TIP SHEET:

Create queries and alerts of patients with severe uncontrolled asthma in the Epic electronic health record (EHR) system

✓ **Queries to identify patients with severe uncontrolled asthma not currently treated with a respiratory biologic**

✓ **Alerts to identify patients with severe uncontrolled asthma who may be candidates for a respiratory biologic**

AstraZeneca

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The Global Initiative for Asthma (GINA) report mentions that the long-term goals of asthma management are to:[1]
- Achieve good symptom control
- Minimize future risk of:
  - Asthma-related mortality
  - Exacerbations
  - Persistent airflow limitations
  - Side effects of treatment

BACKGROUND, INSTRUCTIONS, AND LIMITATIONS

These instructions are created specifically to create a Patient Query and Alert in the Epic EHR system and will not work for other conditions, treatments, therapeutic areas, or other EHR systems.

The processes outlined in this piece are variable, and not all steps will apply to every health system. Any steps or settings that are not part of a health system's standard process should be excluded or modified accordingly. Any questions should be directed to the appropriate service provider. The practice is solely responsible for the implementation, testing, monitoring, and ongoing operation of any EHR tools.

The suggested criteria for the patient queries are listed below and may be modified by the health system. While EHRs may assist providers in identifying appropriate patients for consideration of assessment, treatment, and referral, the decision and action should ultimately be decided by a provider in consultation with the patient, after a review of the patient's records to determine eligibility,* and AstraZeneca shall have no liability thereto.

Asthma-related hospital admissions may not always be documented in the EHR. A manual chart review is recommended to confirm medication use and dosing.

*Eligibility criteria for biologics may vary; users should refer to the relevant Prescribing Information

PATIENT QUERY INSTRUCTIONS

A Patient Query allows a user to run searches and generate lists of patients meeting specific clinical and/or demographic criteria. The resulting list of patients can be used for clinical evaluation, outreach, etc. To create and run the Patient Query, the user will need superuser or administrator level access.

Criteria for the Patient Query

- Age: 6 years and older *AND*
- Diagnosis of severe asthma:
  - Asthma International Classification of Diseases (ICD)-10 code: J45 *AND*
  - Filled 2 or more bursts of systemic corticosteroids *OR* maintenance oral corticosteroids *OR* 1 hospitalization for asthma *AND*
  - Filled maximally dosed inhaled corticosteroid plus an additional asthma controller medication within the past 12 months

Display Information in the Report (add as a criterion and filter in the resulting Patient Query):

- Use of respiratory biologic medication: All medications (current and previous)
- Current or historic (within past 12 months) relevant lab values (blood eosinophil levels and forced expiratory volume in one second [FEV_1])
  - If possible, it may help to review lab values prior to patient initiating oral corticosteroid therapy as oral corticosteroids can impact blood eosinophil levels
- Urgent care, hospitalizations, or non-routine encounters related to asthma

Use Reporting Workbench to create the Patient Query in Epic

1. Access Reporting Workbench (click the Epic logo > Reports > My Reports)
2. Navigate to the Library tab from the Reports menu
3. Enter "generic criteria" or "find patients" in the search field and click Search
4. Select the Find My Patients – Generic Criteria report and click New
5. The Report Settings field will display. Click the Criteria tab
6. In the Find Criteria search field, enter "age"
7. Select the Age in Years criterion and set the age range to **6 years and older**
8. In the Find Criteria search field, enter "diagnosis"
9. Select the Diagnosis by code
10. Enter the **ICD-10 code J45**
11. In the Find Criteria search field, enter "Meds"
12. Select the Meds: All time, by pharm. class criterion

PATIENT QUERY INSTRUCTIONS (CONT'D)

13. Enter the **glucocorticoids medication class** (that includes systemic corticosteroids) and include in the Patient Query

14. In the Find Criteria search field, enter "Meds"

15. Select the Meds: All time, by pharm. class criterion

16. Enter the **oral corticosteroids medication class** and include in the Patient Query

17. In the Find Criteria search fields, enter "encounters"

18. Select the Encounter department criterion

19. Enter and select hospital admission (naming conventions may vary). In addition, a reason for admission is generally not available as a search field, and a manual chart review may be needed to verify the reason of admission

20. In the Find Criteria search field, enter "Meds"

21. Select the Meds: Current, include by pharm. class criterion

22. Enter the **inhaled corticosteroid plus additional asthma controller medication class** and include in the Patient Query. Set a lookback for the past 12 months

23. Using the Report Logic field, set the logic operator to:
- **Age: 6 years and older** *AND*
- **Diagnosis of asthma: J45** *AND*
- **Filled 2 or more bursts of systemic corticosteroids** *OR* **maintenance oral corticosteroids** *OR* **1 hospitalization for asthma** *AND*
- **Filled maximally dosed inhaled corticosteroid plus an additional asthma controller medication** within the past 12 months

24. Click the Display tab to select all display columns to be included in the report (search in the available columns or click + Add to manually add a display column). In the Available Columns window, select:
- **Use of respiratory biologic medication: All medications (current and previous)**
- **Current or historic (within past 12 months) relevant lab values (blood eosinophil levels and FEV$_1$)**
- **Urgent care, hospitalizations, or non-routine encounters related to asthma**

25. Once an Available Column has been selected, click the arrow to move it to the Selected Column window

26. In the General tab, enter the desired Report Name and a Description, "Patients with severe uncontrolled asthma not currently taking a biologic"

27. Click Save and Run to create the patient list. The list will display all patients matching the criteria

ALERT INSTRUCTIONS

An alert creates a reminder for the clinical staff and displays information to the user. Setting up an alert requires permissions and is usually performed by an EHR team member. A chart review will be required to review the patient's eligibility, past and current medications, and most recent blood eosinophil levels.

