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| eMeasure Title | Tuberculosis (TB) Test Prior to First Course Biologic Therapy | | |
| eMeasure Identifier(Measure Authoring Tool) |  | eMeasure Version number | 0 |
| NQF Number | Not Applicable | GUID | de8ba9e6-8efb-418b-ab30-7703bdf5fb4c |
| Measurement Period | January 1, 20xx through December 31, 20xx | | |
| Measure Steward | American College of Rheumatology | | |
| Measure Developer | American College of Rheumatology | | |
| Endorsed By | None | | |
| Description | If a patient has been newly prescribed a biologic therapy, then the medical record should indicate TB testing in the preceding 12-month period. | | |
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| Measure Scoring | Proportion | | |
| Measure Type | Process | | |
| Stratification | None | | |
| Risk Adjustment | None | | |
| Rate Aggregation | None | | |
| Rationale | In 2008, the American Medical Association’s Physician Consortium for Performance Improvement (AMA PCPI), the National Committee for Quality Assurance (NCQA) and the American College of Rheumatology (ACR) collaborated to develop a rheumatoid arthritis (RA) quality measure set for the Physical Quality Reporting System (PQRS), including a measure related to TB screening prior to initiation of biologic disease modifying drugs (DMARDs). The current e-measure builds on the experience of the earlier versions of the measure, updating content to align with newer ACR guidelines for RA (Singh J, Arthritis Care Res. 2012 May;64(5):625-39). | | |
| Clinical Recommendation Statement | The panel recommends screening to identify LTBI in all RA patients being considered for therapy with biologic agents, regardless of the presence of risk factors for LTBI (diamond A of Figure 3) (14). It recommends that clinicians assess the patient’s medical history to identify risk factors for TB (specified by the CDC) (Table 2).  The panel recommends the tuberculin skin test (TST) or interferon-release assays (IGRAs) as the initial test in all RA patients starting biologic agents, regardless of risk factors for LTBI (diamond A of Figure 3). It recommends the use of the IGRA over the TST in patients who had previously received a BCG vaccination, due to the high false positive test rates for TST (Figure 3).  The panel recommends that RA patients with a positive initial or repeat TST or IGRA should have a chest radiograph and, if suggestive of active TB, a subsequent sputum examination to check for the presence of active TB (diamonds B and C of Figure 3). RA patients with a negative screening TST or IGRA may not need further evaluation in the absence of risk factors and/or clinical suspicion for TB. Since patients with RA may have false-negative TST or IGRA results due to immunosuppression, a negative TST or IGRA should not be interpreted as excluding the possibility that a patient has LTBI. Accordingly, in immunosuppressed RA patients with risk factors for LTBI and negative initial screening tests, the panel recommends that a repeat TST or IGRA could be considered 1–3 weeks after the initial negative screening (diamond A of Figure 3).  If the RA patient has active or latent TB based on the test results, the panel recommends appropriate antitubercular treatment and consideration of referral to a specialist. Treatment with biologic agents can be initiated or resumed after 1 month of latent TB treatment with antitubercular medications and after completion of the treatment of active TB, as applicable (Figure 3).  The panel recommends annual testing in RA patients who live, travel, or work in situations where TB exposure is likely while they continue treatment with biologic agents (diamond D of Figure 3). Patients who test positive for TST or IGRA at baseline can remain positive for these tests even after successful treatment of TB. These patients need monitoring for clinical signs and symptoms of recurrent TB, since repeating tests will not help in the diagnosis of recurrent TB. | | |
| Improvement Notation | Higher score indicates better quality | | |
| Reference |  | | |
| Definition | For the purposes of this measure, patients who are ‘newly started on biologic therapy’ are those who have been prescribed DMARD biologic therapy during the measurement period and who were not prescribed DMARD biologic therapy in the 12 months preceding the encounter where DMARD biologic therapy was newly started. | | |
| Guidance |  | | |
| Transmission Format | TBD | | |
| Initial Patient Population | Patients 18 years and older with a diagnosis of rheumatoid arthritis who are seen for at least one face-to-face encounter for RA | | |
| Denominator | Equals Initial Patient Population who are newly started on biologic therapy during the measurement period | | |
| Denominator Exclusions | None | | |
| Numerator | Any record of TB testing documented or performed (PPD, IFN-gamma release assays, or other appropriate method) in the medical record in the 12 months preceding the biologic prescription. | | |
| Numerator Exclusions | Not Applicable | | |
| Denominator Exceptions | None | | |
| Measure Population | Not Applicable | | |
| Measure Observations | Not Applicable | | |
| Supplemental Data Elements | For every patient evaluated by this measure also identify payer, race, ethnicity and sex. | | |

