# Google Health Trends performance reflecting dengue incidence for the Brazilian states 

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Additional file: Plots of multiple and simple linear models between Google Health Trends data and weekly dengue incidence for each of the 27 Brazilian states

# Combined and individual terms for all the <br> Brazilian states 

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# Acré (AC) <br> Dengue incidence vs. Google Health Trends (2011-2016) 

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Acré (AC)



Uncorrelated ( $\mathrm{n}=6$ )


## Individual terms Adjusted R squared

## Acré (AC)









## Alagoas (AL)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Alagoas (AL)

# All <br> ( $\mathrm{n}=8$ ) 

## BR-AL <br> Adj. R squared $=0.4807$



Four

## BR-AL <br> Adj. R squared $=0.4702$



# Uncorrelated ( $\mathrm{n}=3$ ) 

## BR-AL <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 4 1 8 2}$



## Individual terms Adjusted R squared

## Alagoas (AL)

## AL- aedes.aegypti <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 1 2 1 2}$



## AL- aedes <br> Adj. R squared $\mathbf{= 0 . 1 1 0 7}$



## AL- aegypti <br> Adj. R squared $\mathbf{= 0 . 1 2 3 8}$



## AL- dengue <br> Adj. R squared $\mathbf{= 0 . 3 6 0 5}$



## AL- dengue.sintomas <br> Adj. R squared $=\mathbf{0 . 3 8 7 7}$



## AL- mosquito.dengue <br> Adj. R squared $=0.1463$



## AL- mosquito <br> Adj. $\mathbf{R}$ squared $=0.1693$



## AL- sintomas.da.dengue Adj. R squared $=0.3071$



## Amazonas (AM)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Amazonas (AM)

## BR-AM <br> Adj. $\mathbf{R}$ squared $=0.8469$



## BR-AM <br> Adj. $\mathbf{R}$ squared $=0.8205$



Uncorrelated ( $\mathrm{n}=2$ )

BR-AM
Adj. $\mathbf{R}$ squared $=0.59$


## Individual terms Adjusted R squared

## Amazonas (AM)

## AM- aedes.aegypti <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 0 0 1 3}$



## AM- aedes <br> Adj. $\mathbf{R}$ squared $=0.0104$



## AM- aegypti <br> Adj. $\mathbf{R}$ squared $=0.0033$



## AM- dengue <br> Adj. R squared $=0.6458$



## AM- dengue.sintomas <br> Adj. R squared $=0.5616$



AM- dengue.virus
Adj. $\mathbf{R}$ squared $=0.0266$


## AM- mosquito.dengue <br> Adj. $\mathbf{R}$ squared $=0.2934$



## AM- mosquito Adj. R squared $\mathbf{= 0 . 1 0 2 4}$



AM- sintomas.da.dengue Adj. R squared $=0.5275$


## Amapá (AP)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
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# Combined terms <br> Adjusted R squared 

Amapá (AP)


Four

## BR-AP <br> Adj. R squared $=\mathbf{0 . 1 0 3 2}$



## BR-AP <br> Adj. R squared $=0.0988$



## Individual terms Adjusted R squared

 Amapá (AP)



