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

Daniel Romero-Alvarez, Nidhi Parikh, Dave Osthus, Kaitlyn Martinez, Nicholas Generous, Sara del Valle, Carrie A. Manore

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 Brazilian states

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- Sergipe (SE)
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### Acré (AC)

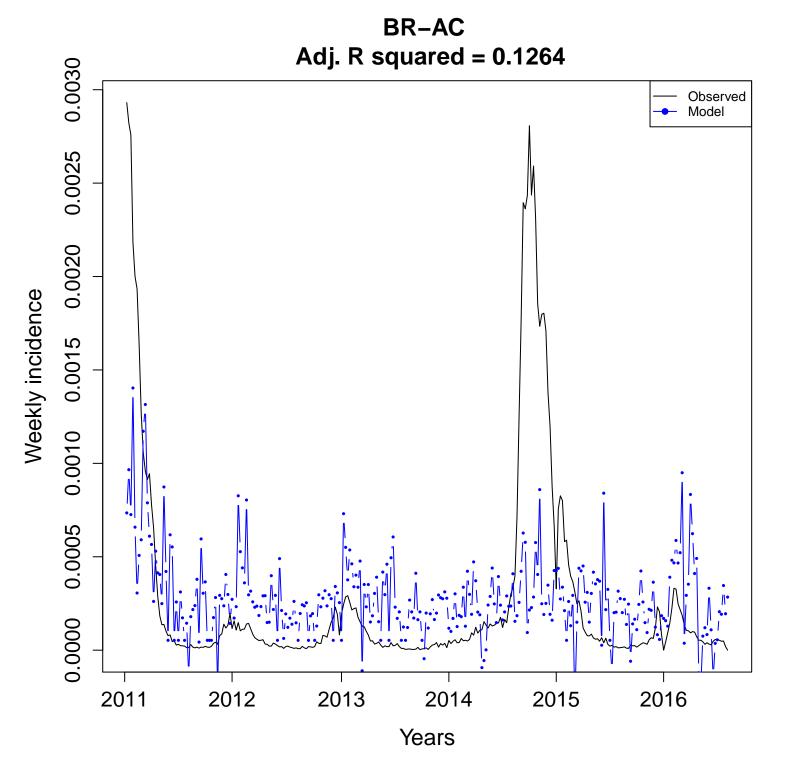
### Dengue incidence vs. Google Health Trends (2011–2016)

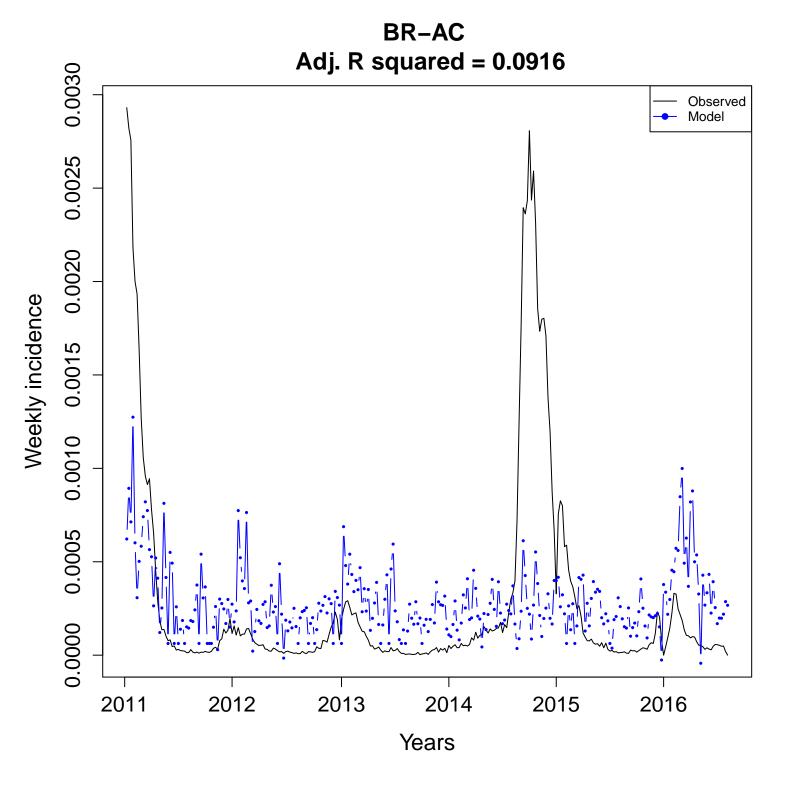
### **Definitions:**

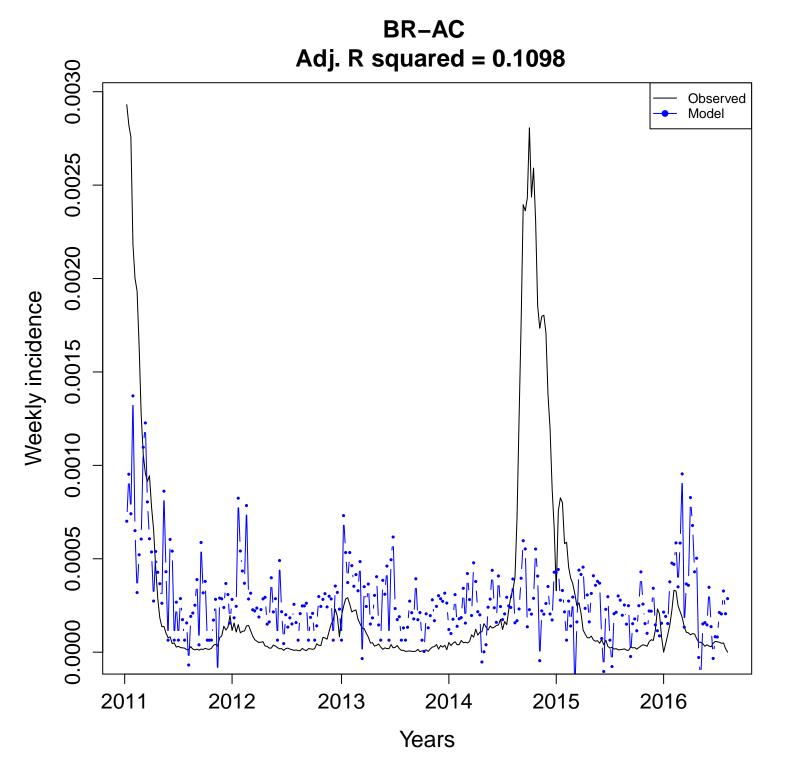
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# **Combined terms Adjusted R squared**

Acré (AC)



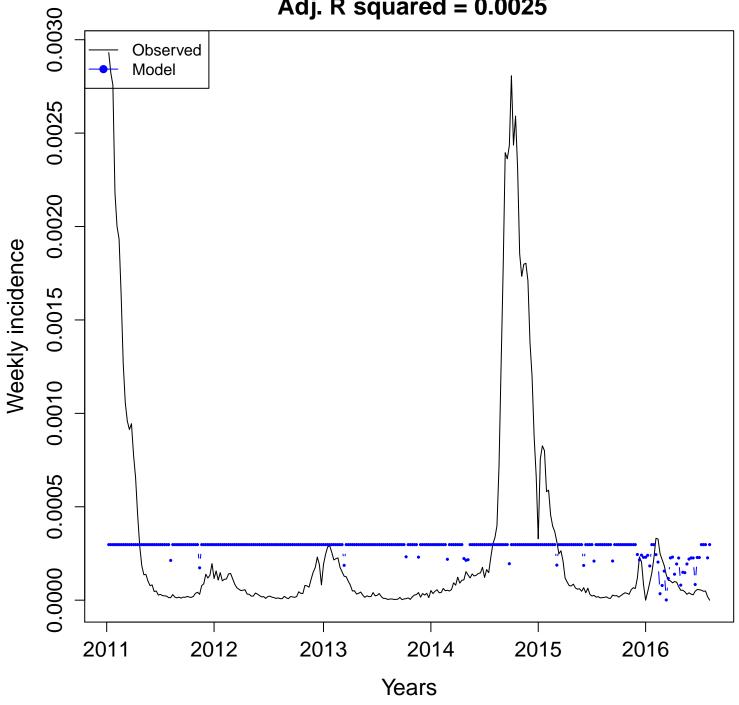




# **Individual terms Adjusted R squared**

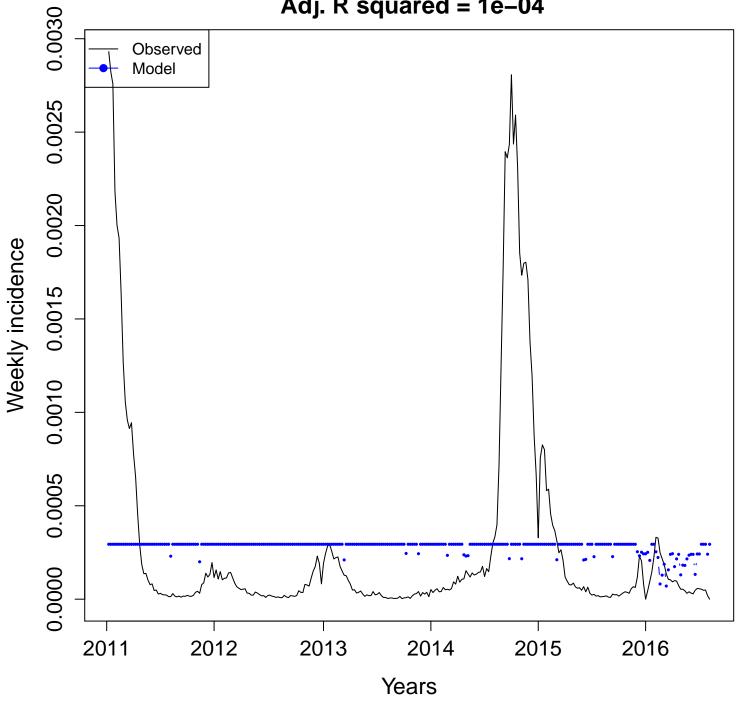
Acré (AC)

AC- aedes.aegypti Adj. R squared = 0.0025

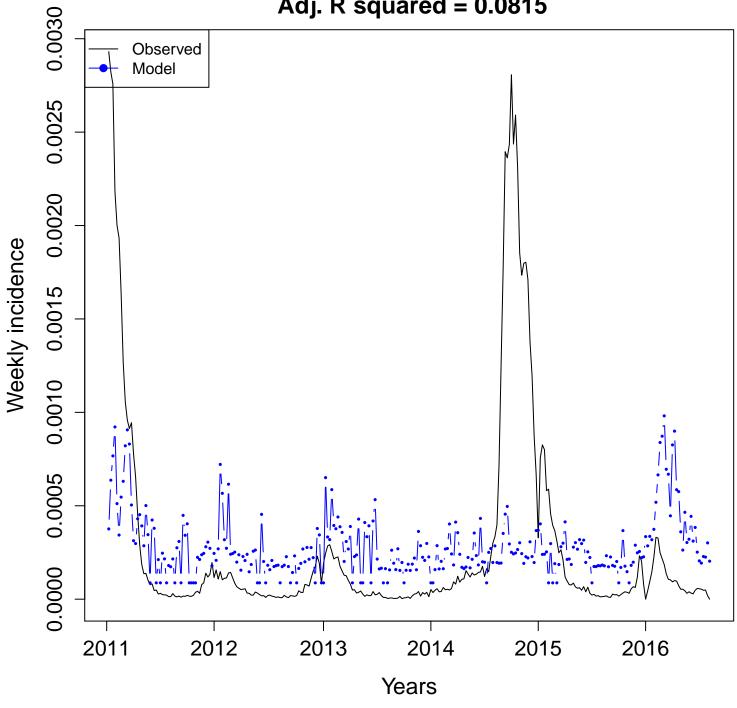


AC- aedes Adj. R squared = -0.00160.0000 0.0005 0.0010 0.0015 0.0020 0.0025 0.0030 Observed Model Weekly incidence 2012 2013 2016 2011 2015 2014 Years

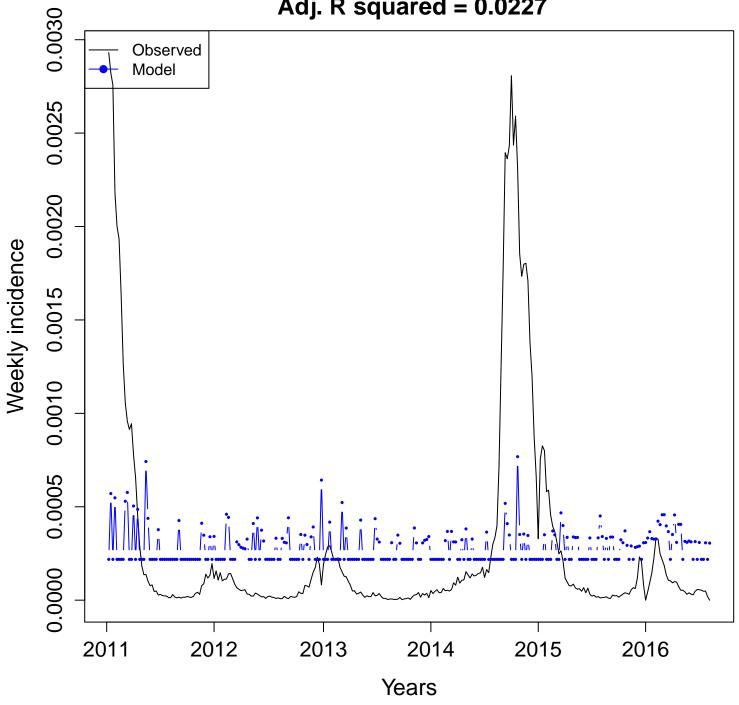
AC- aegypti Adj. R squared = 1e-04



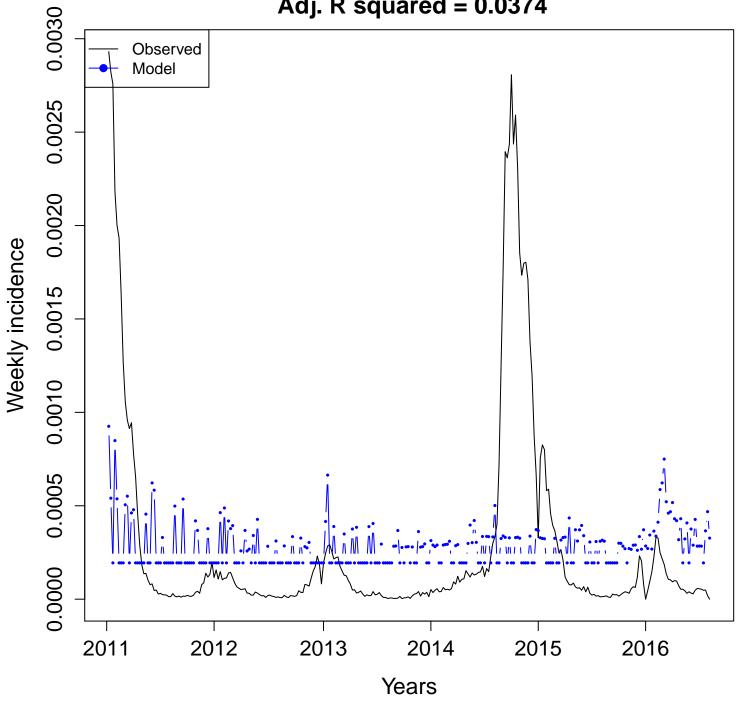
AC- dengue Adj. R squared = 0.0815



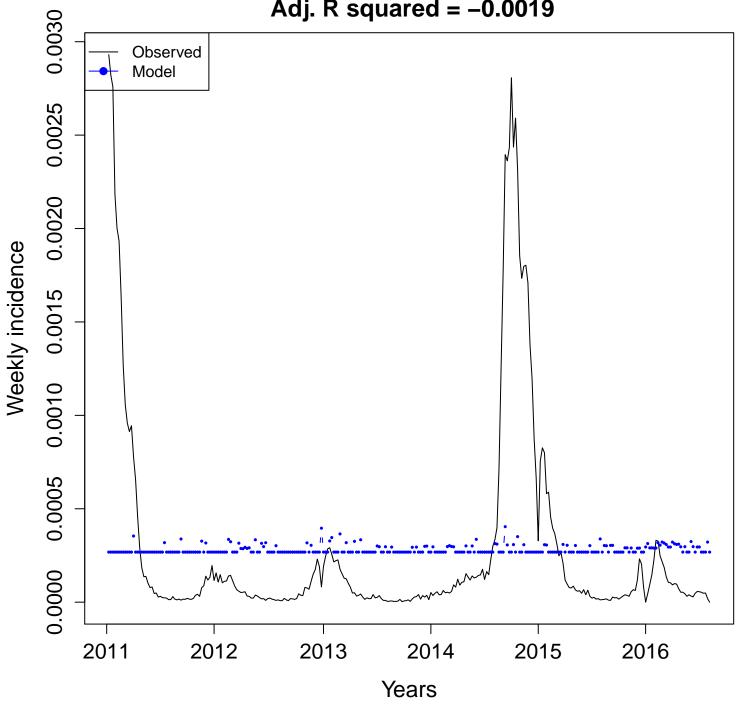
AC- dengue.sintomas Adj. R squared = 0.0227



AC- mosquito Adj. R squared = 0.0374



AC- sintomas.da.dengue Adj. R squared = -0.0019



### **Alagoas (AL)**

### Dengue incidence vs. Google Health Trends (2011–2016)

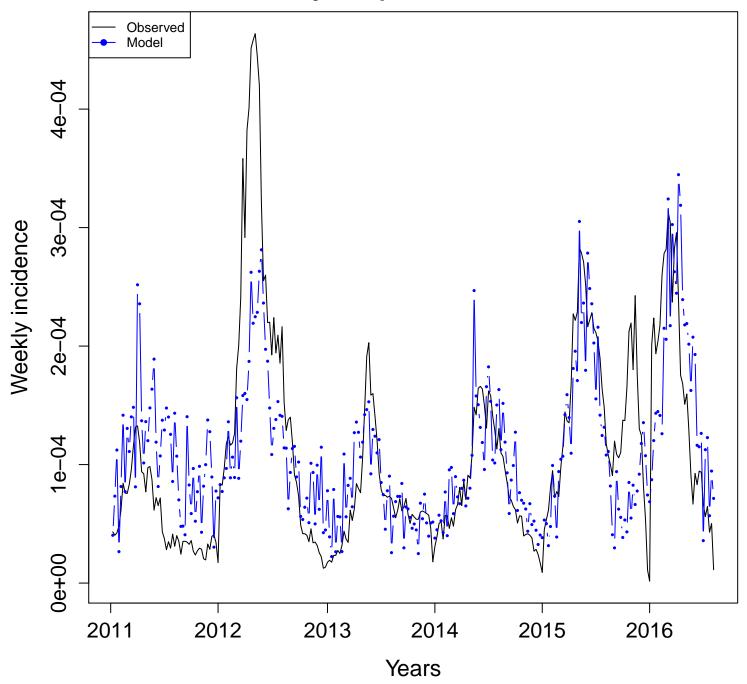
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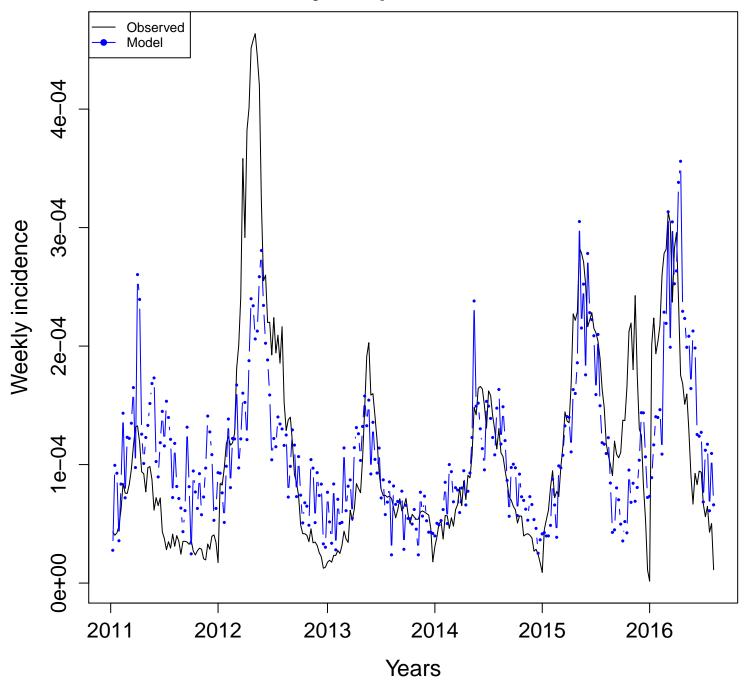
# **Combined terms Adjusted R squared**

Alagoas (AL)

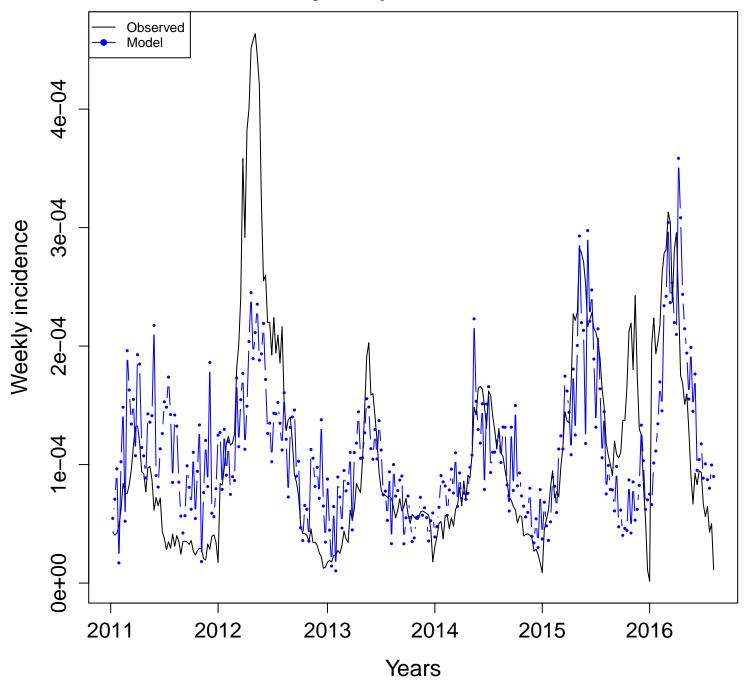
BR-AL Adj. R squared = 0.4807



BR-AL Adj. R squared = 0.4702



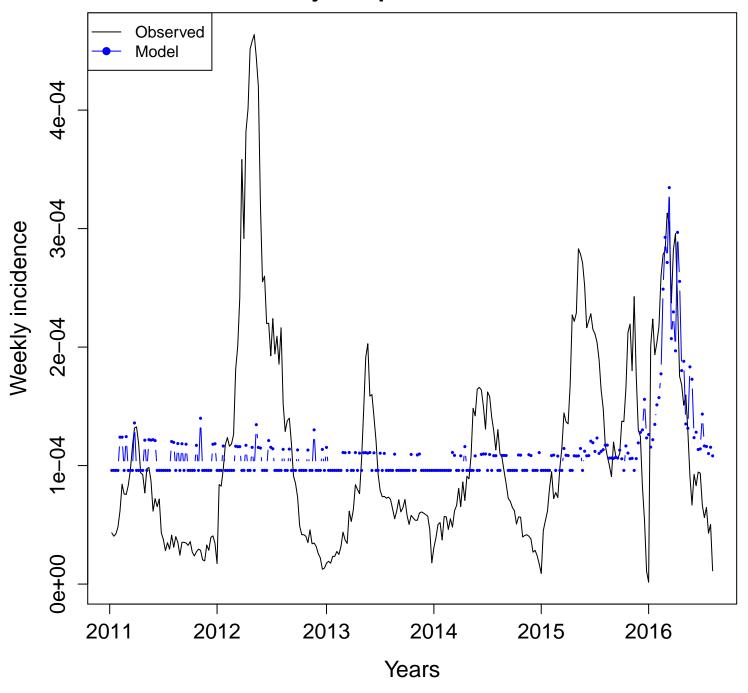
BR-AL Adj. R squared = 0.4182



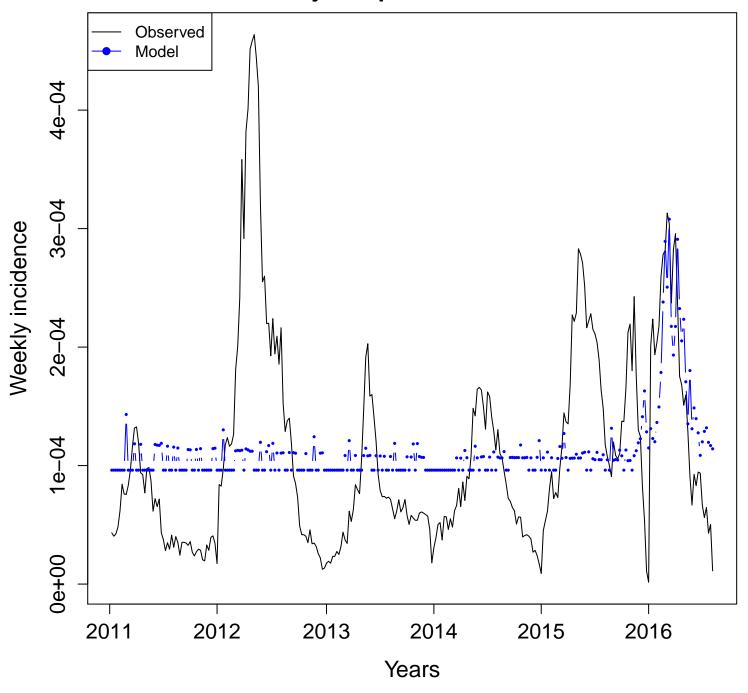
# **Individual terms Adjusted R squared**

Alagoas (AL)

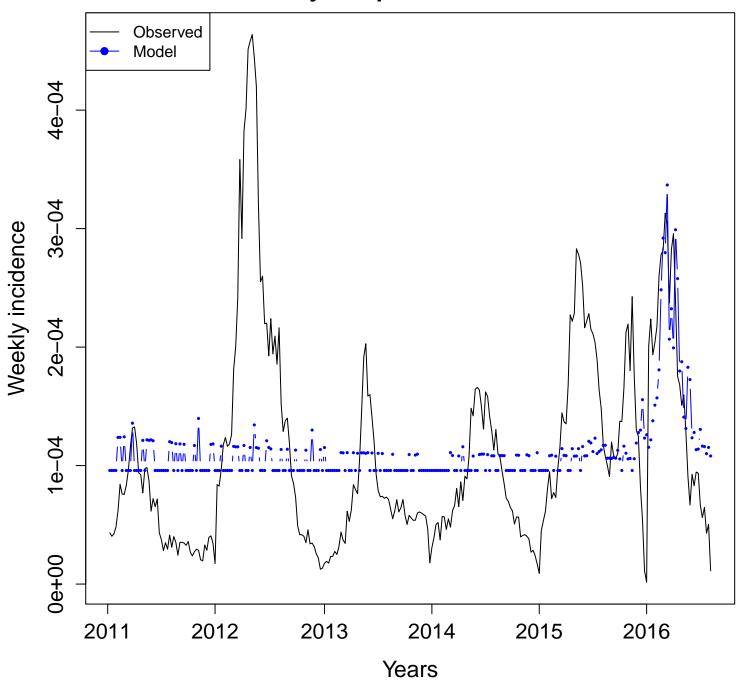
AL- aedes.aegypti Adj. R squared = 0.1212



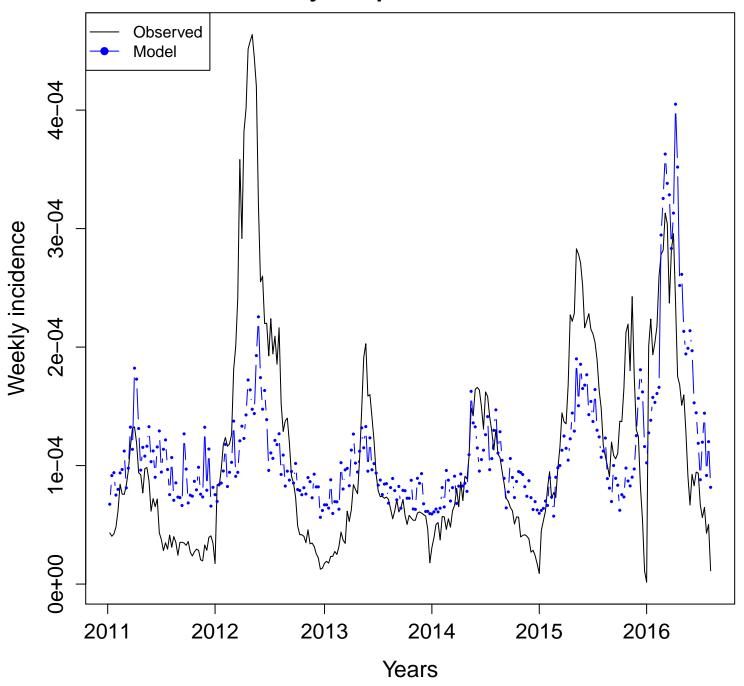
AL- aedes Adj. R squared = 0.1107



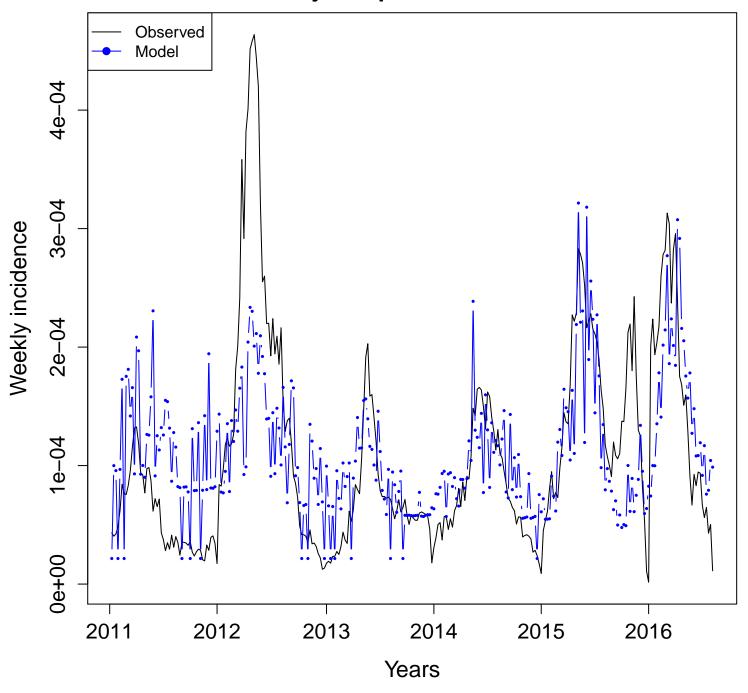
AL- aegypti Adj. R squared = 0.1238



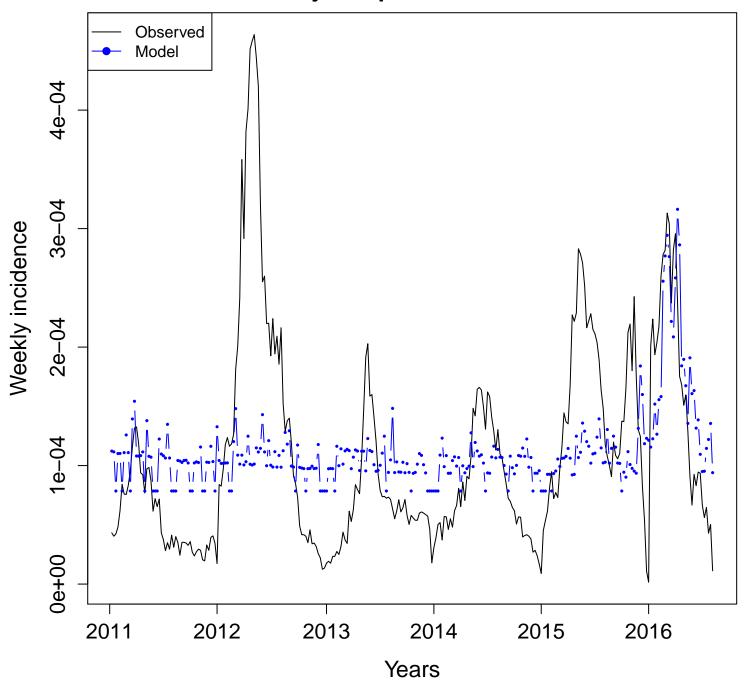
AL- dengue Adj. R squared = 0.3605



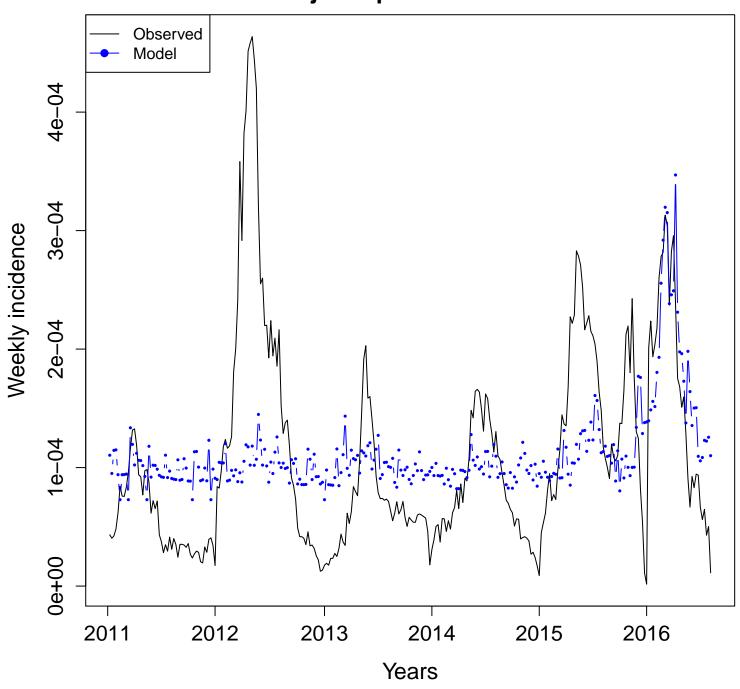
AL- dengue.sintomas Adj. R squared = 0.3877



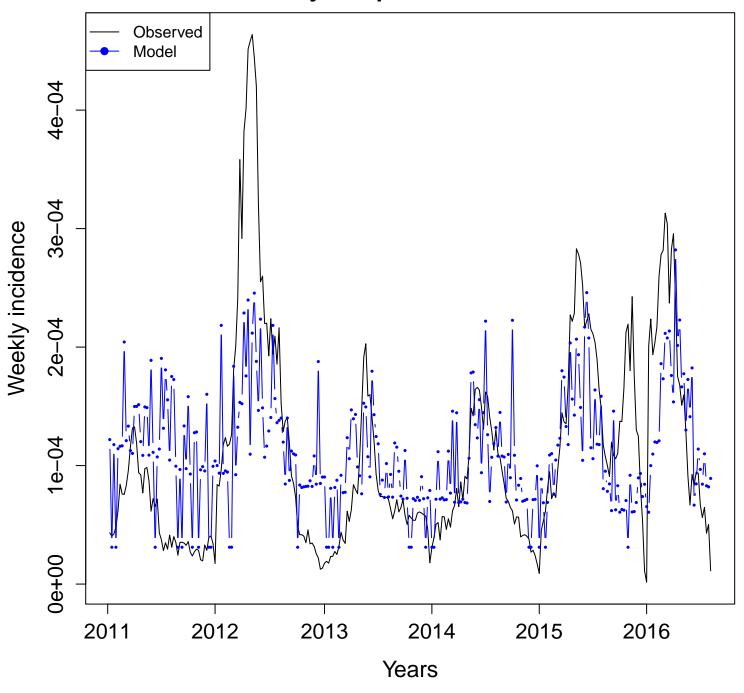
AL- mosquito.dengue Adj. R squared = 0.1463



AL- mosquito Adj. R squared = 0.1693



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



### **Amazonas (AM)**

### Dengue incidence vs. Google Health Trends (2011–2016)

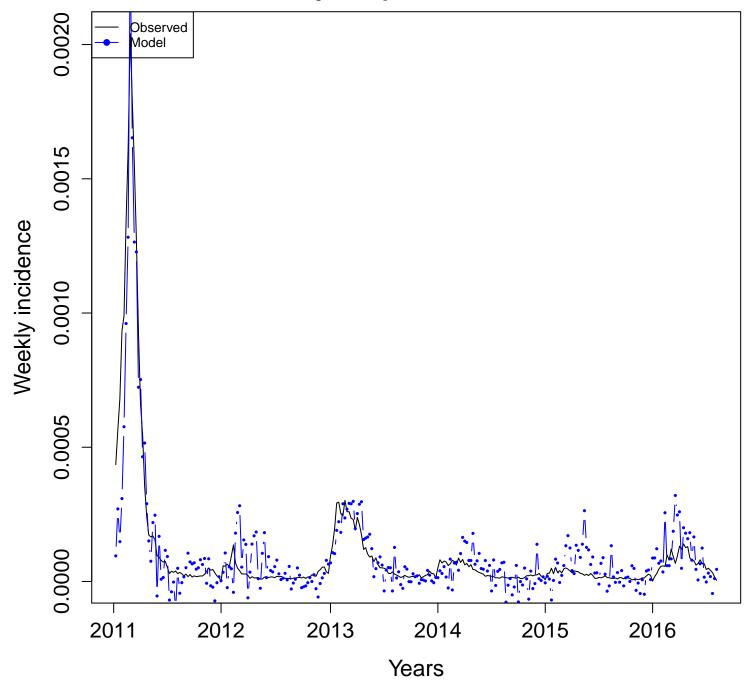
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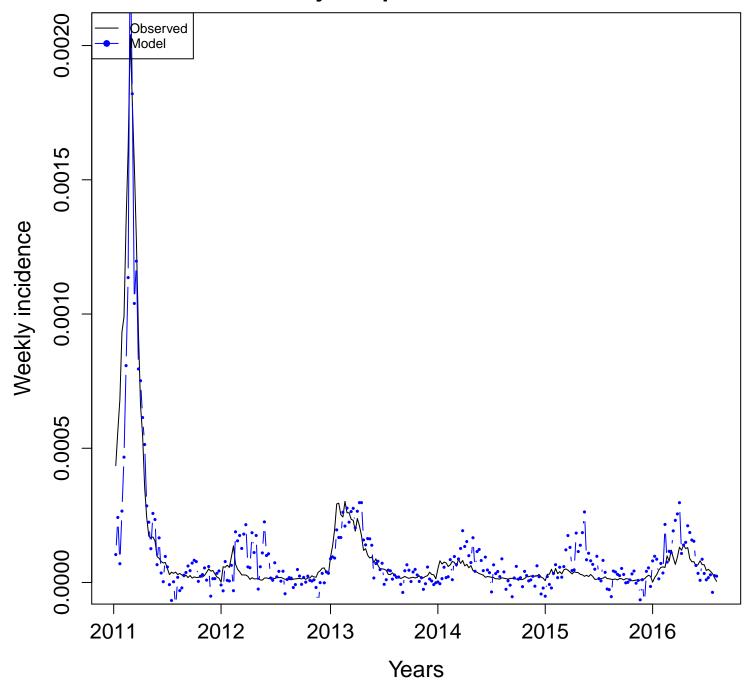
## **Combined terms Adjusted R squared**

**Amazonas (AM)** 

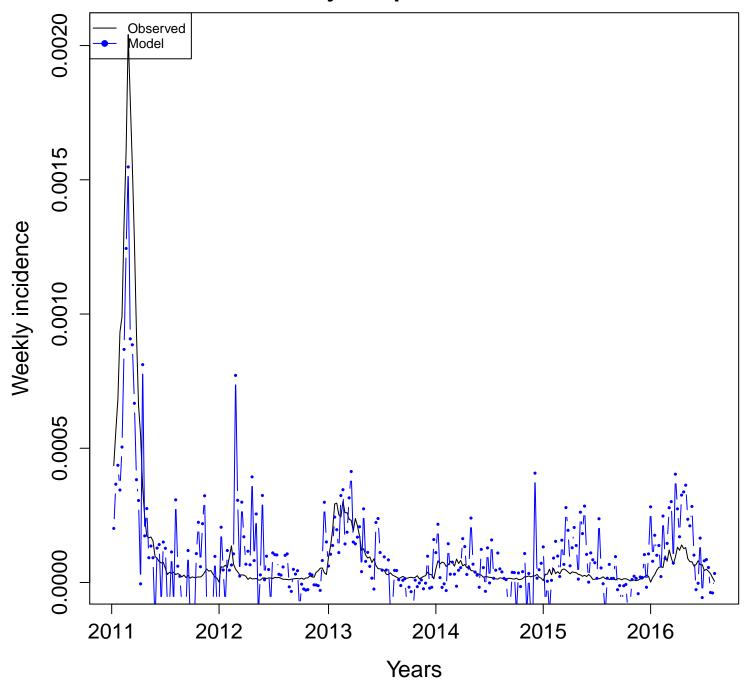
BR-AM Adj. R squared = 0.8469



BR-AM Adj. R squared = 0.8205



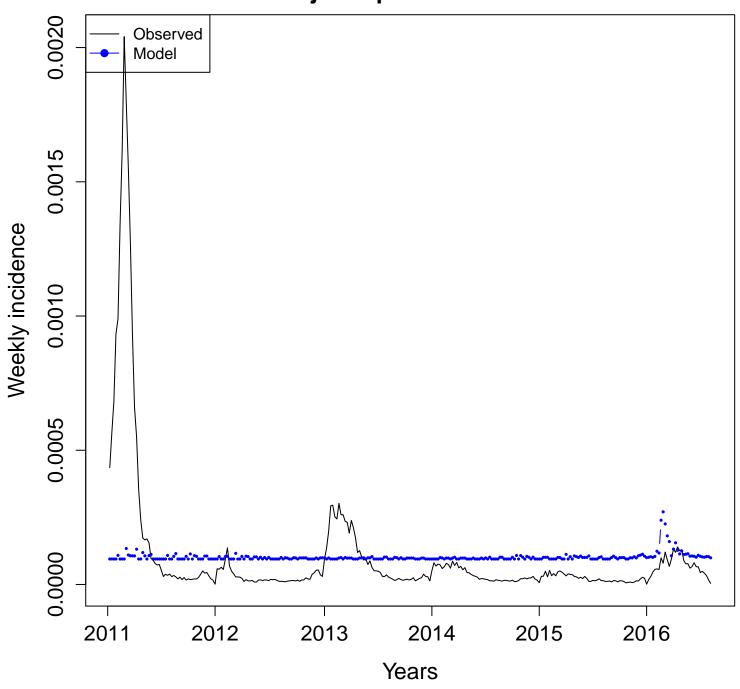
BR-AM Adj. R squared = 0.59



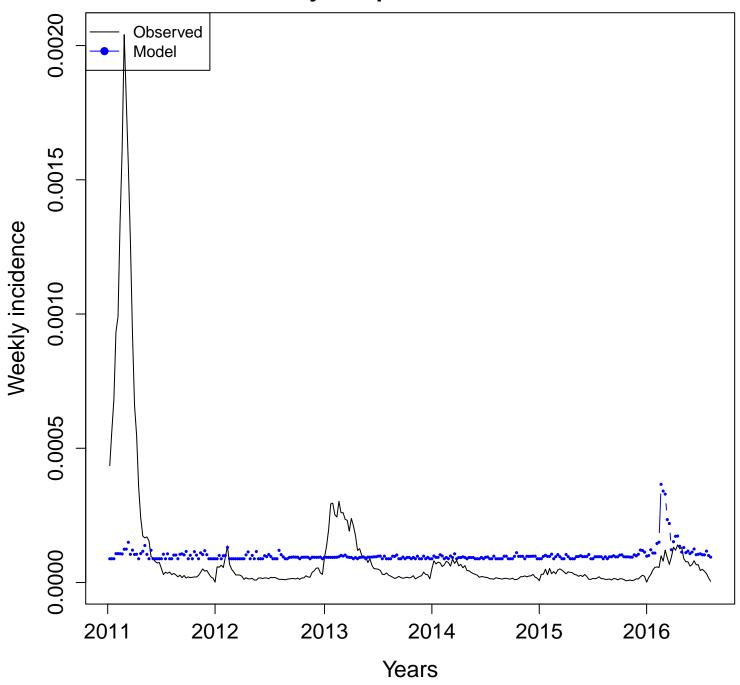
# **Individual terms Adjusted R squared**

**Amazonas (AM)** 

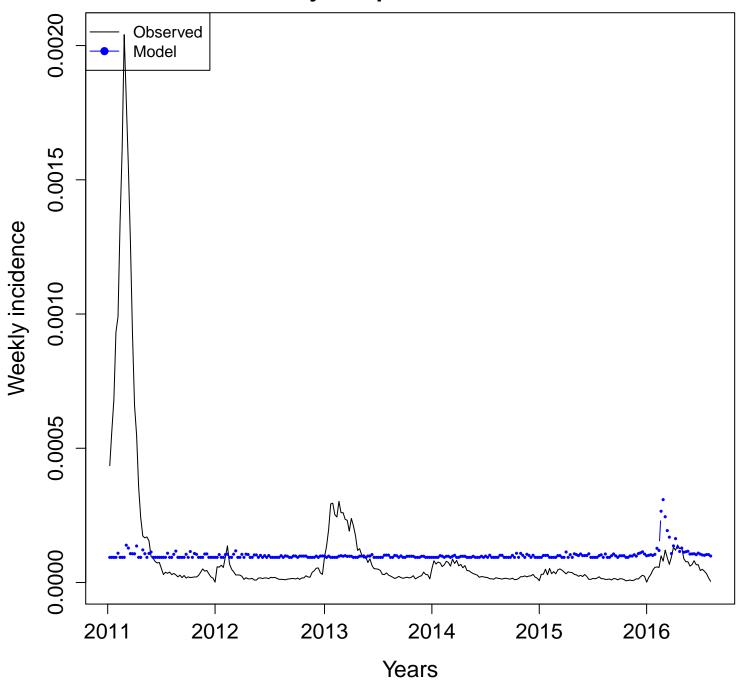
AM- aedes.aegypti Adj. R squared = 0.0013



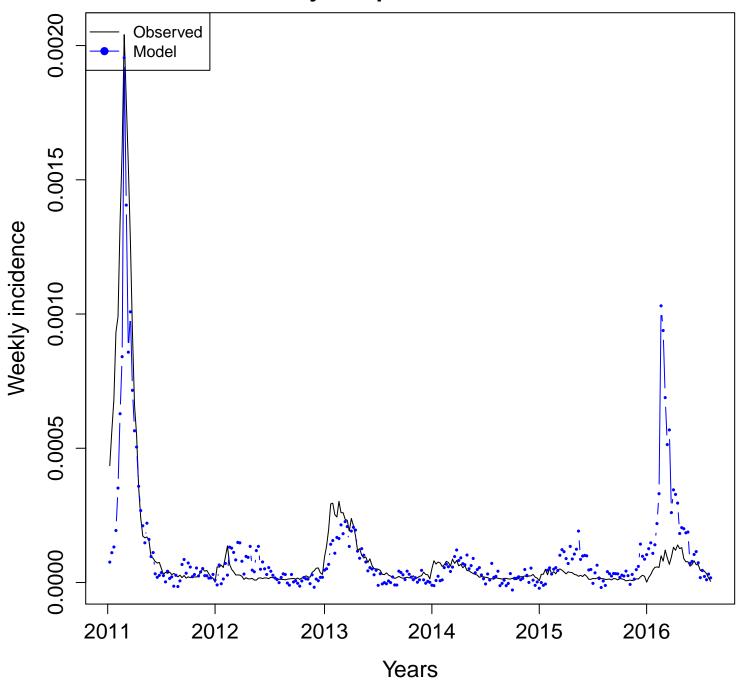
AM- aedes Adj. R squared = 0.0104



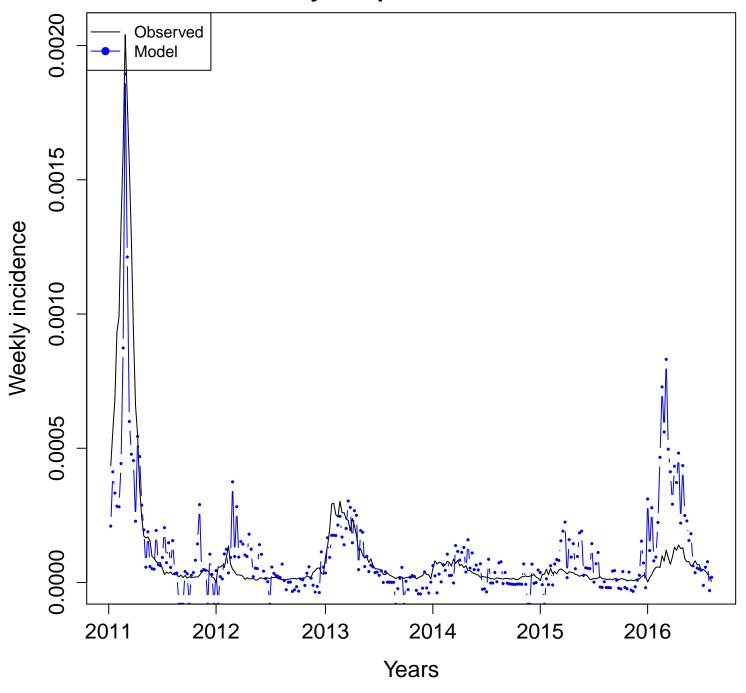
AM- aegypti Adj. R squared = 0.0033



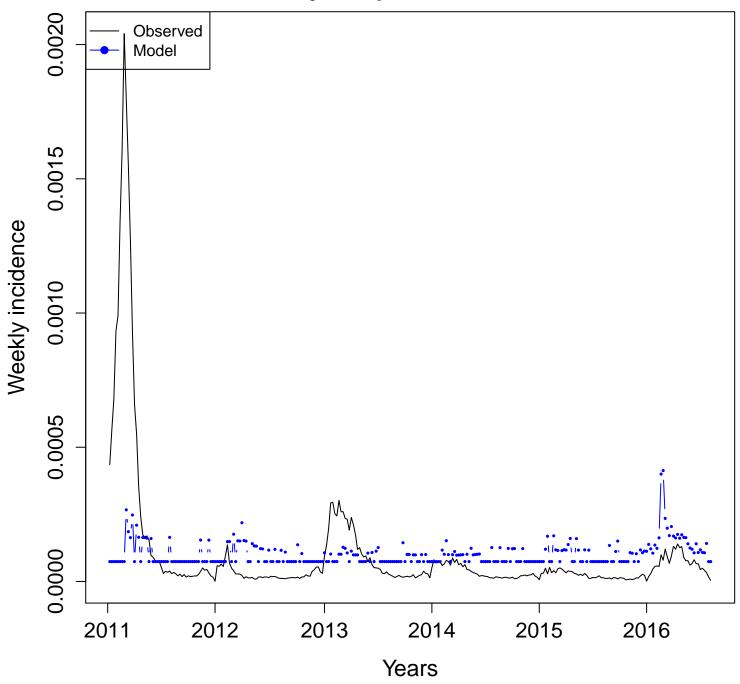
AM- dengue Adj. R squared = 0.6458



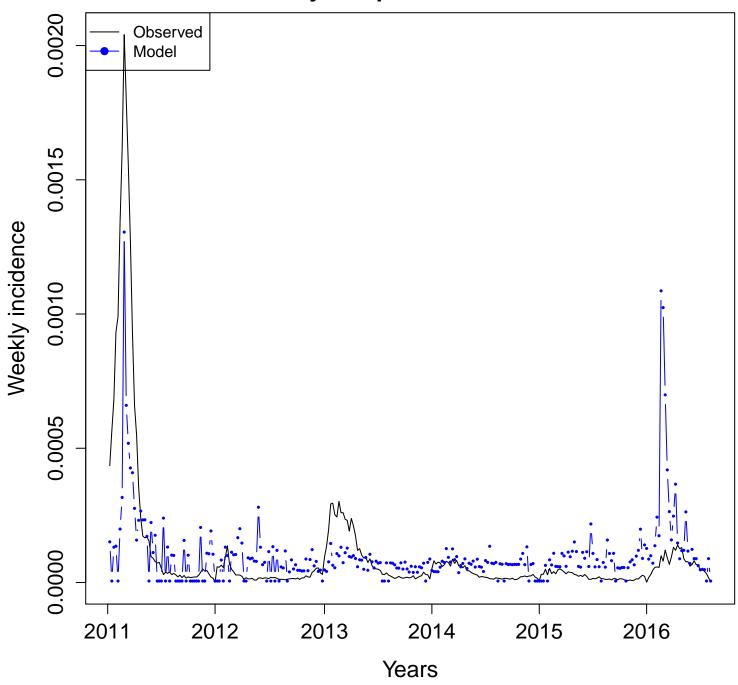
AM- dengue.sintomas Adj. R squared = 0.5616



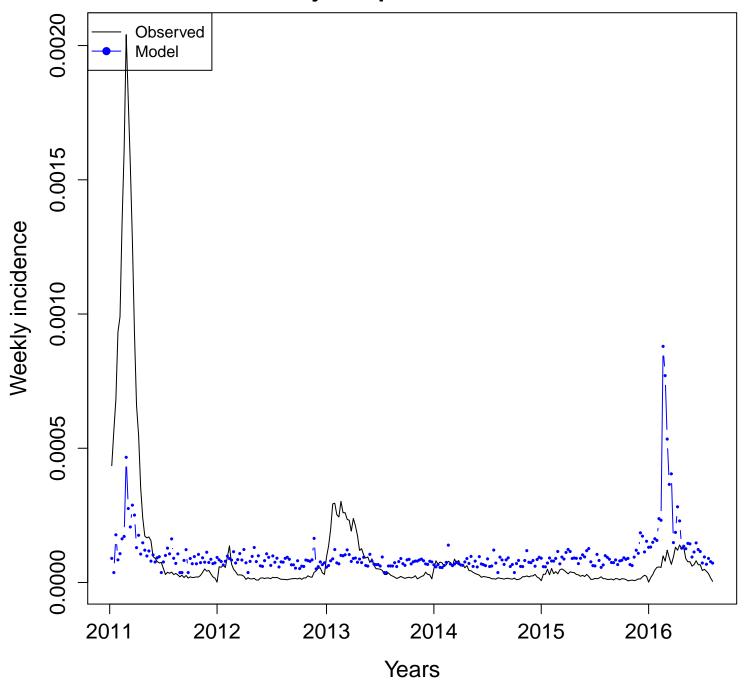
AM- dengue.virus Adj. R squared = 0.0266



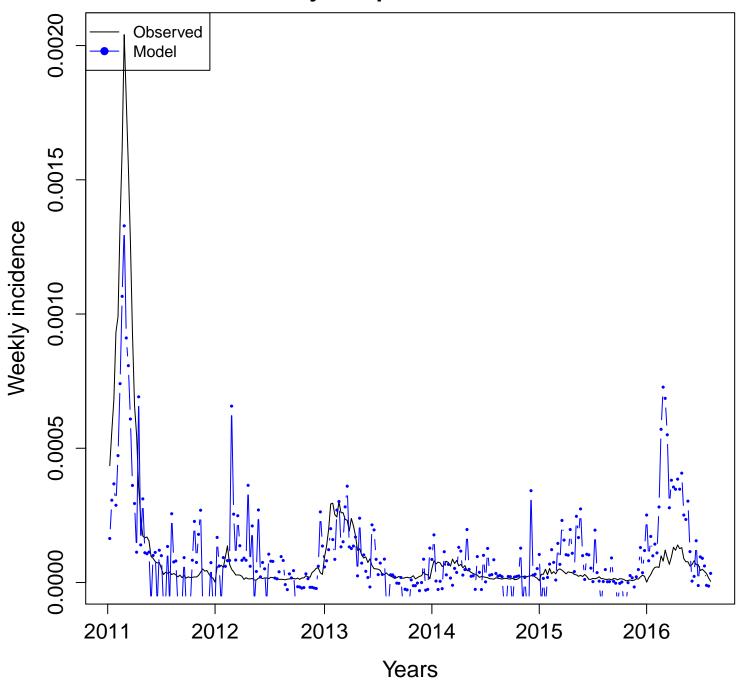
AM- mosquito.dengue Adj. R squared = 0.2934



AM- mosquito Adj. R squared = 0.1024



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



### Amapá (AP)

### Dengue incidence vs. Google Health Trends (2011–2016)

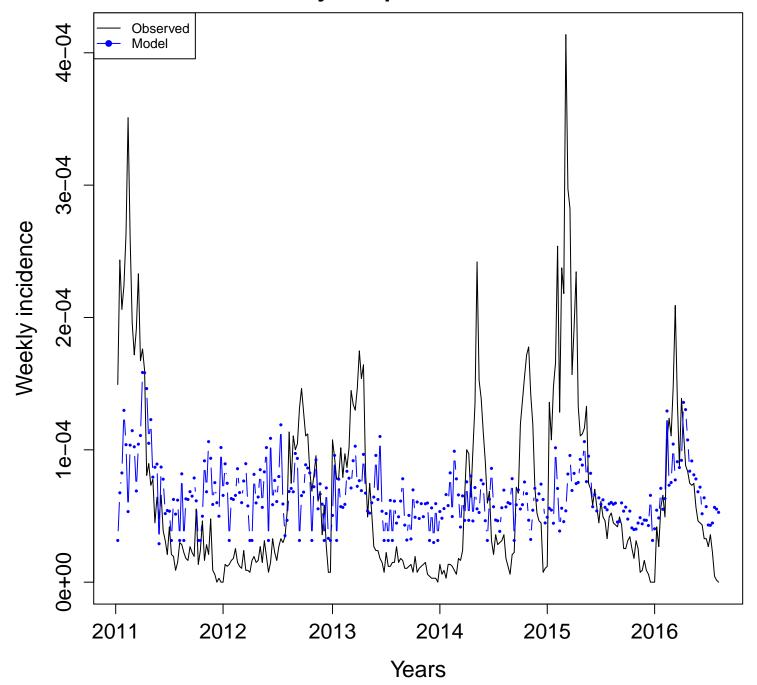
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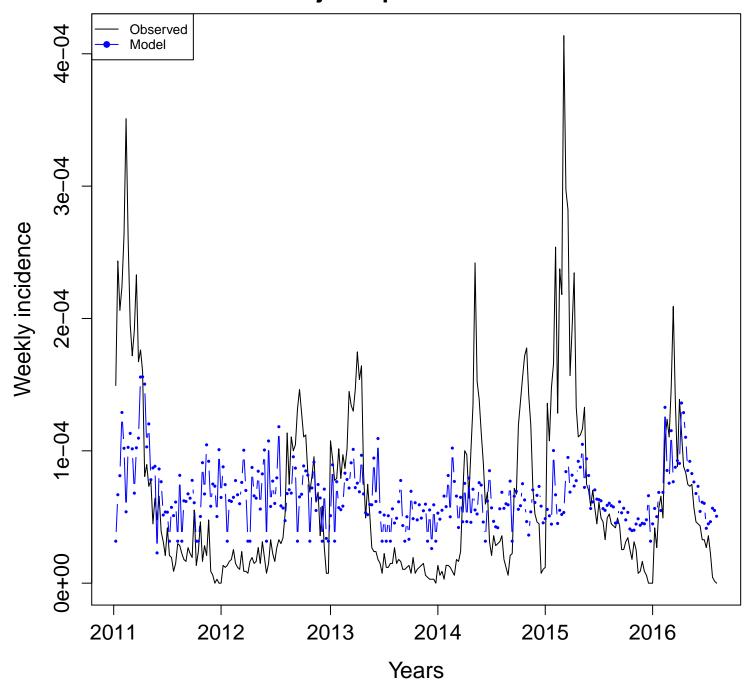
## **Combined terms Adjusted R squared**

