

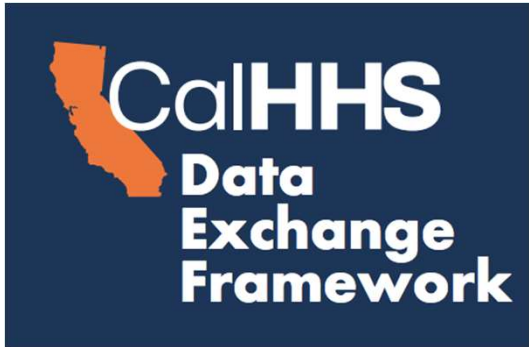
Agenda III: (Part 1) Discussion about Demographic Data Stratification

Ignatius Bau, JD | Health Equity Expert, HCAI Consultant

Assembly Bill 1204

127372. (a) A hospital shall prepare an annual equity report. The equity report shall include an analysis of health status and access to care disparities for patients on the basis of age, sex, race, ethnicity, language, disability status, sexual orientation, gender identity, and payor.

(b) On and after September 30, 2025, but not until 12 months after the release of the federal Centers for Medicare and Medicaid Services' health equity quality measures for their proposed rules for other Medicare prospective payment systems, the annual equity report submitted by a hospital shall report on the Agency for Healthcare Research and Quality's Quality Indicators or any other relevant measures specified by the advisory committee, including measures of access, quality, and outcomes by age, sex, race, ethnicity, language, disability status, sexual orientation, gender identity, and payor for the hospital's patient populations, pursuant to the recommendations provided by the advisory committee. The equity report shall also include a plan to prioritize and address disparities for vulnerable populations identified in the data, with measurable objectives and specific timeframes, pursuant to the recommendations provided by the advisory committee and consistent with subdivision (d).



Under [AB 133](#), general acute care hospitals, physician organizations and medical groups, skilled nursing facilities, health plans, disability insurers, clinical laboratories, and acute psychiatric hospitals are required to sign the Data Sharing Agreement (DSA).

Additional health care and social services providers may choose to voluntarily sign the DSA, including counties, community-based organizations, emergency medical services, and unspecified mental health providers.

II. Policy

This policy shall be effective as of January 31, 2024.

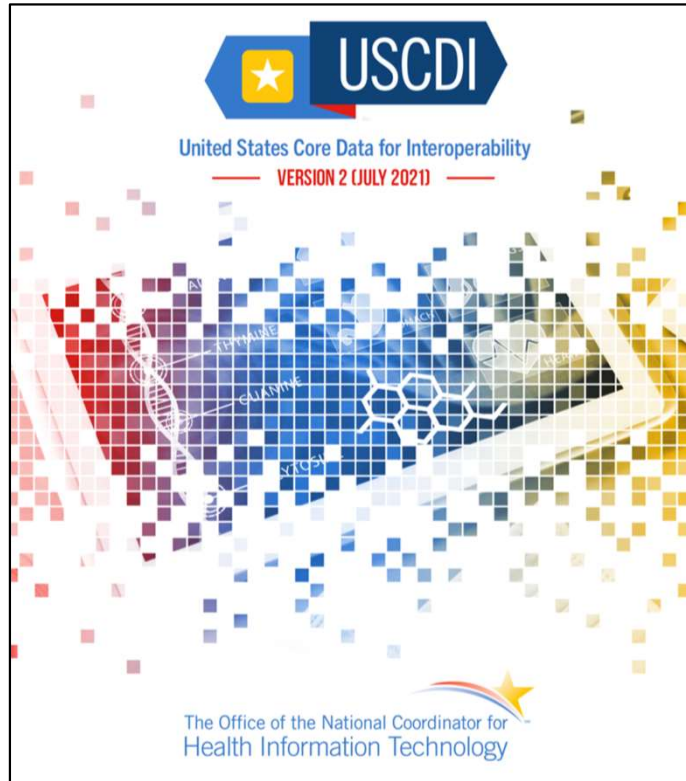
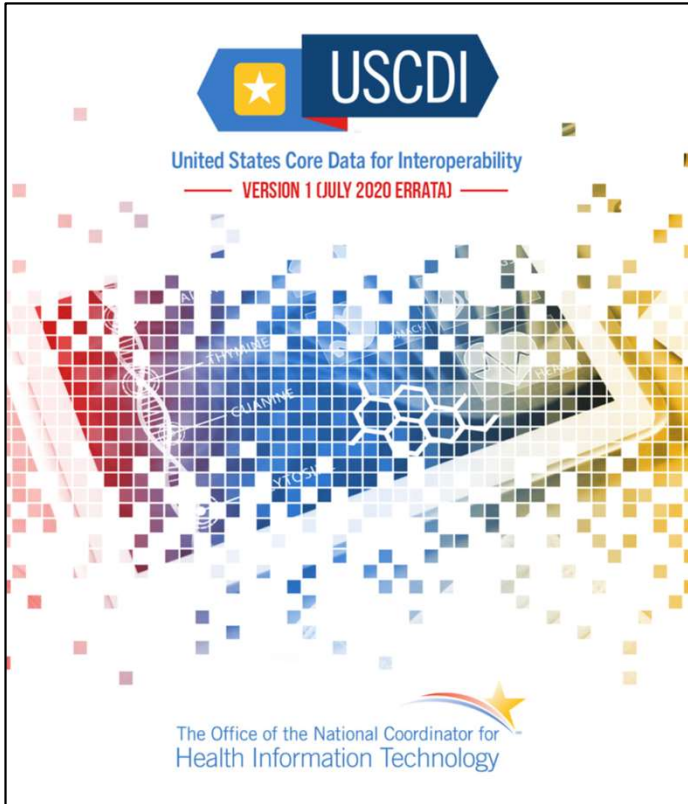
1. DATA TO BE EXCHANGED

a. Participants shall make available or exchange, at a minimum, data as defined in the subparagraphs below.

i. Health Care Providers, including but not limited to physician practices, organizations, and medical groups, general acute care hospitals, critical access hospitals, long term acute care hospitals, acute psychiatric hospitals, rehabilitation hospitals, skilled nursing facilities, and clinical laboratories, shall provide access to or exchange at a minimum:

a. Until October 6, 2022, data elements in the [United States Core Data for Interoperability \(USCDI\) Version 1](#) if maintained by the entity.

b. After October 6, 2022, all Electronic Health Information (EHI) as defined under federal regulation in [Section 171.102 of Title 45 of the Code of Federal Regulations](#), including data elements in the [United States Core Data for Interoperability \(USCDI\) Version 2](#), if maintained by the entity.





Office of the National Coordinator
for Health Information Technology

Standards Version Advancement Process

Approved Standards for 2022

Approved Standards for 2022

[United States Core
Data for Interoperability
\(USCDI\), Version 2,
July 2021](#)



United States Core Data for Interoperability

— VERSION 2 (JULY 2021) —

Age





United States Core Data for Interoperability

— VERSION 2 (JULY 2021) —

Race and Ethnicity

Both standards are required:

- The Office of Management and Budget Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity, Statistical Policy Directive No. 15, as revised, October 30, 1997
- CDC Race and Ethnicity Code Set Version 1.0 (March 2000)

Adopted at 45 CFR 170.207(f)

Race and Ethnicity

The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting are defined as follows:

-- **American Indian or Alaska Native.** A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

-- **Asian.** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

-- **Black or African American.** A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

-- **Hispanic or Latino.** A person of Cuban, Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."

-- **Native Hawaiian or Other Pacific Islander.** A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

-- **White.** A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Respondents shall be offered the option of selecting one or more racial designations. Recommended forms for the instruction accompanying the multiple response question are "Mark one or more" and "Select one or more."

Race and Ethnicity Code Set Version 1.0

Prepared by the Centers for Disease Control and Prevention March 2000

Category and Code Set	Total Number of Categories	Estimated Breakdown of Categories by OMB Race and Hispanic Ethnicity Category
CDC/HL7 Race and Ethnicity Code Set 1.0 (2000)	Over 925 categories	Over 800 American Indian or Alaska Native categories 21 White categories 19 Black or African American categories 24 Asian categories/codes categories 23 NHOPI categories 38 Hispanic or Latino categories



United States Core Data for Interoperability

— VERSION 2 (JULY 2021) —

Language



Request for Comment (RFC) 5646, “Tags for Identifying Languages”, September 2009

Adopted at 45 CFR 170.207(g)(2)



International
Organization for
Standardization

Language codes - ISO 639

ISO 639 is composed of six different parts

- Part 1 (ISO 639-1:2002) provides a 2 letter code that has been designed to represent most of the major languages of the world.
- Part 2 (ISO 639-2:1998) provides a 3 letter code, which gives more possible combinations, so ISO 639-2:1998 can cover more languages.
- Part 3 (ISO 639-3:2007) provides a 3 letter code and aims to give as complete a listing of languages as possible, including living, extinct and ancient languages.
- Part 4 (ISO 639-4:2010) gives the general principles of language coding and lays down guidelines for the use of ISO 639.
- Part 5 (ISO 639-5:2008) provides a 3 letter code for language families and groups (living and extinct).
- Part 6 (ISO 639-6:2009) provides a 4 letter code, useful when there is a potential need to cover the entire range of languages, language families and groups and language variants in a system.