## AP- dengue <br> Adj. R squared $=0.0999$



AP- dengue.sintomas
Adj. R squared $=0.004$




## AP- mosquito <br> Adj. R squared $=0.0355$



## Bahia (BA)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Bahia (BA)

# All <br> ( $\mathrm{n}=11$ ) 

## BR-BA <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 6 4 7 2}$



Four

## BR-BA <br> Adj. R squared $=0.6238$



## BR-BA <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 6 0 3 2}$



## Individual terms Adjusted R squared

## Bahia (BA)

## BA- aedes.aegypti <br> Adj. R squared $=\mathbf{0 . 3 2 7 2}$



## BA- aedes <br> Adj. $\mathbf{R}$ squared $=0.3301$



## BA- aegypti <br> Adj. R squared $=0.3254$



BA- dengue.fever
Adj. $\mathbf{R}$ squared $=0.063$


## BA- dengue <br> Adj. R squared $=0.5657$



## BA- dengue.sintomas <br> Adj. R squared $=0.5927$



BA- dengue.virus
Adj. $\mathbf{R}$ squared $=0.3526$



## BA- mosquito.dengue <br> Adj. R squared $=0.4272$



## BA- mosquito <br> Adj. R squared $\mathbf{= 0 . 4 1 2 5}$



BA- sintomas.da.dengue Adj. R squared $=0.55$


## Ceará (CE)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Ceará (CE)

# All <br> ( $\mathrm{n}=10$ ) 



Four



## Individual terms Adjusted R squared

 Ceará (CE)CE- aedes.aegypti
Adj. R squared $=0.0125$







CE- dengue.virus
Adj. R squared $=0.1077$


CE- mosquito.dengue
Adj. R squared $=0.0959$



CE- sintomas.da.dengue
Adj. R squared = 0.6182


## Distrito Federal (DF)

Dengue incidence vs. Google Health Trends (2014-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms Adjusted R Squared 

Distrito Federal (DF)


Four terms


# Uncorrelated <br> ( $\mathrm{n}=2$ ) 



# Individual terms Adjusted R Squared 

## Distrito Federal (DF)



## DF- aedes.aegypti

Adj. R squared $=0.4535$








DF- mosquitoes
Adj. R squared $\mathbf{= 0 . 1 7 3 3}$


DF- sintomas.da.dengue
Adj. R squared $=0.7613$


## Espírito Santo (ES)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

 Espírito Santo (ES)BR-ES
Adj. R squared $=0.7245$


Four


## BR-ES <br> Adj. $\mathbf{R}$ squared $=0.5366$



## Individual terms Adjusted R squared

Espírito Santo (ES)

ES- aedes.aegypti
Adj. R squared $=\mathbf{0 . 1 3 3 3}$


ES- aedes
Adj. R squared $=0.1763$


ES- aegypti
Adj. R squared $\mathbf{= 0 . 1 3 4 9}$


ES- dengue.fever
Adj. $\mathbf{R}$ squared $=\mathbf{0 . 0 7 8 2}$


ES- dengue
Adj. $\mathbf{R}$ squared $=0.5461$


ES- dengue.sintomas
Adj. R squared $=0.5667$


ES- dengue.virus
Adj. $\mathbf{R}$ squared $=0.2024$


ES- mosquito.dengue
Adj. R squared $=\mathbf{0 . 2 6 7 3}$


ES- mosquito
Adj. R squared $\mathbf{= 0 . 2 1 8 5}$


ES- sintomas.da.dengue Adj. R squared $=0.5118$


## Goiás (GO)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Goiás (GO)

## All <br> ( $\mathrm{n}=11$ )

BR-GO
Adj. $R$ squared $=0.7853$


Four


Uncorrelated
( $\mathrm{n}=3$ )
BR-GO
Adj. R squared $=0.66$


## Individual terms Adjusted R squared

## Goiás (GO)

GO- aedes.aegypti
Adj. R squared $=0.129$


## GO- aedes <br> Adj. R squared $=0.1348$



## GO- aegypti <br> Adj. R squared $=0.1276$



GO- dengue.fever
Adj. R squared $=0.0936$


## GO- dengue <br> Adj. R squared $=\mathbf{0 . 6 0 5 1}$



GO- dengue.sintomas
Adj. R squared $=0.6523$


GO- dengue.virus
Adj. R squared $=0.197$


GO- DHF
Adj. R squared $=5 \mathrm{e}-04$


## GO- mosquito.dengue <br> Adj. R squared $=0.3398$




GO- sintomas.da.dengue Adj. R squared $=0.6403$


## Maranhão (MA)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 



Four



## Individual terms Adjusted R squared

 Maranhão (MA)









Minas Gerais (MG)
Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Minas Gerais (MG)

