

LEAF TIMELINE FEATURE

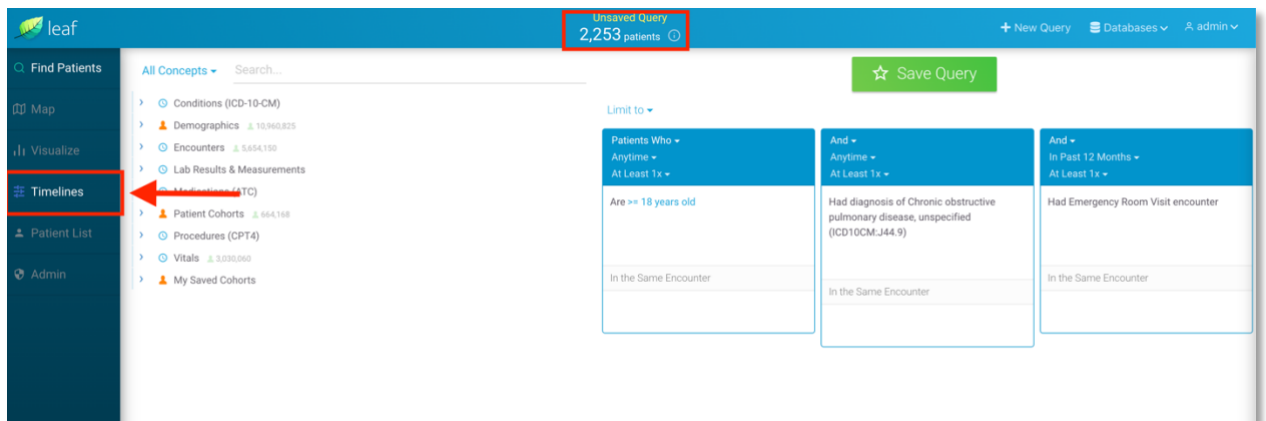
Leaf is a web-based, drag-and-drop application that can be used to query de-identified patient data in the Mount Sinai Data Warehouse (MSDW). Additional training materials can be found on the MSDW page: <https://labs.icahn.mssm.edu/msdw/leaf-tutorial/>

The *new* timeline feature can be used to explore temporal relationships of additional clinical events (aka concepts) to your defined patient cohort.

Sample Query: How many patients ≥ 18 y.o. with a diagnosis of COPD (Chronic Obstructive Pulmonary Disease) had an ED visit in the past 12 months? Secondly, what percentage of these patients had any of the following clinical events after their ED visit?

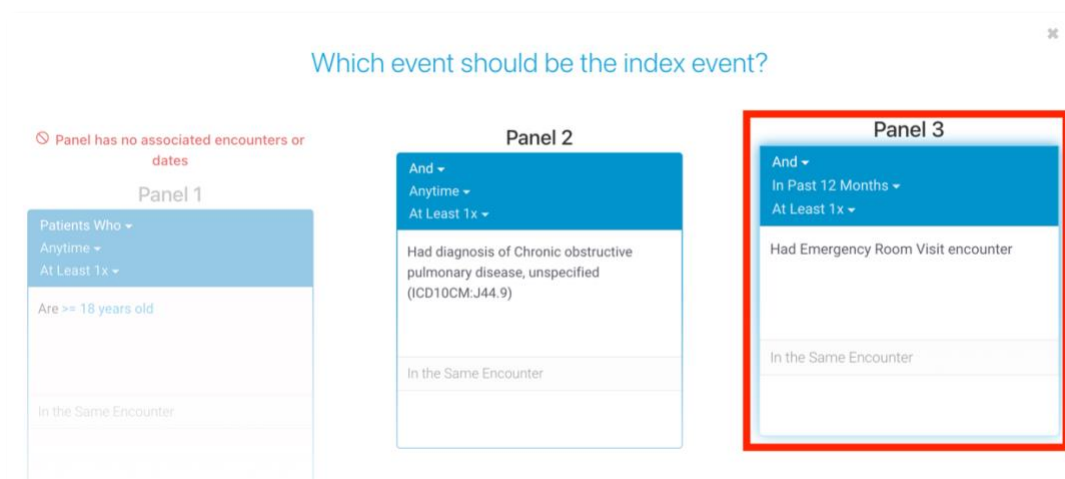
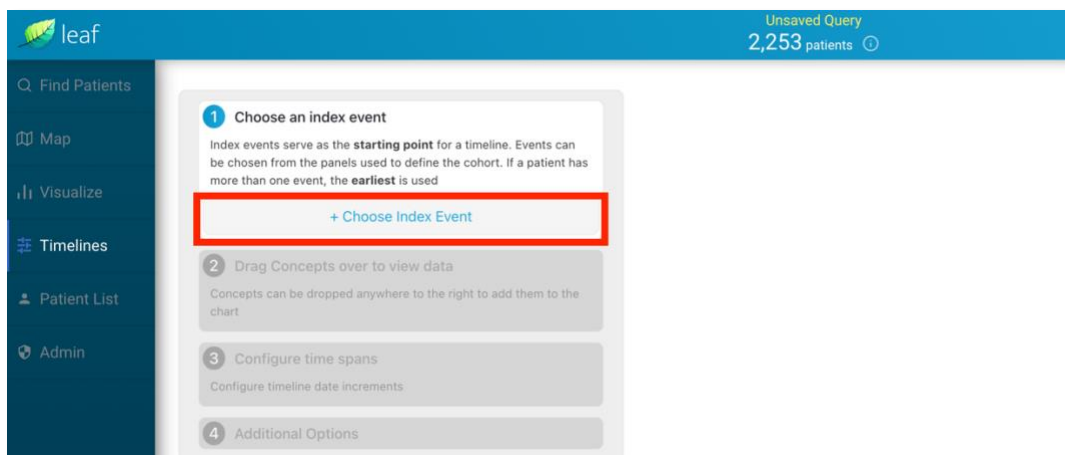
- An inpatient visit
- Diagnosis of Lung Cancer

