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Partnership for Quality Measurement

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Brief Measure Information

CBE #: 3755e

Corresponding Measures:

Measure Title: STI Testing for People with HIV

Measure Steward: Health Resources and Services Administration - HIV/AIDS Bureau

sp.02. Brief Description of Measure: Percentage of patients 13 years of age and older with a diagnosis of HIV who had tests for syphilis, gonorrhea, and chlamydia performed within the measurement period.

1b.01. Developer Rationale: The rates of syphilis, gonorrhea, and chlamydia cases per 100,000 in the United States have steadily risen over the last decade and increased 11.2%, 5.9%, and 2.8%, respectively, from 2018 to 2019 (DHHS, 2021). People with HIV are at an increased risk of bacterial STIs, including chlamydia, gonorrhea, and syphilis (CDC 2004). However, early detection and treatment of bacterial STIs in people with HIV can lead to a reduction in HIV transmission (CDC 2004). Despite guidelines for at least annual screening among sexually active persons with HIV, only an estimated 55% received a syphilis test in the past year, 23% received a gonorrhea test in the past year, and 24% received a chlamydia test in the past year based on a nationally representative survey of adults with HIV receiving medical care in the United States (Flagg et al., 2015). In an analysis of people with HIV enrolled in a large integrated managed care consortium using electronic health record data, Black people with HIV were less to receive syphilis screening and women with HIV were less likely to receive chlamydia and gonorrhea screening (Hojilla et al., 2022). This measure will help providers focus their attention and quality improvement efforts towards testing and treating sexually transmitted infections in patients with HIV, thus reducing the complications to long-term syphilis infection and reducing STI incidence (Patel et al, 2012).

CITATIONS:

Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, HIV Medicine Association of the Infectious Diseases Society of America, & HIV Prevention in Clinical Care Working Group (2004). Recommendations for incorporating human immunodeficiency virus (HIV) prevention into the medical care of persons living with HIV. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 38(1), 104–121. https://doi.org/10.1086/380131

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2019. (2021). Atlanta: U.S. Department of Health and Human Services. Available at: https://www.cdc.gov/std/statistics/2019/default.htm

Flagg, E. W., Weinstock, H. S., Frazier, E. L., Valverde, E. E., Heffelfinger, J. D., & Skarbinski, J. (2015). Bacterial sexually transmitted infections among HIV-infected patients in the United States: estimates from the Medical Monitoring Project. Sexually transmitted diseases, 42(4), 171–179. https://doi.org/10.1097/OLQ.0000000000000260. Erratum in: Sex Transm Dis. 2015 Jun;42(6):351-2. PMID: 25763669; PMCID: PMC6921480.

Hojilla, J. C., Sarovar, V., Lam, J. O., Park, I. U., Vincent, W., Hare, C. B., Silverberg, M. J., & Satre, D. D. (2022). Sexually Transmitted Infection Screening in Key Populations of Persons Living with HIV. AIDS and Behavior. https://doi.org/10.1007/s10461-022-03747-w

Patel, P., Bush, T., Mayer, K., Milam, J., Richardson, J., Hammer, J., Henry, K., Overton, T., Conley, L., Marks, G., Brooks, J. T., & SUN Study Investigators (2012). Routine brief risk-reduction counseling with biannual STD testing reduces STD incidence among HIV-infected men who have sex with men in care. Sexually transmitted diseases, 39(6), 470–474. https://doi.org/10.1097/OLQ.0b013e31824b3110

sp.12. Numerator Statement: Patients who had a test for syphilis, a test for gonorrhea, and a test for chlamydia performed at least once during the measurement period.

sp.14. Denominator Statement: All patients 13 years of age and older with a diagnosis of HIV before the end of the measurement period seen for an eligible encounter during the measurement period.

sp.16. Denominator Exclusions: Not applicable

Measure Type: Process: Appropriate Use

sp.28. Data Source: Electronic Health Records

sp.07. Level of Analysis: Clinician: Individual

IF Endorsement Maintenance—Original Endorsement Date: N/A New Measure

Most Recent Endorsement Date: N/A New Measure

IF this measure is included in a composite, Composite#/title: N/A

IF this measure is paired/grouped, CBE#/title: N/A

sp.03. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? N/A

Staff Assessment: New Measure

Criterion 1: Importance to Measure and Report

1a. Evidence. The evidence requirements for a ***structure, process, or intermediate outcome*** measure are that it is based on a systematic review (SR) and grading of the body of empirical evidence in which the specific focus of the evidence matches what is being measured. For measures derived from a patient report, the evidence also should demonstrate that the target population values the measured process or structure and finds it meaningful.

The developer provides the following description for this measure:

- This is a new process measure at the individual clinician level that calculates the percentage of patients 13 years of age and older with a diagnosis of HIV who had tests for syphilis, gonorrhea, and chlamydia performed within the measurement period.
- The developer provides a logic model that depicts structural inputs (HIV specialty clinicians, diagnostic laboratories) linked with expected activities/processes (conduct syphilis, gonorrhea, and chlamydia tests). The output of the activities is identification of patients with these STIs, which is linked with the anticipated outcome of treatment for the STIs.

The developer provides the following evidence for this measure:

- SR of the evidence specific to this measure? ☒ Yes ☐ No
- Quality, Quantity, and Consistency of evidence provided? ☐ Yes ☒ No
- Evidence graded? ☒ Yes ☐ No

Summary:

- Developer references three sets of clinical guidelines for STI testing among persons with HIV (PWH):
  - The **Panel on Opportunistic Infections in Adults and Adolescents with HIV** (routine screening for syphilis for sexually active PWH; routine screening for other STIs including chlamydia and gonorrhea for persons screened or treated for syphilis) – not graded
  - **Sexually Transmitted Infections Treatment Guidelines** (Workowski 2021, MMWR) (at initial HIV care visit, providers should screen all sexually active persons for syphilis, gonorrhea, and chlamydia, and perform screening for these infections at least annually during the course of HIV care) – not graded
  - **USPSTF** (recommend screening for syphilis in persons who are at increased risk for infection… Men who have sex with men or persons with HIV infection may benefit from screening at least annually or more frequently) – grade A.
- Section 1a.09 references two studies upon which guidelines are based, including a cohort study of MSM with HIV examining incidence of new and repeated syphilis infection (Branger et al 2009) and a prospective, observational, multi-site cohort study (Patel et al. 2012).

Questions for the Standing Committee:

- *What is the relationship between this measure and patient outcomes?*
- *How strong is the evidence for this relationship?*
- *Is the evidence directly applicable to the process of care being measured?*

Guidance From the Evidence Algorithm

Process measure based on systematic review (Box 3) → QQC not presented (Box 4) → USPSTF guideline (testing for syphilis only) rates high for evidence and recommendation (Box 6) → Moderate.

The highest possible rating is moderate.

Preliminary rating for evidence: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

1b. Gap in Care/Opportunity for Improvement and Disparities

1b. Performance Gap. The performance gap requirements include demonstrating quality problems and opportunity for improvement.

Measure performance scores were calculated at the clinician level for the measure performance period from January 1, 2021, to December 31, 2021. The total sample included 123 clinicians and 2,990 unique, eligible patients participating in the Ryan White HIV/AIDS Program. Of these, 37 clinicians had at least 11 eligible patients—the minimum sample size requirement outlined in the CMS cell suppression policy. The data for these 37 clinicians included 2,891 unique patients. The measure scores are high overall, with less variability among clinicians with at least 11 patients. The 37 physicians with 11+ patients account for 97% of the patients included in the sample. The representativeness of the clinicians included is not evaluated. The size of the population at risk is not presented.

Table 1b.02. Distribution of the measure performance scores in the clinician samples

	Clinicians	Patients	Mean	SD	Min	p10	p20	p30	p40	Median	p60	p70	p80	p90	Max	IQR
All Clinicians	123	2,990	55.9	36.7	0.0	0.0	10.3	40.1	50.0	60.0	72.2	80.0	100.0	100.0	100.0	76.9
Clinicians with 11+ denominator-eligible patients	37	2,891	54.5	24.2	10.9	14.6	32.1	44.4	52.6	60.3	65.3	72.2	78.6	80.1	95.1	54.5

Notes: SD=Standard deviation, Min=minimum, Max=maximum, p=percentile, IQR=interquartile range.

Disparities

Disparities data for STI testing among PWH are presented at the clinician level among the sample of 37 clinicians with at least 11 patients (sample of 2,891 patients) for the measure performance period from January 1, 2021, to December 31, 2021.

Mean rates of STI testing were higher among those under age 50 vs age 50+ (61.3 vs 45.5%, respectively; p=0.01). No statistically significant difference in means by race, ethnicity, or transmission type, though the higher rate for MSM approached significance (p=0.06).

The developer notes greater variation in performance scores for white patients relative to Black patients (SD 29.3 vs. 24.1, respectively) and patients with IDU relative to MSM or other (SD 35.4 vs. 30.2 or 26.2, respectively), indicating possible differences in care for these groups; however, higher variance in patients with IDU may be attributed to the small sample size.

Table 1b.04 STI Testing across clinicians with ≥11 patients eligible for the denominator (n = 37)

Patient Group	Clinicians	Patients	Mean	Std dev	Min	10%	20%	30%	40%	50%	60%	70%	80%	90%	Max	IQR
AGE<50	37	1, 456	61.3	25.1	17.6	23.5	33.6	45.9	56.2	66.7	74.3	80.4	85.4	87.2	100.0	45.6
AGE>=50	37	1,435	45.5	25.4	3.6	6.7	22.1	33.3	40.0	42.9	53.0	63.3	70.5	76.0	93.8	38.9
MSM	34	1,179	60.1	30.2	0.0	16.5	26.0	44.8	58.7	65.2	75.0	81.5	87.8	95.4	100.0	50.5
IDU	30	193	41.6	35.4	0.0	0.0	0.0	11.0	28.0	36.7	52.9	62.0	72.1	100.0	100.0	59.3
Other transmission	34	919	45.6	26.2	5.4	10.3	21.1	32.6	38.0	42.2	49.8	62.6	66.7	74.3	100.0	40.0
Black	37	1,270	55.7	24.1	14.3	22.1	27.3	42.3	51.8	60.0	64.7	71.1	74.7	83.3	100.0	31.7
White	37	1,496	53.7	29.3	0.0	11.2	21.7	36.7	50.0	58.8	65.9	71.4	76.0	91.2	100.0	41.1
Not Hispanic or Latino	37	2,443	53.3	24.3	11.1	14.3	31.6	40.0	50.6	56.7	63.8	71.6	75.7	81.3	92.3	34.5
Hispanic or Latino	27	440	57.0	33.2	0.0	10.7	15.6	41.0	51.2	66.7	75.0	82.0	83.6	98.1	100.0	63.1

Notes: Results are for clinicians with ≥11 patients eligible for the denominator.
SD=standard deviation, p=percentile, min=minimum, max=maximum, IQR=interquartile range

Questions for the Standing Committee:

- *Is there a gap in care that warrants a national performance measure?*
- *If limited disparities information is provided, are you aware of evidence that disparities exist in this area of healthcare?*

Preliminary rating for opportunity for improvement:
☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

RATIONALE: N/A

Criteria 2: Scientific Acceptability of Measure Properties

Complex measure evaluated by the Scientific Methods Panel (SMP)? ☐ **Yes** ☒ **No**

Evaluators: Staff/Laura Aume

2a. Reliability: <u>Specifications</u> and <u>Testing</u>

2a1. Specifications require the measure, as specified, to produce consistent (i.e., reliable) and credible (i.e., valid) results about the quality of care when implemented.

- The submitted measure specification follows established technical specifications for electronic clinical quality measures (eCQMs) (Quality Data Model [QDM], health quality measure format [HQMF], and Clinical Quality Language [CQL]) as indicated in subcriterion 2a1.
- The submitted measure specification is fully represented and is not hindered by any limitations in the established technical specifications for eCQMs.

2a2. Reliability testing demonstrates whether the measure data elements are repeatable and producing the same results a high proportion of the time when assessed in the same population in the same time period, and/or whether the measure score is precise enough to distinguish differences in performance across providers.

Specifications:

- eCQMs as specified using the latest industry-accepted eCQM technical specifications: HQMF, QDM, CQL, and value sets vetted through the National Library of Medicine's (NLM) Value Set Authority Center (VSAC).

Reliability Testing:

- Reliability testing conducted at the Patient/Encounter Level

- Methods:
  - Signal-to-noise (beta-binomial method) shows a range in reliability from 61.2% to 98.9% with a median of 89.1%. Less than 5% of the clinicians have a reliability less than 70% and nearly 50% of the clinicians have a reliability greater than 90%.
- Split-half results:
  - Spearman rank-order correlation: 93.4%
  - Spearman-Brown correlation: 96.6%
- Test-retest results show an ICC of 84.4%
- Bootstrap resampling was also performed. Median values for each method are:
  - Spearman rank-order correlation: 96.0%
  - Spearman-Brown correlation: 97.9%
  - ICC: 92.0%

Questions for the Standing Committee regarding reliability:

- *Do you have any concerns that the measure cannot be consistently implemented (i.e., are the measure specifications adequate)?*

Guidance From the Reliability Algorithm

Precise specifications (Box 1) -> Empirical testing reliability conducted (Box 2) -> Reliability testing conducted with computer measure scores (Box 4) -> Appropriate methods (Box 5) -> High (Box 6)

The highest possible rating is high.

Preliminary rating for reliability: ☒ High ☐ Moderate ☐ Low ☐ Insufficient

2b. Validity: Validity Testing; Exclusions; Risk Adjustment; Meaningful Differences; Comparability; Missing Data

2b2. Validity testing should demonstrate that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality.

2b2-2b6. Potential threats to validity should be assessed/addressed.

Validity Testing

- Validity testing conducted at the Patient/Encounter Level:
  - The developer assessed agreement between electronic health record (EHR) data extracted from structured fields and manually abstracted data from the medical record (“gold-standard”)
  - The developer randomly selected 20 records in 7 sites (140 total)

  - The chance-corrected agreement (Gwet's AC1) was used to assess agreement
  - Among the nine (9) data elements assessed, agreement was high except for HIV diagnosis date, although upon review the difference did not affect inclusion in the denominator.

- Validity testing conducted at the Accountable Entity Level:
  - The developer assessed differences across "known groups" (age and HIV transmission category)
  - The effect size was computed using Cohen's d statistic
  - There was a moderate effect of both age and HIV transmission category consistent with expectation (based on the literature)
  - The developer also assessed face validity through structured interviews with 7 clinicians and a poll of the Technical Expert Panel (TEP)
  - Three of seven (43%) agreed that the measure can distinguish good from poor quality; main concern is the denominator (sexually active)
- Feasibility testing was conducted at 7 test sites, which includes 4 different EHR systems.
- The Feasibility Scorecard indicated that the following data elements have issues with accuracy: (note: these data elements were not available at one or more sites, and as a result scored low on accuracy as well. Neither is required to calculate the measure score):
  - "Encounter Performed: Home Healthcare Services"
  - "Encounter, Performed: Outpatient Consultation"
- Data elements:
  - "Diagnosis: HIV"
  - "Encounter, Performed: Face-to-Face Interaction"
  - "Encounter, Performed: Office Visit"
  - "Encounter, Performed: Outpatient Consultation"
  - "Encounter, Performed: Preventive Care - Established Office Visit, 0 to 17"
  - "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up"
  - "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up"
  - "Encounter, Performed: Preventive Care- Initial Office Visit, 0 to 17"
  - "Encounter, Performed: Telehealth Services"
  - "Encounter, Performed: Telephone Visits"
  - "Encounter Performed: Annual Wellness Visit"
  - "Encounter Performed: Home Healthcare Services"
  - "Encounter Performed: Preventive Care Services Other"
  - "Laboratory Test, Performed: Syphilis Tests"
  - "Laboratory Test, Performed: Chlamydia Tests"
  - "Laboratory Test, Performed: Gonorrhea Tests"

- "Patient Characteristic Ethnicity: Ethnicity"
- "Patient Characteristic Payer: Payer"
- "Patient Characteristic Race: Race"
- "Patient Characteristic Sex: ONC Administrative Sex"

Exclusions

- The measure does not use exclusions.

