li>• Outcome measurement: Four-year graduation rate for kids who attended Pre-K vs. those who did not</li> </ul>
<p>Determine <b>effectiveness</b> and <b>dose-response relationships</b></p>	<ul style="list-style-type: none"> <li>• Quantify the intensity of grades K-2 out-of-school time learning needed to preserve the protective effects of pre-K through third grade</li> <li>• Determine the optimal tutoring dosage (session length, frequency, duration) by subject, age, race/ethnicity, and gender</li> </ul>

# WHAT?

CommunityViewer Integrated Data  
System (IDS)

# What SA Chose NOT to Do

- **Import to warehouse**
  - Cons: Service providers can't see individual person/family/HH record, high risk to agency with movement of lots of raw identified data, public usually can't see aggregate reports
- **Data entry into single db**: require partner agencies to key client data into single db
  - Cons: duplicate data entry, ↑ errors , public can't see aggregate reports
- **Import to single client db**: agencies' raw data are imported/passed into single client mgmt db
  - Cons: high risk to agency with movement of lots of raw identified data, ongoing manual process, public can't see aggregate reports

None of these solutions integrates person-data with place-data

## What SA Chose to Do: CommunityViewer

- Purpose-built for broad long-term use across region
- Intended to maximize power, minimize agency risk and effort
- Scalable at low cost once core is built
- Aggregate data freely available; identified data highly secure and private

# What It integrates

- Person-to-person
  - Links and de-duplicates people, families, and households across datasets using record-matching algorithms and defined attributes
  - Early-warning dashboard and longitudinal tracking
- Person-to-place
  - Geocodes person-level records
  - Enables use of place-based data (neighborhood and environmental influences)
- Place-to-place
  - Aggregate up across datasets (e.g., tract to zip code)



