Package: ascertainr (via r-universe)

August 15, 2024

Title Case Ascertainment Model

Version 0.0.0.9000

Description This pacakge implements a case asecertainment model.

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Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

Imports epitrix

Repository https://mrc-ide.r-universe.dev

RemoteUrl https://github.com/mrc-ide/ascertainr

RemoteRef master

RemoteSha 5f958be37298832f2887ff6b200cd42c72a8ae87

Contents

ascertainment *Estimate case ascertainment ratio*

Description

Estimate case ascertainment ratio

Usage

```
ascertainment(cfr_distr, death_to_case)
```

Arguments

`cfr_distr`

`death_to_case`

augment_cases *Augment the time series of cases*

Description

Augment the time series of cases for the days ahead to be able to project deaths.

Usage

```
augment_cases(cases, previous, ndays, nsim = 10000)
```

Details

Augmentation of case data for the next `ndays` days involves drawing samples from a distribution (here `gamma` distribution) with parameters estimated from the last `previous` days.

Value

Matrix of observed and augmented cases. Dimensions of this matrix are (2 * nsim) X (previous) where the observed values are repeated across

Author(s)

Sangeeta Bhatia

`episize_after_mu` *Estimate epidemic size from the present time minus the mean delay between case and death up to present*

Description

Estimate epidemic size from the present time minus the mean delay between case and death up to present

Usage

```
episize_after_mu(cases, rho)
```

Author(s)

Sangeeta Bhatia

`episize_before_mu` *Estimate size of the epidemic upto the present time minus the mean delay from case to death.*

Description

Estimate size of the epidemic upto the present time minus the mean delay from case to death.

Usage

```
episize_before_mu(deaths, mu_delta, cfr_distr)
```

Author(s)

Sangeeta Bhatia

`project_deaths` *Project the number of deaths*

Description

Project the number of deaths

Usage

```
project_deaths(augmented_cases, weights, trunc, ndays, nsim, deaths_to_cases)
```

Author(s)

Sangeeta Bhatia

ratio_deaths_cases *Estimate ratio if deaths to reported cases*

Description

Estimate ratio if deaths to reported cases

Usage

```
ratio_deaths_cases(wtd_incid, deaths, nsamples = 10000, twindow = 7)
```

Arguments

wtd_incid

deaths

nsamples

twindow

weighted_incid *Return the incidence time-series weighted by the reporting to death delay*

Description

Returns

Usage

```
weighted_incid(incid, weights, trunc)
```

Arguments

incid	incidence time series as a T X 1 matrix
weights	Discrete probability distribution of the reporting to death delay

Value

T X 1 matrix incidence weighted by the delay distribution.

Author(s)

Sangeeta Bhatia

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