Risk Adjustment

- The measure is not risk-adjusted or stratified.

Meaningful Differences

The developer calculated measure performance rates for 37 clinicians with at least 11 patients in the denominator. Of the 37 clinicians, 12 (32% of all clinicians in the sample) were statistically better than the sample average, and 9 clinicians (19.5%) were worse than the sample average. Rates ranged from 10.9% to 95.1%.

Missing Data

- No data elements used in calculated measure scores had substantial rates of missing values

Comparability

- The measure only uses one set of specifications for this measure.

Questions for the Standing Committee regarding validity:

- *Do you have any concerns regarding the validity of the measure (e.g., exclusions, risk adjustment approach, etc.)?*
- *Are the accuracy issues that are captured in the Feasibility Scorecard substantial enough to impact the validity of these data elements?*

Guidance From the Validity Algorithm

All threats assessed (Box 1) -> Empirical validity testing conducted on the measure as specified (Box 2) -> Validity testing conducted with computer measure scores (Box 5) -> Appropriate methods (Box 6) -> Moderate (Box 7)

The highest possible rating is high.

Preliminary rating for validity: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Criterion 3. Feasibility

3. <u>Feasibility</u> is the extent to which the specifications, including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement. • This measure is generated or collected by and used by healthcare personnel during the provision of care. • All data elements are in defined fields in electronic claims. • There are no fees or licenses required for usage of this measure.
• Using a simulated data set, the submission demonstrates that the evaluation of 100 percent of the measure logic can be automated. • The required data elements are widely available in electronic health data. The two encounter type data elements that were missing from test sites ("Encounter Performed: Home Healthcare Services" and "Encounter, Performed: Outpatient Consultation") are (1) not required for measure score calculation, given the availability of other eligible encounter types and (2) only missing because they are not applicable to the test sites. “Diagnosis: HIV” was not available in a structured data field at 2 of the 7 test sites, although both collect this information in unstructured formats. One of these sites already has a plan in place to change workflows to capture this information in a structured field. Given the large share of test sites that captured this information or expect to do so in the future, measure data element feasibility is moderate.
Questions for the Standing Committee: • *Are the required data elements routinely generated and used during care delivery?* • *Are the required data elements available in electronic form (e.g., EHR or other electronic sources)?* • *Is the data collection strategy ready to be put into operational use?* • *For data elements assessed to have feasibility issues, does the developer present a credible, near-term path to electronic collection?*
Preliminary rating for feasibility: ☐ High X Moderate ☐ Low ☐ Insufficient
Criterion 4: Use and Usability
4a. Use (4a1. <u>Accountability and Transparency</u>; 4a2<u>. Feedback on measure</u>)
4a. Use evaluates the extent to which audiences (e.g., consumers, purchasers, providers, and policymakers) use or could use performance results for both accountability and performance improvement activities.

4a1. Accountability and Transparency. Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If they are not in use at the time of initial endorsement, then a credible plan for implementation within the specified time frames is provided.

Current uses of the measure

Publicly reported?	☐ Yes	☒ No	
Current use in an accountability program?	☐ Yes	☒ No	☐ UNCLEAR
Planned use in an accountability program?	☒ Yes	☐ No	☐ N/A

Accountability program details

- HRSA plans to submit this measure for use as a clinician-level measure in the CMS Merit Based Incentive Program (MIPS) program. HRSA will submit the measure to the 2023 Measures Under Consideration (MUC) list by April 30, 2023.

4a.2. Feedback on the measure by those being measured or others. Three criteria demonstrate feedback: (1) Those being measured have been given performance results or data, as well as assistance with interpreting the measure results and data; (2) Those being measured, and other users have been given an opportunity to provide feedback on the measure performance or implementation; and (3) This feedback has been considered when changes are incorporated into the measure.

Feedback on the measure provided by those being measured or others

- During the testing process, the developer provided clinical practices that participated in testing with measure specifications, data dictionaries, value sets, and fact sheets to assist them in generating datasets used for testing.
- This measure has not yet been implemented and additional feedback has not yet been provided.

Questions for the Standing Committee:

- *How have (or can) the performance results be used to further the goal of high quality, efficient healthcare?*
- *How has the measure been vetted in real-world settings by those being measured or others?*

Preliminary rating for Use: X Pass ☐ No Pass

4b. Usability (4b1. Improvement; 4b2. Benefits of measure)

4b. Usability evaluates the extent to which audiences (e.g., consumers, purchasers, providers, and policymakers) use or could use performance results for both accountability and performance improvement activities.

4b1 Improvement. Progress toward achieving the goal of high quality, efficient healthcare for individuals or populations is demonstrated.

Improvement results

- This measure is not currently in use as an eCQM in a quality improvement program. Data to support progress on improvement were not provided.

4b2. Benefits versus harms. The benefits of the performance measure in facilitating progress toward achieving high quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

Unexpected findings (positive or negative) during implementation

- This measure has not yet been implemented.

Potential harms

- Information on potential harms was not provided by the developer.

Additional Feedback:

- N/A

Questions for the Standing Committee:

- *How can the performance results be used to further the goal of high quality, efficient healthcare?*
- *Do the benefits of the measure outweigh any potential unintended consequences?*

Preliminary rating for Usability and Use:

☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Criterion 5: <u>Related and Competing Measures</u>

Related Measures

- 3209e: HIV Medical Visit Frequency
- 3210e: HIV Viral Load Suppression
- 3211e: Prescription of HIV Antiretroviral Therapy
- 0409: HIV/AIDS: Sexually Transmitted Diseases- Screening for Chlamydia, Gonorrhea, and Syphilis (CQM only)

Harmonization

- This measure and 0409 are related measures, but this measure is an eCQM, while 0409 is a CQM. HRSA HAB stewards both measures and does not intend to maintain endorsement of 0409.
- The denominator population for this measure differs slightly from three related measures—3209e, 3210e, and 3211e—with respect to the timing of the patient's HIV diagnosis and eligible encounter and the patient's age, and these differences are due to the specific timing required for assessing appropriate provision of STI testing. Patients diagnosed with HIV at any time during or prior to the measurement year and with an eligible encounter at any point during the measurement year are included because these parameters are consistent with the recommendations of the technical expert panel and clinicians interviewed during testing. The measure population is limited to patients 13 years of age and older as a rough proxy for patients who may be sexually active.

QUALITY MEASURE SUBMISSION FORM

Version: 1.0; Generated: 13 April 2023

Introduction

Thank you for your interest in submitting a measure to Battelle for possible endorsement.

What criteria are used to evaluate measures? Measures are evaluated on standardized criteria: importance to measure and report, scientific acceptability of measure properties, feasibility, usability and use, and related and competing measures. For your measure to be evaluated against these measure evaluation criteria, you must complete the measure submission form.

Why do I have to complete a form? Due to the volume and/or complexity of proposed measures, Battelle provides measure information to committee reviewers in a standardized format to facilitate their evaluation of whether the measure meets the measure evaluation criteria. This form allows the measure steward to present information demonstrating that the proposed measure meets endorsement criteria.

What is on the form? The information requested in this form is directly related to the measure evaluation criteria.

Can't I just submit our files for consideration? No. Measures must be submitted through the online form to be considered for the Spring 2023 cycle. Requested information should be entered directly into this form and as well as any necessary or required attachments.

Can I submit additional details and materials? Additional materials will be considered only as supplemental. Do NOT rely on material provided in an appendix to provide measure specifications or to demonstrate meeting the criteria. The core information needed to evaluate the measure should be provided in the appropriate submission form fields and required attachments. Please contact PQMsupport@battelle.org regarding questions about submitting supplemental materials.

What do I do first? If you have started a new submission by answering five qualifying questions, you may proceed to the “Previous Submission Information" tab to continue with your submission. The “Conditions” tab will list the conditions that must be met before your proposed measures may be considered and evaluated for suitability as endorsed voluntary consensus standards. You are asked to acknowledge reading and accepting the conditions.

Can I make changes to a form once I have submitted it? No. Once you submit your measure, you will NOT be able to return to this submission form to make further revisions. You will need to contact project staff.

What if I need additional help? Please contact the project staff at PQMsupport@battelle.org if you have questions regarding the information requested or submitting supplemental materials.

NOTE: All measure submissions should be 508-compliant. Refer to the Checklist for Developer 508 Guidelines (PDF) to ensure all guidelines apply to all parts of your submission, including all fields and attachments used within the measure submission form.

Please email us at PQMsupport@battelle.org if you experience technical difficulties using the online submission form.

Thank you for your interest in submitting measures to Battelle.

Previous Submission Information (1 – 4)

1) Select whether this measure was previously submitted to the prior consensus-based entity (the National Quality Forum [NQF]) and given an identifying number.

☐ Previously submitted to NQF
☒ New measure, never submitted.

2) Provide the measure number of the previously submitted measure.

Not applicable.

3) If the measure has an electronic clinical quality measure (eCQM) version, provide the measure number of the previously submitted measure.

Not applicable.

4) If this eCQM has a registry version, provide the measure numbers of the previously submitted measure.

Not applicable.

Conditions (1 - 2)

Several conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards. If any of the conditions are not met, the measure will not be accepted for consideration.

A. A Measure Steward Agreement is signed or the steward is a government organization. (All non-government organizations must sign a Measure Steward Agreement.) For more information about completing a Measure Steward Agreement, please go to: Endorsement | Partnership for Quality Measurement (p4qm.org) and follow the instructions.

B. The measure owner/steward verifies there is an identified responsible entity and a process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every three years.

C. The intended use of the measure includes both accountability applications (including public reporting) and performance improvement to achieve high-quality, efficient healthcare.

D. The measure is fully specified and tested for reliability and validity.

E. The measure developer/steward attests that harmonization with related measures and issues with competing measures have been considered and addressed, as appropriate.

F. The requested measure submission information is complete and responsive to the questions so that all the information needed to evaluate all criteria is provided.

1) Check if either of the following apply.

☒ Proprietary measure or components (e.g., risk model, codes)
☐ Proprietary measure or components with fees
☐ None of the above

2) Check the box below to agree to the conditions listed above.

☒ I have read and accept the conditions as specified above

Specifications: Maintenance Update (spma.01 - spma.02)

spma.01) Indicate whether there are changes to the specifications since the last updates/submission. If yes, update the specifications in the Measure Specifications section of the Measure Submission Form, and explain your reasoning for the changes below.

☒ No
☐ Yes

spma.02) Briefly describe any important changes to the measure specifications since the last measure update and provide a rationale.

For annual updates, please explain how the change in specifications affects the measure results. If a material change in specification is identified, data from re-testing of the measure with the new specifications is required for early maintenance review.

For example, specifications may have been updated based on suggestions from a previous measure endorsement review.

Not applicable.

Measure Specifications (sp.01 - sp.32)

sp.01) Provide the measure title.

Measure titles should be concise yet convey who and what is being measured.
STI Testing for People with HIVspecifications

sp.02) Provide a brief description of the measure.

Including type of score, measure focus, target population, timeframe, (e.g., Percentage of adult patients aged 18-75 years receiving one or more HbA1c tests per year).

Percentage of patients 13 years of age and older with a diagnosis of HIV who had tests for syphilis, gonorrhea, and chlamydia performed within the measurement period

sp.03) Provide a rationale for why this measure must be reported with other measures to appropriately interpret results.

Not applicable.

sp.04) Check all the clinical condition/topic areas that apply to your measure, below.

☐ Behavioral Health
☐ Behavioral Health: Alcohol, Substance Use/Abuse
☐ Behavioral Health: Anxiety
☐ Behavioral Health: Attention Deficit Hyperactivity Disorder (ADHD)
☐ Behavioral Health: Bipolar Disorder
☐ Behavioral Health: Depression
☐ Behavioral Health: Domestic Violence
☐ Behavioral Health: Other Serious Mental Illness
☐ Behavioral Health: Post-Traumatic Stress Disorder (PTSD)
☐ Behavioral Health: Schizophrenia
☐ Behavioral Health: Suicide
☐ Cancer
☐ Cancer: Bladder
☐ Cancer: Breast
☐ Cancer: Colorectal
☐ Cancer: Gynecologic
☐ Cancer: Hematologic
☐ Cancer: Liver

- ☐ Cancer: Lung, Esophageal
- ☐ Cancer: Prostate
- ☐ Cancer: Renal
- ☐ Cancer: Skin
- ☐ Cancer: Thyroid
- ☐ Cardiovascular
- ☐ Cardiovascular: Arrythmia
- ☐ Cardiovascular: Congestive Heart Failure
- ☐ Cardiovascular: Coronary Artery Disease
- ☐ Cardiovascular: Coronary Artery Disease (AMI)
- ☐ Cardiovascular: Coronary Artery Disease (PCI)
- ☐ Cardiovascular: Hyperlipidemia
- ☐ Cardiovascular: Hypertension
- ☐ Cardiovascular: Secondary Prevention
- ☐ Critical Care
- ☐ Critical Care: Assisted Ventilation
- ☐ Critical Care: Intensive Monitoring
- ☐ Dental
- ☐ Dental: Caries
- ☐ Dental: Tooth Loss
- ☐ Ears, Nose, Throat (ENT)
- ☐ Ears, Nose, Throat (ENT): Ear Infection
- ☐ Ears, Nose, Throat (ENT): Hearing
- ☐ Ears, Nose, Throat (ENT): Pharyngitis
- ☐ Ears, Nose, Throat (ENT): Tonsilitis
- ☐ Endocrine
- ☐ Endocrine: Calcium and Metabolic Bone Disorders
- ☐ Endocrine: Diabetes
- ☐ Endocrine: Female and Male Endocrine Disorders
- ☐ Endocrine: Hypothalamic-Pituitary Disorders
- ☐ Endocrine: Thyroid Disorders
- ☐ Eye Care
- ☐ Eye Care: Age-related macular degeneration (AMD)
- ☐ Eye Care: Cataracts
- ☐ Eye Care: Diabetic retinopathy
- ☐ Eye Care: Glaucoma
- ☐ Gastrointestinal (GI)
- ☐ Gastrointestinal (GI): Constipation
- ☐ Gastrointestinal (GI): Gall Bladder Disease
- ☐ Gastrointestinal (GI): Gastroenteritis

