HCAi
Department of Health Care Access and Information

AB 1204 HEM Reporting: Technical Assistance

Zachary Gersten, PhD, MPH
Health Equity Research Scientist
Healthcare Analytics Branch

Alma Lopez
Manager, Hospital Disclosures and Compliance Unit

Agenda

1. Introductions
   - Who is here?
   - What technical assistance can we offer?
2. HEM Report Data De-identification Guidelines
3. HEM Report Submission
4. Q&A Session

HEM Technical Assistance

- 1:1 emails and video calls for specific technical assistance
  - Email: hospitalequity@hcai.ca.gov
- Written resources (e.g., FAQs) for developing HEM reports
- Review incoming completed HEM reports
- Summarize analyses of HEM reports for the California public

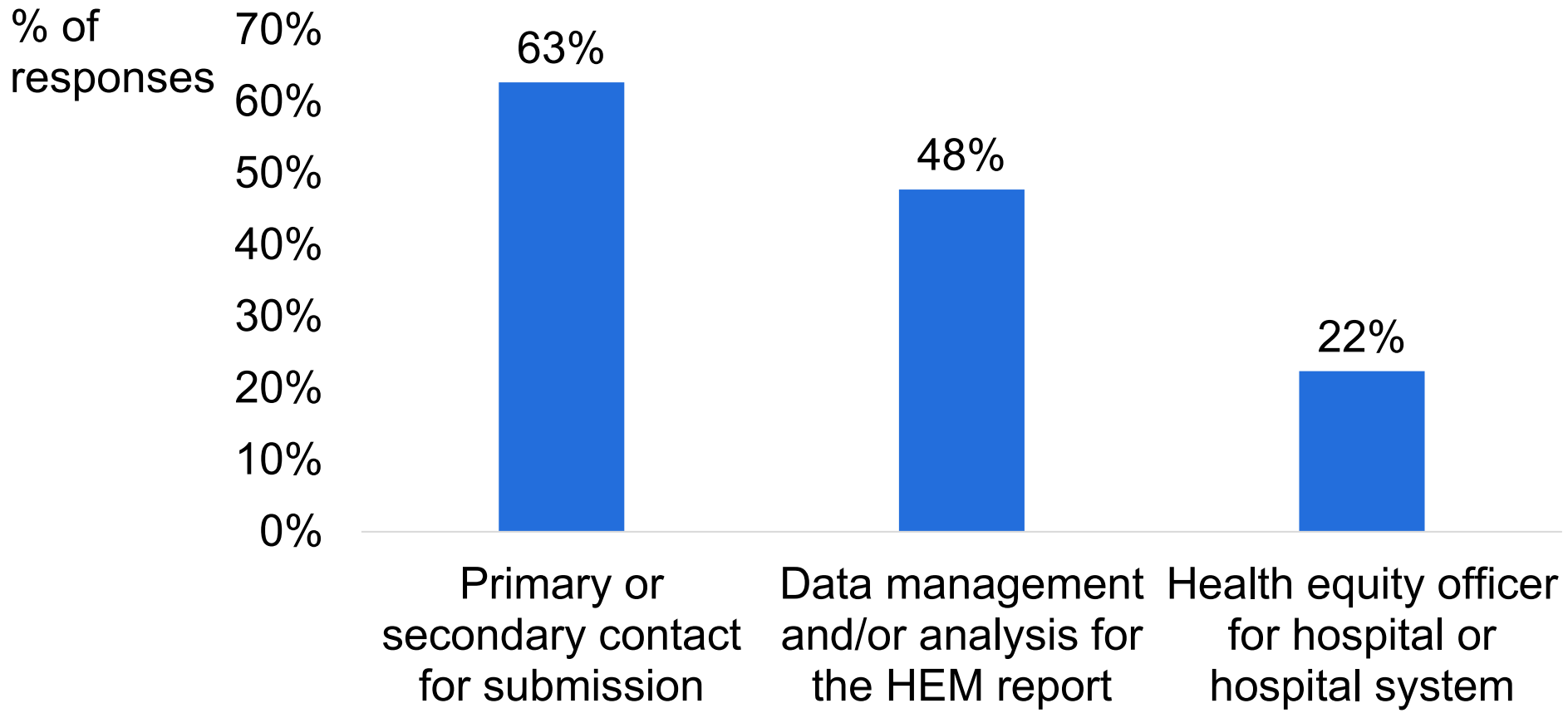
Pre-webinar Survey Results

- Thank you everyone for your responses!
- Survey results informed webinar design to better fit hospital needs