Amapá (AP)

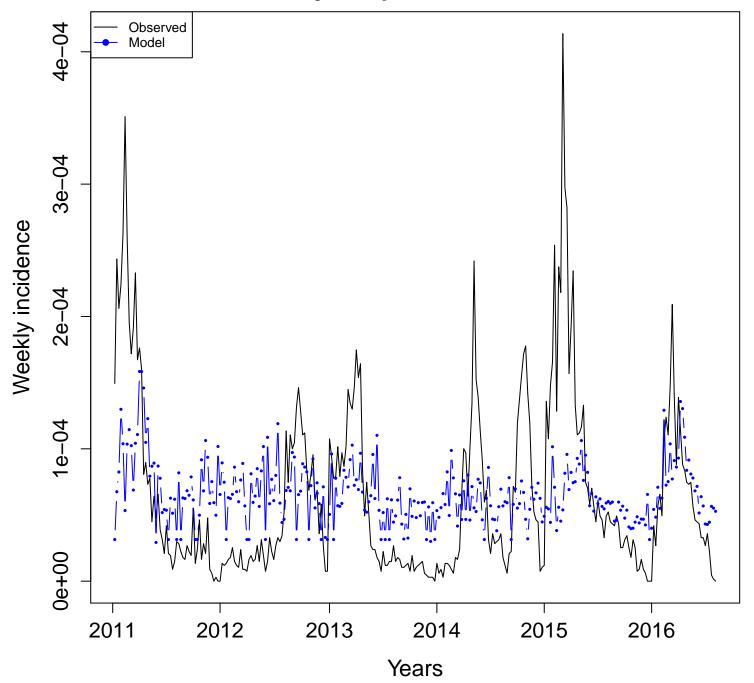
BR-AP Adj. R squared = 0.0957



BR-AP Adj. R squared = 0.1032



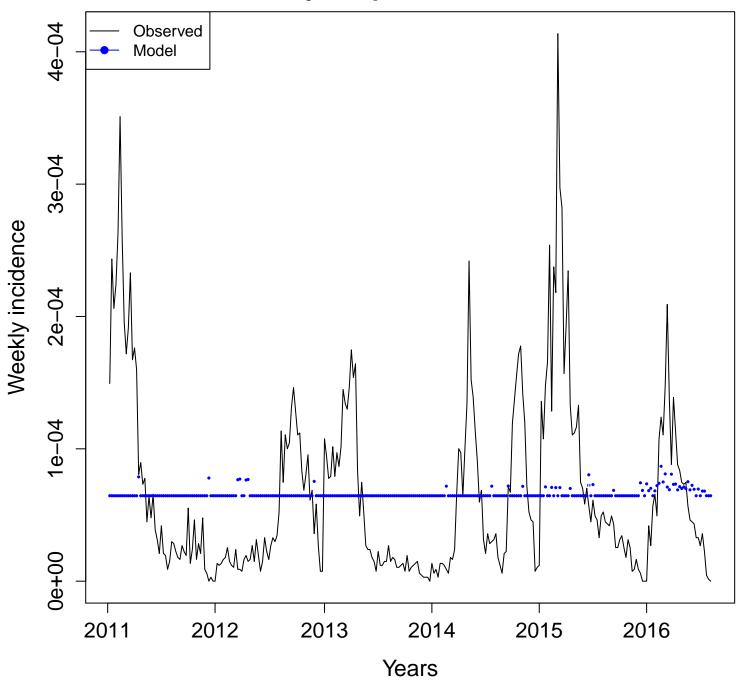
BR-AP Adj. R squared = 0.0988



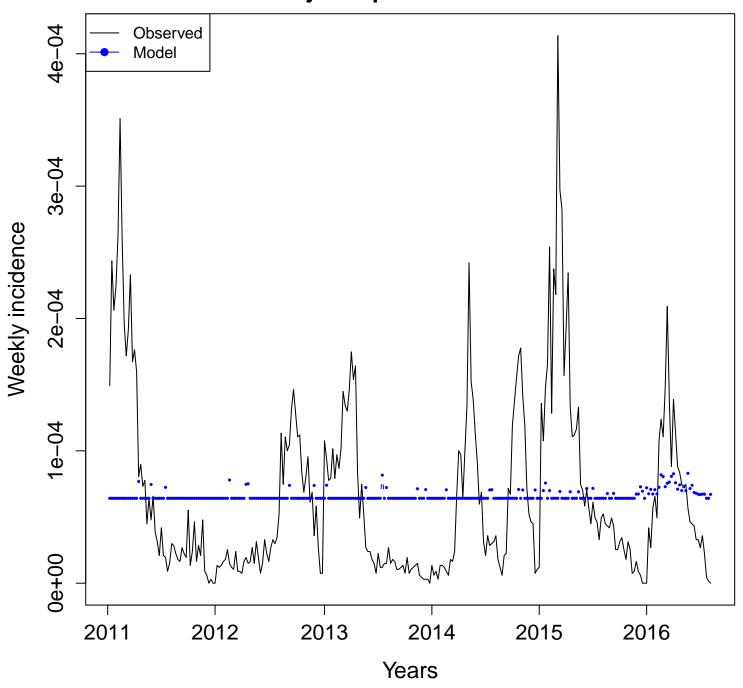
# Individual terms Adjusted R squared

Amapá (AP)

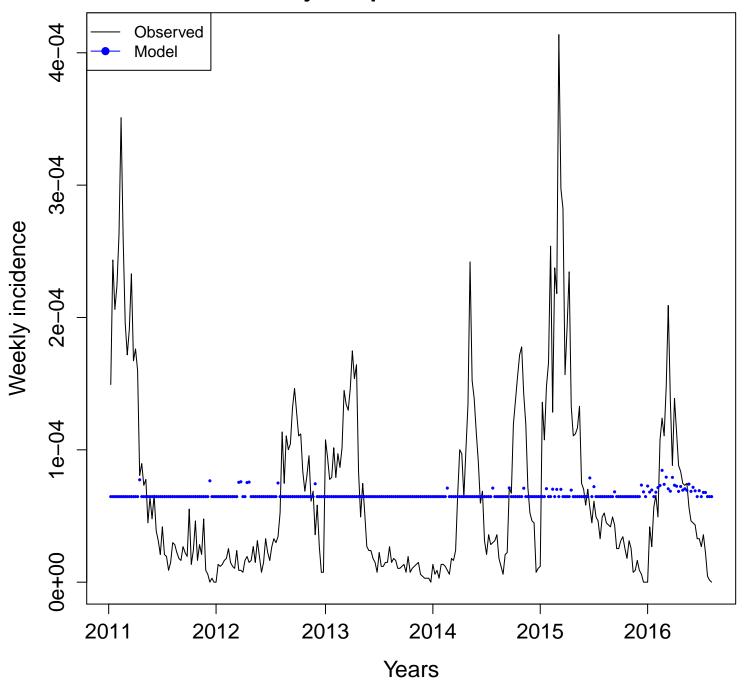
AP- aedes.aegypti Adj. R squared = -9e-04



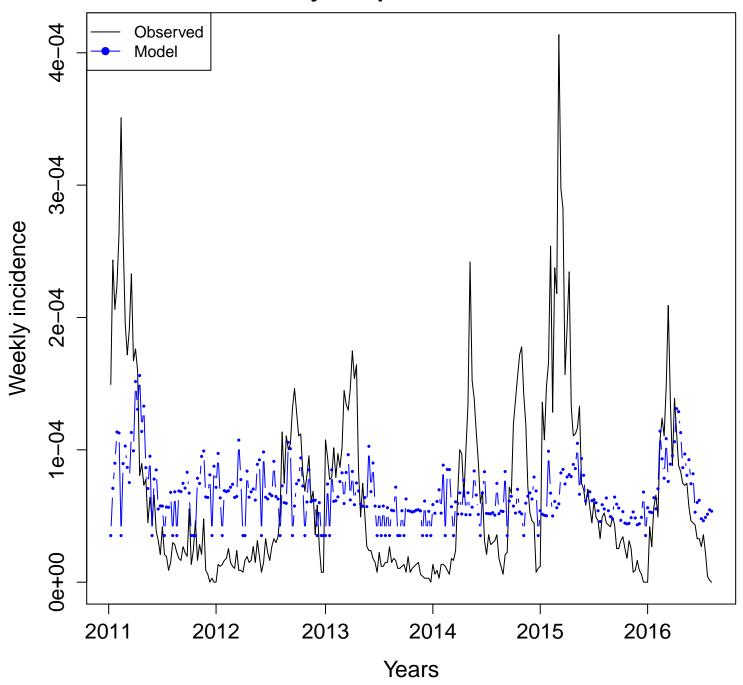
AP- aedes Adj. R squared = -3e-04



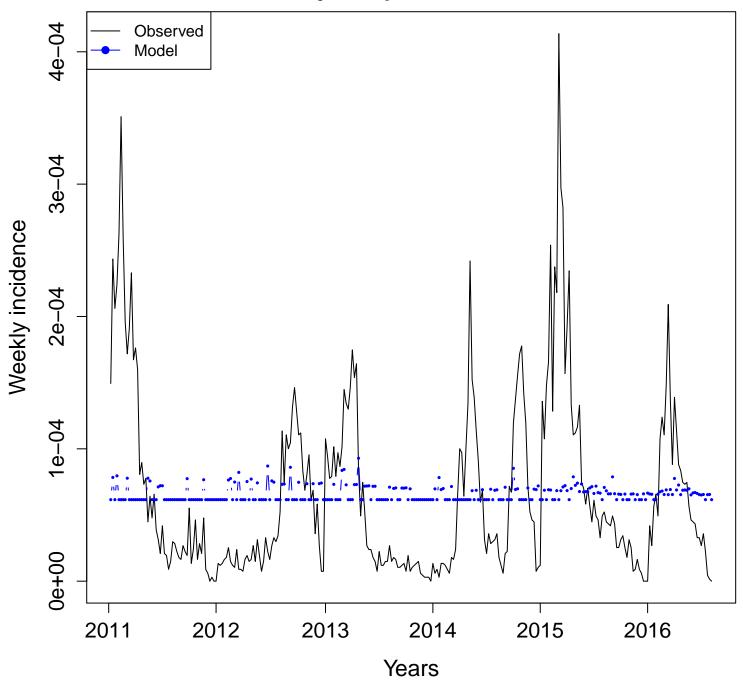
AP- aegypti Adj. R squared = -0.0013



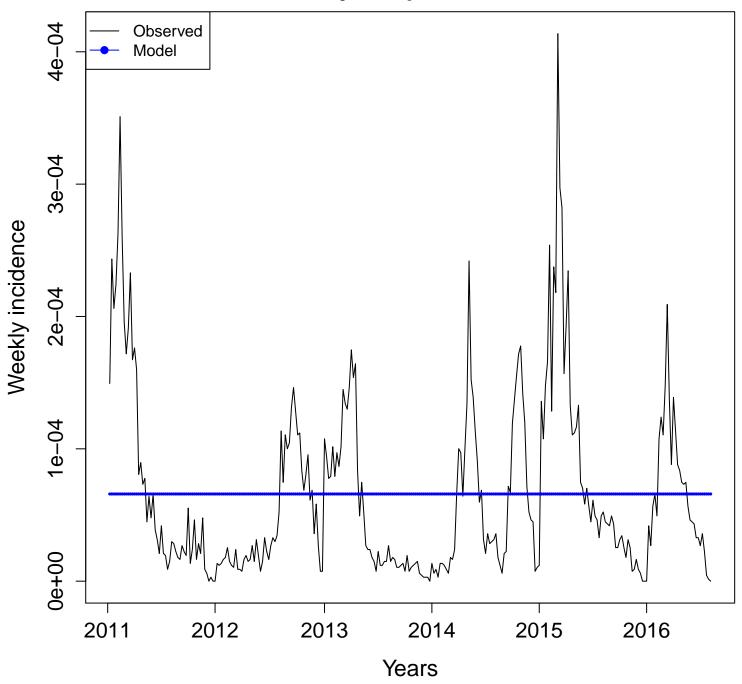
AP- dengue Adj. R squared = 0.0999



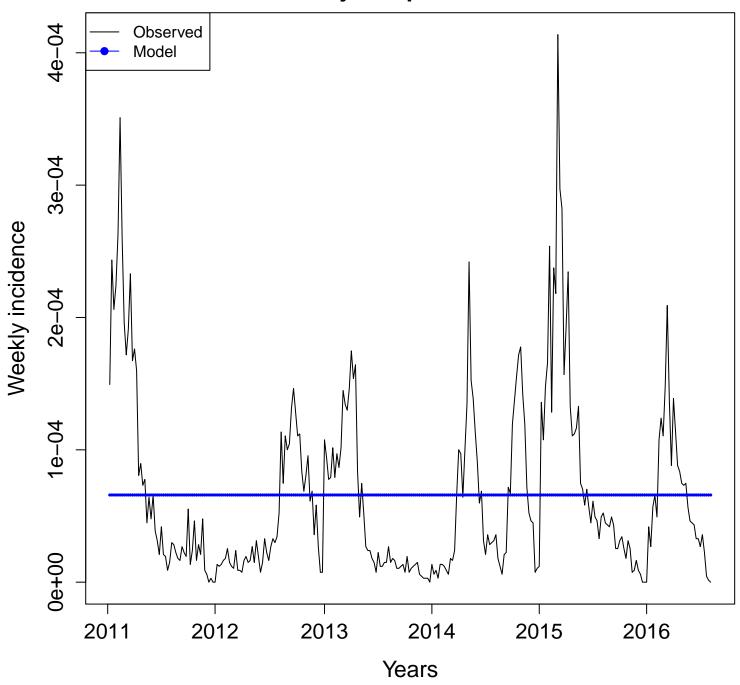
AP- dengue.sintomas Adj. R squared = 0.004



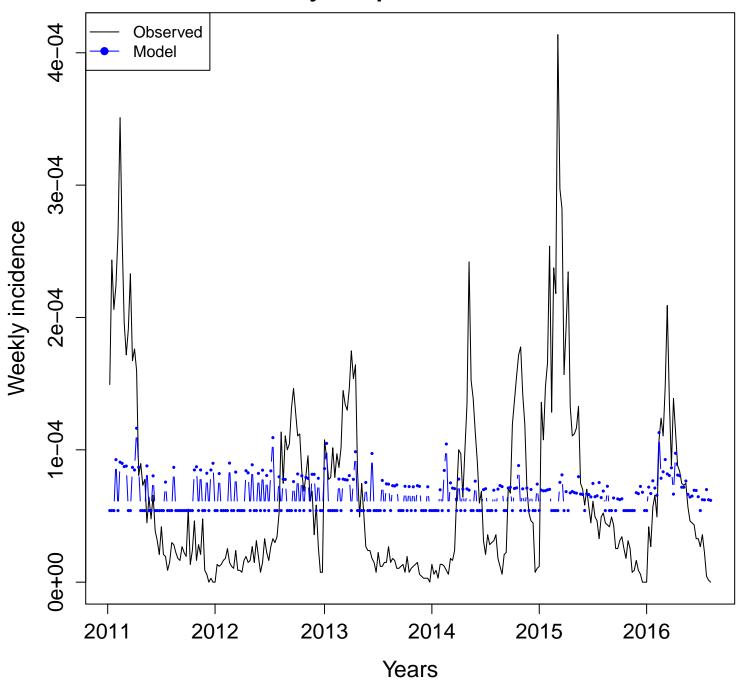
AP- dengue.virus Adj. R squared = 0



AP- mosquito.dengue Adj. R squared = 0



AP- mosquito Adj. R squared = 0.0355



### **Bahia (BA)**

### Dengue incidence vs. Google Health Trends (2011–2016)

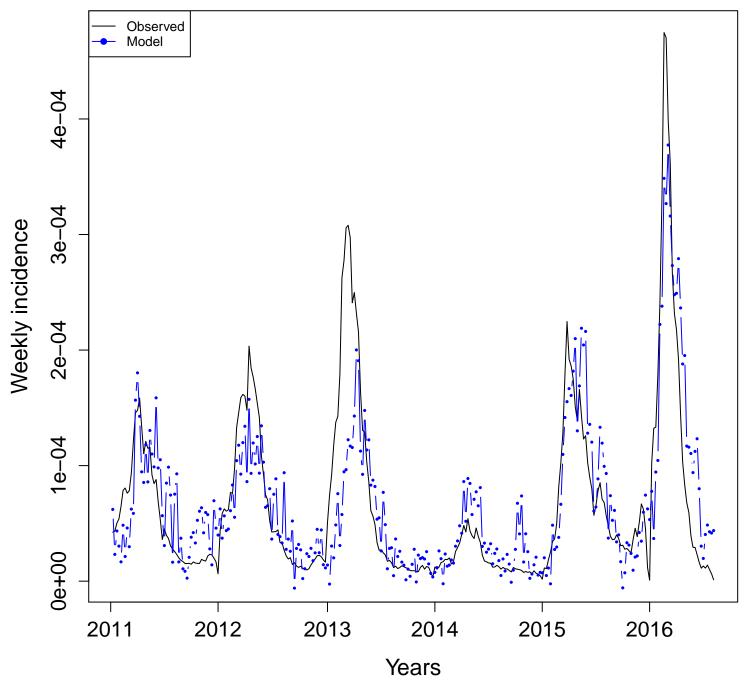
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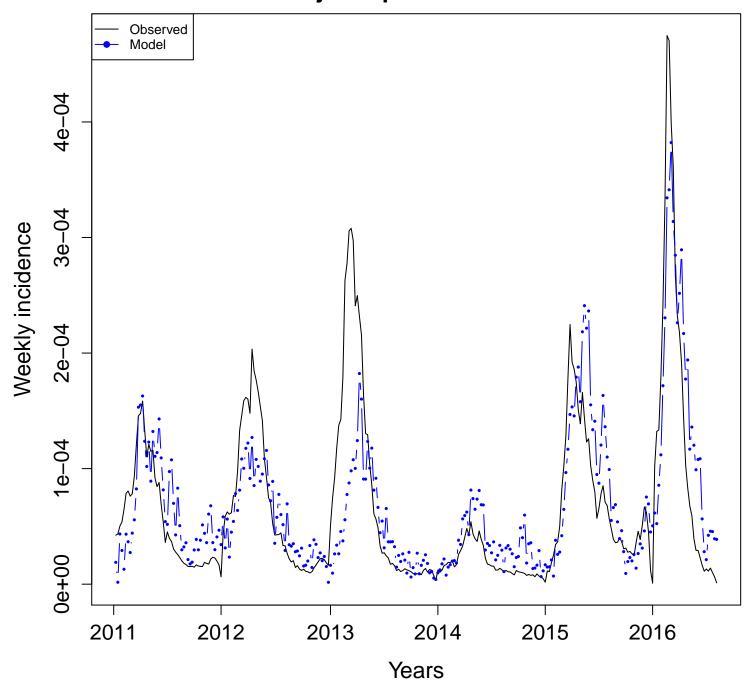
## **Combined terms Adjusted R squared**

Bahia (BA)

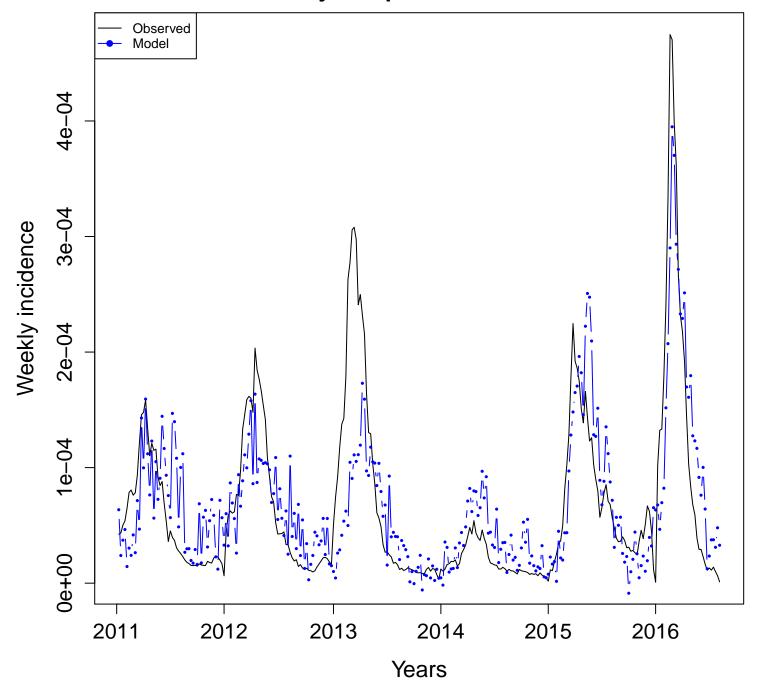
BR-BA Adj. R squared = 0.6472



BR-BA Adj. R squared = 0.6238



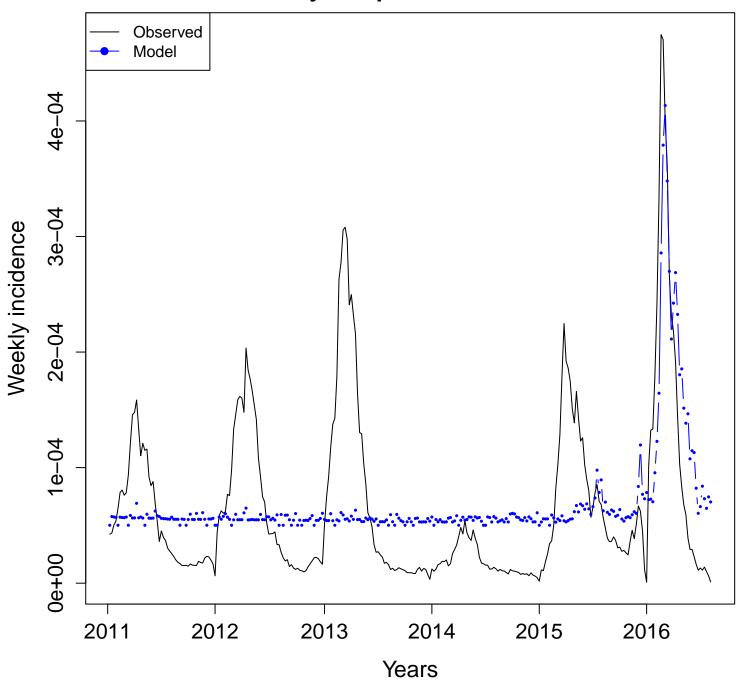
BR-BA Adj. R squared = 0.6032



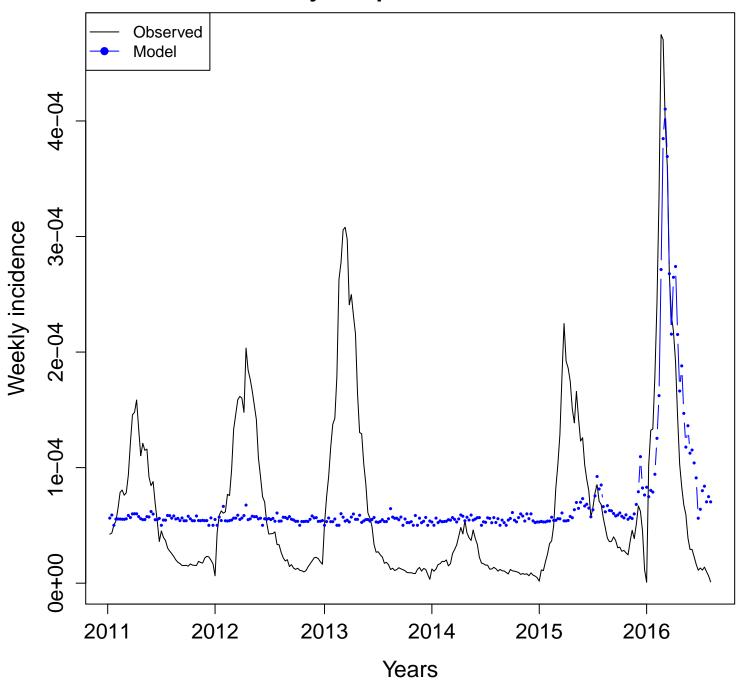
# **Individual terms Adjusted R squared**

Bahia (BA)

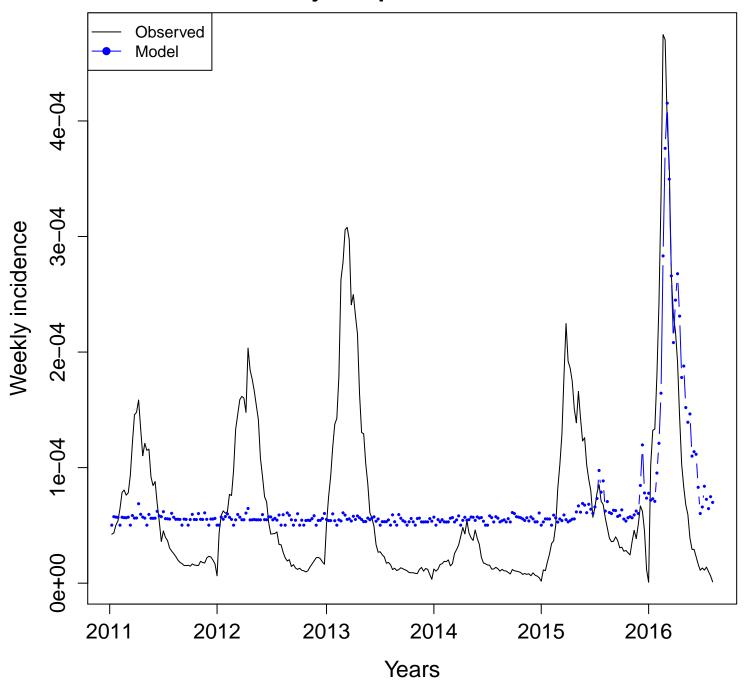
BA- aedes.aegypti Adj. R squared = 0.3272



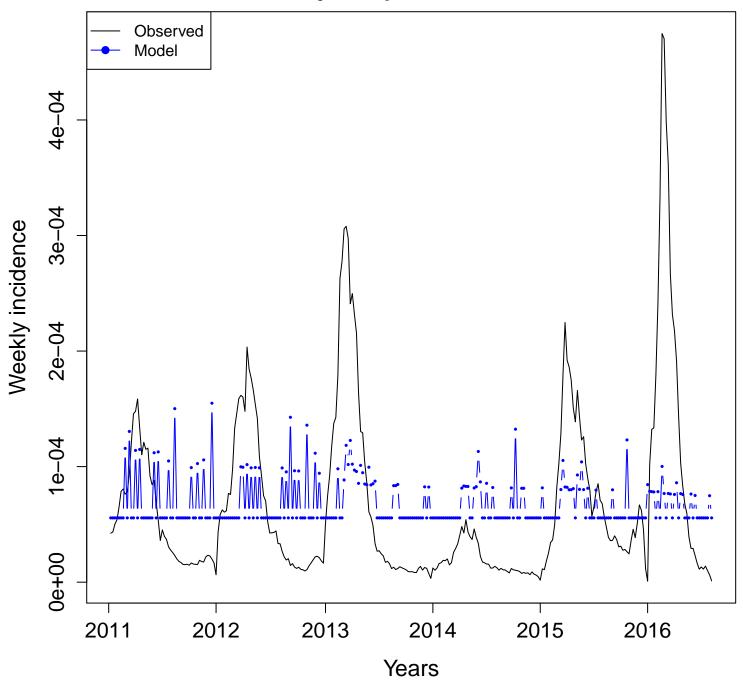
BA- aedes Adj. R squared = 0.3301



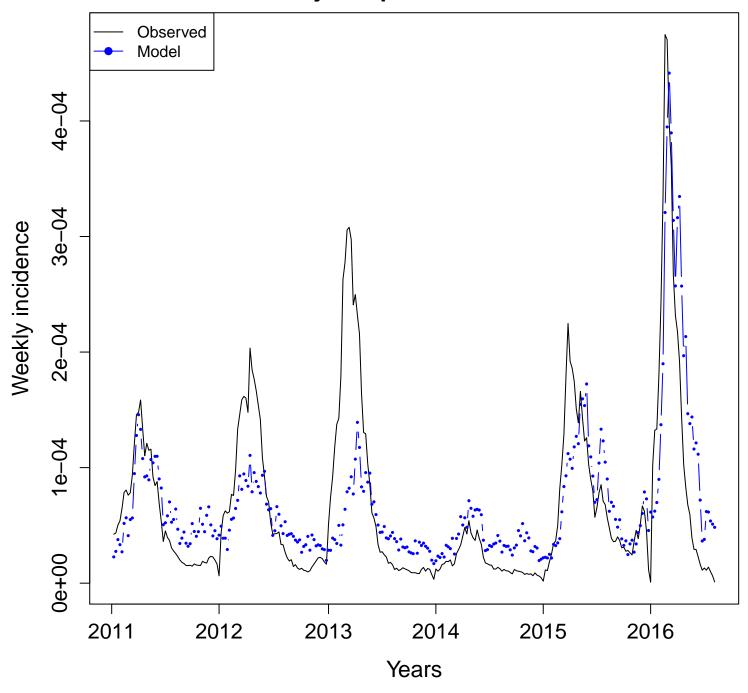
BA- aegypti Adj. R squared = 0.3254



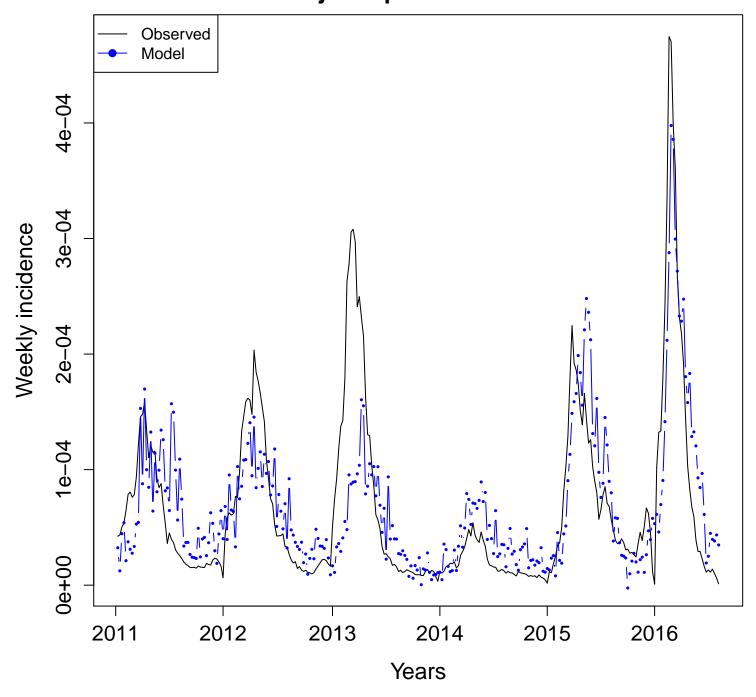
BA- dengue.fever Adj. R squared = 0.063



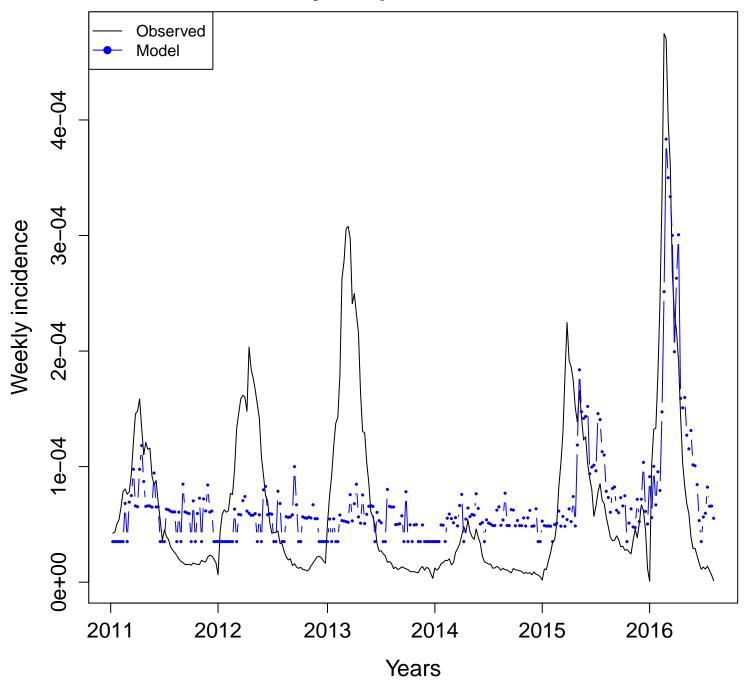
BA- dengue Adj. R squared = 0.5657



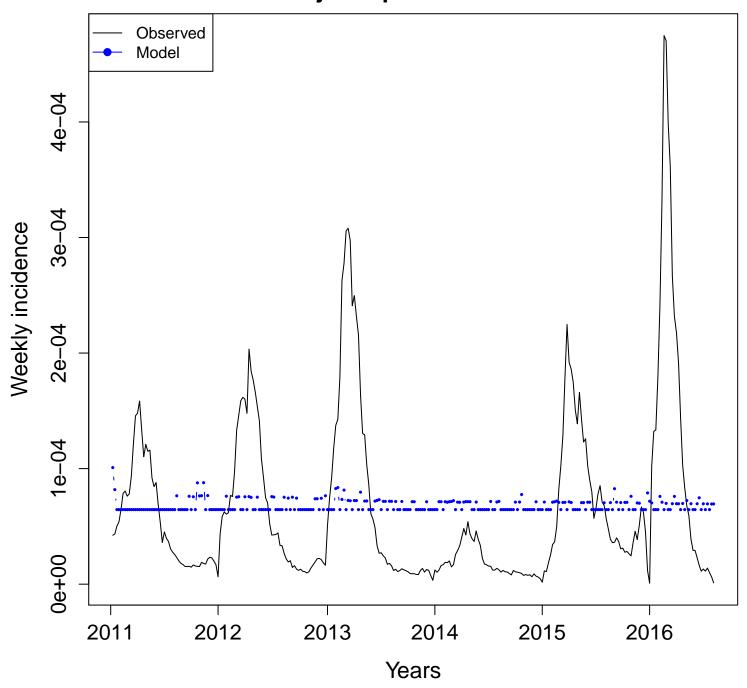
BA- dengue.sintomas Adj. R squared = 0.5927



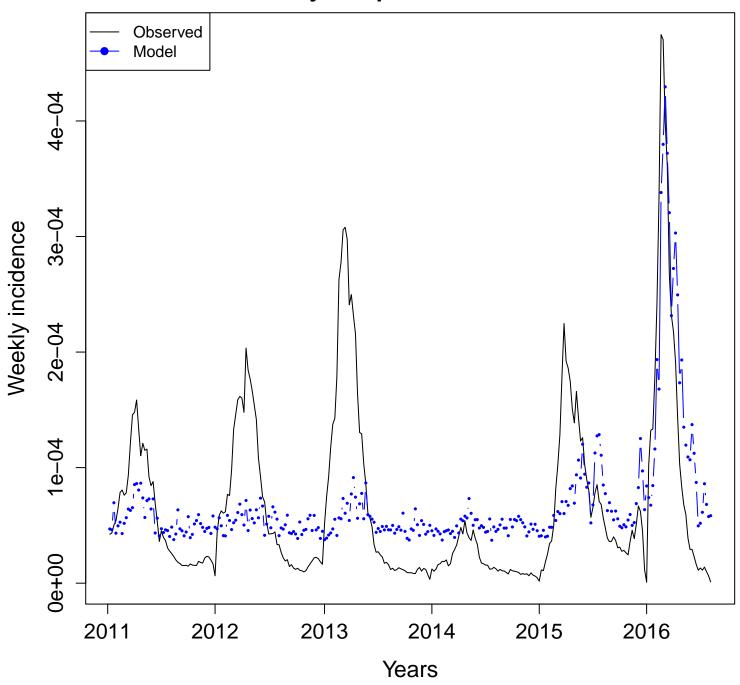
BA- dengue.virus Adj. R squared = 0.3526



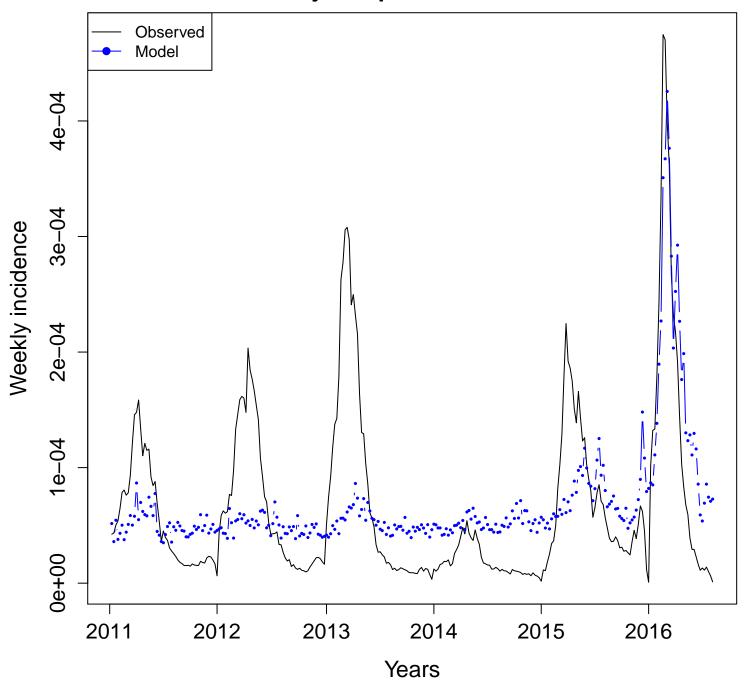
BA- DHF Adj. R squared = 7e-04



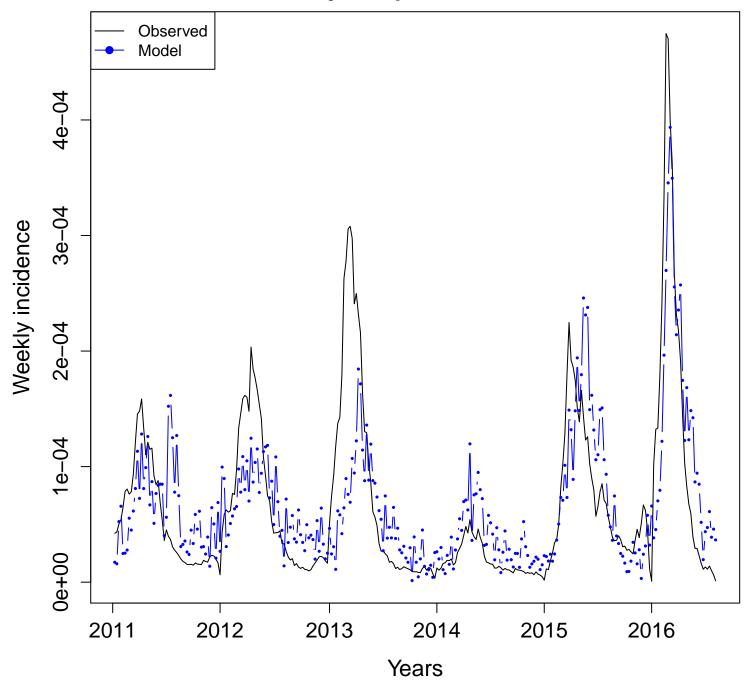
BA- mosquito.dengue Adj. R squared = 0.4272



BA- mosquito Adj. R squared = 0.4125



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



### Ceará (CE)

## Dengue incidence vs. Google Health Trends (2011–2016)

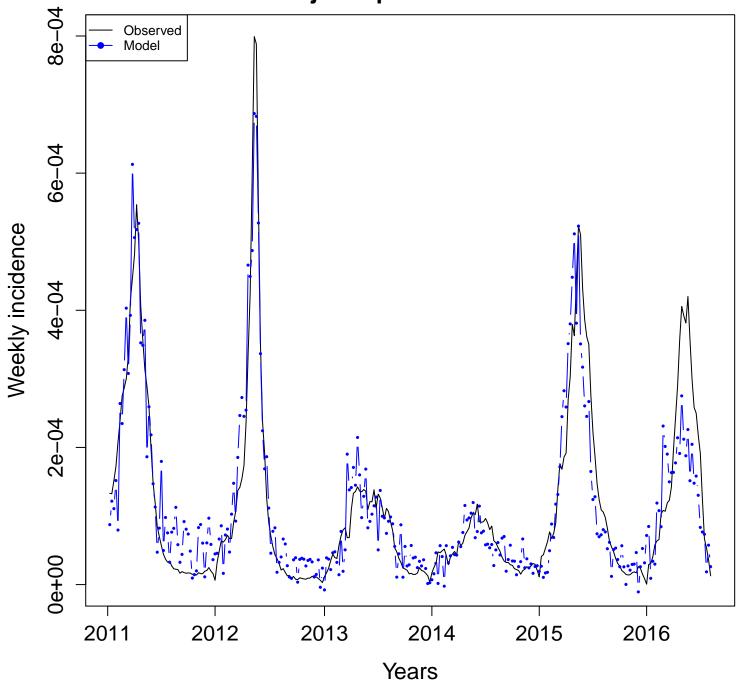
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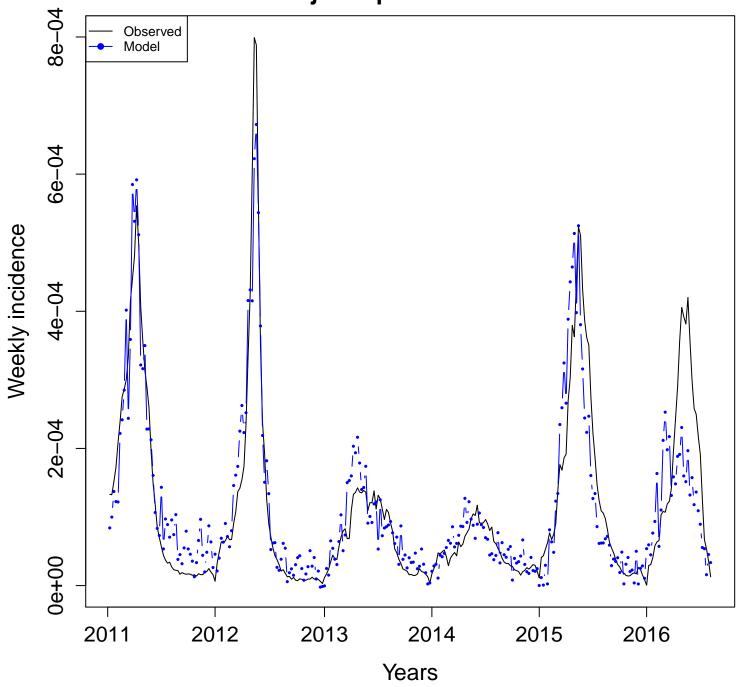
# **Combined terms Adjusted R squared**

Ceará (CE)

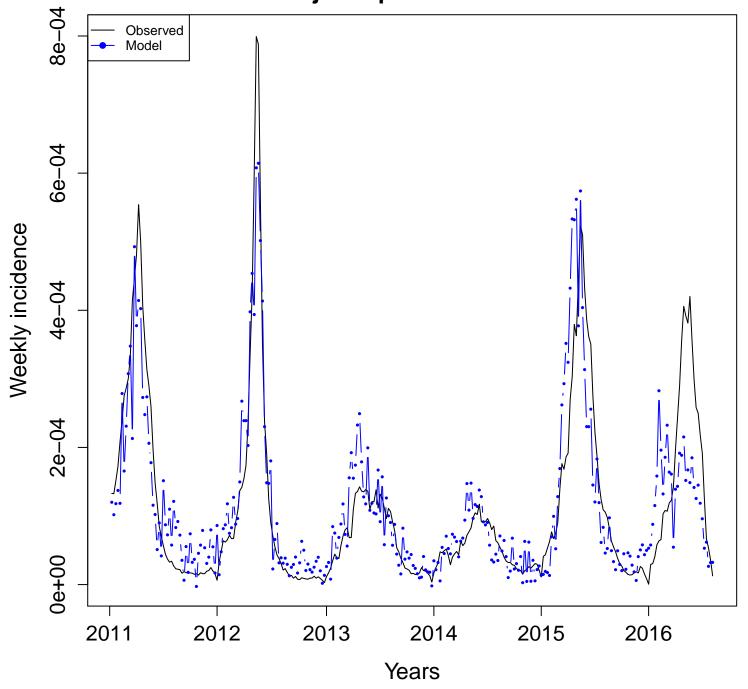
BR-CE Adj. R squared = 0.8389



BR-CE Adj. R squared = 0.8121



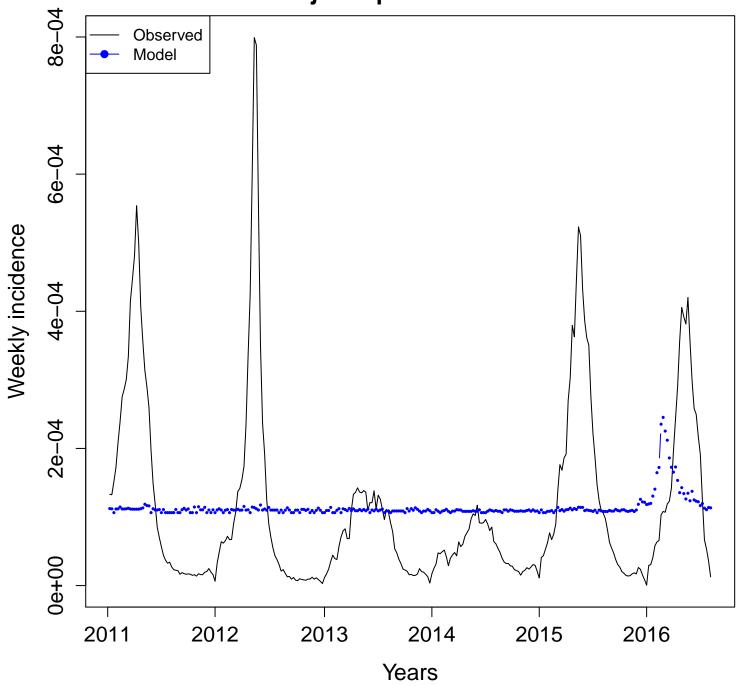
BR-CE Adj. R squared = 0.7459



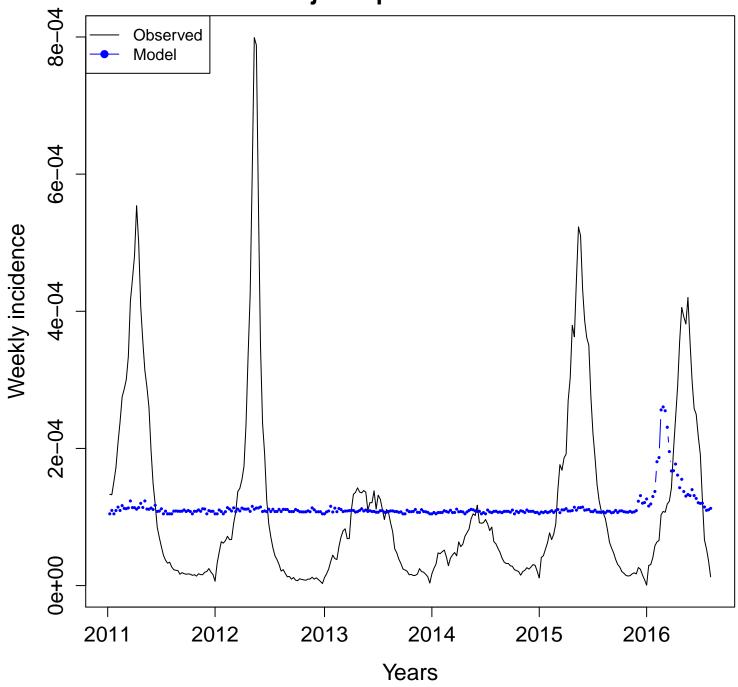
# **Individual terms Adjusted R squared**

Ceará (CE)

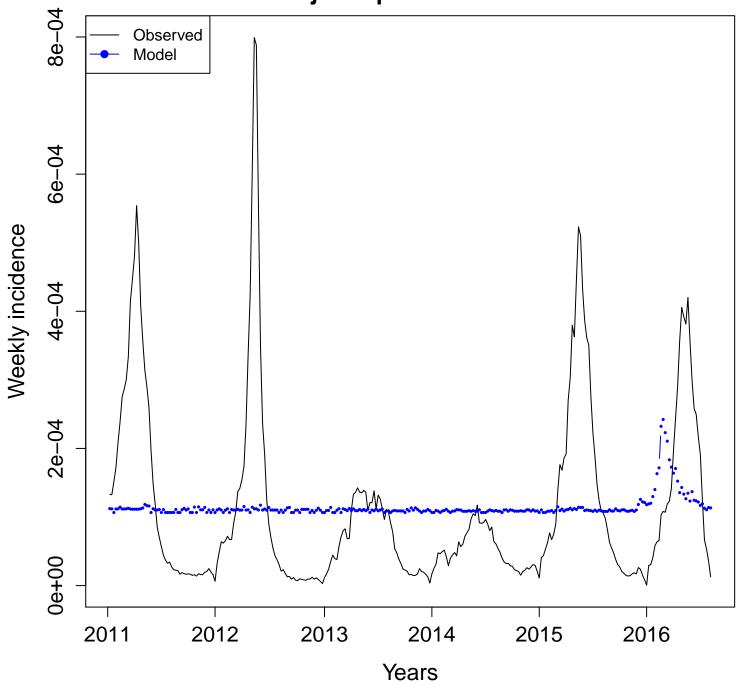
CE- aedes.aegypti Adj. R squared = 0.0125



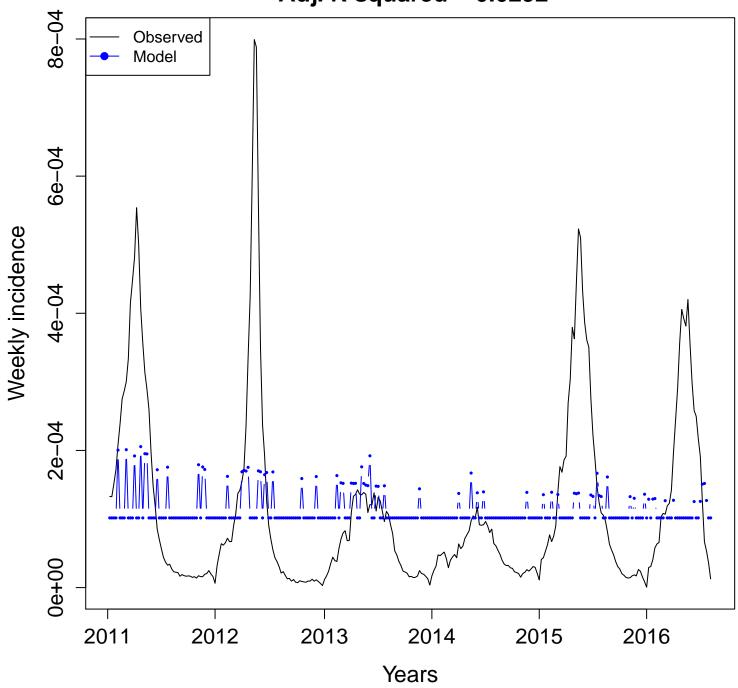
CE- aedes Adj. R squared = 0.0183



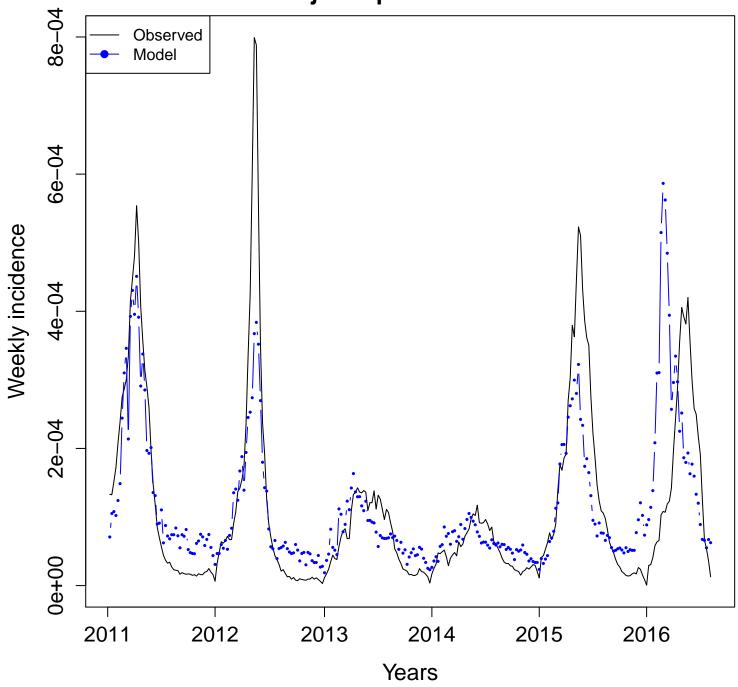
CE- aegypti Adj. R squared = 0.0118



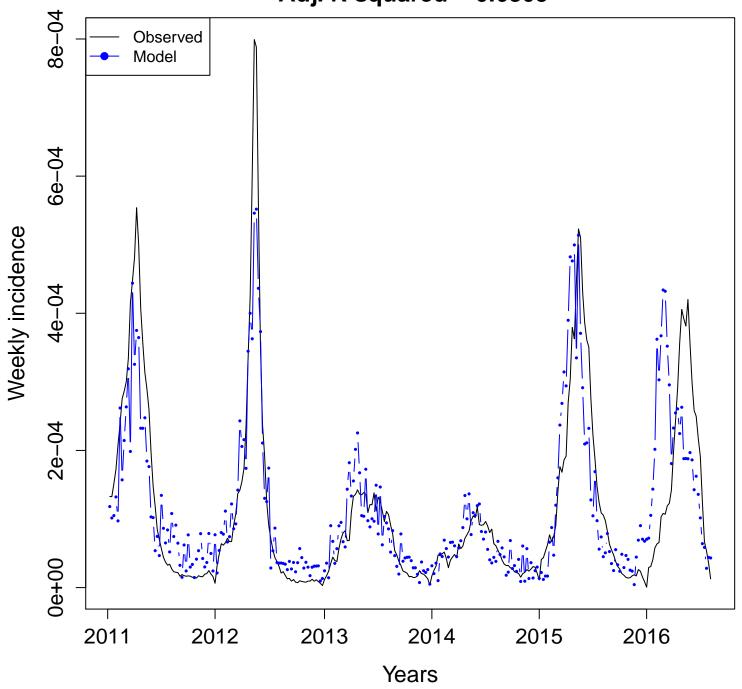
CE- dengue.fever Adj. R squared = 0.0292



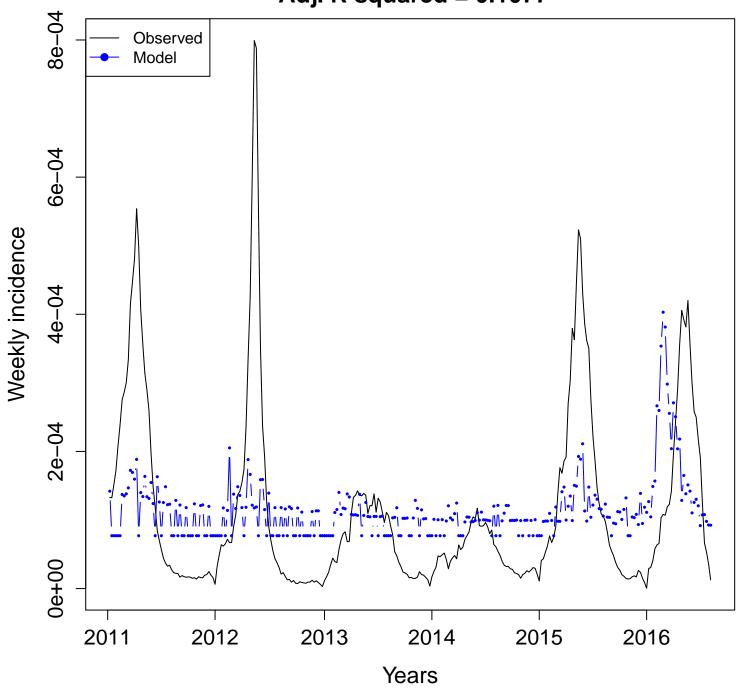
CE- dengue Adj. R squared = 0.5385



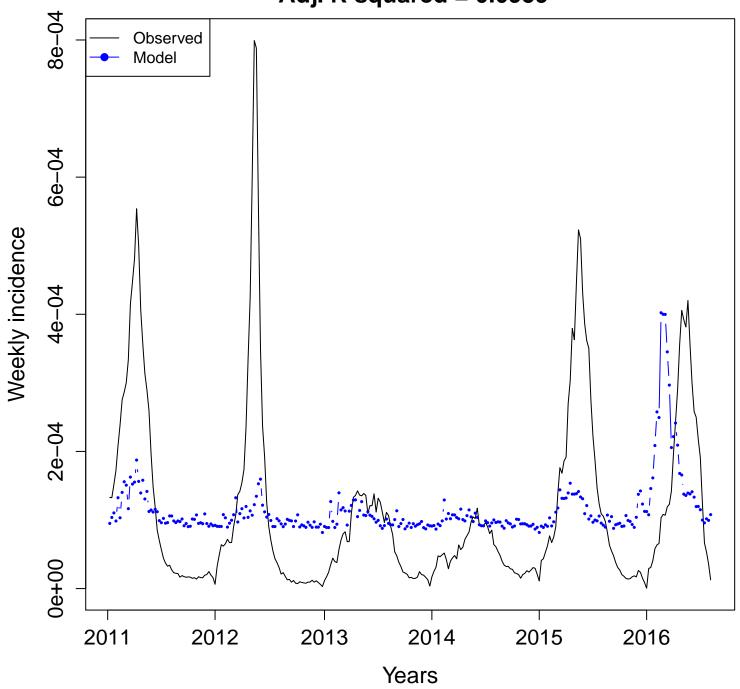
CE- dengue.sintomas Adj. R squared = 0.6805



