**MIMIC II Clinical Database**

The MIMIC-II (**M**ultiparameter **I**ntelligent **M**onitoring in **I**ntensive **C**are) Clinical Database contains comprehensive clinical data from tens of thousands of Intensive Care Unit (ICU) patients. In 2015 it was superseded by the MIMIC-III Clinical Database. Among the types of data included are:

* General - Patient demographics, hospital admissions & discharge dates, room tracking, death dates (in or out of the hospital), ICD-9 codes, unique code for health care provider and type (RN, MD, RT, etc). All dates are surrogate dates due to privacy issues but time intervals (even those between multiple admissions of the same patient) are preserved.
* Physiological - Hourly vital sign metrics, SAPS, SOFA, ventilator settings, etc.
* Medications - IV meds, provider order entry data, etc.
* Lab Tests - Chemistry, hematology, ABGs, imaging, etc.
* Fluid Balance - Intake (solutions, blood, etc) and output (urine, estimated blood loss, etc).
* Notes & Reports - Discharge summary, nursing progress notes, etc; cardiac catheterization, ECG, radiology, and echo reports.

The MIMIC-II Clinical Database can be queried on-line, or downloaded as flat files (CSV text).

# MIMIC-II Clinical Database

The current release of the MIMIC Clinical Database is MIMIC-III, which can be accessed via the [MIMIC-III Clinical Database project page](https://physionet.org/works/MIMICIIIClinicalDatabase/files/). MIMIC-II is no longer supported, though is made available to enable reproduction of earlier studies.

The final version of the MIMIC-II Clinical Database was 2.6 (April 2011; 32,536 subjects). The subjects are identified by 5-digit numbers (00001 through 32,809; a few numbers within this range are currently unassigned).

This database is described in

M. Saeed, M. Villarroel, A.T. Reisner, G. Clifford, L. Lehman, G.B. Moody, T. Heldt, T.H. Kyaw, B.E. Moody, R.G. Mark. [Multiparameter intelligent monitoring in intensive care II (MIMIC-II): A public-access ICU database](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124312/). Critical Care Medicine 39(5):952-960 (2011 May); doi: 10.1097/CCM.0b013e31820a92c6.

**Please cite this publication when referencing this material, and also include the standard citation for PhysioNet:**

Goldberger AL, Amaral LAN, Glass L, Hausdorff JM, Ivanov PCh, Mark RG, Mietus JE, Moody GB, Peng C-K, Stanley HE. PhysioBank, PhysioToolkit, and PhysioNet: Components of a New Research Resource for Complex Physiologic Signals. *Circulation* **101**(23):e215-e220 [Circulation Electronic Pages; <http://circ.ahajournals.org/content/101/23/e215.full>]; 2000 (June 13).

You may download the database from this page, or you may explore it online (see [MIMIC-II Explorer](https://physionet.org/works/MIMICIIClinicalDatabase/files/#online) below). The flat files should be compatible with PostgreSQL version 8.4.8 or later.

## MIMICII Version 2.6: Changes from 2.5:

Added Patients:

* 5,880 new subjects
* 6,556 new hospital admissions
* 8,058 new ICU admissions

Added Data Types:

* Demographics: religion, ethnicity, marital status, insurance type, admission source
* Procedure (CPT) codes
* Diagnosis-related groups (DRGs)
* Elixhauser comorbidity scores
* Microbiology test results
* LOINC coding for lab tests

Note that in previous releases, timestamps were a mixture of standard and daylight savings times. Starting with version 2.6, timestamps are uniformly expressed in EST (Eastern Standard Time), so that the interval between any two timestamps in a given record is simply the difference between them, even if a daylight savings time change occurred during the interval.

Added documentation:

* [MIMIC-II SQL Cookbook](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/MIMICIICookBook.pdf): a collection of about 20 "recipes" for useful queries, including calculation of Elixhauser comorbidity scores from DRGs and ICD-9 codes (contributed by Joon Lee).

## Downloads:

All downloads are in the form of gzip-compressed tar archives ("tarballs"). See [How can I unpack a .tar.gz archive?](https://physionet.org/faq.shtml#tar-gz) in the [PhysioNet FAQ](https://physionet.org/faq.shtml) if you are unfamiliar with this format. The individual flat files, once unpacked, are in CSV format; within each line (table row), fields (columns) are separated by commas, and text strings are surrounded by double quotes. A [Linux script](http://physionet.org/mimic2/flat_files/get_mimic_data.sh) is available for downloading all the files from the command line using the wget command.

**Definitions**: The definition tables contain information needed to interpret elements of the subject-specific data tables (As well as a folder regarding the database schema in PostgreSQL syntax). They consist of 11 files that can be extracted from [mimic2cdb-2.6-Definitions.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-Definitions.tar.gz).

**Subject-specific data**: All data for a given patient are contained in a set of 33 flat files for that patient. The data archives contain the flat files for about 1000 subjects each. These archives are typically 75-90 Mb each, and expand when decompressed to roughly ten times their size. The decompressed flat files occupy about 31 GB in all.