# All <br> ( $\mathrm{n}=12$ ) 

## BR-MG <br> Adj. R squared $=0.9229$



Four

## BR-MG <br> Adj. R squared $\mathbf{=} \mathbf{0 . 9 1 8 8}$




## Individual terms Adjusted R squared

 Minas Gerais (MG)
## MG- aedes.aegypti <br> Adj. R squared $=0.5555$



## MG- aedes <br> Adj. R squared $=0.5508$



## MG- aegypti <br> Adj. R squared $=0.5559$



## MG- dengue.fever <br> Adj. $\mathbf{R}$ squared $=0.2394$



## MG- dengue <br> Adj. R squared $=0.8799$



MG- dengue.sintomas
Adj. R squared $=0.9183$


MG- dengue.virus
Adj. R squared $=0.5912$



MG- mosquito.dengue
Adj. R squared $=0.7608$



## MG- mosquitoes <br> Adj. R squared $=\mathbf{- 0 . 0 0 3 4}$



MG- sintomas.da.dengue
Adj. R squared = 0.9072


# Mato Grosso do Sul (MS) 

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
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# Combined terms <br> Adjusted R squared 

Mato Grosso do Sul (MS)

## BR-MS <br> Adj. $\mathbf{R}$ squared $=0.7135$



Four

## BR-MS <br> Adj. $\mathbf{R}$ squared $=0.6943$



## BR-MS <br> Adj. R squared $=0.5826$



# Individual terms Adjusted R squared 

## MS- aedes.aegypti <br> Adj. $\mathbf{R}$ squared $=0.1003$



## MS- aedes <br> Adj. R squared $=\mathbf{0 . 1 0 3 5}$



## MS- aegypti <br> Adj. R squared $=0.0986$



## MS- dengue <br> Adj. R squared $=\mathbf{0 . 5 4 2 2}$



MS- dengue.sintomas
Adj. R squared $=0.5956$


MS- dengue.virus
Adj. $\mathbf{R}$ squared $=\mathbf{0 . 1 1 1 3}$


MS- mosquito.dengue
Adj. R squared $=\mathbf{0 . 3 3 7 6}$


## MS- mosquito <br> Adj. R squared $=0.2568$



MS- sintomas.da.dengue Adj. R squared $=0.5558$


## Mato Grosso (MT)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

 Mato Grosso (MT)

Four


# Uncorrelated <br> ( $\mathrm{n}=3$ ) 



## Individual terms Adjusted R squared

 Mato Grosso (MT)









# Pará (PA) <br> Dengue incidence vs. Google Health Trends (2011-2016) 

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
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# Combined terms <br> Adjusted R squared 

Pará (PA)

# All <br> ( $\mathrm{n}=9$ ) 

## BR-PA <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 6 0 0 4}$



Four

## BR-PA <br> Adj. $\mathbf{R}$ squared $=0.5958$



## BR-PA <br> Adj. $\mathbf{R}$ squared $=0.2768$



## Individual terms Adjusted R squared

Pará (PA)

# PA- aedes.aegypti <br> Adj. R squared $=0.079$ 



PA- aedes
Adj. R squared $\mathbf{= 0 . 0 8 6 2}$


## PA- aegypti <br> Adj. R squared $=0.0797$



## PA- dengue <br> Adj. R squared $=0.4105$



## PA- dengue.sintomas <br> Adj. R squared $\mathbf{= 0 . 2 4 3 2}$



## PA- dengue.virus <br> Adj. $\mathbf{R}$ squared $=0.0881$



## PA- mosquito.dengue <br> Adj. R squared $\mathbf{= 0 . 1 8 0 1}$



## PA- mosquito <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 1 1 5 2}$



PA- sintomas.da.dengue
Adj. R squared = 0.2782


## Paraiba (PB)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
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# Combined terms <br> Adjusted R squared 

Paraiba (PB)