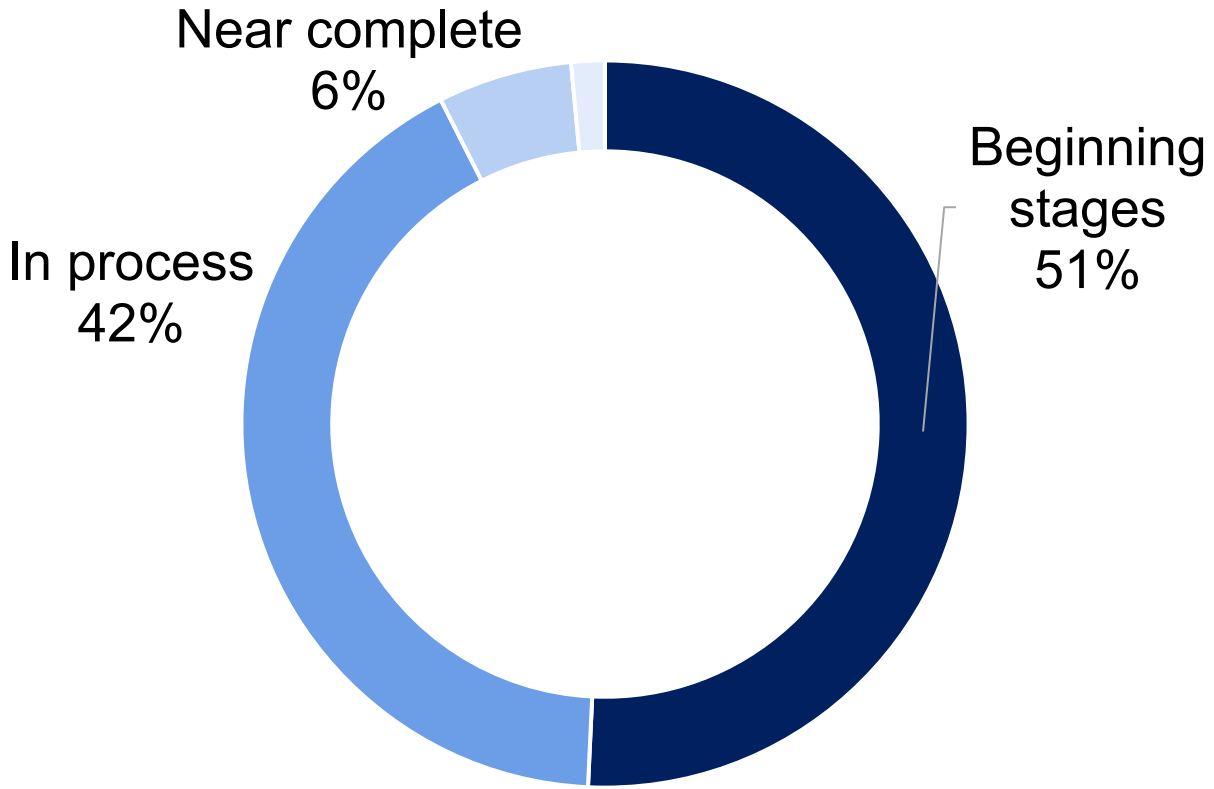
Pre-webinar Survey Results

- We received 67 responses from 364 webinar registrants (18.4%)

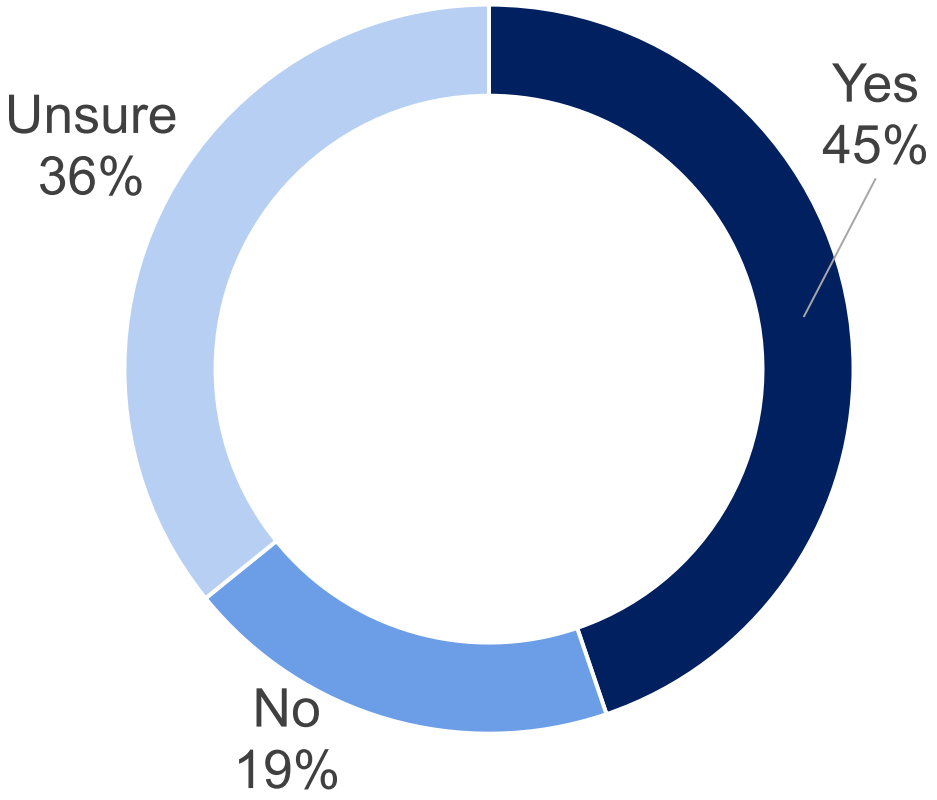
Pre-webinar Survey Results: Reporting Role



