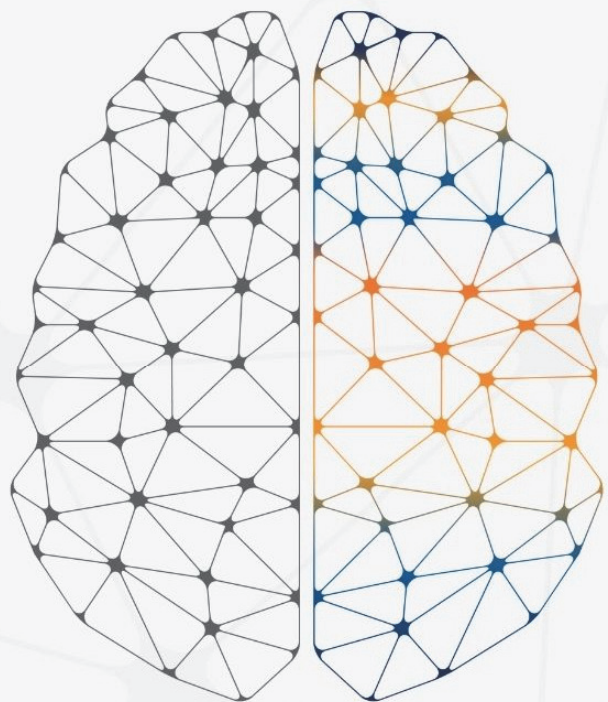


FE1
FE2
FE4



Using Slicer Dicer for Stroke Clinical Trial Feasibility and Screening

Christina Marchese, BS

Slide 1

- FE1** Jansen
Astrazeneca
Forman, Kristina E, 11/2/2021
- FE3** slide with template for images/screenshots
Forman, Kristina E, 11/2/2021
- FE4** Captiva grid?
Forman, Kristina E, 11/2/2021

AGENDA

- I. Welcome/Introductions
- II. Using Slicer Dicer for Clinical Trial Feasibility
- III. Using Slicer Dicer to Screen Patients for Stroke Clinical Trials
- IV. Using Slicer Dicer to Screen Patients for Acute vs. Preventative Stroke Clinical Trials

Introduction

- Objectives of the presentation:
 - Understand Slicer Dicer's functionality
 - Evaluate feasibility for clinical trials
 - Evaluate and refine patient lists for trial eligibility
 - Understand the key differences in screening for acute vs. preventative stroke trials
 - Learn to apply stroke-specific filters and criteria
 - Learn to apply specific filters and criteria for each type of trial

What is Slicer Dicer?

- A self-service data exploration tool integrated within Epic EHR
- Allows users to filter and analyze patient data
- Used for research, quality improvement, and clinical decision support

Accessing Slicer Dicer

- Log in to Epic EHR with your credentials
- Navigate to the Slicer Dicer tool (usually under the analytics or reporting section)
- Select the appropriate data model (Patient, Encounter, Diagnosis, etc.)

Using Slicer Dicer for Clinical Trial Feasibility + Screening

- **Selecting a Data Model**

- Choose the data model relevant to your clinical trial
 - **Patient:** General health and demographic data
 - **Encounter:** Visit-specific information
 - **Diagnosis:** Specific diagnoses
 - **Procedure:** Surgical or procedural data
 - **Medication:** Prescribed medications
 - **Lab Results:** Laboratory test results

Defining the Population

- Set initial broad parameters to include potential stroke patients
 - Example: All patients in neurology or emergency departments
- Ensure broad criteria to start, then refine by narrowing down based on specific criteria.
- Acute Stroke Trials:
 - Set initial broad parameters to include potential acute stroke patients
 - Example: All patients in emergency or neurology (neurocritical care departments)
- Preventative Stroke Trials:
 - Set initial broad parameters to include patients at risk of stroke or with a history of stroke
 - Example: Patients in primary care or cardiology departments

Applying Filters-Feasibility

- **Demographic Filters:** Age, gender, race, location
 - Example: Patients aged 50-70
- **Clinical Filters:** Diagnoses, medications, lab results, procedures, vital signs
 - Example: Stroke diagnosis (ICD-10 codes)
- **Temporal Filters:** Time frames for events
 - Example: Diagnoses within the last year
 - Example: Encounters/admits for stroke diagnosis within the last year (or so)

Applying Filters-Stroke Screening

- **Demographic Filters:** Age, gender, race, location
 - Example: Patients aged 40-80
- **Clinical Filters:** Diagnoses, medications, lab results, procedures, vital signs
 - Focus on stroke-related criteria
 - Diagnoses: Stroke (ICD-10 codes I63, I64)
 - Symptoms: Hemiplegia, aphasia
 - Medical history: Hypertension, atrial fibrillation
- **Temporal Filters:** Time frames for recent stroke events
 - Example: Stroke diagnosis within the last 6 months