# All <br> ( $\mathrm{n}=10$ ) 

## BR-PB <br> Adj. $\mathbf{R}$ squared $\mathbf{= 0 . 8 3 7 2}$



Four


## BR-PB <br> Adj. R squared $=0.6825$



## Individual terms Adjusted R squared

## Paraiba (PB)

PB- aedes.aegypti
Adj. R squared $=0.6334$


PB- aedes
Adj. R squared $=0.6295$


## PB- aegypti <br> Adj. R squared $=\mathbf{0 . 6 3 4}$



PB- dengue.fever
Adj. $\mathbf{R}$ squared $=\mathbf{- 0 . 0 0 3 4}$



# PB- dengue.sintomas <br> Adj. R squared $=0.7197$ 



## PB- dengue.virus

Adj. R squared $=0.5352$


## PB- mosquito.dengue <br> Adj. $\mathbf{R}$ squared $=0.6792$



## PB- mosquito <br> Adj. R squared $=0.7024$



PB- sintomas.da.dengue Adj. R squared $=0.5705$


## Pernambuco (PE)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Pernambuco (PE)

# All <br> ( $\mathrm{n}=10$ ) 

## BR-PE <br> Adj. $\mathbf{R}$ squared $=0.8191$



Four

## BR-PE <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 8 0 8 3}$



## BR-PE <br> Adj. R squared $=\mathbf{0 . 7 1 4 1}$



## Individual terms Adjusted R squared

 Pernambuco (PE)
## PE- aedes.aegypti

Adj. $\mathbf{R}$ squared $=0.2286$


## PE- aedes <br> Adj. R squared $=0.2396$



## PE- aegypti <br> Adj. R squared $=\mathbf{0 . 2 2 7 1}$



## PE- dengue <br> Adj. R squared $\mathbf{= 0 . 6 2 3 2}$



PE- dengue.sintomas
Adj. R squared = 0.7118


## PE- dengue.virus <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 3 9 1 1}$



## PE- DHF <br> Adj. $\mathbf{R}$ squared $=\mathbf{- 0 . 0 0 3 3}$



## PE- mosquito.dengue <br> Adj. $\mathbf{R}$ squared $=0.3725$



## PE- mosquito <br> Adj. R squared $=0.3893$



## PE- sintomas.da.dengue <br> Adj. R squared $=0.6745$



## Piauí (PI)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Piauí (Pl)

# All <br> ( $\mathrm{n}=8$ ) 

## BR-PI <br> Adj. R squared $=0.5528$



## BR-PI <br> Adj. R squared $=0.5419$



# Uncorrelated <br> ( $\mathrm{n}=3$ ) 

## BR-PI <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 3 7 7 4}$



## Individual terms Adjusted R squared

## Piauí (PI)

## Pl- aedes.aegypti <br> Adj. R squared $=0.0051$



Pl - aedes
Adj. R squared $=0.0074$


## PI- aegypti <br> Adj. R squared $=0.0046$



## PI- dengue <br> Adj. R squared = 0.269



## Pl- dengue.sintomas <br> Adj. R squared $=0.3158$



Pl- mosquito.dengue
Adj. R squared = 0.0287


## Pl- mosquito <br> Adj. $\mathbf{R}$ squared $=0.0166$



## PI- sintomas.da.dengue <br> Adj. R squared $=0.2598$



## Paraná (PR)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Paraná (PR)

# All <br> ( $\mathrm{n}=12$ ) 

## BR-PR <br> Adj. R squared $\mathbf{= 0 . 8 4 4 7}$



Four


# BR-PR <br> Adj. $\mathbf{R}$ squared $=0.7408$ 



## Individual terms Adjusted R squared

Paraná (PR)


PR- aedes
Adj. R squared $\mathbf{= 0 . 3 2 5 7}$


## PR- aegypti <br> Adj. $\mathbf{R}$ squared $=0.3259$



## PR- dengue.fever <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 1 6 1 4}$



PR- dengue
Adj. $\mathbf{R}$ squared $=\mathbf{0 . 6 9 8 1}$


PR- dengue.sintomas
Adj. R squared $=0.7134$


## PR- dengue.virus <br> Adj. $\mathbf{R}$ squared $=0.3589$



## PR- DHF <br> Adj. $\mathbf{R}$ squared $=\mathbf{- 0 . 0 0 1 7}$



PR- mosquito.dengue
Adj. R squared $=0.5349$



PR- mosquitoes
Adj. R squared $\mathbf{= 0 . 0 0 2 5}$


PR- sintomas.da.dengue
Adj. R squared = 0.7187


Rio de Janeiro (RJ)
Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Rio de Janeiro (RJ)