Pre-webinar Survey Results: Report Progress



Pre-webinar Survey Results: External Services



Pre-webinar Survey Results: Priority Topics

Data de-identification guidelines (DDG)

1. What conditions trigger risk assessment
2. Publication Criteria Score (PCS) method: Variable interactions
3. When and why data de-identification is necessary
4. PCS: Other variables
5. PCS: Defining events
6. PCS: Other risk criteria

Pre-webinar Survey Results: Priority Topics

Data de-identification guidelines (DDG)

1. *What conditions trigger risk assessment*
2. *Publication Criteria Score method: Variable interactions*
3. *When and why data de-identification is necessary*
4. *PCS: Other variables*
5. PCS: Defining events
6. PCS: Other risk criteria

Data De-identification

How, when, and why?

Why De-identify Data for HEM Reports

- AB 1204 statute requires data shall be disclosed in a manner that protects the personal information of patients pursuant to state and federal privacy laws, including the Confidentiality of Medical Information Act and the federal Health Insurance Portability and Accountability Act (HIPAA)
- De-identification aligns with HIPAA concepts to protect the privacy and confidentiality of patient data in HEM Reports
- Data de-identification protects patient privacy while promoting transparency and public reporting
- Data de-identification required before submitting reports to HCAI

How to Assess Identification Risk?

Stepwise approach for assessing identification risk of data for public release

(California DHCS DDG Version 1.0)