- 1) Run query to define patient cohort.
Age ≥ 18 y.o. and a diagnosis of COPD and an Emergency Room visit encounter in the past 12 months.
- 2) Click on **Timelines** from the left hand menu.

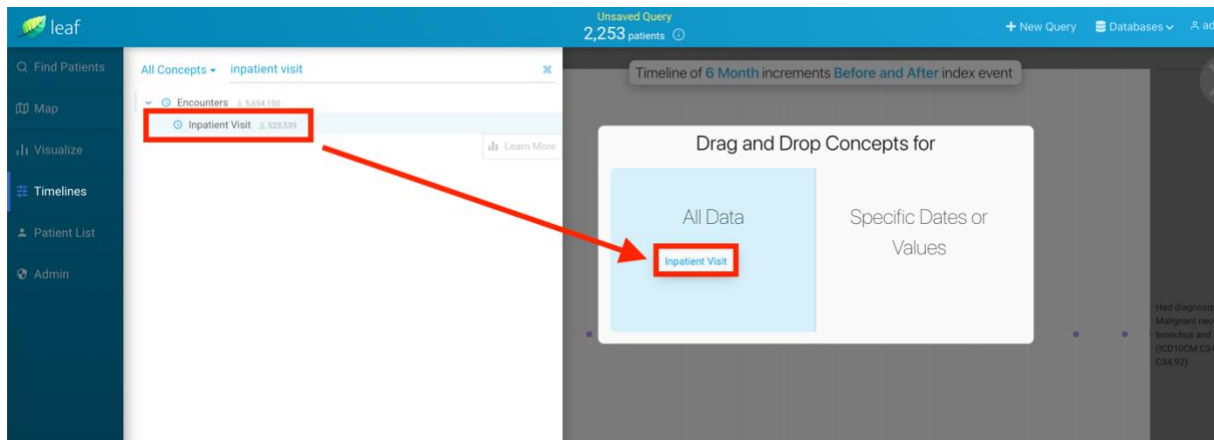


The screenshot displays the Leaf application interface. At the top, a blue header bar shows the 'leaf' logo, a search bar, and a status indicator for 'Unsaved Query' with '2,253 patients'. The left sidebar contains a menu with options: 'Find Patients', 'Map', 'Visualize', 'Timelines' (highlighted with a red box and a red arrow), 'Patient List', and 'Admin'. The main content area features a search bar and a list of concepts including 'Conditions (ICD-10-CM)', 'Demographics', 'Encounters', 'Lab Results & Measurements', 'Patient Cohorts', 'Procedures (CPT4)', 'Vitals', and 'My Saved Cohorts'. On the right, a query builder interface is visible, showing a 'Limit to' section with three criteria: 'Patients Who - Are ≥ 18 years old', 'And - Had diagnosis of Chronic obstructive pulmonary disease, unspecified (ICD10CM.J44.9)', and 'And - Had Emergency Room Visit encounter'. A green 'Save Query' button is located above the query builder.

