

# EJADA Program

RHEUMATOID  
ARTHRITIS  
KPIs and  
Recommendations

2024



# Rheumatoid Arthritis KPIs and Recommendations

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## Introduction

Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease that primarily affects the lining of the synovial joints and is associated with progressive disability, premature death, and socioeconomic burdens. This debilitating condition has profound implications for individuals' quality of life, as it progressively leads to joint deformities and functional disabilities. It occurs when the immune system malfunctions and targets the synovium, the tissue that lines the joints. This relentless attack triggers inflammation, resulting in joint pain, swelling, and ultimately, irreversible damage. The disease typically follows a fluctuating course, marked by periods of exacerbation and remission. While the precise cause of RA remains elusive, certain risk factors contribute to its onset. Genetic predisposition plays a significant role, with specific genes linked to an increased susceptibility. Environmental factors, such as smoking and exposure to certain infections, also contribute to the disease's development.

The landscape of RA treatment has witnessed transformative changes, particularly with the advent of disease-modifying antirheumatic drugs (DMARDs). These medications, ranging from traditional DMARDs like methotrexate to newer biologics and targeted synthetic DMARDs, aim to suppress the immune system's overactivity and halt the progression of joint damage. Nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids are also employed for symptomatic relief. Despite significant progress, unmet needs persist in RA management. Achieving sustained remission in all patients remains a challenge, and the identification of predictive markers for treatment response requires further exploration. Additionally, addressing the comorbidities associated with RA and minimizing long-term medication side effects are crucial unmet needs.

Recent breakthroughs in RA treatment have brought renewed optimism. Emerging therapies, including Janus kinase (JAK) inhibitors, offer additional options for patients who may not respond to traditional approaches. Moreover, research into precision medicine aims to tailor treatments based on individual genetic and molecular profiles, potentially revolutionizing RA management. These advancements underscore a promising era where the burden of RA is progressively alleviated, empowering individuals to lead more fulfilling and active lives despite the challenges posed by this complex autoimmune disorder.

## Scope

The Ejada KPIs are quality indicators and ratings for physicians, facilities and insurance companies based on information collected by DHA systems from providers, payers and patients.

The rheumatoid arthritis KPIs and Recommendations are based on regional and International guidelines on rheumatoid arthritis management. The KPIs are designed for healthcare practitioners and providers to follow international best practices in the management of rheumatoid arthritis patients.

The rheumatoid arthritis KPIs cover the following aspects of rheumatoid arthritis disease management:

- Diagnosis of rheumatoid arthritis disease patients.
- The pharmacological management involves a multifaceted approach to manage rheumatoid arthritis effectively. The goal is not only to alleviate pain and inflammation but also to halt disease progression, prevent complications, and optimize long-term outcomes.
- Referrals to a rheumatologists, as well as long-term follow-up of rheumatoid arthritis disease patients.

The KPIs and recommendations have been reviewed by leading experts in the UAE.

## List of Abbreviations

S.No.	Abbreviation	Full form
1	AED	United Arab Emirates Dirham
2	Anti-CCP	Anti-Cyclic Citrullinated Peptide
3	ACPA	Anti-citrullinated protein/peptide antibody
4	bDMARDs	Biological DMARDs
5	csDMARDs	Conventional Synthetic Disease-Modifying Antirheumatic Drugs
6	CBC	Complete Blood Count
7	DHA	Dubai Health Authority
8	DMARD	Disease-Modifying Antirheumatic Drug
9	DAS	Disease Activity Scores
10	ESR	Erythrocyte Sedimentation Rate
11	GIT	Gastrointestinal toxicity
12	JAK	Janus kinase
13	MRI	Magnetic resonance imaging
14	NSAID's	Non-steroidal anti-inflammatory drugs
15	RA	Rheumatoid Arthritis
16	RhF	Rheumatoid factor
17	US	Ultrasonography
18	UAE	United Arab Emirates

