# Data Dictionary for OASIS Acute Otitis Media First-Line Antibiotic and Antibiotic Duration Reports

## Overview

This query provides the tables for utilization of OASIS to generate audit and feedback reports for clinicians on their prescribing compared to their peers for (1) first-line treatment of acute otitis media (amoxicillin) for children of all ages and (2) duration of antibiotics for acute otitis media for children 2 years and older. The tables can be paired with OASIS R code (downloadable at oasisstewardship.org starting March, 2023) for generation of graphs, individualized reports, emailing of reports to clinicians, and automation of recurring reports. The OASIS R Code can be downloaded here or accessed by typing oasisstewardship.org into your browser.

## OASIS Code Set Up

The following sections outline how to set up and use the OASIS R code. The current code has been built in R Studio 2022.02.1 (Build 461).

## Packages

The OASIS R Code required the following packages:

| Package | Version |
|---|---|
| sqldf | 0.4-11 |
| ggplot2 | 3.4.0 |
| gghighlight | 0.4.0 |
| Scales | 1.2.1 |
| Lubridate | 1.9.0 |
| Zoo | 1.8-11 |
| Markdown | 1.4 |
| RMarkdown | 2.19 |
| Data.table | 1.14.6 |
| DBI | 1.1.3 |
| odbc | 1.3.3 |
| Rstudioapi | 0.14 |
| Ggrepel | 0.9.2 |
| Devtools | 2.4.5 |
| RDComClient | 0.96-1 |

*Please note that the version of these packages must be compatible with your working version of R for the code to function correctly. More information on package compatibility can be found here.*

## Automation

The OASIS Code generates several reports for every physician and sends these reports to 1) the owner of the code (saved to the current working directory) and 2) the individual physician whose data is highlighted in the report. Users of the OASIS Code must decide whether the OASIS Reports should be sent out automatically or manually.

To automate the OASIS Code in Microsoft Windows, follow these directions. Please note that assistance from your institution's IT team is likely.

To manually run the OASIS Code, simply open the code in R and select "Run All" anytime you would like to generate and send the reports.

## Emailing of Reports

To email the physician reports, the OASIS Code utilizes the RDCOMClient code library. Installation instructions for this package can be found here. Please remember to adjust any domain names used in the send_RMD() function of the code.

## Data Mapping for Epic Customers (Uses Epic's Clarity Relational Database)

As mentioned above, the OASIS Code utilizes Epic Clarity and SQL to pull data into the project directly from Epic. To ensure that the code runs properly, please confirm that the variables names in Epic match the variable names in the data_in table (outlined in the next section).

## Data Mapping from Another Electronic Health Record (EHR) System

If your institution uses a different EHR system, then you will want to ensure that your data is correctly formatted before it is loaded into R. The general formatting of required fields in the *data_in* table is below. You should ensure that the data rows are in a format that has a unique primary key per encounter where an antibiotic was prescribed for acute otitis media. If you have more than one unique antibiotic prescription for acute otitis media in a single encounter, you may elect to count both or only the last prescription that was given.

*Note: Required fields MUST have the correct variable name (exact case match) for the code to run properly.*

| Variable | Variable Name in R | Description |
|---|---|---|
| **Age at time of visit** | AGE_AT_TIME_OF_VISIT | The age of the patient at time of visit. |
| **Date of Service** | DATE_OF_SERVICE | The date **(YYYY-MM-DD)** of the patient visit. |
| **Authorizing Provider** | AUTHRIZING_PROV | The name **(LAST NAME, FIRST NAME MIDDLE INITIAL)** of the authorizing provider, if you want to provide this data to providers in your institution. |
| **Encounter Department** | ENCOUNTER_DEPARTMENT | Department name if you are going to be sending this information to providers in various departments. |

| | | |
|---|---|---|
| **Authorizing provider email** | AUTHRIZING_PROV_EMAIL | The email of the authorizing provider. *Note: Emails **must** be in the institutional domain.* |
| **Generic Name of Prescription** | GENERIC_NAME | The generic name of the medicine prescribed *(for example, "AMOXICLLIN" or AMOXICILLIN/POTASSIUM CLAV")*. |
| **Medication Instructions** | SIG | Detailed description of prescription including amount prescribed and intended duration (for example, "Take XXX mL by mouth XXX times a day for XXX days"). |

Once variable names are correct, check that your data is in the wide format, then import it into R using this code:

> data_in <- read.csv(file = "*name of your data file.csv*")

*Note: If your data is in another format (excel, space delimited, RDS) you will need to import it using a different command. See [this guide](#) for reading different file types in R.*

## Important Notes

A section of the code (example below) will hide encounters (for each provider cumulatively) that are less than 10 as that might be considered as protected health information. If your institution is authorized to show number of encounters that are less than 10, please delete this code:

```
#modify titles to have n<10 or n>10 with value listed (you may elect to remove this portion if you want to show actual numbers less than 10)
 if(app_n<10){
 app_n = "< 10"
 }
 if(dpp_n<10){
 dpp_n = "< 10"
 }
 if(alp_n<10){
 alp_n = "< 10"
 }
 if(dlp_n<10){
  dlp_n = "< 10"
 }
```