☐ Gastrointestinal (GI): Gastro-Esophageal Reflux Disease (GERD)
☐ Gastrointestinal (GI): Hemorrhoids
☐ Gastrointestinal (GI): Hernia
☐ Gastrointestinal (GI): Inflammatory Bowel Disease
☐ Gastrointestinal (GI): Irritable Bowel Syndrome
☐ Gastrointestinal (GI): Peptic Ulcer
☐ Genitourinary (GU)
☐ Genitourinary (GU): Benign Prostatic Hyperplasia
☐ Genitourinary (GU): Erectile Dysfunction/Premature Ejaculation
☐ Genitourinary (GU): Incontinence/pelvic floor disorders
☐ Genitourinary (GU): Prostatitis
☐ Genitourinary (GU): Urinary Tract Injection (UTI)
☐ Gynecology (GYN)
☐ Gynecology (GYN): Abnormal bleeding
☐ Gynecology (GYN): Endometriosis
☐ Gynecology (GYN): Infections
☐ Gynecology (GYN): Menopause
☐ Gynecology (GYN): Pelvic Pain
☐ Gynecology (GYN): Uterine fibroids
☒ Infectious Diseases (ID)
☒ Infectious Diseases (ID): HIV/AIDS
☐ Infectious Diseases (ID): Influenza
☐ Infectious Diseases (ID): Lyme Disease
☐ Infectious Diseases (ID): Meningococcal Disease
☐ Infectious Diseases (ID): Pneumonia and respiratory infections
☐ Infectious Diseases (ID): Sepsis
☒ Infectious Diseases (ID): Sexually Transmitted
☐ Infectious Diseases (ID): Tuberculosis
☐ Liver
☐ Liver: Viral Hepatitis
☐ Musculoskeletal
☐ Musculoskeletal: Falls and Traumatic Injury
☐ Musculoskeletal: Gout
☐ Musculoskeletal: Joint Surgery
☐ Musculoskeletal: Low Back Pain
☐ Musculoskeletal: Osteoarthritis
☐ Musculoskeletal: Osteoporosis
☐ Musculoskeletal: Rheumatoid Arthritis
☐ Neurology
☐ Neurology: Alzheimer's Disease

- ☐ Neurology: Autism
- ☐ Neurology: Brain Injury
- ☐ Neurology: Epilepsy
- ☐ Neurology: Migraine
- ☐ Neurology: Parkinson's Disease
- ☐ Neurology: Spinal Cord Injury
- ☐ Neurology: Stroke/Transient Ischemic Attack (TIA)
- ☐ Other (please specify here:)
- ☐ Palliative Care and End-of-Life Care
- ☐ Palliative Care and End-of-Life Care: Advanced Directives
- ☐ Palliative Care and End-of-Life Care: Amyotrophic Lateral Sclerosis (ALS)
- ☐ Palliative Care and End-of-Life Care: Hospice Management
- ☐ Palliative Care and End-of-Life Care: Inappropriate use of acute care services
- ☐ Palliative Care and End-of-Life Care: Pain Management
- ☐ Perinatal Health
- ☐ Perinatal Health: Labor and Delivery
- ☐ Perinatal Health: Newborn Care
- ☐ Perinatal Health: Post-Partum Care
- ☐ Perinatal Health: Preconception Care
- ☐ Perinatal Health: Prenatal Care
- ☐ Renal
- ☐ Renal: Acute Kidney Injury
- ☐ Renal: Chronic Kidney Disease (CKD)
- ☐ Renal: End Stage Renal Disease (ESRD)
- ☐ Renal: Infections
- ☐ Reproductive Health
- ☐ Reproductive Health: Family planning and contraception
- ☐ Reproductive Health: Infertility
- ☐ Reproductive Health: Male reproductive health
- ☐ Respiratory
- ☐ Respiratory: Acute Bronchitis
- ☐ Respiratory: Allergy
- ☐ Respiratory: Asthma
- ☐ Respiratory: Chronic Obstructive Pulmonary Disease (COPD)
- ☐ Respiratory: Dyspnea
- ☐ Respiratory: Pneumonia
- ☐ Respiratory: Sleep Apnea
- ☐ Surgery
- ☐ Surgery: Cardiac Surgery
- ☐ Surgery: Colorectal

☐ Surgery: Neurosurgery / Spinal
☐ Surgery: Orthopedic
☐ Surgery: Orthopedic Hip/Pelvic Fractures
☐ Surgery: Pediatric
☐ Surgery: Perioperative and Anesthesia
☐ Surgery: Plastic
☐ Surgery: Thoracic Surgery
☐ Surgery: Trauma
☐ Surgery: Vascular Surgery

sp.05) Check all the non-condition specific measure domain areas that apply to your measure, below.

☐ Access to Care
☐ Care Coordination
☐ Care Coordination: Readmissions
☐ Care Coordination: Transitions of Care
☐ Disparities Sensitive
☐ Health and Functional Status
☐ Health and Functional Status: Change
☐ Health and Functional Status: Nutrition
☐ Health and Functional Status: Obesity
☐ Health and Functional Status: Physical Activity
☐ Health and Functional Status: Quality of Life
☐ Health and Functional Status: Total Health
☐ Immunization
☐ Other (please specify here:)
☐ Person-and Family-Centered Care: Person-and Family-Centered Care
☐ Person-and Family-Centered Care: Workforce
☐ Primary Prevention
☐ Primary Prevention: Nutrition
☐ Primary Prevention: Tobacco Use
☐ Safety
☐ Safety: Complications
☐ Safety: Healthcare Associated Infections
☐ Safety: Medication
☐ Safety: Overuse
☒ Screening

sp.06) Select one or more target population categories.

Select only those target populations which can be stratified in the reporting of the measure's result.

☒ Adults (Age >= 18)
☒ Children (Age < 18)
☐ Elderly (Age >= 65)
☐ Populations at Risk: Dual eligible beneficiaries of Medicare and Medicaid
☐ Populations at Risk: Individuals with multiple chronic conditions
☐ Populations at Risk: Veterans
☐ Women

sp.07) Select the levels of analysis that apply to your measure.

Check ONLY the levels of analysis for which the measure is SPECIFIED and TESTED.

☐ Accountable Care Organization
☐ Clinician: Group/Practice
☒ Clinician: Individual
☐ Facility
☐ Health Plan
☐ Integrated Delivery System
☐ Other (please specify here:)
☐ Population: Community, County or City
☐ Population: Regional and State

sp.08) Indicate the care settings that apply to your measure.

Check ONLY the settings for which the measure is SPECIFIED and TESTED.
☐ Ambulatory Care
☐ Behavioral Health
☐ Home Care
☐ Inpatient/Hospital
☐ Other (please specify here:)
☒ Outpatient Services
☐ Post-Acute Care

sp.09) Provide a Uniform Resource Locator (URL) link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials.

Do not enter a URL linking to a home page or to general information. If no URL is available, indicate “none available".

None available.

sp.10) Indicate whether Health Quality Measure Format (HQMF) specifications are attached.

Attach the zipped output from the measure authoring tool (MAT) for eCQMs - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications).

☒ HQMF specifications are attached.

☐ HQMF specifications are NOT attached (Please explain).

sp.11) Attach the simulated testing attachment.

All eCQMs require a simulated testing attachment to confirm that the HTML output from Bonnie testing (or testing of some other simulated data set) includes 100% coverage of measured patient population testing, with pass/fail test cases for each sub-population. This can be submitted in the form of a screenshot.

☒ Testing is attached
☐ Testing is NOT attached (please explain)

sp.12) Attach the data dictionary, code table, or value sets (and risk model codes and coefficients when applicable). Excel formats (.xlsx or .csv) are preferred.

Attach an excel or csv file; if this poses an issue, contact staff at PQMsupport@battelle.org. Provide descriptors for any codes. Use one file with multiple worksheets, if needed.

☒ Available in attached Excel or csv file
☐ No data dictionary/code table – all information provided in the submission form

For the question below: state the outcome/process being measured. Calculations of the risk-adjusted outcome measures should be described in sp.22.

sp.13) State the numerator.

Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome).

DO NOT include the rationale for the measure.

Patients who had a test for syphilis, a test for gonorrhea, and a test for chlamydia performed at least once during the measurement period.

For the question below: describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in sp.22.

sp.14) Provide details needed to calculate the numerator.

All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets.

Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

Qualifying syphilis, gonorrhea, and chlamydia tests are in the attached file (see also value sets in sp.12 and specifications in sp.10).
Measurement period is equivalent to a calendar year.

For the question below: state the target population for the outcome. Calculation of the risk-adjusted outcome should be described in sp.22.

sp.15) State the denominator.

Brief, narrative description of the target population being measured.

All patients 13 years of age and older with a diagnosis of HIV before the end of the measurement period seen for an eligible encounter during the measurement period.

For the question below: describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in sp.22.

sp.16) Provide details needed to calculate the denominator.

All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets.

Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

Qualifying HIV diagnoses and eligible encounters are in the attached file (see also value sets in sp.12 and specifications in sp.10).

Patient age
HIV diagnosis date

Note that the eligible encounter can occur at any point in the measurement period because patients should receive screening at least annually, including at their first visit with a provider.

sp.17) Describe the denominator exclusions.

Brief narrative description of exclusions from the target population.

Not applicable.

sp.18) Provide details needed to calculate the denominator exclusions.

All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

Not applicable.

sp.19) Provide all information required to stratify the measure results, if necessary.

Include the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate. Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format in the Data Dictionary field.

Not applicable.

sp.20) Is this measure adjusted for socioeconomic status (SES)?

☐ Yes
☒ No

sp.21) Select the risk adjustment type.

Select type. Provide specifications for risk stratification and/or risk models in the Scientific Acceptability section.

☒ No risk adjustment or risk stratification
☐ Statistical risk model
☐ Stratification by risk category/subgroup (specify number of risk factors)
☐ Other approach to address risk factors (please specify here:)

sp.22) Select the most relevant type of score.

Attachment: If available, please provide a sample report.

☐ Categorical, e.g., yes/no
☐ Continuous variable, e.g. average
☐ Count
☐ Frequency Distribution
☐ Non-weighted score/composite/scale
☐ Other (please specify here:)
☒ Rate/proportion
☐ Ratio
☐ Weighted score/composite scale

sp.23) Select the appropriate interpretation of the measure score.

Classifies interpretation of score according to whether better quality or resource use is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score.

☒ Better quality = Higher score
☐ Better quality = Lower score
☐ Better quality = Score within a defined interval
☐ Passing score defines better quality

sp.24) Diagram or describe the calculation of the measure score as an ordered sequence of steps.

Identify the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period of data, aggregating data; risk adjustment; etc.

Denominator

1. Identify patients with an eligible encounter during the measurement period
2. Retain all patients diagnosed with HIV during the measurement period or any time prior.
3. Retain all patients 13 years or older.
4. Patients meeting these criteria are in the denominator, and those that do not meet these criteria are not in the denominator.

Numerator

1. Identify denominator-eligible patients with a syphilis test, a gonorrhea test, and a chlamydia test during the measurement period.
2. If the patient has all three tests during the measurement period, the patient is included in the numerator. If the patient does not have all three tests during the measurement period, the patient is not included in the numerator.

sp.25) Attach a copy of the instrument (e.g. survey, tool, questionnaire, scale) used as a data source for your measure, if available.

☐ Copy of instrument is attached.
☒ Copy of instrument is NOT attached (please explain).

The measure utilizes structured fields from electronic health record (EHR) data.

sp.26) Indicate the responder for your instrument.

☐ Patient
☐ Family or other caregiver
☐ Clinician
☒ Other (specify)

Not applicable; not a survey-based measure.

sp.27) If measure testing is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.

Examples of samples used for testing:

• Testing may be conducted on a sample of the accountable entities (e.g., hospital, physician). The analytic unit specified for the particular measure (e.g., physician, hospital, home health agency) determines the sampling strategy for scientific acceptability testing.

• The sample should represent the variety of entities whose performance will be measured. The samples used for reliability and validity testing often have limited generalizability because measured entities volunteer to participate. Ideally, however, all types of entities whose performance will be measured should be included in reliability and validity testing.

• The sample should include adequate numbers of units of measurement and adequate numbers of patients to answer the specific reliability or validity question with the chosen statistical method.

• When possible, units of measurement and patients within units should be randomly selected.

We recruited clinicians from 7 test sites that provide clinical care to patients with HIV and receive funding from the Ryan White HIV/AIDS Program. The characteristics of the test sites are listed below. These sites represented different regions, covering both urban and rural areas, and using different EHR systems to ensure the generalizability of findings. All clinicians that have at least 11 patients eligible for the measure denominator are included in the analysis for a total of 37 clinicians and 2,891 patients. The patients included in the analysis are Ryan White HIV/AIDS Program recipients that had an eligible encounter within the measurement period (January 1, 2021 to December 31, 2021) for those 37 clinicians. As a part of reliability testing to add rigor to the limited number of unique clinicians, we also conducted bootstrap resampling. This approach was used to test the stability of the measure rates over 2,000 replications of the initial sample. Results from the bootstrap testing (section 2a.11) support the generalizability of the findings.

/ **Geographic region and urban/rural communities served**
  - Four Northeast; two Midwest; one South
  - Five urban; two combination of urban and rural

/ **Clinic types**
  - Two hospital or university-based clinics
  - Four publicly funded community health centers
  - One other community-based service organization

/ **Electronic health record (EHR)**
  - eClinicalWorks (3)
  - EPIC (2)
  - NextGen (1)
  - Athena Health (1)

sp.28) Identify whether and how proxy responses are allowed.

Not applicable.

sp.29) Survey/Patient-reported data.

Provide instructions for data collection and guidance on minimum response rate. Specify calculation of response rates to be reported with performance measure results.

Not applicable.

sp.30) Select only the data sources for which the measure is specified.

☐ Assessment Data
☐ Claims
☐ Electronic Health Data
☒ Electronic Health Records
☐ Instrument-Based Data

☐ Management Data
☐ Other (please specify here:)
☐ Paper Medical Records
☐ Registry Data

sp.31) Identify the specific data source or data collection instrument.

For example, provide the name of the database, clinical registry, collection instrument, etc., and describe how data are collected.

The measure is calculated based on structured data pulled from each submitter's electronic health record.

sp.32) Provide the data collection instrument.

☐ Available at measure-specific web page URL identified in sp.09
☐ Available in attached appendix in Question 1 of the Additional Section
☒ No data collection instrument provided

Importance to Measure and Report: Maintenance of Endorsement (1ma.01)

1ma.01) Indicate whether there is new evidence about the measure since the most recent maintenance evaluation. If yes, please briefly summarize the new evidence, and ensure you have updated entries in the Evidence section as needed.

☐ Yes
☐ No

Importance to Measure and Report: Evidence (Complete for Outcome Measures) (1a.01 - 1a.03)

Please separate added or updated information from the most recent measure evaluation within each question response in the Importance to Measure and Report: Evidence section. For example:

Current Submission:

Updated evidence information here.

Previous (Year) Submission:

Evidence from the previous submission here.

1a.01) Provide a logic model.

Briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

1a.02) Provide evidence that the target population values the measured outcome, process, or structure and finds it meaningful.

Describe how and from whom input was obtained.

1a.03) Provide empirical data demonstrating the relationship between the outcome (or PRO) and at least one healthcare structure, process, intervention, or service.

Importance to Measure and Report: Evidence (Complete for Process Measures) (1a.03 - 1a.16)

Please separate added or updated information from the most recent measure evaluation within each question response in the Importance to Measure and Report: Evidence section. For example:

Current Submission:

Updated evidence information here.