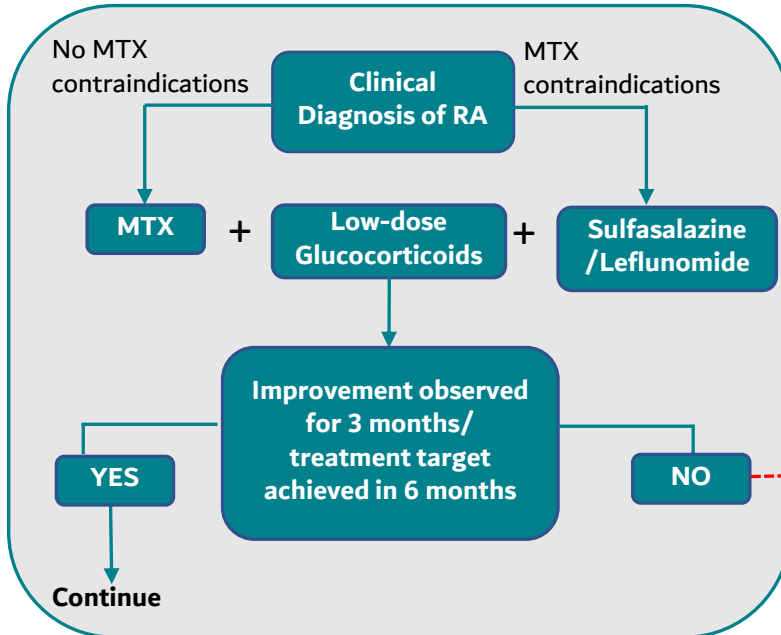
## KPIs and their Measuring Parameters

Data collection frequency: Monthly

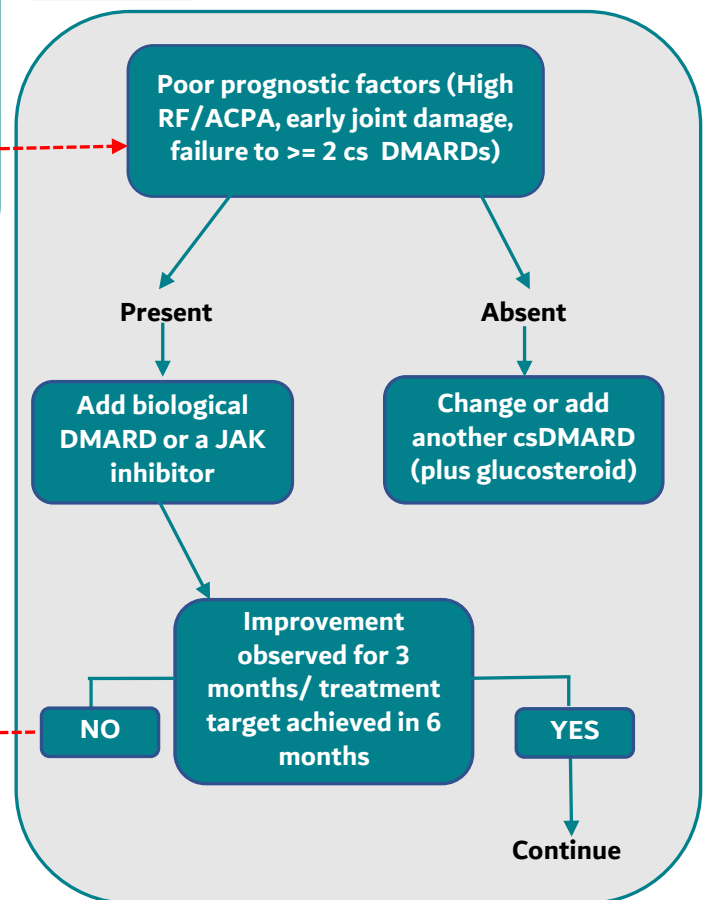
S.No.	KPIs	Measuring Parameters
1	Laboratory Tests Used in Diagnosis of Rheumatoid Arthritis (RA)	Rheumatoid Factor (RF) Test, Anti-Cyclic Citrullinated Peptide (anti-CCP) Antibody Test, C-reactive Protein (CRP) Test
2	Radiography (X-ray imaging) for diagnostic assessment of Rheumatoid Arthritis	X-ray imaging
3	Magnetic resonance imaging (MRI) and ultrasonography (US) to diagnose Rheumatoid Arthritis	MRI and ultrasonography
4	Prescription of Methotrexate Monotherapy in the initial Management of Rheumatoid Arthritis	Dispensed prescriptions
5	Prescription of Leflunomide/Sulfasalazine in the initial management of Rheumatoid Arthritis	Dispensed prescriptions
6	Combination of Conventional Synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs) and Biological DMARDs (bDMARDs) in the management of Rheumatoid Arthritis	Dispensed prescriptions
7	Combination therapy of csDMARDs and Janus Kinase (JAK) inhibitors in management of Rheumatoid Arthritis	Dispensed prescriptions
8	Nonsteroidal Anti-Inflammatory Drug (NSAID: Ibuprofen, Naproxen, Meloxicam, Diclofenac) for the Treatment of RA	Dispensed prescriptions
9	Surgical interventions in the management of Rheumatoid Arthritis	Joint replacement surgery, arthrodesis, synovectomy
10	Vaccinations in patients with RA	Vaccinations such as Influenza vaccine/Pneumococcal vaccine /Hepatitis A vaccine /Hepatitis B vaccine
11	Referral of Patients with RA to Rheumatologist	Referral to Rheumatologist
12	Avoidable Hospitalization in Patients with RA	Hospital Admission
13	Cost incurred on treatment with biologics/Janus Kinase (JAK) inhibitors in RA patients	Cost of Biologics/JAK
14	Percentage Cost Decrease for Managing Patients with RA	RA Treatment cost