Criteria for the Alert

- **Age: 6 years and older** *AND*
- **Diagnosis of severe asthma: J45.50, J45.51**

Suggested Alert Information

"This patient has a diagnosis of severe uncontrolled asthma and may be a candidate for a respiratory biologic. Review patient's history, medications, and relevant lab values (blood eosinophil levels and FEV_1) for evaluation of a biologic."

Epic's Clinical Decision Support tool, a Best Practice Advisory (BPA), may be created or customized to align with the health system's clinical preferences and workflow. A BPA creates a notification for clinical staff and displays information to the user. There are 3 steps to create a BPA.

Step 1 – Create Grouper Records

1. Navigate to the Management Console and access the Grouper Record Editor (or search for Grouper)
2. Access the Grouper Record Editor in Tools > Management Console
3. Select the Diagnosis master file and select the **ICD-10 code** set type
4. Enter the **J45.50 and J45.51 ICD-10 codes** to the diagnosis grouper and click Accept to save the diagnosis grouper (save the grouper with a unique record name, for example: "Severe Asthma")

Step 2 – Create the BPA Criteria Records

Criteria Record for Severe Asthma Diagnosis

1. Navigate to the Management Console and click BPA in the Decision Support menu (or search for Best Practice)
2. Create a new Criteria record and enter a unique name (for example: "C Dx Severe Asthma")
3. Select the Diagnoses Criteria Type and select the **Severe Asthma** diagnosis grouper created in Step 1
4. Click Accept

ALERT INSTRUCTIONS (CONT'D)

Step 2 – Create the BPA Criteria Records

Criteria Record for Age

1. Navigate to the Management Console and click BPA in the Decision Support menu (or search for Best Practice)
2. Create a new Criteria record and enter a unique name (for example: "C Age 6 Years and older")
3. Select the Age Criteria Type and set the From age field to **6** and the To age field to **150**
4. Click Accept

Step 3 – Create the BPA Base Record

1. Navigate to the Management Console and click BPA in the Decision Support menu
2. Create a Base record and enter a unique name (for example: "B Severe Asthma Respiratory Biologic Evaluation")
3. In the Display section, enter the following message in the Display Text field: "This patient has a diagnosis of severe uncontrolled asthma and may be a candidate for a respiratory biologic. Review patient's history, medications, and relevant lab values (blood eosinophil levels and FEV_1) for evaluation of a biologic"
4. Select Linked Criteria from the menu and then select the previously created criteria records:
   - **Line 1: C Dx Severe Asthma**
   - **Line 2: C Age 6 Years and older**
5. Set the Evaluation Logic to 1 *AND* 2
6. Set any Restrictions as desired. Click the Restrictions tab to narrow the target audience. In the Encounter Limitation Inclusion grid, set the Specialty, Department, and Provider Type. The selections may vary depending on how the organization was set up in the EHR
7. Release the record when satisfied to allow for testing
8. Once satisfactory testing has been completed, release for broader use

NOTES

- The user (ie, physician, medical group, integrated delivery network [IDN]) shall be solely responsible for the implementation, testing, and monitoring of the instructions to ensure proper orientation in each user's EHR system

- Capabilities, functionality, and setup (customization) for each individual EHR system may vary. AstraZeneca shall not be responsible for revising the implementation instructions it provides to any user if the user modifies or changes its software, or the configuration of its EHR system, after such time as the implementation instructions have been initially provided by AstraZeneca

- While AstraZeneca tests its implementation instructions on multiple EHR systems and the most recent and commonly available versions of the EHR system, the instructions are not guaranteed to work for all available EHR systems, and AstraZeneca shall have no liability thereto

- While EHRs may assist providers in identifying appropriate patients for consideration of assessment, treatment, and referral, the decision and action should ultimately be decided by a provider in consultation with the patient, after a review of the patient's records to determine eligibility, and AstraZeneca shall have no liability thereto

- The instructions have not been designed to and are not tools and/or solutions for meeting Advancing Care Information and/or any other quality/accreditation requirement

APPENDIX

Examples of systemic corticosteroids include dexamethasone, prednisone, methylprednisolone, etc.

Examples of asthma controller medication include Symbicort®, Flovent HFA, Advair Diskus, AirDuo RespiClick®, Asmanex®, Twisthaler®, Alvesco®, Singulair®, theophylline, etc.

Reference
1. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2023.
Updated July 2023. Accessed December 4, 2023.
https://ginasthma.org/wp-content/uploads/2023/07/GINA-2023-Full-report-23_07_06-WMS.pdf