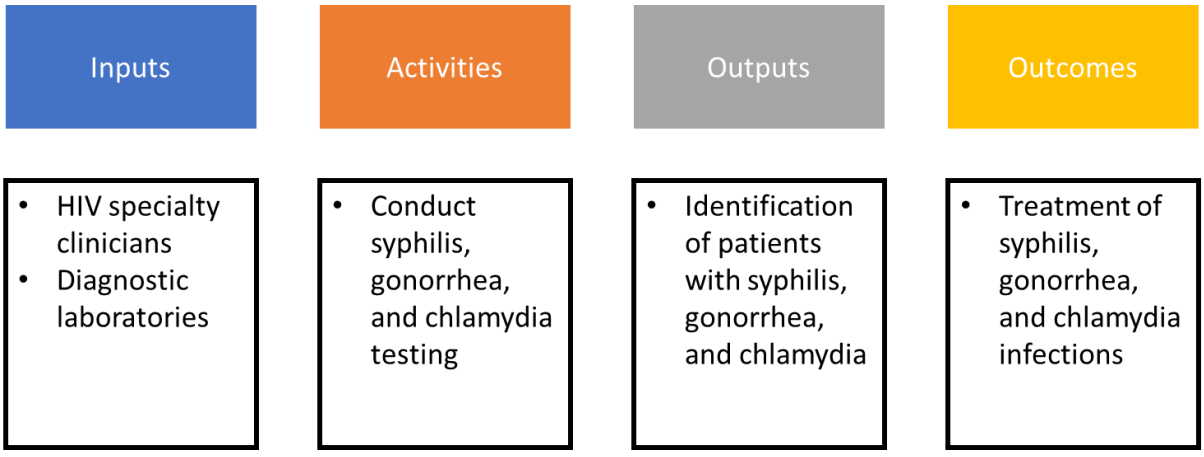
Previous (Year) Submission:

Evidence from the previous submission here.

1a.01) Provide a logic model.

Briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Figure 1a.01 Logic Model



Inputs to the process include HIV specialty clinicians and diagnostic laboratories. These inputs feed into the following activities: HIV specialty clinicians refer their patients to diagnostic laboratories, which conduct syphilis, gonorrhea, and chlamydia testing. These activities result in the output of identification of patients with syphilis, gonorrhea, and chlamydia (Workowski et al., 2021). This output results in the outcome of treatment of syphilis, gonorrhea, and chlamydia (Tuddenham et al., 2022).

ALT-TEXT:

Figure 1a.01 shows the processes of HIV primary care, including the inputs, activities, outputs, and

outcome, that are related to STI testing. Inputs to the process include HIV specialty clinicians and diagnostic laboratories. These inputs feed into the following activities: HIV specialty clinicians refer their patients to diagnostic laboratories, which conduct STI tests. These activities result in the output of identification of patients with syphilis, gonorrhea, and chlamydia. This output results in the outcome of treatment of syphilis, gonorrhea, and chlamydia infections.

CITATIONS:

Tuddenham, S., Hamill, M. M., & Ghanem, K. G. (2022). Diagnosis and Treatment of Sexually Transmitted Infections: A Review. JAMA, 327(2), 161–172. https://doi.org/10.1001/jama.2021.23487

Workowski, K. A., Bachmann, L. H., Chan, P. A., Johnston, C. M., Muzny, C. A., Park, I., Reno, H., Zenilman, J. M., & Bolan, G. A. (2021). Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports, 70(4), 1–187. https://doi.org/10.15585/mmwr.rr7004a1

1a.02) Select the type of source for the systematic review of the body of evidence that supports the performance measure.

A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data.

☒ Clinical Practice Guideline recommendation (with evidence review)
☒ US Preventive Services Task Force Recommendation
☐ Other systematic review and grading of the body of evidence (e.g., Cochrane Collaboration, AHRQ Evidence Practice Center)
☐ Other (please specify here:)

If the evidence is not based on a systematic review, skip to the end of the section and do not complete the repeatable question group below. If you wish to include more than one systematic review, you may add additional tables to the relevant sections. Please follow the 508 Checklist for tables.

Evidence - Systematic Reviews Table (Repeatable)

1a.03) Provide the title, author, date, citation (including page number) and URL for the systematic review.

Panel on Opportunistic Infections in Adults and Adolescents with HIV. Guidelines for the prevention and treatment of opportunistic infections in adults and adolescents with HIV: recommendations from the Centers for Disease Controls and Prevention, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Available at: https://clinicalinfo.hiv.gov/en/guidelines/hiv-clinical-guidelines-adult-and-adolescent-opportunistic-

infections/syphilis?view=full. Accessed November 2022. (Guideline updated December 5, 2015; reviewed July 13, 2022).

US Preventive Services Task Force, Mangione, C. M., Barry, M. J., Nicholson, W. K., Cabana, M., Chelmow, D., Coker, T. R., Davis, E. M., Donahue, K. E., Jaén, C. R., Kubik, M., Li, L., Ogedegbe, G., Pbert, L., Ruiz, J. M., Stevermer, J., & Wong, J. B. (2022). Screening for Syphilis Infection in Nonpregnant Adolescents and Adults: US Preventive Services Task Force Reaffirmation Recommendation Statement. JAMA, 328(12), 1243–1249. https://doi.org/10.1001/jama.2022.15322

Workowski, K. A., Bachmann, L. H., Chan, P. A., Johnston, C. M., Muzny, C. A., Park, I., Reno, H., Zenilman, J. M., & Bolan, G. A. (2021). Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports, 70(4), 1–187. https://doi.org/10.15585/mmwr.rr7004a1

1a.04) Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the systematic review.

"Routine serologic screening for syphilis is recommended at least annually for all persons with HIV infection who are sexually active, with more frequent screening (i.e., every 3–6 months) for those who have multiple or anonymous partners." (Panel on Opportunistic Infections in Adults and Adolescents with HIV, Y-3)

“Patients undergoing screening or treatment for syphilis also should be evaluated for other sexually transmitted diseases such as chlamydia and gonorrhea at anatomic sites of exposure in men and for chlamydia, gonorrhea, and trichomonas in women.” (Panel on Opportunistic Infections in Adults and Adolescents with HIV, Y-3)

“The USPSTF recommends screening for syphilis in persons who are at increased risk for infection. When deciding which persons to screen for syphilis, clinicians should consider the prevalence of infection in the communities they serve, as well as other sociodemographic and behavioral factors that may be associated with increased risk of syphilis infection. For example, prevalence of syphilis is higher in men, men who have sex with men, persons with HIV infection, young adults, and persons with a history of incarceration, sex work, or military service…. Optimal screening frequency for persons who are at increased risk for syphilis infection is not well established. Men who have sex with men or persons with HIV infection may benefit from screening at least annually or more frequently (e.g., every 3 to 6 months) if they continue to be at high risk.” (USPSTF 2022, pages 1244 & 1246).

“At the initial HIV care visit, providers should screen all sexually active persons for syphilis, gonorrhea, and chlamydia, and perform screening for these infections at least annually during the course of HIV care. Specific testing includes syphilis serology and [a nucleic acid amplification test] NAAT for N. gonorrhoeae and C. trachomatis at the anatomic site of exposure.” (Workowski et al., 2021, page 26)

1a.05) Provide the grade assigned to the evidence associated with the

recommendation and include the definition of the grade.

Panel on Opportunistic Infections in Adults and Adolescents with HIV- no grade assigned

USPSTF- Grade A

Sexually Transmitted Infections Treatment Guidelines- no grade assigned

1a.06) Provide all other grades and definitions from the evidence grading system.

Table 1a.06-A. Rating Scheme for Recommendations from the US Preventative Task Force

Grade	Definition
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

ALT-TEXT:

Table 1a.06 shows the US Preventative Service Task Force's evidence and recommendations rating scheme. The rating scheme grade and definitions are as follows: grade A, The USPSTF recommends the service. There is high certainty that the net benefit is substantial; grade B, The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial; grade C, The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small; grade D, The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits; and I statement, The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

1a.07) Provide the grade assigned to the recommendation, with definition of the grade.

Panel on Opportunistic Infections in Adults and Adolescents with HIV- no grade assigned

USPSTF- Grade A

Sexually Transmitted Infections Treatment Guidelines- no grade assigned

1a.08) Provide all other grades and definitions from the recommendation grading system.

See 1a.06

1a.09) Detail the quantity (how many studies) and quality (the type of studies) of the evidence.

This measure draws on a set of joint recommendations from the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration, and the HIV Medicine Association on Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV, as well as Sexually Transmitted Infections Treatment Guidelines from the US Department of Health and Human Services (HHS) and the CDC. The guidelines focused on adults and adolescents with HIV are based on a cohort study of MSM examining incidence of new and repeated syphilis infection (Branger et al 2009) and two additional sets of CDC guidelines (CDC 2004, CDC 2008). The STI treatment guidelines (Workowski et al., 2021) cite additional guidelines from the Infectious Disease Society of America (Aberg et al. 2014) and a prospective, observational, multi-site cohort study (Patel et al. 2012).

CITATIONS:

Aberg, J. A., Gallant, J. E., Ghanem, K. G., Emmanuel, P., Zingman, B. S., Horberg, M. A., & Infectious Diseases Society of America (2014). Primary care guidelines for the management of persons infected with HIV: 2013 update by the HIV medicine association of the Infectious Diseases Society of America. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 58(1), e1–e34. https://doi.org/10.1093/cid/cit665

Branger, J., van der Meer, J. T., van Ketel, R. J., Jurriaans, S., & Prins, J. M. (2009). High incidence of asymptomatic syphilis in HIV-infected MSM justifies routine screening. Sexually transmitted diseases, 36(2), 84–85. https://doi.org/10.1097/OLQ.0b013e318186debb

Centers for Disease Control and Prevention (CDC) (2008). Recommendations for partner services programs for HIV infection, syphilis, gonorrhea, and chlamydial infection. MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports, 57(RR-9), 1–CE4. Available at https://pubmed.ncbi.nlm.nih.gov/18987617/

Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, HIV Medicine Association of the Infectious Diseases Society of America, & HIV Prevention in Clinical Care Working Group (2004). Recommendations for incorporating human immunodeficiency virus (HIV) prevention into the medical care of persons living with HIV. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America, 38(1), 104–121. https://doi.org/10.1086/380131

Patel, P., Bush, T., Mayer, K., Milam, J., Richardson, J., Hammer, J., Henry, K., Overton, T., Conley, L., Marks, G., Brooks, J. T., & SUN Study Investigators (2012). Routine brief risk-reduction counseling with biannual STD testing reduces STD incidence among HIV-infected men who have sex with men in care. Sexually transmitted diseases, 39(6), 470–474. https://doi.org/10.1097/OLQ.0b013e31824b3110

1a.10) Provide the estimates of benefit, and consistency across studies.

Studies, guidelines, and recommendations showed strong evidence for screening people with HIV (PWH) for syphilis and recommended co-testing for gonorrhea and chlamydia for PWH undergoing syphilis screening. The recommendations indicate that screening should occur annually for sexually active PLWH.

1a.11) Indicate what, if any, harms were identified in the study.

None identified.

1a.12) Identify any new studies conducted since the systematic review, and indicate whether the new studies change the conclusions from the systematic review.

N/A- the most recent guidelines are included.

Evidence

1a.13) If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, describe the evidence on which you are basing the performance measure.

1a.14) Briefly synthesize the evidence that supports the measure.

1a.15) Detail the process used to identify the evidence.

1a.16) Provide the citation(s) for the evidence.

Importance to Measure and Report: Gap in Care/Disparities (1b.01 - 1b.05)

1b.01) Briefly explain the rationale for this measure.

Explain how the measure will improve the quality of care and list the benefits or improvements in quality envisioned by use of this measure.

The rates of syphilis, gonorrhea, and chlamydia cases per 100,000 in the United States have steadily risen over the last decade and increased 11.2%, 5.9%, and 2.8%, respectively, from 2018 to 2019 (DHHS, 2021). People with HIV are at an increased risk of bacterial STIs, including chlamydia, gonorrhea, and syphilis (CDC 2004). However, early detection and treatment of bacterial STIs in people with HIV can lead to a reduction in HIV transmission (CDC 2004). Despite guidelines for at least annual screening among sexually active persons with HIV, only an estimated 55% received a syphilis test in the past year, 23% received a gonorrhea test in the past year, and 24% received a chlamydia test in the past year based on a nationally representative survey of adults with HIV receiving medical care in the United States (Flagg et al., 2015). In an analysis of people with HIV enrolled in a large integrated managed care consortium using electronic health record data, Black people with HIV were less to receive syphilis screening and women with HIV were less likely to receive chlamydia and gonorrhea screening (Hojilla et al., 2022). This measure will help providers focus their attention and quality improvement efforts towards testing and treating sexually transmitted infections in patients with HIV, thus reducing the complications to long-term syphilis infection and reducing STI incidence (Patel et al, 2012).

CITATIONS:

Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, HIV Medicine Association of the Infectious Diseases Society of America, & HIV Prevention in Clinical Care Working Group (2004). Recommendations for incorporating human immunodeficiency virus (HIV) prevention into the medical care of persons living with HIV. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 38(1), 104–121. https://doi.org/10.1086/380131

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2019. (2021). Atlanta: U.S. Department of Health and Human Services. Available at: https://www.cdc.gov/std/statistics/2019/default.htm

Flagg, E. W., Weinstock, H. S., Frazier, E. L., Valverde, E. E., Heffelfinger, J. D., & Skarbinski, J. (2015). Bacterial sexually transmitted infections among HIV-infected patients in the United States: estimates from the Medical Monitoring Project. Sexually transmitted diseases, 42(4), 171–179. https://doi.org/10.1097/OLQ.0000000000000260. Erratum in: Sex Transm Dis. 2015 Jun;42(6):351-2. PMID: 25763669; PMCID: PMC6921480.

Hojilla, J. C., Sarovar, V., Lam, J. O., Park, I. U., Vincent, W., Hare, C. B., Silverberg, M. J., & Satre, D. D. (2022). Sexually Transmitted Infection Screening in Key Populations of Persons Living with HIV. AIDS and Behavior. https://doi.org/10.1007/s10461-022-03747-w

Patel, P., Bush, T., Mayer, K., Milam, J., Richardson, J., Hammer, J., Henry, K., Overton, T., Conley, L., Marks, G., Brooks, J. T., & SUN Study Investigators (2012). Routine brief risk-reduction counseling with

biannual STD testing reduces STD incidence among HIV-infected men who have sex with men in care. Sexually transmitted diseases, 39(6), 470–474. https://doi.org/10.1097/OLQ.0b013e31824b3110

1b.02) Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.

Include mean, std dev, min, max, interquartile range, and scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.

We calculated the measure performance scores at the clinician level for the measure performance period from January 1, 2021, to December 31, 2021. The total sample included 123 clinicians and 2,990 patients participating in the Ryan White HIV/AIDS Program, of which 37 clinicians had at least 11 patients—the minimum sample size requirement outlined in the CMS cell suppression policy. The data for these 37 clinicians included 2,891 patients. We provide the distribution of the measure performance scores for all clinicians and clinicians with at least 11 patients eligible for the denominator below. In the remainder of this document, we will focus on clinicians with at least 11 denominator-eligible patients (Table 1b.02).

Table 1b.02. Distribution of the measure performance scores in the clinician samples

	Clinicians	Patients	Mean	SD	Min	p10	p20	p30	p40	Median	p60	p70	p80	p90	Max	IQR
All Clinicians	123	2,990	55.9	36.7	0.0	0.0	10.3	40.1	50.0	60.0	72.2	80.0	100.0	100.0	100.0	76.9
Clinicians with 11+ denominator-eligible patients	37	2,891	54.5	24.2	10.9	14.6	32.1	44.4	52.6	60.3	65.3	72.2	78.6	80.1	95.1	54.5

Notes: SD=Standard deviation, Min=minimum, Max=maximum, p=percentile, IQR=interquartile range.