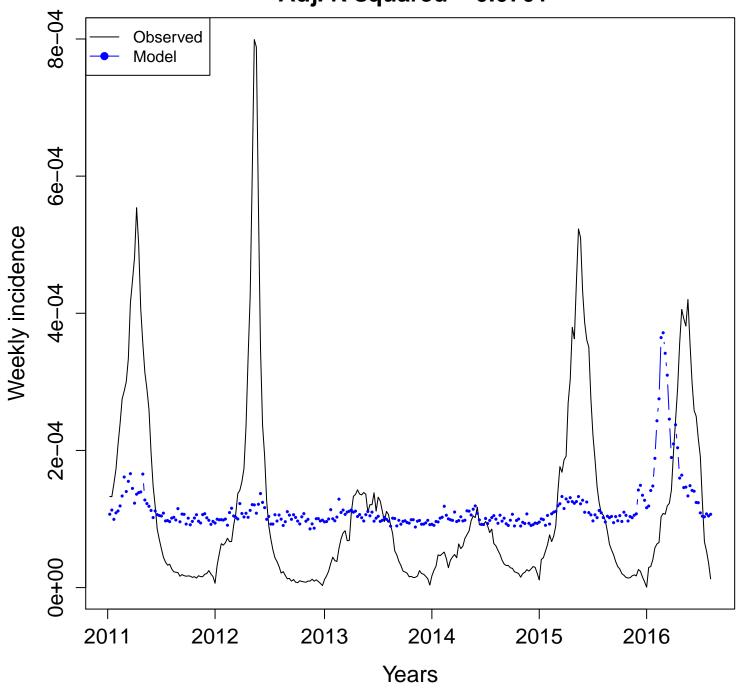
CE- dengue.virus Adj. R squared = 0.1077



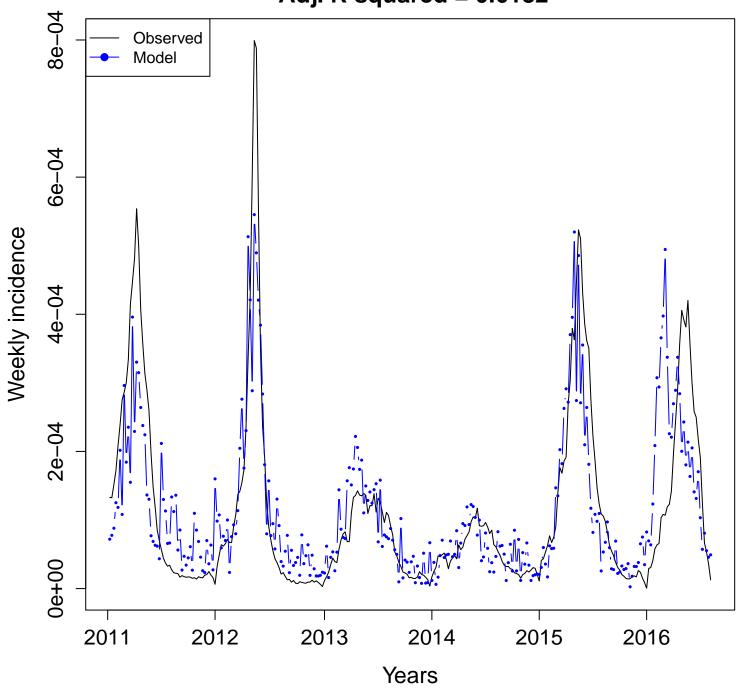
CE- mosquito.dengue Adj. R squared = 0.0959



CE- mosquito Adj. R squared = 0.0701



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



### **Distrito Federal (DF)**

## Dengue incidence vs. Google Health Trends (2014–2016)

#### **Definitions:**

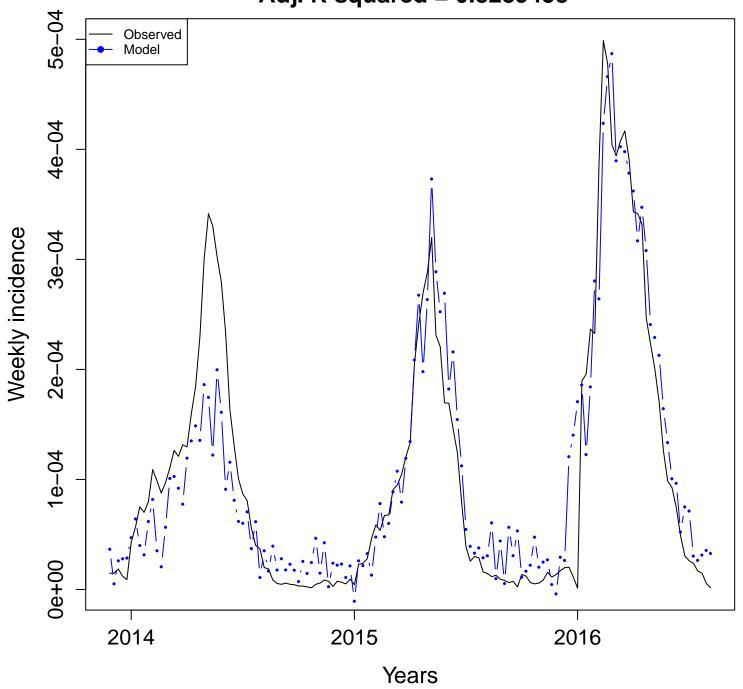
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# **Combined terms Adjusted R Squared**

**Distrito Federal (DF)** 

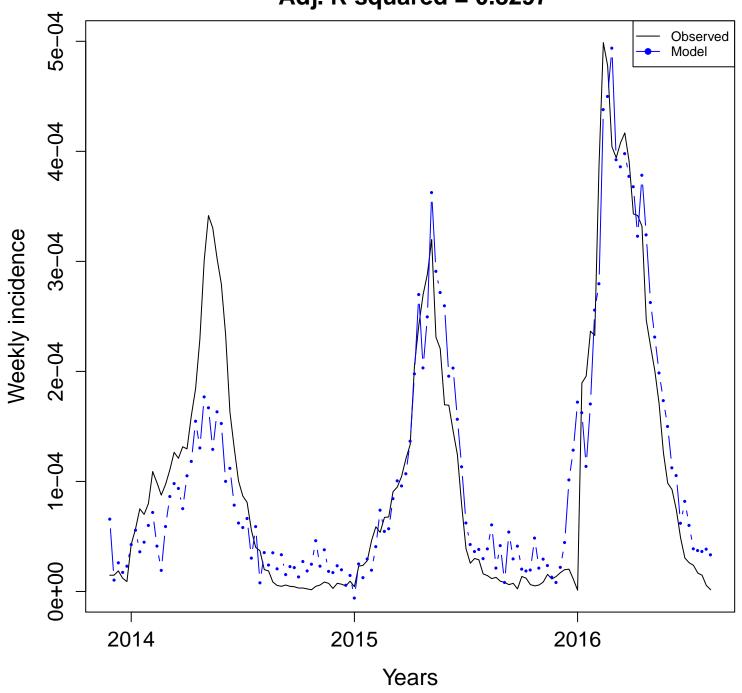
## All terms (n = 10)

**BR-DF Adj. R squared = 0.8289458** 



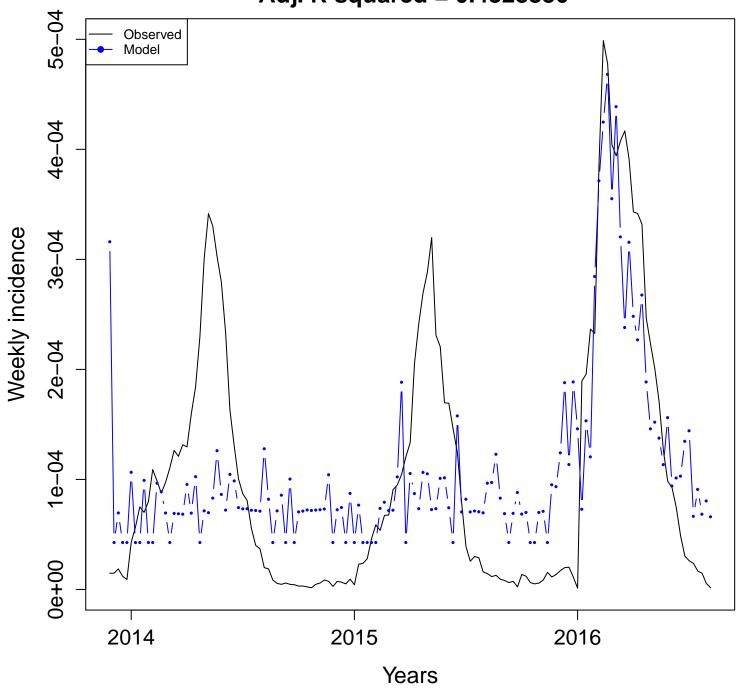
### Four terms

BR-DF Adj. R squared = 0.8297



# Uncorrelated (n = 2)

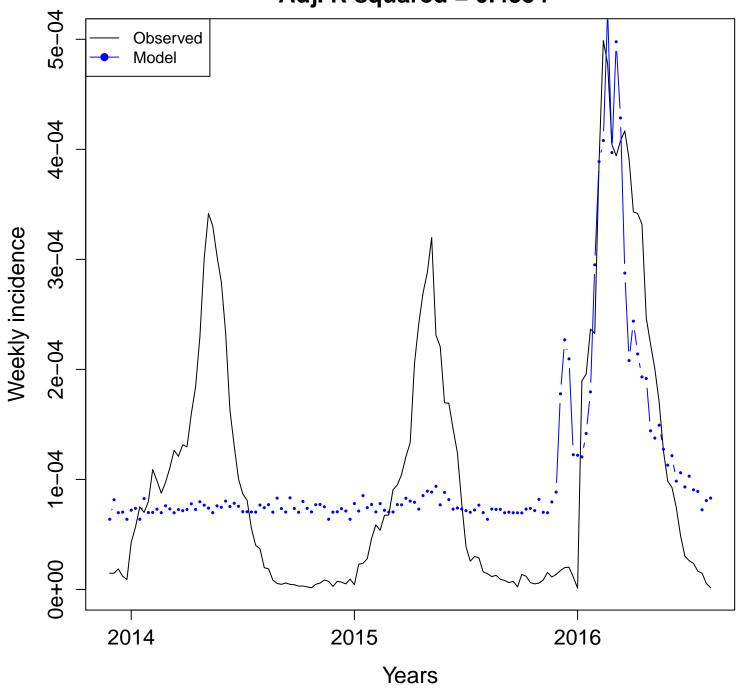
**BR-DF Adj. R squared = 0.4328886** 



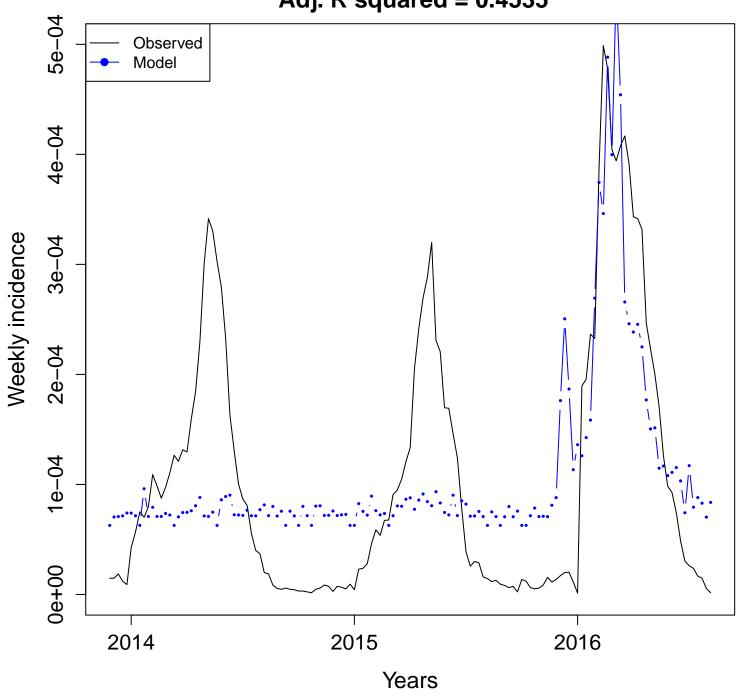
**Individual terms Adjusted R Squared** 

**Distrito Federal (DF)** 

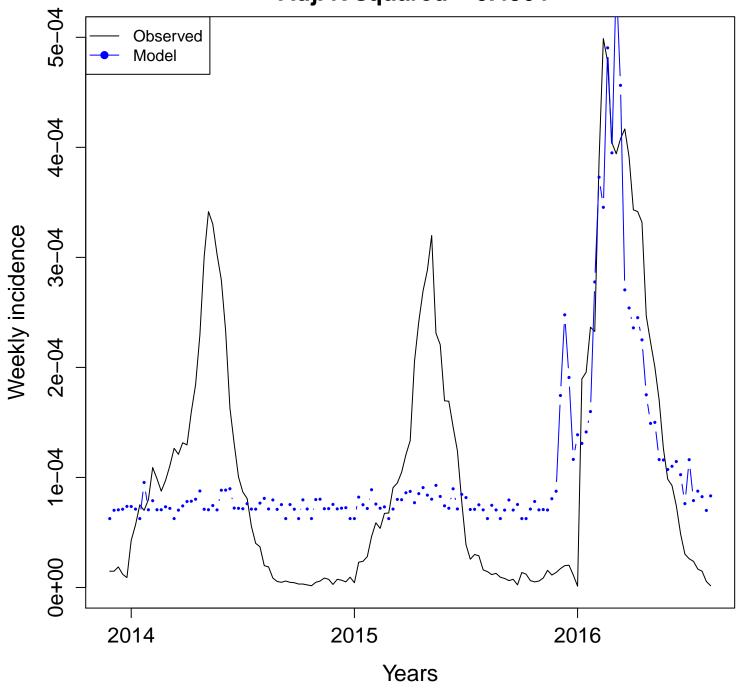
DF- aedes Adj. R squared = 0.4554



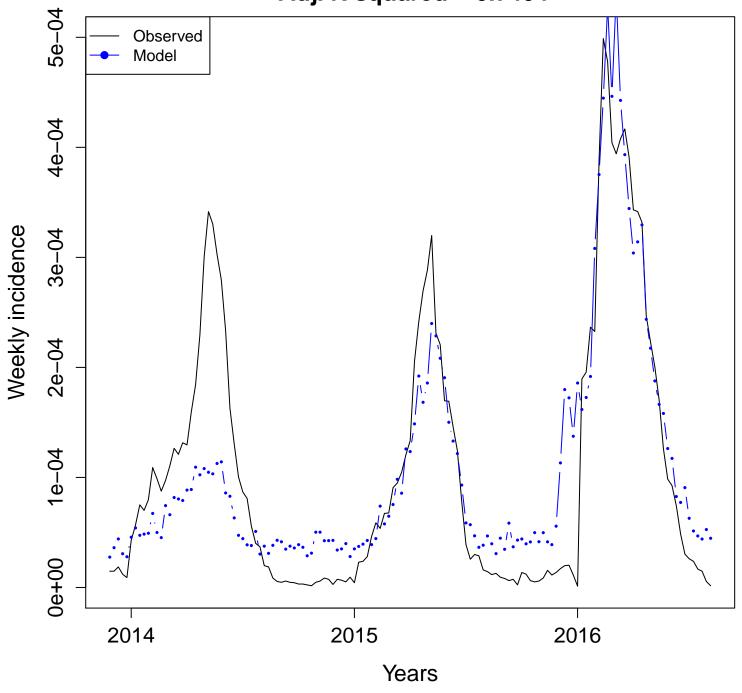
DF- aedes.aegypti Adj. R squared = 0.4535



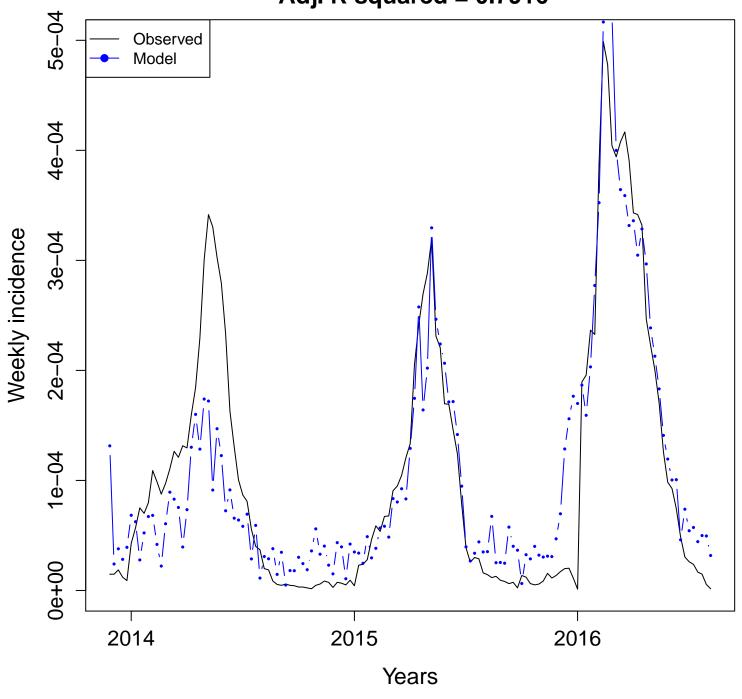
DF- aegypti Adj. R squared = 0.4564



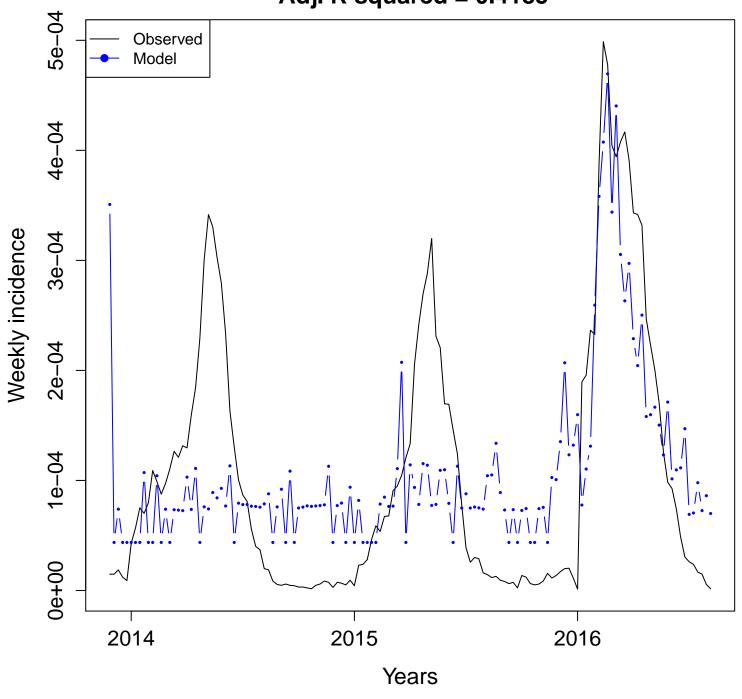
DF- dengue Adj. R squared = 0.7404



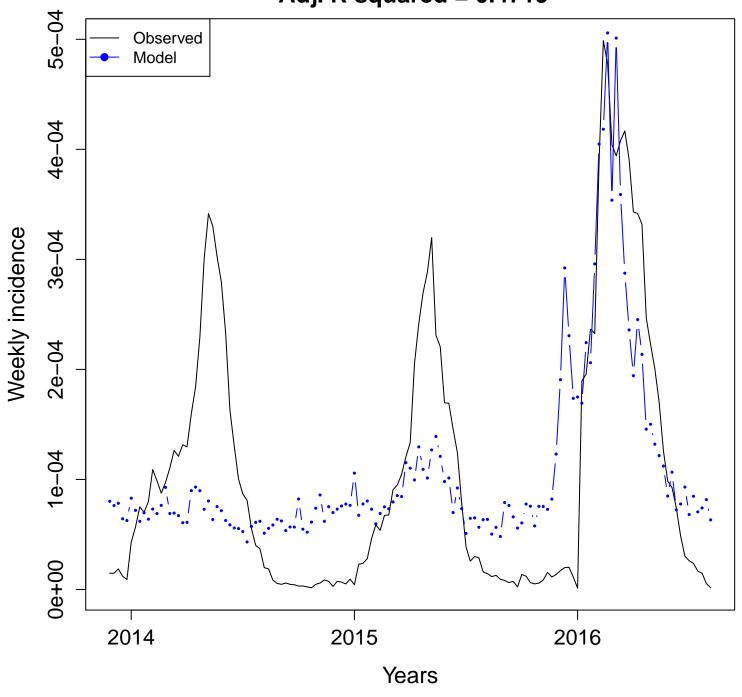
DF- dengue.sintomas Adj. R squared = 0.7916



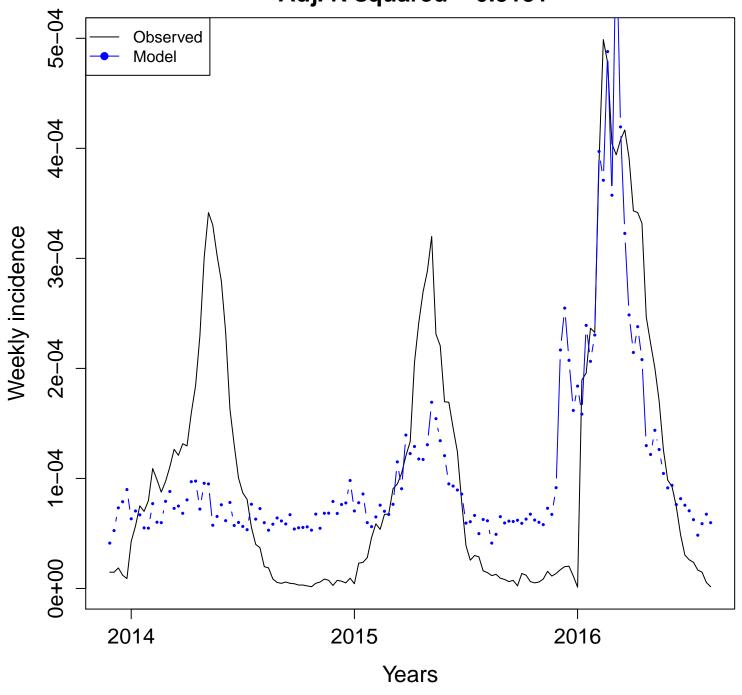
DF- dengue.virus Adj. R squared = 0.4185



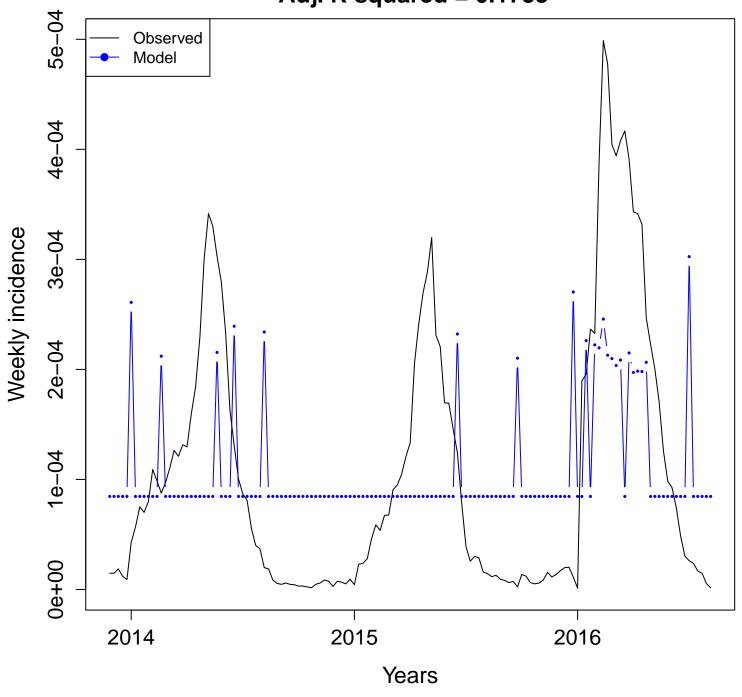
DF- mosquito Adj. R squared = 0.4719



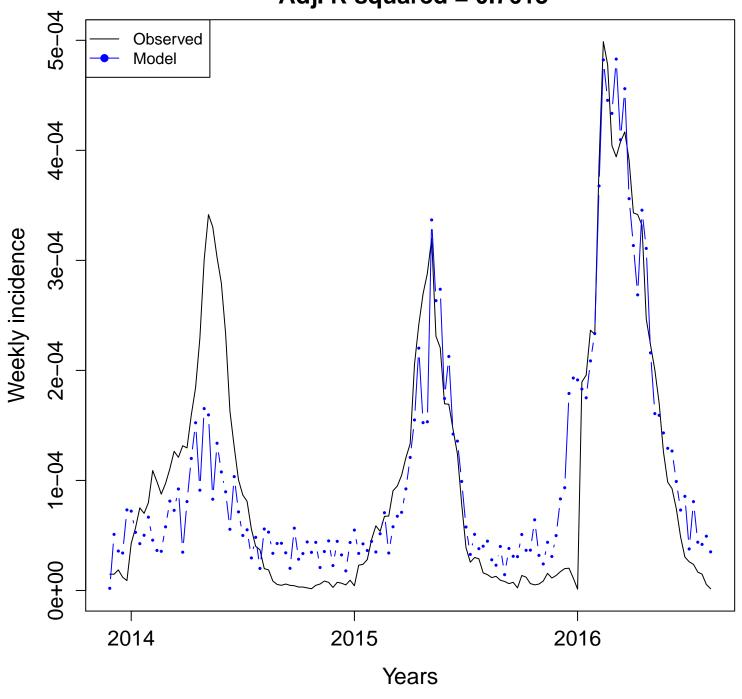
DF- mosquito.dengue Adj. R squared = 0.5131



DF- mosquitoes Adj. R squared = 0.1733



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



### **Espírito Santo (ES)**

## Dengue incidence vs. Google Health Trends (2011–2016)

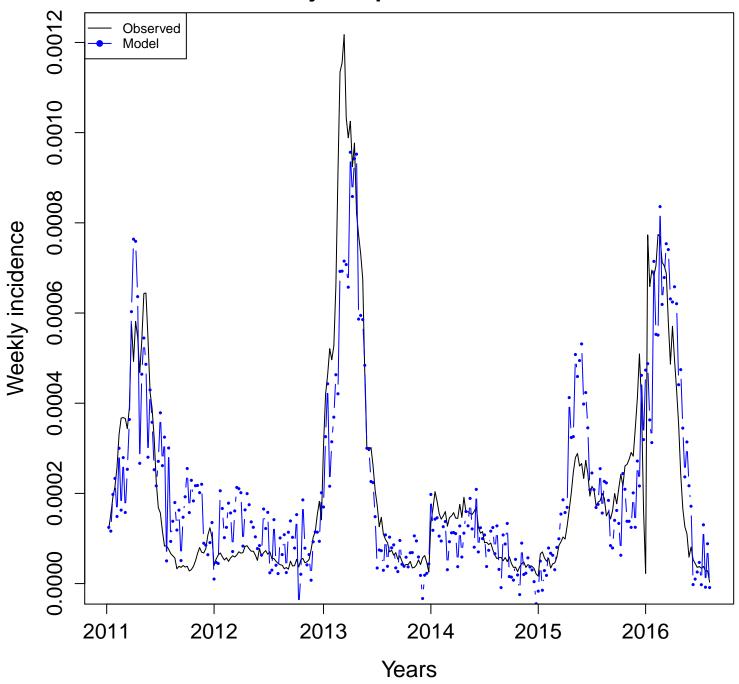
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

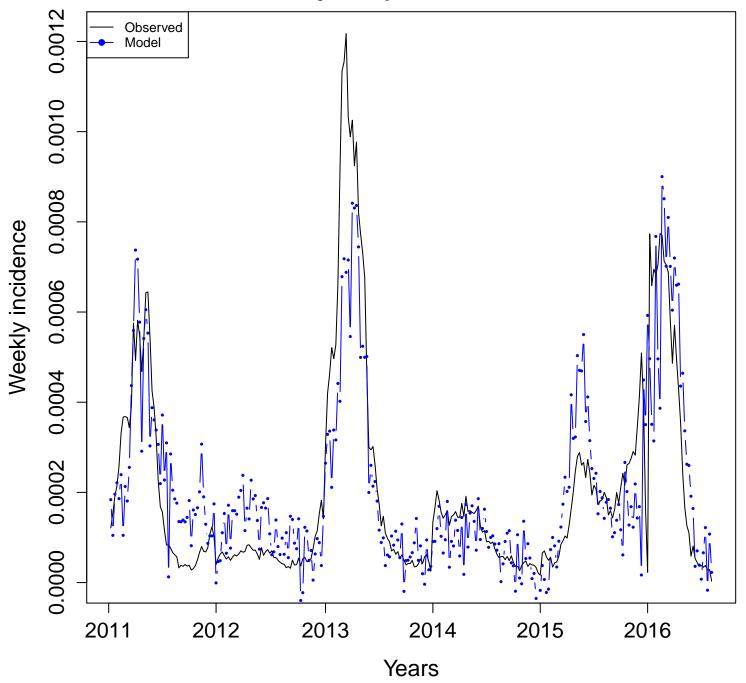
### **Combined terms Adjusted R squared**

**Espírito Santo (ES)** 

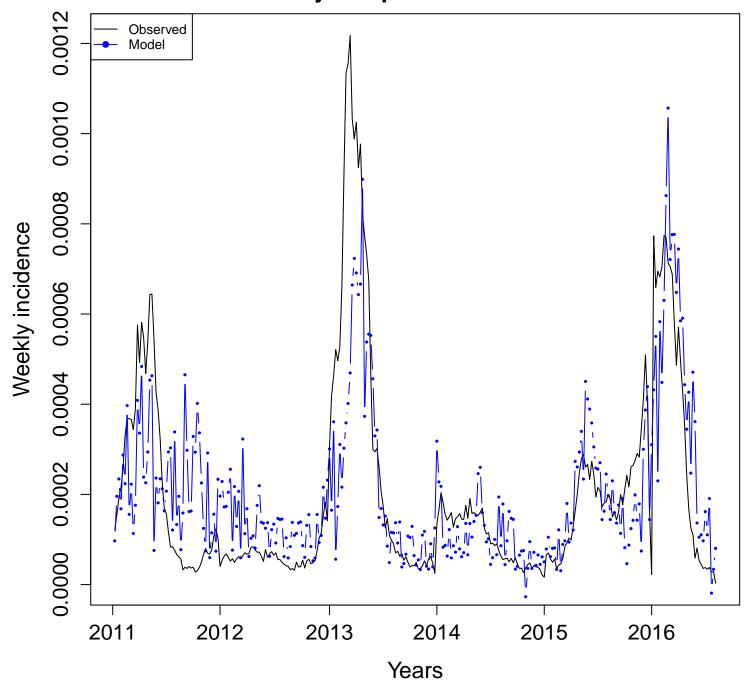
BR-ES Adj. R squared = 0.7245



BR-ES Adj. R squared = 0.688



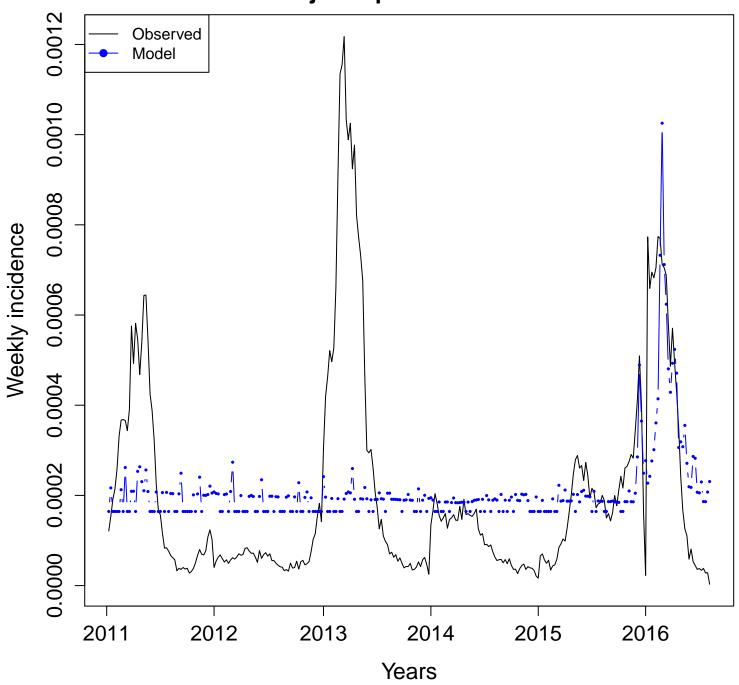
BR-ES Adj. R squared = 0.5366



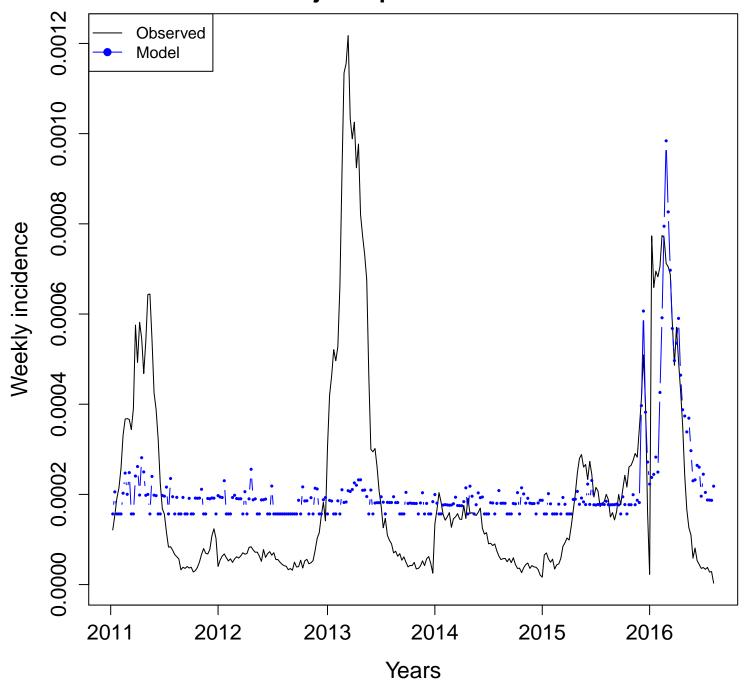
# **Individual terms Adjusted R squared**

**Espírito Santo (ES)** 

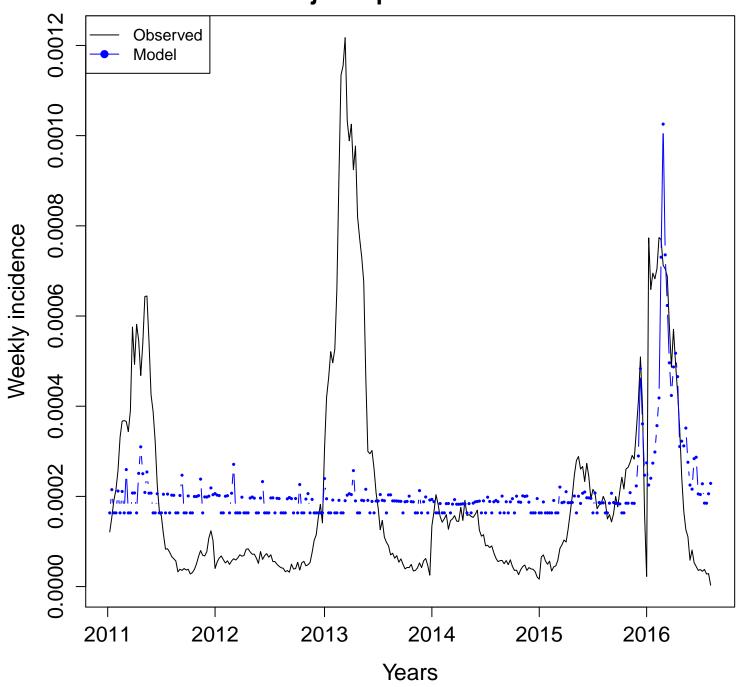
ES- aedes.aegypti Adj. R squared = 0.1333



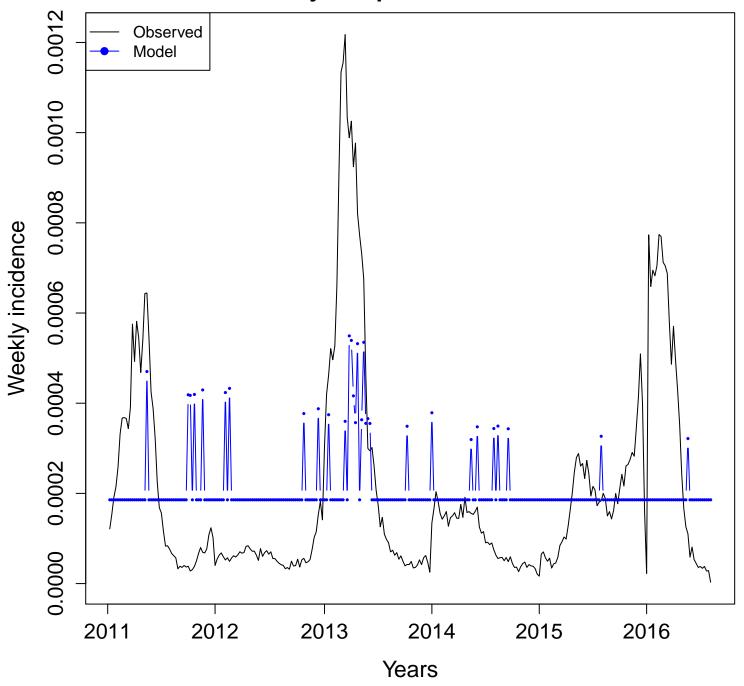
ES- aedes Adj. R squared = 0.1763



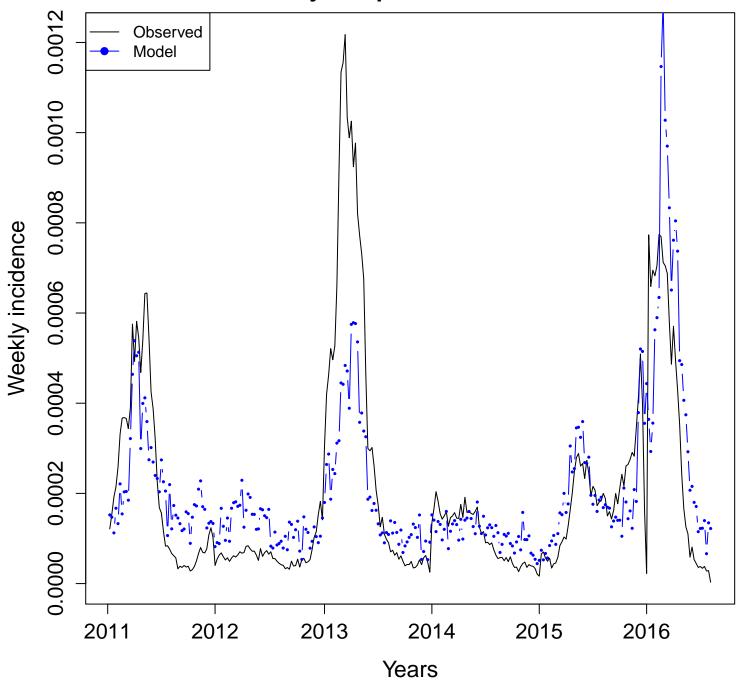
ES- aegypti Adj. R squared = 0.1349



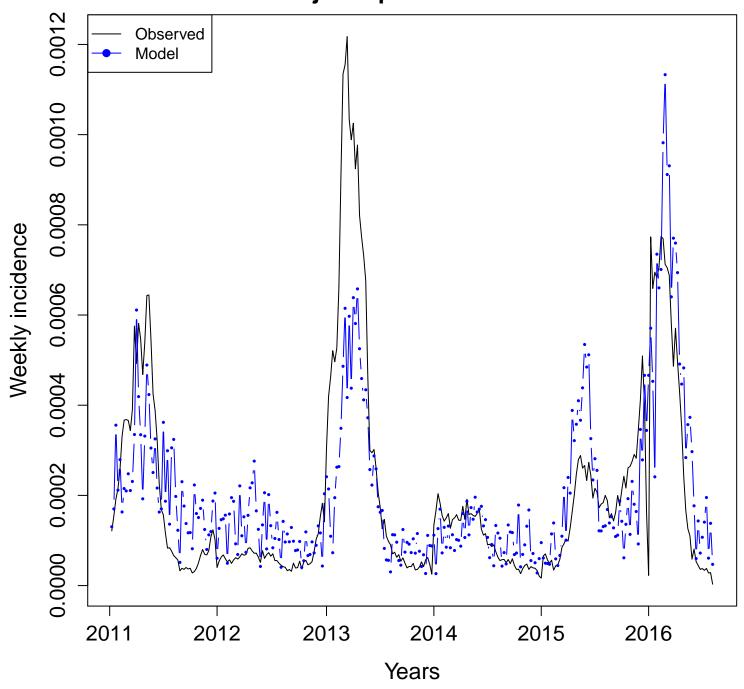
ES- dengue.fever Adj. R squared = 0.0782



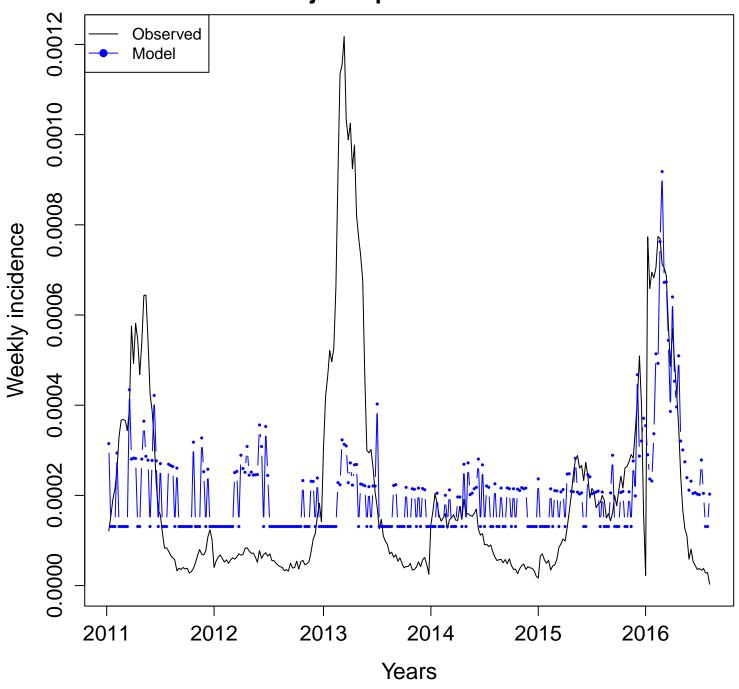
ES- dengue Adj. R squared = 0.5461



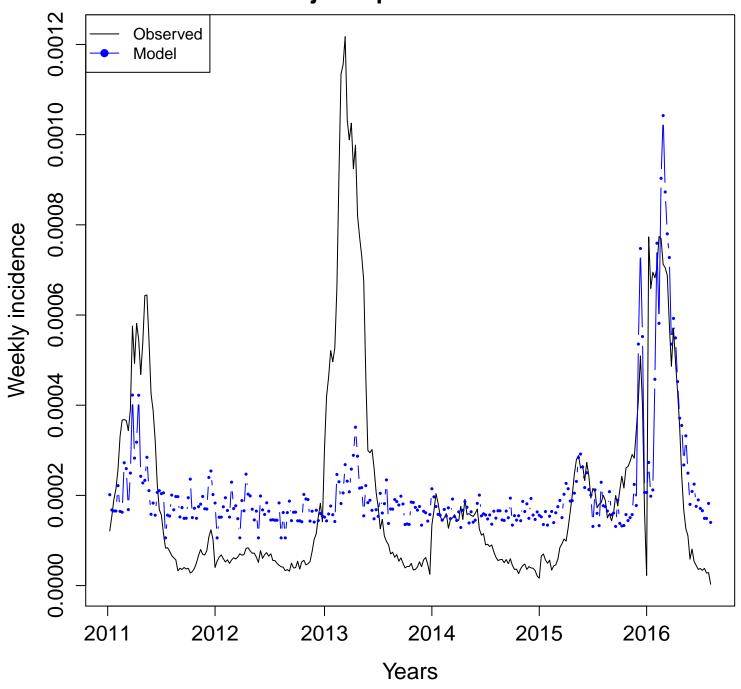
ES- dengue.sintomas Adj. R squared = 0.5667



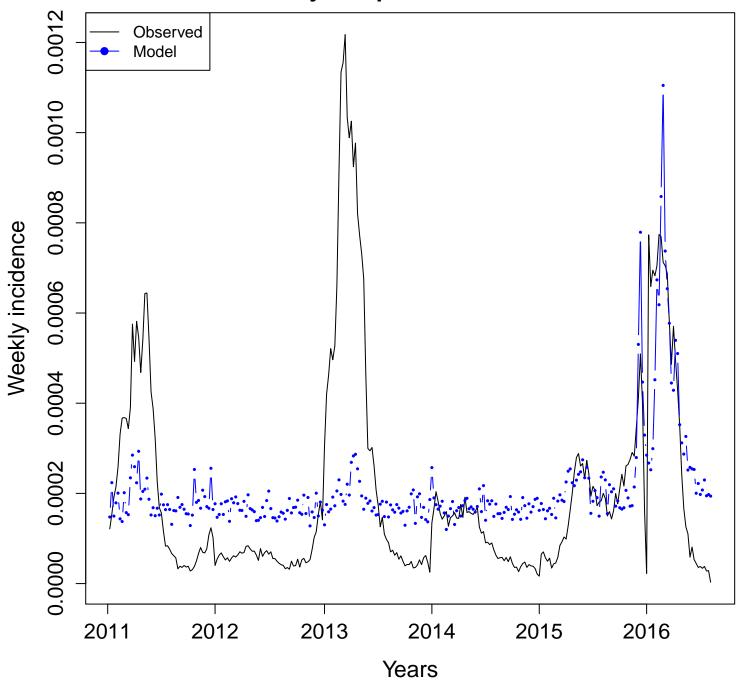
ES- dengue.virus Adj. R squared = 0.2024



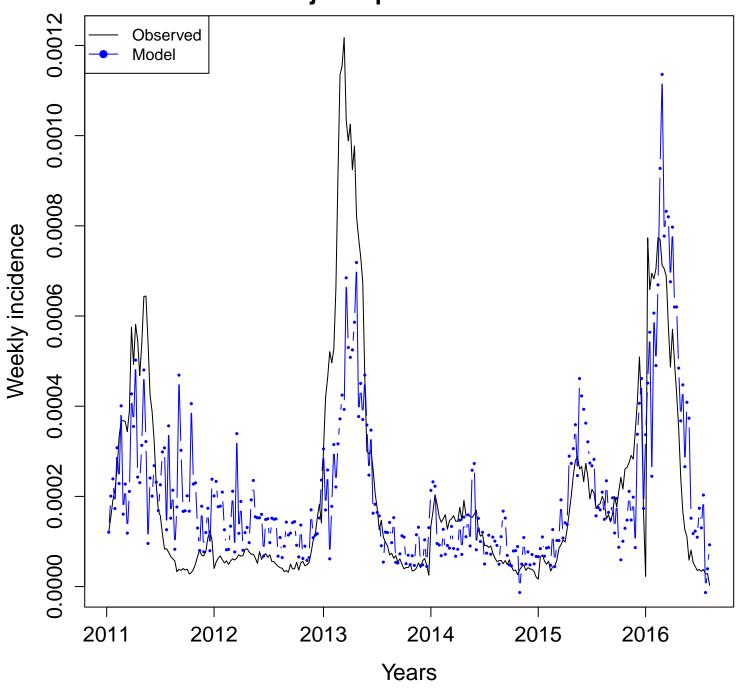
ES- mosquito.dengue Adj. R squared = 0.2673



ES- mosquito Adj. R squared = 0.2185



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



#### Goiás (GO)

### Dengue incidence vs. Google Health Trends (2011–2016)

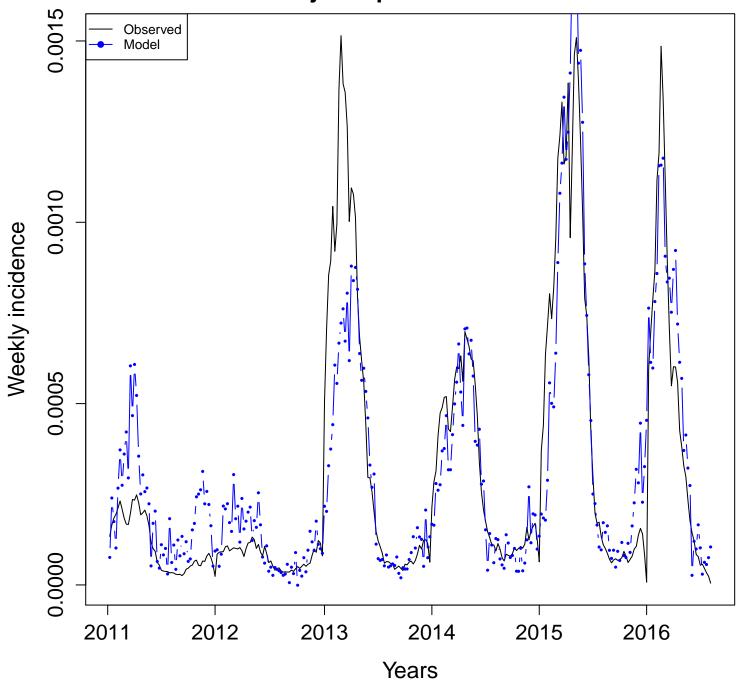
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

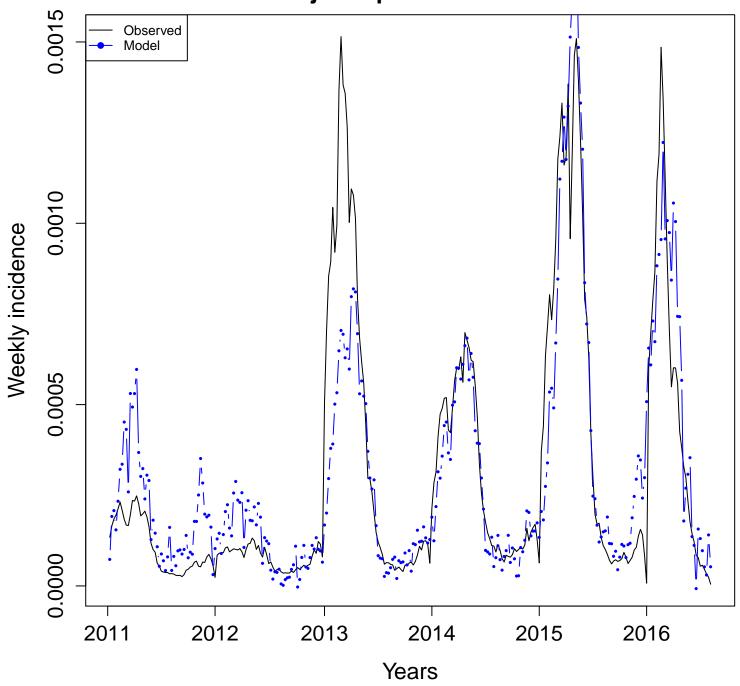
# **Combined terms Adjusted R squared**

Goiás (GO)

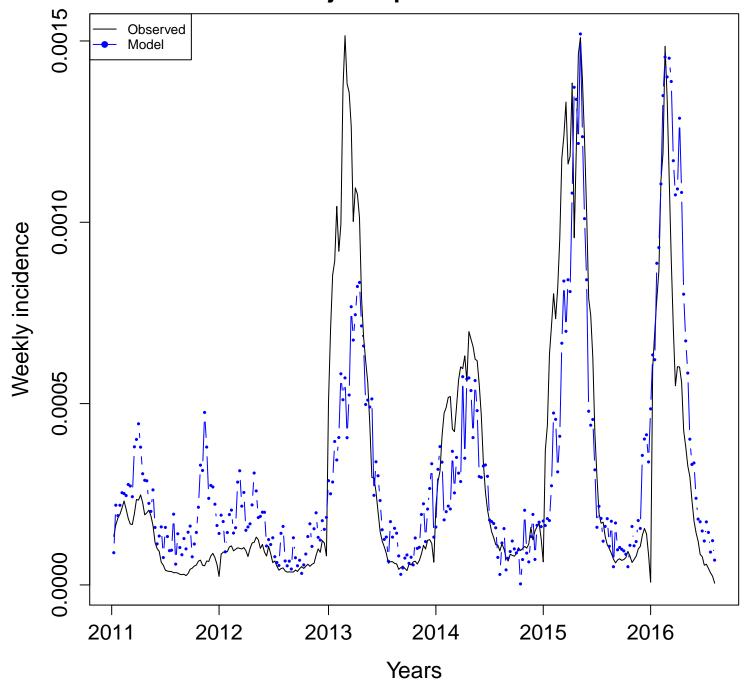
BR-GO Adj. R squared = 0.7853



BR-GO Adj. R squared = 0.7678



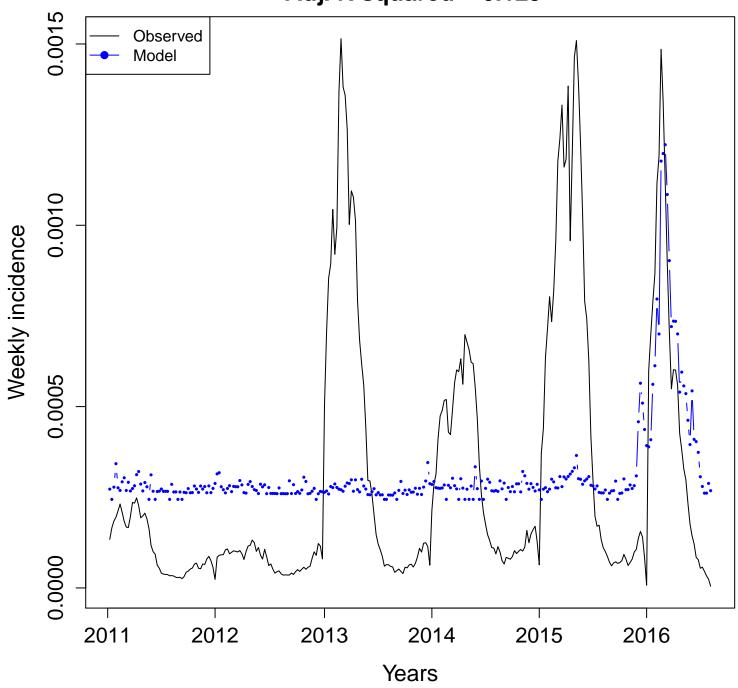
BR-GO Adj. R squared = 0.66



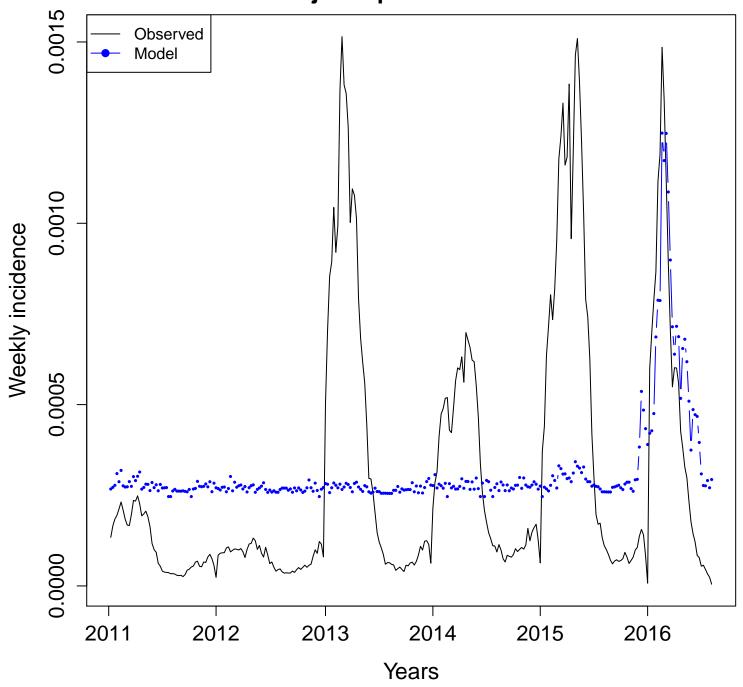
# Individual terms Adjusted R squared

Goiás (GO)