## Treatment algorithm for the management of rheumatoid arthritis disease

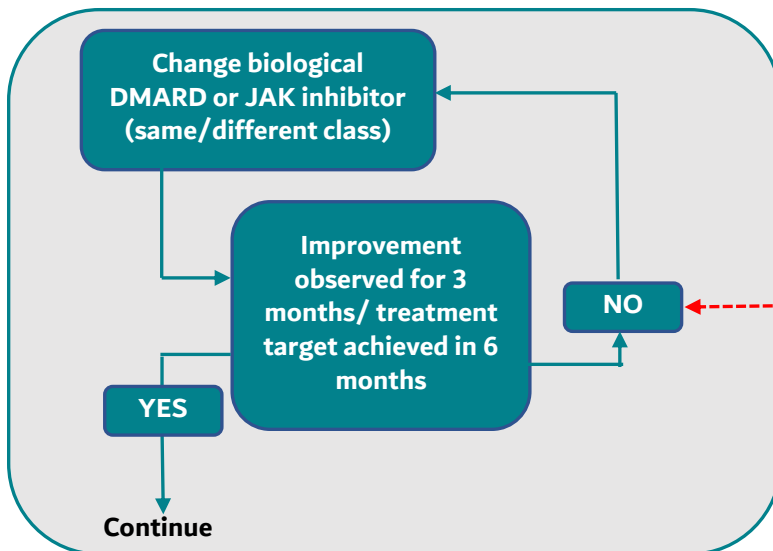
### Phase 1



### Phase 2



### Phase 3



#### Abbreviation:

RA: Rheumatoid arthritis; MTX: Methotrexate; ACPA: anti-citrullinated protein/peptide antibody; RhF: rheumatoid factor; Anti-CCP: anti-cyclic citrullinated peptide antibodies ; DMARD's: Disease-Modifying Antirheumatic Drugs; JAK: Janus kinase.

#### Adapted from:

Dubai Standards of care- Rheumatoid arthritis. Recommendations by the Dubai Arthritis Task Force.

