

# Package ‘omophub’

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**Title** R Client for the 'OMOPHub' Medical Vocabulary API

**Version** 1.7.0

**Description** Provides an R interface to the 'OMOPHub' API for accessing 'OHDSI ATHENA' standardized medical vocabularies. Supports concept search, semantic search using neural embeddings, concept similarity, vocabulary exploration, hierarchy navigation, relationship queries, concept mappings, and FHIR-to-OMOP concept resolution with automatic pagination.

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**URL** <https://github.com/omopHub/omophub-R>, <https://docs.omophub.com>,  
<https://omophub.github.io/omophub-R/>, <https://omophub.com>

**BugReports** <https://github.com/omopHub/omophub-R/issues>

**Depends** R (>= 4.1)

**Imports** httr2 (>= 1.0.0), R6, rlang (>= 1.0.0), cli, tibble, purrr,  
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keyring, withr

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fhir_resolve	<i>Resolve a FHIR Coding to an OMOP standard concept</i>
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### Description

Standalone wrapper for `client$fhir$resolve()`. See [FhirResource](#) for full parameter documentation.

### Usage

```
fhir_resolve(client, ...)
```

### Arguments

<code>client</code>	An <a href="#">OMOPHubClient</a> instance.
<code>...</code>	Arguments passed to <code>FhirResource\$resolve()</code> .

### Value

A list with input and resolution.

### See Also

[FhirResource](#), [fhir\\_resolve\\_batch\(\)](#), [fhir\\_resolve\\_codeable\\_concept\(\)](#)

### Examples

```
## Not run:
client <- OMOPHubClient$new(api_key = Sys.getenv("OMOPHUB_API_KEY"))
fhir_resolve(
  client,
  system = "http://snomed.info/sct",
  code = "44054006",
  resource_type = "Condition"
)

## End(Not run)
```

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fhir\_resolve\_batch      *Batch-resolve FHIR Codings*

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## Description

Standalone wrapper for `client$fhir$resolve_batch()`. When `as_tibble = TRUE`, the result is a flat tibble suitable for `dplyr/tidyr` pipelines.

## Usage

```
fhir_resolve_batch(client, ...)
```

## Arguments

`client`            An [OMOPHubClient](#) instance.  
`...`             Arguments passed to `FhirResource$resolve_batch()`.

## Value

See `FhirResource$resolve_batch()`.

## See Also

[FhirResource](#), [fhir\\_resolve\(\)](#), [fhir\\_resolve\\_codeable\\_concept\(\)](#)

## Examples

```
## Not run:
client <- OMOPHubClient$new(api_key = Sys.getenv("OMOPHUB_API_KEY"))
tbl <- fhir_resolve_batch(
  client,
  codings = list(
    list(system = "http://snomed.info/sct", code = "44054006"),
    list(system = "http://loinc.org", code = "2339-0")
  ),
  as_tibble = TRUE
)
dplyr::filter(tbl, status == "resolved")

## End(Not run)
```

fhir\_resolve\_codeable\_concept

*Resolve a FHIR CodeableConcept with vocabulary preference*

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### Description

Standalone wrapper for `client$fhir$resolve_codeable_concept()`.

### Usage

```
fhir_resolve_codeable_concept(client, ...)
```

### Arguments

<code>client</code>	An <a href="#">OMOPHubClient</a> instance.
<code>...</code>	Arguments passed to <code>FhirResource\$resolve_codeable_concept()</code> .

### Value

See `FhirResource$resolve_codeable_concept()`.

### See Also

[FhirResource](#), [fhir\\_resolve\(\)](#), [fhir\\_resolve\\_batch\(\)](#)

### Examples

```
## Not run:
client <- OMOPHubClient$new(api_key = Sys.getenv("OMOPHUB_API_KEY"))
fhir_resolve_codeable_concept(
  client,
  coding = list(
    list(system = "http://snomed.info/sct", code = "44054006"),
    list(system = "http://hl7.org/fhir/sid/icd-10-cm", code = "E11.9")
  ),
  resource_type = "Condition"
)

## End(Not run)
```

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get_api_key	<i>Get OMOPHub API Key</i>
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**Description**

Retrieves the OMOPHub API key from multiple sources in priority order:

1. Explicit argument
2. OMOPHUB\_API\_KEY environment variable
3. System keyring (if keyring package is installed)

**Usage**

```
get_api_key(key = NULL)
```

**Arguments**

key                   Optional explicit API key. If provided, this takes precedence.

**Value**

A character string containing the API key.

**Examples**

```
## Not run:  
# From environment variable  
Sys.setenv(OMOPHUB_API_KEY = "your_api_key")  
key <- get_api_key()  
  
# Explicit key  
key <- get_api_key("your_api_key")  
  
## End(Not run)
```

---

has_api_key	<i>Check if API Key is Available</i>
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**Description**

Checks whether an OMOPHub API key is available without throwing an error.