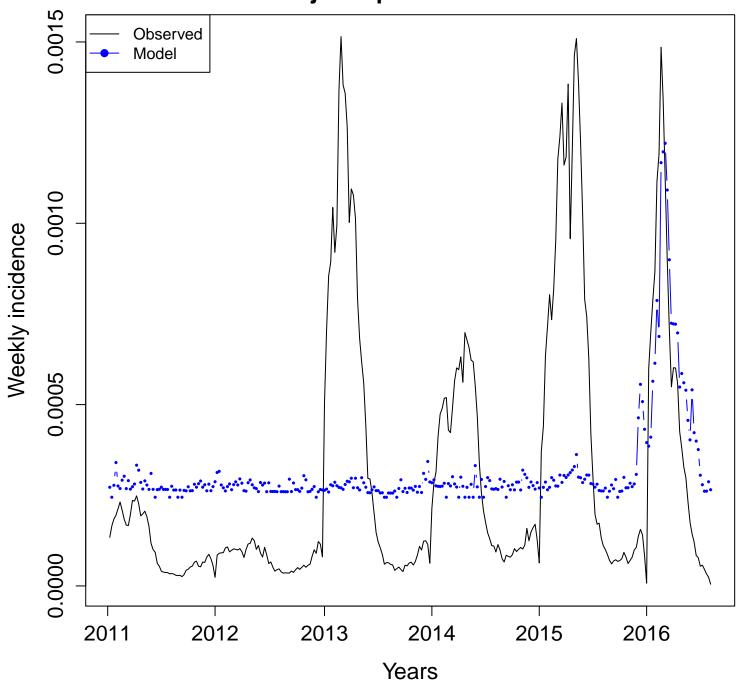
GO- aedes.aegypti Adj. R squared = 0.129



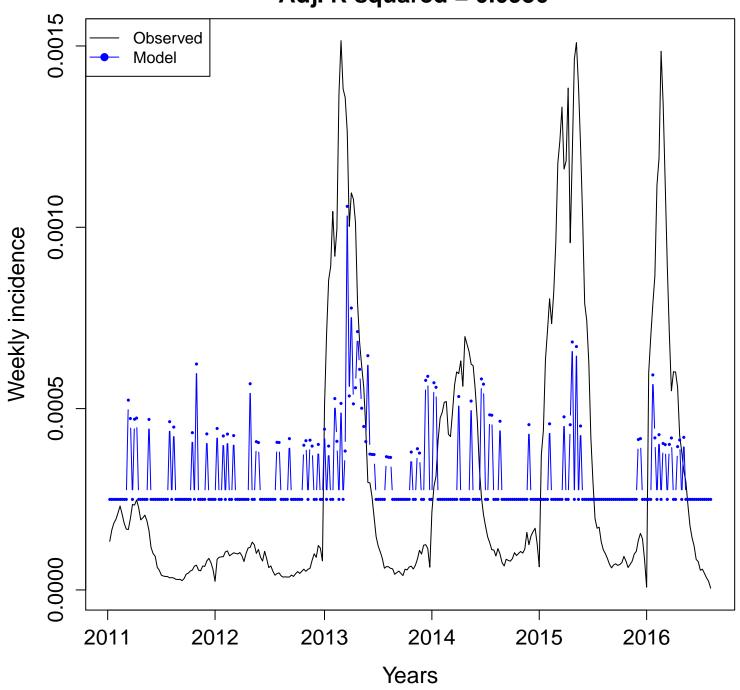
GO- aedes Adj. R squared = 0.1348



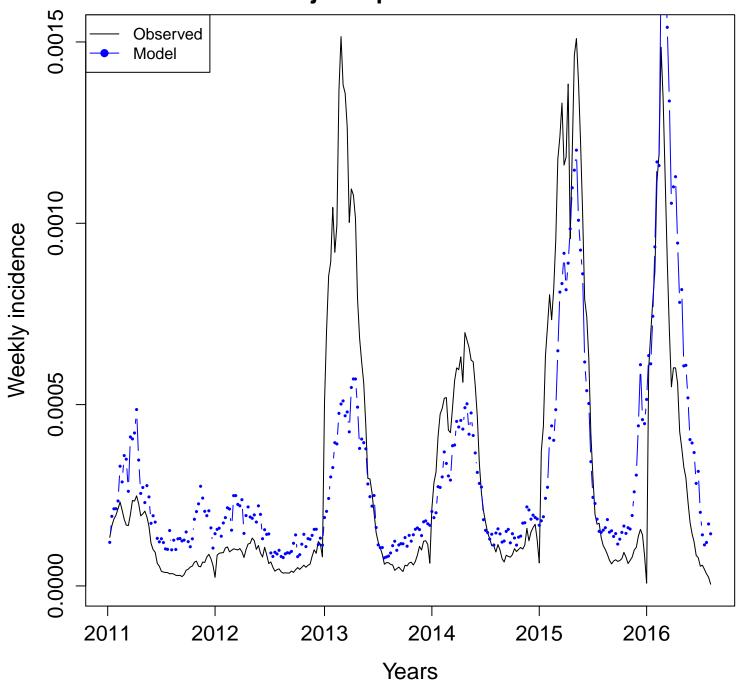
GO- aegypti Adj. R squared = 0.1276



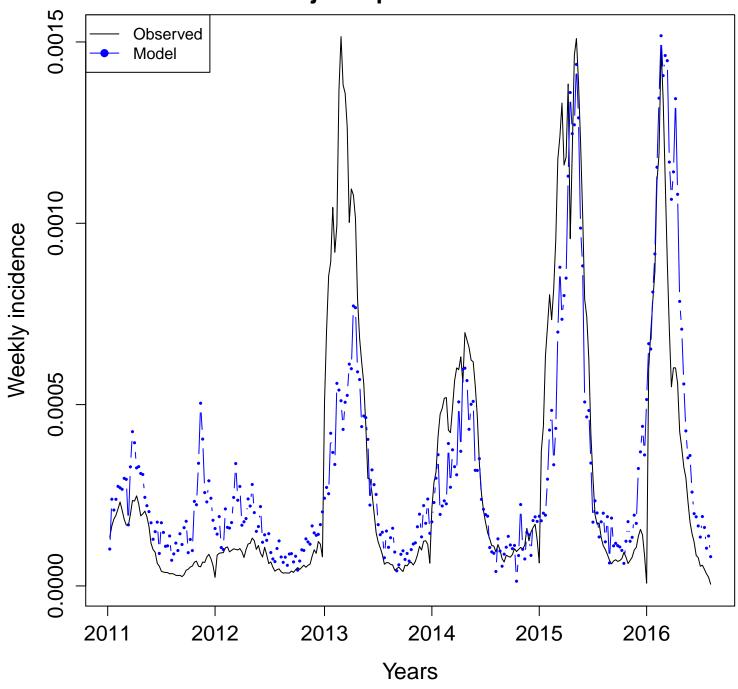
GO- dengue.fever Adj. R squared = 0.0936



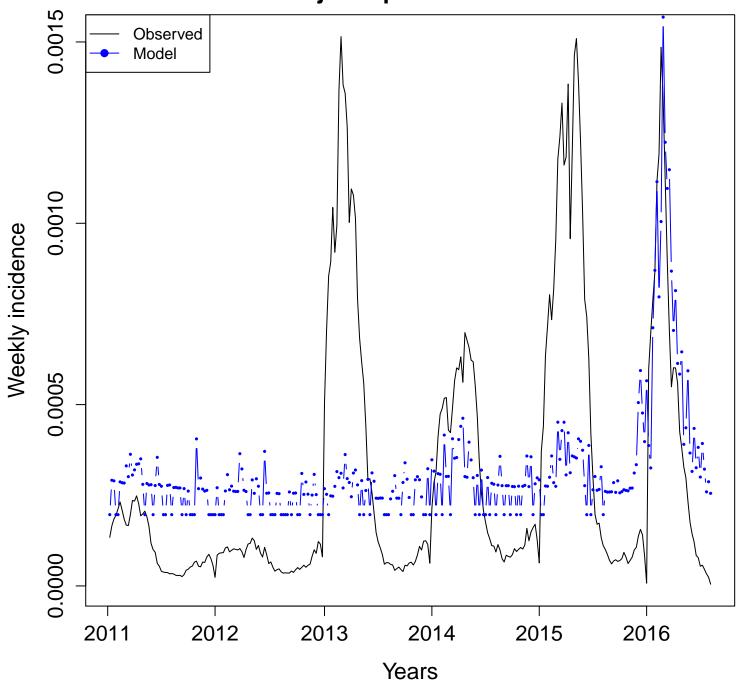
GO- dengue Adj. R squared = 0.6051



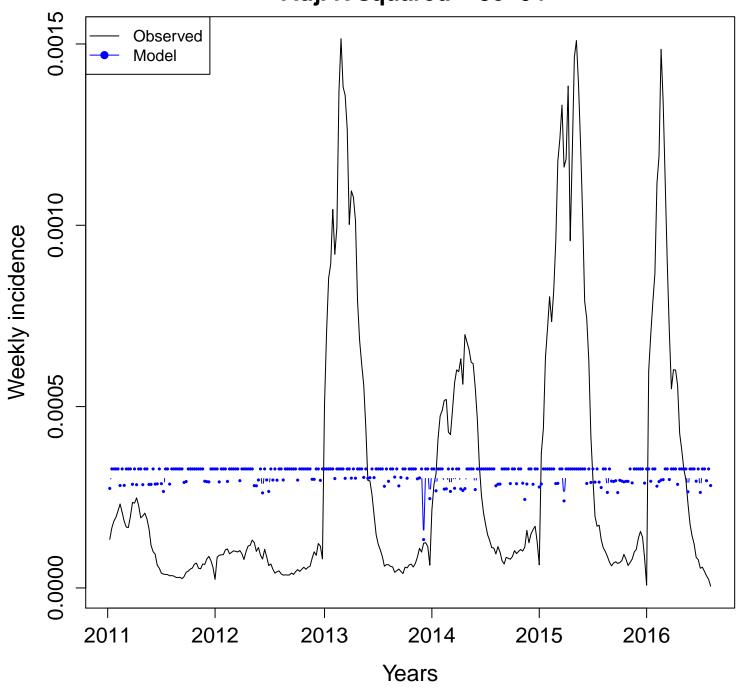
GO- dengue.sintomas Adj. R squared = 0.6523



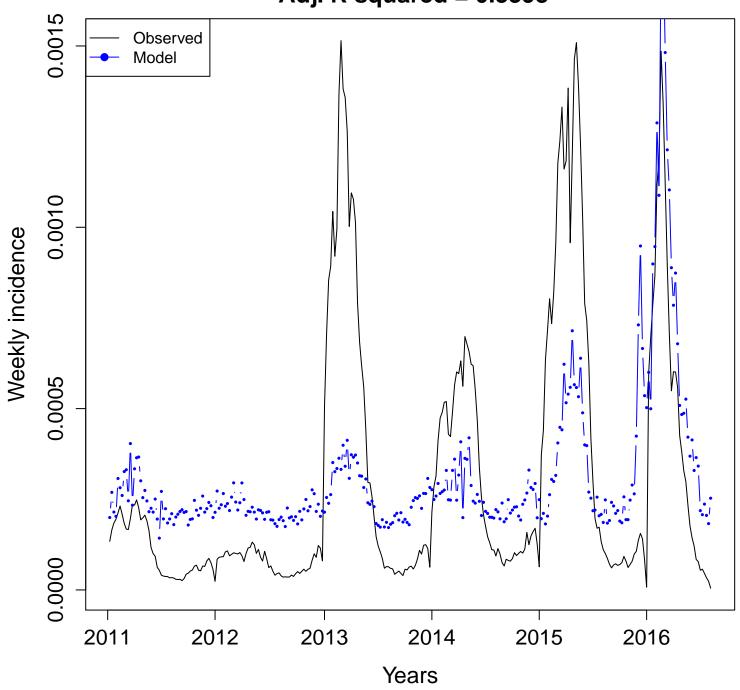
GO- dengue.virus Adj. R squared = 0.197



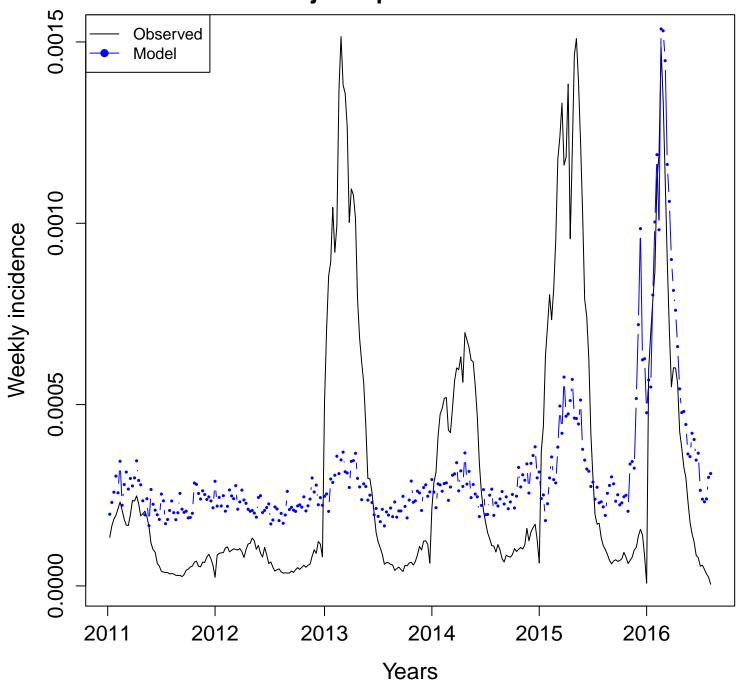
GO- DHF Adj. R squared = 5e-04



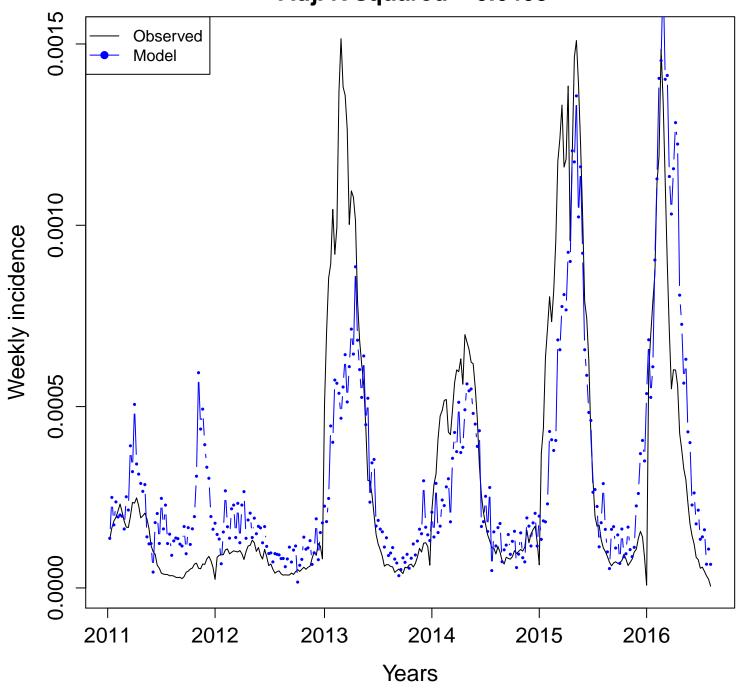
GO- mosquito.dengue Adj. R squared = 0.3398



GO- mosquito Adj. R squared = 0.2733



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



#### Maranhão (MA)

### Dengue incidence vs. Google Health Trends (2011–2016)

#### **Definitions:**

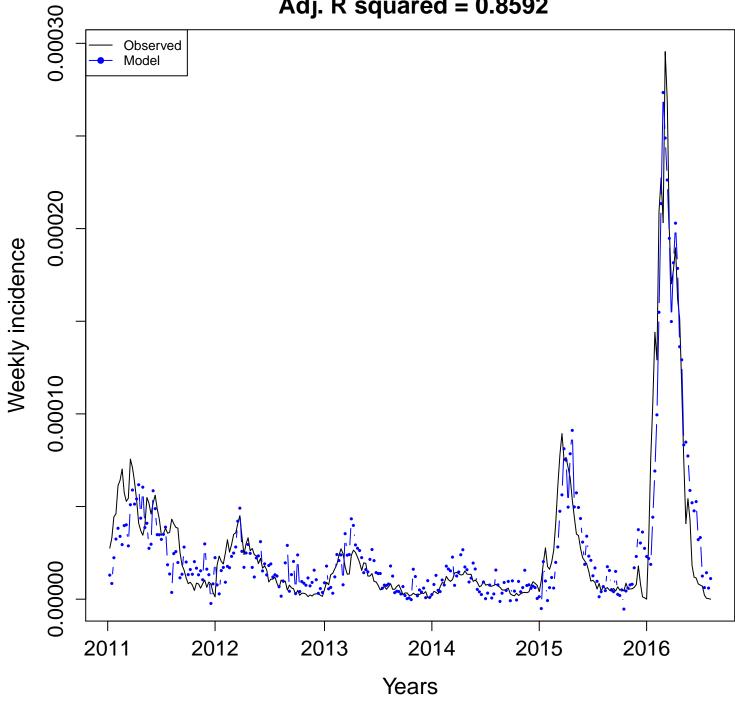
- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. n = number of uncorrelated terms
- Individual terms: Plots developed with one term at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

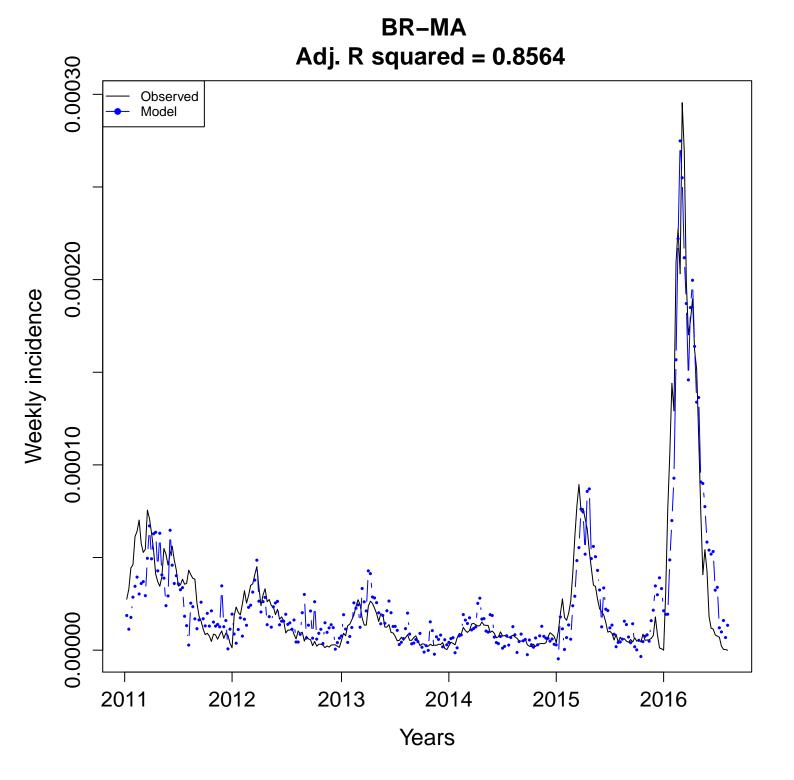
# **Combined terms Adjusted R squared**

Maranhão (MA)

All (n = 9)

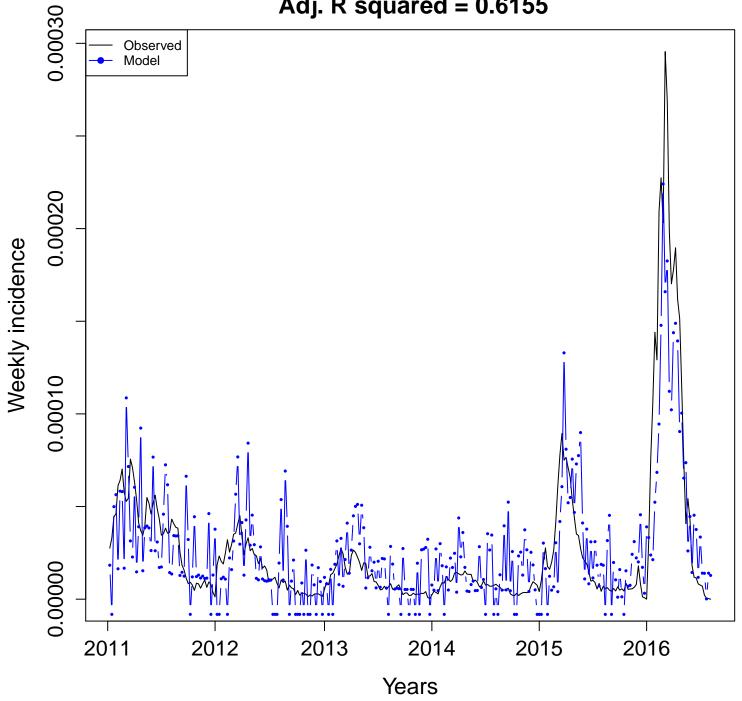






#### Uncorrelated (n = 2)

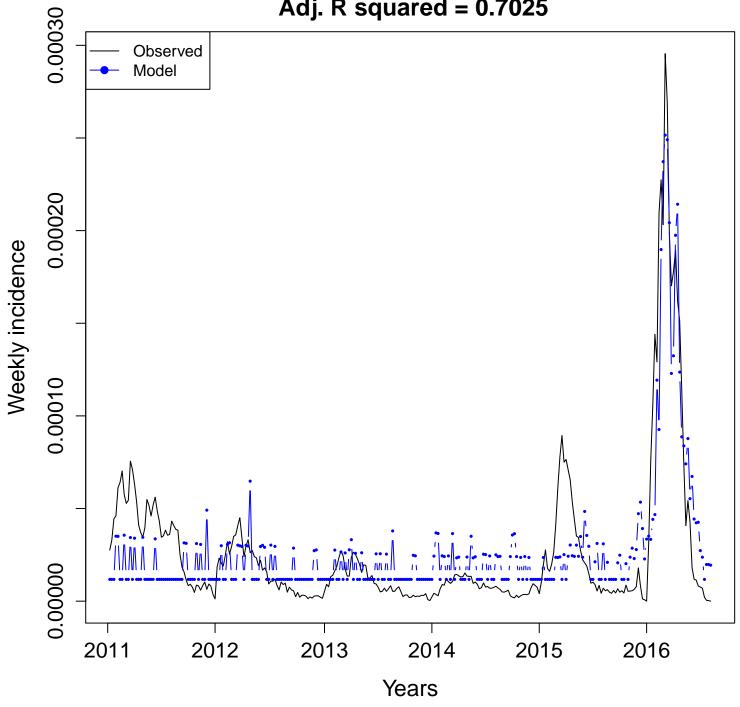
BR-MA Adj. R squared = 0.6155



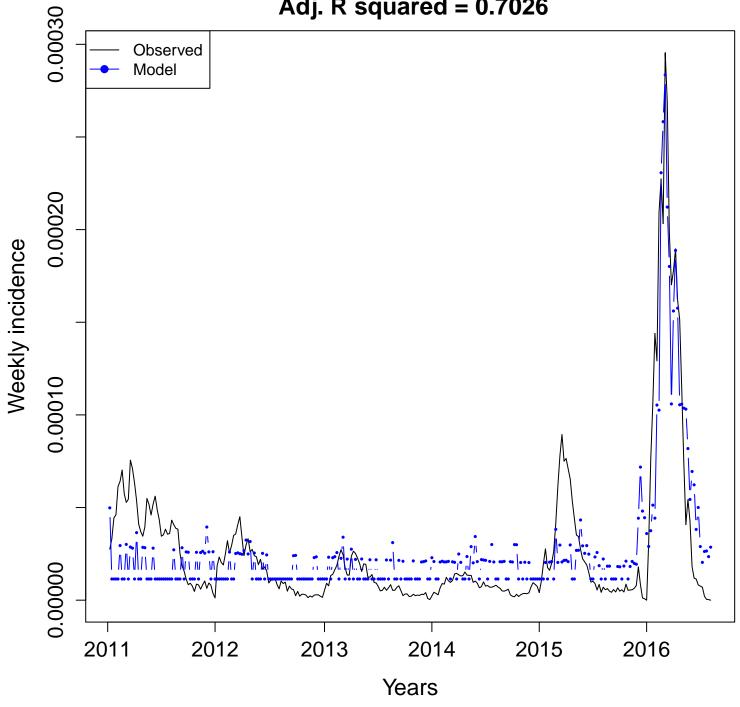
# **Individual terms Adjusted R squared**

Maranhão (MA)

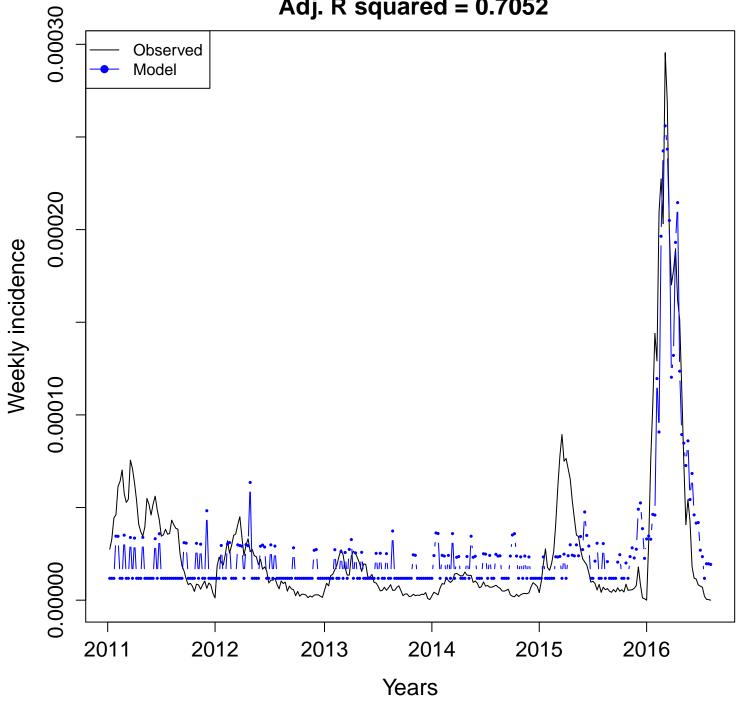
MA- aedes.aegypti Adj. R squared = 0.7025



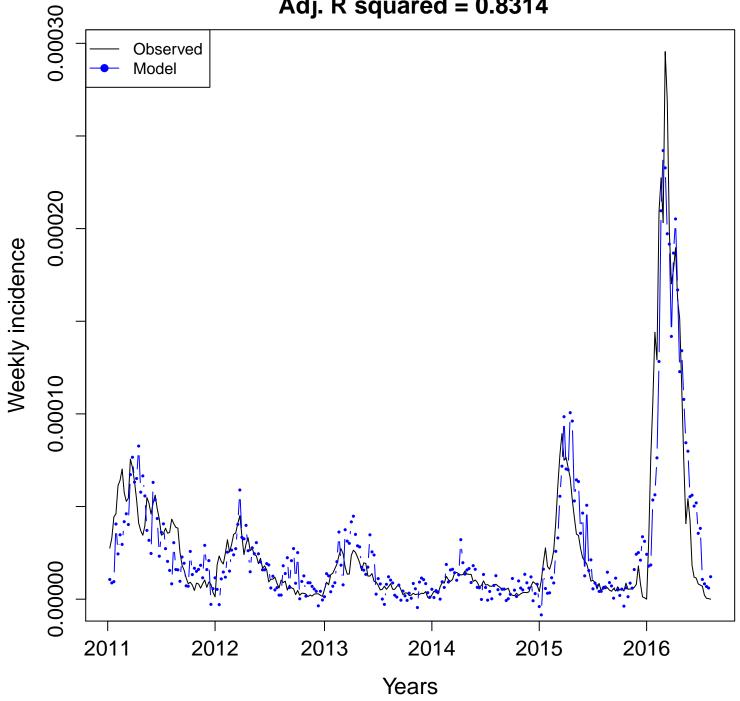
MA- aedes Adj. R squared = 0.7026



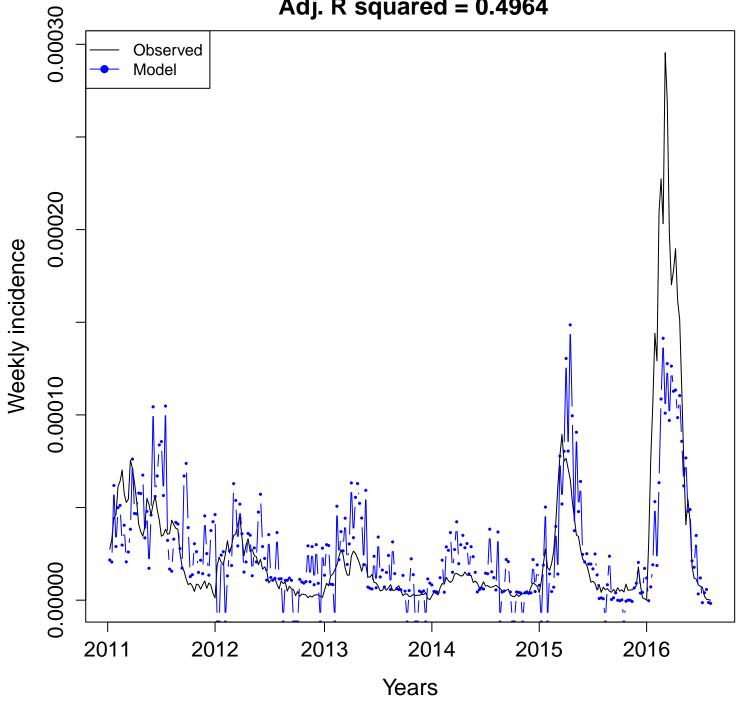
MA- aegypti Adj. R squared = 0.7052



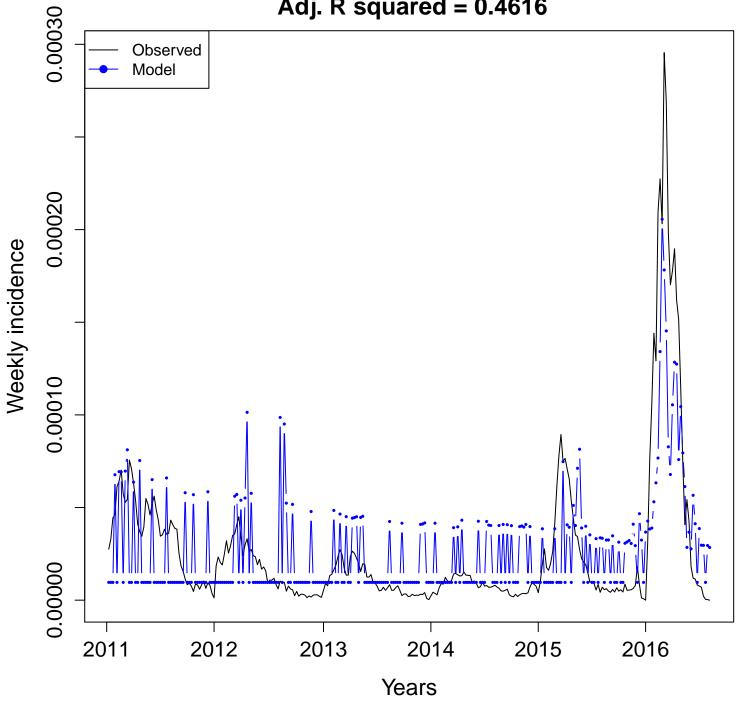
MA- dengue Adj. R squared = 0.8314



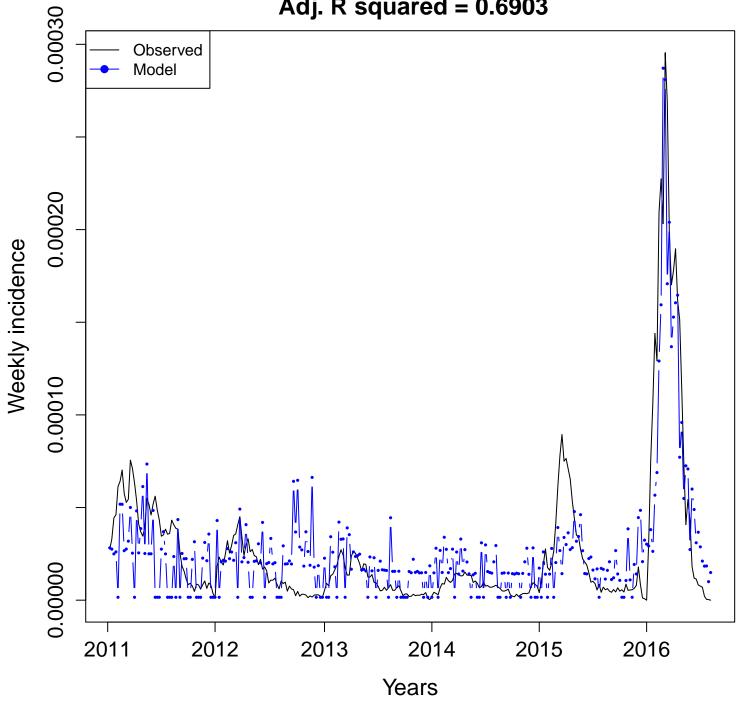
MA- dengue.sintomas Adj. R squared = 0.4964



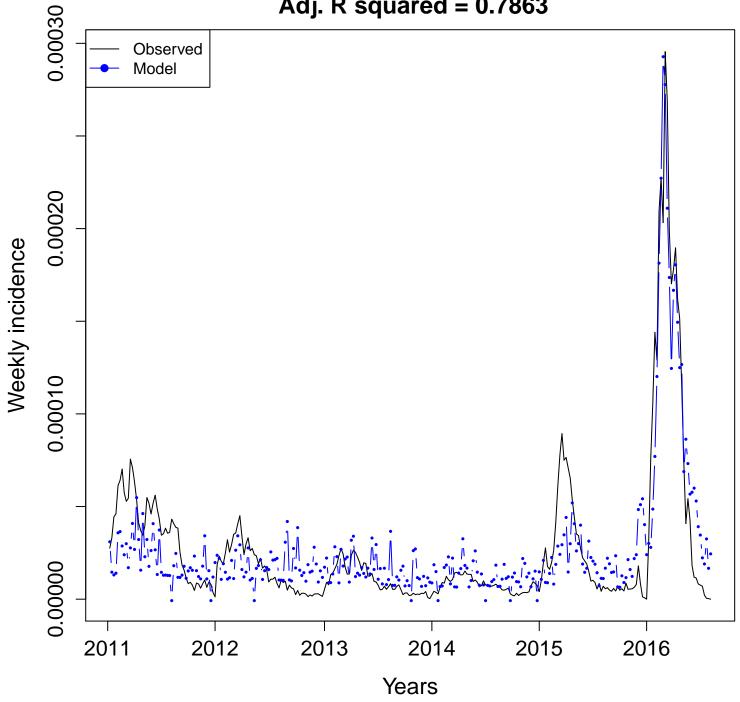
MA- dengue.virus Adj. R squared = 0.4616



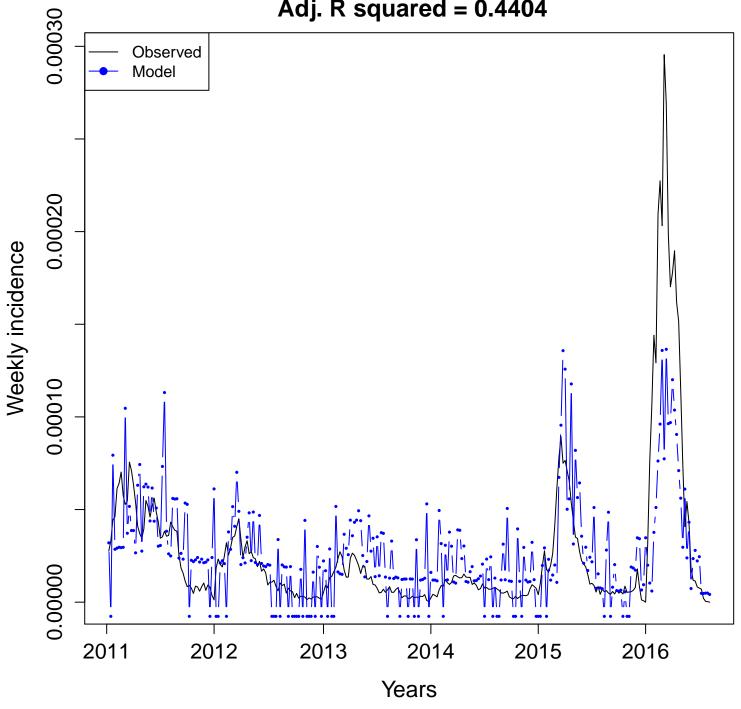
MA- mosquito.dengue Adj. R squared = 0.6903



MA- mosquito Adj. R squared = 0.7863



MA- sintomas.da.dengue Adj. R squared = 0.4404



#### **Minas Gerais (MG)**

### Dengue incidence vs. Google Health Trends (2011–2016)

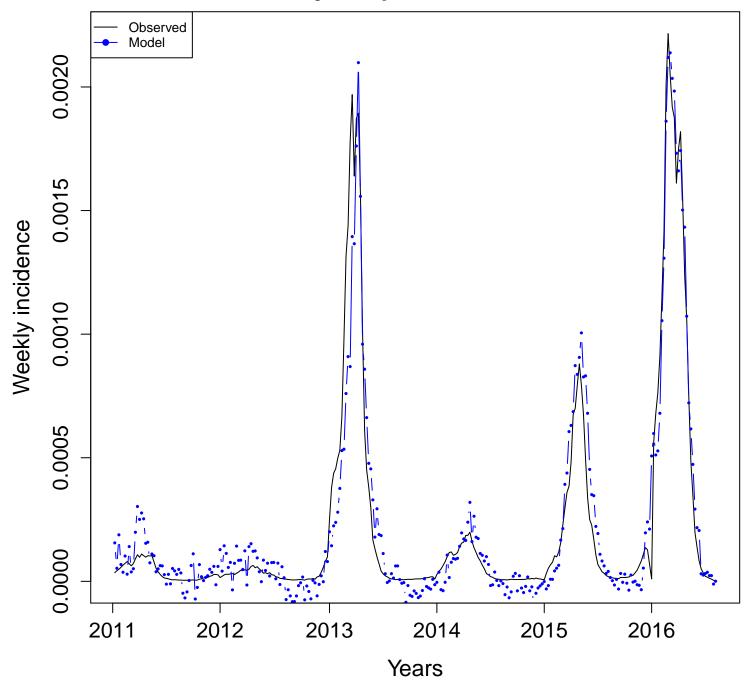
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

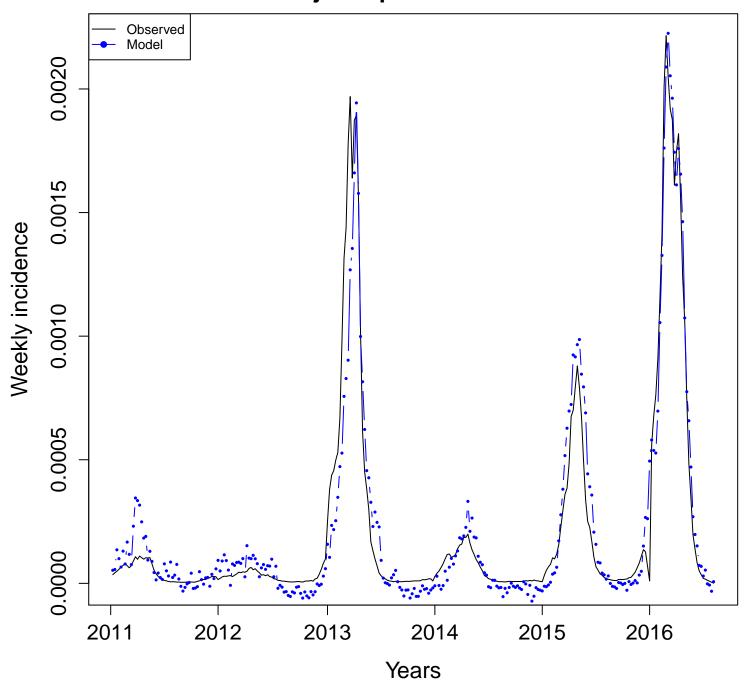
## **Combined terms Adjusted R squared**

Minas Gerais (MG)

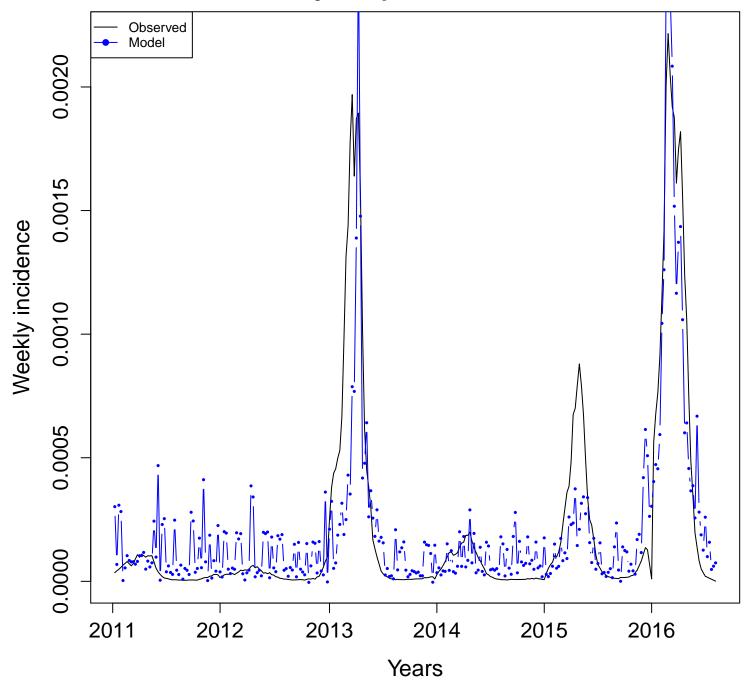
BR-MG Adj. R squared = 0.9229



BR-MG Adj. R squared = 0.9188



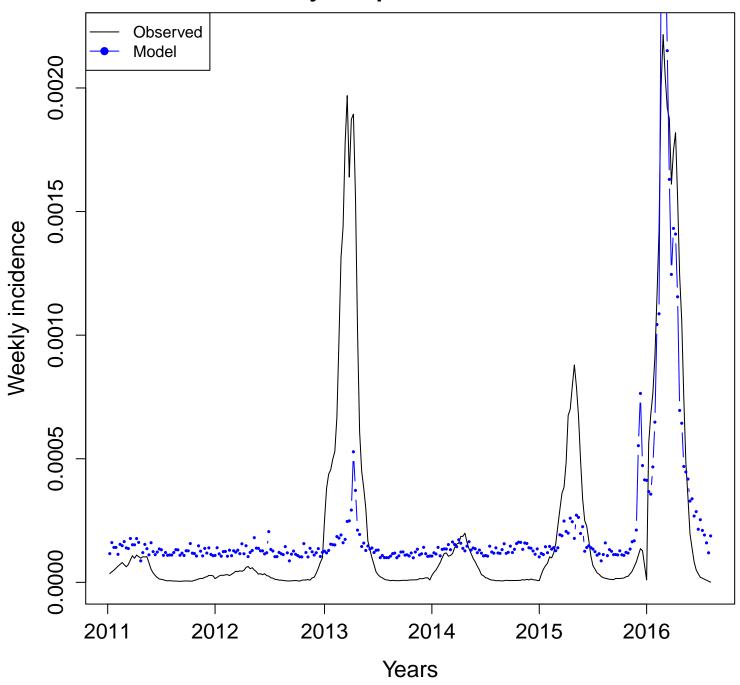
BR-MG Adj. R squared = 0.7182



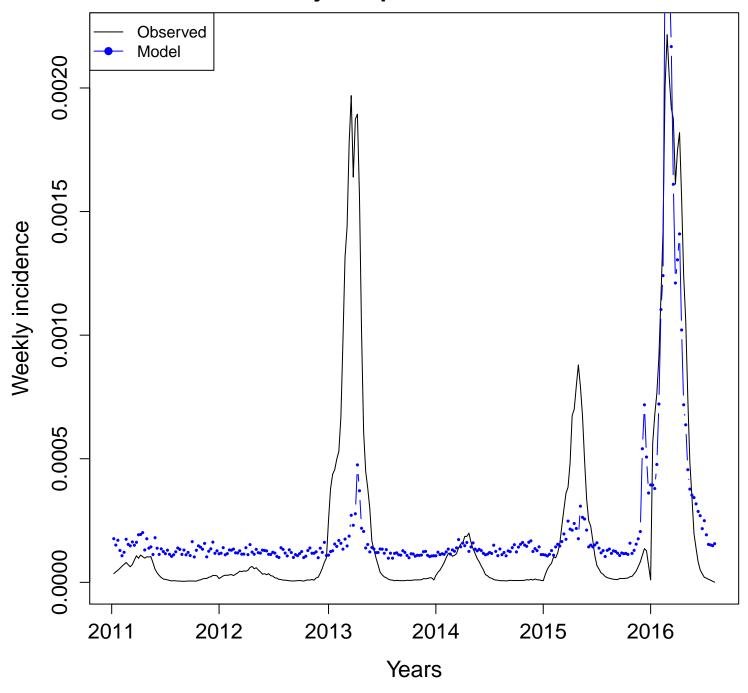
# **Individual terms Adjusted R squared**

Minas Gerais (MG)

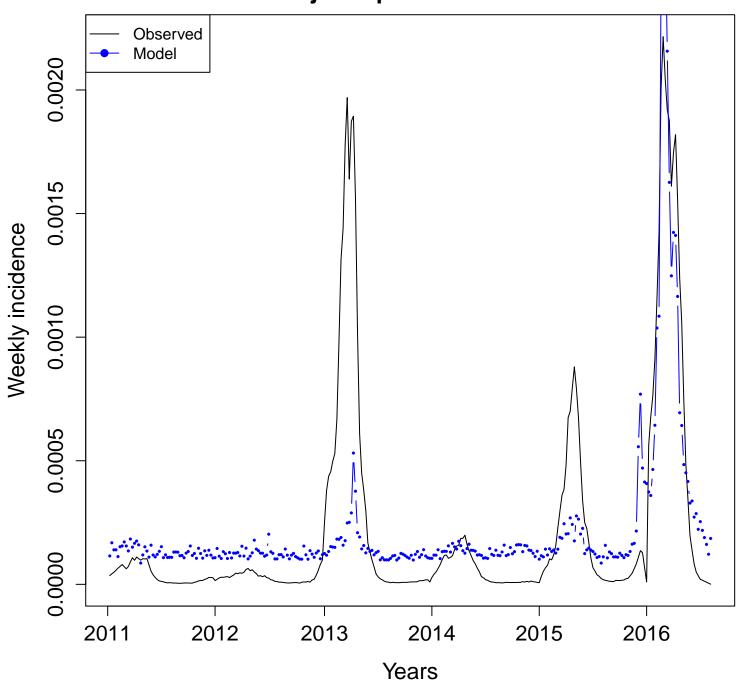
MG- aedes.aegypti Adj. R squared = 0.5555



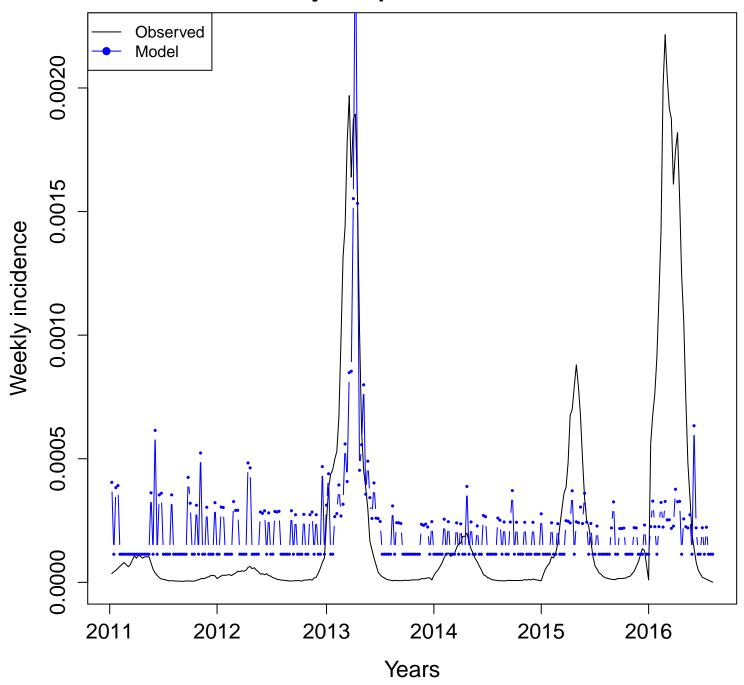
MG- aedes Adj. R squared = 0.5508



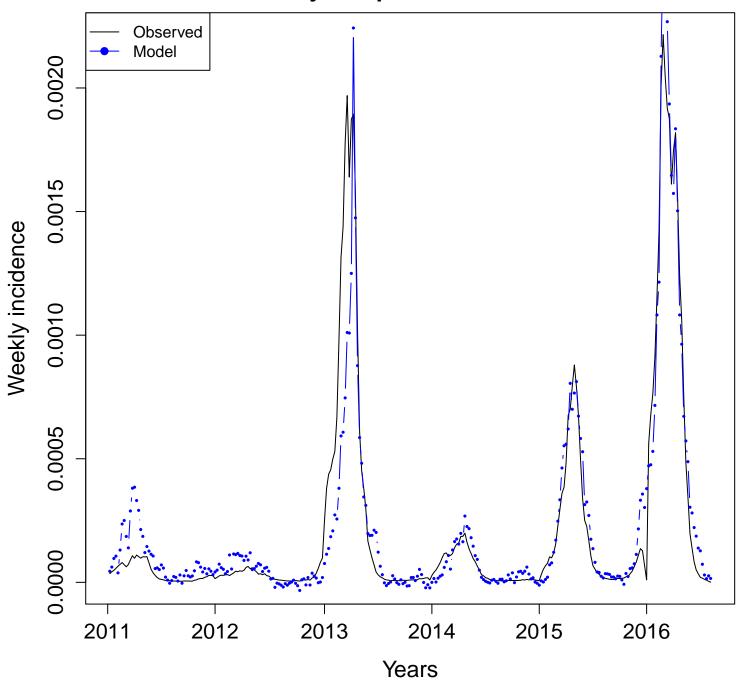
MG- aegypti Adj. R squared = 0.5559



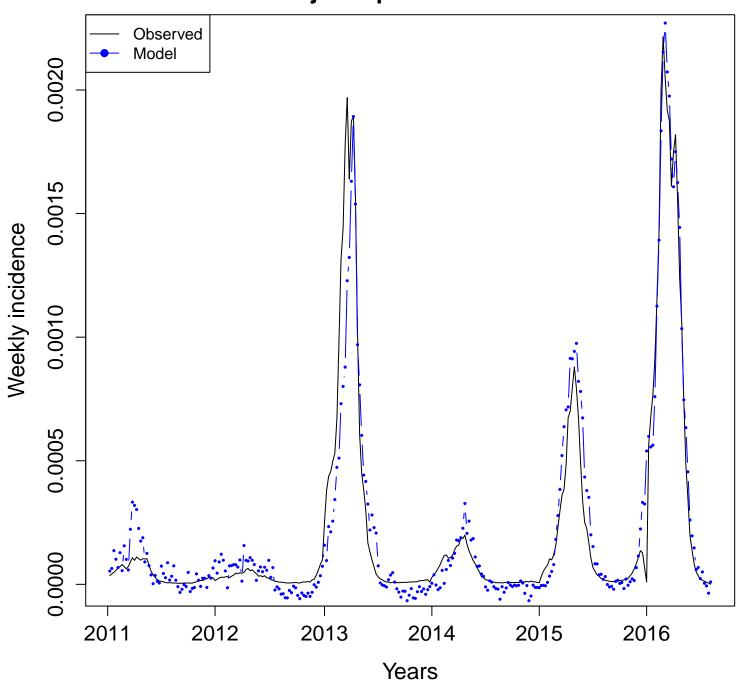
MG- dengue.fever Adj. R squared = 0.2394



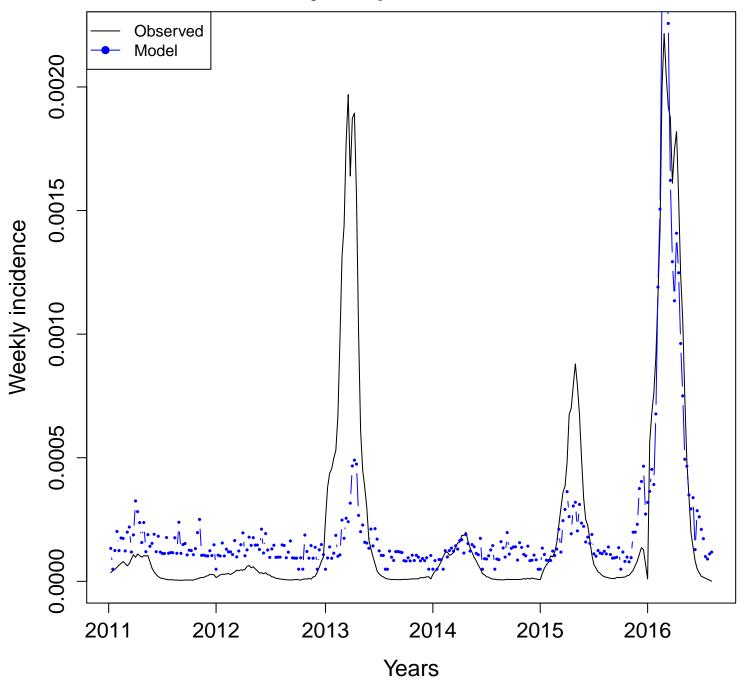
MG- dengue Adj. R squared = 0.8799



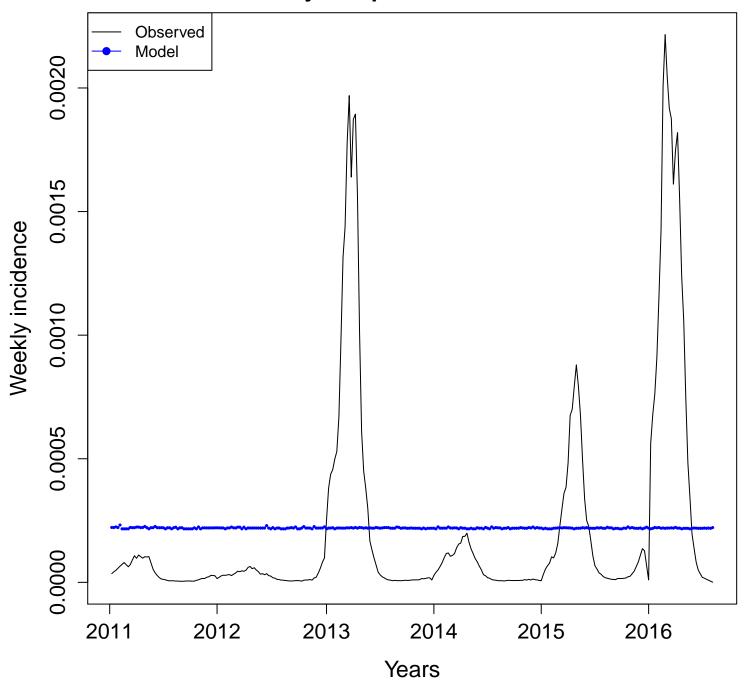
MG- dengue.sintomas Adj. R squared = 0.9183



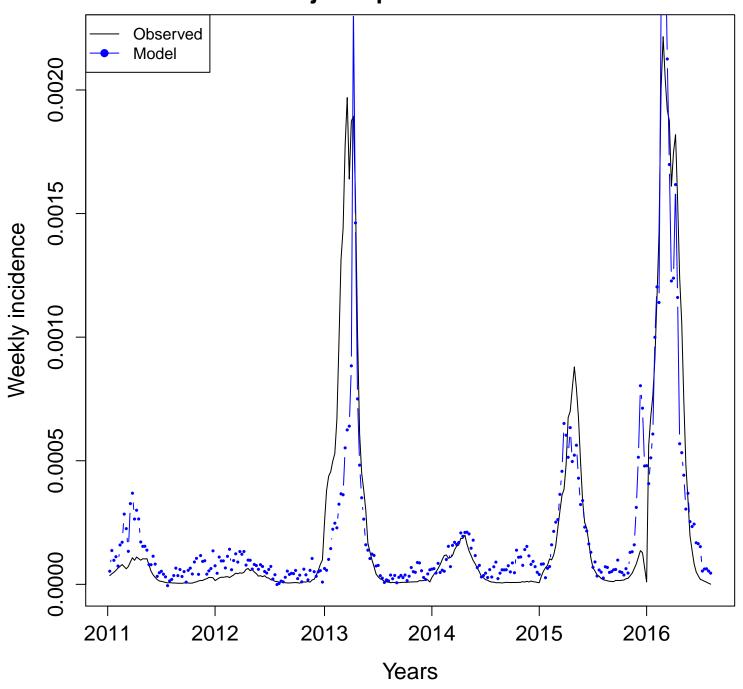
MG- dengue.virus Adj. R squared = 0.5912



