Objectives

• Introduction to OneFlorida i2b2
• How to access OneFlorida i2b2
• Showcase data available in OneFlorida i2b2
• Demonstrate functionality of OneFlorida i2b2
i2b2 Instance

One Instance of All Patients
- Florida Hospital
- Orlando Health
- Tallahassee Memorial Inpatient
- Tallahassee Memorial Outpatient
- UF Health
- University of Miami
- Nicklaus Children’s Hospital
- Capital Health Plan
- Florida Medicaid

All listed partners linked as of last data refresh
Accessing OneFlorida i2b2

i2b2 Access

- UF Gatorlink credentials
- Direct access on UF campus
  - https://i2b2.oneflorida.ahc.ufl.edu/
- Use UFHealth VPN when off campus
  - vpn.ufhealth.org
- Contact OneFlorida Front Door team to request access
  - i2b2support@onefloridaconsortium.org
OneFlorida i2b2 Interface

Let’s take a look...
Query Logic: Relationships Between Groups

MILLION PATIENTS • 4,100 PHYSICIAN PROVIDERS • 1,240 PRACTICES/CLINICS • 22 HOSPITALS • 67 COUNTIES
Building Queries: Temporal Constraints

- Treat all groups independently
  - Query terms could happen at any date
- Date Range
  - Groups occur in the same financial encounter
  - Covers one or more episodes of patient care
  - They occur close together in time
  - Defined singularly by payers
- Sequence of events
  - Define a specific order of patient events
  - Events defined relative to each other
OneFlorida i2b2 Best Practices

• Date range of underlying data
• ICD-9 and ICD-10 codes
  • e.g diabetes mellitus 250, e11
• Age vs. Age at visit
• Exclusion of ages
• Threshold Values
• Greater than 1 occurrence
EXAMPLE QUERIES
Query Types

Simple query
- HPV vaccine initiation among adolescent females
- Adolescent alcohol use
- Hepatitis early identification

Same financial encounter
- Concussion-related ED visits among adolescents

Sequence of events
- Alcohol use and mental health among adolescents
Example Query: HPV Vaccine Initiation

- **HPV Vaccine Administered 12-17yo**
  - Identify all **female** patients with a current age between 12 and 17 years old who received a human papillomavirus vaccine.

- **i2b2 functionality:**
  - Navigate demographics and medications dimensions
  - Simple query with multiple, independent criteria groups
  - UFH modifier

- **Demonstration...**
Example Query: HPV Vaccine Initiation

Number of patients: 14±3

For Query “HPV Vaccine Administered 12-17yo@14:59:08”
Example Query: Adolescent Health Risk Assessments

- **Adolescent HRA - Alcohol Abuse**
  - Identify all patients 14 to 19 years old at time of visit using a simple query on independent groups and the following diagnoses.

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>ICD Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol abuse</td>
<td>305.0</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>F10.1</td>
</tr>
</tbody>
</table>

- **i2b2 functionality:**
  - Age at visit
  - Use Find to search for ICD codes
  - Shortcut to UFH modifier

- **Demonstration...**
Example Queries: Adolescent Health Risk Assessments

Number of patients

1490±3

For Query: "Adolescent HRA - Alcohol Abuse Age@16:32:13"
Example Query: Hepatitis B Early Identification

- **HBV Early Identification**
  - Identify all patients of race Asian, Multiple Race, Other, Refuse to Answer, and Unknown in CY2014-2016 with the following diagnosis:

<table>
<thead>
<tr>
<th>Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier of viral hepatitis B</td>
</tr>
</tbody>
</table>

- **i2b2 functionality:**
  - Date range

- **Demonstration...**
Example Query: Hepatitis Early Identification

Number of patients: 241 ± 3

For Query "HBV Early Identification CY2014-2016@10:23:47"
Example Query: Concussion Surveillance

- **Same Encounter - 14-17yo ED Visit Concussion**
  - Identify all patients currently 14 to 17 years old and were seen in the Emergency Department with the concussion diagnoses that occurred in the same encounter.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Concussion</td>
<td>850</td>
</tr>
<tr>
<td>Concussion S06.0</td>
<td></td>
</tr>
</tbody>
</table>

- **i2b2 functionality:**
  - Same financial encounter
  - Breakdown by gender

- **Demonstration...**
Example Query: Concussion Surveillance

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AND</strong></td>
<td><strong>AND</strong></td>
<td></td>
</tr>
<tr>
<td>14 years old (201770 patients)</td>
<td>Emergency department (4672484 patients)</td>
<td>300.0 Concussion (25395 patients)</td>
</tr>
<tr>
<td>15 years old (197325 patients)</td>
<td></td>
<td>850 Concussion (40998 patients)</td>
</tr>
<tr>
<td>16 years old (194615 patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 years old (198215 patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years old (197010 patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 years old (195549 patients)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of patients:** 8000 ± 3

For Query "Same Encounter - 14-19yo ED Visit Concussion@13:19:55"
Example Query: Adolescent Alcohol Abuse and Mental Health

- **Sequence of Events - 14-19yo Alcohol Use and Depression**
  - Identify all patients currently 14 to 19 years old with a history of mental health issues followed by alcohol use/abuse.

<table>
<thead>
<tr>
<th>Population</th>
<th>14-19 years old, current age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event 1</td>
<td>Mental health diagnosis - 300, F40-F48, V40, Z81</td>
</tr>
<tr>
<td>Event 2</td>
<td>Alcohol abuse - 291, 291.8, 303, 303.0, 303.9, 305.0, F10.1, F10.12, F10.2, F10.22, F10.9, F10.92, F10.95, F10.98</td>
</tr>
<tr>
<td>Define order of events</td>
<td>Event 1 occurs before Event 2</td>
</tr>
</tbody>
</table>

- **i2b2 functionality:**
  - Sequence of events query
  - Breakdown by gender, race, and age

- **Demonstration...**
Example Query: Adolescent Alcohol Abuse and Mental Health
OneFlorida i2b2 Resources

- OneFlorida i2b2 User Guide
- OneFlorida i2b2 Data Guide
- E-learning tutorial

For more information, please contact the OneFlorida front door team: onefloridaoperations@health.ufl.edu
Participant Queries
THANK YOU

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