ICD Logger – Development, Deployment and Future

http://icdlogger.com
Who are the stakeholders and what do they get?

- **Medical students** – A quantitative portfolio for clinical diagnosis management based on ICD coding. Rotational learning objectives prompted by clinical case experience.

- **Preceptors** – Enhances interactivity with student by supporting learning objectives and clinical case management. Mobile/PC platform for secure electronic signoff of student logs and evaluations which expedites timely submission as required by Department of Education.

- **Administration** – Data base that allows for assessment of comparative clinical experience as per COCA’S & ACGME accreditation requirements.

- **Discipline Chairs** – Provides electronic hosting of discipline learning objectives. Supports rotation site, discipline and student analysis.

- **Faculty** – A database that is a tremendous source of research topics.

- **Public** – A public health surveillance tool for Appalachia and the South.
Getting Started – navigate anywhere from icdlogger.com

Click here to access:
- Account (settings)
- Logout

Click here to access:
- Quick Start Guide
- Instructions
- About
- Support (email developers)
- FAQs
- Statistics

Click here to start logging (entering) codes

Click here to access your dashboard, and edit entries

Click here to view the real-time entries being made by users
Administrators can make entries via the Log page, if they desire

You have 4 ways to make entries

Environment

Internal Anonymous

Patient ID entry

Patient demographics

Free text notes, no PII

Submit

Click on these three buttons to enter diagnostic codes, procedure codes or drugs

Your current rotation type and location settings
Anybody can view what being logged right now – this page automatically refreshes every 10 seconds.

### Real-Time Clinical Experience Monitor: What 3rd Year Students are Seeing Right Now

<table>
<thead>
<tr>
<th>Most Recent Entries</th>
<th>Rotation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>[BD42ZZZ] Ultrasonography of Stomach</td>
<td>Pediatrics</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[391.0] Malignant pleural effusion</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[162.00] Nontraumatic subdural hemorrhage, unspecified</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[R41.82] Altered mental status, unspecified</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[E99.810] Postprocedural hemorrhage of an endocrine system organ or structure following an endocrine system procedure</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[E87.1] Hypo-osmolality and hyponatremia</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[G40.309] Generalized idiopathic epilepsy and epileptic syndromes, not intractable, without status epilepticus</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
<tr>
<td>[R41.82] Altered mental status, unspecified</td>
<td>Internal Medicine 1</td>
<td>Fort Walton Beach Medical Center</td>
</tr>
</tbody>
</table>

### Totals

- **68,348 DIAG**
- **4,929 PROC**
- **13,842 DRUG**

### Did You Know?

The Top 5 Electronic Medical Records systems are: eClinicalWorks, Epic, McKesson, Care360, Allscripts.
Navigate to most functions from the System Dashboard page via the Left Menu

- View your data entry timeline
- View how you compare to everybody else
- Select any user and view their entries and metrics
- Add user accounts
- Public Health Alerts
- View/map all users entries
- View daily user numbers
- View raw number of entries by rotation/location
- View location uniformity performance
Filtering and mapping from User Entry Page

Click on Filter to select what you want to study

Then click Map to view your filtered entries on a world map

Two views – heat map and flags. Mouse over flag to see the ICD code details; click to view all entries at that location.

4,058 entries for diabetes
## Rotation Performance Statistics

This table shows statistics for each rotation in the system with data on-file. The 'Students' column shows the count of users having logged for a given rotation; 'Patients' shows the number of unique patients encountered, regardless of how many codes were entered for the patient. The remaining columns give a breakdown of entries by code type. Tap or click any row to see the Top 25 codes for that rotation; hover over a code to see its description. The Top 25 is updated hourly and based on entries from the past 180 days.

### GLOBAL ROTATION PERFORMANCE METRICS

<table>
<thead>
<tr>
<th>Year</th>
<th>Rotation</th>
<th>Students</th>
<th>Patients</th>
<th>DIAG</th>
<th>PROC</th>
<th>DRUG</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>All System Data</td>
<td>648</td>
<td>78.5±87.3</td>
<td>138.5±222.3</td>
<td>16.4±26.7</td>
<td>59±145.3</td>
</tr>
<tr>
<td>1st</td>
<td>General Logging</td>
<td>6</td>
<td>30.3±26.8</td>
<td>62.7±76.7</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>2nd</td>
<td>Clinical Skills Interns</td>
<td>1</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>2nd</td>
<td>General Logging</td>
<td>7</td>
<td>11.6±12.6</td>
<td>20±39.1</td>
<td>11.5±10.5</td>
<td>28.4±43.5</td>
</tr>
<tr>
<td>3rd</td>
<td>Family Medicine</td>
<td>133</td>
<td>73.8±73.5</td>
<td>156.3±208.9</td>
<td>8.51±11.8</td>
<td>60.3±131.5</td>
</tr>
</tbody>
</table>

- **Select any site to view the statistics for each rotation available there.**
- **Click on any line to open up Top 10 list.**
- **Mouse over any code to see definition.**
- **Average and standard deviation.**
Public Health Alerts

Set to check hourly, and send me an email if Zika, MRSA or if a Malignant neoplasm of the lung is logged

Email is delivered to user who set the alert
The user experience

- Average time per entry – 24 sec
- 1/3 make entries on smartphone, rest on tablets and PCs
- 90% of students use search for diagnostics identification; procedures are found using hierarchical menus
- Observation of Mission Trip users (OMS2s) confirms they master the Logger in 10 min, and then make entries at 1/min
The near future

- User entry upgrades – coupling primary diagnoses to procedures, drugs and additional diagnoses
- My Learning objectives – users confirm fulfillment of LOs with codes, readings and lectures
- My Test questions – questions and answers can be added anytime; potential to couple with test banks
- Evaluation eform – preceptor evaluation and sign-off
- Administrative reports
  - Site uniformity
  - Student learning objectives fulfillment
  - Rank student performance and identify strongest and weakest students
- Research – discoveries made using database
- Public Health – surveillance enrichments
Help is always available

• By submitting a Support request through the App
• Instructions and Quick Start Users Guide through the App
• The primary support person is Araba Wubah, 
  wubaha17@mail.wlu.edu, 540 449-5503.
• Or by contacting developers:
  • Fred Rawlins (clinical issues) frawlins@vcom.edu, 540 520-5475
  • Skip Garner (systems/coding issues) skipgarner@gmail.com, 214 924-8364
  • Cameron Sumpter (IT issues) cs@cameronsumpter.com, 540 692-9267
Happy Logging

And Thank You