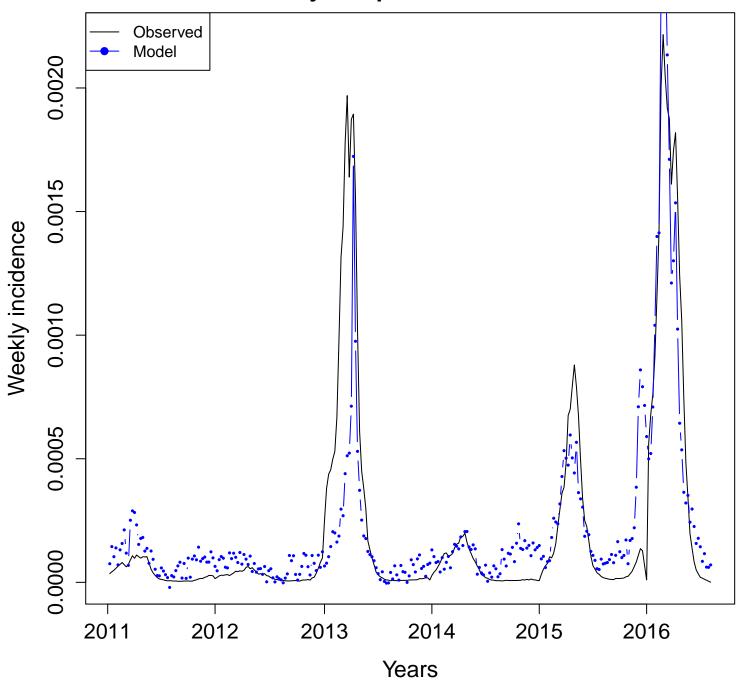
MG- DHF Adj. R squared = -0.0034



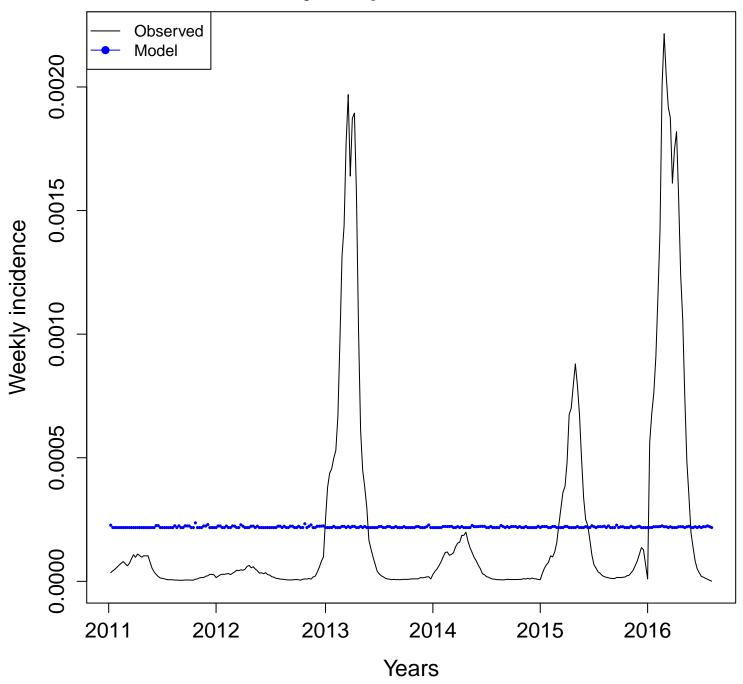
MG- mosquito.dengue Adj. R squared = 0.7608



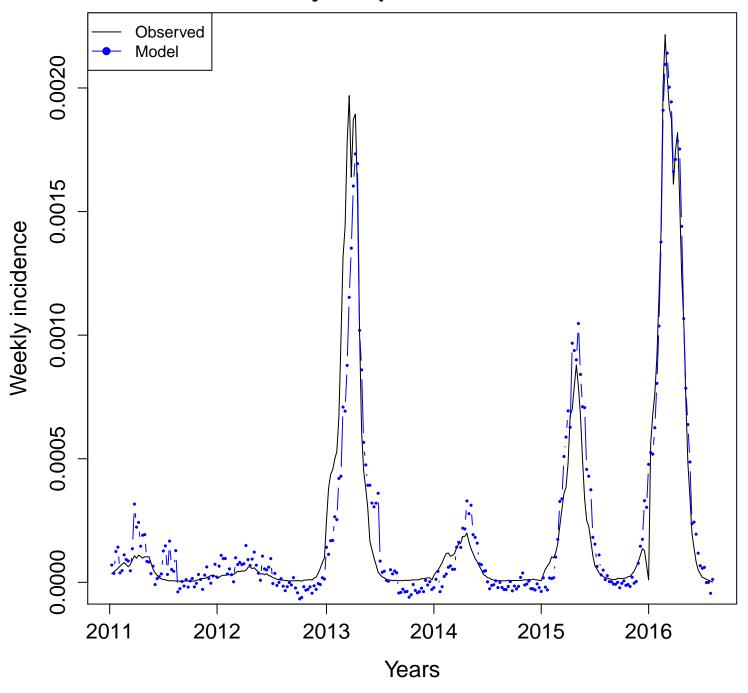
MG- mosquito Adj. R squared = 0.7047



MG- mosquitoes Adj. R squared = -0.0034



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



#### **Mato Grosso do Sul (MS)**

### Dengue incidence vs. Google Health Trends (2011–2016)

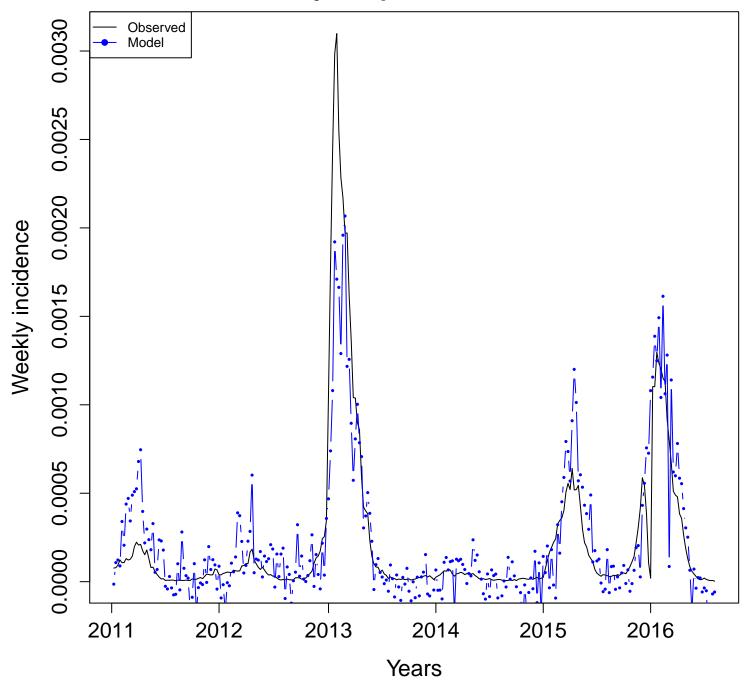
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

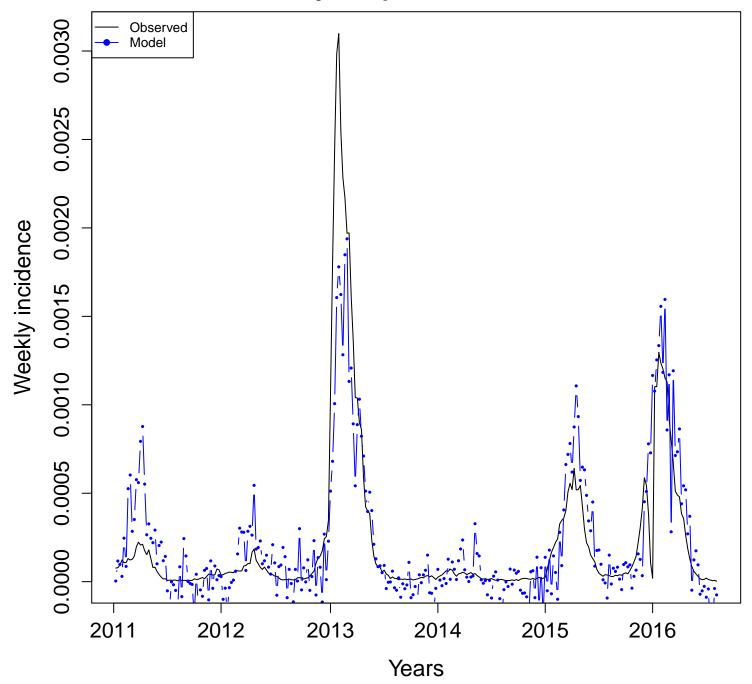
**Combined terms Adjusted R squared** 

Mato Grosso do Sul (MS)

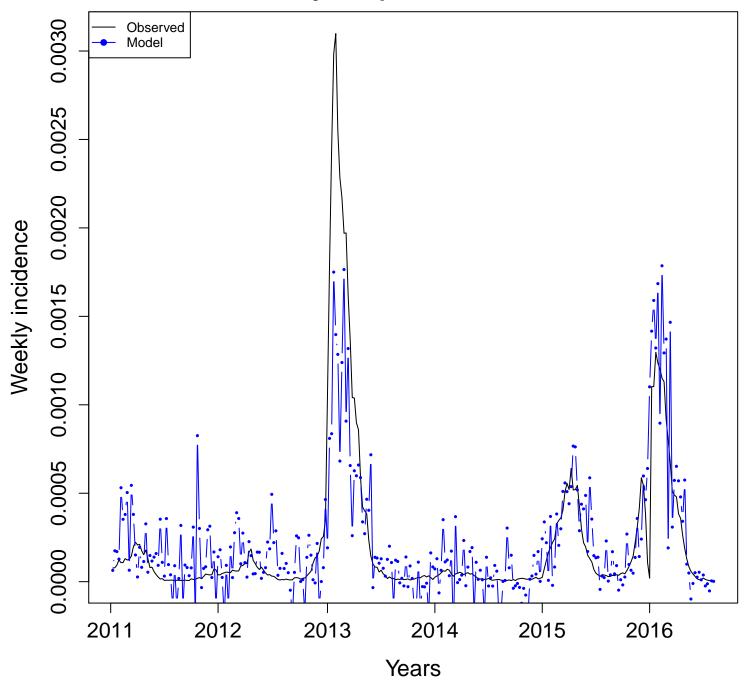
BR-MS Adj. R squared = 0.7135



BR-MS Adj. R squared = 0.6943



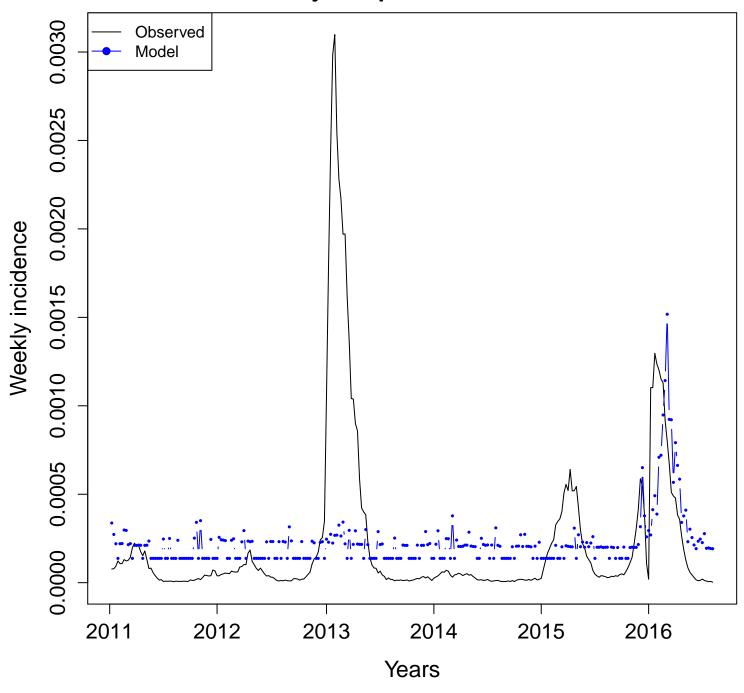
BR-MS Adj. R squared = 0.5826



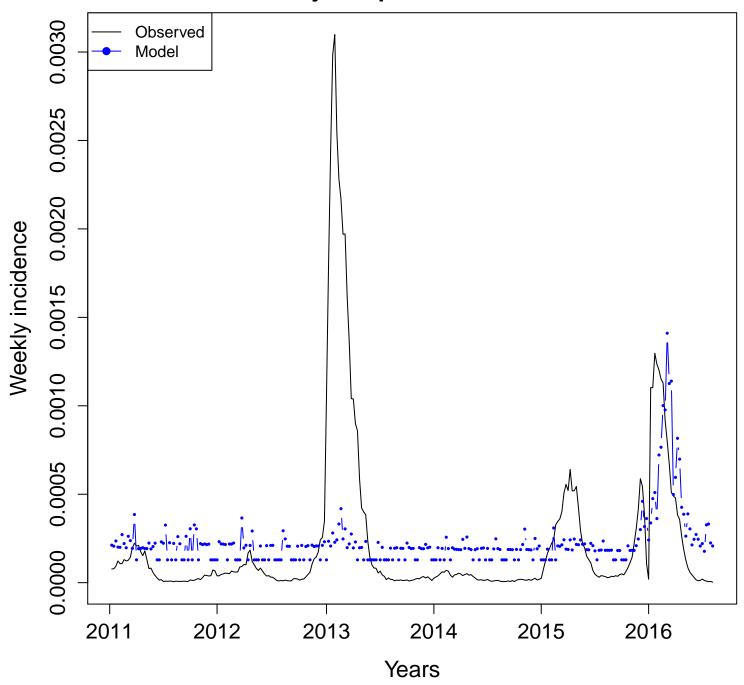
**Individual terms Adjusted R squared** 

Mato Grosso do Sul (MS)

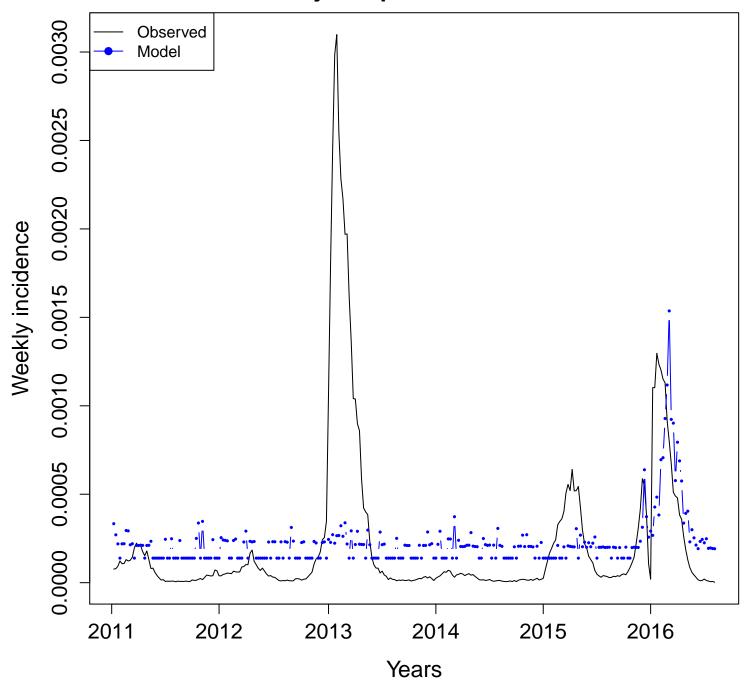
MS- aedes.aegypti Adj. R squared = 0.1003



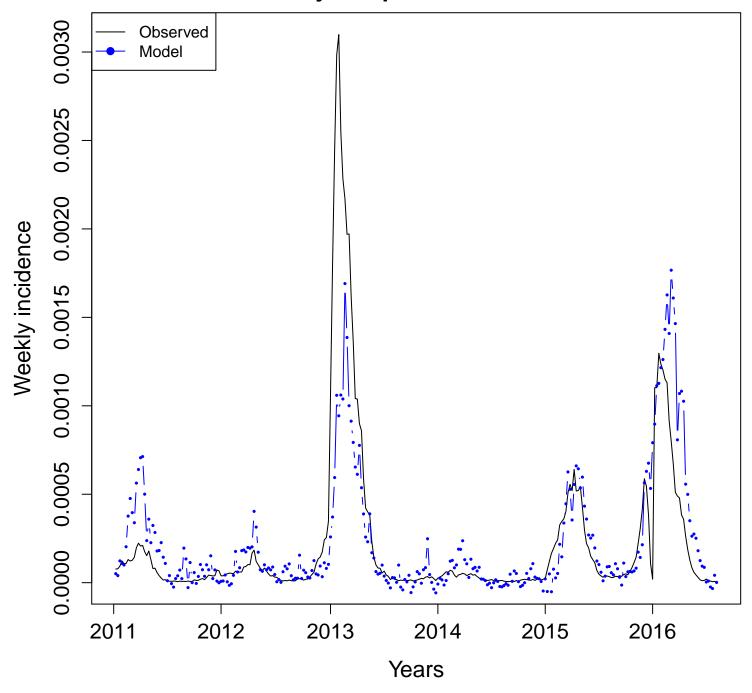
MS- aedes Adj. R squared = 0.1035



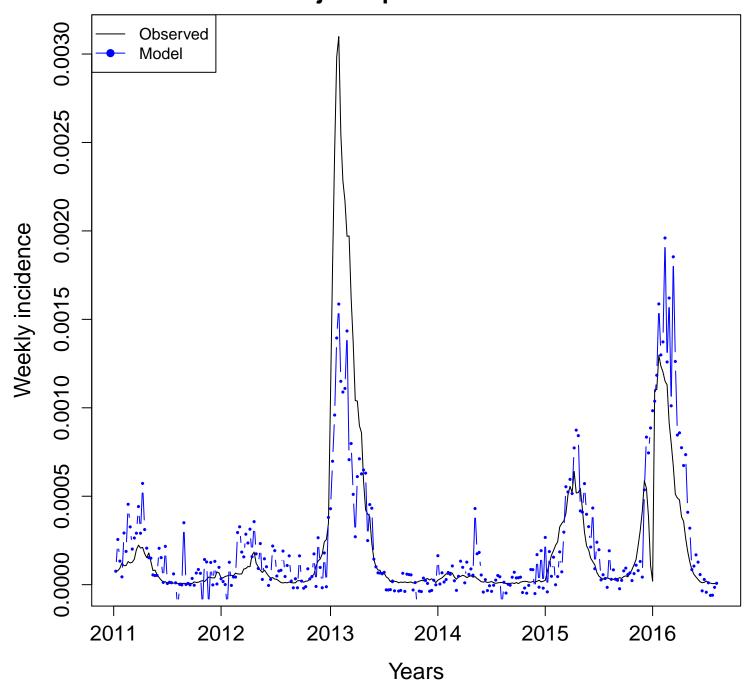
MS- aegypti Adj. R squared = 0.0986



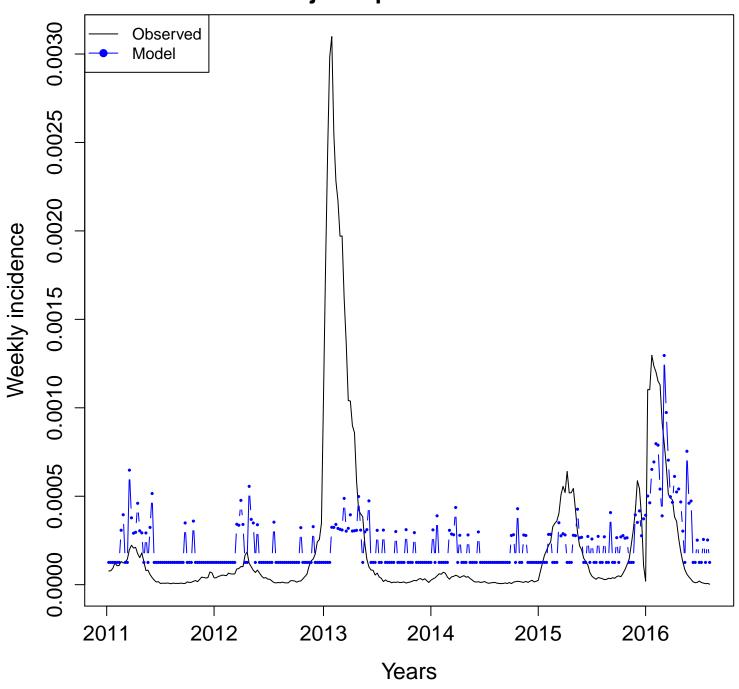
MS- dengue Adj. R squared = 0.5422



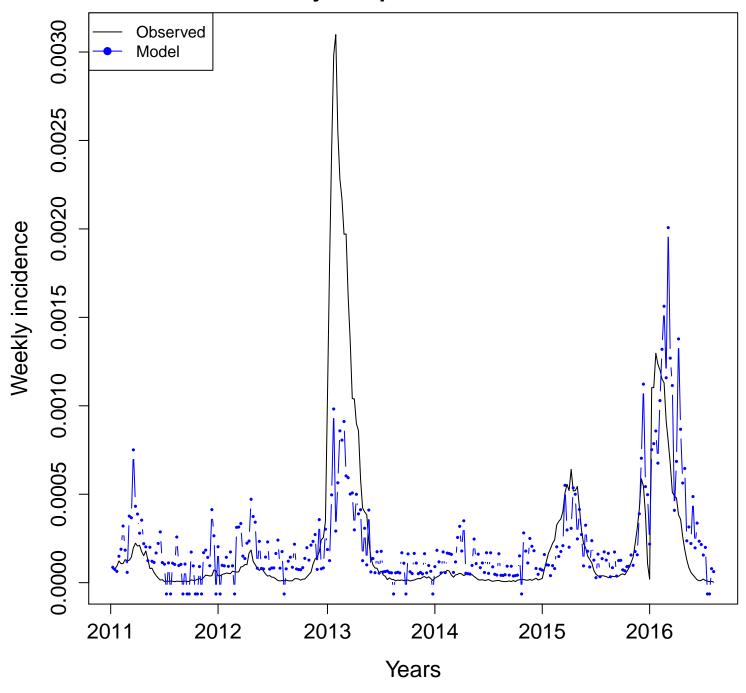
MS- dengue.sintomas Adj. R squared = 0.5956



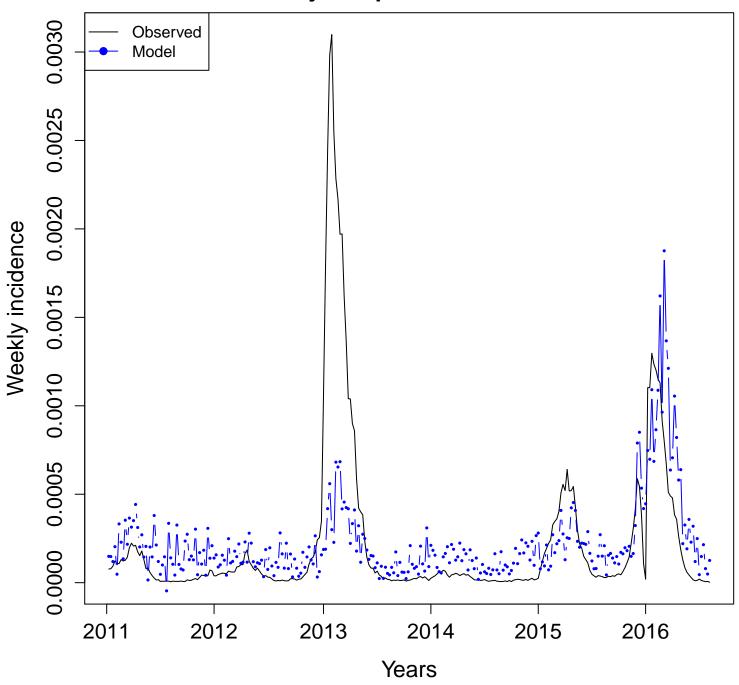
MS- dengue.virus Adj. R squared = 0.1113



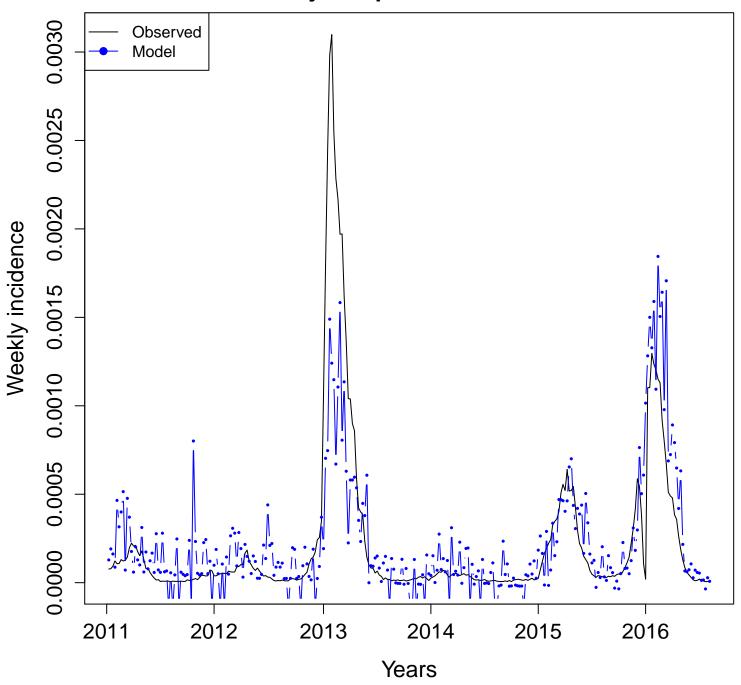
MS- mosquito.dengue Adj. R squared = 0.3376



MS- mosquito 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)

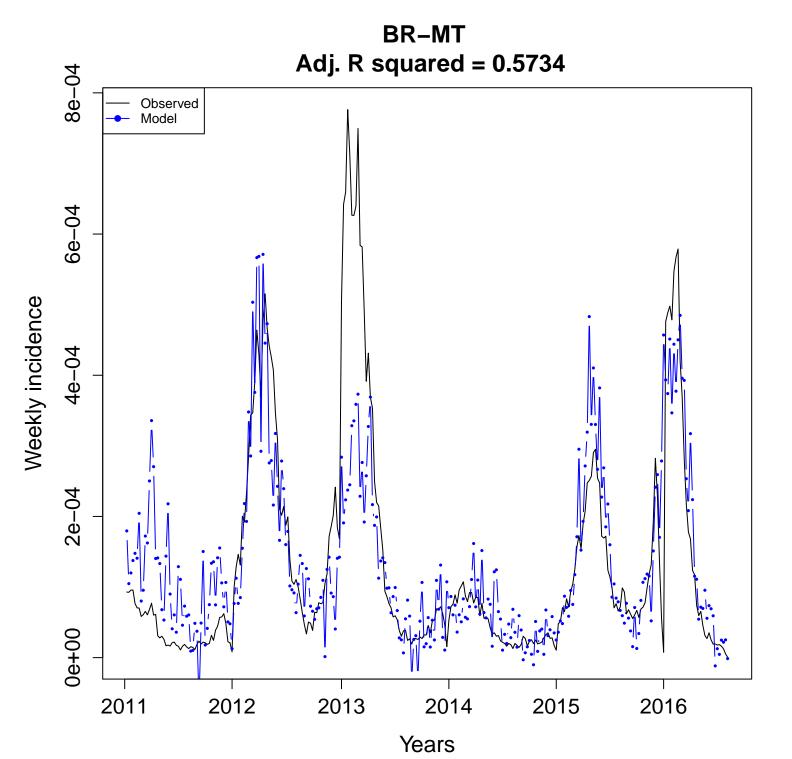
#### **Definitions:**

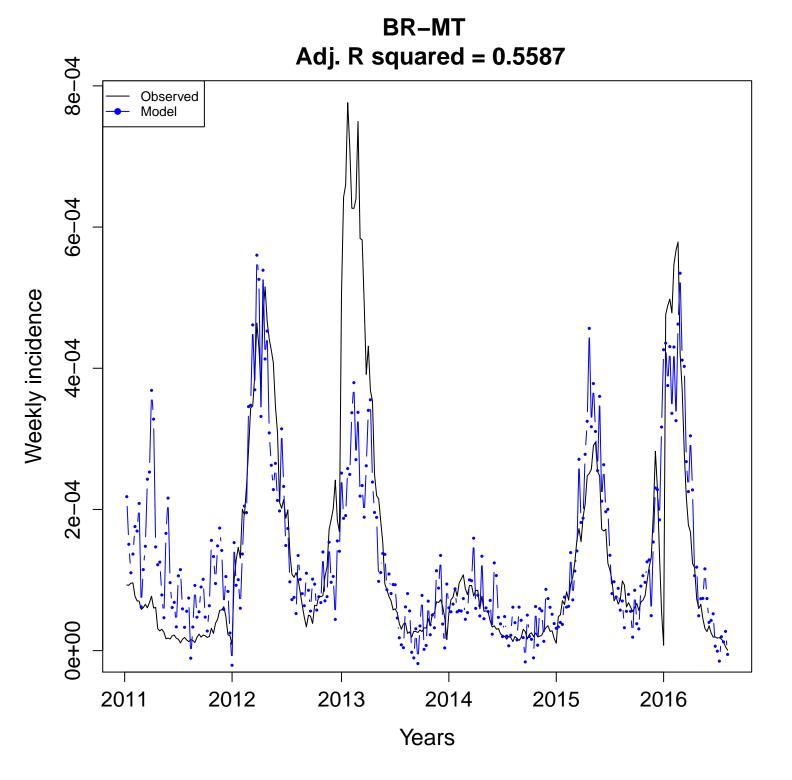
- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. n = number of uncorrelated terms
- Individual terms: Plots developed with one term at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

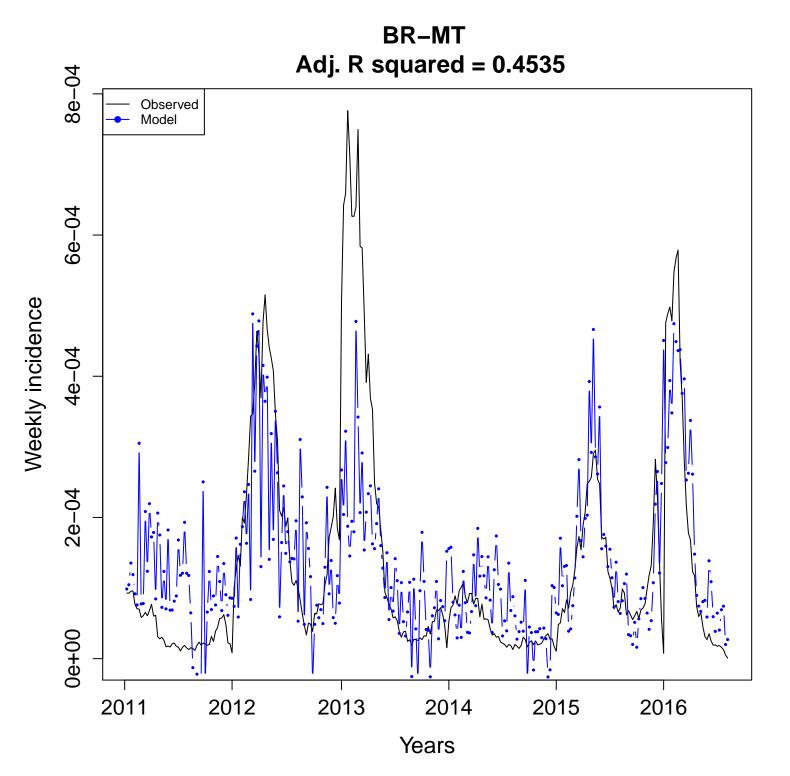
## **Combined terms Adjusted R squared**

**Mato Grosso (MT)** 

All (n = 9)



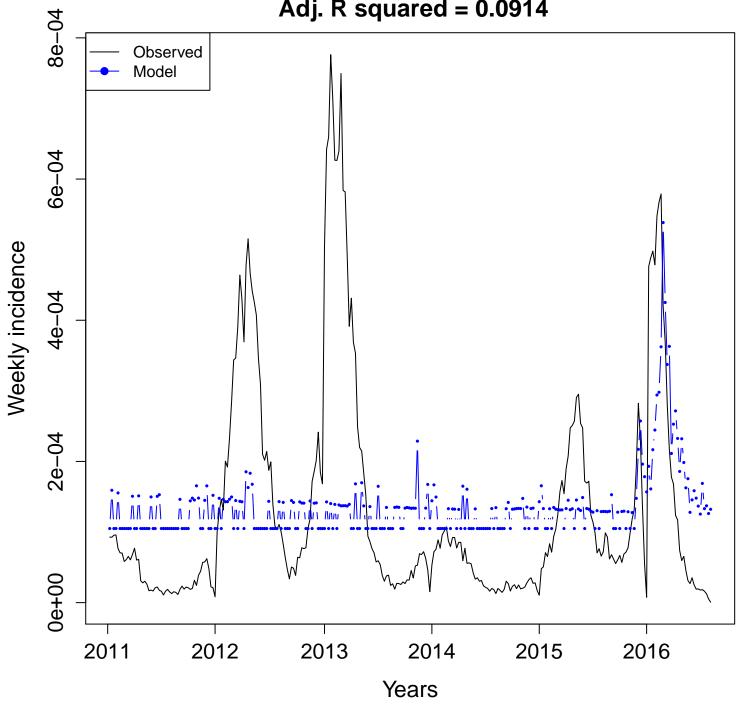




# **Individual terms Adjusted R squared**

**Mato Grosso (MT)** 

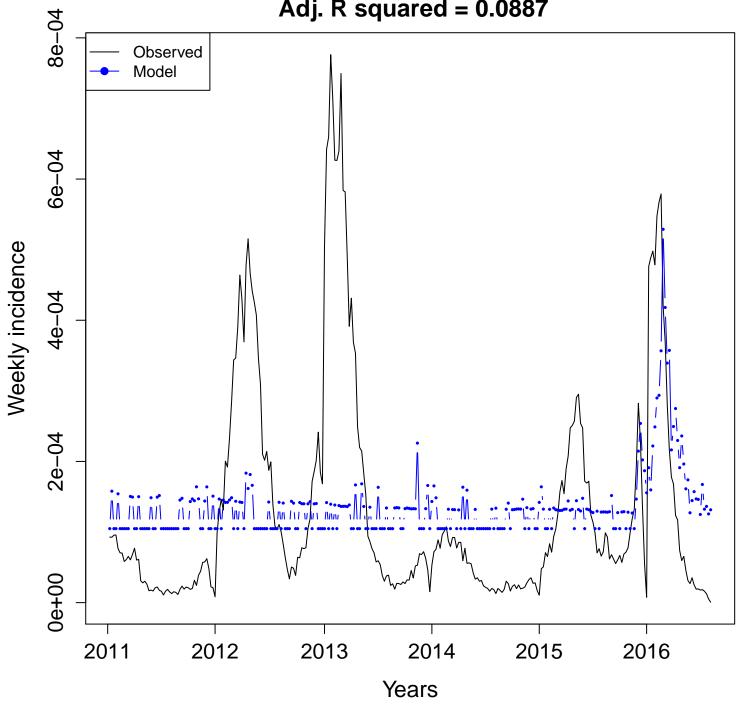
MT- aedes.aegypti Adj. R squared = 0.0914



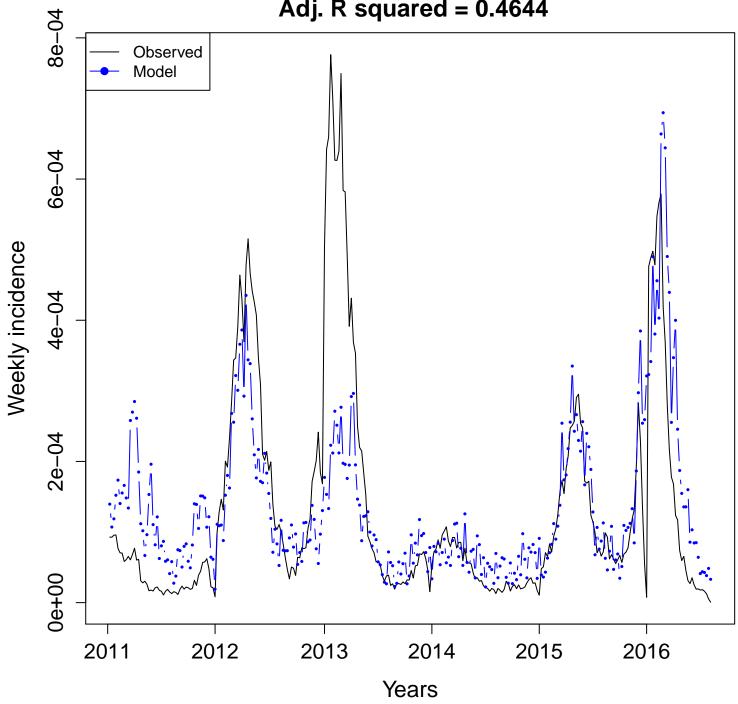
MT- aedes **Adj. R squared = 0.0955** 8e-04 Observed Model 6e-04 Weekly incidence 4e-04 2e-04 0e+00 2011 2012 2013 2015 2016 2014

Years

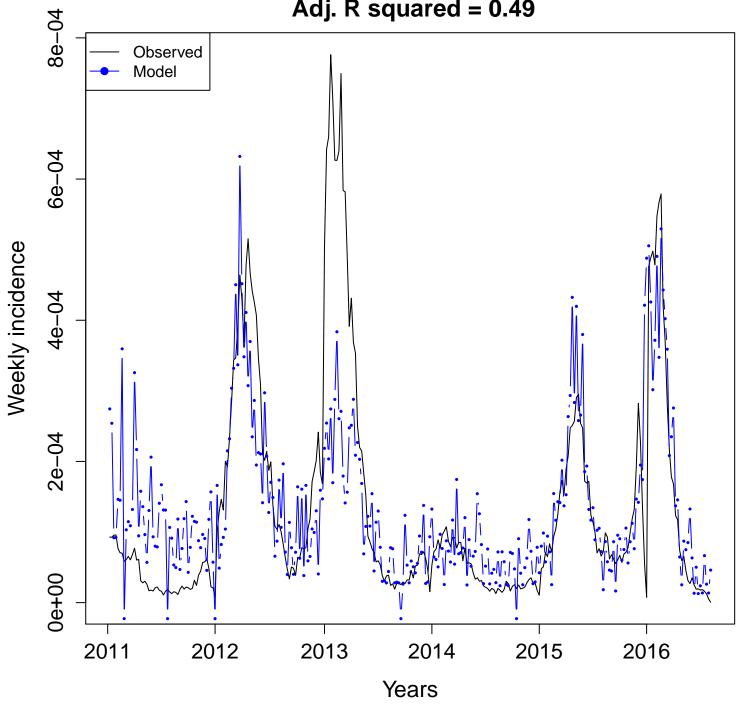
MT- aegypti Adj. R squared = 0.0887



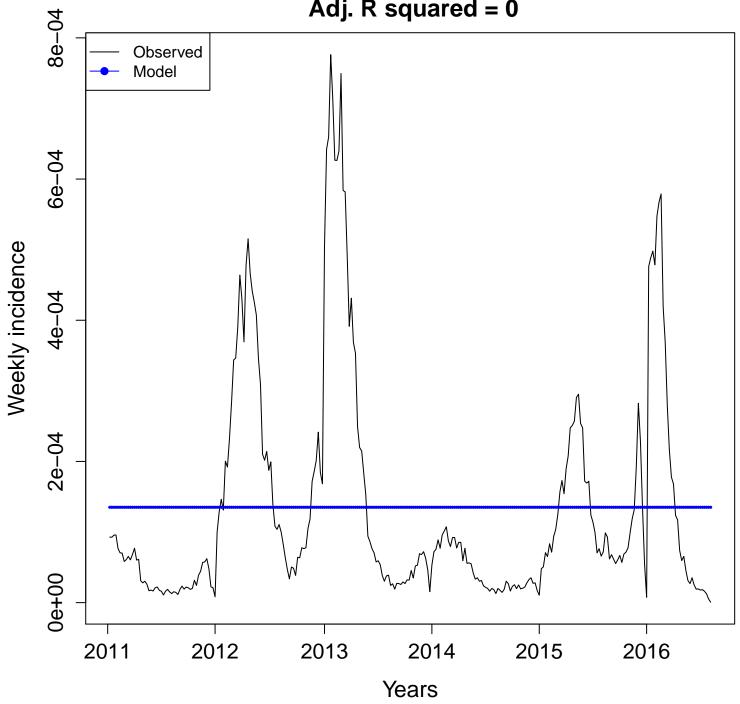
MT- dengue Adj. R squared = 0.4644



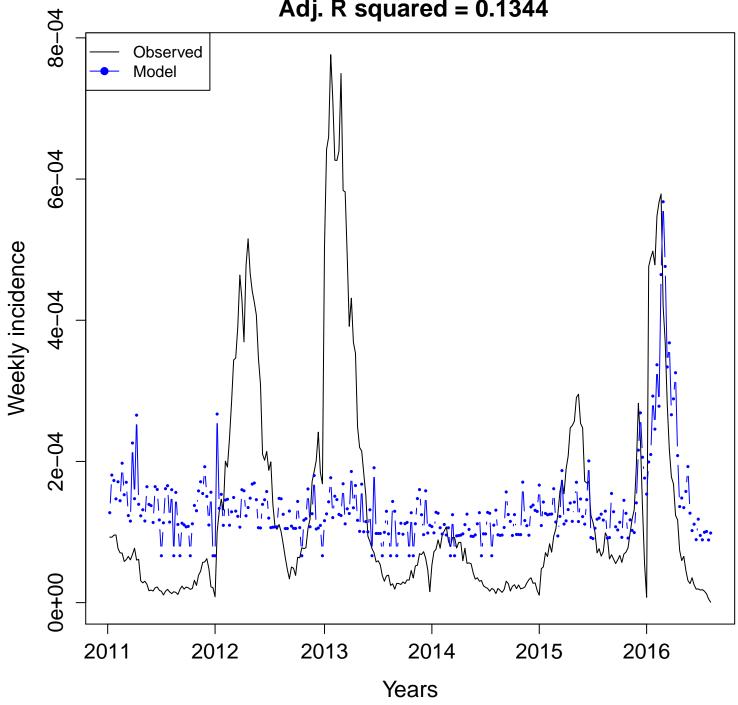
MT- dengue.sintomas Adj. R squared = 0.49



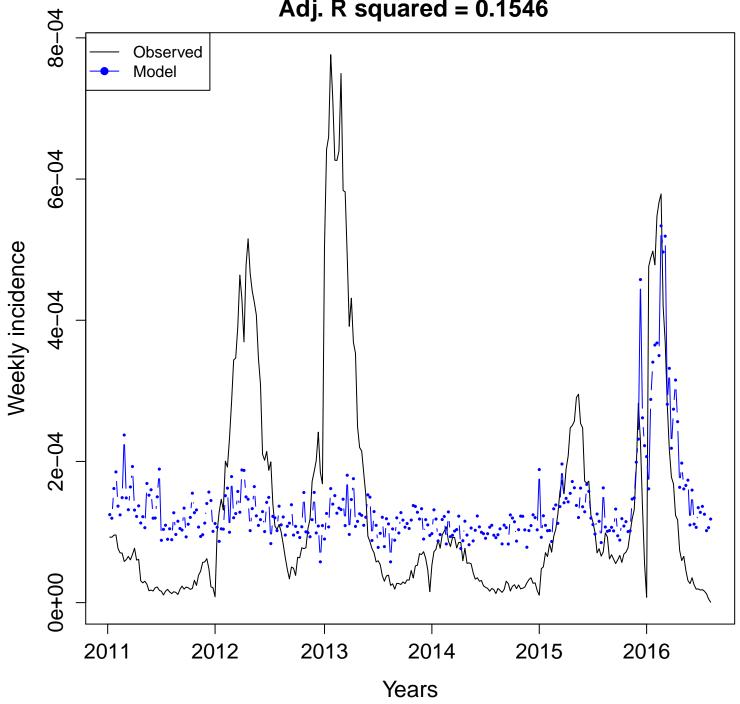
MT- dengue.virus Adj. R squared = 0



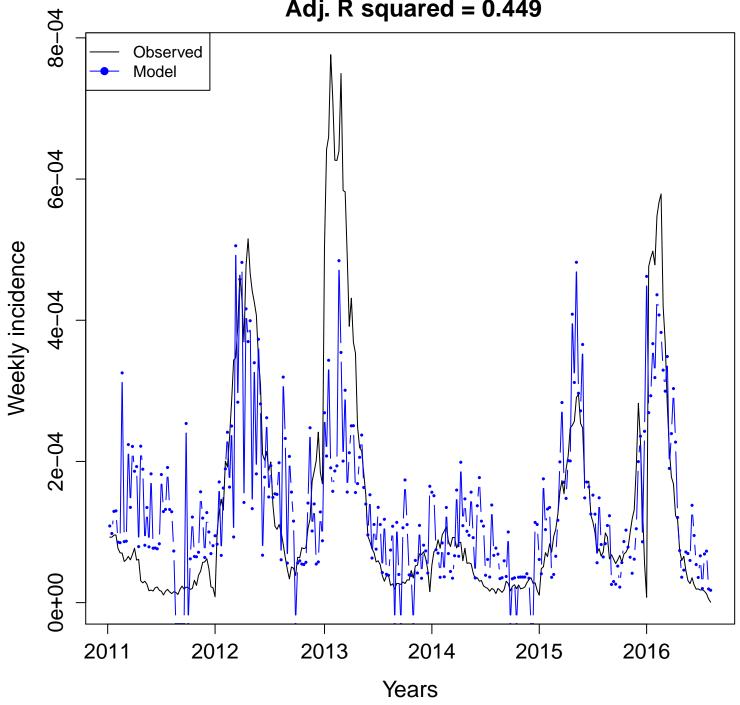
MT- mosquito.dengue Adj. R squared = 0.1344



MT- mosquito Adj. R squared = 0.1546



MT- sintomas.da.dengue Adj. R squared = 0.449



### Pará (PA)

### Dengue incidence vs. Google Health Trends (2011–2016)

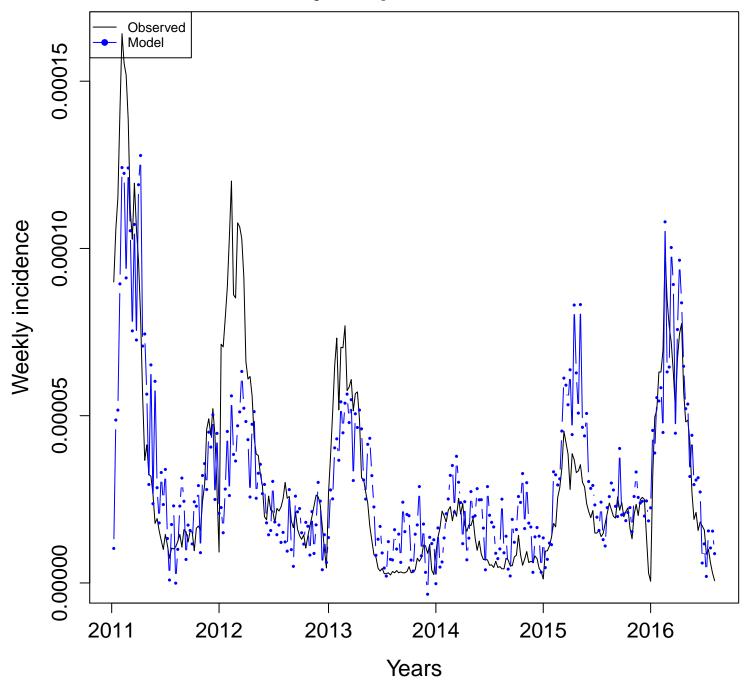
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

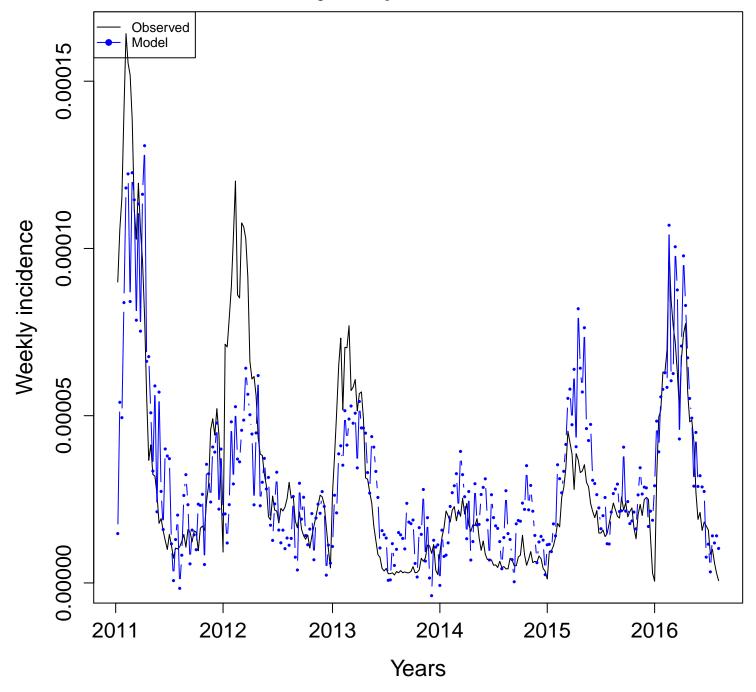
# **Combined terms Adjusted R squared**

Pará (PA)

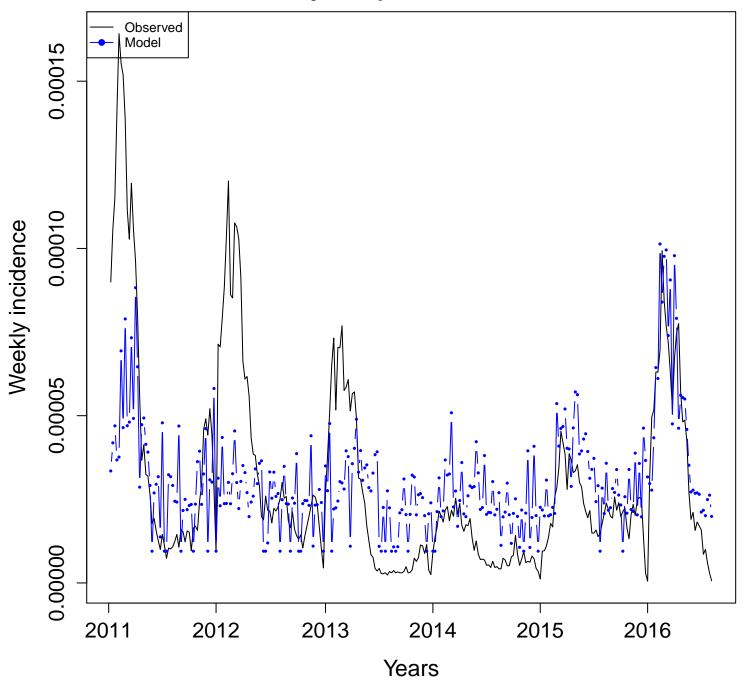
BR-PA Adj. R squared = 0.6004



BR-PA Adj. R squared = 0.5958



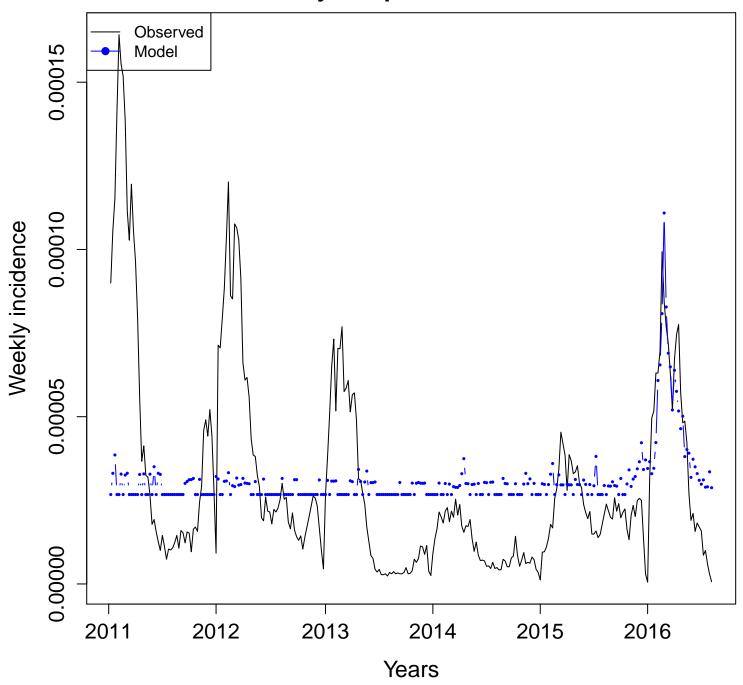
BR-PA Adj. R squared = 0.2768



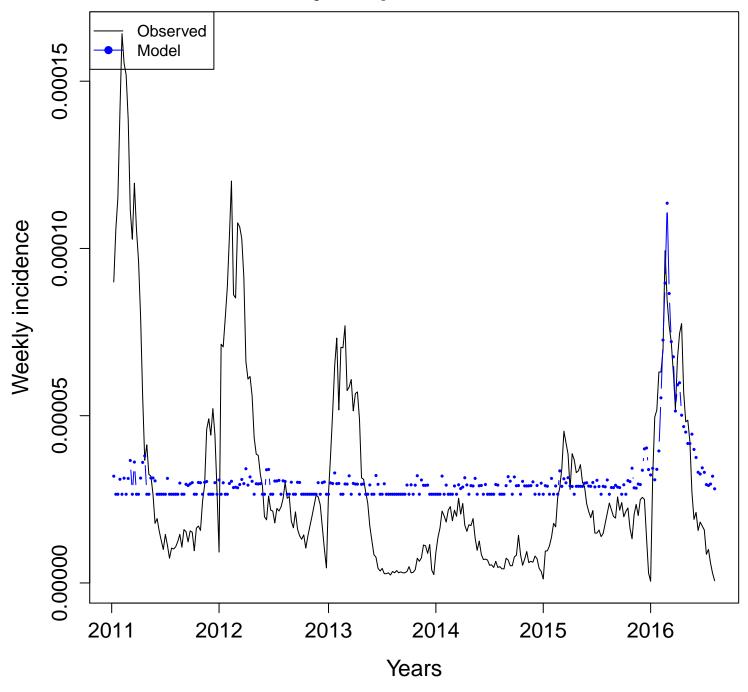
# **Individual terms Adjusted R squared**

Pará (PA)

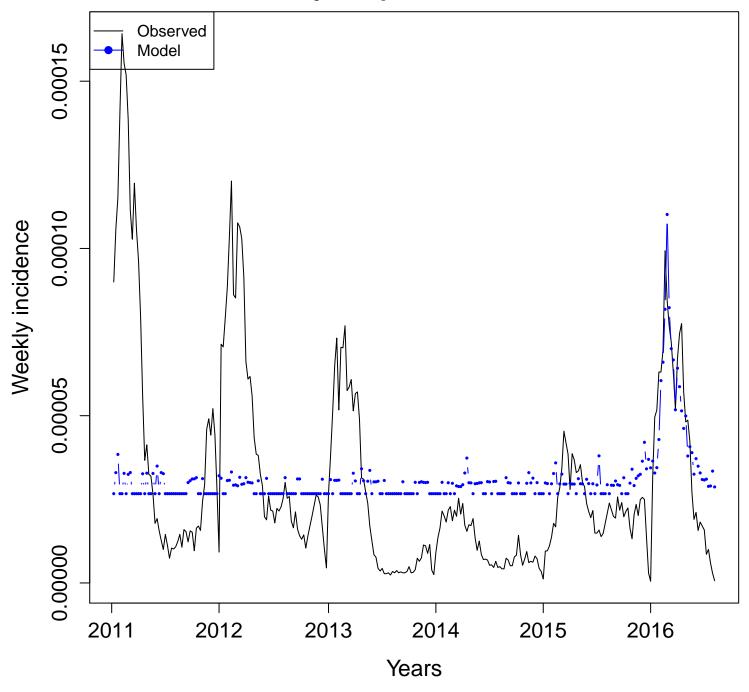
PA- aedes.aegypti Adj. R squared = 0.079



