

# Package ‘ccmReportR’

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**Title** Wraps 'CCM' with Utility Functions

**Version** 0.1.0

**Description** Provides a set of functions to perform queries against the 'CCM' API <<https://mohcontacttracing.my.salesforce.com>>.

**BugReports** <https://github.com/DurhamRegionHARP/ccmReportR/issues>

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**URL** <https://github.com/DurhamRegionHARP/ccmReportR>

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tibble (>= 3.0.5), rlang

**NeedsCompilation** no

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getAttribute	<i>Get data from CCM for a specified record</i>
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**Description**

getAttribute() queries CCM for details about a record. the parameter optionsList specifies the columns to return.

**Usage**

```
getAttribute(Id, optionsList)
```

**Arguments**

Id	Character scalar. Names the record to obtain information about.
optionsList	list object. Controls the behaviour of the query including the filter for the query, and data to return.

**Value**

If the query succeeds, a tibble containing data for the specified Id. Otherwise, a tibble of NA values.

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getCaseAttribute	<i>Get attributes related to a case</i>
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**Description**

getCaseAttribute() specifies the object used to get related information about a case. This function wraps getAttribute() to allow iteration over multiple cases. See getAttribute().

**Usage**

```
getCaseAttribute(attribute, case)
```

**Arguments**

attribute	Character scalar. Names the CCM object to obtain related information about a case. One of the currently supported objects: <ol style="list-style-type: none"> <li>1. exposures: Exposures</li> <li>2. interventions: Interventions</li> <li>3. labResults: Lab Results</li> <li>4. outbreaks: Outbreaks</li> <li>5. riskFactor: Risk Factors</li> </ol>
-----------	---

6. symptoms: Symptoms

`case` Character scalar or vector. Names the CCM Case Id to use when obtaining information.

### Value

a tibble of information related to a case.

### See Also

[getAttribute\(\)](#) for information on how the CCM query is executed. [getCases\(\)](#) for obtaining Case Id's required for this function.

---

getCases	<i>Execute a SOQL query against the Case object</i>
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### Description

`getCases()` returns a tibble of data from the CCM Case object. The Case object maps to Investigations on the client-side.

### Usage

```
getCases(
  confirmedOnly = FALSE,
  from = "1990-01-01",
  to = as.character(Sys.time()),
  columns = "Id",
  healthUnit = NULL
)
```

### Arguments

<code>confirmedOnly</code>	Logical scalar. Should the query limit results to confirmed cases? Returns confirmed and probable cases by default.
<code>from</code>	Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.
<code>to</code>	Character scalar. Identifies the end of the date range to include in the query. Defaults to <code>Sys.time()</code> (i.e. today's date and time).
<code>columns</code>	Character scalar or character vector. Names the columns to return from the Case object. Defaults to <code>Id</code>
<code>healthUnit</code>	Character vector or scalar. Names the Public Health Unit used to filter the query. <code>getCases()</code> filters on Permanent PHU. Defaults to <code>NULL</code> (i.e. no health unit filter).

**Value**

If the query succeeds, a tibble containing columns.

**Examples**

```
## Not run:
Get all confirmed cases for Durham Region
cases <- getCases(
  confirmedOnly = TRUE,
  healthUnit = 'Durham Region Health Department'
)
Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
cases <- getCases(
  columns = c("Id", "Reported Date", "Episode Date", "CCM_Episode_Date_Type__c")
)
Limit the data to a specific time period.
cases <- getCases(
  from = "2020-10-12",
  to = "2020-10-17"
)

## End(Not run)
```

---

getDBLabels

*Helper function for building SOQL queries*


---

**Description**

getDBLabels() retrieves the description of a specified object in CCM then searches for field names using the field label seen on the client-side.

**Usage**

```
getDBLabels(table, colNames)
```

**Arguments**

table	Character scalar. Names the CCM object which the function will use to search for field names.
colNames	Character vector. Contains a combination field names and labels to search for in table.

**Value**

Character vector. Field names suitable for use in subsequent SOQL queries. Elements from colNames not found in table are removed from the results.

---

getExposureAttribute *Get attributes related to an exposure*

---

### Description

getExposureAttribute() specifies the object used to get related information about an exposure. This function wraps getAttribute() to allow iteration over multiple exposures. See getAttribute().

### Usage

```
getExposureAttribute(attribute, exposure)
```

### Arguments

attribute	character scalar. Names the CCM object used to obtain information about an exposure. One of the currently supported objects: 1. investigations: Exposure Investigations
exposure	character scalar or vector. Names the CCM Exposure Id to obtain information about.

### Value

a tibble of information related to an exposure.

### See Also

[getAttribute\(\)](#) for information on how the CCM query is executed. [getExposures\(\)](#) for obtaining Exposure Id's required for this function.

---

getExposures *Execute a SOQL query against the Exposure object*

---

### Description

getExposures() returns a user-defined data from the CCM Exposure object. The Exposure object maps to Exposures on the client-side.