<https://www.isahd.ae/content/docs/Dubai%20Standards%20of%20Care%20-%20Rheumatoid%20Arthritis.pdf>



# Health Outcomes Indicators

## Laboratory Tests Used in Diagnosis of Rheumatoid Arthritis

Description Title	Laboratory Tests Used in Diagnosis of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who underwent laboratory tests (Rheumatoid Factor (RF), Anti-Cyclic Citrullinated Peptide (anti-CCP) Antibodies, C-Reactive Protein (CRP) for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients who underwent laboratory tests for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Other joint disorders with similar symptoms such as Fibromyalgia, SLE, Osteoarthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend comprehensive laboratory tests [RF, anti-CCP Antibodies, CRP and ESR, CBC, Joint Fluid Analysis (Synovial Fluid Analysis)] for patients with suspected rheumatoid arthritis, including assessment of inflammatory markers and joint examination. Early diagnosis enables timely intervention and management, aligning with best practices in rheumatoid arthritis care.

## Radiography (X-ray imaging) for Diagnostic Assessment of Rheumatoid Arthritis

Description Title	Radiography (X-ray imaging) for Diagnostic Assessment of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who underwent X-ray imaging for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients who underwent X-ray imaging for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Other joint disorders with similar symptoms such as Fibromyalgia, SLE, Osteoarthritis.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	X-ray imaging is a standard diagnostic tool recommended for assessing joint damage in rheumatoid arthritis. Early detection through radiography aids in timely intervention and tailored treatment, aligning with best practices in rheumatoid arthritis care.

## Magnetic Resonance Imaging (MRI) and Ultrasonography (US) to Diagnose Rheumatoid Arthritis

Description Title	Magnetic Resonance Imaging (MRI) and Ultrasonography (US) to Diagnose Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who underwent MRI or ultrasonography for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients who underwent MRI or ultrasonography for diagnostic assessment of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Other joint disorders with similar symptoms such as Fibromyalgia, SLE, Osteoarthritis.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend MRI and ultrasonography for patients with suspected rheumatoid arthritis to assess joint damage and aid in early diagnosis. Utilizing these imaging modalities aligns with best practices in rheumatoid arthritis care.

## Prescription of Methotrexate Monotherapy in the Initial Management of Rheumatoid Arthritis

Description Title	Prescription of Methotrexate Monotherapy in the Initial Management of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who were prescribed Methotrexate Monotherapy for the initial management of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients prescribed Methotrexate Monotherapy for the initial management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members without diagnosis of Rheumatoid arthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend methotrexate as monotherapy for rheumatoid arthritis due to its effectiveness in reducing inflammation and slowing disease progression. It's a well-tolerated disease-modifying drug that addresses the autoimmune aspect of RA, and using it alone helps minimize potential side effects associated with combining multiple medications.

## Prescription of Leflunomide/Sulfasalazine in the Initial management of Rheumatoid Arthritis

Description Title	Prescription of Leflunomide/Sulfasalazine in the Initial management of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients prescribed Leflunomide/Sulfasalazine, for the initial management of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients prescribed Leflunomide/Sulfasalazine for the initial management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members without diagnosis of Rheumatoid arthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend Leflunomide/Sulfasalazine as part of the first-line treatment for rheumatoid arthritis for patients who have contraindication to methotrexate. This measure assesses adherence to recommended initial management strategies, ensuring timely intervention and alignment with best practices in rheumatoid arthritis care.

## Combination Therapy of Conventional Synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs) and Biological DMARDs (bDMARDs) in the management of Rheumatoid Arthritis

Description Title	Combination Therapy of Conventional Synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs) and Biological DMARDs (bDMARDs) in the management of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients prescribed a combination of Conventional Synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs: hydroxychloroquine/sulfasalazine/methotrexate,/leflunomide ) and Biological DMARDs (bDMARDs: TNF inhibitors (etanercept, adalimumab, infliximab, golimumab, certolizumab pegol), T cell costimulatory inhibitor (abatacept), IL-6 receptor inhibitors (tocilizumab, sarilumab), anti-CD20 antibody (rituximab) for the management of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients prescribed a combination of csDMARDs and bDMARDs for the management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members without diagnosis of Rheumatoid arthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend a combination of csDMARDs and bDMARDs, if the treatment target is not achieved with the first csDMARDs strategy or when poor prognostic factors are present. This measure assesses adherence to recommended treatment strategies, ensuring optimal care and alignment with best practices in rheumatoid arthritis management.