Step 1: Measures stratified by personal characteristics

Step 2: Numerator/denominator condition

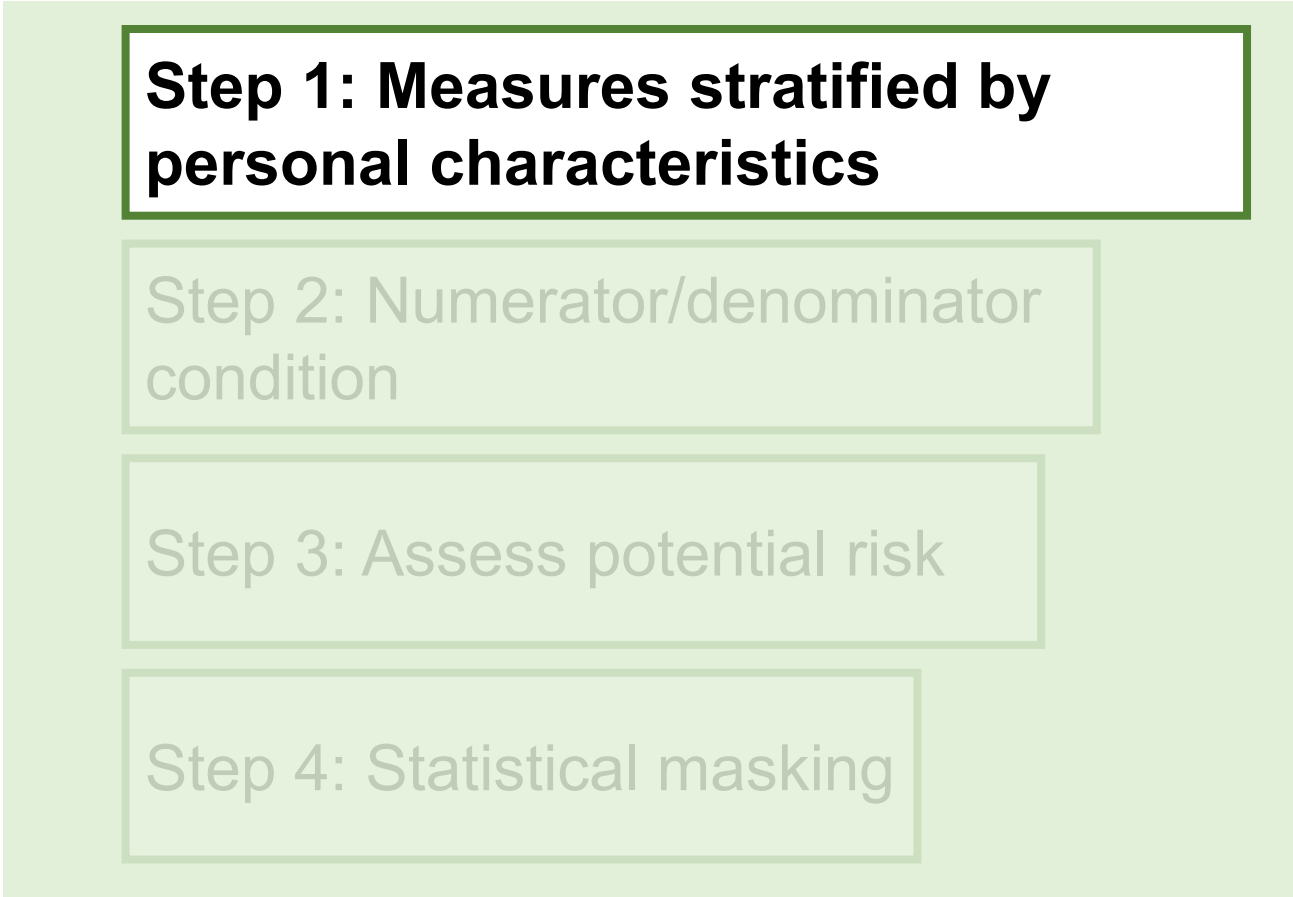
Step 3: Assess potential risk

Step 4: Statistical masking

How to Assess Identification Risk?

Step 1: Measures stratified by personal characteristics

- HEM reports contain information on personal characteristics
- Proceed to *Step 2*



How to Assess Identification Risk?