ALT-TEXT:

Table 1b.02 describes the distribution of the measure scores in the sample of all clinicians and clinicians with at least eleven patients. The table shows the number of clinicians and patients, and the mean, standard deviation, interquartile range, and minimum and maximum scores on the measure, as well as the distribution of the measure scores by decile. The table shows that there's an overall high performance on the measure but there is a substantial variation in the measure scores indicating the potential for further improvement. Overall, there was slightly more variation and the higher percentile scores in the sample of all clinicians than in the sample of clinicians with at least eleven patients.

1b.03) If no or limited performance data on the measure as specified is reported above, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement. Include citations.

Not applicable

1b.04) Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.

Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included. Include mean, std dev, min, max, interquartile range, and scores by decile. For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.

Data for this analysis are the same as the measure testing data (see section sp.27 for full details.) During testing, the measure performance was stratified to assess whether there were disparities in STI testing by patients' age (<50 years vs. >=50 years), HIV transmission category (men who have sex with men [MSM], injection drug use [IDU], which includes both IDU and MSM and IDU, and Other transmission), race (White vs. Black), and ethnicity (Hispanic or Latino vs. not Hispanic or Latino). Table 1b.04 summarizes the results of the analysis.

Table 1b.04 STI Testing across clinicians with ≥11 patients eligible for the denominator (n = 37)

Patient Group	Clinicians	Patients	Mean	Std dev	Min	10%	20%	30%	40%	50%	60%	70%	80%	90%	Max	IQR
AGE<50	37	1, 456	61.3	25.1	17.6	23.5	33.6	45.9	56.2	66.7	74.3	80.4	85.4	87.2	100.0	45.6
AGE>=50	37	1,435	45.5	25.4	3.6	6.7	22.1	33.3	40.0	42.9	53.0	63.3	70.5	76.0	93.8	38.9
MSM	34	1,179	60.1	30.2	0.0	16.5	26.0	44.8	58.7	65.2	75.0	81.5	87.8	95.4	100.0	50.5
IDU	30	193	41.6	35.4	0.0	0.0	0.0	11.0	28.0	36.7	52.9	62.0	72.1	100.0	100.0	59.3
Other transmission	34	919	45.6	26.2	5.4	10.3	21.1	32.6	38.0	42.2	49.8	62.6	66.7	74.3	100.0	40.0
Black	37	1,270	55.7	24.1	14.3	22.1	27.3	42.3	51.8	60.0	64.7	71.1	74.7	83.3	100.0	31.7
White	37	1,496	53.7	29.3	0.0	11.2	21.7	36.7	50.0	58.8	65.9	71.4	76.0	91.2	100.0	41.1
Not Hispanic or Latino	37	2,443	53.3	24.3	11.1	14.3	31.6	40.0	50.6	56.7	63.8	71.6	75.7	81.3	92.3	34.5
Hispanic or Latino	27	440	57.0	33.2	0.0	10.7	15.6	41.0	51.2	66.7	75.0	82.0	83.6	98.1	100.0	63.1

Notes: Results are for clinicians with ≥11 patients eligible for the denominator.
SD=standard deviation, p=percentile, min=minimum, max=maximum, IQR=interquartile range

ALT-TEXT:

Table 1b.04 describes the measure performance rate age, virus transmission model, race, and ethnicity. The table shows the number of clinicians and patients, and the mean, standard deviation, interquartile range, and minimum and maximum scores on the measure, as well as the distribution of the measure scores by decile. The measure scores are shown separately for 1) patients less than 50 years of age, patients fifty years of age and older, 2) patients with MSM, IDU and other (i.e.: non-MSM/IDU) virus transmission model, 3) White and Black patients, and 4) Hispanic or Latino and not Hispanic or Latino patients. The mean measure scores are higher for patients under fifty years, patients with non-IDU or MSM transmission methods, White patients and Hispanic or Latino patients.

Rates of STI testing were higher among those under age 50 (mean=61.3%) as compared to those age 50 and older (mean=45.5%). The differences in the measure score by patients' age were statistically significant (p=0.01), which reflects higher rates of testing among younger patients (Berry et al 2015). STI testing rates were higher among MSM (mean=60.1%) than other HIV transmission groups (41.6% for IDU, 45.6% for other transmission) [p-value=0.06], as expected based on the literature (Berry et al 2015), although the differences did not reach statistical significance at the p≤0.05 level. Rates were similar across race (p-value=0.63) and ethnicity (p-value=0.74).

Across all clinicians, we observed more variability in the clinician-level measure rates for the white patients (mean=53.7, SD=29.3) patients, and the IDU patients (mean=41.6, SD=35.4). Larger variation in the measure rates for the IDU patients can be attributed to the relatively small sample for that category, whereas variability in the measure rates for the white patients can point at the potential differences in care within this group of patients or differences in the distribution of other characteristics that might influence STI screening, e.g. age or perceived risk.

CITATIONS:

Berry, S. A., Ghanem, K. G., Mathews, W. C., Korthuis, P. T., Yehia, B. R., Agwu, A. L., Lehmann, C. U., Moore, R. D., Allen, S. L., Gebo, K. A., & HIV Research Network (2015). Brief Report: Gonorrhea and Chlamydia Testing Increasing but Still Lagging in HIV Clinics in the United States. Journal of acquired immune deficiency syndromes (1999), 70(3), 275–279. https://doi.org/10.1097/QAI.0000000000000711

1b.05) If no or limited data on disparities from the measure as specified is reported above, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in above.

Not applicable.

Scientific Acceptability: Maintenance (2ma.01 - 2ma.04)

2ma.01) Indicate whether additional empirical reliability testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Reliability - Testing. Include information on all testing conducted (prior testing as well as any new testing).

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

Current Submission:

Updated testing information here.

Previous Submission:

Testing from the previous submission here.

☐ Yes
☒ No

2ma.02) Indicate whether additional empirical validity testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Validity - Testing. Include information on all testing conducted (prior testing as well as any new testing).

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

Current Submission:

Updated testing information here.

Previous Submission:

Testing from the previous submission here.

☐ Yes
☒ No

2ma.03) For outcome, patient-reported outcome, resource use, cost, and some process measures, risk adjustment/stratification may be conducted. Did you perform a risk adjustment or stratification analysis?

☐ Yes
☒ No

2ma.04) For maintenance measures in which risk adjustment/stratification has been performed, indicate whether additional risk adjustment testing has been conducted since the most recent maintenance evaluation. This may include updates to the risk adjustment analysis with additional clinical, demographic, and social risk factors.

Please update the Scientific Acceptability: Validity - Other Threats to Validity section.

Note: This section must be updated even if social risk factors are not included in the risk adjustment strategy.

☐ Yes - Additional risk adjustment analysis is included
☒ No additional risk adjustment analysis included

Scientific Acceptability: Reliability - Testing (2a.01 - 2a.12)

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate fields in the Scientific Acceptability sections of the Measure Submission Form.

- Measures must be tested for all the data sources and levels of analyses that are specified. If there is more than one set of data specifications or more than one level of analysis, contact Battelle staff at PQMsupport@battelle.org about how to present all the testing information in one form.
- All required sections must be completed.
- For composites with outcome and resource use measures, Questions 2b.23-2b.37 (Risk Adjustment) also must be completed.
- If specified for multiple data sources/sets of specifications (e.g., claims and EHRs), Questions 2b.11-2b.13 also must be completed.
- An appendix for supplemental materials may be submitted (see Question 1 in the Additional section), but there is no guarantee it will be reviewed.
- Contact Battelle staff at PQMsupport@battelle.org with any questions.
- For information on the most updated guidance on how to address social risk factors variables and testing in this form refer to the release notes for the 2021 Measure Evaluation Criteria and Guidance

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the testing results for this measure meet the evaluation criteria for testing.

2a. Reliability testing demonstrates the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise. For instrument-based measures (including PRO-PMs) and composite performance measures, reliability should be demonstrated for the computed performance score.

2b1. Validity testing demonstrates that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For instrument-based measures (including PRO-PMs) and composite performance measures, validity should be demonstrated for the computed performance score.

2b2. Exclusions are supported by the clinical evidence and are of sufficient frequency to warrant inclusion in the specifications of the measure;

AND

If patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that the exclusion impacts performance on the measure; in such cases, the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately).

2b3. For outcome measures and other measures when indicated (e.g., resource use):

• an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified; is based on patient factors (including clinical and social risk factors) that influence the measured outcome and are present at start of care; 14,15 and has demonstrated adequate discrimination and calibration

OR

• rationale/data support no risk adjustment/ stratification.

2b4. Data analysis of computed measure scores demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful 16 differences in performance;

OR

there is evidence of overall less-than-optimal performance.

2b5. If multiple data sources/methods are specified, there is demonstration they produce comparable results.

2b6. Analyses identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders) and how the specified handling of missing data minimizes bias.

2c. For composite performance measures, empirical analyses support the composite construction approach and demonstrate that:

2c1. the component measures fit the quality construct and add value to the overall composite while achieving the related objective of parsimony to the extent possible; and

2c2. the aggregation and weighting rules are consistent with the quality construct and rationale while achieving the related objective of simplicity to the extent possible.

(if not conducted or results not adequate, justification must be submitted and accepted)

Definitions

Reliability testing applies to both the data elements and computed measure score. Examples of reliability testing for data elements include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing of the measure score addresses precision of measurement (e.g., signal-to-noise).

Validity testing applies to both the data elements and computed measure score. Validity testing of data elements typically analyzes agreement with another authoritative source of the same information. Examples of validity testing of the measure score include, but are not limited to: testing hypotheses that the measures scores indicate quality of care, e.g., measure scores are different for groups known to have differences in quality assessed by another valid quality measure or method; correlation of measure scores with another valid indicator of quality for the specific topic; or relationship to conceptually related measures (e.g., scores on process measures to scores on outcome measures). Face validity of the measure score as a quality indicator may be adequate if accomplished through a systematic and transparent process, by identified experts, and explicitly addresses whether performance scores resulting from the measure as specified can be used to distinguish good from poor quality. The degree of consensus and any areas of disagreement must be provided/discussed.

Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, variability of exclusions across providers, and sensitivity analyses with and without the exclusion.

Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

Risk factors that influence outcomes should not be specified as exclusions.

With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74 percent v. 75 percent) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of care (e.g., $5,000 v.$5,025) is practically meaningful. Measures with overall less-than-optimal performance may not demonstrate much variability across providers.

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

Current Submission:

Updated testing information here.

Previous (Year) Submission:

Testing from the previous submission here.

2a.01) Select only the data sources for which the measure is tested.

☐ Assessment Data
☐ Claims
☐ Electronic Health Data
☒ Electronic Health Records
☐ Instrument-Based Data
☐ Management Data
☐ Other (please specify here:)
☐ Paper Medical Records
☐ Registry Data

2a.02) If an existing dataset was used, identify the specific dataset.

The dataset used for testing must be consistent with the measure specifications for target population and healthcare entities being measured; e.g., Medicare Part A claims, Medicaid claims, other commercial insurance, nursing home MDS, home health OASIS, clinical registry).

This submission uses the patient-level data from seven participating sites. Please refer to section sp.27 for more details about the sample.

2a.03) Provide the dates of the data used in testing.

Use the following format: "MM-DD-YYYY - MM-DD-YYYY"

01-01-2021 – 12-31-2021

2a.04) Select the levels of analysis for which the measure is tested.

Testing must be provided for all the levels specified and intended for measure implementation, e.g., individual clinician, hospital, health plan.

☐ Accountable Care Organization

☐ Clinician: Group/Practice
☒ Clinician: Individual
☐ Facility
☐ Health Plan
☐ Integrated Delivery System
☐ Other (specify)
☐ Population: Community, County or City
☐ Population: Regional and State

2a.05) List the measured entities included in the testing and analysis (by level of analysis and data source).

Identify the number and descriptive characteristics of measured entities included in the analysis (e.g., size, location, type); if a sample was used, describe how entities were selected for inclusion in the sample.

Seven test sites that are Ryan White HIV/AIDS Program recipients representing three regions (Northeast, South, and Midwest) provided the data for this measure. Of these seven sites, four test sites were publicly funded community health centers, two sites were hospital-based clinics, and one site represented a community-based service organization. The sites varied in EHR systems (eClinical Works, EPIC/OCHIN EPIC, NextGen, Athena Health). At these 7 test sites, a total of 37 clinicians were included in testing. These 37 clinicians had a total of 2,891 patients included in the measure denominator. Table 2a.05 breaks down the characteristics of the participating sites included in the beta testing of the measure.

Table 2a.05. Test site characteristics

Site	Provider type	Region	EHR	Clinicians with 11+ patients	Patients
Site 1	Publicly funded community health center	NE	eClinical Works	2	97
Site 2	Publicly funded community health center	NE	eClinical Works	4	162
Site 3	Hospital or university-based clinic	NE	EPIC	16	394
Site 4	Publicly funded community health center	SO	OCHIN EPIC	3	574
Site 5	Other community-based service organization	NE	NextGen	3	51
Site 6	Publicly funded community health center	MW	Athena Health	3	560
Site 7	Hospital or university-based clinic	MW	eClinical Works	6	1,053

Notes: NE=Northeast, SO=South, MW=Midwest

ALT-TEXT:

Table 2a.05 provides characteristics of the seven test sites, including provider type, provider region, provider electronic health record system, as well as the number of clinicians (for clinicians with at least 11 patients) and patients in the sample the measure developer received from each provider.

2a.06) Identify the number and descriptive characteristics of patients included in the analysis (e.g., age, sex, race, diagnosis), separated by level of analysis and data source; if a sample was used, describe how patients were selected for inclusion in the sample.

If there is a minimum case count used for testing, that minimum must be reflected in the specifications.

Data included 2,990 patients attributed to 123 clinicians within the measurement period from 7 different sites that are Ryan White HIV/AIDS Program participants. The measure is specified to require a minimum denominator of 11 patients during the measurement period, in order to follow the CMS cell size suppression policy. The policy sets minimum thresholds for the display of CMS data which states no cell can be reported that allows a value of 1 to 10. The restricted sample includes 37 clinicians (30.1% of the initial number of clinicians) and 2,891 patients (96.7% of the initial number of patients). When limited to clinicians with 11 or more patients eligible for the denominator during the measurement period, the average (mean) clinician has an STI Testing measure rate of 54.5%.

Out of the patients attributed to a clinician with at least 11 patients in the denominator:

- 3% (98) of patients were under the age of 25 and 97% (2,793) of patients were over the age of 25
- 50% (1,456) of patients were under the age of 50, and 50% (1,435) of patients were over the age of 50.
- Broken out by HIV transmission group, 41% (1,179) of patients' transmission group was men who have sex with men (MSM), 7% (193) of patients' transmission group was injection drug use (IDU; note that IDU included patients who had both MSM and IDU listed as their HIV transmission group), and 32% (919) of patients' transmission group was other, while 21% (600) of patients were missing information on HIV transmission group.
- 25% (711) patients were cisgender women, 75% (2,165) patients were cisgender men, and 1% (15) patients were transgender women.

2a.07) If there are differences in the data or sample used for different aspects of testing (e.g., reliability, validity, exclusions, risk adjustment), identify how the data or sample are different for each aspect of testing.

The same data are used for all clinician-level testing (reliability, concurrent validity, known group validity, and meaningful difference in performance), as described below.

Reliability: To assess reliability, we used the EHR data from each of seven sites covering the period between January 1, 2021, and December 31, 2021. For the reliability analysis (and all other clinician-level testing) we restricted the sample to clinicians who saw at least 11 patients during the measurement period.