Applying Filters for Acute Stroke Trials

- **Acute Stroke Trials:** Focus on treatment during or immediately after a stroke
- **Demographic Filters:** Age, gender, location
 - Example: Patients aged 50-80
- **Clinical Filters:** Focus on acute stroke criteria
 - Diagnoses: Acute ischemic stroke (ICD-10 codes I63.x)
 - Symptoms: Sudden onset of neurological deficits
 - Timing: Stroke event within the last 24-48 hours
 - Imaging: Recent CT or MRI confirming stroke
- **Temporal Filters:** Very recent events (last 24-48 hours)

Applying Filters for Preventative Stroke Trials

- **Preventative Stroke Trials:** Focus on preventing the occurrence or recurrence of stroke
- **Demographic Filters:** Age, gender, location
 - Example: Patients aged 40-70
- **Clinical Filters:** Focus on stroke risk factors and history
 - Medical history: Prior stroke (ICD-10 codes I63.x), TIA (ICD-10 codes G45.x)
 - Risk factors: Hypertension, atrial fibrillation, diabetes, hyperlipidemia
 - Medications: Antihypertensives, anticoagulants, statins
 - Lab Results: Elevated cholesterol levels, HbA1c levels for diabetes
- **Temporal Filters:** Longer timeframe, focusing on historical data and ongoing risk factors

Combining Criteria (Feasibility + Screening)

- Use Boolean logic to refine search
 - AND/OR logic for combining filters
- Feasibility
 - Example: Diabetes AND recent HbA1c > 7%
- Screening
 - Example: Stroke diagnosis AND recent hypertension AND age 40-80
- Acute Stroke Trial
 - Example: Acute ischemic stroke diagnosis AND symptom onset within last 24 hours AND recent imaging
- Preventative Stroke Trial
 - Example: Prior stroke history AND hypertension AND aged 40-70 AND current anticoagulant use

Reviewing and Refining Results

- Review initial results
- Adjust filters to fine-tune the patient pool
- Ensure the population size is feasible and relevant
- Review initial patient pool
- Adjust filters to ensure manageable and relevant patient list
 - Refine based on trial-specific inclusion/exclusion criteria
- **Acute Stroke Trials:** Focus on immediate eligibility, proximity to clinical settings, and rapid intervention
- **Preventative Stroke Trials:** Focus on long-term risk factors, patient adherence, and preventive measures

Exploring and Analyzing Data

- Visualize data using charts, graphs, and tables
 - Example: Bar charts for age distribution, pie charts for gender distribution
 - **Acute:** Time to treatment, symptom onset
 - **Preventative:** Risk factor distribution, medication adherence
- Drill down into specific subsets for detailed analysis
 - Example: Patients with recent hospitalizations

Saving and Sharing Results

- Save search criteria and configurations
 - Allows quick re-running of analyses
- Export data (CSV, Excel) following privacy regulations
- Share findings with colleagues or team members

Case Study Example

- Real-world example of using Slicer Dicer for a clinical trial feasibility study
 - Define population: Patients with Type 2 Diabetes
 - Apply filters: Age 40-65, HbA1c > 7%, prescribed Metformin
 - Review and refine: Ensure manageable number of participants
 - Explore and analyze: Visualize demographic distribution and lab results

Case Study Example

- Real-world example of screening for a stroke clinical trial
 - Define population: Patients with ischemic stroke
 - Apply filters: Age 40-80, recent stroke, no anticoagulant therapy contraindications
 - Review and refine: Ensure patient list matches trial criteria
 - Explore and analyze: Visualize comorbid conditions and demographic spread

Case Study Examples

- **Acute Stroke Trial:** Screening for thrombolysis candidates
 - Define population: Patients with acute ischemic stroke
 - Apply filters: Onset within last 3 hours, no anticoagulant therapy
 - Review and refine: Ensure immediate eligibility
 - Analyze: Visualize time from symptom onset to hospital arrival
- **Preventative Stroke Trial:** Screening for secondary prevention candidates
 - Define population: Patients with prior stroke or TIA
 - Apply filters: Aged 40-70, hypertension, on statins
 - Review and refine: Ensure adherence to preventive medications
 - Analyze: Risk factor distribution and demographic spread

Tips for Effective Use

- Ensure proper training on Slicer Dicer and data interpretation
- Regularly update search criteria based on feedback
- Collaborate with IT, clinical teams, and research coordinators
- Adhere to privacy laws and institutional policies

Conclusion

- Recap key points:
 - Accessing and navigating Slicer Dicer
 - Applying and combining stroke-specific filters for acute and preventative trials
 - Reviewing, refining, and analyzing data
 - Saving and sharing results
- Encourage practice and continuous learning
- Q&A session