HCAI currently requires ISO 639-2 codes



United States Core Data for Interoperability

— VERSION 2 (JULY 2021) —

Sex Assigned at Birth

Birth sex must be coded in accordance with HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:

- Female. F
- Male. M
- Unknown. nullFlavor UNK

Adopted at 45 CFR 170.207(n)(1)



United States Core Data for Interoperability

VERSION 2 (JULY 2021)

Gender Identity

Gender Identify must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:

- Male. 446151000124109
- Female. 446141000124107
- Female-to-Male (FTM)/Transgender Male/Trans Man. 407377005
- Male-to-Female (MTF)/Transgender Female/Trans Woman. 407376001
- Genderqueer, neither exclusively male nor female. 446131000124102
- Additional gender category or other, please specify. nullFlavor OTH
- Choose not to disclose. nullFlavor ASKU

Adopted at 45 CFR 170.207(o)(2)



United States Core Data for Interoperability

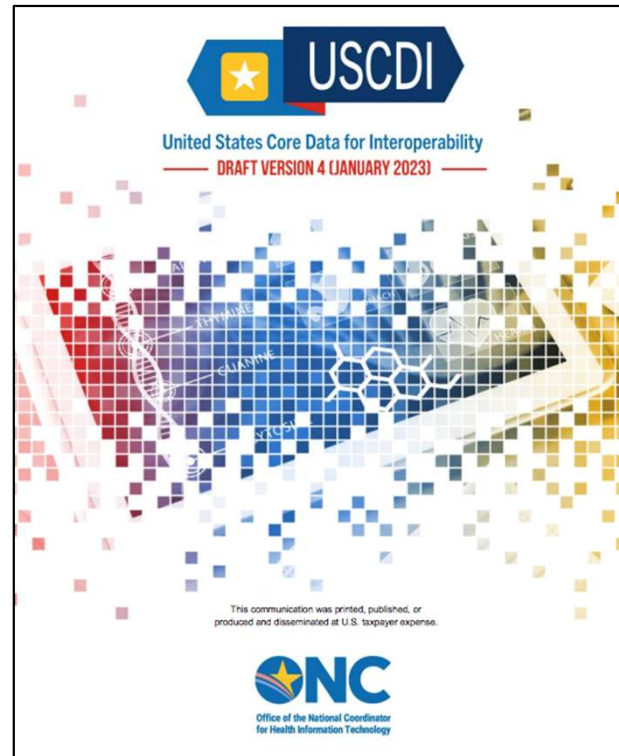
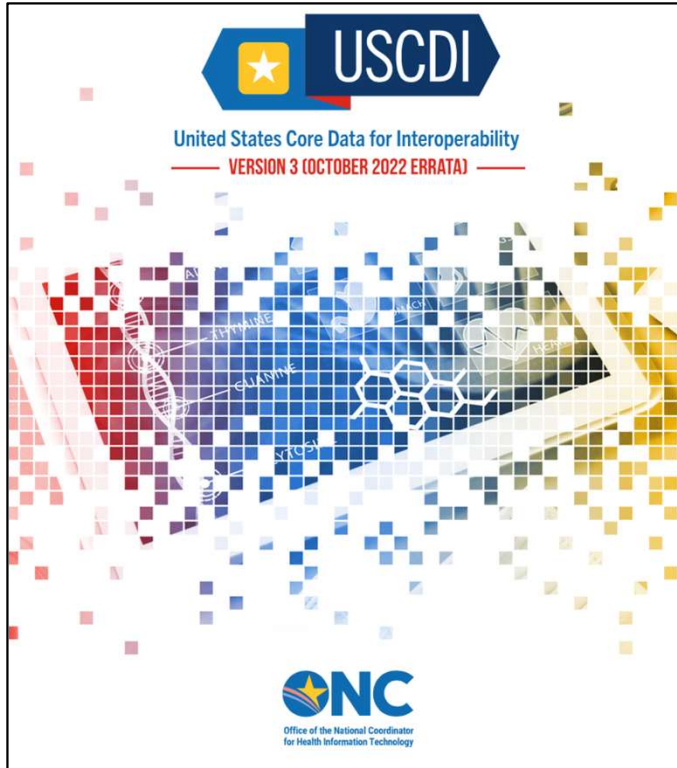
— VERSION 2 (JULY 2021) —

Sexual Orientation

Sexual orientation must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:

- Lesbian, gay or homosexual. 38628009
- Straight or heterosexual. 20430005
- Bisexual. 42035005
- Something else, please describe. nullFlavor OTH
- Don't know. nullFlavor UNK
- Choose not to disclose. nullFlavor ASKU

Adopted at 45 CFR 170.207(o)(1)





Disability Status

Disability Status

Assessments of a patient's physical, cognitive, intellectual, or psychiatric disabilities. (e.g., vision, hearing, memory, activities of daily living)

- Logical Observation Identifiers Names and Codes (LOINC®) version 2.72



98067-2 Patient-centered disability questionnaire

Census →

69857-1 Are you blind, or do you have serious difficulty seeing, even when wearing glasses?

Census →

69856-3 Are you deaf, or do you have serious difficulty hearing?

Census →

69859-7 Do you have serious difficulty walking or climbing stairs?

Census →

69860-5 Do you have difficulty dressing or bathing?

69858-9 Do you have difficulty remembering or concentrating? Census: ...or making decisions

98068-0 Using your usual language, do you have difficulty communicating (for example, understanding or being understood)?

Census →

69861-3 Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a physician's office or shopping?

98078-9 Do you have difficulty reading or writing?

98079-7 Due to a disability, do you need any additional assistance or accommodations during your visit



Payer

Coverage Status

Presence or absence of health care insurance.

Coverage Type

Category of health care payer. (e.g., Medicare, TRICARE, Commercial Managed Care - PPO)

Group Identifier

Sequence of characters used to uniquely refer to a specific health insurance plan.

Payer Identifier

Sequence of characters used to uniquely refer to an insurance payer.



United States Core Data for Interoperability

— VERSION 3 (OCTOBER 2022 ERRATA) —

SDOH Assessment

Screening questionnaire-based, structured evaluation (e.g., PRAPARE, Hunger Vital Sign, AHC-HRSN screening tool) for a Social Determinants of Health-related risk. (e.g., food insecurity, housing instability, or transportation insecurity)

- Logical Observation Identifiers Names and Codes (LOINC[®]) version 2.72

Optional:

- SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT[®]) U.S. Edition, March 2022 Release



Tribal Affiliation

- The HL7 codesystem for TribalEntityUS is defined as "Indian entities recognized and eligible to receive services from the United States Bureau of Indian Affairs".
- This Code system is referenced in the content logical definition of the following value sets:
 - [NativeEntityAlaska](#)
 - [NativeEntityContiguous](#)
 - [TribalEntityUS](#)
 - urn:oid:2.16.840.1.113883.5.140

Reducing Health Disparities in California's Public Health Care Systems

Figure 1. REAL Data Collection (Years 1-3)*

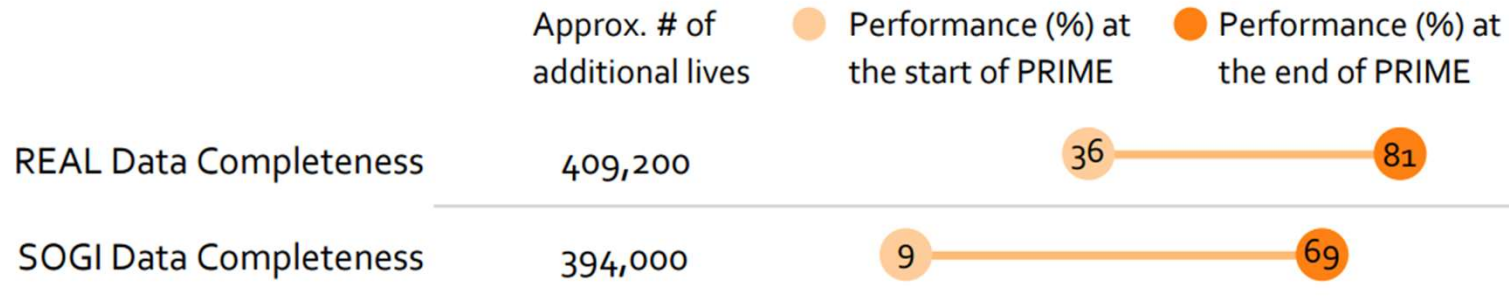


Figure 2. SOGI Data Collection (Years 2-3)*



*Data shows rates for public health care systems participating as individual PRIME entities (e.g. S1 = System 1).