- 3) Identify an **Index Event** for your cohort. This is the starting point for your timeline and allows you to view other clinical events (aka concepts) that happened before and/or after, at defined time intervals.



- 4) Add concepts of interest to your timeline by dragging and dropping from the **All Concepts** menu on the left to the **Drag and Drop Concepts for** window on the right.



5) Under **Configure Time Spans**, adjust timeline intervals.

1 Choose an index event
Index events serve as the **starting point** for a timeline. Events can be chosen from the panels used to define the cohort. If a patient has more than one event, the **earliest** is used

✓ Panel 3 (click to change)

2 Drag Concepts over to view data
Concepts can be dropped anywhere to the right to add them to the chart

+ Add Concepts (2 selected)

3 Configure time spans
Configure timeline date increments

After Index Event Months

4 Additional Options
Count only first occurrence

3 Configure time spans
Configure timeline date increments

After Index Event Months

Before / After Index Event

Before Index Event

After Index Event

6) Under **Additional Options**, click on **Count only first occurrence** to *only* take into consideration the first time that each event took place (this applies to all added concepts in your timeline)

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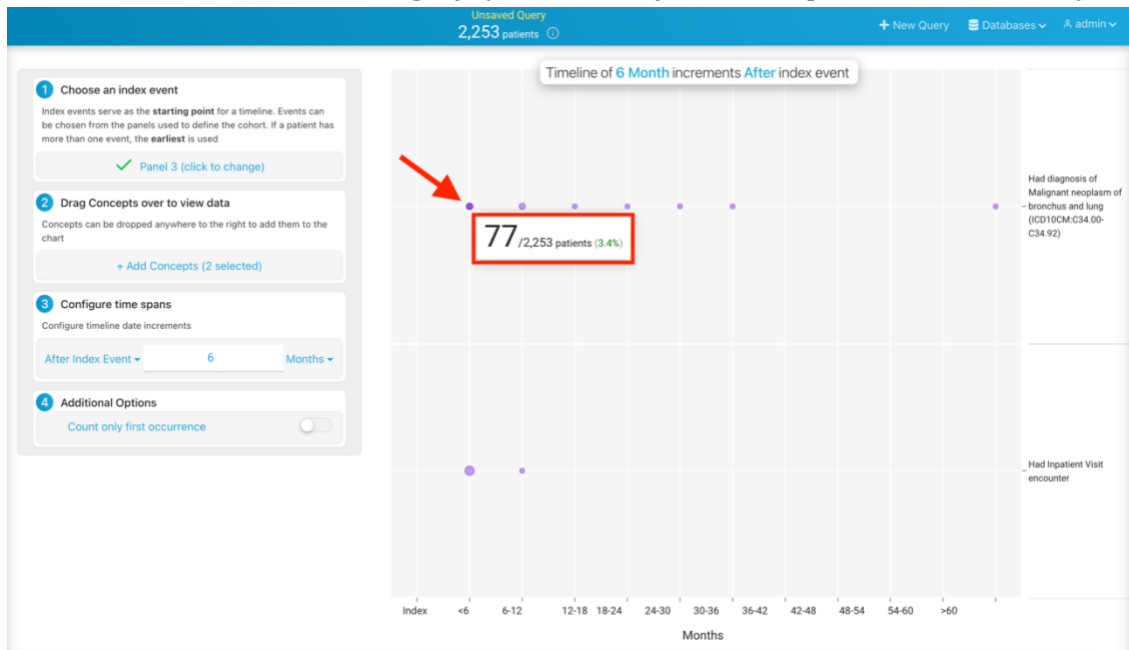
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3 Configure time spans
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After Index Event Months

4 Additional Options
Count only first occurrence

- 7) Hover over the circles in your timeline to view how many patients from your initial cohort fall within that category (as defined by the concept and time interval)



- 8) To remove a clinical event (aka concept) from your timeline, hover over it and click on the **X**

