Package 'cancerscreening'

July 22, 2025

Title Streamline Access to Cancer Screening Data

Version 1.1.1

Description Retrieve cancer screening data for cervical, breast and colorectal cancers from the Kenya Health Information System <https://hiskenya.org> in a consistent way.

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URL https://cancerscreening.damurka.com, https://github.com/damurka/cancerscreening

BugReports https://github.com/damurka/cancerscreening/issues

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Description

Some aspects of cancerscreening behaviour can be controlled via an option.

Usage

```
with_cancerscreening_quiet(code)

local_cancerscreening_quiet(env = parent.frame())
```

Arguments

`code`	Code to execute quietly
`env`	The environment to use for scoping

Value

No return value, called for side effects

No return value, called for side effects

No return value, called for side effects

Messages

The cancerscreening_quiet option can be used to suppress messages form cancerscreening. By default, cancerscreening always messages, i.e. it is *not* quiet.

set cancerscreening_quiet to TRUE to suppress message, by one of these means, in order of decreasing scope:

- Put options(cancerscreening_quiet = TRUE) in the start-up file, such as .Rprofile, or in your R script
- Use local_cancerscreening_quiet() to silence cancerscreening in a specific scope
- Use with_cancerscreening_quite to run small bit of code silently

local_cancerscreening_quiet and with_cancerscreening follow the conventions of the withr package (https://withr.r-lib.org).

Examples

```
## Not run:
  # message: "The credentials have been set."
  khis_cred(username = 'username', password = 'password')

  # suppress messages for a small amount of code
  with_cancerscreening_quiet(
    khis_cred(username = 'username', password = 'password')
  )

## End(Not run)

## Not run:
  # message: "The credentials have been set."
  khis_cred(username = 'username', password = 'password')

  # suppress messages for a in a specific scope
  local_cancerscreening_quiet()

  # no message
  khis_cred(username = 'username', password = 'password')

  # clear credentials
  khis_cred_clear()

## End(Not run)
```

---

get_analytics_formatted

Retrieves Analytics Table Data from KHIS

Description

`get_analytics_formatted()` fetches data from the KHIS analytics data tables for a given period and data element(s), without performing any aggregation.

Usage

```
get_analytics_formatted(
  element_ids,
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`element_ids`	A vector of data element IDs for which to retrieve data. Required.
`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Details

- Retrieves data directly from KHIS analytics tables.
- Supports optional arguments for providing organization lists, data elements, and categories.
- Allows specifying KHIS session objects, retry attempts, and logging verbosity.

Value

A tibble with detailed information, including:

- Geographical identifiers (country, county, subcounty, ward, facility, depending on level)
- Reporting period (month, year, fiscal year)
- Data element names
- Category options
- Reported values

Examples

```
# Clinical Breast Examination data elements
# XEX93uLsAm2 = CBE Abnormal
# cXe64Yk0QMY = CBE Normal
element_id = c('cXe64Yk0QMY', 'XEX93uLsAm2')

# Download data from February 2023 to current date
data <- get_analytics_formatted(element_ids = element_id,
                                start_date = '2023-02-01')
data
```

`get_breast_cbe` *Retrieves Data for Clinical Breast Examinations (CBE) Conducted*

Description

`get_breast_cbe()` retrieves data for CBE conducted within a specified period from the KHIS API server.

Usage

```
get_breast_cbe(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing data for CBE conducted with the following columns:

- country - Name of the country country
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.

- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- age_group - The age group category of the report (25-34, 35-39, 40-55, 56-74, or 75+).
- category - Additional category if available.
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
cbe_data <- get_breast_cbe(start_date = '2023-02-01')
cbe_data
```

`get_breast_mammogram` *Retrieves Data for Mammograms Conducted*

Description

`get_breast_mammogram()` retrieves data for mammograms conducted within a specified period from the KHIS API server.

Usage

```
get_breast_mammogram(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing data for mammograms conducted with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (25-34, 35-39, 40-55, 56-74, or 75+).
- category2 - Additional category if available.
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
mammogram_data <- get_breast_mammogram(start_date = '2023-02-01')
mammogram_data
```

`get_breast_ultrasound` *Retrieves Data for Breast Ultrasound Conducted*

Description

`get_breast_ultrasound()` retrieves data for breast ultrasounds conducted within a specified period from the KHIS API server.

Usage

```
get_breast_ultrasound(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

start_date	The start date to retrieve data. It is required and in the format YYYY-MM-dd.
end_date	The ending date for data retrieval (default is the current date).
level	The desired data granularity: "country" (the default), "county", "subcounty", "ward", or "facility".
organisations	A list of organization units ids to be filtered.
...	Other options that can be passed onto KHIS API.