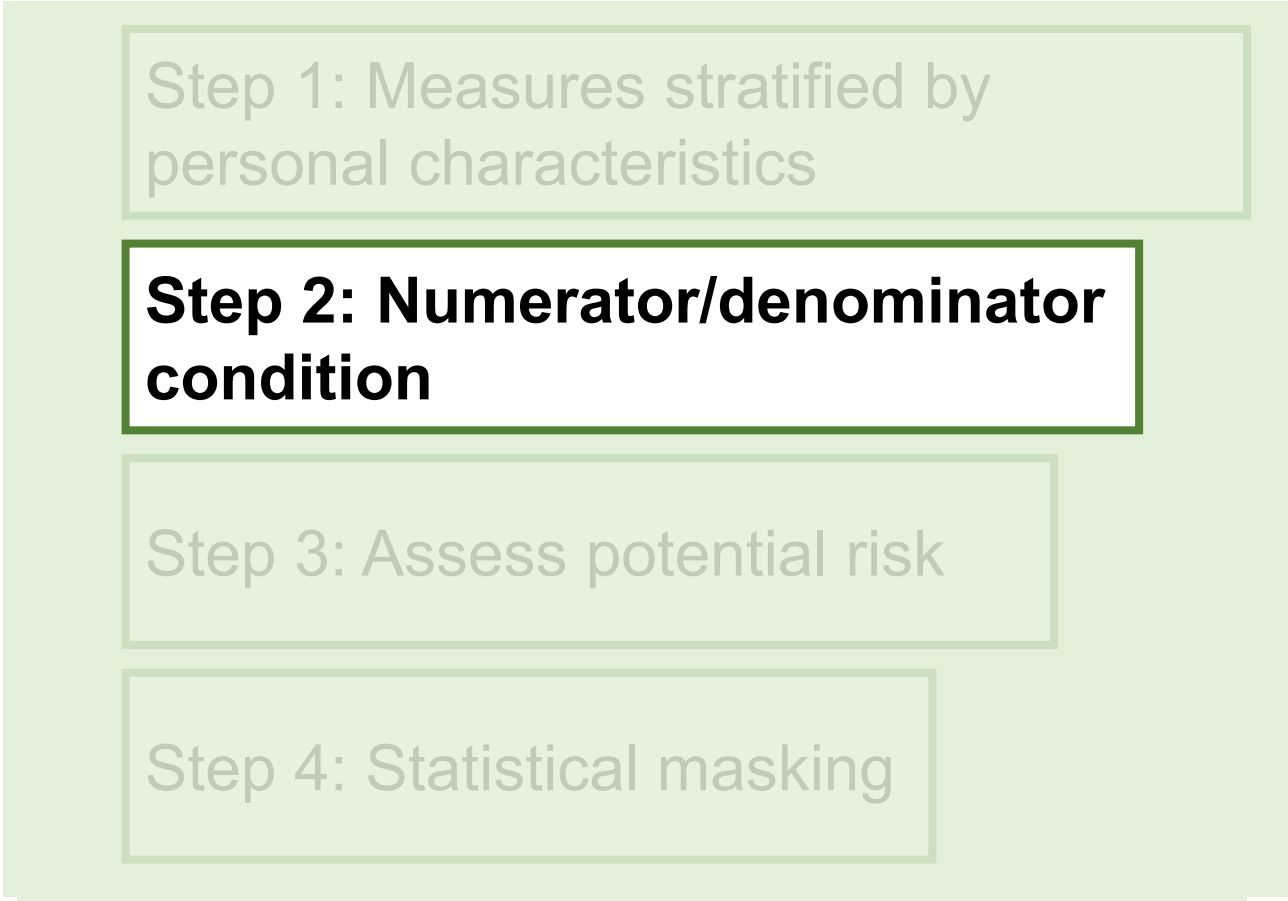
Step 2:
Numerator/denominator condition

- Numerators < 11

  or

- Denominators < 20,000

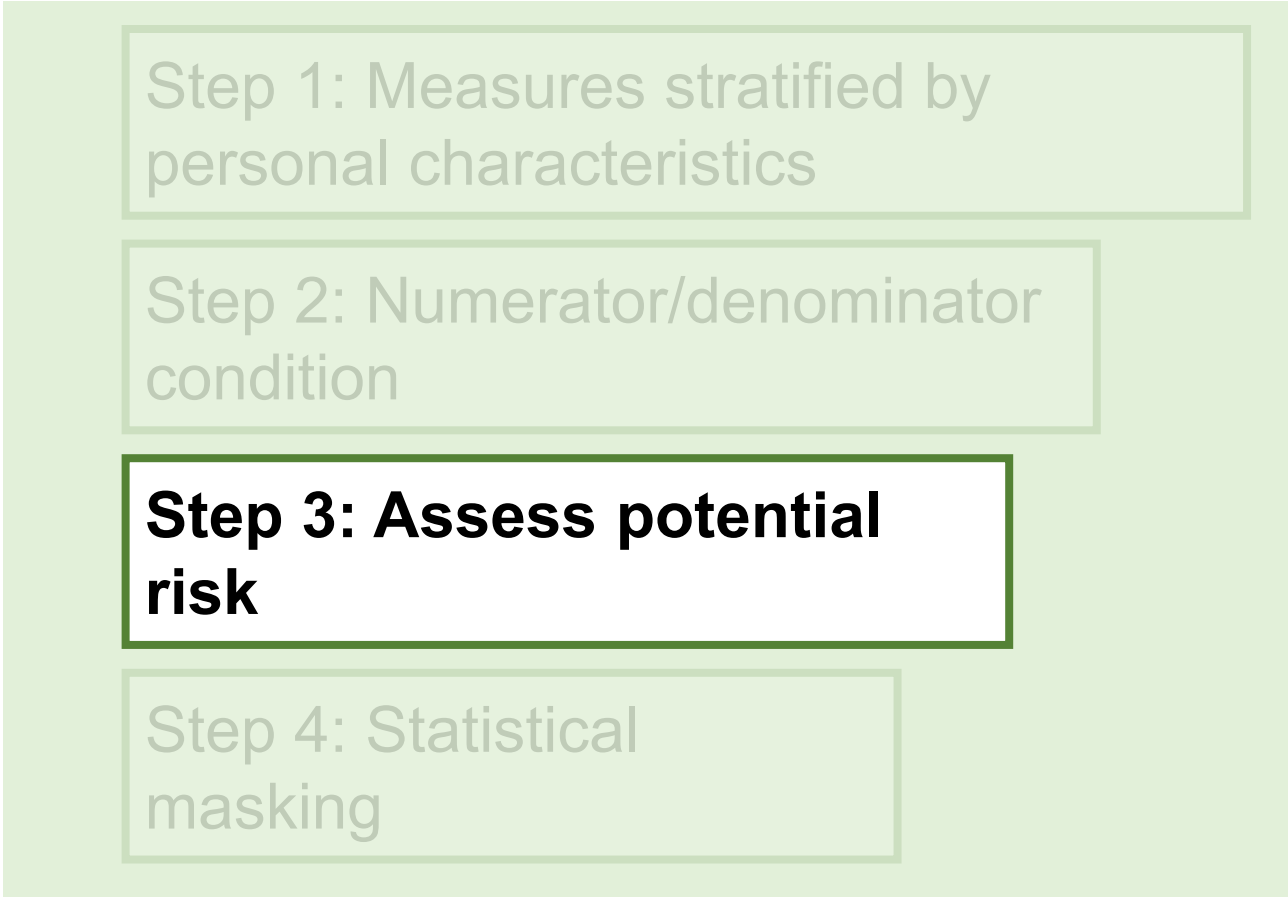
- If either condition is met, proceed to *Step 3*



How to Assess Identification Risk?