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| |  |  | | --- | --- | | [mimic2cdb-2.6-00.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-00.tar.gz) | (00001-00999) | | [mimic2cdb-2.6-01.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-01.tar.gz) | (01000-01999) | | [mimic2cdb-2.6-02.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-02.tar.gz) | (02000-02999) | | [mimic2cdb-2.6-03.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-03.tar.gz) | (03000-03999) | | [mimic2cdb-2.6-04.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-04.tar.gz) | (04000-04999) | | [mimic2cdb-2.6-05.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-05.tar.gz) | (05000-05999) | | [mimic2cdb-2.6-06.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-06.tar.gz) | (06000-06999) | | |  |  | | --- | --- | | [mimic2cdb-2.6-07.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-07.tar.gz) | (07000-07999) | | [mimic2cdb-2.6-08.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-08.tar.gz) | (08000-08999) | | [mimic2cdb-2.6-09.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-09.tar.gz) | (09000-09999) | | [mimic2cdb-2.6-10.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-10.tar.gz) | (10000-10999) | | [mimic2cdb-2.6-11.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-11.tar.gz) | (11000-11999) | | [mimic2cdb-2.6-12.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-12.tar.gz) | (12000-12999) | | [mimic2cdb-2.6-13.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-13.tar.gz) | (13000-13999) | | |  |  | | --- | --- | | [mimic2cdb-2.6-14.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-14.tar.gz) | (14000-14999) | | [mimic2cdb-2.6-15.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-15.tar.gz) | (15000-15999) | | [mimic2cdb-2.6-16.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-16.tar.gz) | (16000-16999) | | [mimic2cdb-2.6-17.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-17.tar.gz) | (17000-17999) | | [mimic2cdb-2.6-18.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-18.tar.gz) | (18000-18999) | | [mimic2cdb-2.6-19.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-19.tar.gz) | (19000-19999) | | [mimic2cdb-2.6-20.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-20.tar.gz) | (20000-20999) | | |  |  | | --- | --- | | [mimic2cdb-2.6-21.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-21.tar.gz) | (21000-21999) | | [mimic2cdb-2.6-22.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-22.tar.gz) | (22000-22999) | | [mimic2cdb-2.6-23.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-23.tar.gz) | (23000-23999) | | [mimic2cdb-2.6-24.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-24.tar.gz) | (24000-24999) | | [mimic2cdb-2.6-25.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-25.tar.gz) | (25000-25999) | | [mimic2cdb-2.6-26.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-26.tar.gz) | (26000-26999) | | [mimic2cdb-2.6-27.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-27.tar.gz) | (27000-27999) | | |  |  | | --- | --- | | [mimic2cdb-2.6-28.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-28.tar.gz) | (28000-28999) | | [mimic2cdb-2.6-29.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-29.tar.gz) | (29000-29999) | | [mimic2cdb-2.6-30.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-30.tar.gz) | (30000-30999) | | [mimic2cdb-2.6-31.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-31.tar.gz) | (31000-31999) | | [mimic2cdb-2.6-32.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/mimic2cdb-2.6-32.tar.gz) | (32000-32809) | |

**The MIMIC Importer**: Software for automatically creating a PostgreSQL database from the flat files above is available. Download and unpack [MIMIC-Importer-2.6.tar.gz](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/MIMIC-Importer-2.6.tar.gz) first, then download the definitions and subject-specific tarballs into the MIMIC-Importer-2.6directory created by unpacking the MIMIC Importer tarball. [Detailed instructions](https://physionet.org/works/MIMICIIClinicalDatabase/files/downloads-2.6/README) for using the software are available (a copy of the README included in the tarball). (Note: MIMIC-II user Andrea Bravi has developed a Python version of the MIMIC Importer that Windows users may find simpler to run; find it at Andrea's [GitHub](https://github.com/AndreaBravi/MIMIC2) page.)

User guide available at <https://physionet.org/mimic2/UserGuide/>

### Definition tables and maps

The definition tables are:

|  |  |  |
| --- | --- | --- |
| D\_CAREGIVERS | D\_CHARTITEMS\_DETAIL | D\_MEDITEMS |
| D\_CAREUNITS | D\_IOITEMS | D\_PARAMMAP\_ITEMS |
| D\_CHARTITEMS | D\_LABITEMS | PARAMETER\_MAPPING |
| D\_CODEDITEMS | D\_DEMOGRAPHICITEMS | \* D\_WAVEFORM\_SIG |

\* The D\_WAVEFORM\_SIG definitions table is not used in this release.

### Subject data tables

The data archives unpack into directories for each subject. Each subject's directory contains 32 tables (flat files):

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  | | --- | | A\_CHARTDURATIONS | | ADDITIVES | | ADMISSIONS | | A\_IODURATIONS | | A\_MEDDURATIONS | | CENSUSEVENTS | | CHARTEVENTS | | COMORBIDITY\_SCORES | | |  | | --- | | DELIVERIES | | DEMOGRAPHIC\_DETAIL | | DEMOGRAPHICEVENTS | | D\_PATIENTS | | DRGEVENTS | | ICD9 | | ICUSTAY\_DAYS | | ICUSTAY\_DETAIL | | |  | | --- | | ICUSTAYEVENTS | | IOEVENTS | | LABEVENTS | | MEDEVENTS | | MICROBIOLOGYEVENTS | | NOTEEVENTS | | POE\_MED | | POE\_ORDER | | |  | | --- | | PROCEDUREEVENTS | | TOTALBALEVENTS | | \* WAVEFORM\_METADATA | | \* WAVEFORM\_SEGMENTS | | \* WAVEFORM\_SEG\_SIG | | \* WAVEFORM\_SIGNALS | | \* WAVEFORM\_TRENDS | | \* WAVEFORM\_TREND\_SIGNALS | |

\* The WAVEFORM\_\* tables are not included in these flat files, although they are present in the on-line MIMIC-II Explorer (see below).

An empty flat file indicates that patient's record does not include data of the corresponding type.