## Combination therapy of csDMARDs and Janus Kinase (JAK) Inhibitors in Management of Rheumatoid Arthritis

Description Title	Combination therapy of csDMARDs and Janus Kinase (JAK) Inhibitors in Management of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients prescribed a combination of Conventional Synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs: hydroxychloroquine/sulfasalazine/methotrexate, leflunomide) and Janus Kinase (JAK) Inhibitors (Tofacitinib, Baricitinib, Upadacitinib) for the management of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients prescribed a combination of csDMARDs and JAK Inhibitors for the management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members without diagnosis of Rheumatoid arthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend a combination of csDMARDs and JAK Inhibitors, when the treatment target is not achieved with first csDMARD strategy. This measure assesses adherence to recommended treatment strategies, ensuring comprehensive management and aligning with best practices in rheumatoid arthritis care

## Nonsteroidal Anti-Inflammatory Drug (NSAID: Ibuprofen, Naproxen, Meloxicam, Diclofenac) for the Treatment of Rheumatoid Arthritis

Description Title	Nonsteroidal Anti-Inflammatory Drug (NSAID: Ibuprofen, Naproxen, Meloxicam, Diclofenac) for the Treatment of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who received Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) such as Ibuprofen, Naproxen, Meloxicam, or Diclofenac for the management of rheumatoid arthritis during the measurement year.
<b>Numerator</b>	Number of patients who received NSAIDs for the management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed with rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members without diagnosis of Rheumatoid arthritis
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend the use of NSAIDs for symptomatic relief and management of rheumatoid arthritis. Monitoring NSAID usage helps assess the appropriateness of treatment and aligns with best practices in rheumatoid arthritis care.

## Surgical Interventions in the Management of Rheumatoid Arthritis

Description Title	Surgical Interventions in the Management of Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients who underwent surgical interventions (Joint replacement surgery, arthrodesis, synovectomy) during the measurement year to manage rheumatoid arthritis.
<b>Numerator</b>	Number of patients who underwent surgical interventions for the management of rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Patients with acute surgical emergencies unrelated to rheumatoid arthritis, patients with contraindications to surgery, patients with other autoimmune diseases.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend surgical interventions for certain cases of rheumatoid arthritis, such as joint replacement surgeries. Surgical management is advised in patients who do not respond to optimal non-surgical management and in patients with persistent pain due to joint damage or other identifiable soft tissue cause, worsening joint function, progressive deformity, persistent localized synovitis

# Patient Safety Indicator

## Vaccinations in Patients with Rheumatoid Arthritis

Description Title	Vaccinations in Patients with Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients with rheumatoid arthritis who received recommended vaccinations (such as Influenza vaccine/Pneumococcal vaccine /Hepatitis A vaccine /Hepatitis B vaccine) during the measurement year.
<b>Numerator</b>	Number of patients with rheumatoid arthritis who received recommended vaccinations during the measurement year.
<b>Denominator</b>	Patients diagnosed rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Patients with contraindications to specific vaccines, individuals with acute infections, or those with specific medical conditions that preclude vaccination.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Current guidelines recommend routine vaccinations (such as Influenza vaccine/Pneumococcal vaccine /Hepatitis A vaccine /Hepatitis B vaccine) for individuals with rheumatoid arthritis to prevent infectious diseases. Monitoring the vaccination rate ensures adherence to recommended preventive measures, aligning with best practices in rheumatoid arthritis care and promoting overall health in this patient population