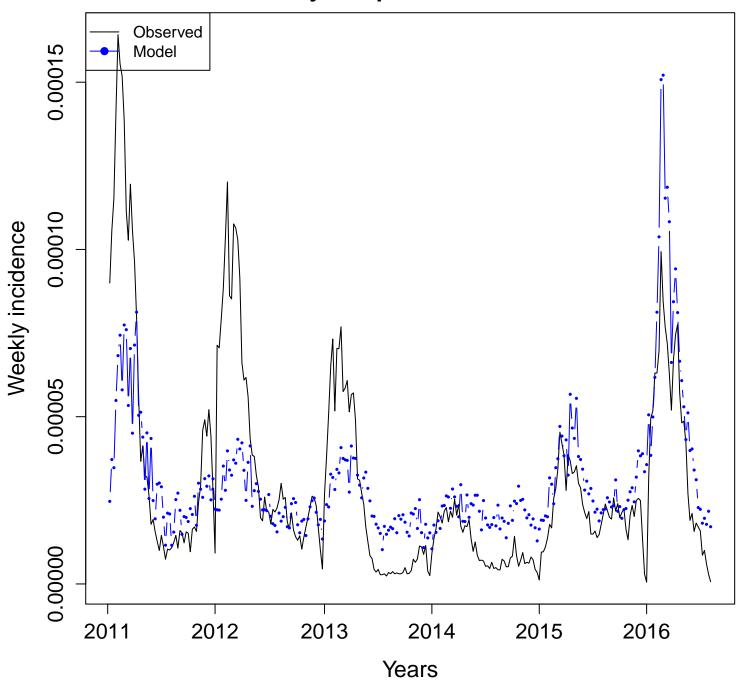
PA- aedes Adj. R squared = 0.0862



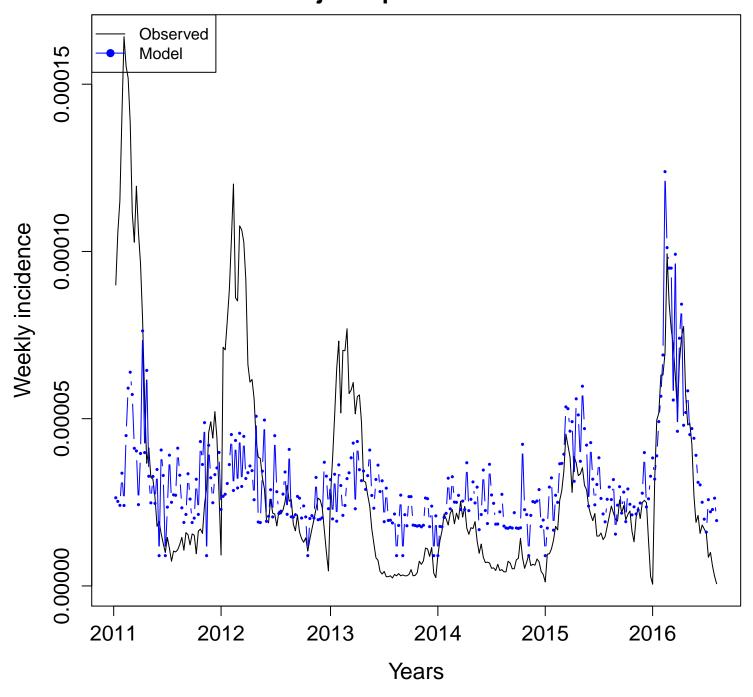
PA- aegypti Adj. R squared = 0.0797



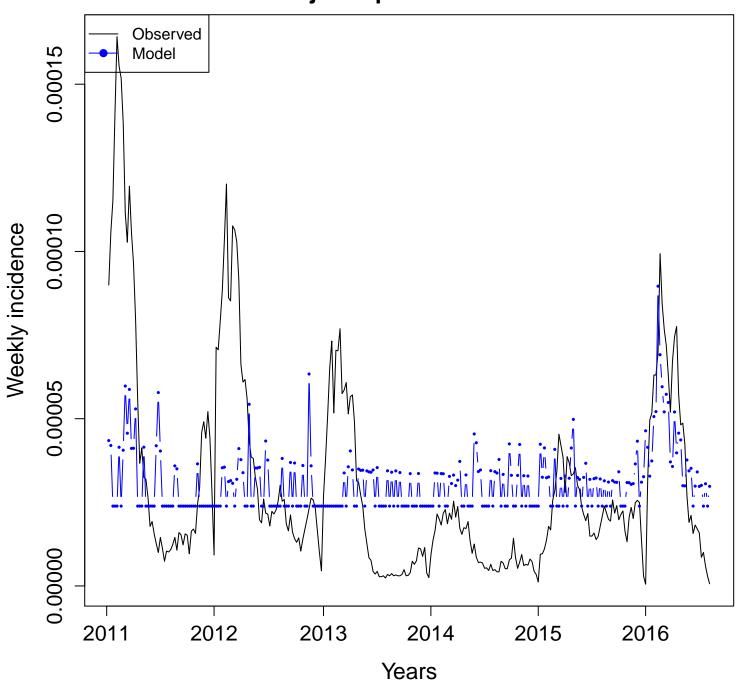
PA- dengue Adj. R squared = 0.4105



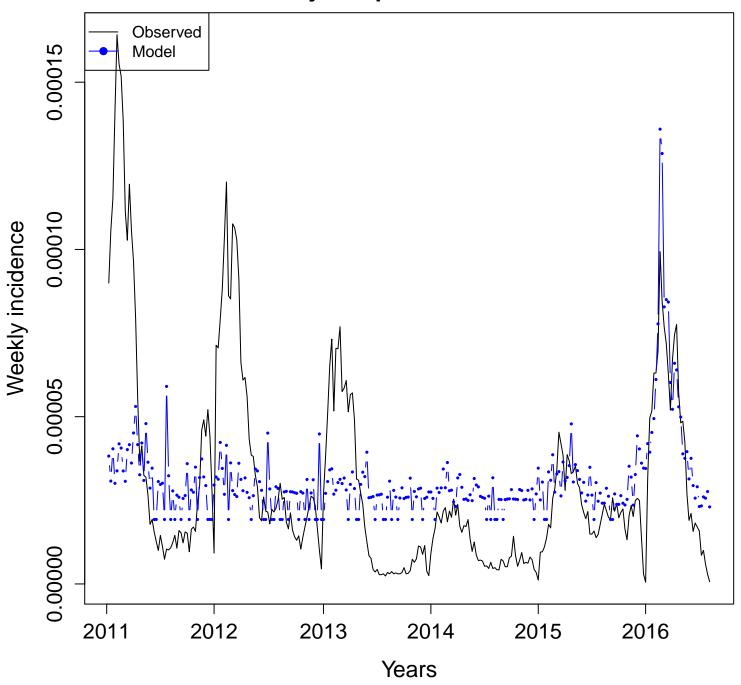
PA- dengue.sintomas Adj. R squared = 0.2432



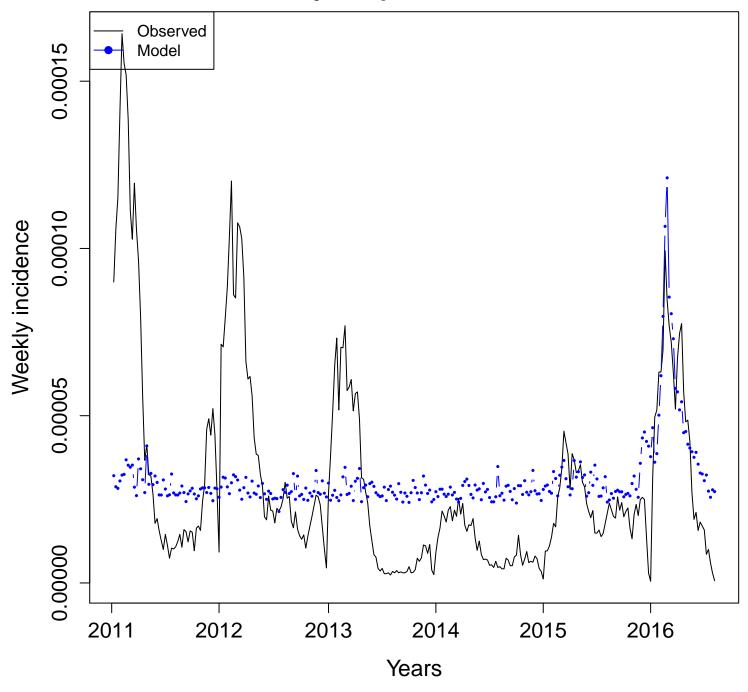
PA- dengue.virus Adj. R squared = 0.0881



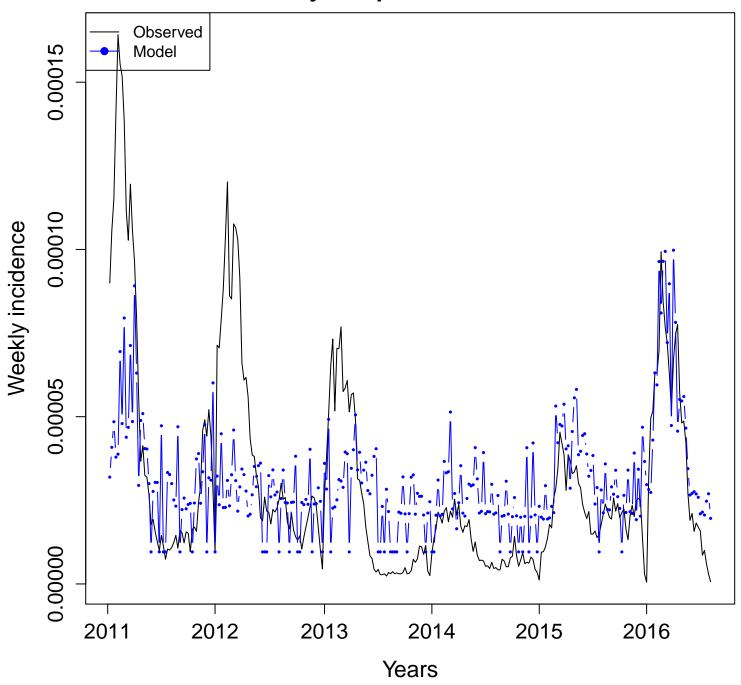
PA- mosquito.dengue Adj. R squared = 0.1801



PA- mosquito Adj. R squared = 0.1152



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



### Paraiba (PB)

## Dengue incidence vs. Google Health Trends (2011–2016)

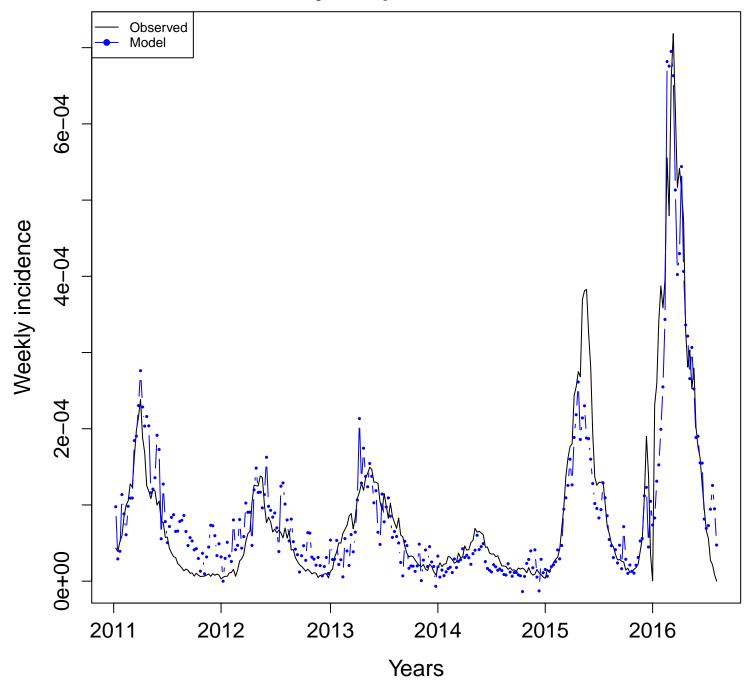
#### **Definitions:**

- Combined terms:
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  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

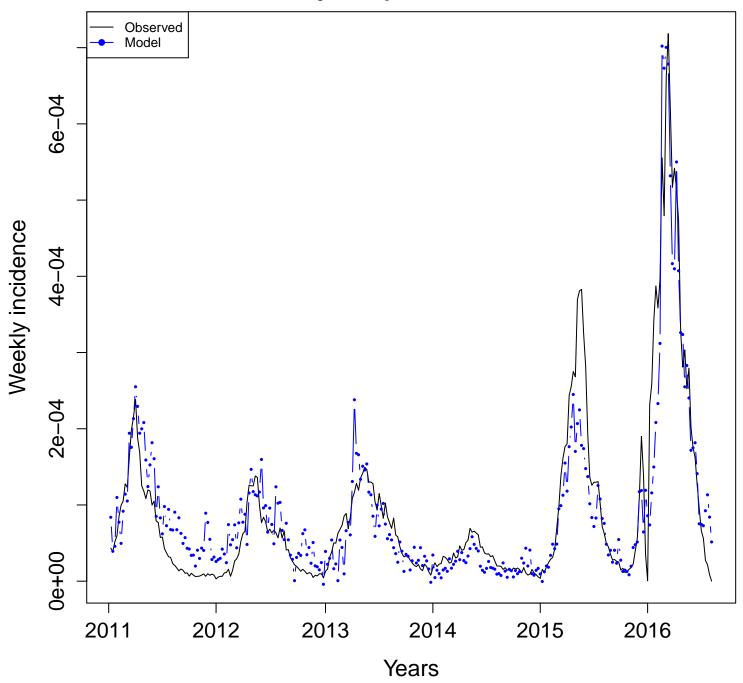
# **Combined terms Adjusted R squared**

Paraiba (PB)

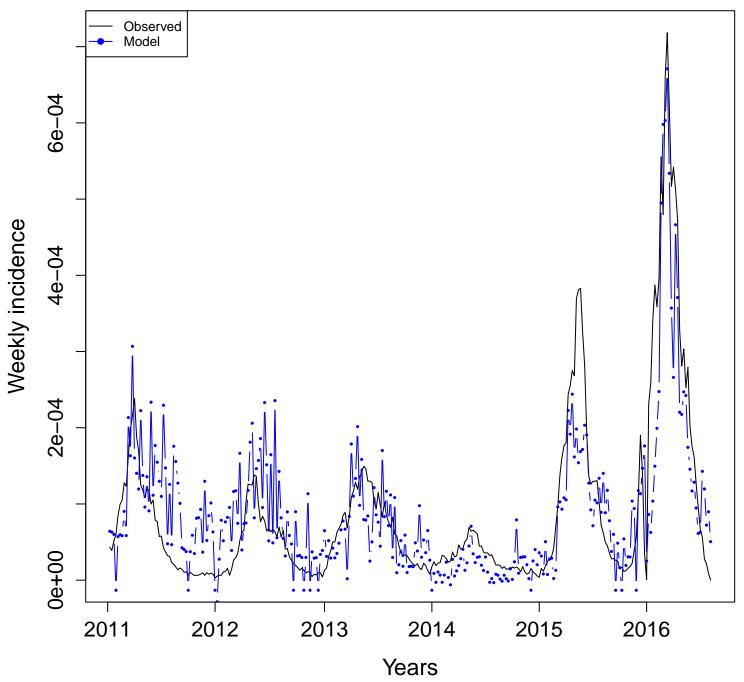
BR-PB Adj. R squared = 0.8372



BR-PB Adj. R squared = 0.832



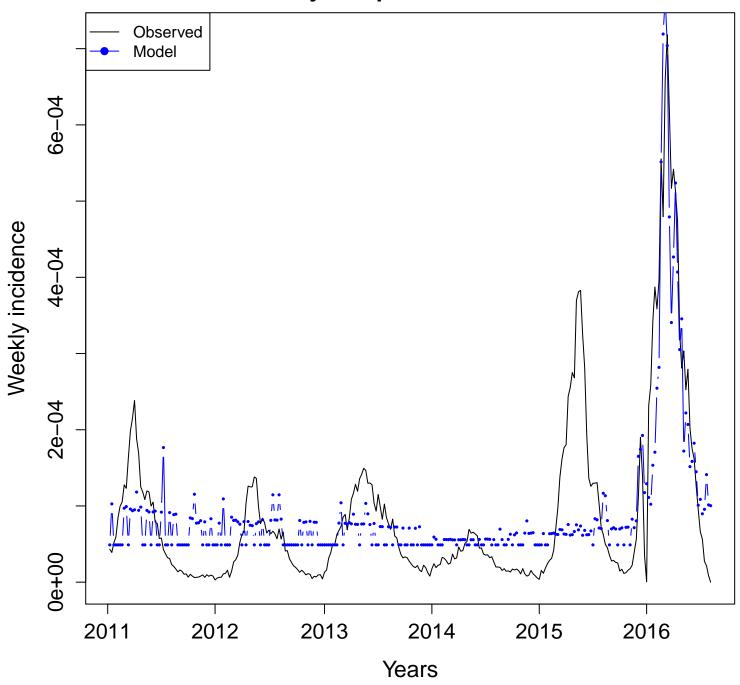
BR-PB Adj. R squared = 0.6825



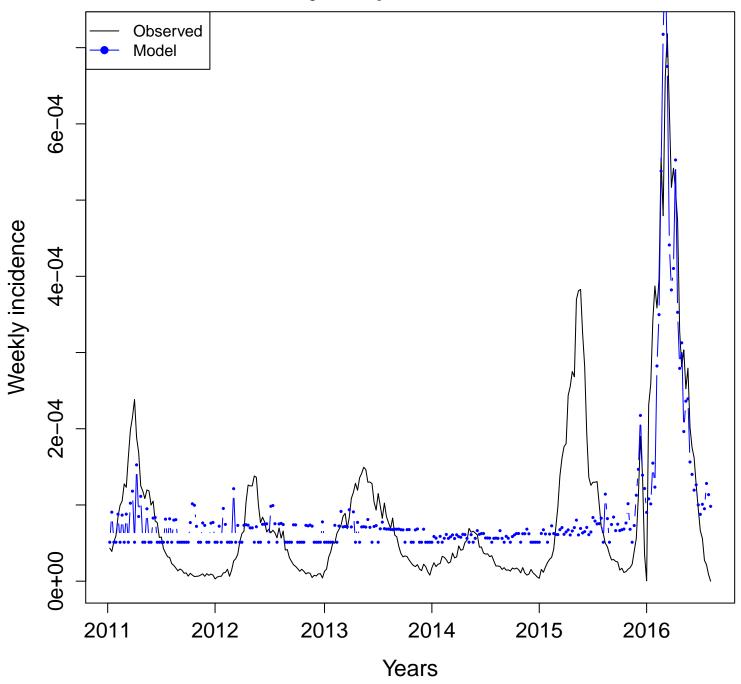
# **Individual terms Adjusted R squared**

Paraiba (PB)

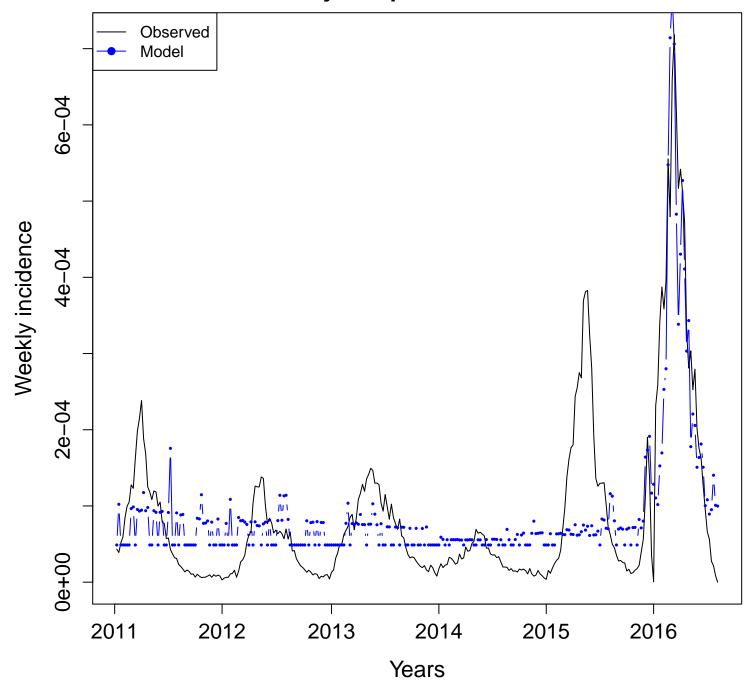
PB- aedes.aegypti Adj. R squared = 0.6334



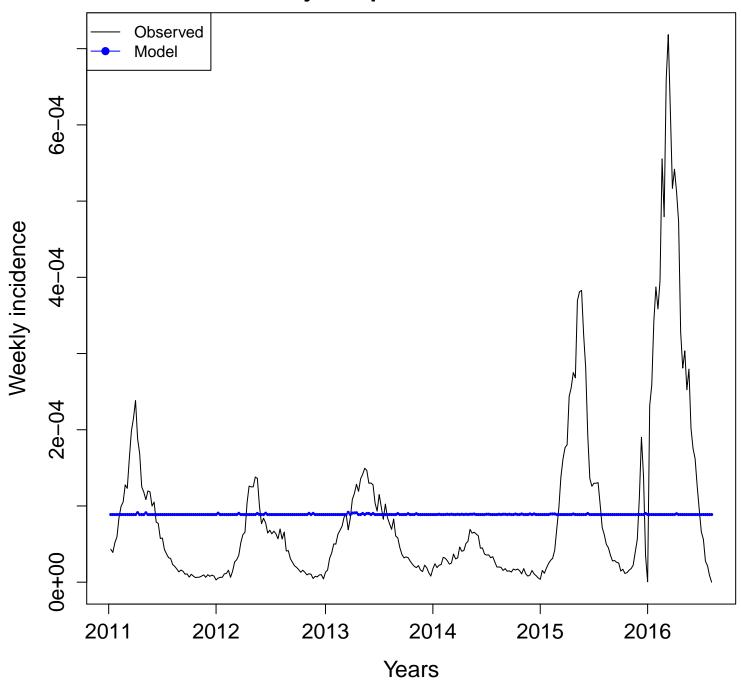
PB- aedes Adj. R squared = 0.6295



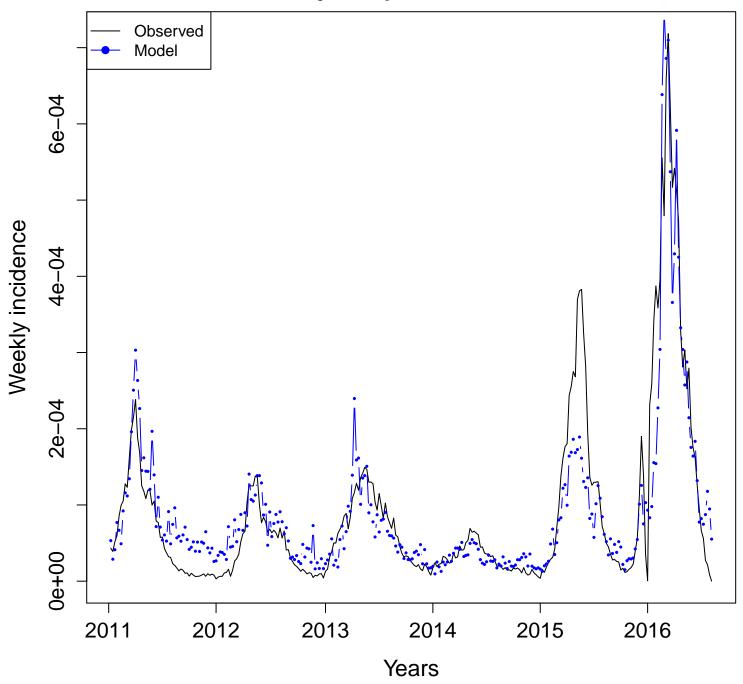
PB- aegypti Adj. R squared = 0.634



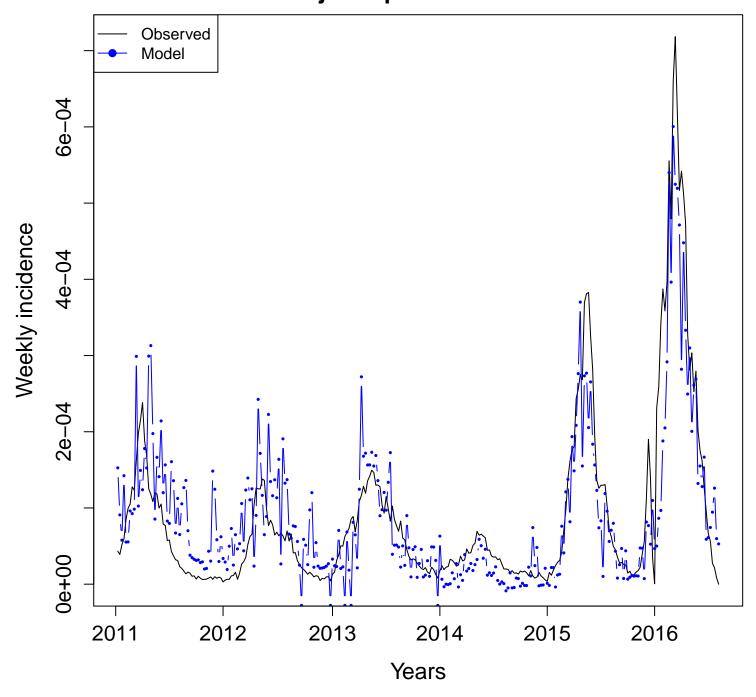
PB- dengue.fever Adj. R squared = -0.0034



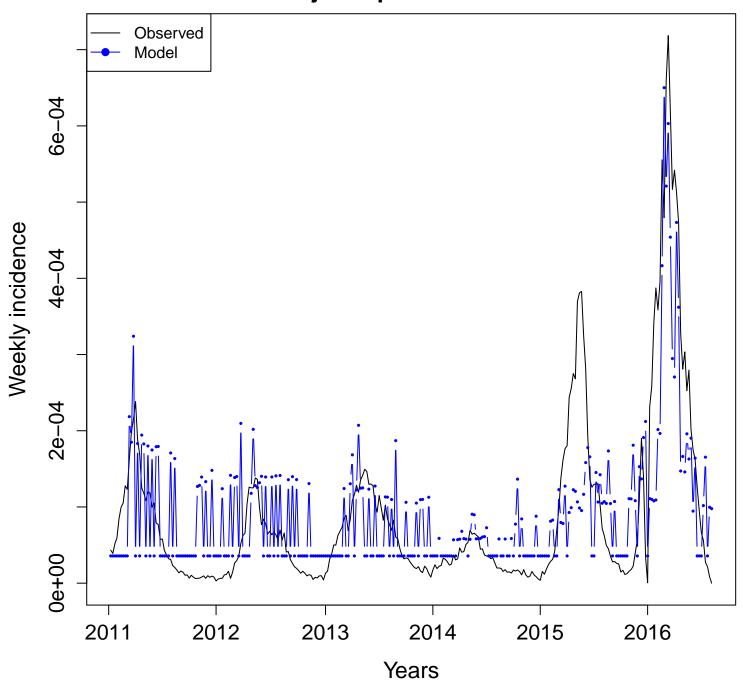
PB- dengue Adj. R squared = 0.811



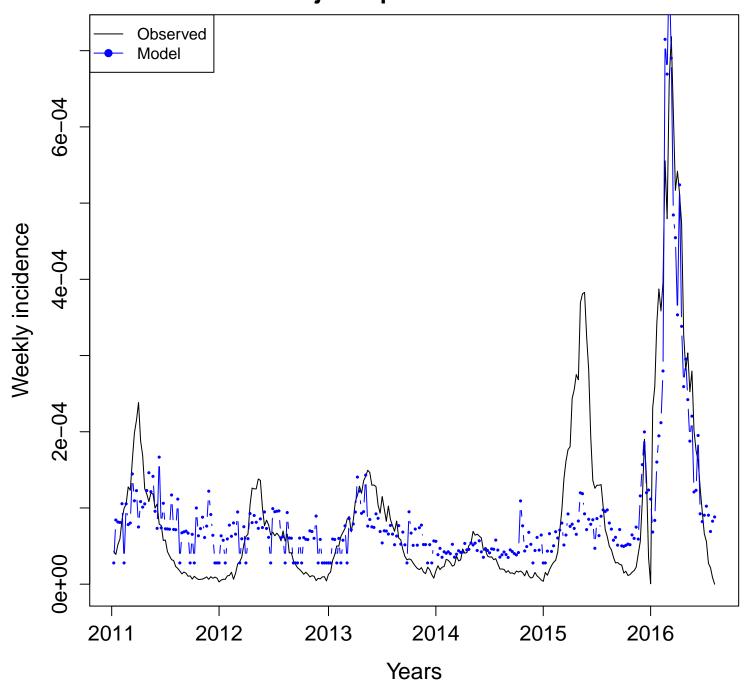
PB- dengue.sintomas Adj. R squared = 0.7197



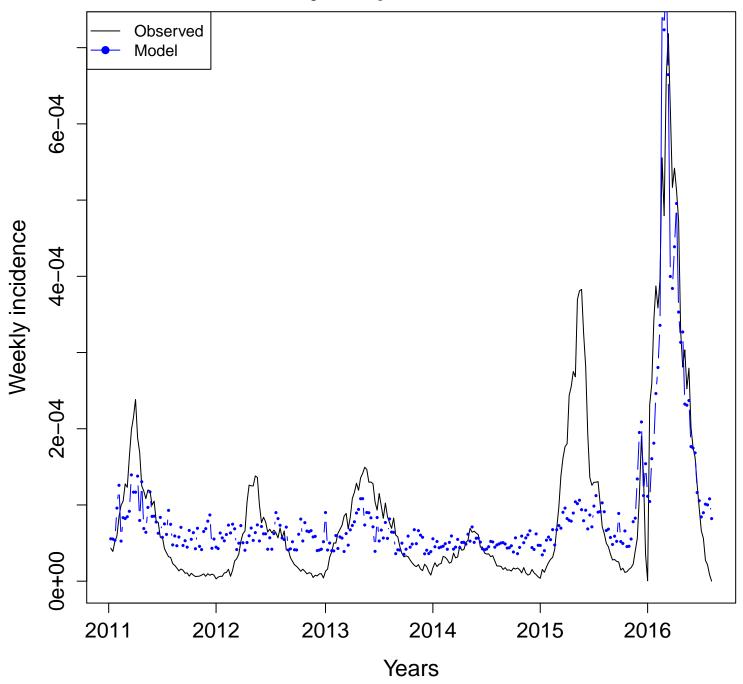
PB- dengue.virus Adj. R squared = 0.5352



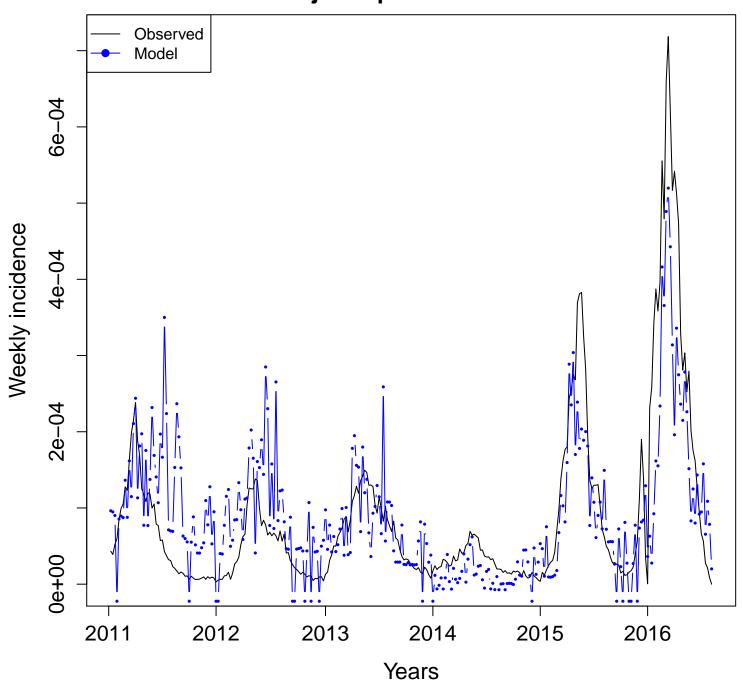
PB- mosquito.dengue Adj. R squared = 0.6792



PB- mosquito Adj. R squared = 0.7024



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



### **Pernambuco (PE)**

## Dengue incidence vs. Google Health Trends (2011–2016)

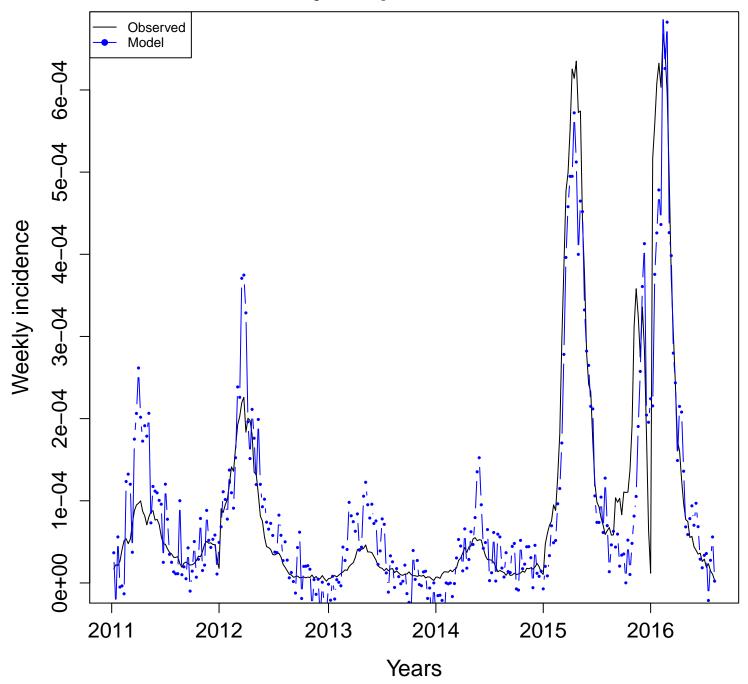
#### **Definitions:**

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  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. n = number of uncorrelated terms
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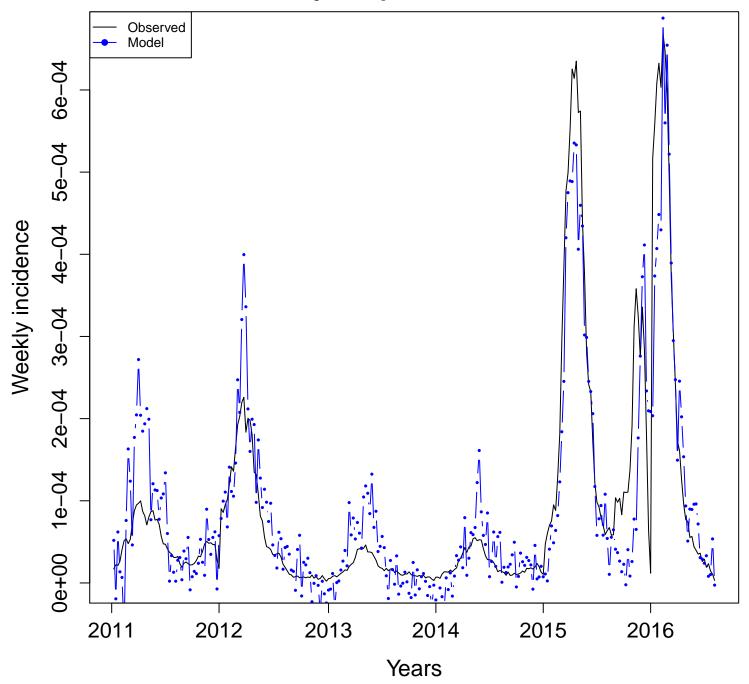
## **Combined terms Adjusted R squared**

Pernambuco (PE)

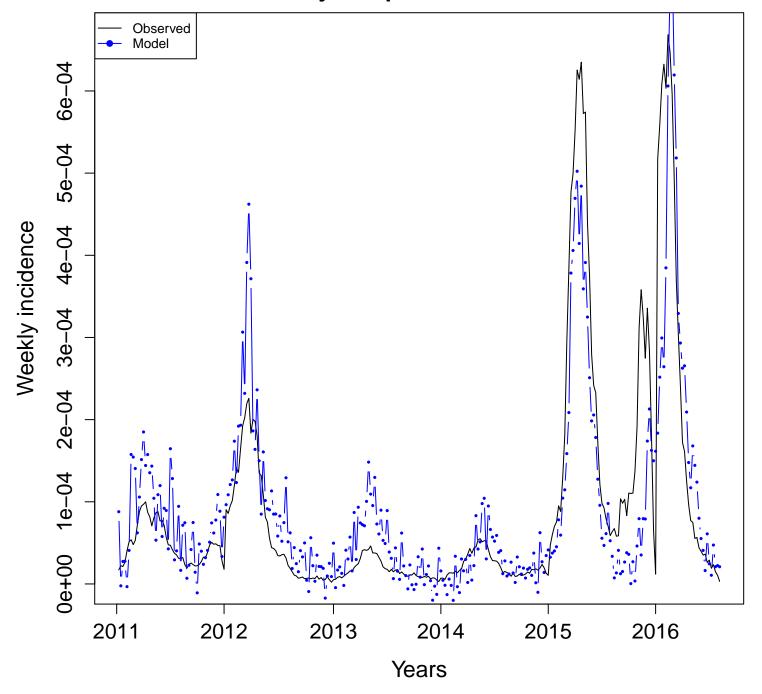
BR-PE Adj. R squared = 0.8191



BR-PE Adj. R squared = 0.8083



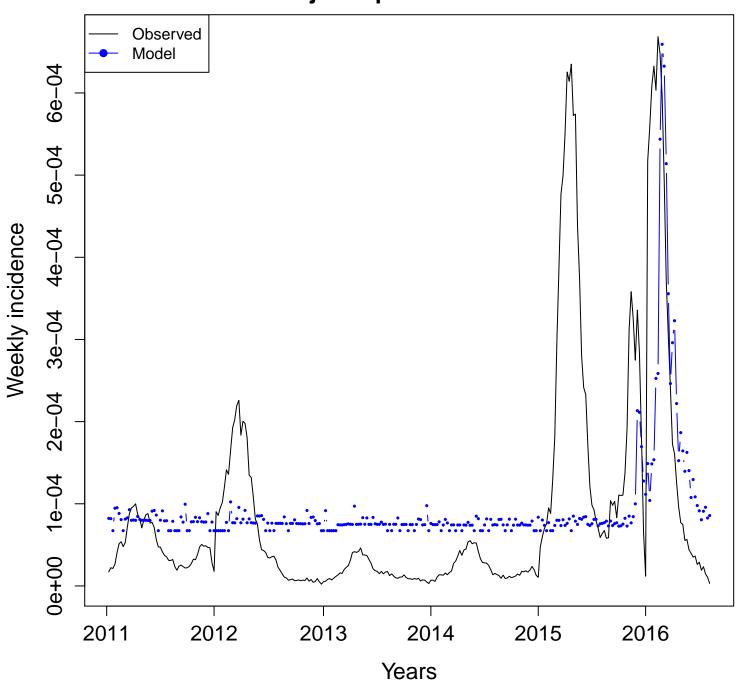
BR-PE Adj. R squared = 0.7141



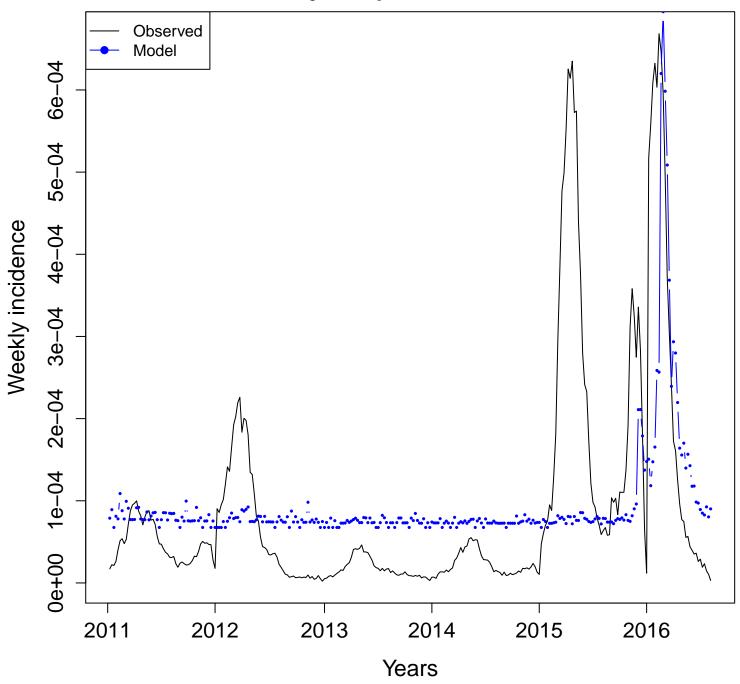
# **Individual terms Adjusted R squared**

Pernambuco (PE)

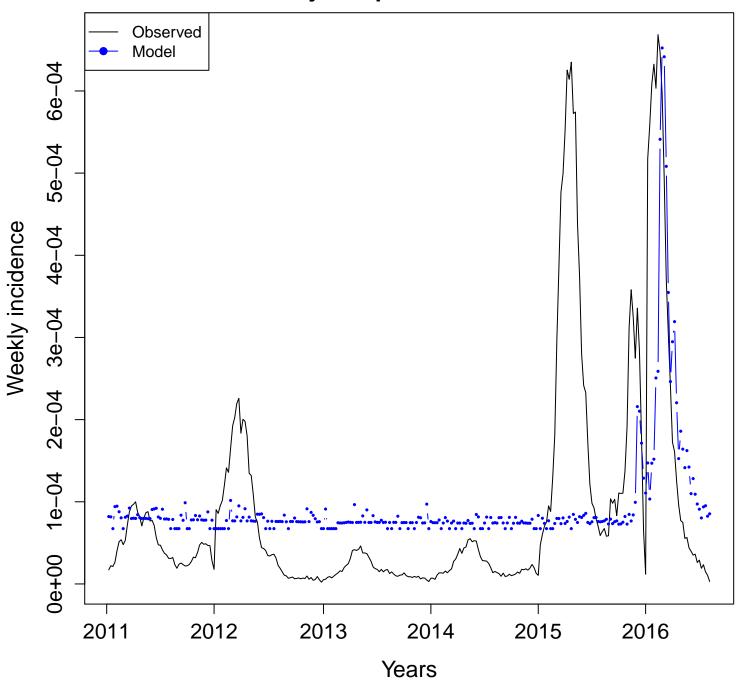
PE- aedes.aegypti Adj. R squared = 0.2286



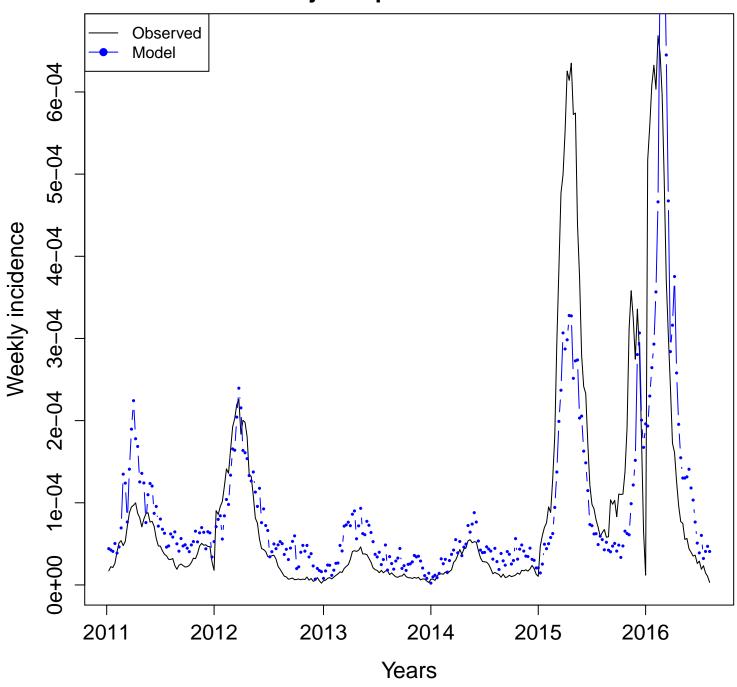
PE- aedes Adj. R squared = 0.2396



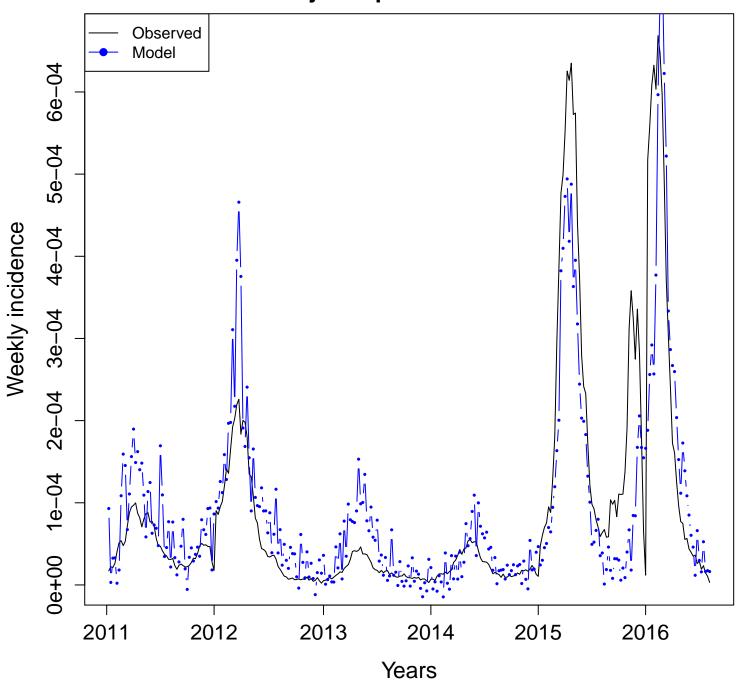
PE- aegypti Adj. R squared = 0.2271



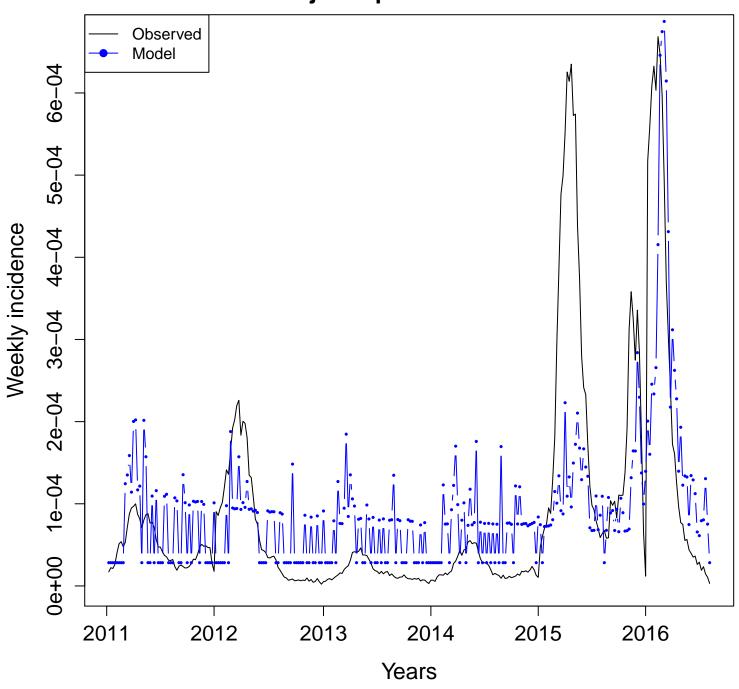
PE- dengue Adj. R squared = 0.6232



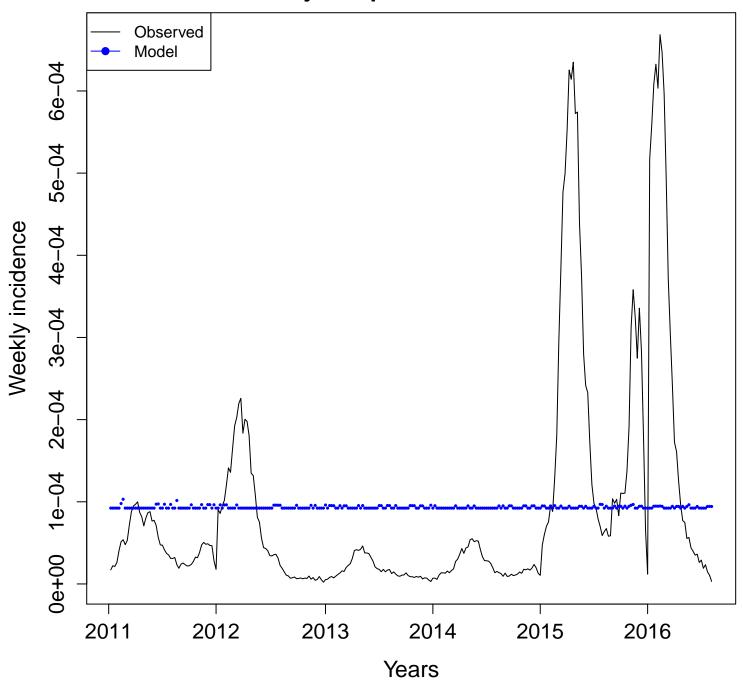
PE- dengue.sintomas Adj. R squared = 0.7118



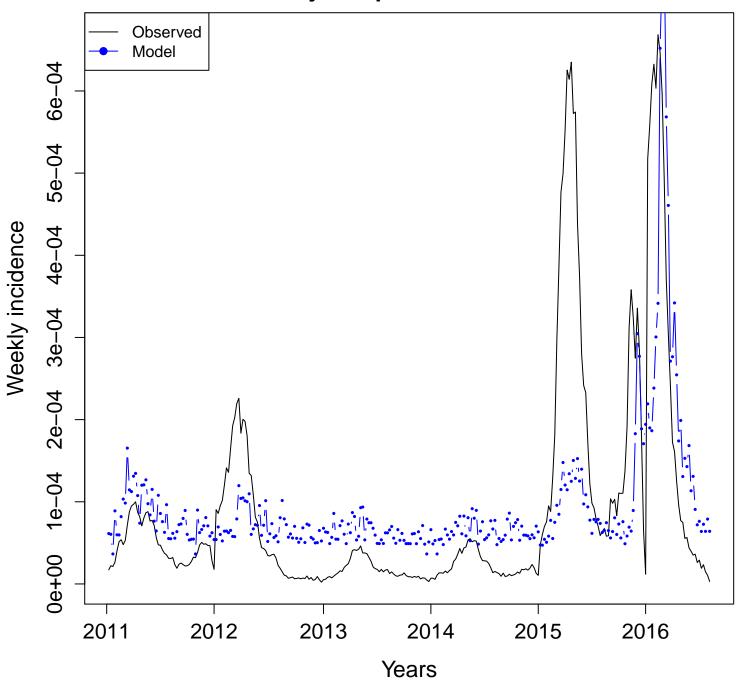
PE- dengue.virus Adj. R squared = 0.3911



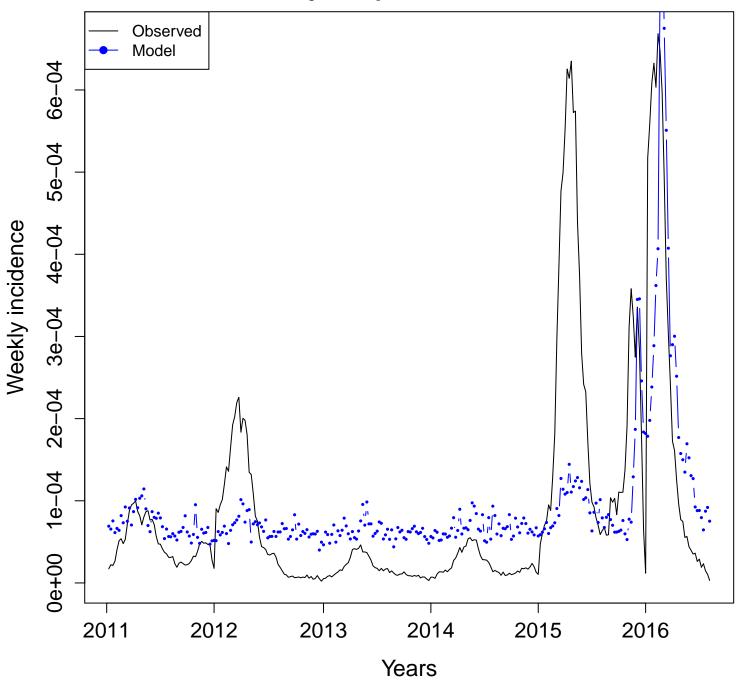
PE- DHF Adj. R squared = -0.0033



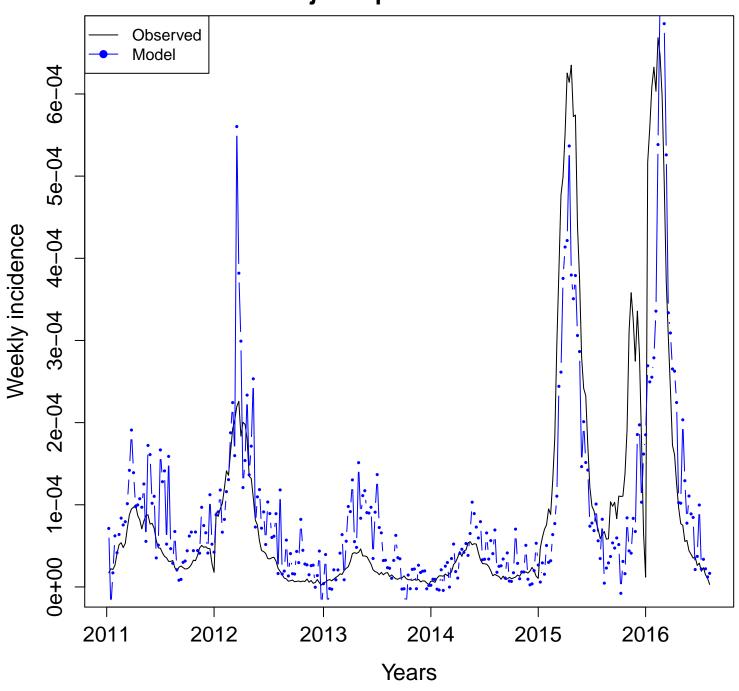
PE- mosquito.dengue Adj. R squared = 0.3725



PE- mosquito Adj. R squared = 0.3893



PE- sintomas.da.dengue Adj. R squared = 0.6745



### Piauí (PI)

### Dengue incidence vs. Google Health Trends (2011–2016)

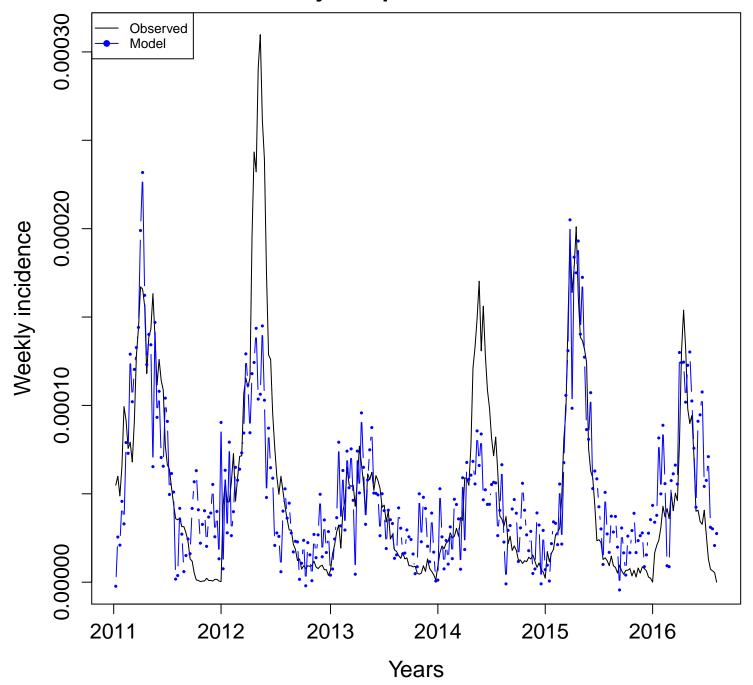
#### **Definitions:**

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  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

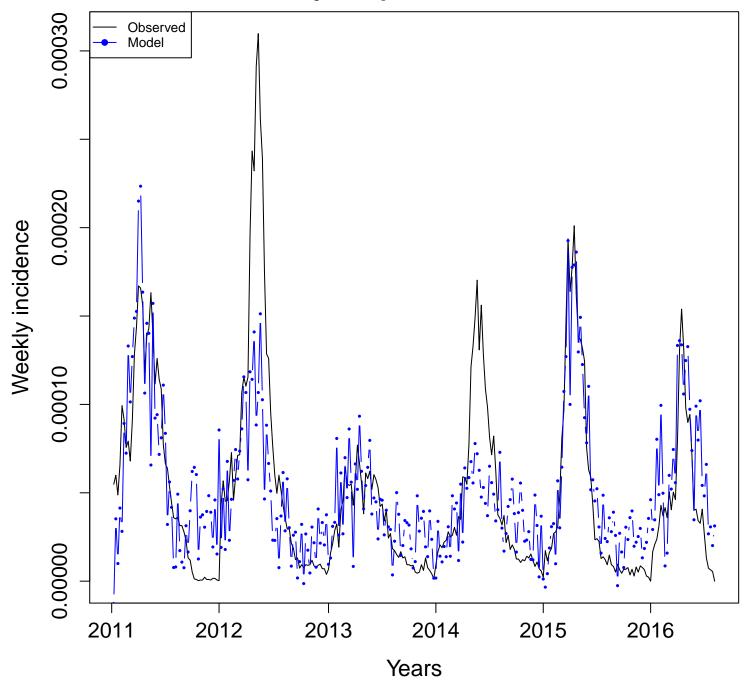
# **Combined terms Adjusted R squared**

Piauí (PI)

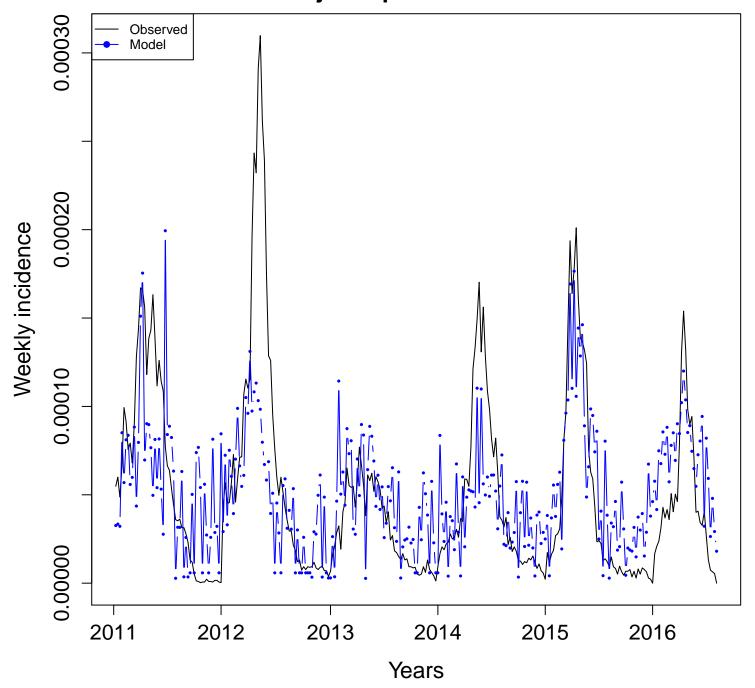
BR-PI Adj. R squared = 0.5528



BR-PI Adj. R squared = 0.5419



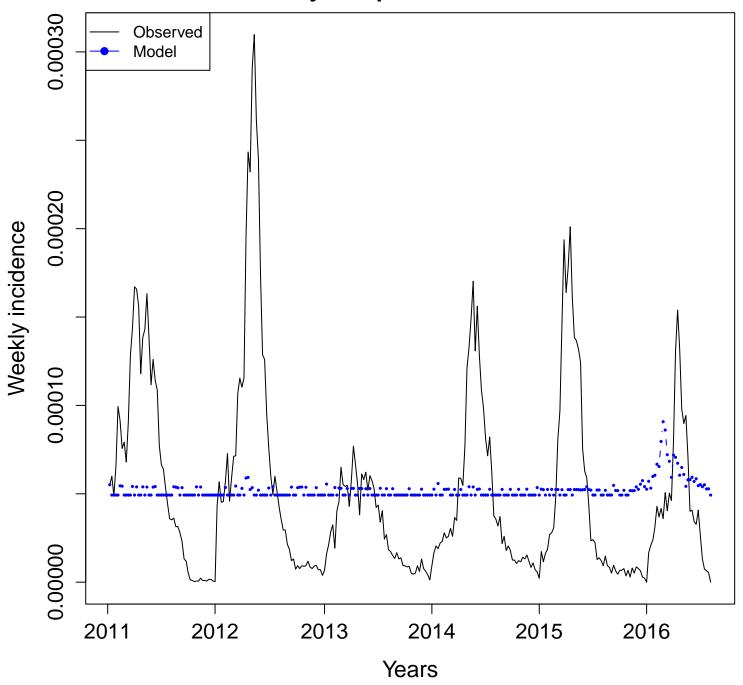
BR-PI Adj. R squared = 0.3774



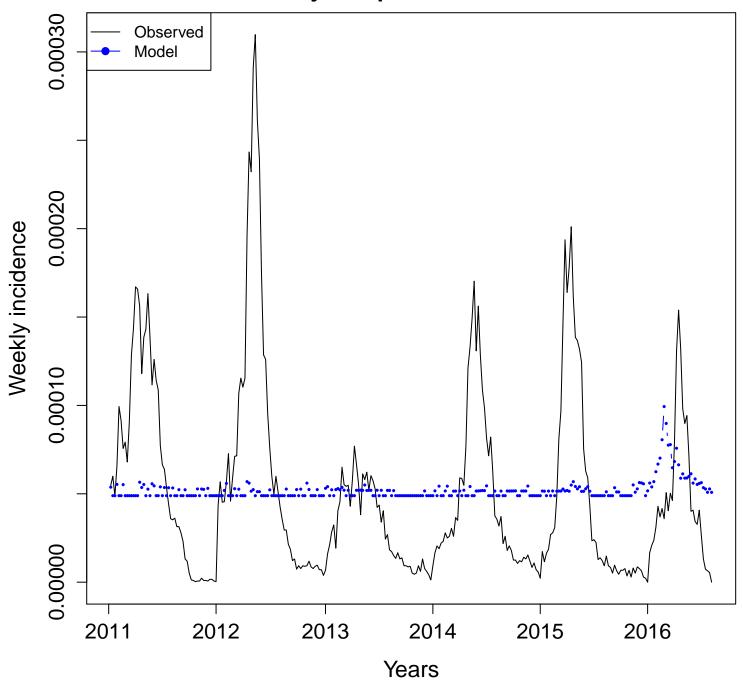
# **Individual terms Adjusted R squared**