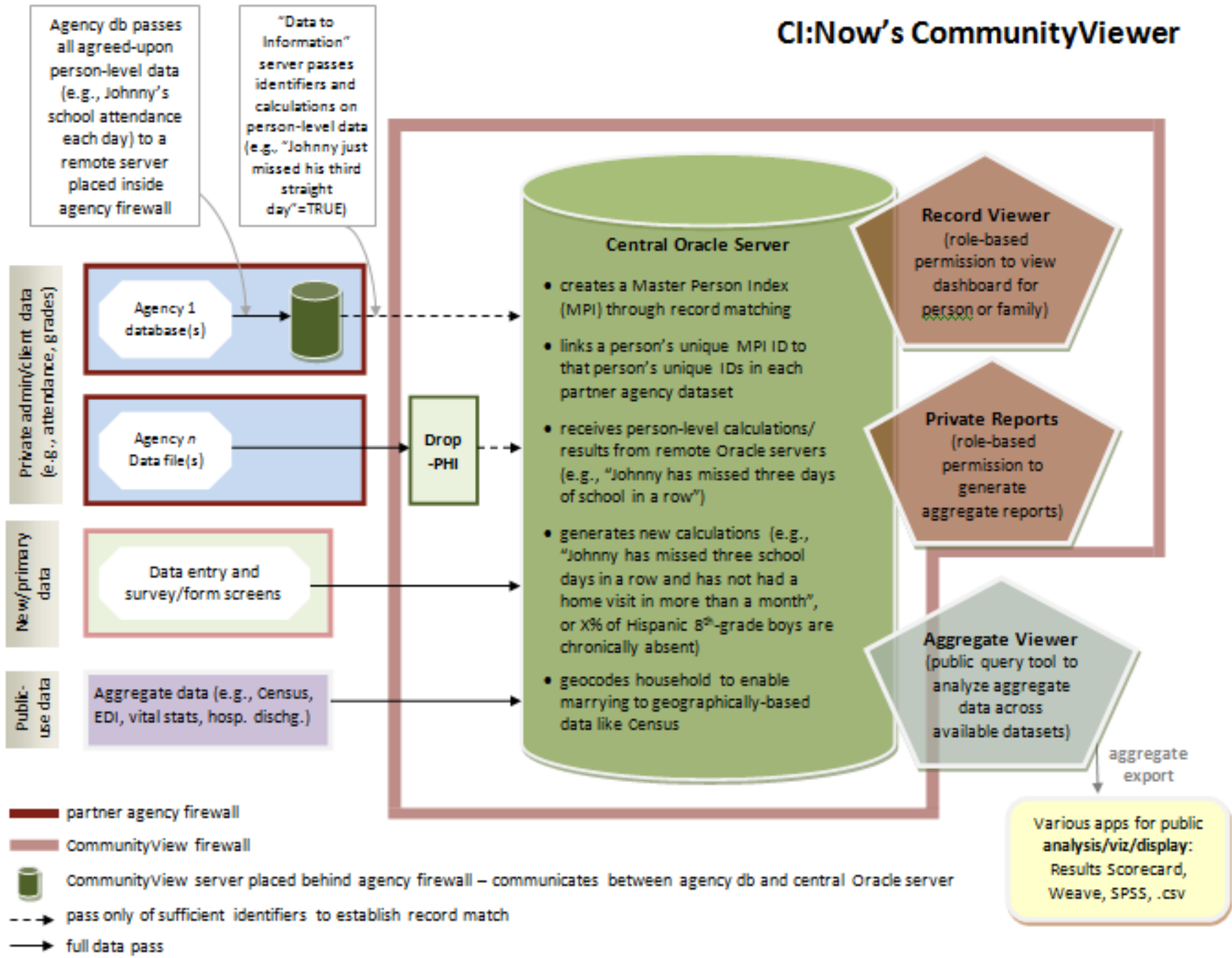
# Features & Functionality

- Data in: DTI server and/or DropPHI/SFTP; direct data entry under consideration
- Controlling data view/use:
  - User management module
  - Consent module
- Accessing data
  - Person Viewer
  - Private Reports
  - Public Reports

# How?

## Using Data Without Moving Data

# CI:Now's CommunityViewer



Agency db passes all agreed-upon person-level data (e.g., Johnny's school attendance each day) to a remote server placed inside agency firewall

"Data to Information" server passes identifiers and calculations on person-level data (e.g., "Johnny just missed his third straight day"=TRUE)

**Central Oracle Server**

- creates a Master Person Index (MPI) through record matching
- links a person's unique MPI ID to that person's unique IDs in each partner agency dataset
- receives person-level calculations/results from remote Oracle servers (e.g., "Johnny has missed three days of school in a row")
- generates new calculations (e.g., "Johnny has missed three school days in a row and has not had a home visit in more than a month", or X% of Hispanic 8<sup>th</sup>-grade boys are chronically absent)
- geocodes household to enable marrying to geographically-based data like Census

**Record Viewer**  
(role-based permission to view dashboard for person or family)

**Private Reports**  
(role-based permission to generate aggregate reports)

**Aggregate Viewer**  
(public query tool to analyze aggregate data across available datasets)

aggregate export

Various apps for public analysis/viz/display: Results Scorecard, Weave, SPSS, .csv

# Custom and “canned” reports

## % OF INSTRUCTIONAL DAYS MISSED DURING PAST MONTH AT CURRENT SCHOOL

### ETHNICITY DISTRIBUTION / GENDER DISTRIBUTION

SchYTD: Current Year|Campus: Tynan Early Childhood Campus|Grade: ALL|Zip: ALL|Census Tract: ALL|Risk: Limited English (GREEN)|Site: ALL|Program: ALL|Agency:



# Person-level dashboard

- **Attendance**

State	Indicator	Date	Value(s)	Options
▲	# instructional days between first day of school and enrollment	10/25/2013	2 Day(s)	
●	Current # of consecutive missed instructional days at current school	10/25/2013	0 Day(s)	
▲	% of instructional days missed during first month of school	9/24/2013	5 %	
◆	% of instructional days missed during past month at current school	10/25/2013	41 %	
◆	% of instructional days missed in past week at current school			
▲	# of Attendance Warning Notices issued so far this school year			
●	Current % of instructional days enrolled in current school (mobility)			
■	Previous year-end % of instructional days enrolled (mobility)			