Celebrating the Advancement of Equitable Care in California Through PRIME



Agenda III (Part 2): Administrative Data Currently Reported to HCAI

Chris Krawczyk, PhD | Chief Analytics Officer, HCAI

Addy Harewood Smith, PhD | Research Scientist, HCAI

HCAI Products Based on Data Reported by Hospitals

- [Patient Characteristics by County and Facility](#)
- [All-Cause Unplanned 30-Day Hospital Readmission Rate*](#)
- [Preferred Languages Spoken in California Facilities](#)
- [Social Drivers of Health \(SDoH\) and Preventable Hospitalization Rates, 2020](#)
- [Net Patient Revenue, Discharges, and Outpatient Visits by Payer and Facility](#)
- [Alcohol-Related Emergency Department Encounters in California, 2020](#)
- [Inpatient Hospitalizations and Emergency Department Visits for Persons Experiencing Homelessness in California: Patient Demographics By Facility](#)
- [Inpatient Hospitalizations and Emergency Department Visits for Patients with a Behavioral Health Diagnosis in California: Patient Demographics](#)

*From Let's Get Healthy California based on data HCAI provided

Data Stratification Groupings

- Age
- Race/ethnicity
- Sex
- Payer
- Preferred Language Spoken
- Geographic (rural vs. urban/patient zip code level only until 2023 data)
 - <https://oag.ca.gov/sites/all/files/agweb/pdfs/gambling/rural-areas.pdf>
 - https://www.ers.usda.gov/webdocs/DataFiles/53180/25559_CA.pdf?v=0
- Gender/SOGI*
- Disability*

- Potential limitations
 - How will disability get defined and coded?
 - Missing data on SOGI/ Gender
 - Limitations of using patient zip code for patient location; variation rural vs urban

*Data not available

Data Stratification: Age and Race/Ethnicity

- Age
 - Some products grouped in 10-year increments to provide costumers option for combining age group (example: Hospital Inpatient - Characteristics by Facility)
 - Some products grouped in 20-years increments due to small cell size and de-identification issues (example: Hospital Encounters for Behavioral Health)
 - Some grouped into bigger age groups (18-44, 45-64, 65+) for other stakeholders to match what they have (example: All-Cause Unplanned 30-day Hospital Readmission)
- Race/Ethnicity
 - Hospital Inpatient - Characteristics data by Facility separates race and ethnicity at the request of hospitals
 - All other datasets use race/ethnicity combined

Data Stratification: Payer

- Payer type is grouped differently based on data source
 - Patient discharge data: expected payer
 - Financial data: actual charges
 - Regulations differ for each data set
 - Medi-Cal, Medicare, Self pay, Private Pay are universal groupings but how they are defined may differ across datasets.

Examples of Payer Stratifications

- 2020 Social Drivers of Health (SDoH) and Preventable Hospitalization Rates
 - Medi-Cal
 - Medicare
 - Other payer
 - Private coverage
 - Self-pay
- Net Patient Revenue, Discharges, and Outpatient Visits by Payer and Facility
 - Medi-Cal
 - Medicare
 - Other/Private coverage
 - Self-pay
 - County indigent programs
- 2021 Hospital Inpatient - Characteristics by Facility
 - Medi-Cal
 - Medicare
 - Private Coverage
 - Self Pay
 - Workers' Compensation
 - County Indigent Programs
 - Other Government
 - Other Indigent
 - Other Payer
 - Unknown/Blank/Invalid

HCAI 2021 Hospital Inpatient - Characteristics

- Age
 - 0 – 9
 - 10 - 19
 - 20 - 29
 - 30 - 39
 - 40 - 49
 - 50 - 59
 - 60 - 69
 - 70 - 79
 - 80+
 - Unknown/Blank/Invalid/Masked
- Race*
 - American Indian/Alaska Native
 - Asian
 - Black or African American
 - Multiracial
 - Native Hawaiian or Other Pacific Islander
 - White
 - Other Race
 - Unknown/Blank/Invalid/Masked
- Ethnicity*
 - Hispanic or Latino
 - Non-Hispanic or Latino
 - Unknown/Blank/Invalid/Masked
- Sex
 - Male
 - Female

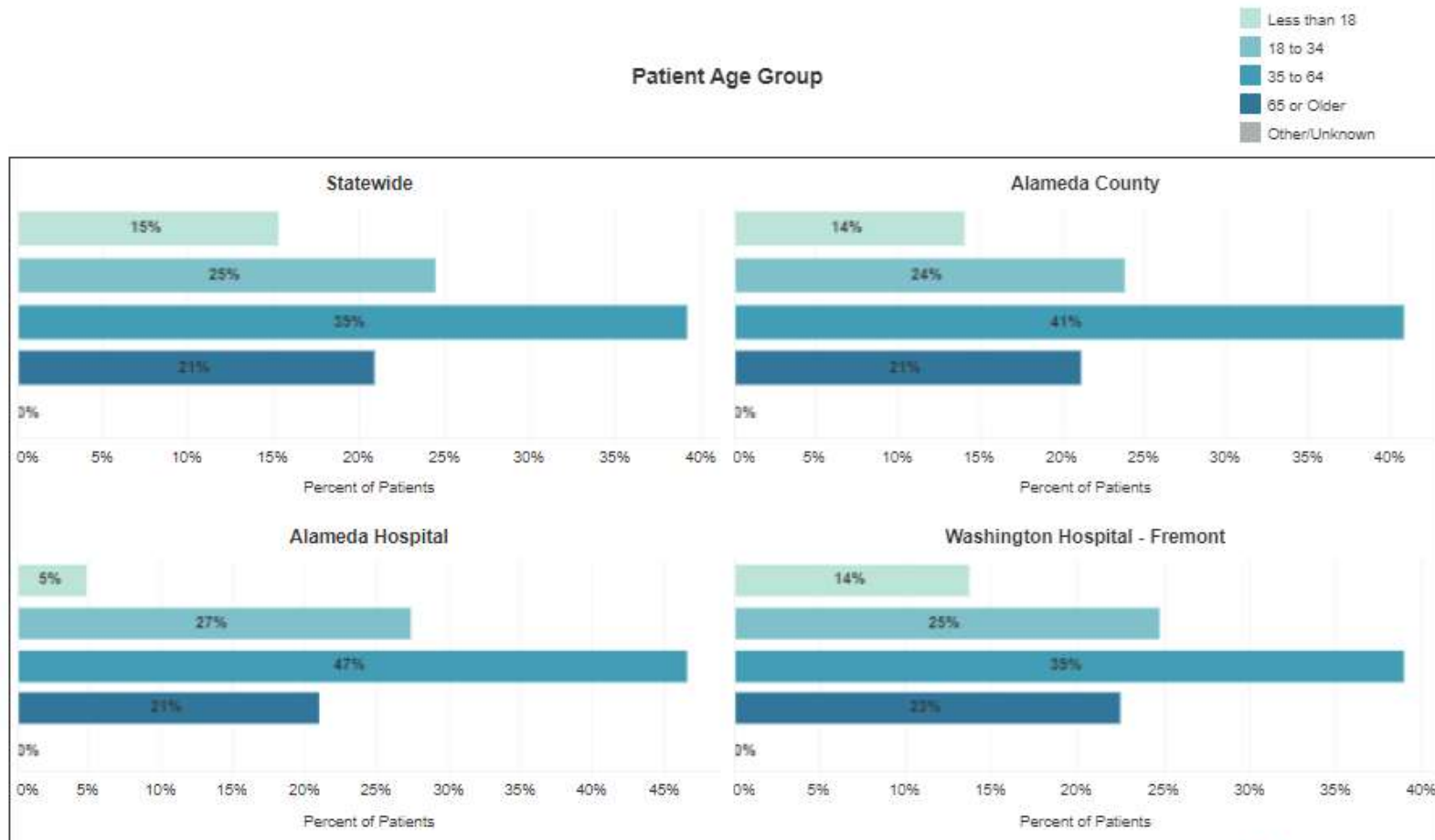
Access underlying data [here](#)

*Race and Ethnicity are separated in the underlying data but combined in the visualizations

HCAI 2021 Hospital Inpatient - Characteristics

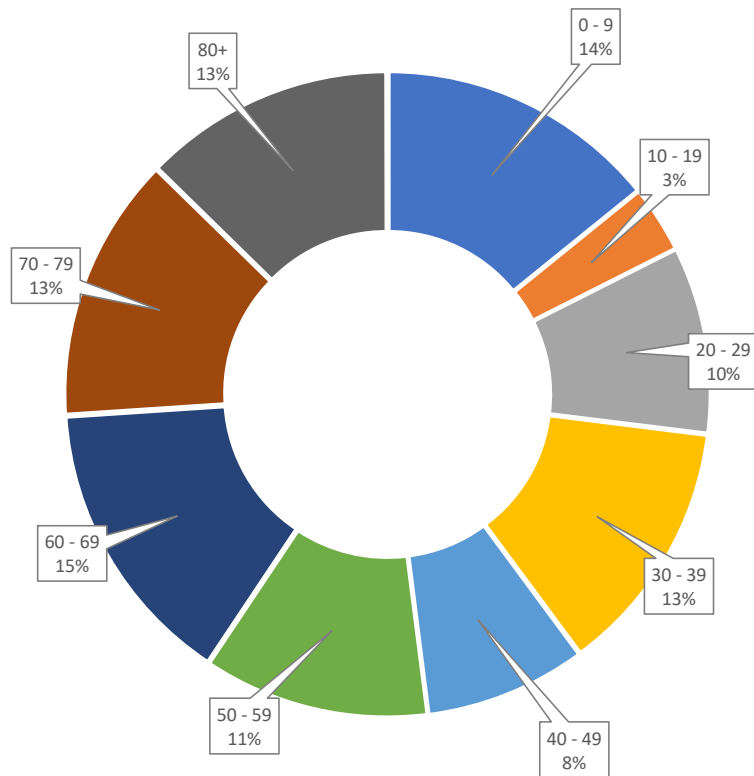
- Expected Payer
 - Medi-Cal
 - Medicare
 - Private Coverage
 - Self Pay
 - Workers' Compensation
 - County Indigent Programs
 - Other Government
 - Other Indigent
 - Other Payer
 - Unknown/Blank/Invalid