Value

A tibble containing data for breast ultrasound conducted with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is county, subcounty, ward or facility.
- subcounty - Name of the subcounty. Optional if the level is subcounty, ward or facility.
- ward - Name of the ward. Optional if the level is ward or facility.
- facility - Name of the health facility. Optional if the level facility.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (25-34, 35-39, 40-55, 56-74, or 75+).
- category2 - Additional category if available.
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
ultrasound_data <- get_breast_ultrasound(start_date = '2023-02-01')
ultrasound_data
```

`get_cervical_hiv_screened` *Retrieves Cervical Cancer Screening Data on HIV Positive Women*

Description

`get_cervical_hiv_screened()` retrieves cervical cancer screening and positivity data for HIV positive women for a specified period from the KHIS API server.

Usage

```
get_cervical_hiv_screened(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing cervical cancer screening data on HIV positive women with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (<25, 25-49, 50+).

- category2 - Additional category if available.
- element - The data element (HPV, VIA or Pap Smear).
- source - The source report (MOH 711 or MOH 745).
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
screened <- get_cervical_hiv_screened(start_date = '2023-02-01')
screened
```

`get_cervical_positive` *Retrieves Cervical Cancer Screening Data with Positive Results*

Description

`get_cervical_positive()` retrieves cervical cancer screening data with positive results for a specified period from the KHIS API server.

Usage

```
get_cervical_positive(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing cervical cancer screening data with positive results with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.

- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (<25, 25-49, 50+).
- category2 - Additional category if available.
- element - The data element (HPV, VIA or Pap Smear).
- source - The source report (MOH 711 or MOH 745).
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
positive <- get_cervical_positive(start_date = '2023-02-01')
positive
```

`get_cervical_screened` *Retrieves Cervical Cancer Screening Data*

Description

`get_cervical_screened()` retrieves cervical cancer screening data for a specified period from the KHIS API server.

Usage

```
get_cervical_screened(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing cervical cancer screening data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (<25, 25-49, 50+).
- category2 - Additional category if available.
- element - The data element (HPV, VIA or Pap Smear).
- source - The source report (MOH 711 or MOH 745).
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
screened <- get_cervical_screened(start_date = '2023-02-01')
screened
```

`get_cervical_treated` *Retrieves Cervical Cancer Precancerous Treatment Data*

Description

`get_cervical_treated()` retrieves cervical cancer precancerous treatment data for a specified period from the KHIS API server.

Usage

```
get_cervical_treated(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

start_date	The start date to retrieve data. It is required and in the format YYYY-MM-dd.
end_date	The ending date for data retrieval (default is the current date).
level	The desired data granularity: "country" (the default), "county", "subcounty", "ward", or "facility".
organisations	A list of organization units ids to be filtered.
...	Other options that can be passed onto KHIS API.

Value

A tibble containing cervical cancer precancerous treatment data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is county, subcounty, ward or facility.
- subcounty - Name of the subcounty. Optional if the level is subcounty, ward or facility.
- ward - Name of the ward. Optional if the level is ward or facility.
- facility - Name of the health facility. Optional if the level facility.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (<25, 25-49, 50+).
- category2 - Additional category if available.
- element - The data element (HPV, VIA or Pap Smear).
- source - The source report (MOH 711 or MOH 745).
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
treated <- get_cervical_treated(start_date = '2023-02-01')
treated
```

`get_colorectal_colonoscopy` *Retrieves Data for Colorectal Screening using Colonoscopy*

Description

`get_colorectal_colonoscopy()` retrieves data for colorectal screening using colonoscopy within a specified period from the KHIS API server.

Usage

```
get_colorectal_colonoscopy(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing data for colorectal screening with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (45-54, 55-64, or 65-75).
- category2 - Additional category if available.
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_colorectal_colonoscopy(start_date = '2023-02-01')
data
```

`get_colorectal_fobt` *Retrieves Data for Colorectal Screening Using FOBT*

Description

`get_colorectal_fobt()` retrieves data for colorectal screening using FOBT within a specified period from the KHIS API server.

Usage

```
get_colorectal_fobt(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing data for colorectal screening with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.

- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report (45-54, 55-64, or 65-75).
- category2 - Additional category if available.
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_colorectal_fobt(start_date = '2023-02-01')
data
```

`get_filtered_population` *Filters the Population*

Description

`get_filtered_population()` filters the population based on age and level and projects the population base on the year provided

Usage

```
get_filtered_population(
  year,
  min_age,
  max_age,
  modifier = 1,
  level = c("country", "county", "subcounty"),
  pop_sex = c("female", "male", "both"),
  rate = 0.022
)
```

Arguments

`year`	The year to project the population
`min_age`	The minimum age to include in the filtered data
`max_age`	The maximum age to include in the filtered data
`modifier`	A multiplier that affect the population projection. Default 1
`level`	The desired level of the organization unit hierarchy to retrieve data for: `"country"`, `"county"` or `"subcounty"`.
`pop_sex`	The desired population sex: `"male"`, `"female"` (default), `"both"`
`rate`	The population growth

Value

A tibble containing the target population

Examples

```
# Get the female population in 2022 aged 25-49 years
filtered_population <- get_filtered_population(2022, 25, 49, pop_sex = 'female')
filtered_population

# Get 5% male population in 2022 aged 40-75 years
filtered_population <- get_filtered_population(2022, 40, 75, modifier = 0.05, pop_sex = 'male')
filtered_population
```

---

get_lab_bone_marrow *Retrieves the Bone Marrow Laboratory Data*

Description

`get_lab_bone_marrow()` retrieves bone marrow lab data for a specified period from the KHIS API server.

Usage

```
get_lab_bone_marrow(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing bone marrow lab data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.

- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_lab_bone_marrow(start_date = '2023-02-01')
data
```

`get_lab_fluid_cytology`

Retrieves the Fluid Cytology Data

Description

`get_lab_fluid_cytology()` retrieves fluid cytology lab data for a specified period from the KHIS API server.

Usage

```
get_lab_fluid_cytology(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing fluid cytology lab data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_lab_fluid_cytology(start_date = '2023-02-01')
data
```

`get_lab_fna` *Retrieves the Fine-Needle Aspiration Laboratory Data*

Description

`get_lab_fna()` retrieves fine-needle aspiration lab data for a specified period from the KHIS API server.

Usage

```
get_lab_fna(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

start_date	The start date to retrieve data. It is required and in the format YYYY-MM-dd.
end_date	The ending date for data retrieval (default is the current date).
level	The desired data granularity: "country" (the default), "county", "subcounty", "ward", or "facility".
organisations	A list of organization units ids to be filtered.
...	Other options that can be passed onto KHIS API.

Value

A tibble containing fine-needle aspiration lab data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is county, subcounty, ward or facility.
- subcounty - Name of the subcounty. Optional if the level is subcounty, ward or facility.
- ward - Name of the ward. Optional if the level is ward or facility.
- facility - Name of the health facility. Optional if the level facility.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_lab_fna(start_date = '2023-02-01')
data
```

---

get_lab_smears *Retrieves the Cytology Smears Laboratory Data*

Description

get_lab_smears() retrieves cytology smears lab data for a specified period from the KHIS API server.

Usage

```
get_lab_smears(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

start_date	The start date to retrieve data. It is required and in the format YYYY-MM-dd.
end_date	The ending date for data retrieval (default is the current date).
level	The desired data granularity: "country" (the default), "county", "subcounty", "ward", or "facility".
organisations	A list of organization units ids to be filtered.
...	Other options that can be passed onto KHIS API.