Piauí (PI)

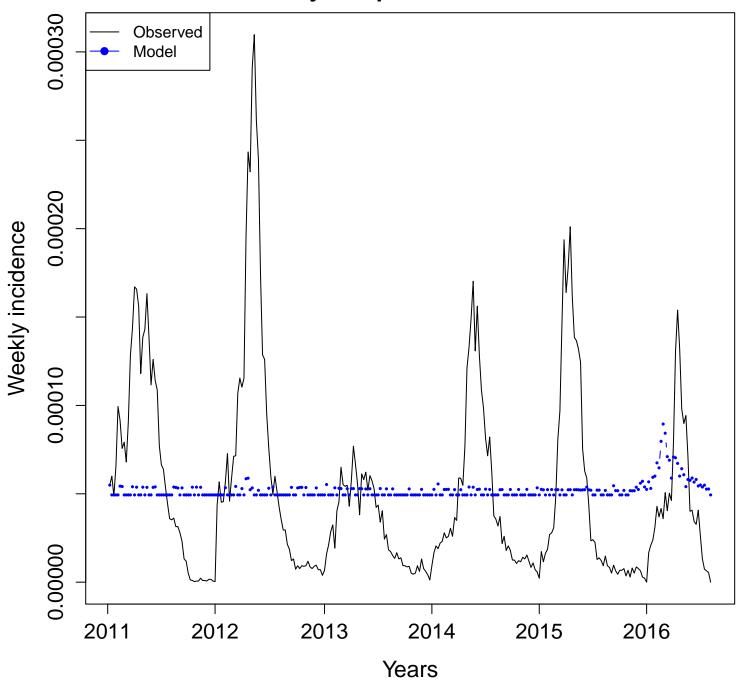
PI- aedes.aegypti Adj. R squared = 0.0051



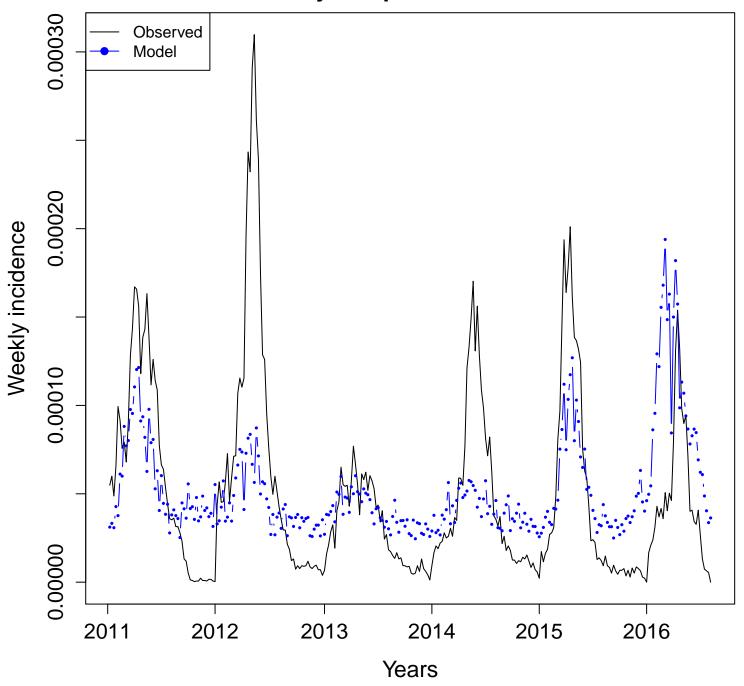
PI- aedes Adj. R squared = 0.0074



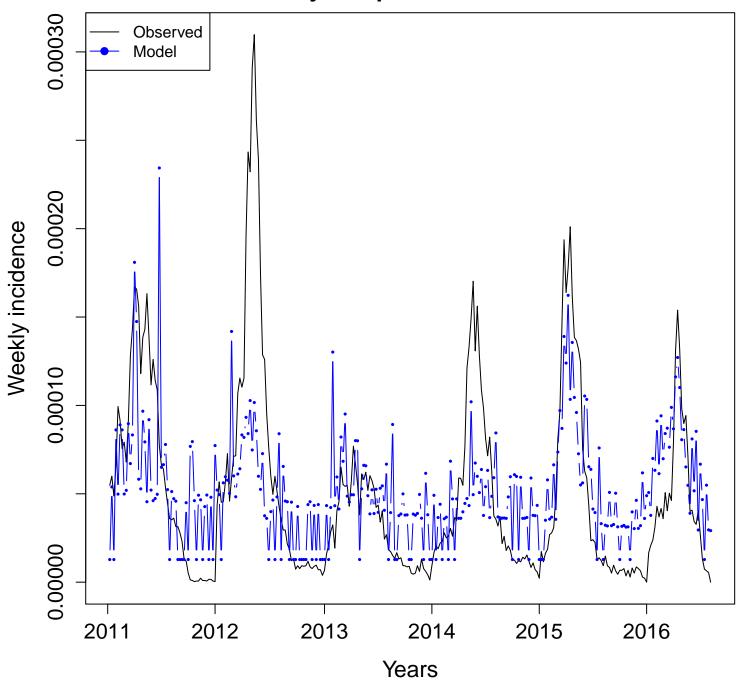
PI- aegypti Adj. R squared = 0.0046



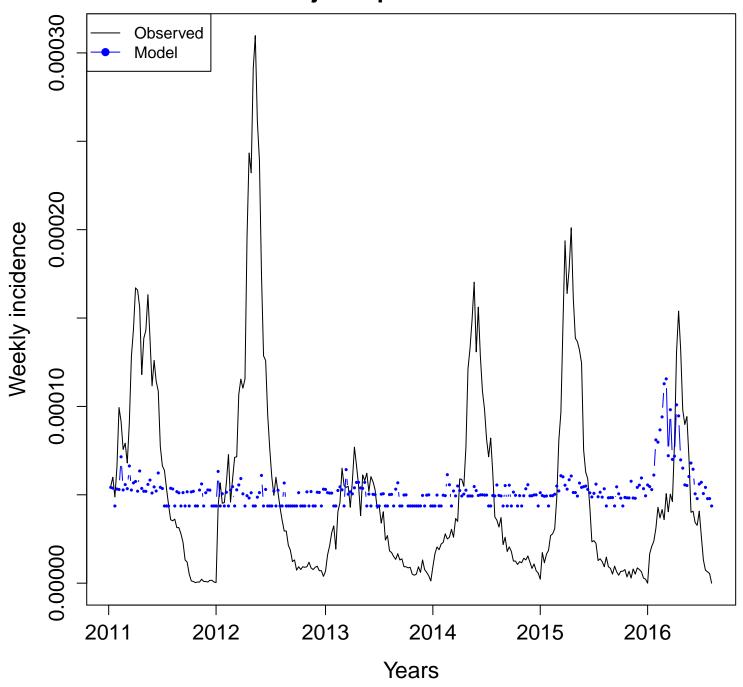
PI- dengue Adj. R squared = 0.269



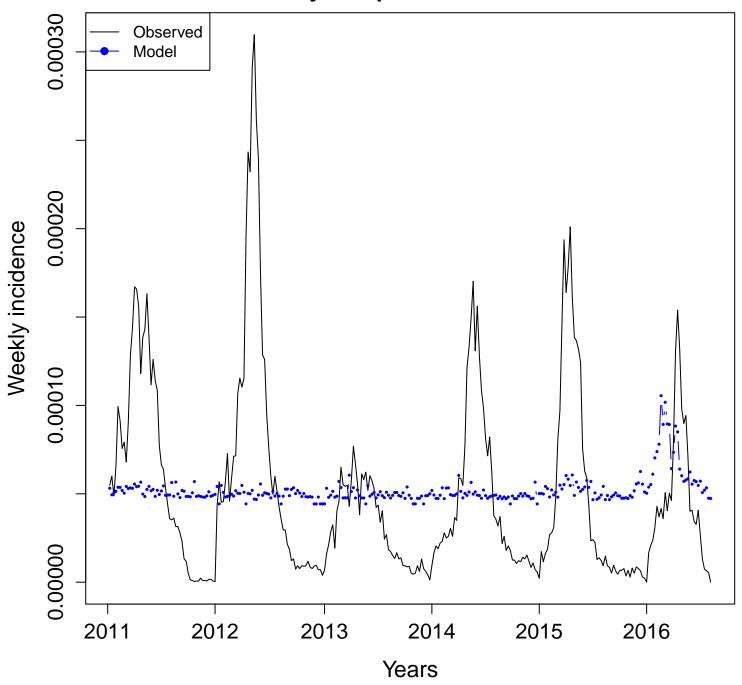
PI- dengue.sintomas Adj. R squared = 0.3158



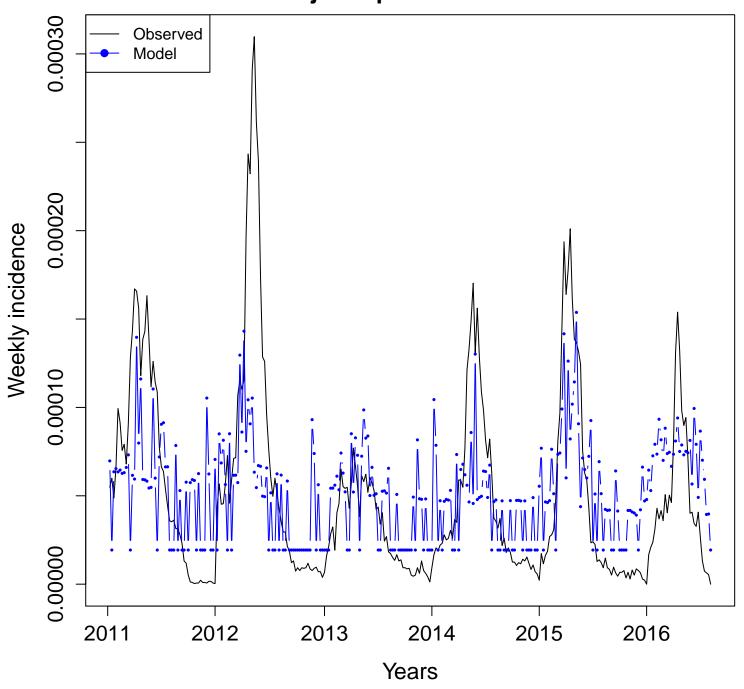
PI- mosquito.dengue Adj. R squared = 0.0287



PI- mosquito Adj. R squared = 0.0166



PI- sintomas.da.dengue Adj. R squared = 0.2598



### Paraná (PR)

### Dengue incidence vs. Google Health Trends (2011–2016)

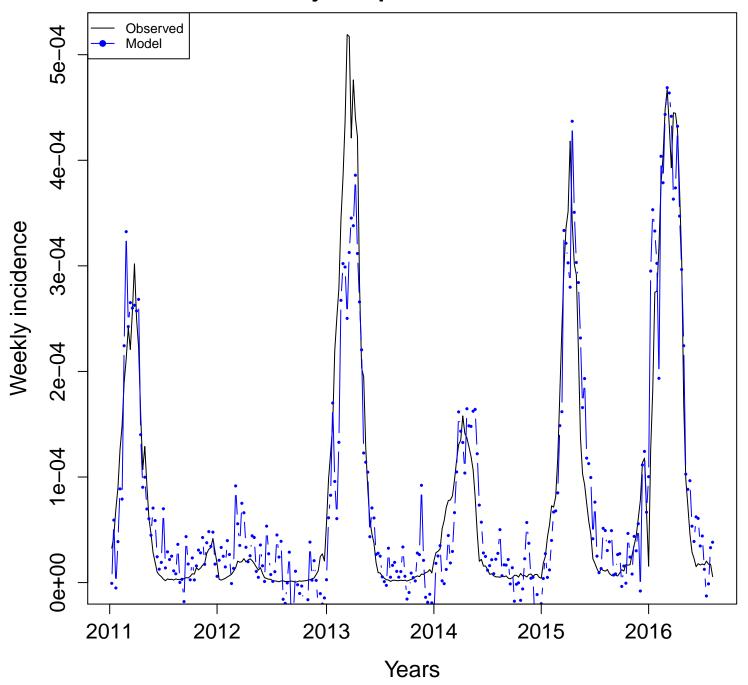
#### **Definitions:**

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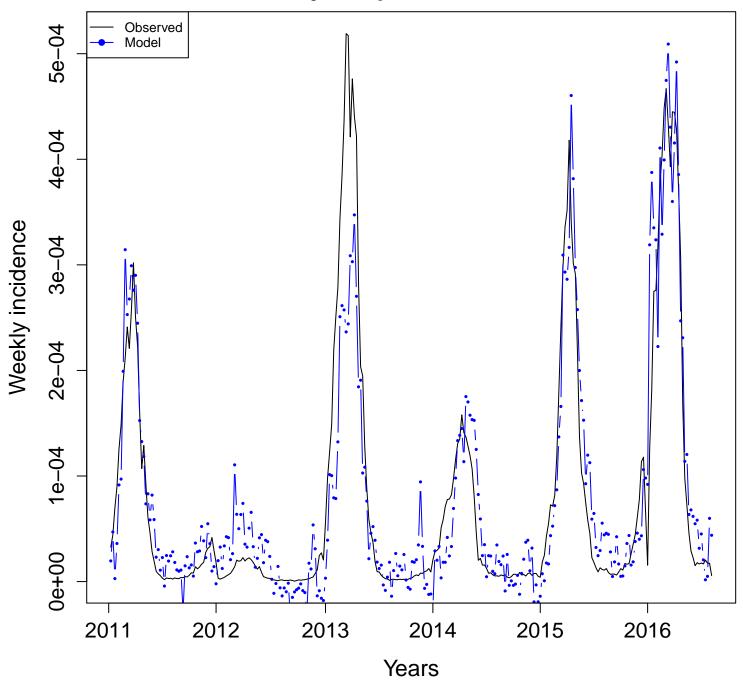
# **Combined terms Adjusted R squared**

Paraná (PR)

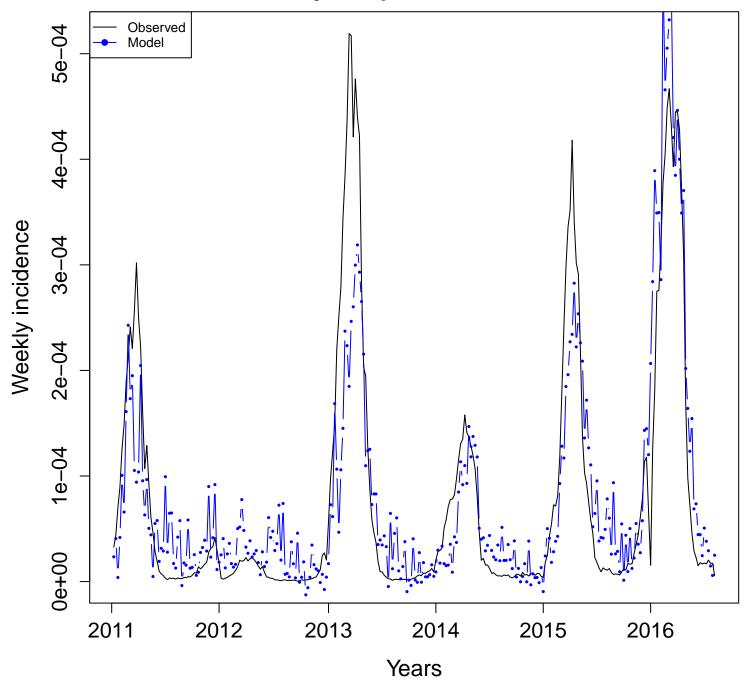
BR-PR Adj. R squared = 0.8447



BR-PR Adj. R squared = 0.8214



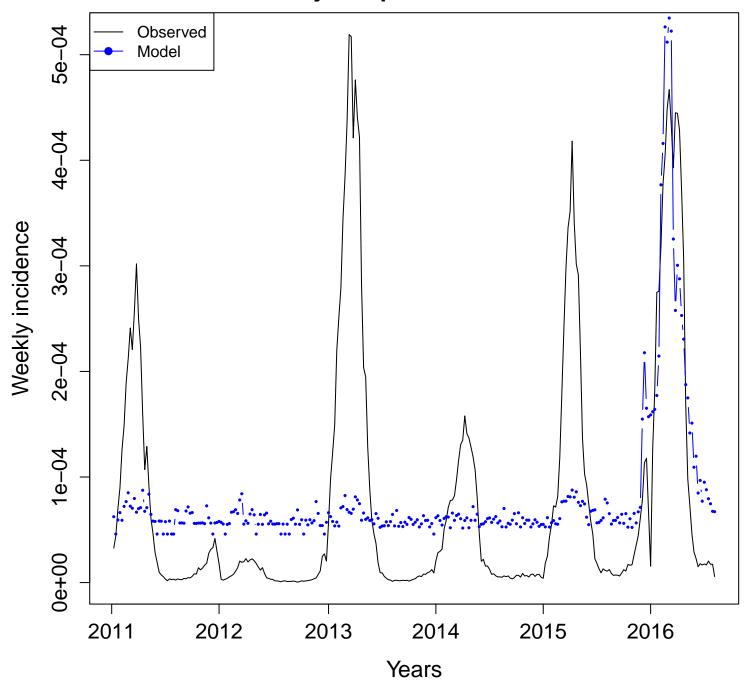
BR-PR Adj. R squared = 0.7408



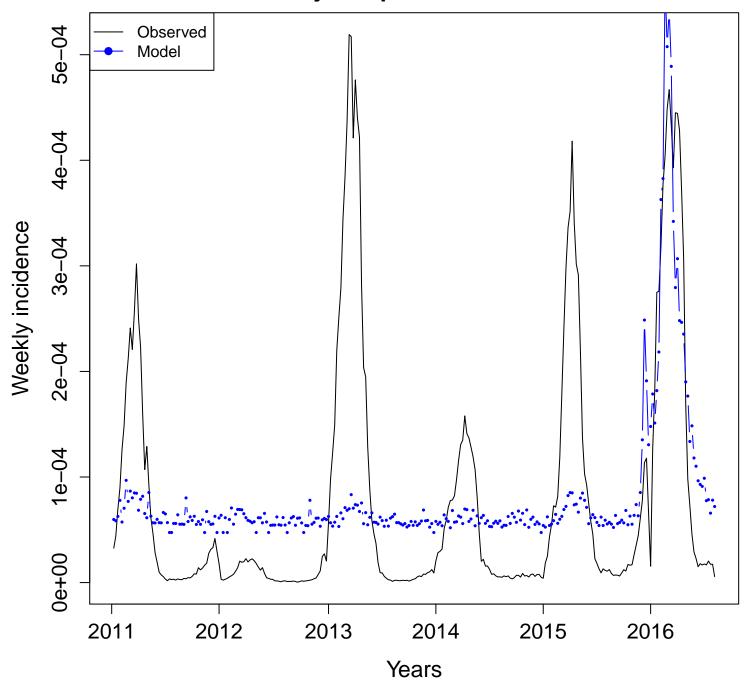
# **Individual terms Adjusted R squared**

Paraná (PR)

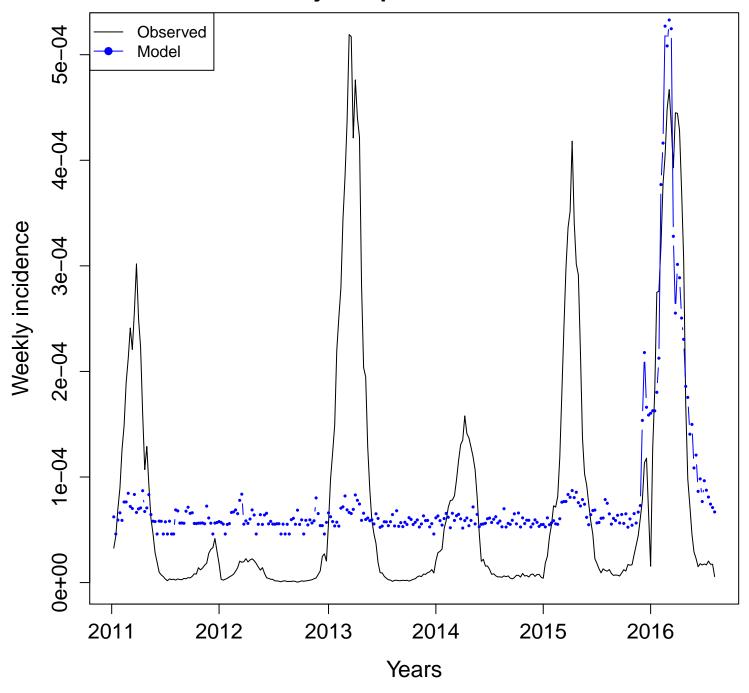
PR- aedes.aegypti Adj. R squared = 0.3262



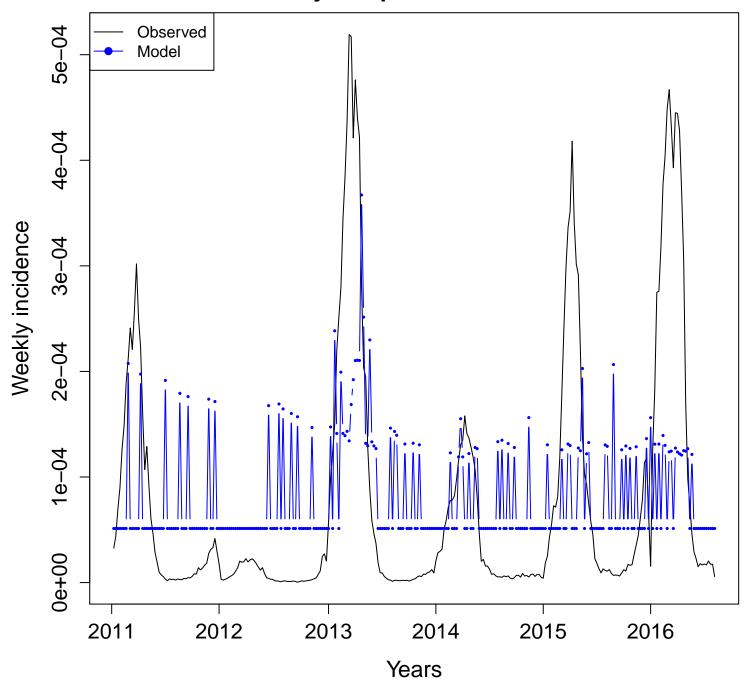
PR- aedes Adj. R squared = 0.3257



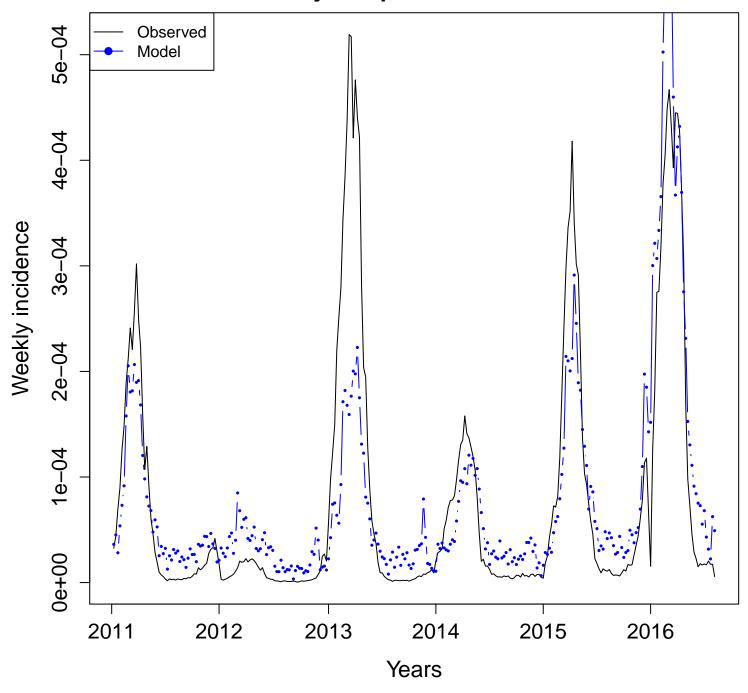
PR- aegypti Adj. R squared = 0.3259



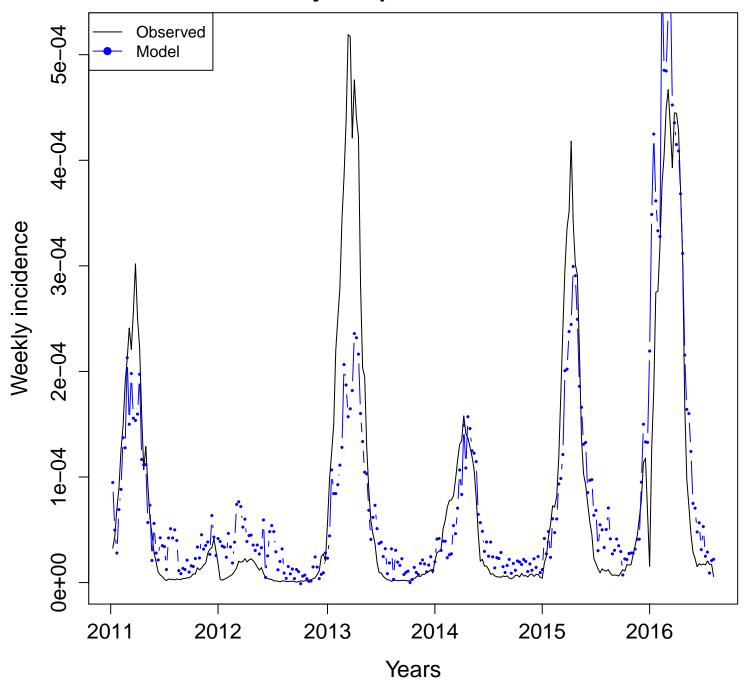
PR- dengue.fever Adj. R squared = 0.1614



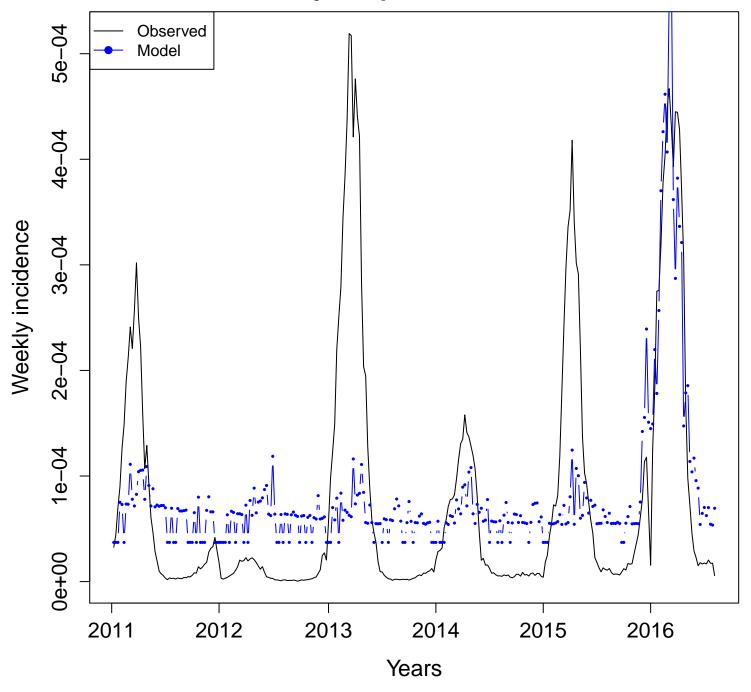
PR- dengue Adj. R squared = 0.6981



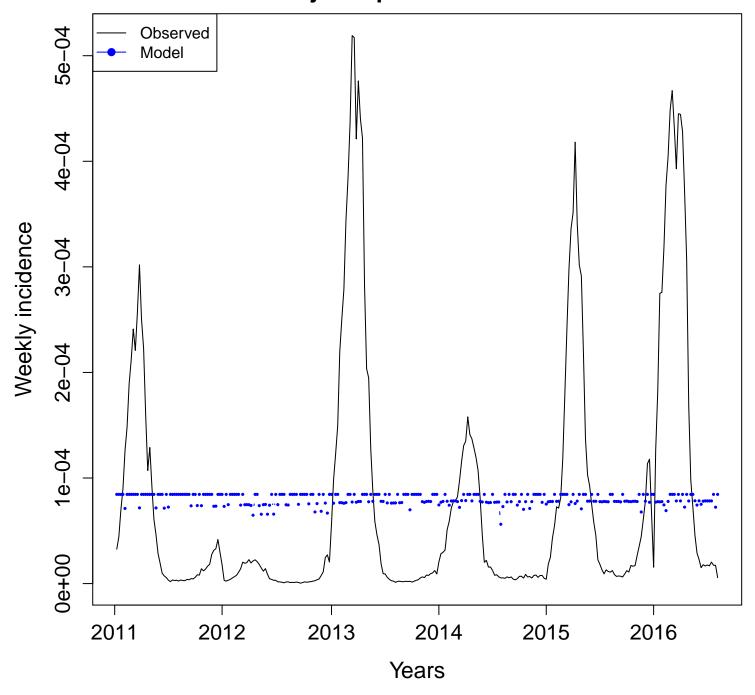
PR- dengue.sintomas Adj. R squared = 0.7134



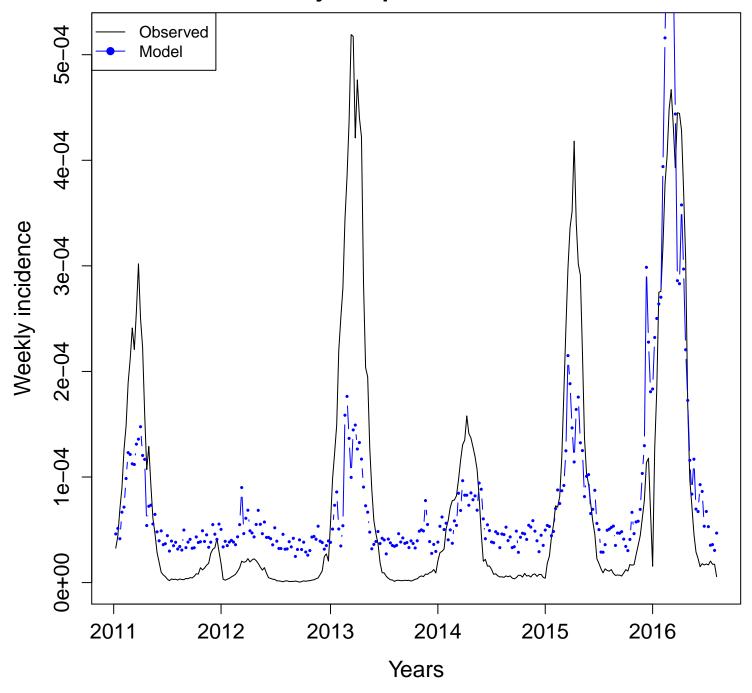
PR- dengue.virus Adj. R squared = 0.3589



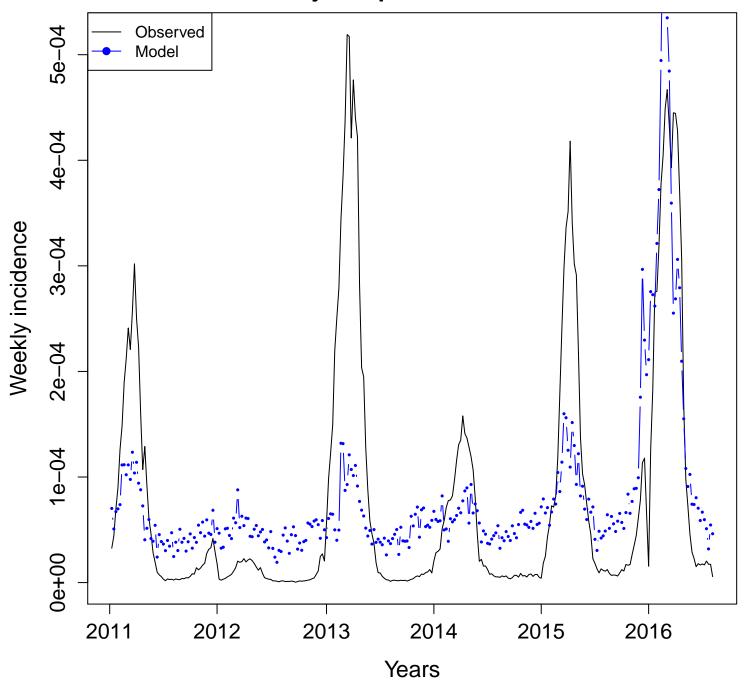
PR- DHF Adj. R squared = -0.0017



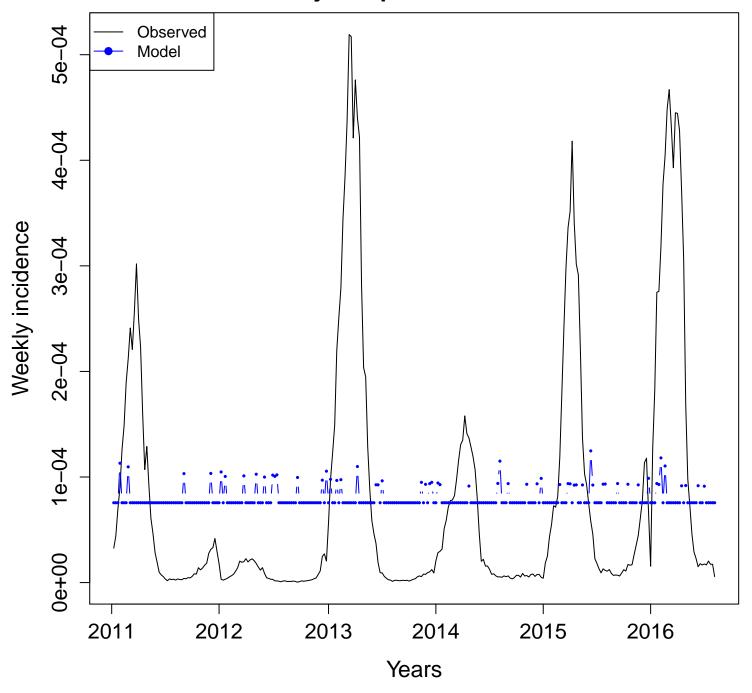
PR- mosquito.dengue Adj. R squared = 0.5349



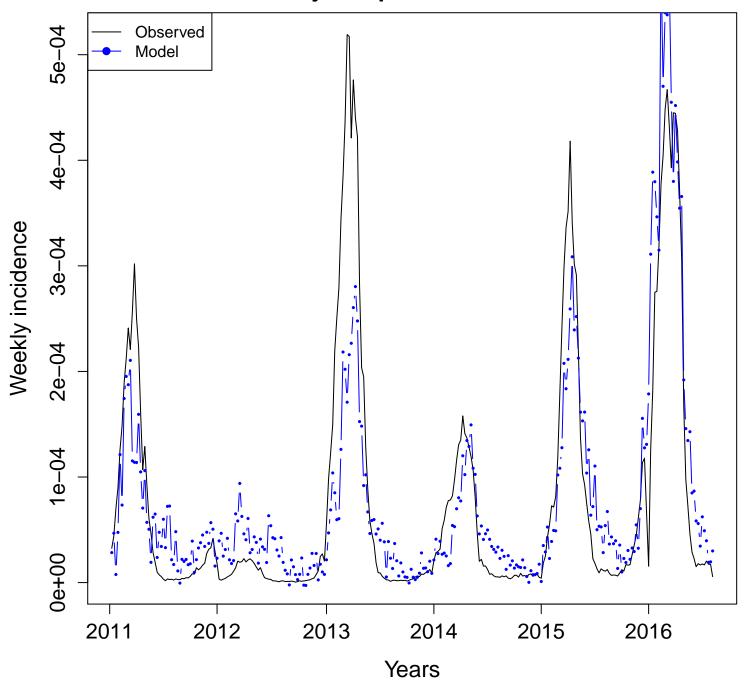
PR- mosquito Adj. R squared = 0.4472



PR- mosquitoes Adj. R squared = 0.0025



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



### Rio de Janeiro (RJ)

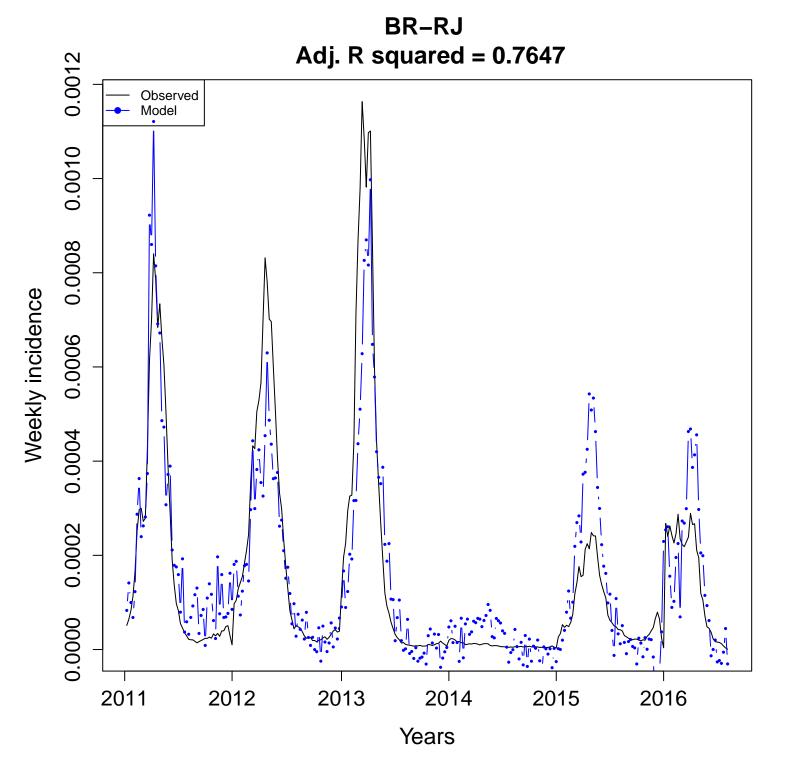
### Dengue incidence vs. Google Health Trends (2011–2016)

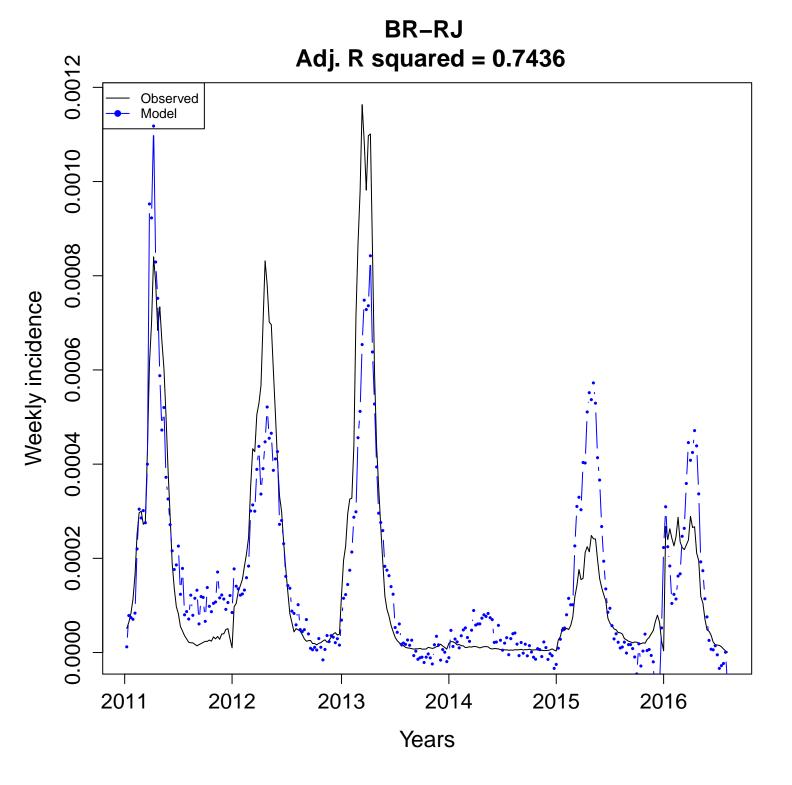
#### **Definitions:**

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  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
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### **Combined terms Adjusted R squared**

Rio de Janeiro (RJ)



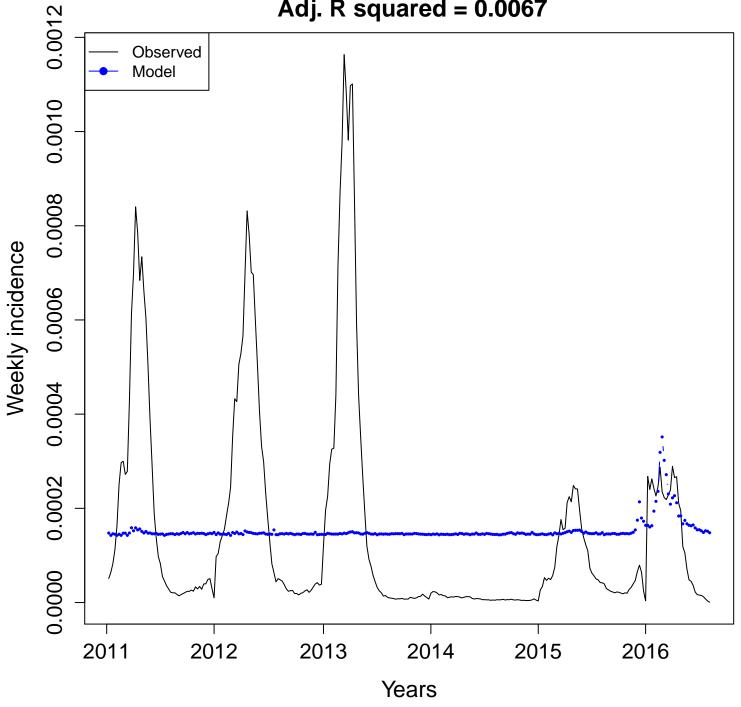


BR-RJ **Adj. R squared = 0.7042** 0.0010 0.0012 Observed Model 0.0004 0.0006 0.0008 Weekly incidence 0.0000 0.0002 2011 2012 2013 2015 2016 2014 Years

## **Individual terms Adjusted R squared**

Rio de Janeiro (RJ)

RJ- aedes.aegypti Adj. R squared = 0.0067



RJ- aedes Adj. R squared = 0.008 0.0000 0.0002 0.0004 0.0006 0.0008 0.0010 0.0012 Observed Model Weekly incidence 2011 2012 2013 2015 2016 2014 Years

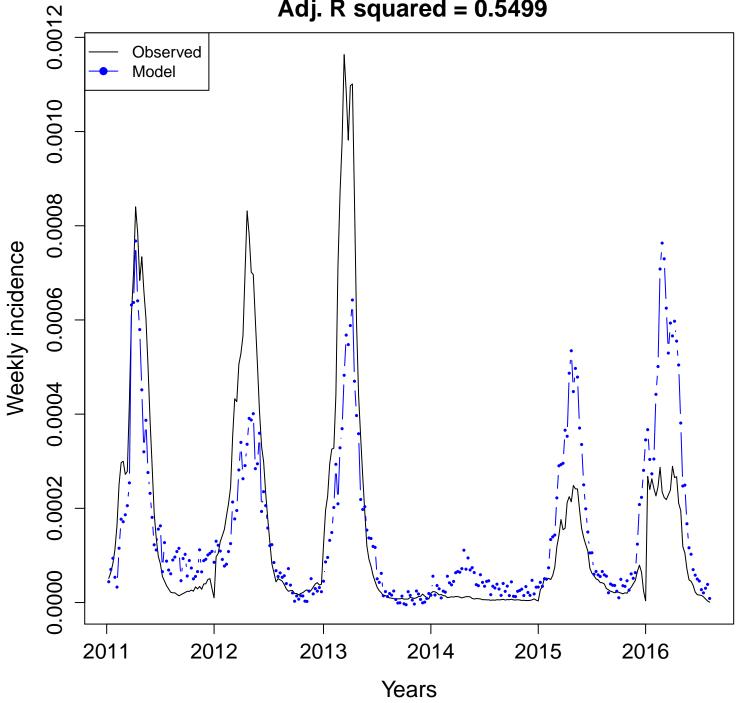
RJ- aegypti **Adj. R squared = 0.0068** 0.0000 0.0002 0.0004 0.0006 0.0008 0.0010 0.0012 Observed Model Weekly incidence 2011 2012 2013 2015 2016 2014 Years

RJ- dengue.fever **Adj. R squared = 0.2767** 0.0010 0.0012 Observed Model 0.0008 Weekly incidence 0.0004 0.0006 0.0000 0.0002 2011 2012 2013 2016 2015 2014

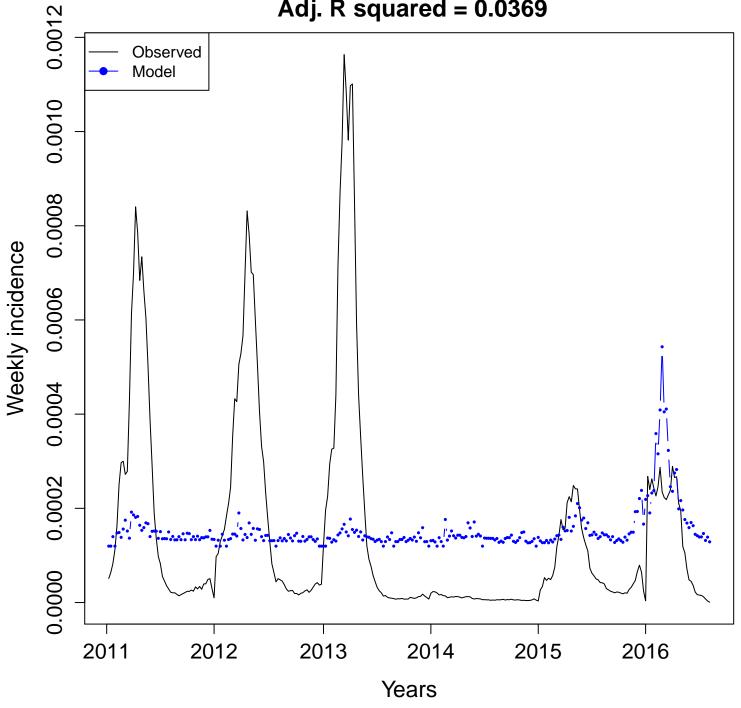
Years

RJ- dengue Adj. R squared = 0.44350.0010 0.0012 Observed Model 0.0004 0.0006 0.0008 Weekly incidence 0.0000 0.0002 2011 2012 2013 2015 2016 2014 Years

RJ- dengue.sintomas Adj. R squared = 0.5499

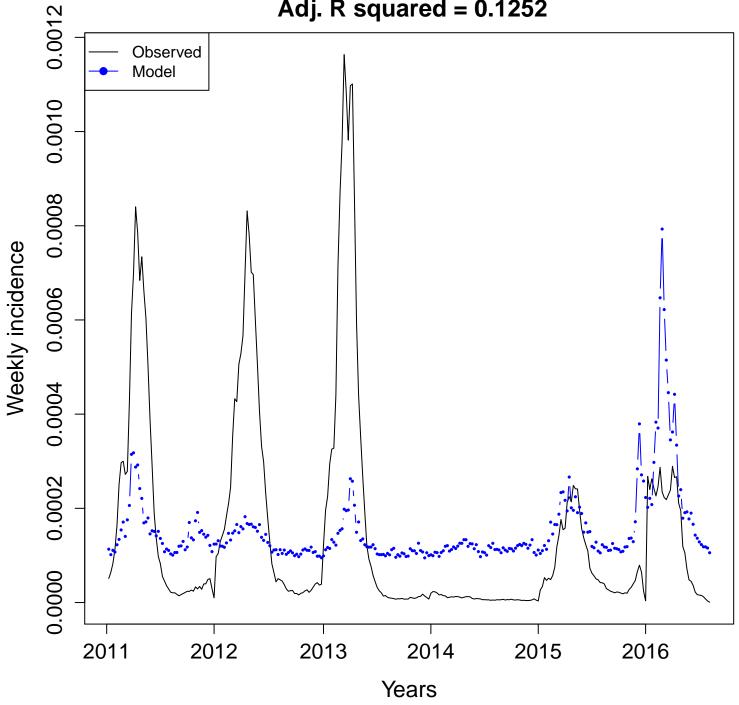


RJ- dengue.virus Adj. R squared = 0.0369



RJ- DHF **Adj. R squared = 0.0049** 0.0010 0.0012 Observed Model 0.0000 0.0002 0.0004 0.0006 0.0008 Weekly incidence 2011 2012 2013 2016 2015 2014 Years

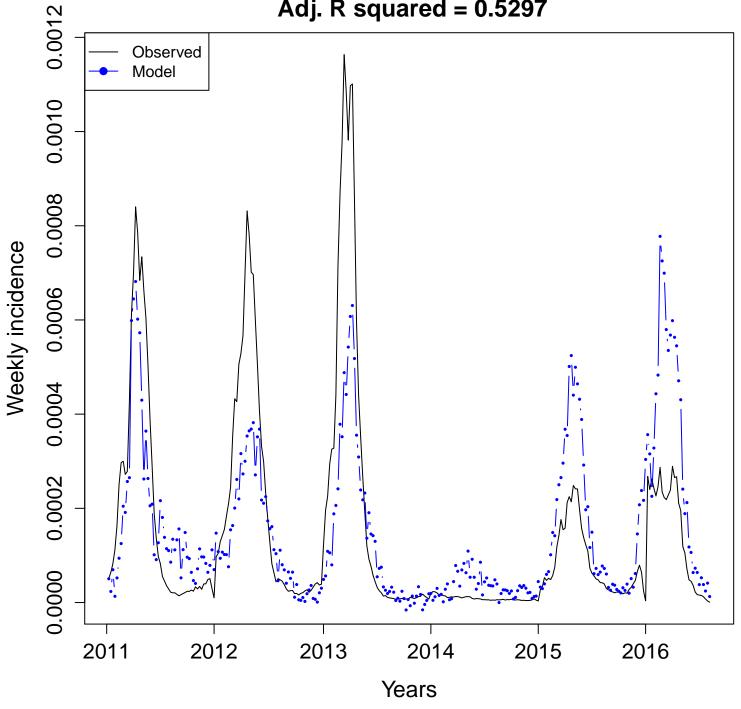
RJ- mosquito.dengue Adj. R squared = 0.1252



**RJ-** mosquito Adj. R squared = 0.036 0.0010 0.0012 Observed Model 0.0000 0.0002 0.0004 0.0006 0.0008 Weekly incidence 2011 2012 2013 2016 2015 2014 Years

**RJ-** mosquitoes **Adj. R squared = 0.0189** 0.0010 0.0012 Observed Model 0.0008 Weekly incidence 0.0004 0.0006 0.0000 0.0002 2011 2012 2013 2016 2015 2014 Years

RJ- sintomas.da.dengue Adj. R squared = 0.5297



#### **Rio Grande do Norte (RN)**

### Dengue incidence vs. Google Health Trends (2011–2016)

#### **Definitions:**

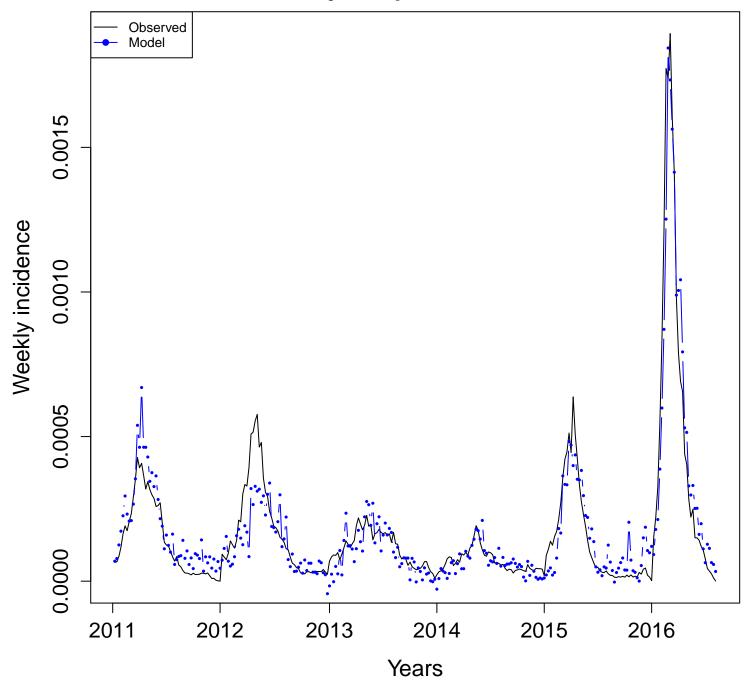
#### Combined terms:

- All: model with all the available terms. n= number of terms
- Four: model with "dengue",
   "dengue sintomas", "aedes", and
   "mosquito".
- Uncorrelated: model with noncorrelated terms. 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.

