

# Package ‘OralOpioids’

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**Type** Package

**Title** Retrieving Oral Opioid Information

**Version** 2.0.4

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**Description** Provides details such as Morphine Equivalent Dose (MED), brand name and opioid content which are calculated of all oral opioids authorized for sale by Health Canada and the FDA based on their Drug Identification Number (DIN) or National Drug Code (NDC). MEDs are calculated based on recommendations by Canadian Institute for Health Information (CIHI) and Von Korff et al (2008) and information obtained from Health Canada's Drug Product Database's monthly data dump or FDA Daily database for Canadian and US databases respectively. Please note in no way should output from this package be a substitute for medical advise. All medications should only be consumed on prescription from a licensed healthcare provider.

**URL** <https://github.com/ankonahouston/OralOpioids>

**License** GPL-3

**Encoding** UTF-8

**RoxygenNote** 7.2.3

**Imports** dplyr, tidyr, readr, purrr, plyr,jsonlite, reshape2, stringr, openxlsx, rvest, xml2, utils, rlang,magrittr,httr, writexl

**Suggests** knitr, rmarkdown

**Depends** R (>= 2.10)

**VignetteBuilder** knitr

**NeedsCompilation** no

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**Repository** CRAN

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Brand	<i>Get the Brand name from Health Canada by using the DIN or NDC</i>
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### Description

Brand retrieves the Brand name for an Oral Opioid from the HealthCanada\_Opioid\_Table.

### Usage

```
Brand(Drug_ID, Opioid_Table)
```

### Arguments

Drug_ID	A numeric value for the DIN or NDC. Exclude all zeros in front.
Opioid_Table	Opioid dataset which can be loaded by using the load_HealthCanada_Opioid_Table() or load_FDA_Opioid_Table() function. The name you use to call the function should be input here.

### Value

Brand name

### Examples

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="US")
HealthCanada_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="Canada")
Brand(786535, HealthCanada_Opioid_Table)
Brand("0093-0058", FDA_Opioid_Table)
```

---

load\_FDA\_Opioid\_Table *Obtain the latest Opioid data from the FDA*

---

### Description

load\_FDA\_Opioid\_Table compares the date of the local FDA\_Opioid\_Table and compares it with the latest date of data provided by FDA. In case the local file is outdated, an updated file will be generated.

### Usage

```
load_FDA_Opioid_Table(filelocation = "", no_download = FALSE, verbose = TRUE)
```

### Arguments

filelocation	String. The directory on your system where you want the dataset to be downloaded. If "", filelocation will be set to the download path within the OralOpioids package installation directory.
no_download	Logical. If set to TRUE, no downloads will be executed and no user input is required. Default: FALSE.
verbose	Logical. Indicates whether messages will be printed in the console. Default: TRUE.

### Value

The function returns the FDA\_Opioid\_Table as a data.frame. Comments on the data.frame include a status message (msg), the FDA\_Opioid\_Table save path (path), a disclaimer, and the source for the retrieved data (source\_url\_data and source\_url\_dosing).

### Examples

```
FDA_Opioid_Table <- load_FDA_Opioid_Table(no_download = TRUE)
head(FDA_Opioid_Table)
```

---

load\_HealthCanada\_Opioid\_Table  
*Obtain the latest Opioid data from Health Canada*

---

### Description

load\_HealthCanada\_Opioid\_Table compares the date of the local HealthCanada\_Opioid\_Table and compares it with the latest date of data provided Health Canada. In case the local file is outdated, an updated file will be generated.

**Usage**

```
load_HealthCanada_Opioid_Table(
  filelocation = "",
  no_download = FALSE,
  verbose = TRUE
)
```

**Arguments**

filelocation	String. The directory on your system where you want the dataset to be downloaded. If "", filelocation will be set to the download path within the OralOpioids package installation directory.
no_download	Logical. If set to TRUE, no downloads will be executed and no user input is required. Default: FALSE.
verbose	Logical. Indicates whether messages will be printed in the console. Default: TRUE.

**Value**

The function returns the HealthCanada\_Opioid\_Table as a data.frame. Comments on the data.frame include a status message (msg), the HealthCanada\_Opioid\_Table save path (path), a disclaimer, and the source for the retrieved data (source\_url\_data and source\_url\_dosing).

**Examples**

```
HealthCanada_Opioid_Table <- load_HealthCanada_Opioid_Table(no_download = TRUE)
head(HealthCanada_Opioid_Table)
```

---

load_Opioid_Table	<i>Obtain the latest Opioid data</i>
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**Description**

load\_Opioid\_Table compares the date of the local Opioid\_Table and compares it with the latest date of data. In case the local file is outdated, an updated file will be generated.

**Usage**