Value

A tibble containing cytology smears lab data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is county, subcounty, ward or facility.
- subcounty - Name of the subcounty. Optional if the level is subcounty, ward or facility.
- ward - Name of the ward. Optional if the level is ward or facility.
- facility - Name of the health facility. Optional if the level facility.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_lab_smears(start_date = '2023-02-01')
data
```

get_lab_tissue_histology *Retrieves the Tissue Histology Laboratory Data*

Description

`get_lab_tissue_histology()` retrieves tissue histology lab data for a specified period from the KHIS API server.

Usage

```
get_lab_tissue_histology(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble containing tissue histology lab data with the following columns:

- country - Name of the country.
- county - Name of the county. Optional if the level is `county`, `subcounty`, `ward` or `facility`.
- subcounty - Name of the subcounty. Optional if the level is `subcounty`, `ward` or `facility`.
- ward - Name of the ward. Optional if the level is `ward` or `facility`.
- facility - Name of the health facility. Optional if the level `facility`.
- period - The month and year of the data.
- fiscal_year- The financial year of the report(July-June Cycle).
- year - The calendar year of the report.
- month - The month name of the report.
- category - The age group category of the report
- element - The data element.
- value - The number reported.

Examples

```
# Download data from February 2023 to current date
data <- get_lab_tissue_histology(start_date = '2023-02-01')
data
```

`get_screening_reporting_analytics` *Retrieves Reporting Metrics for Screening Tool*

Description

`get_screening_reporting_analytics()` It fetches the reporting metrics for the screening tool (MOH 745).

Usage

```
get_screening_reporting_analytics(
  start_date,
  end_date = NULL,
  level = c("country", "county", "subcounty", "ward", "facility"),
  organisations = NULL,
  ...
)
```

Arguments

`start_date`	The start date to retrieve data. It is required and in the format `YYYY-MM-dd`.
`end_date`	The ending date for data retrieval (default is the current date).
`level`	The desired data granularity: `"country"` (the default), `"county"`, `"subcounty"`, `"ward"`, or `"facility"`.
`organisations`	A list of organization units ids to be filtered.
`...`	Other options that can be passed onto KHIS API.

Value

A tibble with the reporting metrics.

Examples

```
# Download screening metric from February 2023 to current date
data <- get_screening_reporting_analytics(start_date = '2023-02-01')
data
```

target_population *Screening Target Populations*

Description

These functions subsets the Kenyan population to the desirable screening population.

Usage

```
get_cervical_target_population(
  year,
  level = c("country", "county", "subcounty")
)

get_breast_cbe_target_population(
  year,
  level = c("country", "county", "subcounty")
)

get_breast_mammogram_target_population(
  year,
  level = c("country", "county", "subcounty")
)

get_colorectal_target_population(
  year,
  level = c("country", "county", "subcounty")
)
```

Arguments

year	Year for which to estimate population.
level	The desired level of the organization unit hierarchy to retrieve data for: "country" (default) , "county" or "subcounty".

Details

get_cervical_target_population() subsets the target population for cervical cancer screening: females aged between 25 years and 50 years

get_breast_cbe_target_population() subsets the target population for clinical breast examination: females aged between 25 years and 74 years

get_breast_mammogram_target_population() subsets the target population for breast cancer screening through mammography: females aged between 40 years to 74 years

get_colorectal_target_population() subsets the target population for colorectal cancer screening: males and females aged between 45 years to 75 years

These target populations are guided by the Kenya National Cancer Screening Guidelines 2018. The population projection for counties and the national level are calculated based on population growth 2.2% obtained from the Kenya National Bureau of Statistics. The annual targets follows the guidance of screening guidelines and for cervical cancer it is also guided by the WHO publication 'Planning and implementing cervical cancer prevention programs: A manual for managers.'

Value

A tibble containing the target screening population

- county - name of the county. Optional if the level is county or subcounty
- subcounty - name of the county. Optional if the level if subcounty
- target - number to be screened

A tibble containing the target screening population

A tibble containing the target screening population

A tibble containing the target screening population

Examples

```
# Get the country projection for cervical cancer screening for the year 2024
target_population <- get_cervical_target_population(2024)
target_population

# Get the projection for cervical cancer screening for 2022 by county
target_population <- get_cervical_target_population(2022, level = 'county')
target_population

# Get the projection for CBE for 2022 by county
target_population <- get_breast_cbe_target_population(2022, level = 'county')
target_population

# Get the country projection of women to perform mammogram for the year 2024
target_population <- get_breast_mammogram_target_population(2024)
target_population

# Get the country projection colorectal cancer screening for the year 2024
target_population <- get_colorectal_target_population(2024)
target_population
```

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