# Health Operational Indicator

## Referral of Patients with Rheumatoid Arthritis to Rheumatologist

Description Title	Referral of Patients with Rheumatoid Arthritis to Rheumatologist
<b>Definition</b>	Percentage of patients with suspected or diagnosed rheumatoid arthritis who were referred to a rheumatologist for specialized care during the measurement year.
<b>Numerator</b>	Number of patients with suspected or diagnosed rheumatoid arthritis who received a referral to a rheumatologist during the measurement year.
<b>Denominator</b>	Patients diagnosed rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Patients with contraindications to rheumatologist referral, Inability to access rheumatology care due to geographical constraints, Presence of conditions not requiring rheumatologist expertise.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Higher is better
<b>Rationale</b>	Timely referral of patients with rheumatoid arthritis to a rheumatologist is essential for accurate diagnosis, disease management, and access to specialized care. Aligning with current guidelines, this measure aims to promote early intervention and adherence to best practices in rheumatoid arthritis care.

# Health Economic Indicator

## Avoidable Hospitalization in Patients with Rheumatoid Arthritis

Description Title	Avoidable Hospitalization in Patients with Rheumatoid Arthritis
<b>Definition</b>	Percentage of patients with rheumatoid arthritis who were hospitalized during the measurement year.
<b>Numerator</b>	Number of hospitalizations for patients with rheumatoid arthritis.
<b>Denominator</b>	Patients diagnosed rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Patients with comorbid conditions leading to hospitalization, such as cardiovascular events or infections.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Percentage (Numerator/Denominator x 100)
<b>Measure Target and/or Threshold</b>	Lower is better
<b>Rationale</b>	Monitoring hospitalization rates in rheumatoid arthritis patients provides insights into disease management and helps assess the effectiveness of outpatient care, contributing to improved healthcare practices.

## Cost incurred on biologics/Janus Kinase (JAK) inhibitors in treatment of patients with Rheumatoid Arthritis

Description Title	Biologics/Janus Kinase (JAK) inhibitors in Patients with Rheumatoid Arthritis
<b>Definition</b>	Average cost incurred (in AED) due to Biologics/Janus Kinase (JAK) inhibitors in patients with Rheumatoid Arthritis during the measurement year.
<b>Numerator</b>	Total cost associated with Biologics/Janus Kinase (JAK) Inhibitors for patients with rheumatoid arthritis during the measurement year.
<b>Denominator</b>	Patients diagnosed rheumatoid arthritis.
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Costs unrelated to the use of Biologics/Janus Kinase (JAK) Inhibitors, costs associated with other conditions or treatments, patients with contraindications to Biologics/JAK Inhibitors.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	Average (Numerator/Denominator)
<b>Measure Target and/or Threshold</b>	Lower is better
<b>Rationale</b>	This measure assesses the financial impact of Biologics/JAK Inhibitors in the management of rheumatoid arthritis. Monitoring the cost distribution helps evaluate the economic implications and aligns with the evolving landscape of rheumatoid arthritis care.

## Percentage Cost Decrease for Managing Patients with Rheumatoid Arthritis.

Description Title	Percentage Cost Decrease for Managing Patients with Rheumatoid Arthritis.
<b>Definition</b>	Percentage decrease in cost incurred (in AED) for managing patients with rheumatoid arthritis during the measurement year when compared to previous year
<b>Numerator</b>	Difference of total cost (AED) incurred for managing patients with rheumatoid arthritis in previous measurement year (A) from current measurement year (B)
<b>Denominator</b>	Total cost incurred for managing patients with rheumatoid arthritis during the previous measurement year (A)
<b>Range of measure</b>	NA
<b>Exclusion criteria</b>	Members who do not have a diagnosis of rheumatoid arthritis , in any setting, during the measurement year.
<b>Data collection frequency</b>	Monthly
<b>Unit of measure</b>	$A-B/A \times 100$
<b>Measure Target and/or Threshold</b>	Higher Percentage is better
<b>Rationale</b>	The disease and economic burden of rheumatoid arthritis is substantial. Improved clinical outcomes and reduction in associated healthcare costs can be achieved by addressing multiple factors including; greater focus on prevention, early diagnosis, appropriate medical management, implementation of comprehensive lifestyle changes.

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