2021 Hospital Inpatient - Characteristics by Age

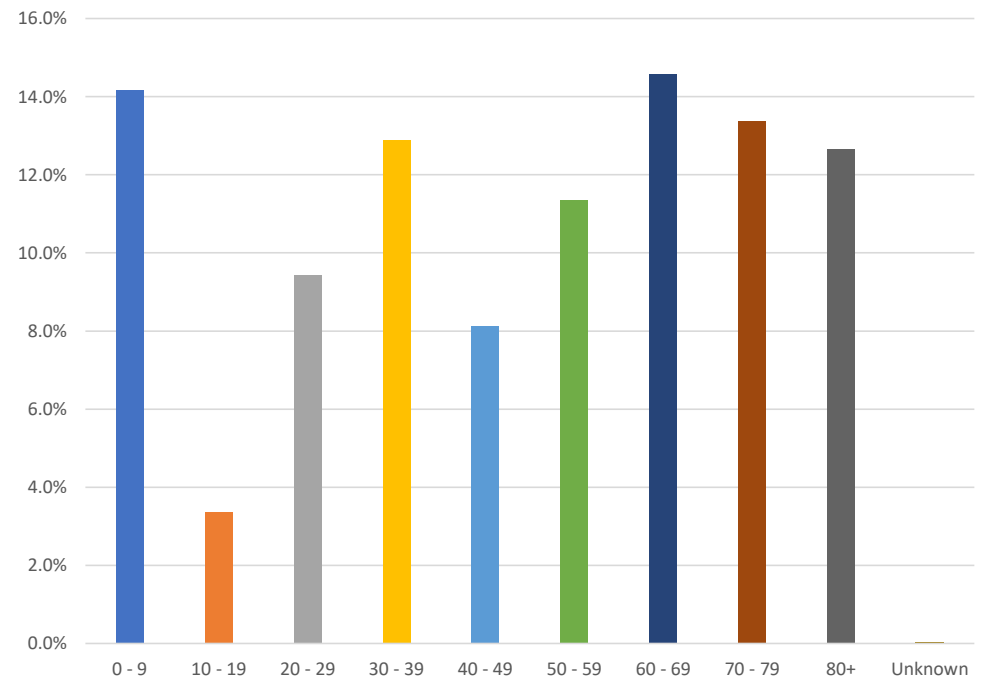


Example of Age Grouping Based on HCAI Hospital Discharge Data: [View Underlying Data](#)

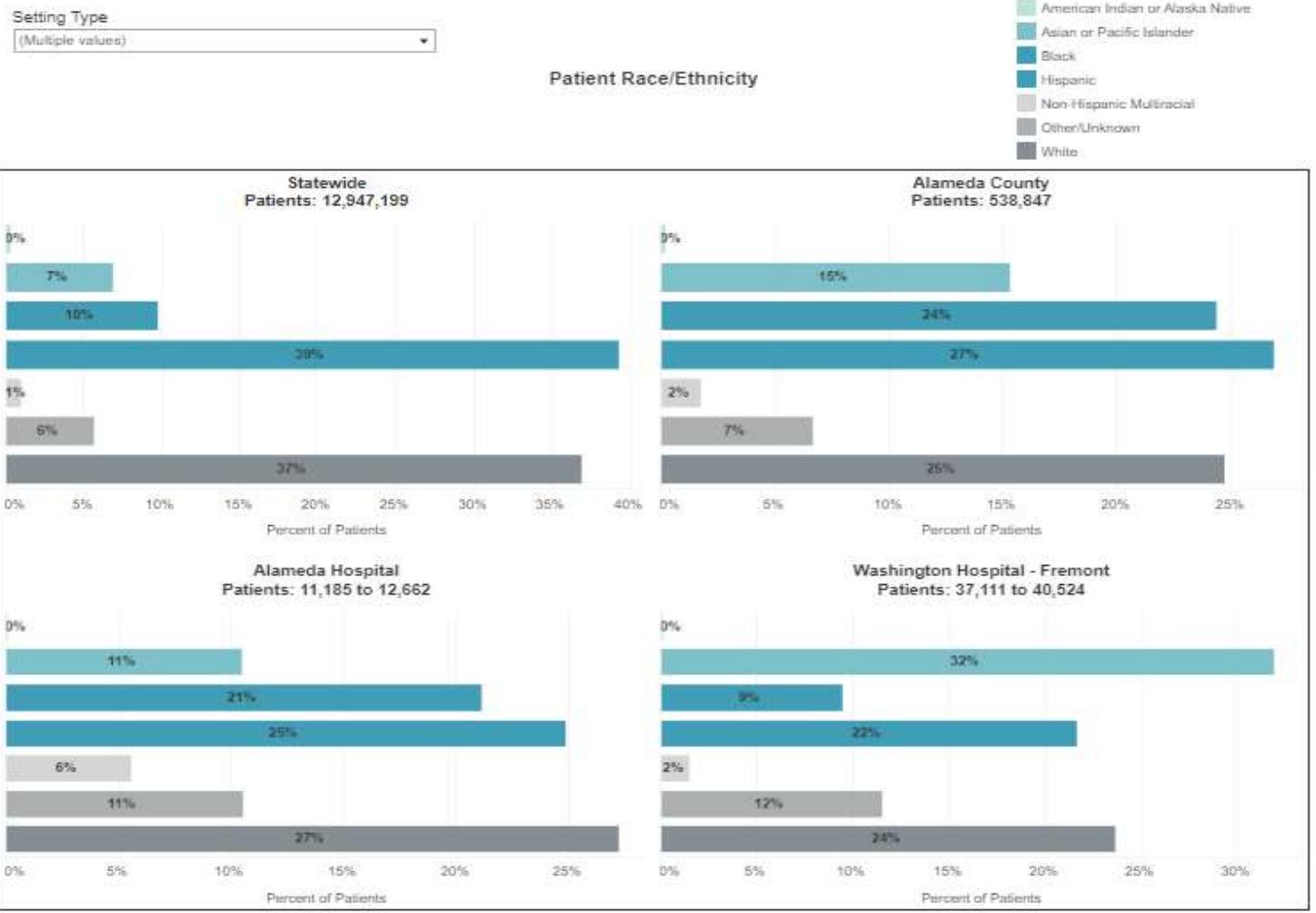
Hospital Discharge: Age



Hospital Discharge: Age

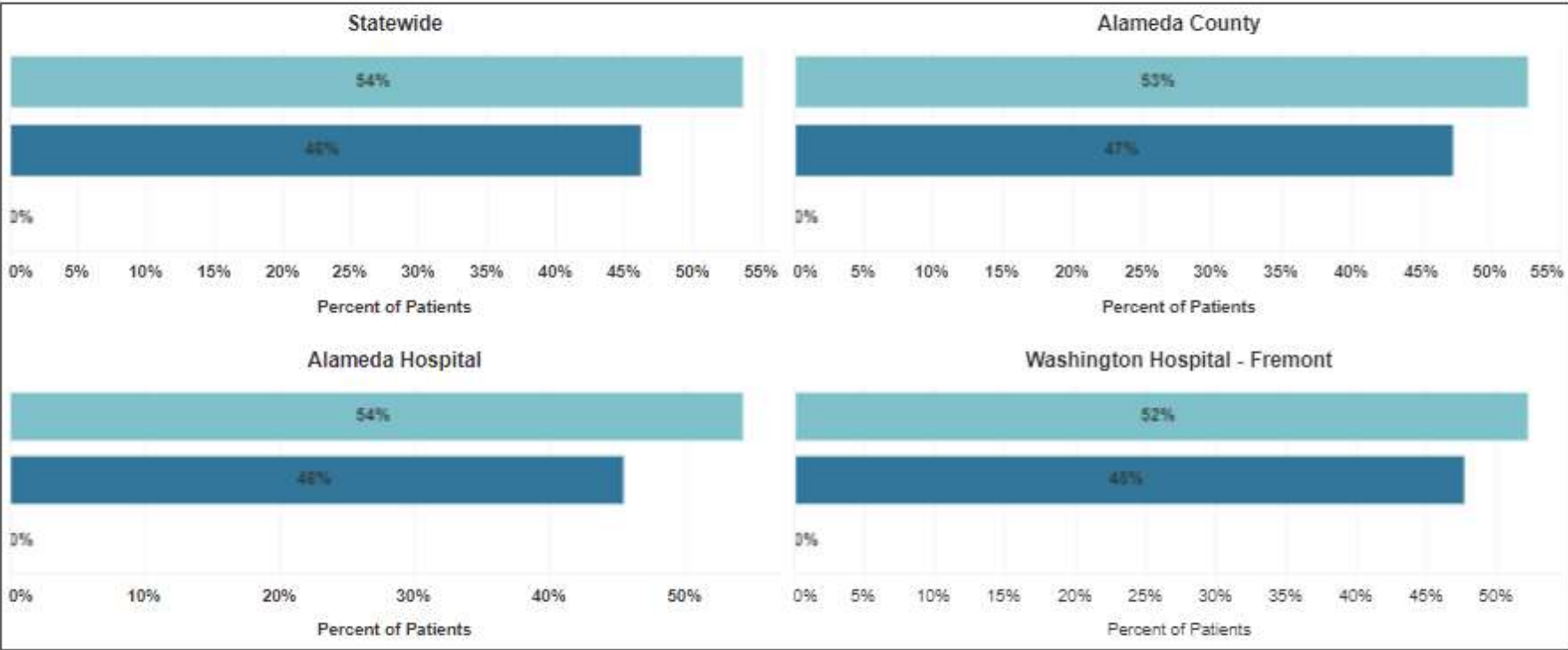
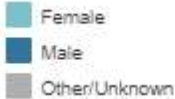