Four



## Individual terms Adjusted R squared

Rio de Janeiro (RJ)












RJ- sintomas.da.dengue


## Rio Grande do Norte (RN)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Rio Grande do Norte (RN)

# All <br> ( $\mathrm{n}=9$ ) 

## BR-RN <br> Adj. R squared $=0.89$



Four

## BR-RN <br> Adj. $\mathbf{R}$ squared $=0.8913$



Uncorrelated
( $\mathrm{n}=2$ )

## BR-RN <br> Adj. R squared $=0.7059$



# Individual terms Adjusted R squared 

Rio Grande do
Norte (RN)

RN- aedes.aegypti
Adj. $\mathbf{R}$ squared $=0.6853$


RN- aedes
Adj. R squared $=0.7057$


## RN- aegypti <br> Adj. R squared $=0.6897$



## RN- dengue <br> Adj. R squared $=0.8693$



RN- dengue.sintomas
Adj. R squared $=0.7542$


RN- dengue.virus
Adj. $\mathbf{R}$ squared $\mathbf{= 0 . 4 2 5 3}$


RN- mosquito.dengue
Adj. R squared $=0.7768$


RN- mosquito
Adj. R squared $=0.7295$


RN- sintomas.da.dengue Adj. R squared $=0.6314$


## Rôndonia ( RO )

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Rôndonia (RO)


Four

## BR-RO <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 5 4 4 4}$



## BR-RO <br> Adj. R squared $=0.4155$



## Individual terms Adjusted R squared

## Rôndonia (RO)

## RO- aedes.aegypti <br> Adj. R squared $=0.2445$



## RO- aedes <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 2 1 1}$



## RO- aegypti <br> Adj. R squared $=0.2456$



## RO- dengue <br> Adj. R squared $=0.4793$



RO- dengue.sintomas
Adj. R squared $=0.3692$


RO- dengue.virus
Adj. $\mathbf{R}$ squared $=0.1276$


RO- mosquito.dengue
Adj. R squared = 0.1914


## RO- mosquito <br> Adj. R squared = 0.2692



RO- sintomas.da.dengue Adj. R squared $=0.3108$


## Roraima (RR)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

Roraima (RR)

# All <br> ( $\mathrm{n}=7$ ) 

## BR-RR <br> Adj. $\mathbf{R}$ squared $=0.0933$



Four

## BR-RR <br> Adj. $\mathbf{R}$ squared $=0.0575$



## BR-RR <br> Adj. R squared $=0.0905$



## Individual terms Adjusted R squared

## Roraima (RR)

RR- aedes.aegypti
Adj. R squared $=0.0465$


## RR- aedes <br> Adj. R squared $=0.0068$



## RR- aegypti <br> Adj. R squared = 0.0497



## RR- dengue <br> Adj. $\mathbf{R}$ squared $=0.0318$



RR- dengue.sintomas
Adj. R squared $=0.0155$



RR- sintomas.da.dengue Adj. R squared = 7e-04


# Rio Grande do Sul (RS) <br> Dengue incidence vs. Google Health Trends (2011-2016) 

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Rio Grande do Sul (RS)



Four


Uncorrelated
( $\mathrm{n}=4$ )


# Individual terms Adjusted R squared 

Rio Grande do Sul (RS)