Step 3: Assess potential risk

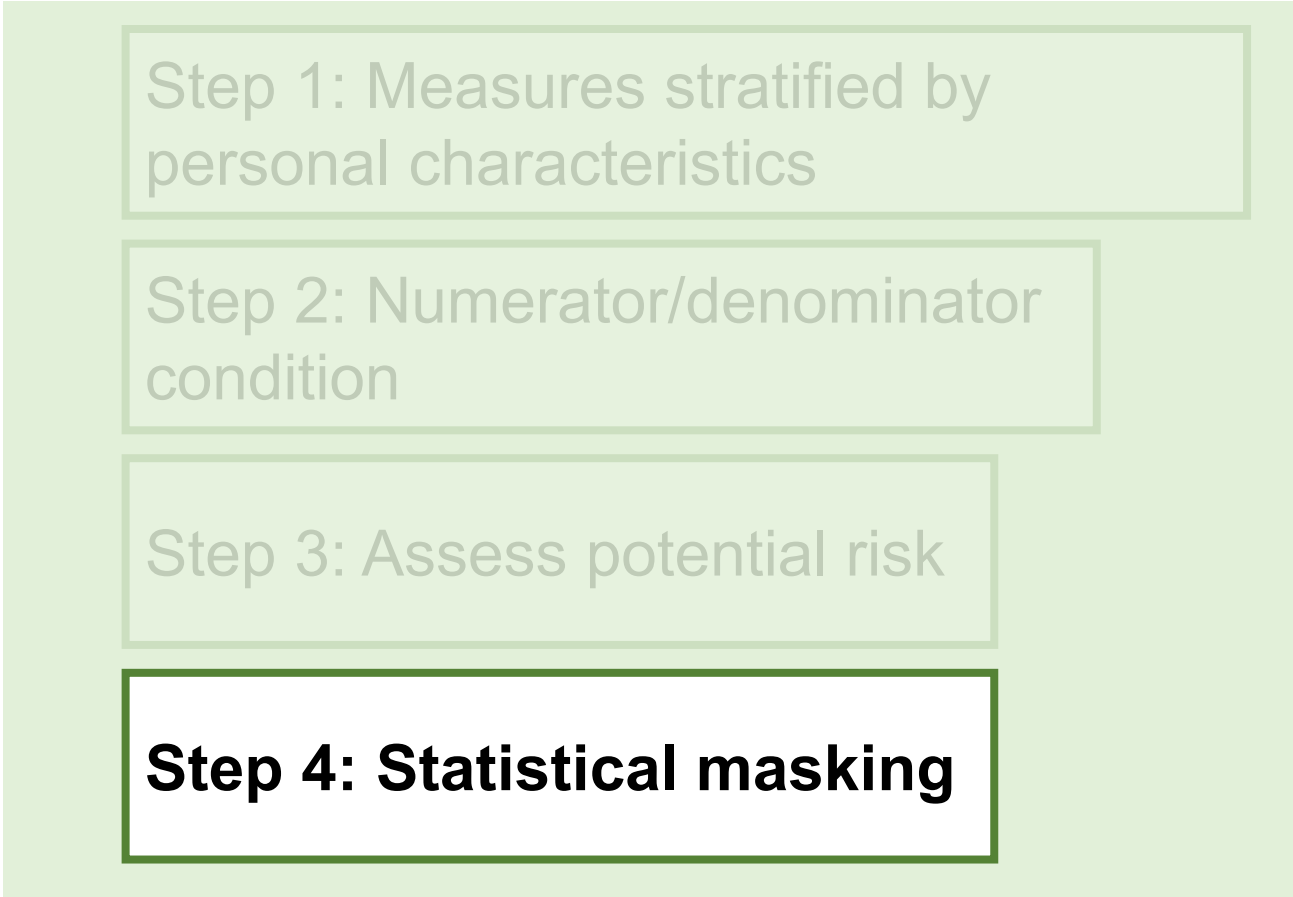
- Publication Criteria Score method is approved by HCAI
  - Scores data based on likelihood of identification
  - Score cut-off for masking is 12
- If yes, proceed to *Step 4*



How to Assess Identification Risk?

Step 4: Statistical masking

- Data with a Publication Criteria Score > 12 should be masked



Applying the Publication Criteria Score Method for Risk Assessment

- Considers potential risk of identification by **size of potential population** and **variable specificity**
  - Events (Numerator)
  - Sex
  - Age Range
  - Race Group, Ethnicity, and Race/Ethnicity Combined
  - Language Spoken
  - Time (Reporting Period)
  - Service Geography
  - Variable Interactions
  - Other Variables