2021 Hospital Inpatient – Characteristics by Race/Ethnicity

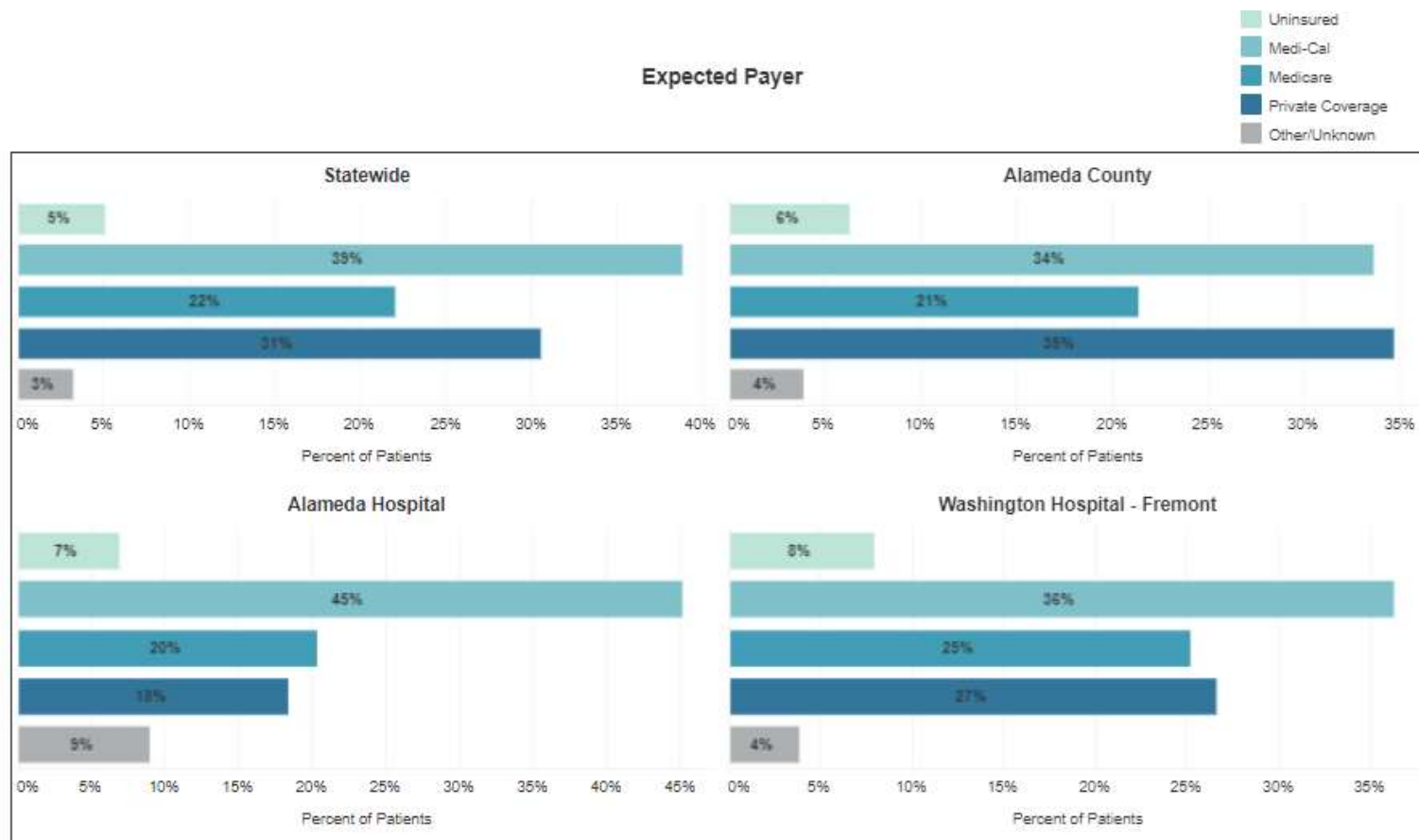


2021 Hospital Inpatient – Characteristics by Sex

Patient Sex



2021 Hospital Inpatient - Characteristics by Expected Payer



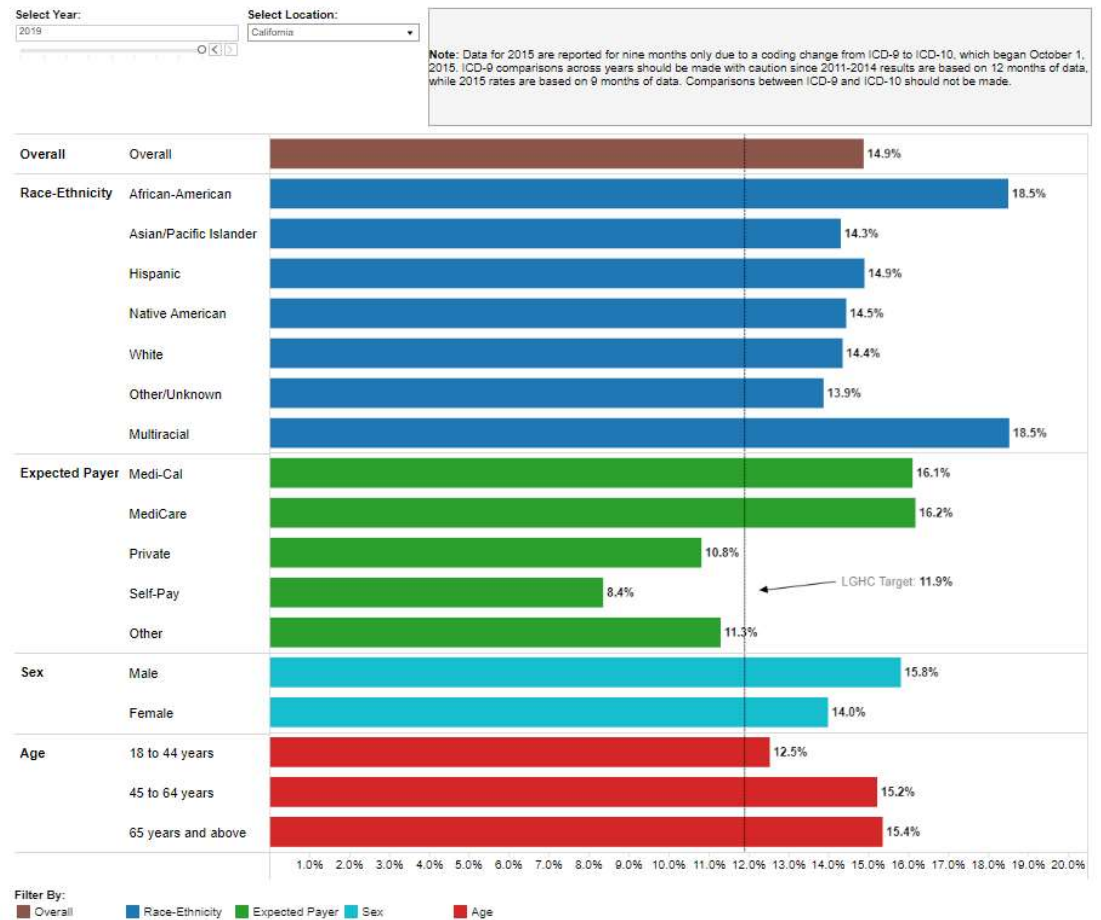
All-Cause Unplanned 30-Day Hospital Readmission Rate from Let's Get Healthy California (LGHC): Based on HCAI Data¹

- Race/Ethnicity
 - African American
 - Asian Pacific Islander
 - Hispanic
 - Native American
 - White
 - Other/Unknown
 - Multi-racial
- Expected Payer
 - Medi-Cal
 - Medicare
 - Private
 - Self-pay
 - Other
- Sex
 - Male
 - Female
- Age
 - 18-44 years old
 - 45-64 years old
 - 65+ years old

¹ HCAI Data URL: <https://data.chhs.ca.gov/dataset/all-cause-unplanned-30-day-hospital-readmission-rate-california>

Rate of Unplanned Hospital Readmissions within 30 Days of Discharge by Demographic Category (LGHC)