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### [Population criteria](" \l "toc)

* **Initial Patient Population =**
  + AND: "Patient Characteristic Birthdate: birth date" >= 18 year(s) starts before start of "Measurement Period"
  + AND:
    - OR: "Occurrence A of Encounter, Performed: Office Visit (‘reason: Rheumatoid Arthritis’)"
    - OR: “Occurrence A of Encounter, Performed: Outpatient Consultation (‘reason: Rheumatoid Arthritis’)”
    - OR: “Occurrence A of Encounter, Performed: Face-to-Face Interaction (‘reason: Rheumatoid Arthritis’)”
    - OR: "Occurrence A of Encounter, Performed: Nursing Facility Visit (‘reason: Rheumatoid Arthritis’)"
    - OR: "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility (‘reason: Rheumatoid Arthritis’)"
    - OR: "Occurrence A of Encounter, Performed: Home Healthcare Services (‘reason: Rheumatoid Arthritis’)"
    - during "Measurement Period"
* **Denominator =**
  + AND: "Initial Patient Population"
  + AND:
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Office Visit”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Office Visit"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Office Visit”
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Outpatient Consultation”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Outpatient Consultation"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Outpatient Consultation”
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Face-to-Face Interaction”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Face-to-Face Interaction"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Nursing Facility Visit”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Nursing Facility Visit"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Nursing Facility Visit”
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility”
    - OR:
      * OR:
        + AND: “Medication, Active: Biologic DMARD Therapy” starts during "Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of "Occurrence A of Encounter, Performed: Home Healthcare Services”
      * OR:
        + AND: “Medication, Administered: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Home Healthcare Services"
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
      * OR:
        + AND: “Medication, Order: Biologic DMARD Therapy” starts during “Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Active: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Administered: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
        + AND NOT: “Medication, Order: Biologic DMARD Therapy” <=12 months starts before start of “Occurrence A of Encounter, Performed: Home Healthcare Services”
* **Denominator Exclusions =**
  + None
* **Numerator =**
  + AND: "Laboratory Test, Result: Tuberculosis Screen (result)" <= 12 month(s) starts before start of
    - OR: "Occurrence A of Encounter, Performed: Office Visit"
    - OR: “Occurrence A of Encounter, Performed: Outpatient Consultation”
    - OR: “Occurrence A of Encounter, Performed: Face-to-Face Interaction”
    - OR: "Occurrence A of Encounter, Performed: Nursing Facility Visit"
    - OR: "Occurrence A of Encounter, Performed: Care Services in Long-Term Residential Facility"
    - OR: "Occurrence A of Encounter, Performed: Home Healthcare Services"
* **Denominator Exceptions =**
  + None

### [Data criteria (QDM Data Elements)](" \l "toc)

* XXXX
* XXXX
* XXXX
* XXXX

### [Reporting Stratification](" \l "toc)

* None

### [Supplemental Data Elements](" \l "toc)

* "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDC Value Set (2.16.840.1.114222.4.11.837)"
* "Patient Characteristic Payer: Payer" using "Payer Source of Payment Typology Value Set (2.16.840.1.114222.4.11.3591)"
* "Patient Characteristic Race: Race" using "Race CDC Value Set (2.16.840.1.114222.4.11.836)"
* "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex Administrative Sex Value Set (2.16.840.1.113762.1.4.1)"

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| Measure Set |  |