RS- aedes.aegypti
Adj. $\mathbf{R}$ squared $=0.5611$


RS- aedes
Adj. R squared $=0.5374$






RS- dengue.virus
Adj. R squared $=0.5576$



RS- mosquito.dengue
Adj. R squared $=0.6513$



RS- mosquitoes


RS- sintomas.da.dengue Adj. R squared $=0.7099$


## Santa Catarina (SC)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Santa Catarina (SC)

## BR-SC <br> Adj. $\mathbf{R}$ squared $\mathbf{= 0 . 8 2 5 5}$



## BR-SC <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 8 2 4 8}$



## BR-SC <br> Adj. R squared $\mathbf{= 0 . 7 8 7 8}$



## Individual terms Adjusted R squared

## Santa Catarina (SC)

## SC- aedes.aegypti <br> Adj. R squared $=0.5592$



## SC- aedes <br> Adj. R squared $=0.5644$



## SC- aegypti <br> Adj. R squared $=0.5583$



## SC- dengue <br> Adj. R squared $\mathbf{= 0 . 8 0 3 2}$



## SC- dengue.sintomas <br> Adj. R squared $\mathbf{= 0 . 8 1 0 5}$



## SC- dengue.virus <br> Adj. R squared $=0.5382$



## SC- mosquito.dengue <br> Adj. R squared = 0.733



## SC- mosquito <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 3 6 4 1}$



SC- sintomas.da.dengue
Adj. R squared $=0.7884$


## Sergipe (SE)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Sergipe (SE)



Four

## BR-SE <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 3 0 0 1}$



Uncorrelated ( $\mathrm{n}=3$ )

## BR-SE <br> Adj. $\mathbf{R}$ squared $=0.2159$



## Individual terms Adjusted R squared

## Sergipe (SE)

SE- aedes.aegypti
Adj. R squared $=0.1128$


## SE- aedes <br> Adj. R squared $=0.1265$



## SE- aegypti <br> Adj. R squared $=\mathbf{0 . 1 2 2 1}$



## SE- dengue <br> Adj. R squared $=\mathbf{0 . 2 8 7 8}$



## SE- dengue.sintomas <br> Adj. R squared $\mathbf{= 0 . 1 5 0 6}$



## SE- mosquito.dengue Adj. R squared $=0.1392$



## SE- mosquito <br> Adj. $\mathbf{R}$ squared $=0.1539$



SE- sintomas.da.dengue
Adj. R squared $=0.0596$


## São Paulo (SP)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## São Paulo (SP)

# All <br> ( $\mathrm{n}=13$ ) 



Four


Uncorrelated


## Individual terms Adjusted R squared

## São Paulo (SP)

SP- aedes.aegypti
Adj. $R$ squared $=0.0918$



## SP- aegypti <br> Adj. $\mathbf{R}$ squared $=0.0917$




## SP- dengue.hemorrhagic.fever Adj. R squared $\mathbf{=} \mathbf{0 . 1 8 6 2}$









## SP- mosquitoes

Adj. R squared $=\mathbf{- 0 . 0 0 1 2}$


SP- sintomas.da.dengue
Adj. R squared $=0.8396$


## Tocantins (TO)

Dengue incidence vs. Google Health Trends (2011-2016)

## Definitions:

- Combined terms:
- All: model with all the available terms. $\mathrm{n}=$ number of terms
- Four: model with "dengue", "dengue sintomas", "aedes", and "mosquito".
- Uncorrelated: model with noncorrelated terms. $\mathrm{n}=$ number of uncorrelated terms
- Individual terms: Plots developed with one term at a time.
- Terms for all and uncorrelated models can be found in additional file 3.


# Combined terms <br> Adjusted R squared 

## Tocantins (TO)

# All <br> ( $\mathrm{n}=8$ ) 

## BR-TO <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 4 1 5 1}$



Four

## BR-TO <br> Adj. $\mathbf{R}$ squared $=0.4009$



# Uncorrelated <br> ( $\mathrm{n}=3$ ) 

## BR-TO <br> Adj. R squared $=\mathbf{0 . 3 4 1 5}$



# Individual terms Adjusted R squared 

## Tocantins (TO)

## TO- aedes.aegypti <br> Adj. R squared $=0.113$



## TO- aedes <br> Adj. R squared $=0.1808$



TO- aegypti
Adj. R squared $=\mathbf{0 . 1 1 4 4}$


## TO- dengue <br> Adj. $\mathbf{R}$ squared $=0.3133$



TO- dengue.sintomas
Adj. R squared $=0.303$



## TO- mosquito <br> Adj. $\mathbf{R}$ squared $=\mathbf{0 . 1 6 8 1}$



TO- sintomas.da.dengue
Adj. R squared = 0.1842