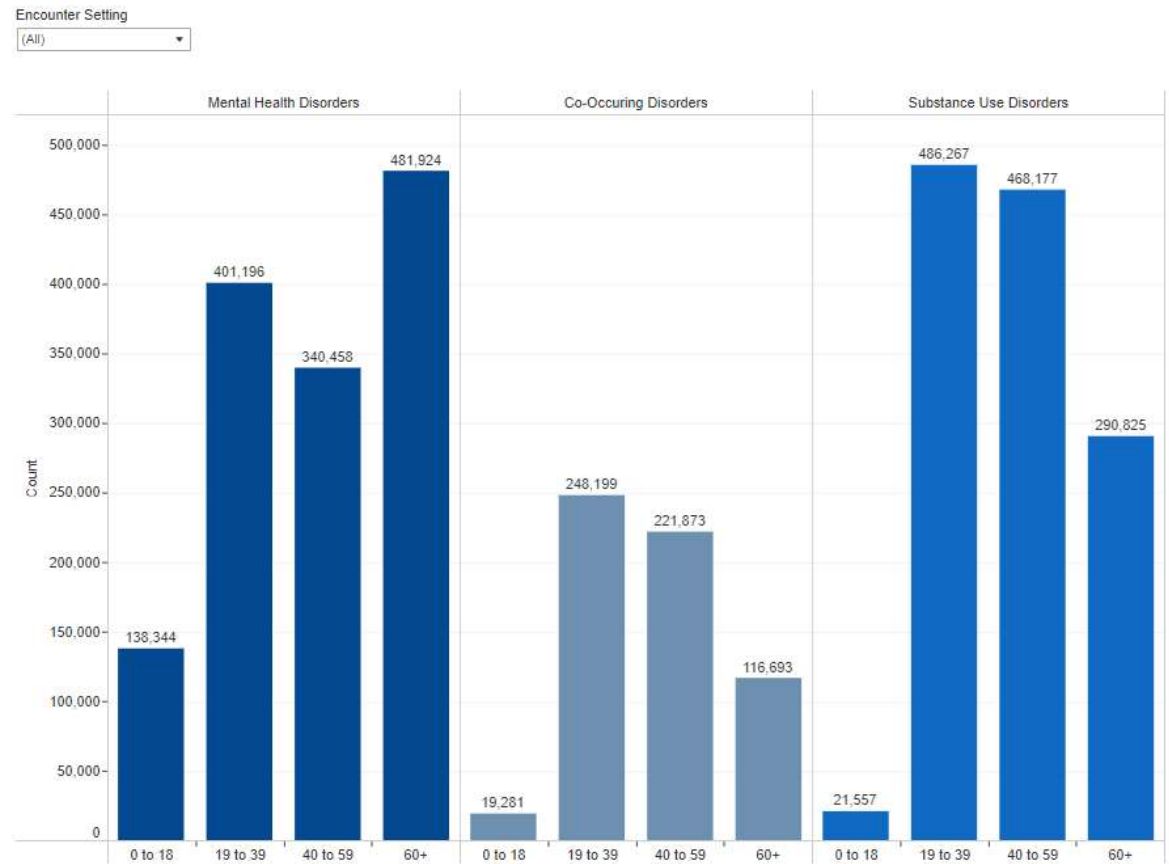
Rate of Unplanned Hospital Readmissions Within 30 Days of Discharge, by Demographic Category



Hospital Encounters for Behavioral Health by Age¹

¹Access underlying data at this URL:
<https://data.chhs.ca.gov/dataset/hospital-encounters-for-behavioral-health/resource/4122368e-ab54-4443-a11e-ddfc5e217879>

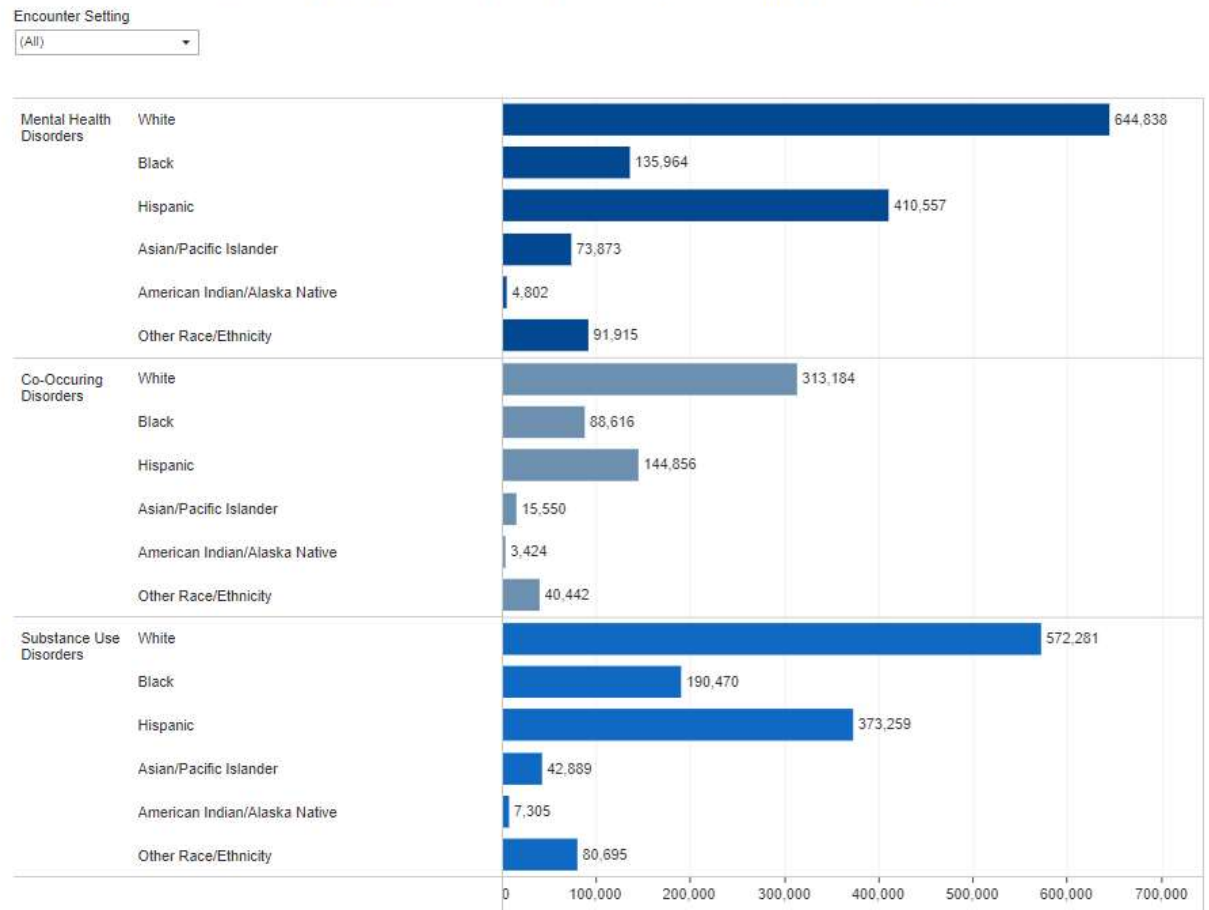
Number of Behavioral Health Diagnoses by Setting and Age Group, 2020



Note: Unknown age is not included.

Hospital Encounters for Behavioral Health by Race/Ethnicity

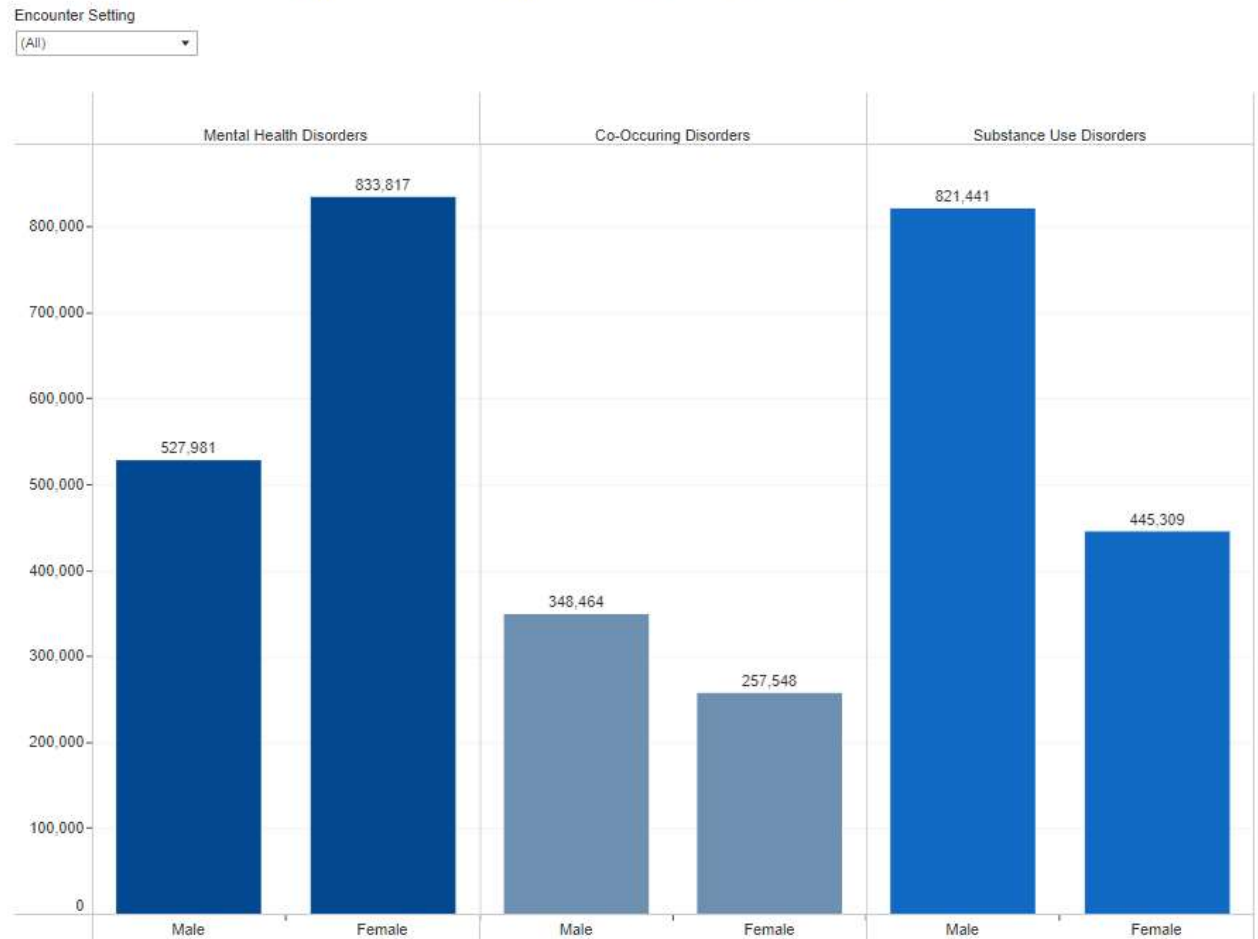
Number of Behavioral Health Diagnoses by Setting and Race/Ethnicity, 2020



Note: Other Race/Ethnicity includes Multi-Racial, Other, Unknown, Invalid, and Missing.