Data element validity: To assess data element validity, we randomly selected a subset of 20 patient encounters (from the full EHR extract) in each of the seven sites, for a total of 140 encounters. For selected cases, site personnel manually abstracted data elements necessary for the measure calculation from each site's EHR. We then compared the manually abstracted and electronically extracted data to

assess data element validity via agreement between the gold-standard source (manual abstraction) and the EHR extract.

Construct validity: To assess validity of the measure using known-group validity method we stratified the sample by age (patients <50 years old vs. patients 50 years old or older) and HIV transmission group (MSM vs. non-MSM). For this analysis we used the EHR data from each of seven sites covering the period between January 1, 2021, and December 31, 2021, and we restricted the sample to clinicians who saw at least 11 patients during the measurement period.

Face validity: We solicited feedback on the measure's face validity from 7 clinicians via a semi-structured interview. We also conducted an email poll of the Technical Expert Panel (TEP) that was convened during the development of the STI Testing for People with HIV measure. The TEP was comprised of clinicians, patient representatives, and other experts in EHR systems and HIV care.

Exclusions: Not applicable; this measure does not have exclusions.

Risk adjustment: Not applicable; this measure is not risk adjusted.

Meaningful difference in performance: To assess whether there were meaningful differences in the measure performance we restricted the sample to clinicians who saw at least 11 patients during the measurement period, using EHR data from each of seven sites covering the period between January 1, 2021, and December 31, 2021.

2a.08) List the social risk factors that were available and analyzed.

For example, patient-reported data (e.g., income, education, language), proxy variables when social risk data are not collected from each patient (e.g. census tract), or patient community characteristics (e.g. percent vacant housing, crime rate) which do not have to be a proxy for patient-level data.

Note: If accuracy/correctness (validity) of data elements was empirically tested, separate reliability testing of data elements is not required – in 2a.09 check patient or encounter-level data; in 2a.010 enter "see validity testing section of data elements"; and enter "N/A" for 2a.11 and 2a.12.

Not applicable. This is a process measure.

2a.09) Select the level of reliability testing conducted.

Choose one or both levels.
☐ Patient or Encounter-Level (e.g., inter-abstractor reliability; data element reliability must address ALL critical data elements)

☒ Accountable Entity Level (e.g., signal-to-noise analysis)

2a.10) For each level of reliability testing checked above, describe the method of

reliability testing and what it tests.

Describe the steps—do not just name a method; what type of error does it test; what statistical analysis was used.

We tested reliability of the measure at the clinician level using three methods: signal-to-noise reliability, which tests the precision of the measure rates at the clinician level, and split-half and test-retest methods, which test the stability of the measure rates across clinicians.

The signal-to-noise method summarizes the proportion of the total variation in the clinician scores that is attributable to real underlying differences between clinicians (signal), in relation to random variation within each clinician (noise). Noise can be introduced by patient-level variability, which might include unmeasured patient characteristics, or by the lack of precision in the measure estimates because of a lack of sufficient patient sample size within clinicians (Deutsch et al 2012). The beta-binomial model is an appropriate framework for estimating reliability for the measure (Adams 2009). Reliability is calculated as the ratio of the variance between clinicians and the total variance (that is, the sum of the between-clinician and within-clinician variances) of the measure rates.

The resulting reliability statistic ranges from 0 to 1. If reliability is 0, there is no variation on the measure across clinicians, and all observed variation is because of random variation within a clinician. In this case, the lack of reliability suggests that the measure is not useful for distinguishing between clinicians with respect to that outcome. Conversely, if reliability is 1, all provider scores are free of random variation, and all variation represents real differences between clinicians in the measure result.

After we computed the signal and noise variance for providers in the sample, we determined the minimum denominator size necessary to reach the reliability of 0.7, which is commonly considered the threshold for acceptable reliability.

We used split-half and test-retest approaches to examine stability of the measure scores within the same clinicians. The split-half method involves comparing the measure scores for two independent samples of patients within the same provider. For this method, we randomly split the sample of patients within each clinician into two mutually exclusive samples with equal or nearly equal size, resulting in two samples that cover the same one-year period but with case volume the size of a measure that would be calculated with six months of data. **Thus, each clinician appeared in the sample twice, but with an entirely different set of patients.** Then, we estimated Spearman- and intraclass correlations between the measure rates within two samples. We also computed the Spearman-Brown correction to account for the attenuation of the Spearman correlation due to dividing the original sample of patients in two halves.

Since split-half method can, under some conditions, over- or underestimate reliability because of capitalization on chance, we also assessed stability of the measure scores using the test-retest method, which involves comparing the measure scores for the same clinicians computed in different samples of patients either within the same measurement period or two adjacent measurement periods. Since we only had one year of data, we opted to use bootstrap resampling to generate independent samples of patients within the same clinicians. The bootstrap method avoids biased sampling, maintains the original sample size, and allows estimation of confidence intervals for the reliability estimates. We drew 2,000 independent samples with replacement (stratified by the provider), maintaining the same number of beneficiaries for each provider as in the original sample, and grouped the samples into 1,000 pairs.

These random samples from a given clinician are assumed to reflect an independent set of re-measurement of the STI Testing for People with HIV rates for a clinician. Then, we estimated Spearman- and intraclass correlations between the measure rates within each pair and computed the mean and the 95percent confidence interval of the distribution of correlations from the 1,000 paired samples.

Spearman correlation captures the association between the ranks of clinicians in different realizations of the bootstrap samples. The intraclass correlation captures the degree of correlation and agreement between measurements and is represented as a ratio of the variance in the measure counts between providers over the sum of the variances between and within providers. Hence, the smaller the disagreement between the measure counts for each clinician in different samples, the larger the intraclass correlation coefficient. Correlation values range from 0 to 1; a value of 1 indicates perfect reliability, and a value of 0 means the measure is perfectly unreliable.

Following CMS's cell size suppression policy for reporting, all clinicians with fewer than 11 patients in the measurement period were excluded from calculations.

CITATIONS:

Adams, J. L. (2009). The Reliability of Provider Profiling: A Tutorial. *https://www.rand.org/pubs/technical_reports/TR653.html*

Deutsch, A., Smith, L., Gage, B., Kelleher, C., & Garfinkel, D. (2012). Patient-Reported Outcomes in Performance Measurement. *https://www.qualityforum.org/Projects/n-r/Patient-Reported_Outcomes/Commissioned_Paper_2.aspx*

2a.11) For each level of reliability testing checked above, what were the statistical results from reliability testing?

For example, provide the percent agreement and kappa for the critical data elements, or distribution of reliability statistics from a signal-to-noise analysis. For score-level reliability testing, when using a signal-to-noise analysis, more than just one overall statistic should be reported (i.e., to demonstrate variation in reliability across providers). If a particular method yields only one statistic, this should be explained. In addition, reporting of results stratified by sample size is preferred (pg. 18, Measure Evaluation Criteria).

Table 2a.11-A summarizes the mean and range of the signal-to-noise reliability statistics for the STI Testing measure, which was calculated separately for each clinician. The mean signal-to-noise reliability across all 37 clinicians with at least 11 patients eligible for the denominator exceeds the 0.70 threshold for acceptable reliability. The 25th percentile for the measure reliability was 0.774, and the 75th percentile was 0.962.

Table 2a.11-A Signal to Noise Reliability of Clinician-level Measure Scores

Sample	Clinicians	Min	Mean	SD	p5	p10	p25	p50	p75	p90	p95	Max
Clinicians >= 11 patients	37	0.612	0.864	0.107	0.710	0.731	0.774	0.891	0.962	0.987	0.988	0.989

Notes: Results are provided for clinicians with ≥11 patients eligible for the denominator (n = 37).
Min=minimum, SD=standard deviation, Max=maximum

ALT-TEXT:

Table 2a.11-A provides results of the signal-to-noise reliability testing for clinicians with at least 11 patients eligible for the denominator. The table shows the number of clinicians, and the mean, standard deviation, minimum and maximum scores on the measure, as well as the measure scores for the 5th, 10thm 25th, 50th, 75th, 90th and 95th percentiles. Mean reliability in a sample was very high and measure scores for most clinicians in a sample were highly reliable.

Table 2a.11-B summarizes the Spearman rank-order correlation, Spearman-Brown correlation, and intra-class correlation for the split-half reliability statistics for the STI Testing measure. All split-half reliability correlations exceed 0.7 with a range from 0.844 to 0.966.

Table 2a.11-B Split-Half Reliability of Clinician-level Measure Scores

Sample	Spearman rank-order correlation	Spearman-Brown correlation	intra-class correlation
Clinicians >= 11 patients	0.934	0.966	0.844

Notes: Results are provided for clinicians with ≥11 patients eligible for the denominator (n = 37)

ALT-TEXT:

Table 2a-11B provides the results of the split-half reliability for clinicians with at least 11 patients eligible for the denominator. Spearman correlation, Spearman correlation corrected for sample attenuation using Spearman-Brown correction, and intra-class correlations exceeded 0.9 indicating high split-half reliability of the measure.

Table 2a.11-C summarizes the mean and range of the Spearman rank-order correlation, Spearman-Brown correlation, and intra-class correlation for the test-retest reliability statistics for the STI Testing measure, which was calculated separately by each sample. The mean test-retest reliability ranges from 0.911 to 0.978 with the 25th percentile ranging from 0.890 to 0.974.

Table 2a.11-C Test-Retest Reliability of Clinician-level Measure Scores via the Bootstrap Resampling Method

Sample	Statistical Method	Mean	Min	p5	p10	p25	p50	p75	p90	p95	Max
Clinicians >= 11 patients	Spearman rank-order correlation	0.958	0.829	0.933	0.939	0.950	0.960	0.968	0.975	0.978	0.989
Clinicians >= 11 patients	Spearman-Brown correction	0.978	0.906	0.965	0.968	0.974	0.979	0.984	0.987	0.989	0.995

Clinicians >= 11 patients	intra-class correlation	0.911	0.652	0.826	0.851	0.890	0.920	0.944	0.957	0.965	0.987

Notes: Results are provided for clinicians with ≥11 patients eligible for the denominator (n = 37)

ALT-TEXT:

Table 2a.11-C shows the results for test-retest reliability of the measure scores estimated using bootstrap resampling for clinicians with at least 11 patients eligible for the denominator. The table shows mean, minimum, maximum and the percentile distribution of the Spearman correlations, Spearman correlations corrected for sample attenuation using Spearman-Brown correction, and intra-class correlations obtained in 1,000 pairs of samples generated using bootstrap. The mean reliability exceeded 0.9 for all three methods indicating high test-retest reliability of the measure.

2a.12) Interpret the results, in terms of how they demonstrate reliability.

(In other words, what do the results mean and what are the norms for the test conducted?)

The STI Testing for People with HIV measure demonstrates high reliability in all three methods of testing indicating that the measure could be useful to distinguish a clinician's performance from the sample mean and that measure has good stability.

Although there is not a clear cut-off for the minimum signal-to-noise reliability level, reliability of 0.4 is often considered to be the lower limit of moderate reliability sufficient for public reporting (Schone, Hubbard and Jones, 2011), reliability above 0.7 is considered sufficient to see differences between physicians and the mean (Adams, 2009), and reliability above 0.9 is considered sufficient to see differences between any physician pair (National Quality Forum, 2013). According to our calculations, not only is the measure's average reliability high, but most individual clinicians with at least 11 patients in the denominator also have highly reliable scores.

The ICC captures the effect of the clinician on the patients' outcomes and could be interpreted as the correlation in the outcome between two individuals randomly selected from the same clinician (Austin and Merlo, 2017). There are no standard values for acceptable reliability using ICC. A low ICC could not only reflect the low degree of agreement but also relate to the small number of subjects. Following Porteny and Watkins, we rely on the following interpretation: ICC values less than 0.5 are indicative of poor reliability, values between 0.5 and 0.75 indicate moderate reliability, values between 0.75 and 0.90 indicate good reliability, and values greater than 0.90 indicate excellent reliability. The ICCs exceeding 0.75 and 0.90 obtained from the split-half and test-retest testing methods, respectively, indicate good to excellent reliability of the measures.

Finally, according to Cohen's effect-size criteria, the Spearman correlations above 0.8 indicate a large effect size, thus also supporting the claim that the STI Testing measure is highly reliable.

CITATIONS:

Adams JL. The Reliability of Provider Profiling: A Tutorial. Santa Monica, CA: RAND Corporation; 2009. http://www.rand.org/pubs/technical_reports/TR653.html. doi:10.7249/TR653

Austin, P. C., & Merlo, J. (2017). Intermediate and advanced topics in multilevel logistic regression analysis. Statistics in Medicine, 36(20), 3257–3277. https://doi.org/10.1002/sim.7336
Cohen, J. (1992). A power primer. Psychological bulletin, 112(1), 155.

Deutsch A, Smith L, Gage B, Kelleher C, Garfinkel D. (2012) Patient-reported outcomes in performance measurement. https://www.qualityforum.org/Projects/n-r/Patient-Reported_Outcomes/Commissioned_Paper_2.aspx

National Quality Forum. Guidance for Measure Testing and Evaluating Scientific Acceptability of Measure Properties (2011). https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=70943

Portney LG, Watkins MP. Foundations of clinical research: applications to practice. New Jersey: Prentice Hall; 2000

Schone E, Hubbard M, Jones D. (2011). Reporting period and reliability of AHRQ, CMS 30-day and HAC quality measures. Memorandum submitted to the Centers for Medicare and Medicaid Services. https://EconPapers.repec.org/RePEc:mpr:mprres:cab712bf5e324d0db15eca9c404f3eb2

Scientific Acceptability: Validity - Testing (2b.01 - 2b.04)

2b.01) Select the level of validity testing that was conducted.

☒ Patient or Encounter-Level (data element validity must address ALL critical data elements)

☐ Accountable Entity Level (e.g., hospitals, clinicians)

☒ Empirical validity testing of the measure score

☒ Systematic assessment of face validity of performance measure score as an indicator of quality or resource use (i.e., is an accurate reflection of performance on quality or resource use and can distinguish good from poor performance)

2b.02) For each level of testing checked above, describe the method of validity testing and what it tests.

Describe the steps—do not just name a method; what was tested, e.g., accuracy of data elements compared to authoritative source, relationship to another measure as expected; what statistical analysis was used.

We tested the data element validity, face validity (qualitative assessment of validity based on the experts' feedback), and measure score validity (construct validity) for all three eCQM.

Data element validity. This form of validity testing assesses whether the data elements, as obtained from the structured, extractable fields in the EHR, accurately reflect the care the patients received. We tested data element validity by examining the relationship between the data elements and the measure components from two sources for a randomly selected set of patients:

1. EHR data extracted from the structured fields used by the eCQMs
2. Manually abstracted data from the entire medical record, including free-text note fields and scanned documents

We requested that the test sites pull the structured patient data from their EHRs through automated extraction algorithms and send us the data. To support this request, we provided sites with data dictionaries containing all the data elements associated with the three measures, as well as the corresponding value sets. We then selected a random sample of medical record numbers from the EHR extract from each site (20 records per site for a total of 140 records across 7 sites) and ask the site staff to abstract the same data elements through a manual review of the patients' medical records. At all phases of the EHR extract and manual abstraction process we met with sites as needed to answer questions about the process.

We calculated the raw agreement (percentage agreement) and the chance-corrected agreement (Gwet's AC1) between the two data sources for each key data element. The interpretation of the AC1 statistic is the same as that of Cohen's Kappa, but AC1 is a more robust measure of interrater reliability.

