+++ date = “2015-09-01T19:33:17-04:00” title = “Acknowledgements” linktitle = “Acknowledgements” weight = 5 toc = “true”

[menu][menu.main] parent = “About”

+++

Acknowledgements

MIMIC is made available largely through the work of researchers at the MIT Laboratory for Computational Physiology and collaborating research groups. If you use our data, code or algorithms, please provide a citation to this project.

MIMIC-III citation

If you use our data, code, or algorithms in your work, please cite this project. Our recommended publication is:

> MIMIC-III, a freely accessible critical care database. Johnson AEW, Pollard TJ, Shen L, Lehman L, Feng M, Ghassemi M, Moody B, Szolovits P, Celi LA, and Mark RG. Scientific Data (2016). DOI: 10.1038/sdata.2016.35. Available at: http://www.nature.com/articles/sdata201635

PhysioNet citation

An additional citation for all data hosted on PhysioNet is:

> Physiobank, physiotoolkit, and physionet components of a new research resource for complex physiologic signals. Goldberger AL, Amaral LAN, Glass L, Hausdorff JM, Ivanov P, Mark RG, Mietus JE, Moody GB, Peng C, and Stanley HE. Circulation. 101(23), pe215–e220. 2000.

Research groups

- Beth Israel Deaconess Medical Center
- MIT Clinical Decision Making
- MIT Computational Physiology and Clinical Inference Group
- MIT Lab for Computational Physiology
- Philips Health Care

+++ date = “2015-09-01T19:33:17-04:00” title = “MIMIC” linktitle = “MIMIC” weight = 1 toc = “true”

[menu][menu.main] parent = “About”

+++

MIMIC-III Critical Care Database

MIMIC-III (**M**edical **I**nformation **M**art for **I**ntensive **C**are III) is a large, freely-available database comprising deidentified health-related data associated with over forty thousand patients who stayed in critical care units of the Beth Israel Deaconess Medical Center between 2001 and 2012.

The database includes information such as demographics, vital sign measurements made at the bedside (~1 data point per hour), laboratory test results, procedures, medications, caregiver notes, imaging reports, and mortality (both in and out of hospital).

MIMIC supports a diverse range of analytic studies spanning epidemiology, clinical decision-rule improvement, and electronic tool development. It is notable for three factors:

- it is freely available to researchers worldwide
- it encompasses a diverse and very large population of ICU patients
- it contains high temporal resolution data including lab results, electronic documentation, and bedside monitor trends and waveforms.

+++ date = “2015-09-01T19:33:17-04:00” title = “Publications” linktitle = “Publications” weight = 4 toc = “true” type = “publications”

[menu][menu.main] parent = “About”

+++

+++ date = “2015-09-01T19:33:17-04:00” title = “Releases of MIMIC-III” linktitle = “Releases of MIMIC-III” weight = 2 toc = “true”

[menu][menu.main] parent = “About”

+++

Release notes

The MIMIC-III database will be periodically updated as more data becomes available, as data linkage and extraction methods improve, and when the community provides feedback regarding the database content. To ensure transparency in this process, updates to the database will be made in batch, and the version

number of the MIMIC-III database will be updated. This page lists the current version, and all previous versions which have existed, in sequential, reverse chronological order. Each version will address a finite set of updates which are tracked using a unique issue number, usually of the form #100, #101, etc.

Note that the changes between MIMIC-II and MIMIC-III are not listed here, due to the large number of differences between the databases. A separate document has been provided for that purpose here. The release notes for MIMIC-II versions is available here.

Current version

The current version of the database is v1.3. When referencing this version, we recommend using the full title: MIMIC-III v1.3.

MIMIC-III v1.3

MIMIC-III v1.3 was released on December 10th, 2015. It was a minor release enhancing the consistency of the dataset.

Issues addressed include:

- **175 - A new value for `DRG_VERSION` was added to the DRGCODES table to clarify why the same code matched to multiple descriptions.**
- **174 - The `EDTIMEOUT` column was renamed to `EDOUTTIME` in the ADMISSIONS table for consistency with other timestamp columns.**
-

173 - The `UOM` column was renamed to `VALUEUOM` in the CHARTEVENTS, DATETIMEEVENTS, and LABEVENTS tables for consistency with other UOM columns.

- **172, #177 - Several careunit acronyms were merged in the TRANSFERS and ICUSTAYS tables for ease of interpretation.**

- **168 - A set of ITEMIDs in the INPUTEVENTS_CV table were inappropriately low (<30000), they have no been corrected.**

- **167 - Duplicate radiology reports were removed from the NOTEEVENTS table. These duplicates were present in the raw data.**

- **166 - The `DBSOURCE` column was corrected from Metavision to CareVue for a set of patients in the TRANSFERS and ICUSTAYS tables.**

If upgrading between v1.2 to v1.3, please note that the updated tables include:

- ADMISSIONS
- CHARTEVENTS*
- DATETIMEEVENTS*

- DRGCODES
- ICUSTAYS
- LABEVENTS*
- NOTEEVENTS
- TRANSFERS

* Only the header row of these tables was updated. It is possible to save bandwidth and update these tables on your local computer, e.g. with the commands:

```
sed -i '1s/"UOM"/"VALUEUOM"/' CHARTEVENTS_DATA_TABLE.csv
sed -i '1s/"UOM"/"VALUEUOM"/' DATETIMEEVENTS_DATA_TABLE.csv
sed -i '1s/"UOM"/"VALUEUOM"/' LABEVENTS_DATA_TABLE.csv
```

Be sure to validate the checksum of the resultant file to ensure you have the correct version.