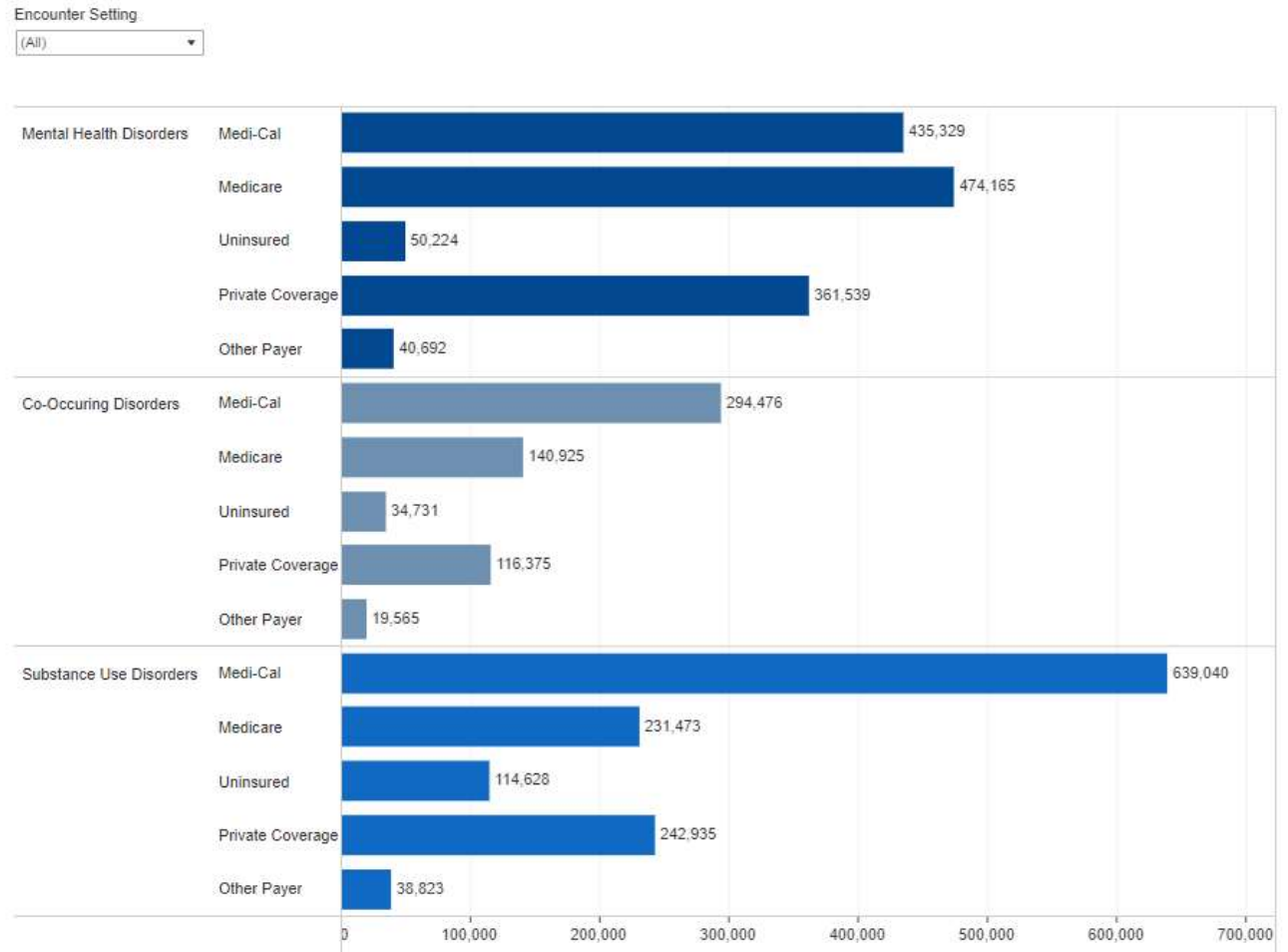
Hospital Encounters for Behavioral Health by Sex

Number of Behavioral Health Diagnoses by Setting and Sex, 2020



Hospital Encounters for Behavioral Health by Expected Payer

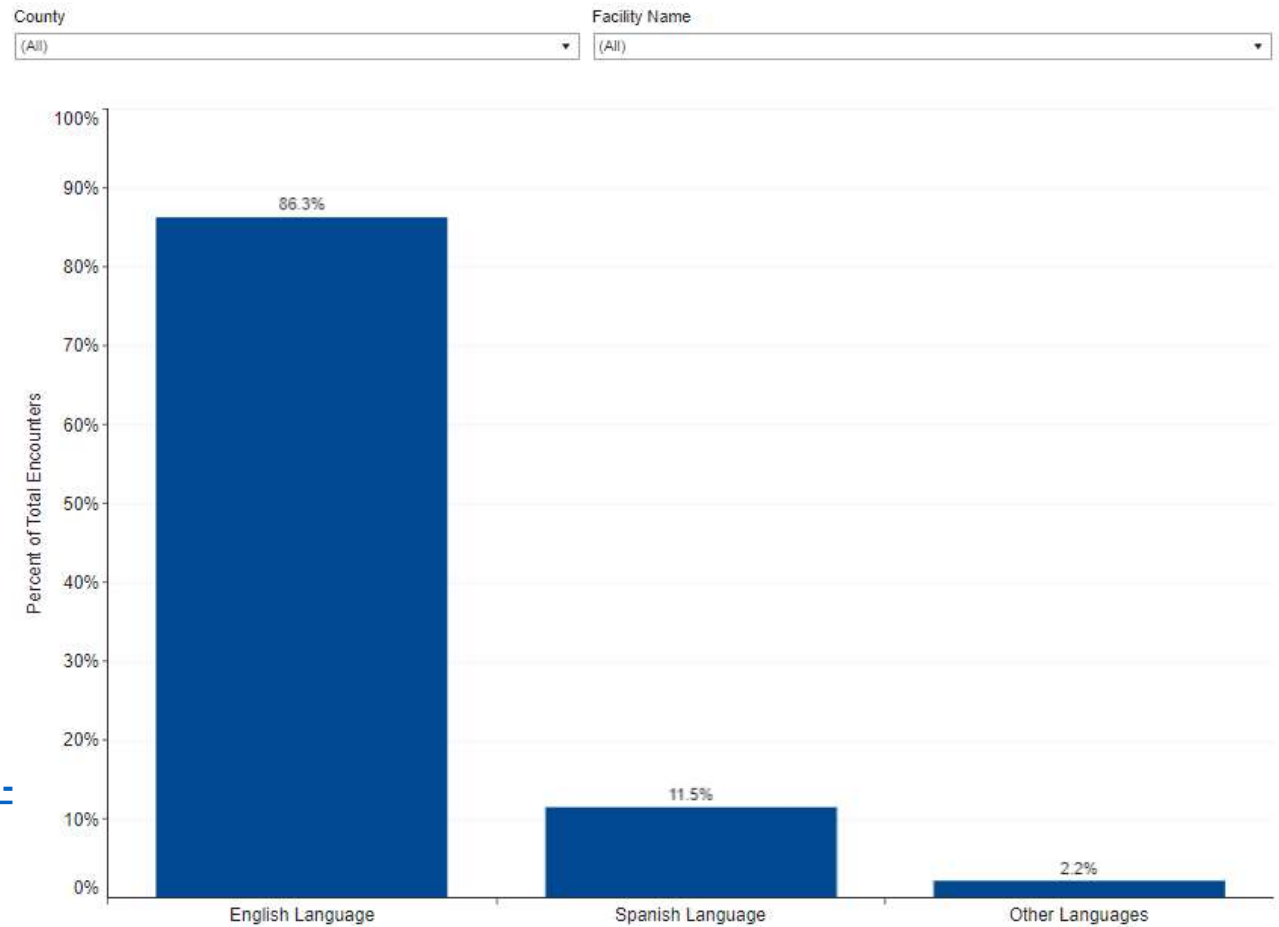
Number of Behavioral Health Diagnoses by Setting and Expected Payer, 2020



2020 Preferred Language Spoken in California Facilities¹

¹Access underlying data at this URL here: <https://data.chhs.ca.gov/dataset/preferred-language-spoken-in-california-facilities/resource/d48da3bb-71b7-46d9-b0b0-2c4211b2b192>