```
load_Opioid_Table(
  filelocation = "",
  no_download = FALSE,
  verbose = TRUE,
  country = "ca"
)
```

**Arguments**

filelocation	String. The directory on your system where you want the dataset to be downloaded. If "", filelocation will be set to the download path within the OralOpioids package installation directory.
no_download	Logical. If set to TRUE, no downloads will be executed and no user input is required. Default: FALSE.
verbose	Logical. Indicates whether messages will be printed in the console. Default: TRUE.
country	String. Either "ca" (Canada), or "usa" (USA). Default: "ca".

**Value**

The function returns the Opioid\_Table as a data.frame. Comments on the data.frame include a status message (msg), the Opioid\_Table save path (path), a disclaimer, and the source for the retrieved data (source\_url\_data and source\_url\_dosing).

**Examples**

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country = "usa")
head(FDA_Opioid_Table)
```

---

 MED

*Get the Morphine Equivalent Dose (MED) by using the DIN or NDC*

---

**Description**

MED retrieves the Morphine Equivalent Dose from the Opioid\_Table.

**Usage**

```
MED(Drug_ID, Opioid_Table)
```

**Arguments**

Drug_ID	A numeric value for the DIN or NDC. Exclude all zeros in front.
Opioid_Table	Opioid dataset which can be loaded by using the load_HealthCanada_Opioid_Table() or load_FDA_Opioid_Table() function. The name you use to call the function should be input here.

**Value**

MED: Morphine Equivalent Dose

**Examples**

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="US")
HealthCanada_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="Canada")
MED(786535, HealthCanada_Opioid_Table)
MED("0093-0058", FDA_Opioid_Table)
```

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MED_50	<i>Maximum number of units/millilitres of oral opioids allowed per day assuming a daily limit of 50 MED/day for a DIN or NDC from the Opioid Table by using the DIN or NDC</i>
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**Description**

MED\_50 gives us the maximum number of units (e.g. tablets or capsules for solid oral opioids and no. of millilitres for liquid oral opioids that are safe assuming a Morphine equivalent Dose of 50.)

**Usage**

```
MED_50(Drug_ID, Opioid_Table)
```

**Arguments**

Drug_ID	A numeric value for the DIN or NDC. Exclude all zeros in front.
Opioid_Table	Opioid dataset which can be loaded by using the load_HealthCanada_Opioid_Table() or load_FDA_Opioid_Table() function. The name you use to call the function should be input here.

**Value**

no. of units to reach 50 MED

**Examples**

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="US")
HealthCanada_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="Canada")
MED_50(786535, HealthCanada_Opioid_Table)
MED_50("0093-0058", FDA_Opioid_Table)
```

---

MED_90	<i>Maximum number of units/millilitres of oral opioids allowed per day assuming a daily limit of 90 MED/day for a DIN or NDC from the Opioid Table by using the DIN the NDC</i>
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### Description

MED\_90 gives us the maximum number of units (e.g. tablets or capsules for solid oral opioids and no. of millilitres for liquid oral opioids that are safe assuming a Morphine equivalent Dose of 90.)

### Usage

```
MED_90(Drug_ID, Opioid_Table)
```

### Arguments

Drug_ID	A numeric value for the DIN or NDC. Exclude all zeros in front.
Opioid_Table	Opioid dataset which can be loaded by using the <code>load_HealthCanada_Opioid_Table()</code> or <code>load_FDA_Opioid_Table()</code> function. The name you use to call the function should be input here.

### Value

no. of units to reach 90 MED

### Examples

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="US")
HealthCanada_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="Canada")
MED_90(786535, HealthCanada_Opioid_Table)
MED_90("0093-0058", FDA_Opioid_Table)
```

---

Opioid	<i>Get the Opioid content from Health Canada by using the DIN or NDC</i>
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### Description

Opioid retrieves the Opioid content from the Opioid\_Table.

### Usage

```
Opioid(Drug_ID, Opioid_Table)
```

**Arguments**

Drug_ID	A numeric value for the DIN or NDC. Exclude all zeros in front.
Opioid_Table	Opioid dataset which can be loaded by using the <code>load_HealthCanada_Opioid_Table()</code> or <code>load_FDA_Opioid_Table()</code> function. The name you use to call the function should be input here.

**Value**

Opioid content

**Examples**

```
FDA_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="US")
HealthCanada_Opioid_Table <- load_Opioid_Table(no_download = TRUE, country="Canada")
Opioid(786535, HealthCanada_Opioid_Table)
Opioid("0093-0058", FDA_Opioid_Table)
```

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OralOpioids	<i>OralOpioids: Obtain the latest information on Morphine equivalent doses provided by HealthCanada and the FDA</i>
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**Description**

This package provides details on Oral Opioids approved for sale by Health Canada and the FDA. Please note that the output generated by the package should not be substituted for clinical advice and any medication should be only consumed at the advise of a licensed healthcare provider.



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