Risk Assessment Considerations for HEM Reports

- Reporting information and measures contain information for risk assessment

Risk Assessment Considerations for HEM Reports

- **Sex and Age Range**: Consider inclusion/exclusion criteria

CMQCC Vaginal Birth After Cesarean (VBAC) Rate

- Could assess sex assigned at birth in numerator and denominator counts

AHRQ Pneumonia Mortality Rate

- Inclusion criterion is patients ages 18-89 years, could assess age range

HEM Reporting Considerations

- **Sex and Age Range**: Consider inclusion/exclusion criteria
- **Race Group, Ethnicity, Race/Ethnicity Combined, and Language Spoken**: Consider the information available for your data

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HEM Reporting Considerations

- **Sex and Age Range**: Consider inclusion/exclusion criteria
- **Race Group, Ethnicity, Race/Ethnicity Combined, and Language Spoken**: Consider the information available for your data
- **Time (Reporting Period)**: 2024 reporting period
- **Residence Geography**: Hospital system reports should consider catchment population
- **Service Geography**: Individual hospital reports include the hospital address

HEM Reporting Considerations

- **Sex and Age Range**: Consider inclusion/exclusion criteria
- **Race Group, Ethnicity, Race/Ethnicity Combined, and Preferred Language**: Consider the information available for your data
- **Time (Reporting Period)**: 2024 reporting period
- **Residence Geography**: Hospital system reports should consider catchment population
- **Service Geography**: Individual hospital reports include the hospital address

Applying the Publication Criteria Score Method

- **Other variables** used for stratification groups not specified as a characteristic
  - Consider variable categories if **specific and defined** with **distinguishable information**

	Score
<5 groups or categories	+3
5-9 groups	+5
10+ groups	+7

Applying the Publication Criteria Score Method

- **Other variables** used for personal and protected health information not specified as a characteristic
  - Consider variable categories if **specific and defined** with **distinguishable information**
- Example: **Sexual Orientation**
  - Six (6) categories:
    - Lesbian, gay, or homosexual
    - Straight or homosexual
    - Bisexual
    - Something else
    - Don’t know
    - Choose not to disclose

	Score
<5 groups or categories	+3
5-9 groups	+5
10+ groups	+7

Applying the Publication Criteria Score Method

- **Other variables** used for personal and protected health information not specified as a characteristic
  - Consider variable categories if **specific and defined** with **distinguishable information**
- Example: **Sexual Orientation**
  - Three (3) defined categories:
    - Lesbian, gay, or homosexual
    - Straight or homosexual
    - Bisexual
    - Something else
    - Don’t know
    - Choose not to disclose

	Score
<5 groups or categories	+3
5-9 groups	+5
10+ groups	+7

Applying the Publication Criteria Score Method

- **Variable interactions**
  - Considers “stacked” stratification groups
  - Divided counts **increase** identification risk

	Score
Only Events (minimum of 5), Time, and Geography	-5
Only Events (minimum of 3), Time, and Geography	-3
Only Events (no minimum), Time, and Geography	0
Events, Time, and Geography + 1 variable	+1
Events, Time, and Geography + 2 variable	+2
Events, Time, and Geography + 3 variable	+4

Applying the Publication Criteria Score Method

- **Variable interactions**
  - Considers “stacked” personal or protected health information
  - Divided counts **increase** identification risk
- Example: AHRQ Pneumonia Mortality Rate

	Pneumonia Mortality Rate
Numerator	20
Denominator	7,000
Rate	2.9 per 1,000 patients

Applying the Publication Criteria Score Method

- **Variable interactions**
  - Considers “stacked” personal or protected hea
  - Divided counts **increase** identification risk
- Example: AHRQ Pneumonia Mortality Rat

Numerator and denominator counts **not divided** by stratification groups

	Pneumonia Mortality Rate
Numerator	20
Denominator	7,000
Rate	2.9 per 1,000 patients

Applying the Publication Criteria Score Method

- **Variable interactions**
  - Considers “stacked” personal or protected health information
  - Divided counts **increase** identification risk
- Example: AHRQ Pneumonia Mortality Rate

	Pneumonia Mortality Rate		
	Male	Female	Unknown
Numerator	13	6	1
Denominator	3500	3450	50
Rate	3.7 per 1,000 pts.	1.7 per 1,000 pts.	20 per 1,000 pts.

Applying the Publication Criteria Score Method

Stratification groups **divide** counts and **add** specific personal and protected health information!

Pneumonia Mortality Rate

	Male	Female	Unknown
Numerator	13	6	1
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Applying the Publication Criteria Score Method

Stratification groups **divide** counts and **add** specific personal and protected health information!