Kappa is sensitive to classification probabilities which in some cases lead to the low chance-corrected agreement despite the high observed agreement (the so-called Kappa paradox). This situation does not occur when using AC1 (Quarfoot and Levine 2016). Higher values for agreement statistics demonstrate that the structured EHR data used to calculate the measure have accuracy similar to looking at the medical record overall, including clinical notes, documents, and other fields that convey information about the patient but cannot be used to calculate eCQMs. When the two measurements agree perfectly, the value of the agreement will be 1.0.

Face validity. We conducted clinician interviews with seven clinicians from the seven test sites. We developed an interview guide to solicit clinician perspectives on the utility and face validity of the measure. Specifically, we asked whether they thought measure scores could be used to accurately distinguish quality among providers. The evaluation of face validity was conducted through a semi-structured interview process. We also conducted an email poll of the Technical Expert Panel (TEP) that was convened during the development of the STI Testing for People with HIV measure. The TEP was comprised of clinicians, patient representatives, and other experts in EHR systems and HIV care.

Construct validity. We assessed the differences in the measure rates by subgroups shown in the literature to have differences in rates of STI testing among people with HIV: transmission category (men who have sex with men [MSM] versus non-MSM) and age (younger than age 50 versus 50 or older). This approach, known-group validity, is a hypothesis-based testing that leverages hypotheses based on known differences in care to see if the same differences are reflected in the measure rates, thus providing evidence of the measure's validity. For each characteristic, we stratified the sample, calculated the measure rates, and computed the effect size using Cohen's *d* statistic. A higher absolute value of Cohen's *d* indicates a higher standardized difference between the two groups. NQF does not set specific thresholds for known-group validity; rather, the committee might consider collective evidence from all validity tests to adjudicate the measure.

CITATIONS:

Quarfoot, D., & Levine, R. A. (2016). How Robust Are Multirater Interrater Reliability Indices to Changes in Frequency Distribution? The American Statistician, 70(4), 373–384.
https://doi.org/10.1080/00031305.2016.1141708

2b.03) Provide the statistical results from validity testing.

Examples may include correlations or t-test results.

Data element validity. We found that the percent agreement between the EHR data and manual abstraction ranged across the measure's data elements from 75% to 100%, corresponding to a Gwet's AC1 ranging from 0.68 to 1.00.

Table 2b.03-A. Agreement Between Medical Records and Manual Abstraction (140 records collected from 7 sites)

Data Element	Percent Agreement	Gwet's AC1
HIV diagnosis date	75.0	0.68

Encounter 1 date	99.3	0.99
Encounter 1 type	99.3	0.99
Encounter 2 date	99.3	0.99
Encounter 1 type	99.3	0.99
Syphilis test confirmation	99.3	0.99
Gonorrhea test confirmation	100.0	1.00
Chlamydia test confirmation	100.0	1.00
Average across all elements	96.4	0.95

ALT-TEXT:

Table 2b.03-A shows the observed agreement expressed as percent agreement and the chance-corrected agreement computed using Gwet's AC1 statistic between the medical records and manual abstraction across 140 records collected from 7 sites. Results indicate very high observed and change-corrected (above 0.95) reliability for all data elements except for the HIV diagnosis date, for which the observed reliability was 0.75 and chance-corrected reliability was 0.68.

Face validity. We found that 6/7 (86%) of clinicians supported the measure's numerator and denominator specifications, and 3/7 (43%) of clinicians agreed that the measure can distinguish quality of care. We also found that 100% of the Technical Expert Panel (12 out of 12) agreed that the STI Testing for People with HIV measure was important and related to quality of care.

Construct validity. Among patients attributed to clinicians with at least 11 patients, the mean rate of STI testing was 61.3% for those under 50 years as compared to 45.5% for those 50 years or older, with an effect size of 0.629 using Cohen's D. The mean rate of STI testing was 60.1 % for those whose HIV transmission group was MSM as compared to 45.7% for those whose HIV transmission group was not MSM, with an effect size of -0.525 using Cohen's D, indicating a moderate effect.

Table 2b.03-C. Known-group validity results for clinicians >= 11 patients eligible for denominator

Patient sub-group	Mean STI Testing rates	S.D.	Cohen's D	t-test p-value
Age < 50 years	61.3	25.1	0.629 (results for comparison of age sub-groups)	0.008 (results for comparison of age sub-groups)
Age >= 50 years	45.5	25.4	*	*
Non-MSM HIV transmission category	45.7	24.3	0.525 (results for comparison of HIV transmission category subgroups)	0.034 (results for comparison of HIV transmission category subgroups)
MSM HIV transmission category	60.1	30.2	*	*

Notes: * = Cell intentionally left empty; S.D. = standard deviation

ALT-TEXT:

Table 2b.03-C shows results for the known-group validity testing for clinicians with at least 11 patients eligible for the denominator. The table shows the mean STI testing scores and standard deviations, as well as Cohen's D statistics and p-values for the t-tests by groups. The results are provided separately for patients by age groups (less than 50 years of age, and 50 years and older), and patients with non-IDU and IDU HIV transmission category. The mean measure scores were higher for the patients 50 years and older and patients with non-IDU HIV transmission category.

2b.04) Provide your interpretation of the results in terms of demonstrating validity. (i.e., what do the results mean and what are the norms for the test conducted?)

We tested validity of the measure using both qualitative (face validity) and quantitative methods (data element level: data element validity; measure score level: concurrent and known-group validity).

Face validity. The subject matter experts at the test sites were mixed as to whether the measure could be used to distinguish good from poor quality of care because the measure denominator is not targeted to patients who were sexually active. Their concern is that patients who are not sexually active would opt out of screening; however, sexual activity and sexual history are not well-documented in EHR in structured fields, which precludes the inclusion of them in the measure specifications. Despite this limitation, the majority supported the measure's numerator and denominator definition, indicating that despite the limitations with sexual activity structured fields, the current measure specifications are acceptable. Further, the Technical Expert Panel unanimously agreed that the measure was important and related to quality of care despite the limitations with the availability of sexual history in a structured field.

Data element validity. The AC1 values calculated through data element validity testing suggest high levels of agreement between the data extract generated from the EHR systems and the manually abstracted data. We observed the 96.4 percent average agreement across all data elements or higher for all data elements. The average chance-corrected agreement captured by the AC1 statistic was 95.3 percent. These statistics indicate very high data element validity. Observed agreement was very high (above 99 percent) for all data elements with the exception for the HIV diagnosis date, for which the observed agreement was 75 percent. As a sensitivity test, we compared the HIV diagnosis dates in both data sources (i.e., EHR and chart data). We found that in all cases, observed differences between the HIV diagnosis dates did not affect whether the patient would have been included in the denominator because all the dates occurred prior to the measurement period

Construct validity. Our results indicated that MSM had rates of STI screening that were over 14 percentage points higher than non-MSM (0.601 vs. 0.457) and that those under age 50 had rates of STI screening that were almost 16 percentage points higher than those over 50 (0.613 vs. 0.455). The differences in these rates are similar to the hypothesized differences based on the literature, supporting the validity for this measure (Berry et al 2015). Based on a multisite HIV clinical cohort, overall testing rates were 77% for syphilis and 39% for chlamydia and gonorrhea as of 2010 with gaps in testing for non-MSM and older age groups, similar to what was observed in these results (Berry et al 2015). It should be noted that the hypothesized difference based on the literature represents a gap in care that this measure targets, namely increasing rates of STI screening among non-MSM with HIV and older age

groups.

CITATIONS:

Berry, S. A., Ghanem, K. G., Mathews, W. C., Korthuis, P. T., Yehia, B. R., Agwu, A. L., Lehmann, C. U., Moore, R. D., Allen, S. L., Gebo, K. A., & HIV Research Network (2015). Brief Report: Gonorrhea and Chlamydia Testing Increasing but Still Lagging in HIV Clinics in the United States. Journal of acquired immune deficiency syndromes (1999), 70(3), 275–279. https://doi.org/10.1097/QAI.0000000000000711

Scientific Acceptability: Validity - Threats to Validity (Statistically Significant Differences, Multiple Data Sources, Missing Data) (2b.05 - 2b.14)

2b.05) Describe the method for determining if statistically significant and clinically/practically meaningful differences in performance measure scores among the measured entities can be identified.

Describe the steps—do not just name a method; what statistical analysis was used? Do not just repeat the information provided in Importance to Measure and Report: Gap in Care/Disparities.

To examine differences in performance, we calculated measure rates across 37 clinicians with at least 11 patients eligible for the denominator in the performance period. We excluded clinicians with less than 11 patients eligible for the denominator to comply with the CMS minimum cell size policy. We computed a confidence interval for each clinician's rate, and if it did not contain the mean rate across all clinicians, the clinician was identified as better or worse than average.

We also calculated the distributions of the measure rates to determine if the measure was "topped out." For the measure to be topped out, two conditions had to be met (Analysis of Topped-Out Measures 2014). First, the 75th performance percentile must be statistically indistinguishable (within two standard errors) from the 90th percentile. Second, the truncated coefficient of variation (TCV) (calculated by first removing the lower and upper 5th percentiles and then dividing the standard deviation by the mean of this truncated distribution) must be less than or equal to 0.10.

CITATIONS:

"Analysis of Topped-Out Measures Finalized for the PY 2016 ESRD QIP." Updated June 19, 2014. Available at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/ESRDQIP/Downloads/AnalysisofTopped-OutMeasuresFinalizedforthePY2016ESRDQIP.pdf. Accessed on December 8, 2022.

2b.06) Describe the statistical results from testing the ability to identify statistically significant and/or clinically/practically meaningful differences in performance measure scores across measured entities.

Examples may include number and percentage of entities with scores that were statistically significantly different from mean or some benchmark, different from expected; how was meaningful difference defined.

Based on 37 clinicians with at least 11 patients eligible for denominator, the STI Testing measure rates in our sample ranged from 10.9% to 95.1% (with a median of 60.3% and a mean of 54.5%). Thus, there is substantial variation in measure scores across facilities.

Table 2b.06-A. Performance Distribution of the STI Testing measure rates

Measure	Clinicians	Mean	Std dev	Min	10th Pctl	Lower Quartile	Median	Upper Quartile	90th Pctl	Max
clinicians 11+ patients	37	54.5%	24.2%	10.9%	14.6%	40.2%	60.3%	76.5%	80.1%	95.1%

Notes: Pctl= Percentile, Std dev= standard deviation

ALT-TEXT:

Table 2b.06-A shows the performance distribution of the measure scores for clinicians with at least 11 patients eligible for the denominator. The table shows the number of clinicians and patients for the sample of clinicians with at least 11 patients, as well as the mean, standard deviation, median, inter-quartile range, and percentile distribution of the measure scores in the sample.

Of the 37 clinicians, 24.3% (N=9) were statistically significantly worse and 32.4% (N = 12) were better than the sample average, which is conceptually equivalent to an "average-performing clinician" in a sample. Distribution of the performance categories shown in Table 2b.06-B suggests that improvement in the measure scores is possible for about two-thirds of clinicians whose performance scores were either no different from the sample average (42.2%) or worse than the sample average (24.3%).

Table 2b.06-B. Performance Distribution of the STI Testing measure rates relative to the sample average for clinicians with at least 11 patients eligible for the denominator

Performance group	N and % of facilities	Mean performance rate
Better than the national rate	12 (32.4%)	79.1%
No different than the national rate	16 (42.2%)	55.8%
Worse than the national rate	9 (24.3%)	19.5%
All clinicians	37 (100.0%)	54.5%

ALT-TEXT:

Table 2b.06-B shows performance distribution of the STI Testing for People with HIV scores relative to the sample average for clinicians with at least 11 patients eligible for the denominator. Out of 48 clinicians in the sample, 32 clinicians had measure scores that were not significantly different from the sample average and 11 and 5 clinicians had measure scores that were, respectively, better, and worse than the sample average.

The results of the topped-out analysis indicate that the measure's 75th percentile is within two standard deviations of the 90th percentile, which meets the first criterion for being topped out; however, the measure has a truncated coefficient of variation (TCV) equal to 0.39, which does not meet the second criterion for being topped out. Thus the measure is not considered topped-out.

Table 2b.06-C. Topped out analysis of the STI Testing for People with HIV measure rates.

Measure	75th pctl.	90th pctl.	90th – 75th pctl.	2x S.D. of 90th pctl.	Criterion 1 met?	TCV	Criterion 2 met?
STI Testing for People with HIV	0.76	0.80	0.04	0.02	Yes	0.39	No

Notes: pctl= percentile, S.D= standard deviation, TCV= truncated coefficient of variation.

ALT-TEXT:

Table 2b.06-C shows results of the topped-out analysis of the measure scores. For the measure to be topped out, two criteria must be met. First, the truncated coefficient of variation must be less than 0.10, and second, the 90th percentile on the measure score distribution must be indistinguishable from the 75th percentile. The table shows the results for both statistical analyses.

2b.07) Provide your interpretation of the results in terms of demonstrating the ability to identify statistically significant and/or clinically/practically meaningful differences in performance across measured entities.

In other words, what do the results mean in terms of statistical and meaningful differences?

There was substantial variability in the measure rates across clinicians in our sample, and the measure was able to distinguish between clinicians with better and worse than average performance scores. As only about 34 percent of clinicians had significantly better measure scores than the sample average, this indicates potential for performance improvement for nearly three quarters of clinicians in our sample whose measure scores were either worse than or not significantly different from the sample average. The measure is also not considered topped out based on testing criteria.

2b.08) Describe the method of testing conducted to identify the extent and distribution of missing data (or non-response) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders). Include how the specified handling of missing data minimizes bias.

Describe the steps—do not just name a method; what statistical analysis was used.

Data elements required to calculate the performance rate are ones in which absence of data in a data field reflects the absence of an eligible encounter or laboratory test. For example, if a lab visit field had a missing value for a given patient, we interpret this to mean that a patient did not have an eligible lab visit, rather than the information for that visit was missing. However, the measure logic does not allow for the missing values for the encounter type and dates, as well as the patients' age, as these elements are required for the measure calculation. Therefore, we assessed the frequency of missing data

elements in these fields.

2b.09) Provide the overall frequency of missing data, the distribution of missing data across providers, and the results from testing related to missing data.

For example, provide results of sensitivity analysis of the effect of various rules for missing data/non-response. If no empirical sensitivity analysis was conducted, identify the approaches for handling missing data that were considered and benefits and drawbacks of each).

0% (0) patients were missing age.

0.1% (13) of the encounters had a performance date but were missing the encounter code to indicate type of encounter. This represents a very small number of the total encounters.

2b.10) Provide your interpretation of the results, in terms of demonstrating that performance results are not biased due to systematic missing data (or differences between responders and non-responders), and how the specified handling of missing data minimizes bias.

In other words, what do the results mean in terms of supporting the selected approach for missing data and what are the norms for the test conducted; if no empirical analysis was conducted, justify the selected approach for missing data.

Note: This item is directed to measures that are risk-adjusted (with or without social risk factors) OR to measures with more than one set of specifications/instructions (e.g., one set of specifications for how to identify and compute the measure from medical record abstraction and a different set of specifications for claims or eCQMs). It does not apply to measures that use more than one source of data in one set of specifications/instructions (e.g., claims data to identify the denominator and medical record abstraction for the numerator). Comparability is not required when comparing performance scores with and without social risk factors in the risk adjustment model. However, if comparability is not demonstrated for measures with more than one set of specifications/instructions, the different specifications (e.g., for medical records vs. claims) should be submitted as separate measures.

Our analysis indicates that missing data are not a threat to validity for the measure due to the extremely low prevalence of missing data elements in the fields which are required for the measure calculations.