### Usage

```
getExposures(  
  type = NULL,  
  from = "1990-01-01",  
  to = as.character(Sys.time()),  
  columns = "Id",  
  healthUnit = NULL  
)
```

**Arguments**

type	Character vector or scalar. Names the exposure type used to filter the query. Defaults to all exposure types. One or more of: <ol style="list-style-type: none"> <li>1. Community</li> <li>2. Congregate Living</li> <li>3. Household</li> <li>4. Institutional</li> <li>5. Travel</li> </ol>
from	Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.
to	Character scalar. Identifies the end of the date range to include in the query. Defaults to Sys.time() (i.e. today's date and time).
columns	Character scalar or character vector. Names the columns to return from the exposure object. Defaults to Id.
healthUnit	Character vector or scalar. Names the Public Health Unit used to filter the query. getExposures() filters on Exposure PHU. Defaults to NULL (i.e. no health unit filter).

**Value**

If the query succeeds, a tibble containing columns.

**Examples**

```
## Not run:
Get all community exposures for Durham Region
exposures <- getExposures(
  type = 'Community',
  healthUnit = 'Durham Region Health Department'
)
Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
exposures <- getExposures(
  columns = c("Id", "Exposure Name", "CCM_Exposure_Setting__c")
)
Limit the data to a specific time period.
exposures <- getExposures(
  from = "2020-12-12",
  to = "2020-12-17"
)

## End(Not run)
```

---

getHealthUnitByName *Retrieve a Health Unit's Id by name*

---

**Description**

getHealthUnitByName() searches the PHU\_Stage\_Table\_\_c object and returns the Id for the specified health unit.

**Usage**

```
getHealthUnitByName(healthUnitName)
```

**Arguments**

healthUnitName Character scalar or vector. Names the health unit to use when searching for an Id.

**Value**

If the query succeeds, a character scalar or vector of health unit Id's. Otherwise, an error is returned.

---

getOutbreakAttribute *Get attributes related to an outbreak*

---

**Description**

getOutbreakAttribute() specifies the object used to get related information about an outbreak. This function wraps getAttribute() to allow iteration over multiple outbreaks.

**Usage**

```
getOutbreakAttribute(attribute, outbreak)
```

**Arguments**

attribute Character scalar. Names the CCM object to obtain related information about a case. One of the currently supported objects:

1. exposures
2. investigations
3. locations

outbreak Character scalar or vector. Names the Outbreak Id to use when obtaining information.

**Value**

A tibble of information related to an Outbreak.

**See Also**

[getAttribute\(\)](#) for information on how the CCM query is executed. [getOutbreaks\(\)](#) for obtaining Outbreak Ids required for this function.

---

getOutbreaks	<i>Execute a SOQL query against the Outbreak object</i>
--------------	---

---

**Description**

getOutbreaks() returns user-defined data from the CCM Outbreak object. The Outbreak object maps to Outbreaks on the client-side.

**Usage**

```
getOutbreaks(
  confirmedOnly = TRUE,
  openOnly = TRUE,
  healthUnit = NULL,
  from = "1990-01-01",
  to = as.character(Sys.Date()),
  columns = "Id"
)
```

**Arguments**

confirmedOnly	Logical scalar. Should the query limit results to confirmed outbreaks? Returns confirmed and suspect outbreaks by default.
openOnly	Logical scalar. Should the query limit results to open outbreaks? Returns open and closed outbreaks by default.
healthUnit	Character vector or scalar. Names the Public Health Unit used to filter the query. getOutbreaks() filters on Primary Health Unit. Defaults to NULL (i.e. no health unit filter).
from	Character scalar. Identifies the start of the date range to include in the query. Defaults to the origin date of CCM.
to	Character scalar. Identifies the end of the date range to include in the query. Defaults to Sys.Date() (i.e. today's date).
columns	Character scalar or character vector. Names the columns to return from the Outbreak object. Defaults to Id.

**Value**

If the query succeeds, a tibble containing columns.

**Examples**

```
## Not run:
Get all open outbreaks for Durham.
outbreaks <- getOutbreaks(
  confirmedOnly = FALSE,
  healthUnit = 'Durham Region Health Department'
)
Specify the data to return. This can be field names or labels
N.B. Names are case sensitive!
outbreaks <- getOutbreaks(
  columns = c("Id", "Outbreak Name", "Outbreak Number")
)
Limit the data to a specific time period.
outbreaks <- getOutbreaks(
  from = "2021-01-01",
  to = "2020-01-17"
)

## End(Not run)
```

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**login***Obtain an access token to authorize requests*

---

**Description**

This function implements the OAuth2.0 device grant flow see <https://tools.ietf.org/html/rfc6749#section-1.3.1> and [https://help.salesforce.com/articleView?id=remoteaccess\\_oauth\\_device\\_flow.htm&type=5](https://help.salesforce.com/articleView?id=remoteaccess_oauth_device_flow.htm&type=5) for more information. The token is stored in the OS keyring.

**Usage**

```
login()
```

**Value**

CCM access token for use in authorizing subsequent requests.

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**makeTimestamp***Helper function for building ISO-8601 dates*

---

**Description**

makeTimestamp() generates ISO-8601 formatted date strings in UTC. This is the format required to query datetime fields in CCM.

**Usage**

```
makeTimestamp(dateString)
```

**Arguments**

dateString	Character scalar. Names the date which the function will use to create the formatted datetime.
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**Value**

Character scalar. An ISO-8601 formatted date in the UTC timezone suitable for use in CCM queries.

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