**4 yo Female**

School Year

+ **Coursework & Testing**

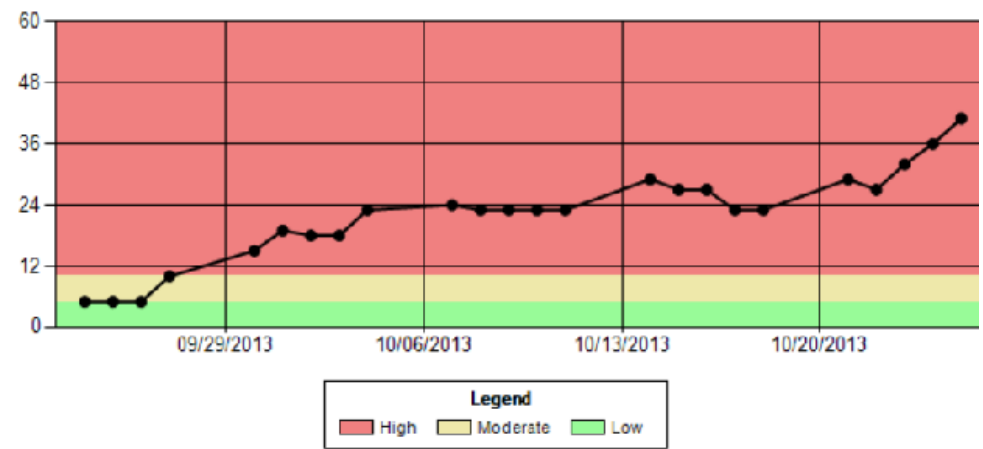
- **Other**

State	Indicator
●	Homeless/doubling up
●	Limited English Proficient
●	Migrant

ose

**Item History**

% of instructional days missed during past month at current school


















# Household and family dashboards

Start Date  End Date

Note

Household Members **Lives Elsewhere Family Members**

**Household Members**    All (including past members of the household)

	Last Name	First Name	Age	Sex	Relationship	Edu	Em
 				Female	Not Known	UNK	UN
 				Male	Not Known	UNK	UN
 				Male	Not Known	UNK	UN
 				Male	Not Known	UNK	UN
 				Female	Not Known	UNK	UN
 				Male	Not Known	UNK	UN
 				Male	Not Known	UNK	UN

# Public reports

The screenshot displays the 'Community Viewer' web application. The browser address bar shows the URL 'https://viewer.cinow.info/CINow/'. The application header includes a 'CV Home Page' button and the 'COMMUNITY VIEWER' logo. Below the header, there are navigation tabs for 'Birth' and 'Hospitalization', with 'Hospitalization' currently selected. A secondary row of tabs includes 'Year', 'Outcome', 'Geo. Filters', 'Misc. Filters', 'Diagnostic Filters', 'Procedure Filters', 'Group By', 'Report', and 'Clear'. The 'Outcome' tab is active, revealing a list of 17 report options under the heading 'Outcomes'. Each option is preceded by a radio button.

**Outcomes**

- Discharges: Gender (at start of care)
- Discharges: Age Group (on date of discharge)
- Discharges: Race
- Discharges: Ethnicity
- Discharges: Patient's County (FIPS code)
- Discharges: Type of Admission
- Discharges: Source of Admission
- Discharges: Risk of Mortality Score (APR-DRG)
- Discharges: Severity of Illness Score (APR-DRG)
- Total Number of Length of Stay (LOS)
- Mean( $\mu$ ) Value of Length of Stay (LOS)
- Disposition (Patient status as of end of service)
- Principal Diagnosis Code
- Principal Diagnosis Code (Top N only)
- Clinical Classifications Software (CCS) Level 1
- Clinical Classifications Software (CCS) Level 2
- Clinical Classifications Software (CCS) Level 2 (Top N only)
- Mean( $\mu$ ) Value of Length of Stay (LOS) by Clinical Classifications Software (CCS) Level 1

# Further analysis & visualization

