

Open Health Data:

1. Overview

Title

Coccidioidomycosis (Valley fever) case data for the southwestern United States

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Abstract

We compiled a coccidioidomycosis (Valley fever) case database for four states in the southwestern United States (US). Currently, county-level, monthly case counts are available from 2000-2015 for Arizona, California, and Nevada. We collected these data from each respective state public health agency. The Valley fever case data database is available on GitHub, at <https://github.com/valleyfever/valleyfevercasedata>. This database may be used to examine relationships between the number of Valley fever cases and hypothesized explanatory variables such as environmental conditions, social determinants, human behaviour, occupational activities, public policies, or other risk factors. We aim to provide regular updates to this database and include more states as data become available.

Keywords

Coccidioidomycosis; Valley fever; *Coccidioides*; endemic; epidemiology; incidence; infectious disease; United States

Introduction/Study Description

Coccidioidomycosis, also known as Valley fever, is an infectious disease endemic to parts of North, Central, and South America [1]. Humans contract Valley fever when they inhale spores of the fungal genus *Coccidioides*. In the US, the Centers for Disease Control and Prevention (CDC) estimates Valley fever is currently endemic to the states of Arizona, California, Nevada, New Mexico, Texas, Utah, and Washington [2].

We compiled county-level Valley fever case data by month from 2000-2015 in Arizona, California, and Nevada. We collected data from each respective state health agency.

This database will allow researchers and health officials to access aggregated US Valley fever case numbers, foregoing the time it takes to contact each state health agency individually. Access to Valley fever case numbers will accelerate research aiming to study the relationships between Valley fever case numbers and other explanatory variables.

We have previously used this database in a study by Gorris et al. 2018 to examine the relationships between climate dynamics and Valley fever incidence throughout the southwestern US [3].

Data for New Mexico is available but was not permitted to be released. This data may be obtained by contacting the New Mexico State Department of Health:

New Mexico Department of Health
1190 St. Francis Drive, Runnels N1361

Santa Fe, New Mexico 87502

<https://nmhealth.org/>

Epidemiology and Response Division phone number: 1-800-879-3421

Data for Utah is available but was not permitted to be released. This data may be obtained by contacting the Utah Department of Health:

Bureau of Epidemiology

Utah Department of Health

PO Box 142104

Salt Lake City, UT 84114-2104

<http://health.utah.gov/epi/>

Bureau of Epidemiology phone number: 1-801-538-6191

epi@utah.gov

2. Context

Spatial coverage

Description:

Valley fever case data is available at the county level from the states of Arizona, California, and Nevada in the United States. Counties within the US are assigned a unique Federal Information Processing Standards (FIPS) code for identification.

Temporal coverage

Data is currently available at the monthly level from 2000/01 to 2015/12. We used the data format (yyyy/mm).

Species

The data are the number of reported coccidioidomycosis cases caused by the fungi *Coccidioides* spp. and contracted by humans (*Homo sapiens*) in each given month.

3. Methods

Steps

We collected monthly, county-level data from 2000/01 to 2015/12 by means of personal contact from the following state health agencies:

Arizona Department of Health Services
150 N 18th Ave, Ste 140
Phoenix, AZ 85007

California Department of Public Health
PO Box 997377, MS 0500
Sacramento, CA 95899

Nevada Department of Health and
Human Services
4126 Technology Way
Carson City, NV 89706

Quality Control

Quality control of the data was completed by the respective state health agency and varies by agency.

Constraints

There are multiple considerations to take when analyzing Valley fever case data. First, techniques for reporting Valley fever cases have changed through time and may have led to increased numbers of Valley fever cases [4].

Second, each Valley fever case was dated corresponding to the month and year which the diagnosing health institution submitted the official Valley fever case report. However, there may be a lag between when someone was infected with *Coccidioides* spp., when symptoms occurred, and when the individual was diagnosed with Valley fever. This lag has been estimated to be between 1 and 1.5 months [5-7].

Third, the location of infection may have not occurred where the official case report was filed. For example, someone may have been exposed to *Coccidioides* spp. during travel.

Privacy

This data includes Valley fever case numbers only, excluding any personal identification or demographic information.

Ethics

Data was collected according to standard ethical principles.

4. Dataset description

Object name

coccidioidomycosis_m2000_2017_v0.1.csv

Data type

Secondary data

Format names and versions

CSV, Version 0.1

Creation dates

Creation of this database began 2015/10

Dataset creators

Morgan E. Gorris, Linh Anh Cat, and Melissa Matlock

Language

English

License

CC-BY 4.0

Repository location

<https://github.com/valleyfever/valleyfevercasedata>

Publication date

(2019/03/01)

To contribute data

To share data, please submit a pull request. See the GitHub link under Repository location for further instructions.

5. Reuse potential

Valley fever cases in the US have been increasing, causing concern (Figure 1)[3]. The number of Valley fever cases fluctuate by region and through time (Table1).

Table 1. Valley fever statistics by state (2000–2015)

State	Number of Counties	Mean annual number of cases	Median annual number of cases	Range of annual number of cases
Arizona	15	6433	5180	1922–16473
California	58	2786	2688	818–5219
Nevada	17	68	63	28–116

This database may be used to examine relationships between the number of Valley fever cases and any hypothesized explanatory variable. Some examples include environmental conditions, social determinants, human behaviour, occupational activities, public policies, or other health risk factors. The data can be used by epidemiologists to compare disease trends across the southwestern US. It can also be used to educate health care providers on the historical amounts of Valley fever in their region.

The data can be aggregated to examine case number at the state level. The data can also be aggregated to example data on the annual time-scale. We aim to provide regular updates to this database and include more states as data become available.

Acknowledgements

We thank Shane Brady from the Arizona Department of Health Services, Colleen McLellan and Curtis Fritz from the California Department of Public Health, and Jennifer Thompson from the Nevada Department of Health and Human Services for providing us with Valley fever case data from their respective state health agencies.

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[Accessed 20 Mar. 2018].

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Figure Captions:

Figure 1. The number of Valley fever cases in the US has been increasing through time.

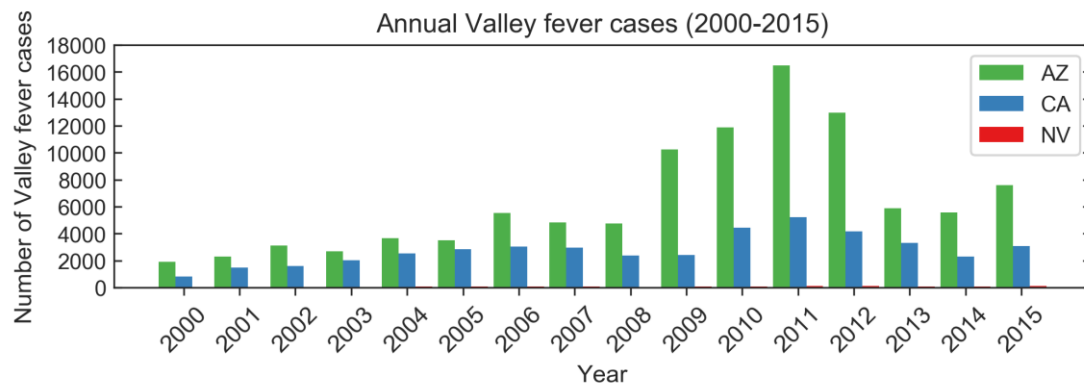


Figure 1