Past versions

This section lists past versions in reverse chronological order.

MIMIC-III v1.2

MIMIC-III v1.2 was released on November 10th, 2015. MIMIC-III v1.2 was a major release providing both bug fixes and a large amount of additional data.

Major issues addressed, including additional data made available:

- **130 and #135 - Duplicate data in various events tables with CGID has been removed**
- **132 - Hospital expire flag was in the wrong table - now moved to ADMISSIONS table. `EXPIRE_FLAG` added to PATIENTS table.**
-

137 - The ITEMID for input/output items has been properly shifted to range between 30000-40000. Previously it incorrectly ranged between 1-5000, and as a result did not match the dictionary entries in D_ITEMS.

- **141 - CHARTTIME and STORETIME have been added to NOTEEVENTS, if available. No times were available for ECG and echo reports (only the date).**

- **144 - Dates of birth for patients > 89 are now shifted by 300 years for clarity.**

- **151 - The time of emergency department registration and exit has been added to the admissions table, where available.**

154 - A new table, PROCEDUREEVENTS_MV, has been added. This table contains information regarding the start and stop time for various procedures for Metavision patients. Procedures include x-rays, ventilation, dialysis, and others.

- **158 - The IOEVENTS table has been split into three tables: INPUTEVENTS_CV (CareVue patients only), INPUTEVENTS_MV (Metavision patients only), and OUTPUTEVENTS (all patients).**

- **162 - 5,795,842 rows of data corresponding to yes/no answers have been added for Metavision patients**

- **164 - 10,140 rows of "Non Iv meds" (e.g. vancomycin) have been added for Metavision patients**

Minor issues addressed:

-

126 - ROW_ID, CGID, ORDERID and LINKORDERID now stored as INT instead of BIGINT

- **134 - The CR/LF characters which prefixed notes in NOTEEVENTS have been removed**

- **136 - The `VOLUME` column in the events tables for inputs has been changed to `AMOUNT`**

- **139 - The units for certain solution volumes, erroneously recorded as rate units, have been corrected**

- **140 - The `ORIGINALAMOUNT` column no longer exists for rows with drug rates, only with drug volumes**

- **148 - Removed `RECORD_ID` from NOTEEVENTS as it was redundant**

-

149 - ICUSTAYEVENTS has been renamed ICUSTAYS

- **152 - The `STARTTIME` and `ENDTIME` columns have been renamed `STARTDATE` and `ENDDATE` for the PRESCRIPTIONS table to reflect the lack of time information.**

- **155 - `LINKSTO` column in D_ITEMS has been corrected: now correctly refers to PROCEDUREEVENTS_MV, INPUTEVENTS_MV, INPUTEVENTS_CV, and OUTPUTEVENTS.**

- **156 - The `SEQUENCE` column in DIAGNOSES_ICD and PROCEDURES_ICD has been renamed `SEQ_NUM`.**

- **159 - A `CONCEPTID` column has been added to D_ITEMS for future ontology mapping/data harmonization.**

-

163 - The CODE column has been removed from MICROBIOLOGYEVENTS and D_ITEMS as it was redundant to ITEMID

MIMIC-III v1.1

MIMIC-III v1.1 was released on September 24th, 2015. It was primarily a bug fix release, and addresses the following issues:

- **116 - CGID was incorrect in the DATETIMEEVENTS, CHARTEVENTS, IOEVENTS and NOTEEVENTS tables. It has now been corrected.**
- **117 - VALUENUM for GCS verbal response measurements has been corrected for Metavision (it was offset by -1).**
- **118 - VALUENUM for all GCS measurements in CareVue is no longer null, and contains the appropriate value in the scale.**
- **120 - DOD was incorrectly set to DOB - this has been fixed.**

121 - IOEVENTS contained incorrect units for certain drugs (sometimes the unit was a rate when the actual observation was an amount, e.g. listed as "mcgkgmin" when it should have been "mg").

- **122 - `DBSOURCE` in the TRANSFERS and ICUSTAYEVENTS tables has been corrected - originally it only contained 'metavision' when a patient was in the ICU, so the same patient would be listed as 'carevue' when out of the ICU and 'metavision' when inside the ICU.**

- **123 - Precision in the IOEVENTS table has been fixed at 10 decimal places.**

MIMIC-III v1.0

MIMIC-III v1.0 was released on August 25th, 2015. It was a preliminary version and not widely publicized to allow for internal testing. As this was the first release of the database, and the successor of the MIMIC-II database, no changes are listed here. An overview of changes between MIMIC-II and MIMIC-III is provided here.

+++ date = "2015-09-01T19:33:17-04:00" title = "Roadmap" linktitle = "Roadmap" weight = 3 toc = "true"

[menu][menu.main] parent = "About"

+++

Roadmap

We seek to include data that supports research relevant to furthering knowledge of critical care. MIMIC currently contains data such as:

- Laboratory measurements from within the hospital (i.e. inpatient) and from clinics (i.e. outpatient)
- Charted observations during a patient's stay in the intensive care unit
- De-identified notes regarding the patient's stay, including nursing notes, physician notes and discharge summaries
- Echocardiography reports
- Twelve lead electrocardiogram reports

We hope to supplement MIMIC with additional data in the future. We have particular interest in the following areas:

- Images corresponding to any medical imaging performed during the patient's stay
- Clinical measurements recorded while a patient is present in the operating room
- Emergency department measurements

If you feel that there are other areas of data which are critical to your study of interest and currently unavailable in the database, please let us know.