2b.11) Indicate whether there is more than one set of specifications for this measure.

☐ Yes, there is more than one set of specifications for this measure
☒ No, there is only one set of specifications for this measure

2b.12) Describe the method of testing conducted to compare performance scores for the same entities across the different data sources/specifications.

Describe the steps—do not just name a method. Indicate what statistical analysis was used.

Not applicable.

2b.13) Provide the statistical results from testing comparability of performance scores for the same entities when using different data sources/specifications.

Examples may include correlation, and/or rank order.

Not applicable.

2b.14) Provide your interpretation of the results in terms of the differences in performance measure scores for the same entities across the different data sources/specifications.

In other words, what do the results mean and what are the norms for the test conducted.

Not applicable.

Scientific Acceptability: Validity - Other Threats to Validity (Exclusions, Risk Adjustment) (2b.15 - 2b.32)

2b.15) Indicate whether the measure uses exclusions.

☒ N/A or no exclusions
☐ Yes, the measure uses exclusions.

2b.16) Describe the method of testing exclusions and what was tested.

Describe the steps—do not just name a method; what was tested, e.g., whether exclusions affect overall performance scores; what statistical analysis was used?

Not applicable.

2b.17) Provide the statistical results from testing exclusions.

Include overall number and percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores.

Not applicable.

2b.18) Provide your interpretation of the results, in terms of demonstrating that exclusions are needed to prevent unfair distortion of performance results.

In other words, the value outweighs the burden of increased data collection and analysis. Note: If patient preference is an exclusion, the measure must be specified so that the effect on the performance score is transparent, e.g., scores with and without exclusion.

Not applicable.

2b.19) Check all methods used to address risk factors.

☐ Statistical risk model with risk factors (specify number of risk factors)
☐ Stratification by risk category (specify number of categories)
☐ Other (please specify here:)
☒ No risk adjustment or stratification

2b.20) If using statistical risk models, provide detailed risk model specifications, including the risk model method, risk factors, risk factor data sources, coefficients, equations, codes with descriptors, and definitions.

Not applicable.

2b.21) If an outcome or resource use measure is not risk-adjusted or stratified, provide rationale and analyses to demonstrate that controlling for differences in patient characteristics (i.e., case mix) is not needed to achieve fair comparisons across measured entities.

STI Testing is a process measure and thus should not be risk adjusted.

2b.22) Select all applicable resources and methods used to develop the conceptual model of how social risk impacts this outcome.

☐ Published literature
☐ Internal data analysis
☒ Other (please specify here:)

2b.23) Describe the conceptual and statistical methods and criteria used to test and select patient-level risk factors (e.g., clinical factors, social risk factors) used in the statistical risk model or for stratification by risk.

Please be sure to address the following: potential factors identified in the literature and/or expert panel; regression analysis; statistical significance of p<0.10 or other statistical tests; correlation of x or higher. Patient factors should be present at the start of care, if applicable. Also discuss any "ordering" of risk factor inclusion; note whether social risk factors are added after all clinical factors. Discuss any considerations regarding data sources (e.g., availability, specificity).

Not applicable.

2b.24) Detail the statistical results of the analyses used to test and select risk factors for inclusion in or exclusion from the risk model/stratification.

Not applicable.

2b.25) Describe the analyses and interpretation resulting in the decision to select or not select social risk factors.

Examples may include prevalence of the factor across measured entities, availability of the data source, empirical association with the outcome, contribution of unique variation in the outcome, or assessment of between-unit effects and within-unit effects. Also describe the impact of adjusting for risk (or making no adjustment) on providers at high or low extremes of risk.

Not applicable.

2b.26) Describe the method of testing/analysis used to develop and validate the adequacy of the statistical model or stratification approach (describe the steps—do not just name a method; what statistical analysis was used). Provide the statistical results from testing the approach to control for differences in patient characteristics (i.e., case mix) below. If stratified ONLY, enter "N/A" for questions about the statistical risk model discrimination and calibration statistics.

Validation testing should be conducted in a data set that is separate from the one used to develop the model.

Not applicable.

2b.27) Provide risk model discrimination statistics.

For example, provide c-statistics or R-squared values.

Not applicable.

2b.28) Provide the statistical risk model calibration statistics (e.g., Hosmer-Lemeshow statistic).

Not applicable.

2b.29) Provide the risk decile plots or calibration curves used in calibrating the statistical risk model.

The preferred file format is .png, but most image formats are acceptable.

Not applicable.

2b.30) Provide the results of the risk stratification analysis.

Not applicable.

2b.31) Provide your interpretation of the results, in terms of demonstrating adequacy of controlling for differences in patient characteristics (i.e., case mix).

In other words, what do the results mean and what are the norms for the test

conducted?

Not applicable.

2b.32) Describe any additional testing conducted to justify the risk adjustment approach used in specifying the measure.

Not required but would provide additional support of adequacy of the risk model, e.g., testing of risk model in another data set; sensitivity analysis for missing data; other methods that were assessed.

Not applicable.

Feasibility (3.01 - 3.07)

3.01) Check all methods below that are used to generate the data elements needed to compute the measure score.

☒ Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score)
☐ Coded by someone other than person obtaining original information (e.g., DRG, ICD-10 codes on claims)
☐ Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)
☐ Other (Please describe)

3.02) Detail to what extent the specified data elements are available electronically in defined fields.

In other words, indicate whether data elements that are needed to compute the performance measure score are in defined, computer-readable fields. ALL data elements are in defined fields in electronic health records (EHRs)

☒ ALL data elements are in defined fields in electronic claims
☐ ALL data elements are in defined fields in electronic clinical data (e.g., clinical registry, nursing home MDS, home health OASIS)
☐ ALL data elements are in defined fields in a combination of electronic sources
☐ Some data elements are in defined fields in electronic sources
☐ No data elements are in defined fields in electronic sources
☐ Patient/family reported information (may be electronic or paper)

3.03) If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using data elements not from electronic sources.

3.04) Describe any efforts to develop an eCQM.

We have developed this measure as an eCQM, including developing the specification in the current standard, the Quality Data Model (QDM), and completing Bonnie testing with 100% passing and coverage.

3.05) Complete and attach the eCQM-Feasibility-Scorecard.xls file.

3.06) Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of

data collection, other feasibility/implementation issues.

With one exception, all data elements required for this measure were consistently available and captured accurately across all seven test sites. Two sites did not consistently capture HIV diagnoses and/or diagnosis dates in structured fields. One site did not capture any HIV diagnosis dates in structured fields, and the other only captured HIV diagnoses and diagnosis dates in structured fields for patients covered by the Ryan White program. Of these two sites, one began a process of changing workflows to capture HIV diagnoses and diagnosis dates in structured fields as a result of participating in our testing efforts. Given the availability of this data element either currently or in the near term across nearly all our test sites, we do not expect this data element to substantially affect the feasibility of this measure.

Consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

3.07) Detail any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm),

Attach the fee schedule here, if applicable.

Not applicable.

Use (4a.01 – 4a.10)

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making.

Endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement, in addition to demonstrating performance improvement.

4a.01) Check all current uses. For each current use checked, please provide:

- **Name of program and sponsor**
- **URL**
- **Purpose**
- **Geographic area and number and percentage of accountable entities and patients included**
- **Level of measurement and setting**

☐ Public Reporting
☐ Public Health/Disease Surveillance
☐ Payment Program
☐ Regulatory and Accreditation Programs
☐ Professional Certification or Recognition Program
☐ Quality Improvement with Benchmarking (external benchmarking to multiple organizations)
☐ Quality Improvement (Internal to the specific organization)
☒ Not in use
☐ Use unknown
☐ Other (please specify here:)

4a.02) Check all planned uses.

☐ Public reporting
☐ Public Health/Disease Surveillance
☒ Payment Program
☐ Regulatory and Accreditation Program
☐ Professional Certification or Recognition Program
☒ Quality Improvement with Benchmarking (external benchmarking to multiple organizations)
☐ Quality Improvement (internal to the specific organization)
☐ Measure Currently in Use
☐ Other (please specify here:)

4a.03) If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing), explain why the measure is not in use.

For example, do policies or actions of the developer/steward or accountable entities restrict access to performance results or block implementation?

This is a new eCQM that has not been used in MIPS.

4a.04) If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes: used in any accountability application within 3 years, and publicly reported within 6 years of initial endorsement.

A credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.

HRSA plans to submit this measure for use as a clinician-level measure in the CMS MIPS program. HRSA will submit the measure to the 2023 Measures Under Consideration (MUC) list by April 30, 2023.

4a.05) Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

Detail how many and which types of measured entities and/or others were included. If only a sample of measured entities were included, describe the full population and how the sample was selected.

Throughout the testing process we provided clinical practices that participated in testing with measure specifications, data dictionaries, value sets, and fact sheets to assist them in generating datasets used for testing. This measure has not yet been implemented.

4a.06) Describe the process for providing measure results, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

N/A. Measure has not yet been implemented.

4a.07) Summarize the feedback on measure performance and implementation from the measured entities and others. Describe how feedback was obtained.

N/A. Measure has not yet been implemented.

4a.08) Summarize the feedback obtained from those being measured.

N/A. Measure has not yet been implemented.

4a.09) Summarize the feedback obtained from other users.

N/A. Measure has not yet been implemented.

4a.10) Describe how the feedback described has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

N/A. Measure has not yet been implemented.

Usability (4b.01 - 4b.03)

4b.01) You may refer to data provided in Importance to Measure and Report: Gap in Care/Disparities, but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included). If no improvement was demonstrated, provide an explanation. If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

This measure is not currently in use for performance improvement. However, this measure could be used to improve quality of care by incentivizing practices to prioritize testing their patients with HIV for syphilis, gonorrhea, and chlamydia, resulting in earlier detection and treatment, particularly for asymptomatic cases. HRSA HAB is considering these measures for use in CMS's Quality Payment Programs (QPP), in particular the Merit-based Incentive Payment System (MIPS), which would provide a financial incentive for clinicians to ensure their patients receive STI testing annually.

4b.02) Explain any unexpected findings (positive or negative) during implementation of this measure, including unintended impacts on patients.

N/A. Measure has not yet been implemented.

4b.03) Explain any unexpected benefits realized from implementation of this measure.

N/A. Measure has not yet been implemented.

Related and Competing (5.01 - 5.06)

If you are updating a maintenance measure submission for the first time in MIMS, please note that the previous related and competing data appearing in question 5.03 may need to be entered in to 5.01 and 5.02, if the measures are endorsed. Please review and update questions 5.01, 5.02, and 5.03 accordingly.

5.01) Search and select all endorsed related measures (conceptually, either same measure focus or target population) by going to the PQM website

(Can search and select measures.)

- 3209e: HIV Medical Visit Frequency
- 3210e: HIV Viral Load Suppression
- 3211e: Prescription of HIV Antiretroviral Therapy
- 0409: HIV/AIDS: Sexually Transmitted Diseases- Screening for Chlamydia, Gonorrhea, and Syphilis (CQM only)

5.02) Search and select all endorsed competing measures (conceptually, the measures have both the same measure focus or target population) by going to the PQM website

(Can search and select measures.)

- 0409: HIV/AIDS: Sexually Transmitted Diseases- Screening for Chlamydia, Gonorrhea, and Syphilis (CQM only)

5.03) If there are related or competing measures to this measure, but they are not endorsed, please indicate the measure title and steward.

- 0410: HIV/AIDS: Sexually Transmitted Diseases - Syphilis Screening (NCQA, endorsement removed)
- 0411: HIV/AIDS: Other Infectious Diseases - Hepatitis B Screening (NCQA, endorsement removed)
- 0412: HIV/AIDS: Hepatitis B Vaccination (NCQA, endorsement removed)
- 0413: HIV/AIDS: Screening for High Risk Sexual Behaviors (NCQA, endorsement removed)
- 0414: HIV/AIDS: Other Infectious Diseases - Hepatitis C (NCQA, endorsement removed)
- 0415: HIV/AIDS: Screening for Injection Drug Use (NCQA, endorsement removed)

5.04) If this measure conceptually addresses EITHER the same measure focus OR the same target population as endorsed measure(s), indicate whether the measure specifications are harmonized to the extent possible.

☒ Yes
☐ No

5.05) If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

This measure and 0409 are competing measures, but this measure is an eCQM, while 0409 is a CQM. HRSA HAB stewards both measures (we obtained stewardship of 0409 from NCQA), and we intend to let endorsement of 0409 lapse as we seek endorsement of this measure. Consequently, we do not expect the differences between these measures to meaningfully affect provider reporting burden. The denominator population for this measure differs slightly from three related measures—3209e, 3210e, and 3211e—with respect to the timing of the patient's HIV diagnosis and eligible encounter and the patient's age, and these differences are due to the specific timing required for assessing appropriate provision of STI testing. We include patients diagnosed with HIV at any time during or prior to the measurement year and with an eligible encounter at any point during the measurement year because these parameters are consistent with the recommendations of our technical expert panel and clinicians interviewed during testing. Moreover, we limit the measure population to patients 13 years of age and older as a rough proxy for patients who may be sexually active. Given that neither 3209e, 3210e, or 3211e are currently in use in MIPS as eCQMs, we do not expect these differences to meaningfully affect data collection burden.

5.06) Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality). Alternatively, justify endorsing an additional measure.

Provide analyses when possible.

STI Testing for Patients with HIV: HRSA HAB plans to let endorsement lapse for 0409, and to use the present measure as the primary vehicle for measuring appropriate provision of STI testing among patients with HIV.

Additional (1 - 9)

1) Provide any supplemental materials, if needed, as an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be collated one file with a table of contents or bookmarks. If material pertains to a specific criterion, that should be indicated.

☐ Available in attached file
☒ No appendix
☐ Available at measure-specific web page URL identified in sp.09

2) List the workgroup/panel members' names and organizations.

Describe the members' role in measure development.

The technical expert panel (TEP) is a multi-stakeholder group with expertise in HIV clinical care, quality measurement, electronic health records (EHR), and patient and family representatives. Members of the TEP are listed in the table below. The TEP was convened three times: 1) prior to testing to provide feedback on initial measure specifications, 2) after importance and feasibility testing and the public comment period to review results and make recommendations for updates to specifications and approaches to validity and reliability testing, and 3) after validity and reliability testing to review results and evaluate the measure against NQF criteria.

The names and affiliations of the technical expertise panel members are:

Laura Bachmann, CDC

Kathleen Brady, Department of Public Health, Philadelphia

Crystal Chapman Lambert, University of Alabama

Jonathan Colasanti, Grady Hospital; Emory University

Elizabeth DiNenno, CDC

Thomas Gift, CDC

Thomas Giordano, Harris County Hospital District (Houston, TX); Baylor College of Medicine

Travis Gossey, Weill Cornell Medical College

David Harvey, National Coalition of STD Directors (NCSD)

Michael Horberg, Kaiser Permanente

Sheila Salvant Valentine, CDC

Shannon Sims, Vizient, Inc

Michelle Van Handel, CDC

Abby Viall, CDC (embedded at CMS)

Andrea Weddle, HIV Medical Association

Patient Experience Representative

3) Indicate the year the measure was first released.

N/A

4) Indicate the month and year of the most recent revision.

N/A

5) Indicate the frequency of review, or an update schedule, for this measure.

N/A

6) Indicate the next scheduled update or review of this measure.

N/A

7) Provide a copyright statement, if applicable. Otherwise, indicate "N/A".

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9) Provide any additional information or comments, if applicable. Otherwise, indicate “N/A”.

N/A