	Score
Only Events (minimum of 5), Time, and Geography	-5
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Only Events (no minimum), Time, and Geography	0
Events, Time, and Geography + 1 variable	+1
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Data De-identification

Examples

DDG Example 1

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 25 patients

DDG Example 1

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 25 patients

Count **does not** meet numerator condition of <11 for triggering risk assessment

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Count **meets** numerator condition of <11 for triggering risk assessment

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	1000+ events	+2
	100-999	+3
	11-99	+5
	<11 events	+7

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	<11 events	+7
Time	5 year aggregated	-5
	2-4 aggregated	-3
	1 year	0
	Bi-annual	+3
	Quarterly	+4
	Monthly	+5

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	<11 events	+7
Time	1 year	0
Service geography	Pop. >2 million	-5
	1m-2m	-4
	560,000-1m	-3
	250,000-560,000	-1
	20,000-250,000	0
	≤20,000 region	+1
	Address	+3

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	<11 events	+7
Time	1 year	0
Service geography	Address	+3
Other variable	<5 groups	+3
	5-9 groups	+5
	10+ groups	+7

1. Female
2. Female-to-Male (FTM)/Transgender Male/Trans Man
3. Male
4. Male-to-Female (MTF)/Transgender Female/Trans Woman
5. Identifies as non-conforming gender, Genderqueer, neither exclusively male nor female, non-binary gender

- Additional gender category or other
- Choose not to disclose

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	<11 events	+7
Time	1 year	0
Service geography	Address	+3
Other variable	5-9 groups	+5
Variable interactions	E min. 5 + T + G E min. 3 + T + G E no min. + T + G E + T + G + 1 var. E + T + G + 2 var. E + T + G + 3 var.	-5 -3 0 +1 +2 +4

DDG Example 2

HCAHPS Question 19: Numerator

- Number of patients who responded “probably yes” or “definitely yes”
- Stratification group: gender identity
- Count: 8 patients who identify as non-binary

Variable	Assessment	Score
Events	<11 events	+7
Time	1 year	+0
Service geography	Address	+3
Other variable	5 groups	+5
Variable interactions	Events, Time, and geography +1 variable	+1
TOTAL	16	
MASKING	YES	

DDG Example 3

HCAI All-Cause Unplanned 30-Day Hospital Readmission Rate (for GAC and APH): Numerator

- The total number of all-cause 30-day unplanned readmissions among patients ≥18 years old
- Stratification group: disability status, behavioral health disorder
- Count: 9 patients with a mobility disability and mental health disorder

DDG Example 3

HCAI All-Cause Unplanned 30-Day Hospital Readmission Rate (for GAC and APH): Numerator

- The total number of all-cause 30-day unplanned readmissions among patients ≥18 years old
- Stratification group: disability status, behavioral health disorder
- Count: 9 patients with a mobility disability and mental health disorder

Variable	Assessment	Score
Events	<11 events	+7
Age range	>10-y age range	+1
Time	1 year	+0
Service geography	Address	+3
Other variable: disability status	7 categories	+5
Other variable: BHD	4 categories	+3
Variable interactions	E + T+ G +2 variable	+2
TOTAL	21	
MASKING	YES	

HEM Report Example 1

TK	TL	TM	TN	TO
AHRQ_Pneumonia_num	AHRQ_Pneumonia_denom	AHRQ_Pneumonia_rate	AHRQ_Pneumonia_num_Race_AIAN	AHRQ_Pneumonia_denom_Race_AIAN
20	5000	4	Suppressed	2000

HEM Report Example 1

TK	TL	TM
AHRQ_Pneumonia_num	AHRQ_Pneumonia_denom	AHRQ_Pneumonia_rate
20	5000	4

Numerator >11, **does not** trigger risk assessment

Denominator <20,000, **triggers and passes** risk assessment

HEM Report Example 1

TN	TO
AHRQ_Pneumonia_num_Race_AIAN	AHRQ_Pneumonia_denom_Race_AIAN
Suppressed	2000

Numerator <11, **triggers and does not pass** risk assessment

Denominator <20,000, **triggers but passes** risk assessment

HEM Report Example 2

AYO	AYP	AYQ	AYR	AYS	AYT
Readmission_num_Disability_Ind	Readmission_den_Disability_Ind	Readmission_rate_Disability_Ind	Readmission_num_SO_SameSex	Readmission_den_SO_SameSex	Readmission_rate_SO_SameSex
Suppressed	Suppressed	Suppressed			

HEM Report Example 2

AYO	AYP	AYQ	
Readmission_num_Disability_Ind	Readmission_den_Disability_Ind	Readmission_rate_Disability_Ind	R
Suppressed	Suppressed	Suppressed	

Numerator and denominators **trigger and do not pass** risk assessment

HEM Report Example 2

AYR	AYS	AYT
Readmission_num_SO_SameSex	Readmission_den_SO_SameSex	Readmission_rate_SO_SameSex

Hospital **did not collect** patient data on sexual orientation in 2024, numerator and denominator cells left **blank**

Training summary

- Technical assistance activities
- Pre-training survey results
- Data de-identification for HEM reports
- Applying the Publication Criteria Score (PCS) for assessing risk of identification
- Examples for other variables, variable interactions, applying PCS, and HEM reports