

INSPIRE. ENGAGE. TRANSFORM.

WHODrug

Koda

API user guide

Version 3.0



– Building a global safety culture

General description

WHODrug Koda is an automated coding engine that can perform both drug name and ATC coding, custom-built by the Uppsala Monitoring Centre (UMC). The service is specifically designed for increasing the efficiency, consistency and quality of drug coding, with the end goal of safer use of medicines.

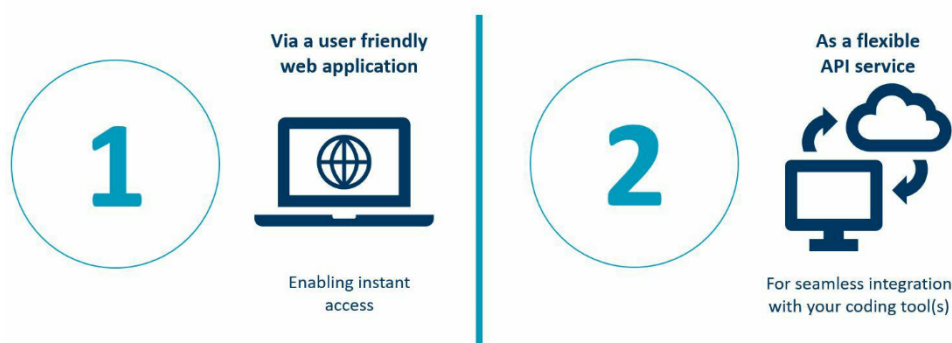
The ever-expanding number of drugs available on the global market will increase the need for automated services for drug coding. WHODrug Koda is a unique coding robot based on Artificial intelligence (AI), UMC's coding know-how and algorithms. The combination of such features makes it possible for WHODrug Koda to automatically code a verbatim to a drug name in the WHODrug Global dictionary and, also, to select the most appropriate ATC code.

At UMC we want to link the word coding to quality, because we strongly believe in the importance of drug coding for a safer use of medicine.

How is WHODrug Koda available

WHODrug Koda is available both as a user-friendly **web application** and a flexible **Application Programming Interface (API)**. To integrate the WHODrug Koda API in a system is free of charge for vendors with approved software systems within the WHODrug Vendor Programme. The end users that do medical coding and use WHODrug Koda within the vendor system are needed to have a valid WHODrug Global or equivalent license.

The focus of this user guide is the WHODrug Koda API.



The Koda API

About the API

The WHODrug Koda automated coding engine can be connected to compatible coding software systems, both commercially available or in-house developed, **via a REST-based HTTP API**.

API implementation

A commercial organization that wishes to use the WHODrug Koda service for automated coding of their study data, will have to fulfil the criteria below:

1. Your organization have access to either a vendor software system or to an in-house developed coding system that is connected to WHODrug Koda via the API service
2. Your organization has a valid WHODrug Global license

If the above criteria are fulfilled, a validation document is available to the end user to ensure that the API service is correctly implemented; contact us at WHODrug@who-umc.org to access it.

An organization developing a software system for coding purposes that wishes to connect their coding software system to WHODrug Koda via the API service, will have to fulfil the criteria below:

1. Your coding software system is certified for the B3/C3 formats by UMC;

If the above criteria are fulfilled, you can start implementing the API. Use this document as a starting point and the online detailed API documentation as a guide when designing and building applications using the API.

How to access the API

The API is accessed using the URI:

```
https://api.who-umc.org/whodrug/koda/v[vers.no]/[method]
```

[vers.no] specifies which version of the API to use. The current version is "3". Whenever the API is updated with a new version, the previous version can be used for long enough to enable implementors to start using the new version.

[method] is any of:

- Account
- EncodingJobs
- Feedback
- SingleEncodings
- WHODrugVersions

Online API description

An in-depth specification and description of the API methods can be viewed on the accompanying developer portal pages at <https://apiportal.who-umc.org/api-details#api=whodrug-koda-api-v3>.

Authentication

Once the API is implemented either in a vendor system or in an in-house developed system, authentication credentials must be provided for each API call.

There are two different authentication credentials:

- Client key – a GUID identifying the client/tool accessing the API;
- User key – a GUID identifying the company/organization holding the necessary UMC WHODrug license.

Client key

The Client key is a string that the UMC provides to vendors' coding software systems or to users that are implementing the WHODrug Koda API service in their in-house coding system. Once the UMC has provided you with an API account, this key will be found at <https://apiportal.who-umc.org/profile>. It should be added to all API calls in a special HTTP header as follows:

```
umc-client-key: 5E719462-45E4-43EF-B816-4938194E821B
```

User key

The User key is also provided by the UMC to end-users (organizations) with a WHODrug Global license. User keys can be obtained by a registered delivery-person from a company, by opening the Koda web page at <https://koda.who-umc.org>, clicking their user name in the top-right corner, and selecting "View user key" It should be added to all API calls in the header "umc-user-key" in the following way:

```
umc-user-key: bb35f44d-f4b7-4546-ba01-494bf96e8957
```

Response content type

When calling the API, make sure to include a header asking for json-formatted responses:

```
Accept: application/json
```

How to use the API service in order to code verbatims

An encoding job is run the following way:

1) Post an encoding job request.

```
[Post] https://api.who-umc.org/whodrug/koda/v[vers.no]/encodingjobs
```

The response describes a queued Encoding job including its {id}.

2) Poll for current status of the queued encoding job. An encoding job starts as "Queued", then becomes "Ongoing", and eventually ends up in "Finished" state.

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/encodingjobs/{id}
```

3) Get the Encoding job results. Either get all results or, if it is a big job, a certain page of results. In this example, the first 500 results are requested.

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/encodingjobs/{id}?includeResult=true&pageIndex=0&pageSize=500
```

Code single verbatims

In addition to submitting batches, users can rapidly code single verbatims:

1) Post a single coding request

```
[Post] https://api.who-umc.org/whodrug/koda/v\[vers.no\]/singleencodings
```

The response returns the coding result, including its {id} for later lookup.

2) Get the result of an earlier single coding request

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/singleencodingsv[vers.no]/singleencodings/{id}
```

Send feedback

The UMC urges its API users to send feedback regarding incorrect encodings. We will use this input in the continuous development of the service.

Send feedback about failed encoding results through the API:

```
[Post] https://api.who-umc.org/whodrug/koda/v[vers.no]/feedback
```

Note: This API method does not require an Authorization header when called and thus no User key.

Other API methods

Get a list of all your Encoding jobs, regardless of state:

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/encodingjobs
```

Delete a certain encoding job:

```
[Delete] https://api.who-umc.org/whodrug/koda/v[vers.no]/encodingjobs/{id}
```

Get information regarding usage, e.g. accumulated count of encodings:

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/account
```

Get valid WHODrug versions to use when submitting new encoding jobs:

```
[Get] https://api.who-umc.org/whodrug/koda/v[vers.no]/whodrugversions
```

Do you need help?

Please contact us at WHODrug@who-umc.org for any questions.