All Preferred Languages Spoken by Facility and County, 2020

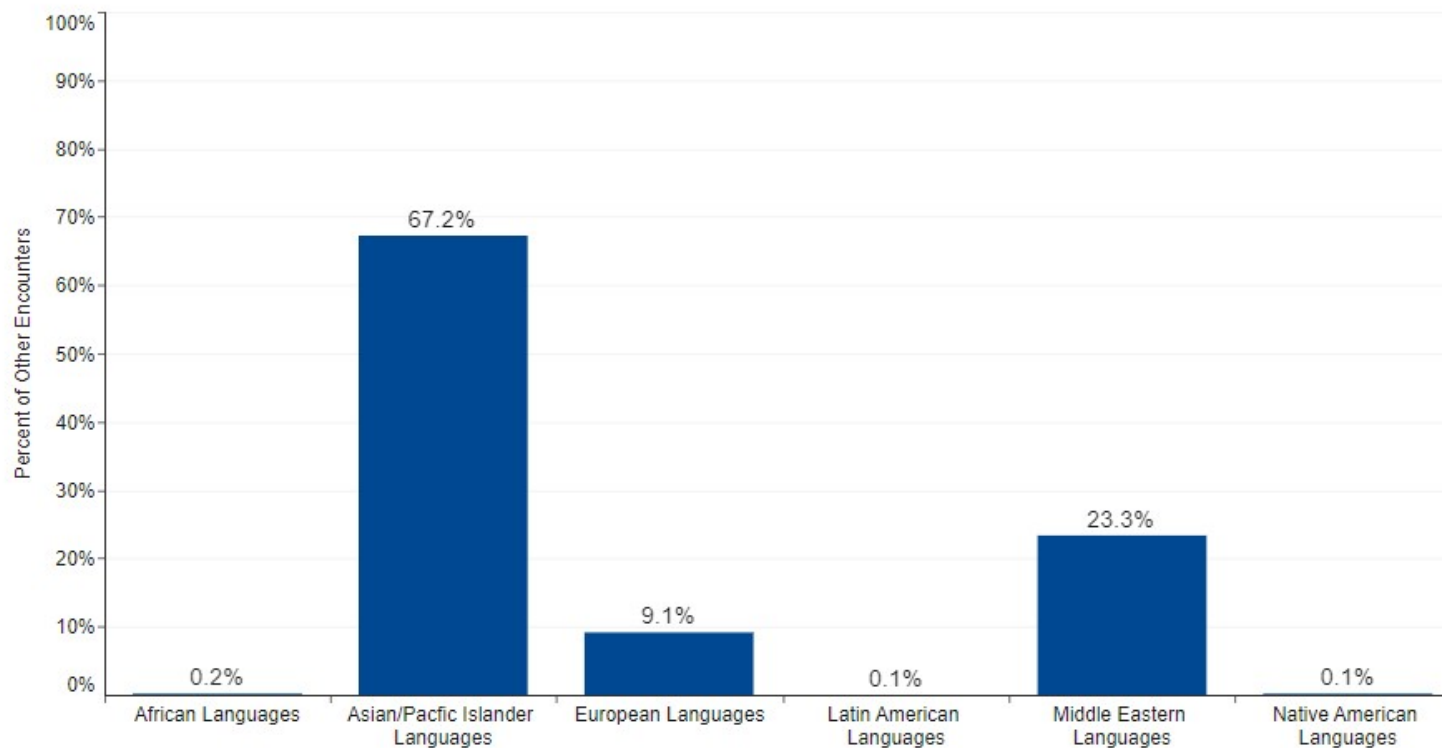


2020 Preferred Language Spoken in California Facilities

Other Preferred Languages Spoken by Facility, 2020

County: (All) | Facility Name: (All) | System: (All) | Licensed Bed Size: (All) | Hospital Ownership: (All) | Urban/Rural Designation: (All) | Teaching Designation: (All)

Health Professional Shortage Area (HPSA) - Primary Care: (All) | Health Professional Shortage Area (HPSA) - Mental Health: (All)



Data De-Identification Guideline (DDG) Implementation

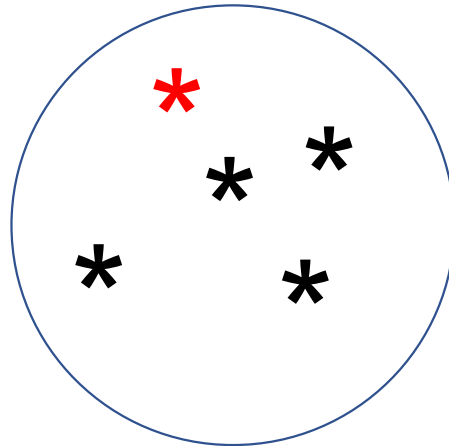
- Due to the type of data that hospitals will be reporting, there is risk of re-identification
- Hospitals will have to meet DDG requirements when reporting out data
 - Necessary to prevent risk of re-identification
- HCAI will provide hospitals with technical assistance to confirm that hospital data reports are compliant with DDG

Background DDG

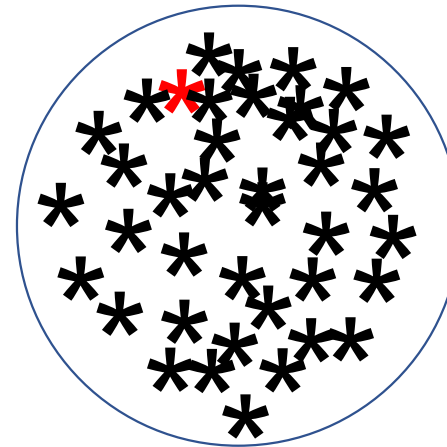
- Used for all data released to the public (custom analysis, reports, Legislature, PRAs, etc.)
- To be used by all CalHHS departments/offices
- Meet requirements of the California Information Practices Act (IPA) and HIPAA to prevent disclosure of personal information (table p. 8 in DDG)
- Aggregate data – collective data that relates to a group or category of services or individuals
 - Counts, percentages, rates, averages, etc.
- **Risk of re-identification**

DDG Background - uniqueness

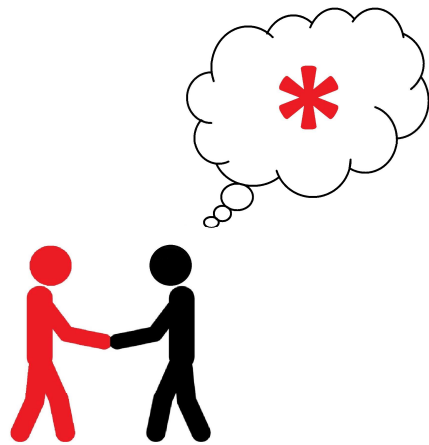
Aggregate Data File
 $n < 11$



Aggregate Data File
 $n \geq 11$



DDG Background – other knowledge (data in the world)



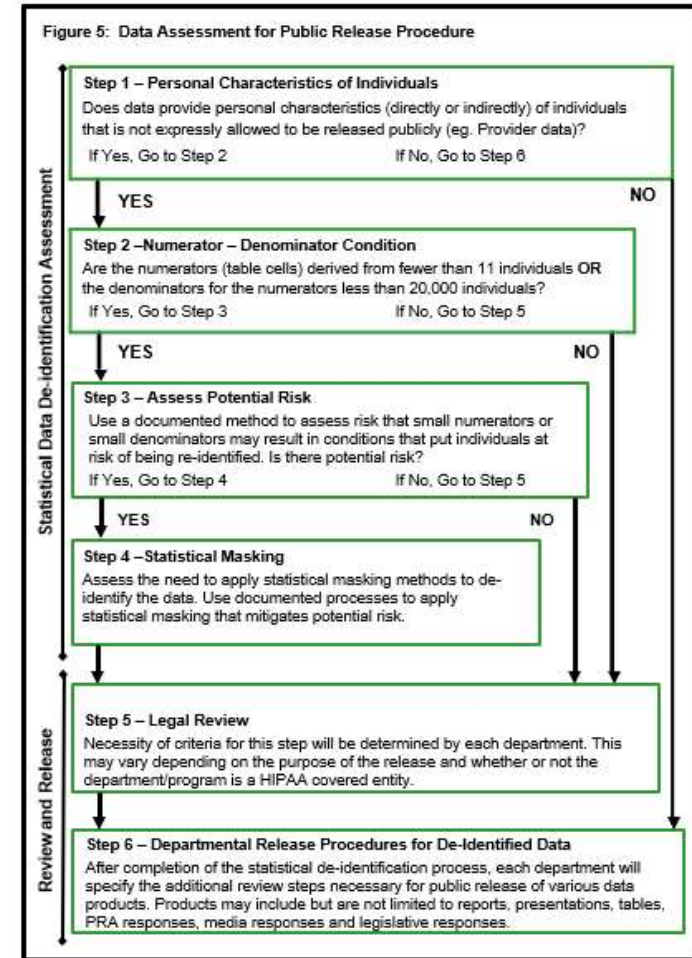
Custom Data Request:

- Assault in a hospital by facility
 - Facility incident reports
 - Law enforcement/Court records



DDG Methodology

1. Personal Characteristics of Individuals
2. Numerator – Denominator Condition
3. Address Potential Risks
4. Statistical Masking
5. Legal Review
6. Departmental Release Procedures for De-Identified Data



DDG Scoring Example

Amador County residents by age group (10 yr) with “Condition Y” by year, 2020 and 2021 (or 2020-2021)

Scoring	2020/2021	2020-2021
Events (<11)	+7	+7
Age (6-10 yrs)	+3	+3
Year (1) or (2-4)	0	-3
Geography (37,000)	<u>+4</u>	<u>+4</u>
Total	+14	+11

Score is >12, so proceed to Step 4

Score is <12, so no masking