**Usage**

```
has_api_key()
```

**Value**

TRUE if an API key is available, FALSE otherwise.

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OMOPHubClient

*OMOPHub API Client*

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### Description

R6 class for interacting with the OMOPHub vocabulary service. Provides access to OHDSI ATHENA standardized medical vocabularies.

### Details

The client provides access to these resources:

- **concepts:** Concept lookup and batch operations
- **search:** Basic and advanced concept search
- **vocabularies:** Vocabulary listing and details
- **domains:** Domain listing and concept filtering
- **hierarchy:** Ancestor and descendant navigation
- **relationships:** Concept relationships
- **mappings:** Concept mappings between vocabularies

### Value

A new OMOPHubClient object.

### Active bindings

`concepts` Access to concept operations.

`search` Access to search operations.

`vocabularies` Access to vocabulary operations.

`domains` Access to domain operations.

`hierarchy` Access to hierarchy operations.

`relationships` Access to relationship operations.

`mappings` Access to mapping operations.

`fhir` Access to FHIR-to-OMOP Concept Resolver operations.

### Methods

#### Public methods:

- [OMOPHubClient\\$new\(\)](#)
- [OMOPHubClient#print\(\)](#)
- [OMOPHubClient\\$clone\(\)](#)

**Method** `new()`: Create a new OMOPHub client.

*Usage:*

```
OMOPHubClient$new(
  api_key = NULL,
  base_url = NULL,
  timeout = 30,
  max_retries = 3,
  vocab_version = NULL
)
```

*Arguments:*

`api_key` API key for authentication. If not provided, reads from OMOPHUB\_API\_KEY environment variable or system keyring.

`base_url` API base URL. Defaults to `https://api.omophub.com/v1`.

`timeout` Request timeout in seconds. Defaults to 30.

`max_retries` Maximum retry attempts for failed requests. Defaults to 3.

`vocab_version` Optional vocabulary version (e.g., "2025.1"). If not specified, uses the latest version.

**Method** `print()`: Print client information.

*Usage:*

```
OMOPHubClient$print()
```

**Method** `clone()`: The objects of this class are cloneable with this method.

*Usage:*

```
OMOPHubClient$clone(deep = FALSE)
```

*Arguments:*

`deep` Whether to make a deep clone.

**Examples**

```
## Not run:
# Create client (uses OMOPHUB_API_KEY env var)
client <- OMOPHubClient$new()

# Or with explicit API key
client <- OMOPHubClient$new(api_key = "your_api_key")

# Search for concepts
results <- client$search$basic("diabetes")

# Get a specific concept
concept <- client$concepts$get(201826)

# Use specific vocabulary version
client <- OMOPHubClient$new(vocab_version = "2025.1")

## End(Not run)
```

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omophub_fhir_url	<i>OMOPHub FHIR Terminology Service URL</i>
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### Description

Convenience helper for constructing the OMOPHub FHIR Terminology Service base URL for a given FHIR version. Use it when configuring an external FHIR client library (httr2, fhircrackr, etc.) to talk to OMOPHub's FHIR endpoint directly.

### Usage

```
omophub_fhir_url(version = c("r4", "r4b", "r5", "r6"))
```

### Arguments

version            FHIR version prefix. One of "r4" (default), "r4b", "r5", or "r6".

### Value

A character scalar with the full FHIR base URL, e.g. "https://fhir.omophub.com/fhir/r4".

### Examples

```
omophub_fhir_url()
omophub_fhir_url("r5")

## Not run:
# Use with httr2 to call the $lookup operation directly
library(httr2)
req <- request(omophub_fhir_url()) |>
  req_url_path_append("CodeSystem/$lookup") |>
  req_url_query(
    system = "http://snomed.info/sct",
    code = "44054006"
  ) |>
  req_headers(Authorization = paste("Bearer", Sys.getenv("OMOPHUB_API_KEY")))
resp <- req_perform(req)

## End(Not run)
```

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set_api_key	<i>Set OMOPHub API Key</i>
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**Description**

Stores the OMOPHub API key in the specified location.

**Usage**

```
set_api_key(key, store = c("env", "keyring"))
```

**Arguments**

key	The API key to store.
store	Where to store the key. One of: <ul style="list-style-type: none"><li>• "env": Set as environment variable for current session (default)</li><li>• "keyring": Store securely in system keyring (requires keyring package)</li></ul>

**Value**

Invisibly returns TRUE on success.

**Examples**

```
## Not run:  
# Store in environment (current session only)  
set_api_key("your_api_key")  
  
# Store securely in keyring (persistent)  
set_api_key("your_api_key", store = "keyring")  
  
## End(Not run)
```

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