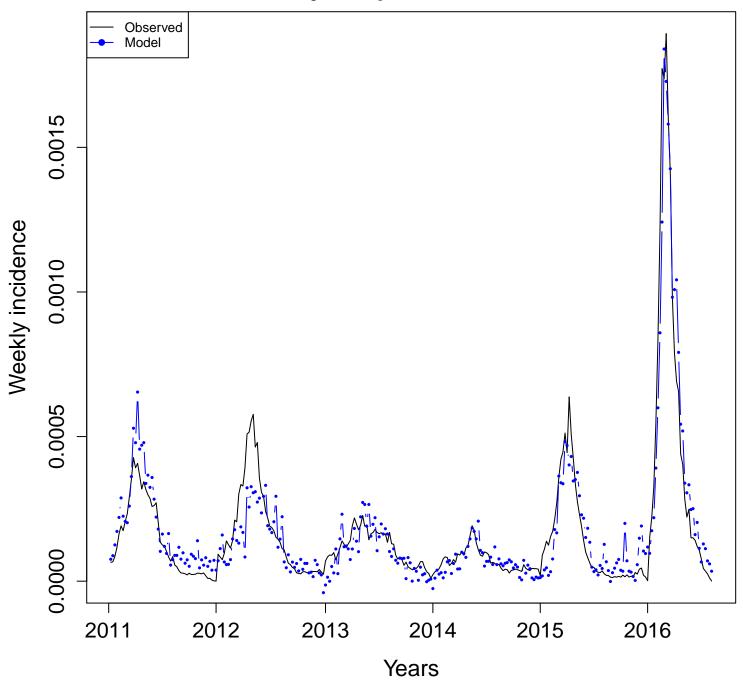
### **Combined terms Adjusted R squared**

Rio Grande do Norte (RN)

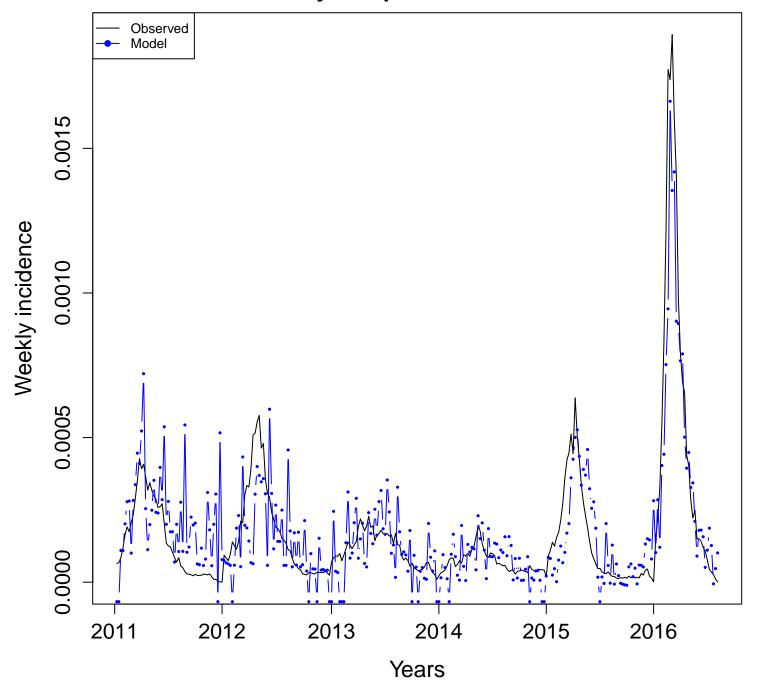
BR-RN Adj. R squared = 0.89



BR-RN Adj. R squared = 0.8913



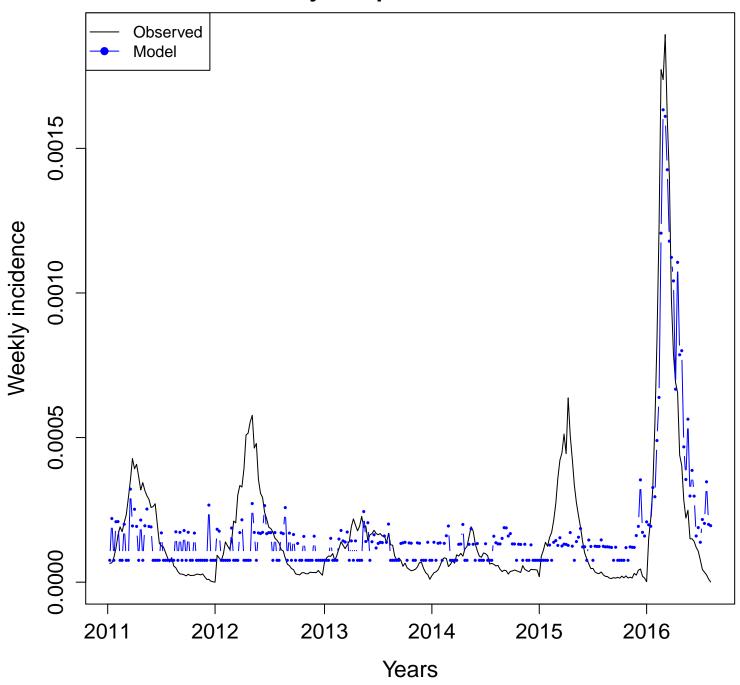
BR-RN Adj. R squared = 0.7059



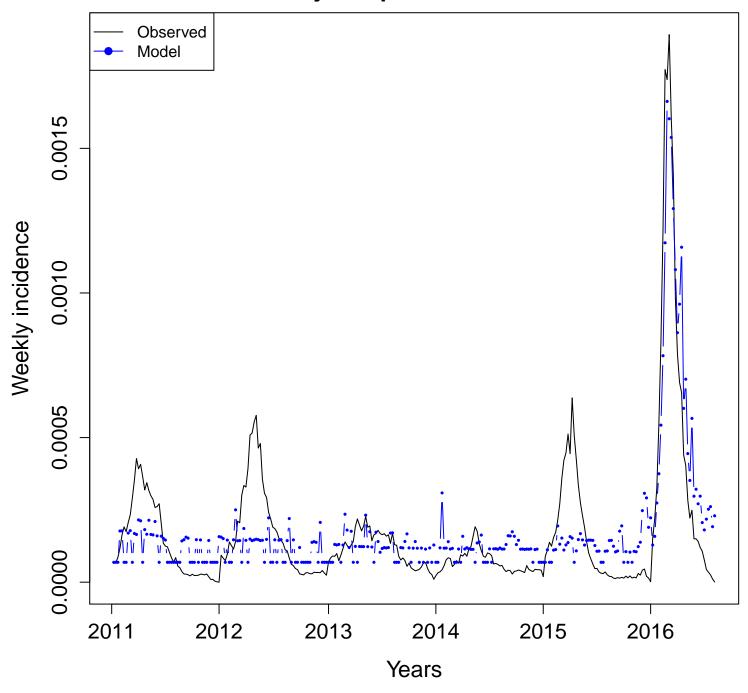
# **Individual terms Adjusted R squared**

Rio Grande do Norte (RN)

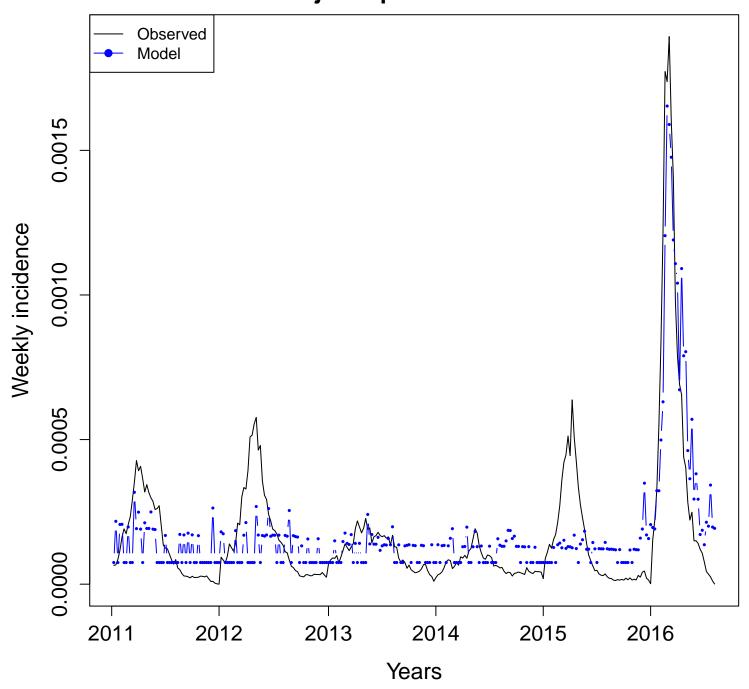
RN- aedes.aegypti Adj. R squared = 0.6853



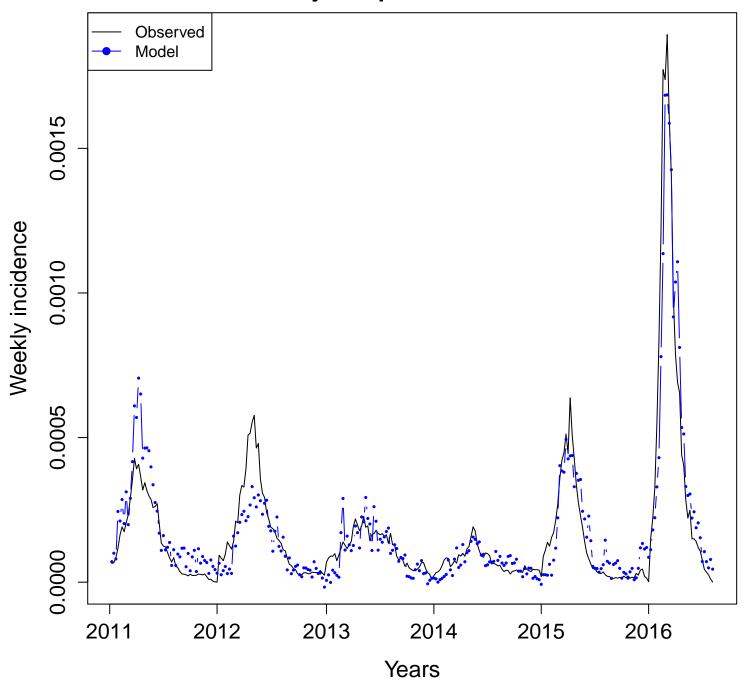
RN- aedes Adj. R squared = 0.7057



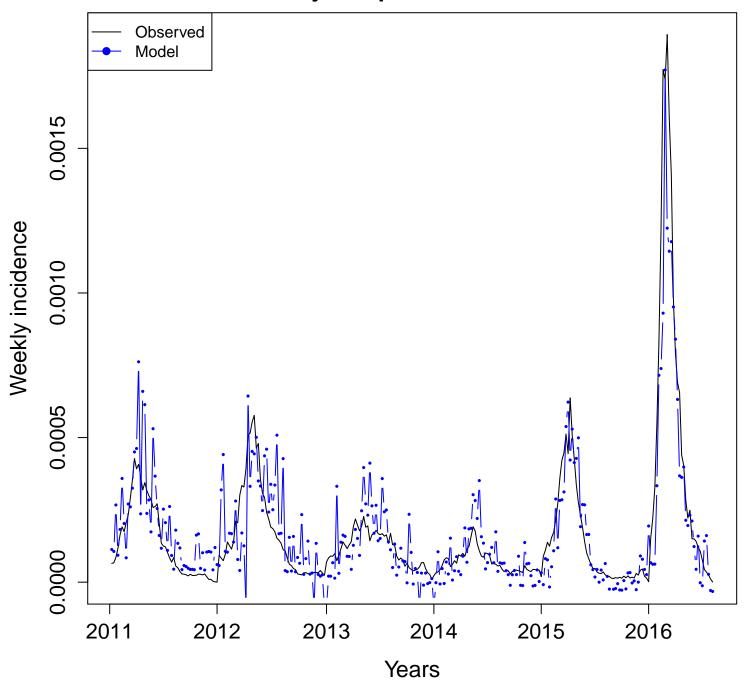
RN- aegypti Adj. R squared = 0.6897



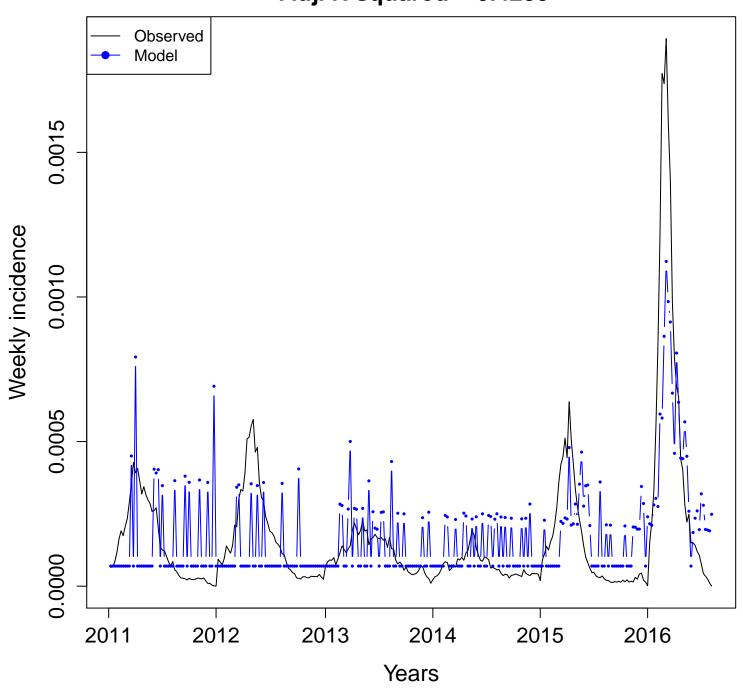
RN- dengue Adj. R squared = 0.8693



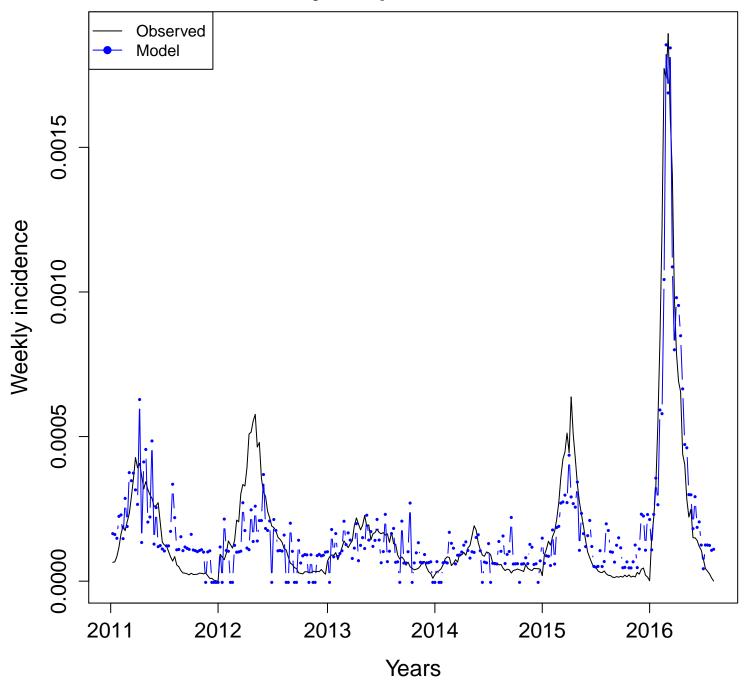
RN- dengue.sintomas Adj. R squared = 0.7542



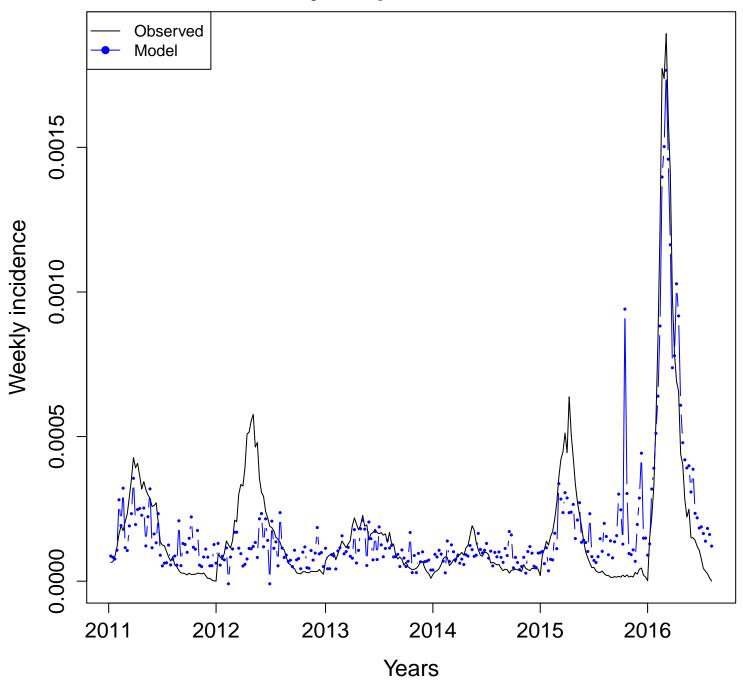
RN- dengue.virus Adj. R squared = 0.4253



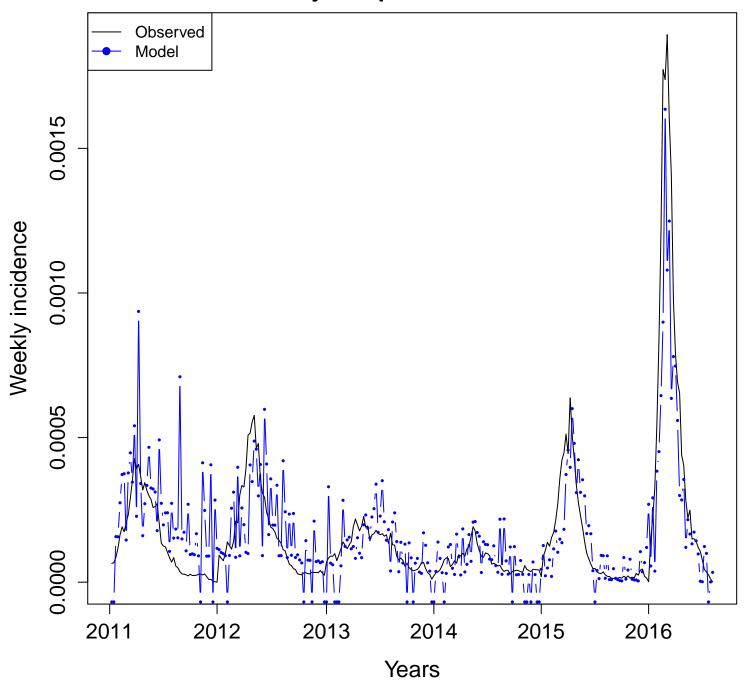
RN- mosquito.dengue Adj. R squared = 0.7768



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)

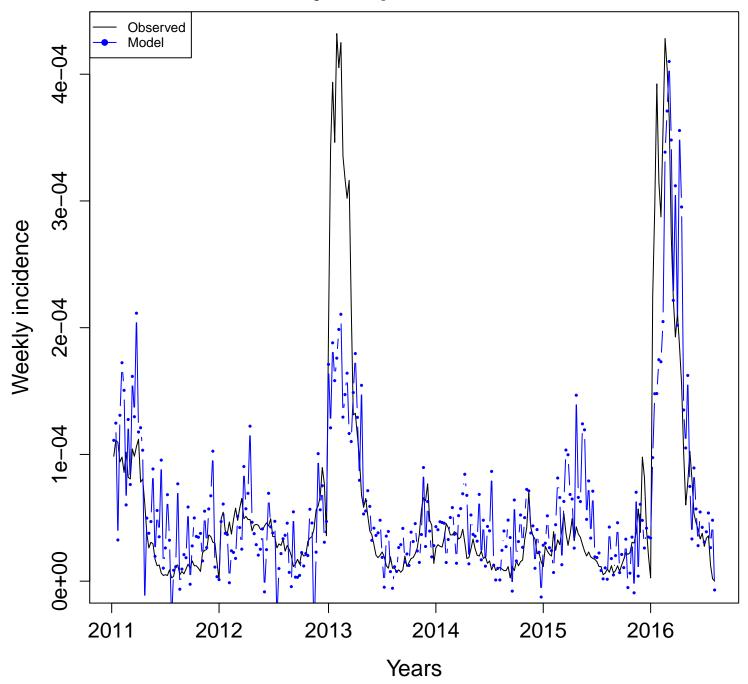
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

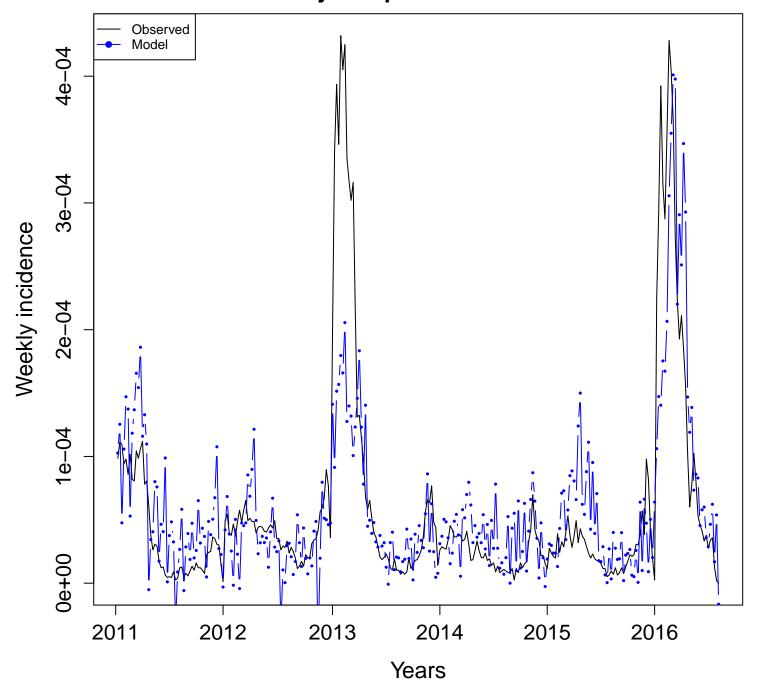
## **Combined terms Adjusted R squared**

Rôndonia (RO)

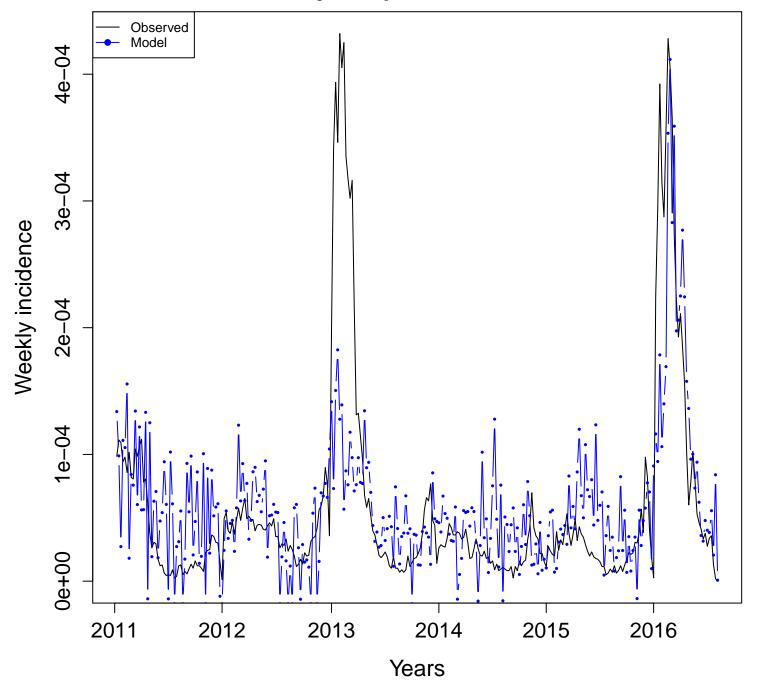
BR-RO Adj. R squared = 0.5676



BR-RO Adj. R squared = 0.5444



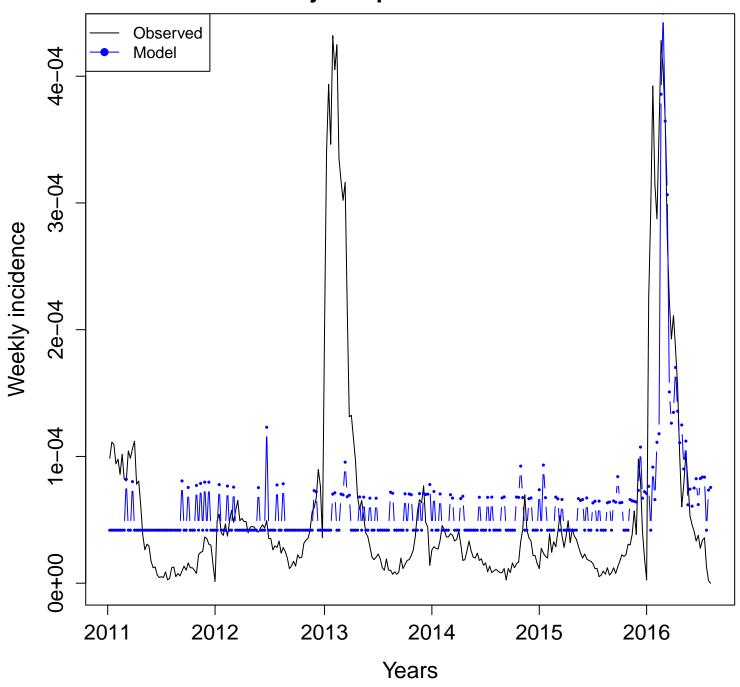
BR-RO Adj. R squared = 0.4155



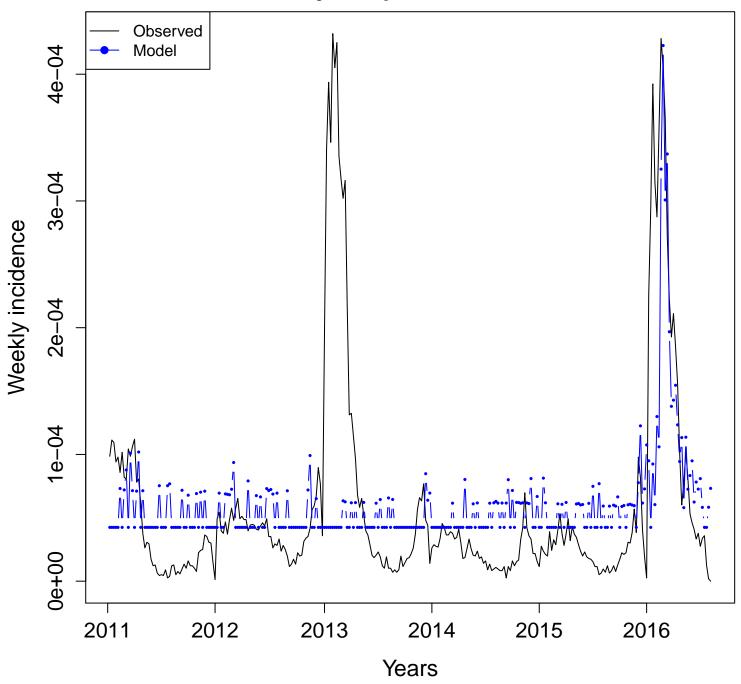
# Individual terms Adjusted R squared

Rôndonia (RO)

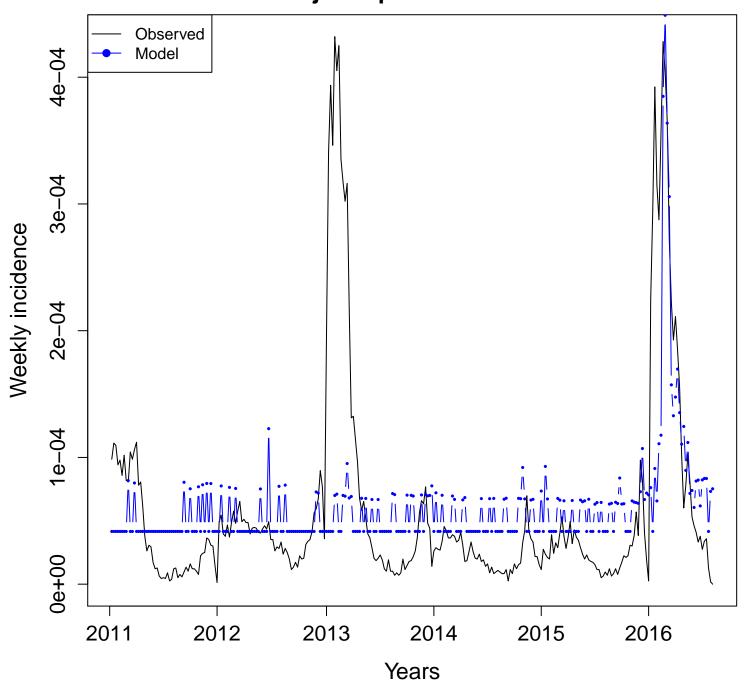
RO- aedes.aegypti Adj. R squared = 0.2445



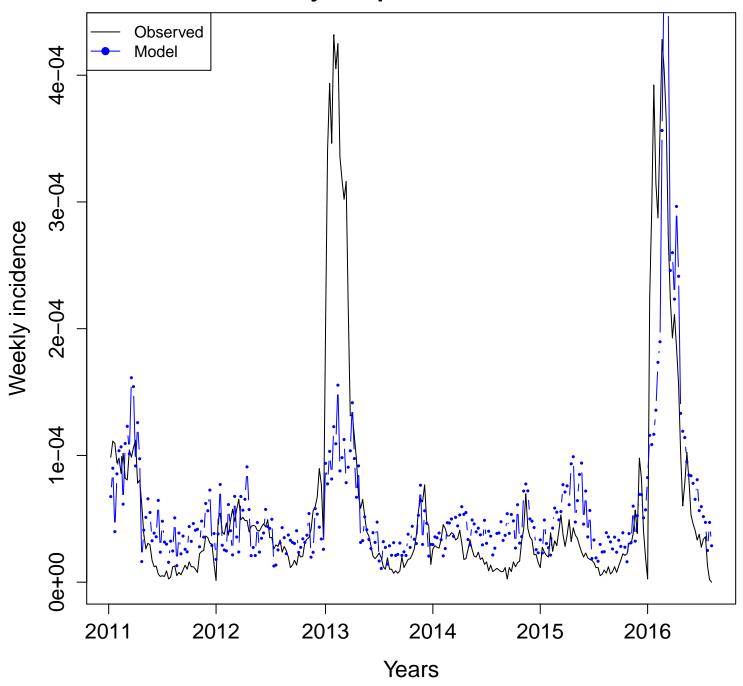
RO- aedes Adj. R squared = 0.211



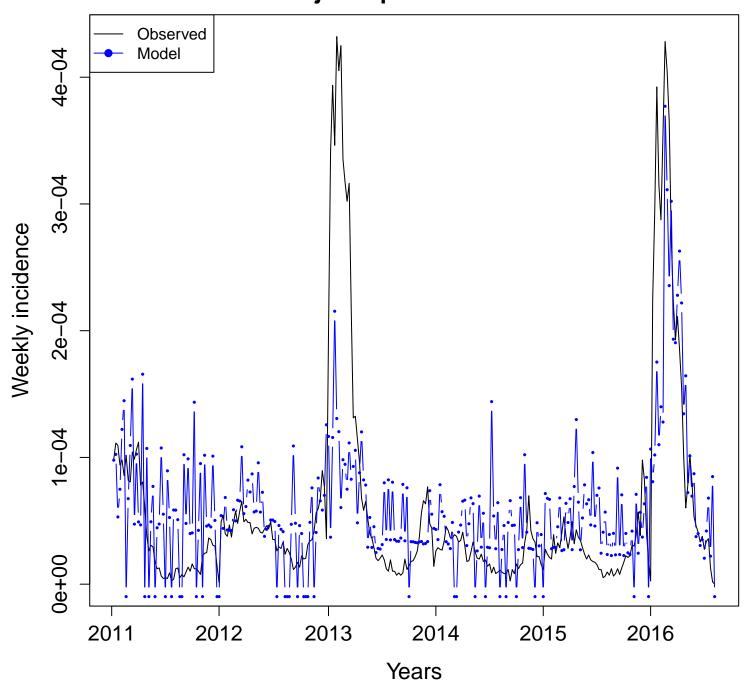
RO- aegypti Adj. R squared = 0.2456



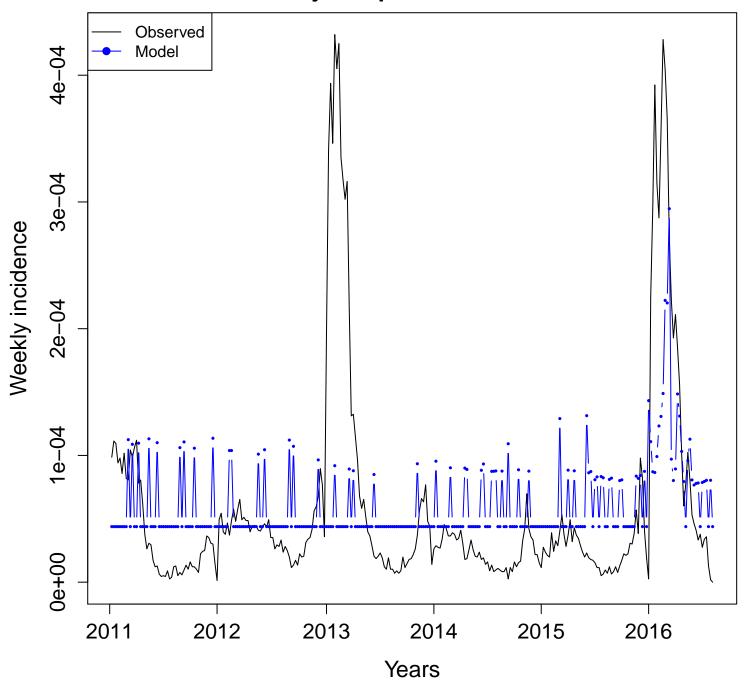
RO- dengue Adj. R squared = 0.4793



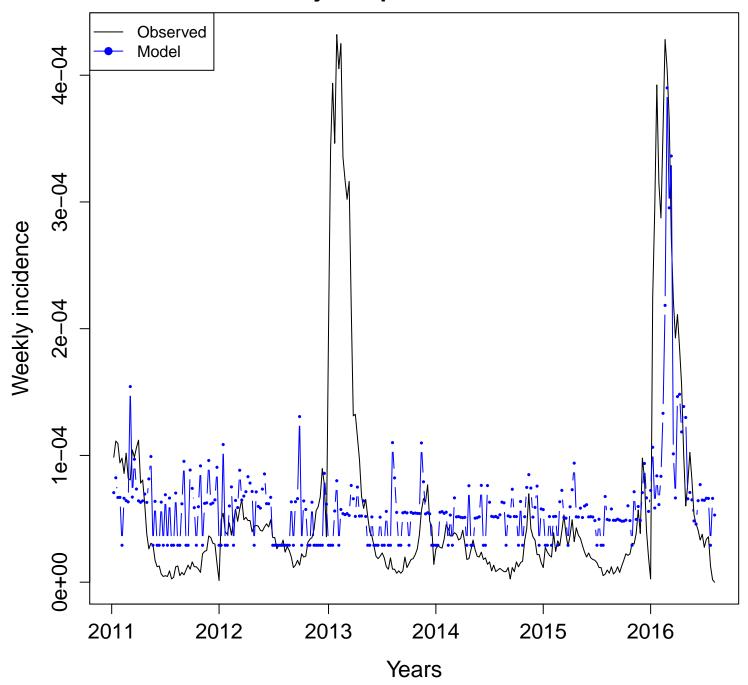
RO- dengue.sintomas Adj. R squared = 0.3692



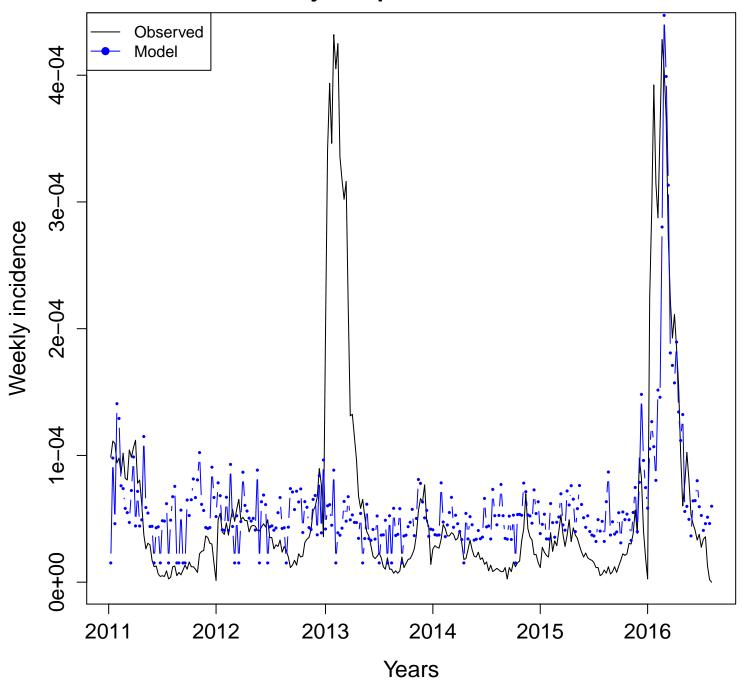
RO- dengue.virus Adj. R squared = 0.1276



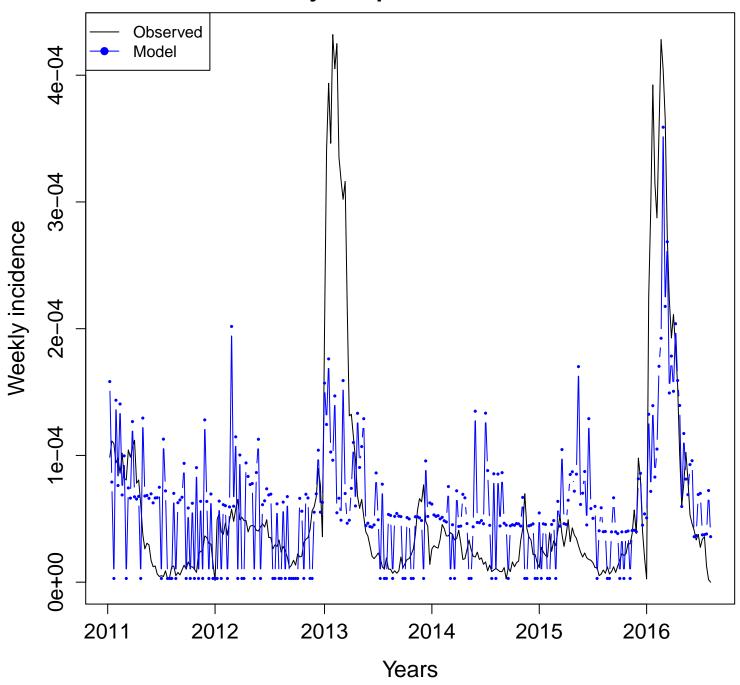
RO- mosquito.dengue Adj. R squared = 0.1914



RO- mosquito Adj. R squared = 0.2692



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



#### **Roraima (RR)**

### Dengue incidence vs. Google Health Trends (2011–2016)

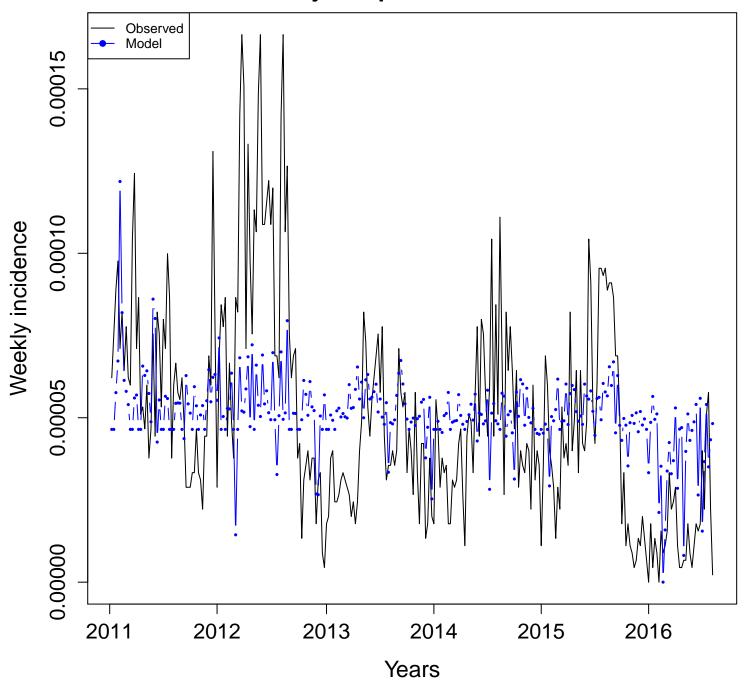
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

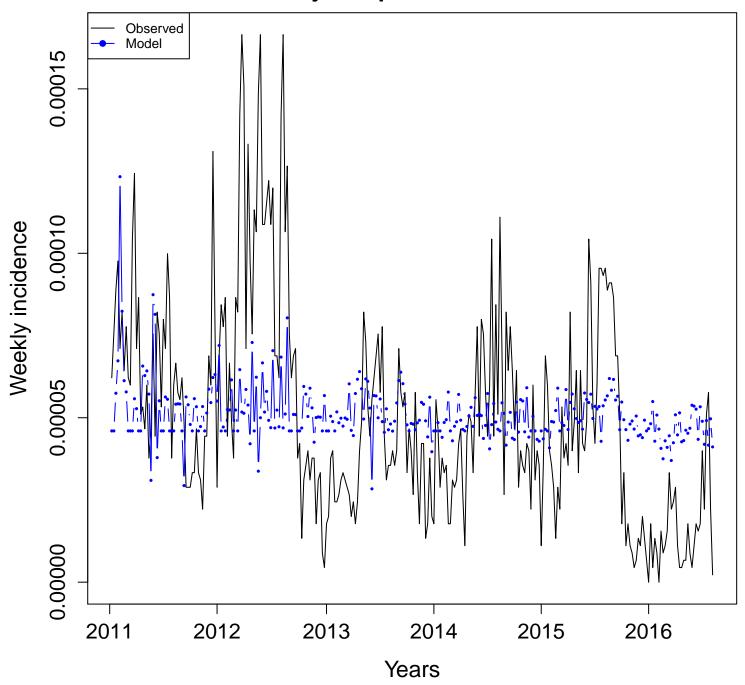
## **Combined terms Adjusted R squared**

Roraima (RR)

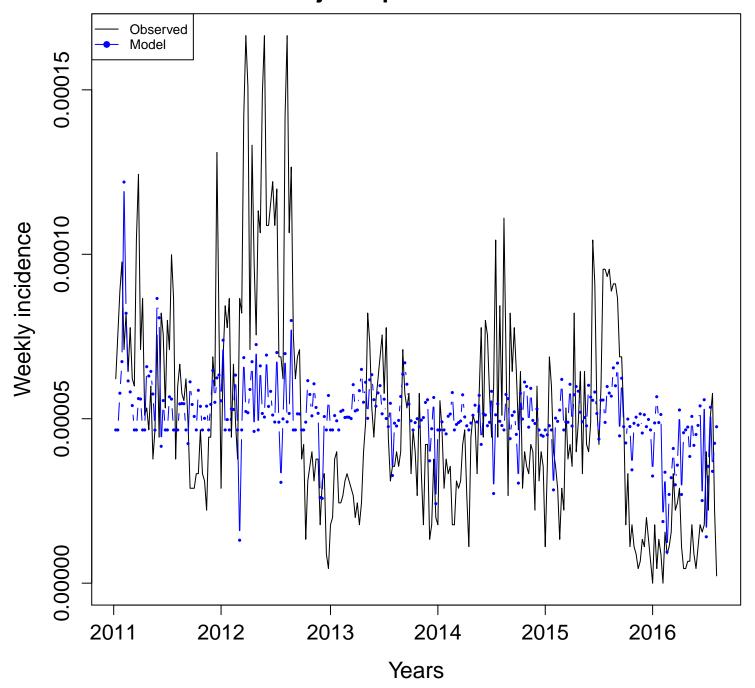
BR-RR Adj. R squared = 0.0933



BR-RR Adj. R squared = 0.0575



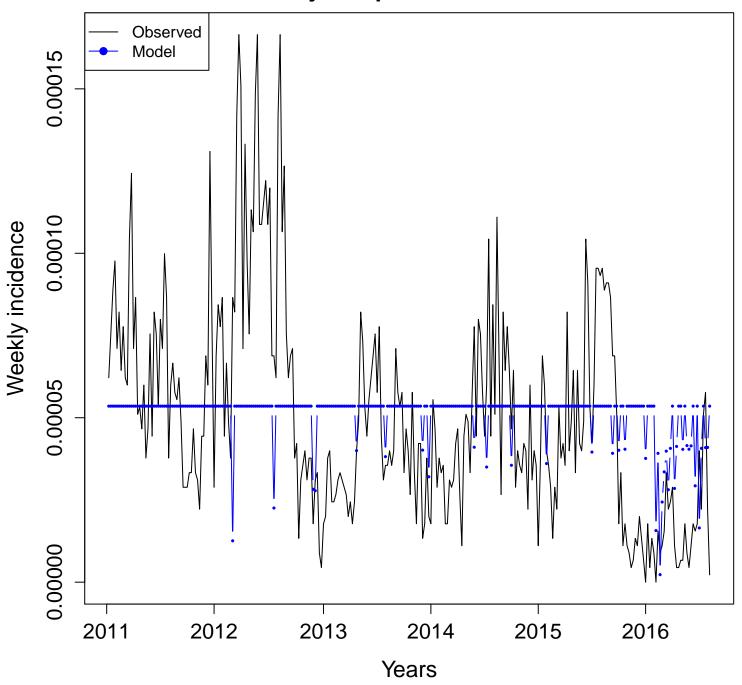
BR-RR Adj. R squared = 0.0905



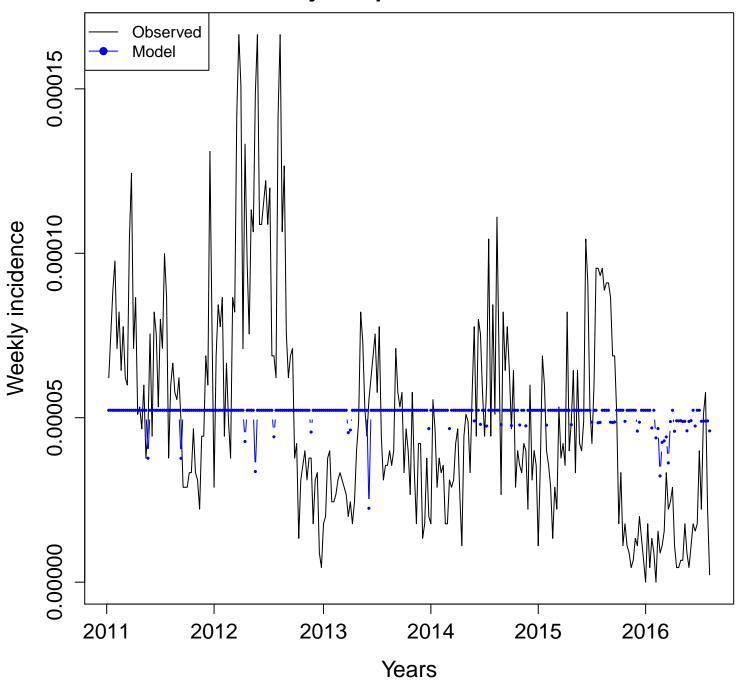
# **Individual terms Adjusted R squared**

Roraima (RR)

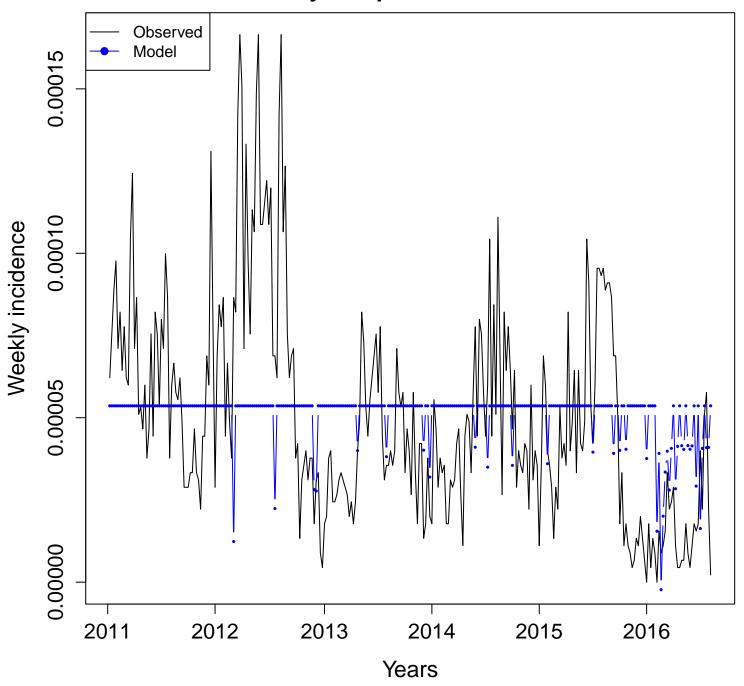
RR- aedes.aegypti Adj. R squared = 0.0465



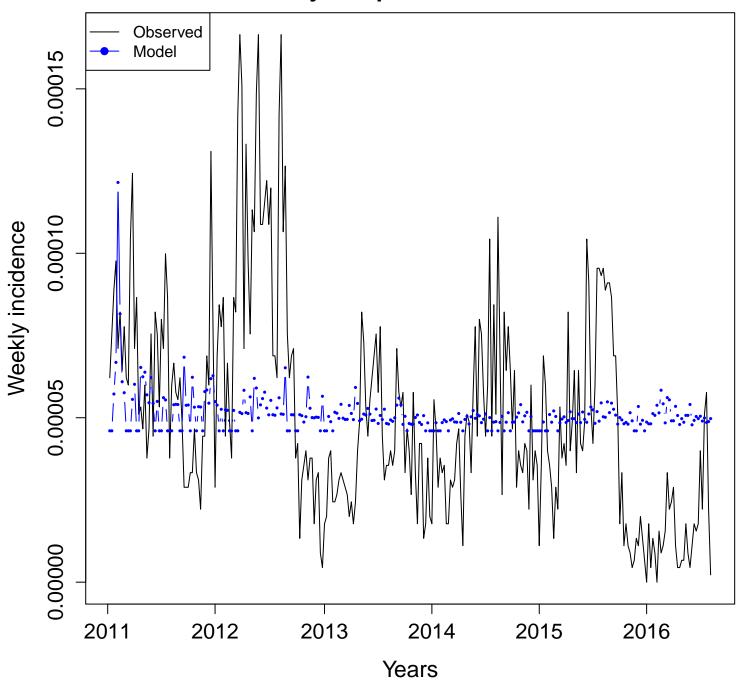
RR- aedes Adj. R squared = 0.0068



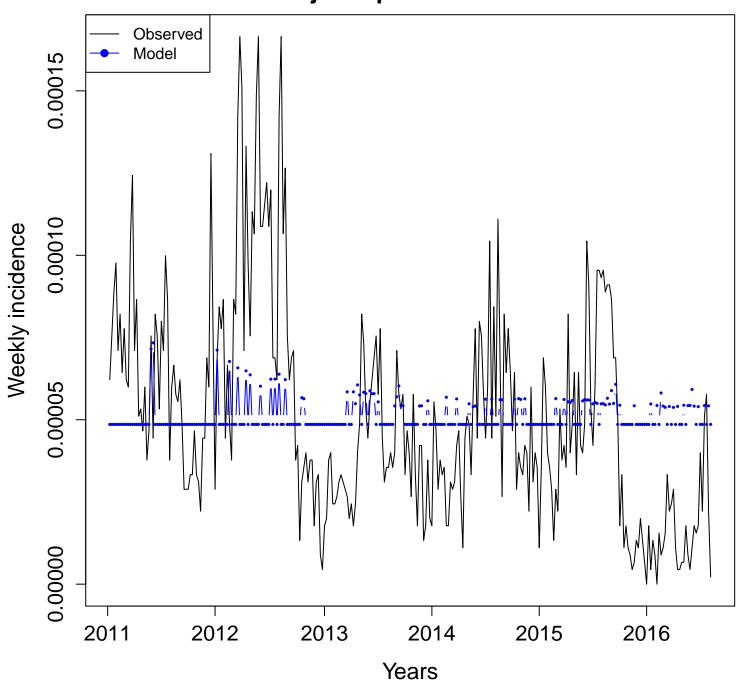
RR- aegypti Adj. R squared = 0.0497



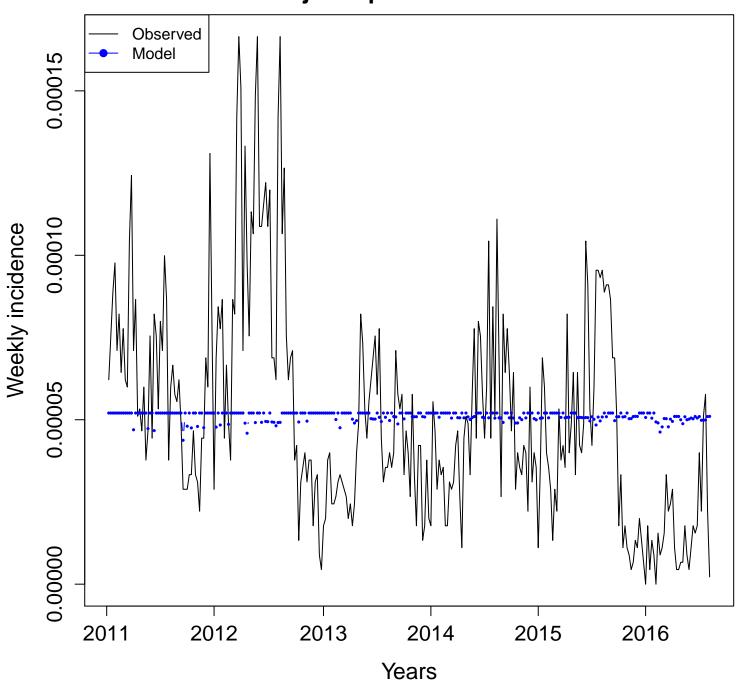
RR- dengue Adj. R squared = 0.0318



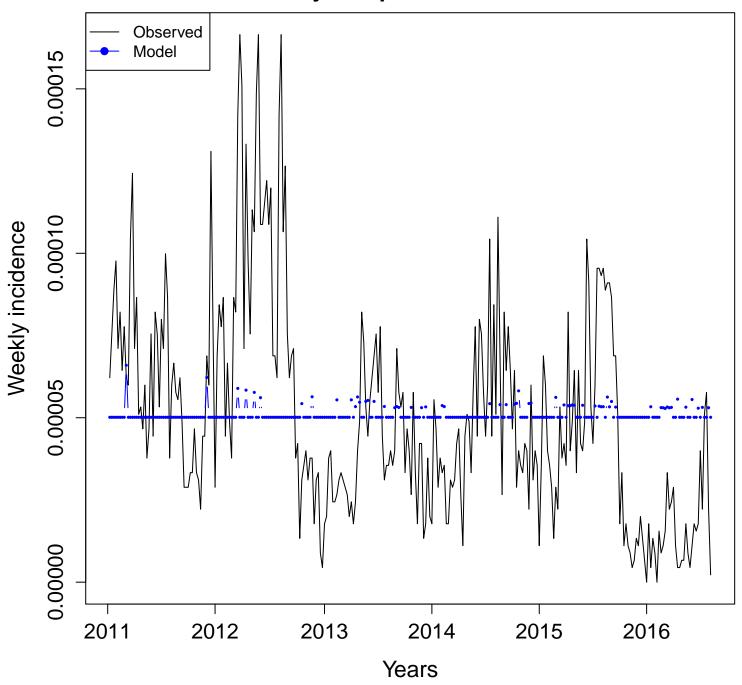
RR- dengue.sintomas Adj. R squared = 0.0155



RR- mosquito Adj. R squared = -0.0017



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



#### Rio Grande do Sul (RS) Dengue incidence vs. Google Health Trends (2011–2016)

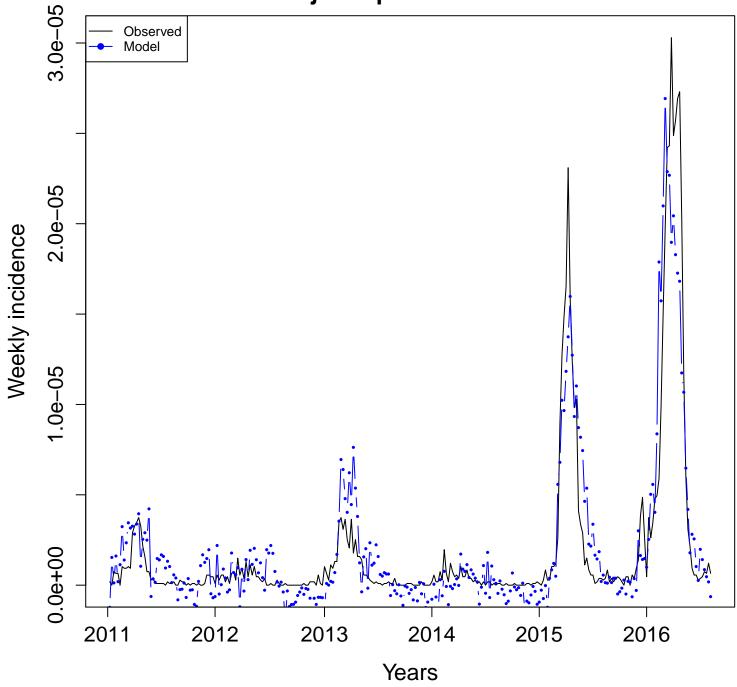
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

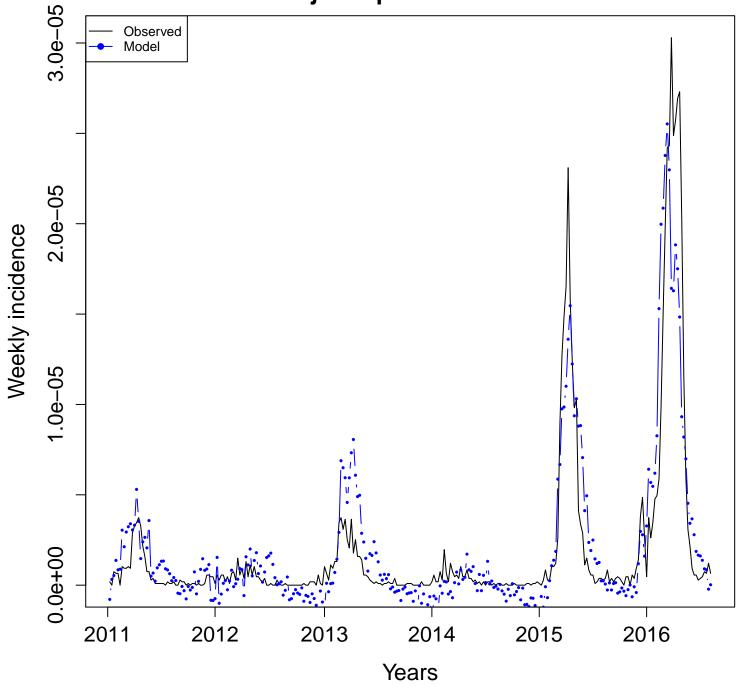
## **Combined terms Adjusted R squared**

Rio Grande do Sul (RS)

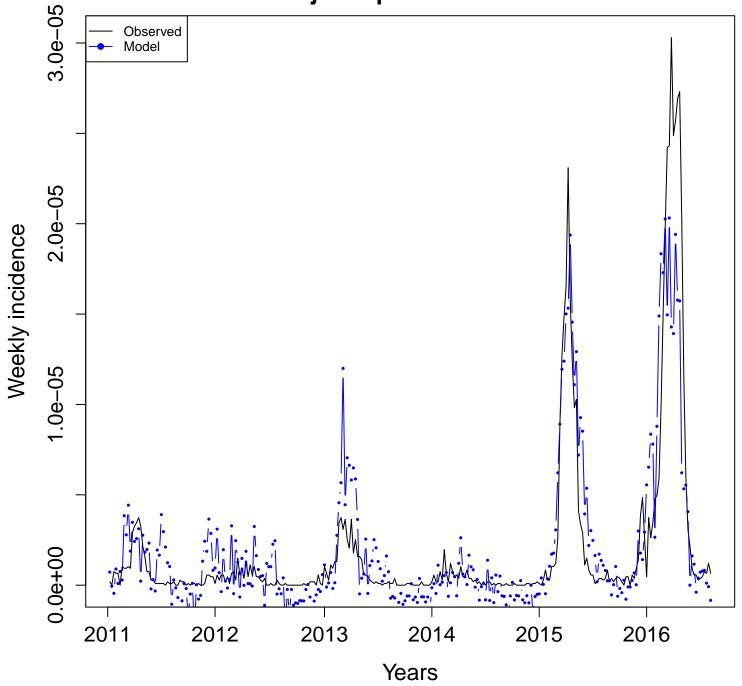
BR-RS Adj. R squared = 0.8043



BR-RS Adj. R squared = 0.7786



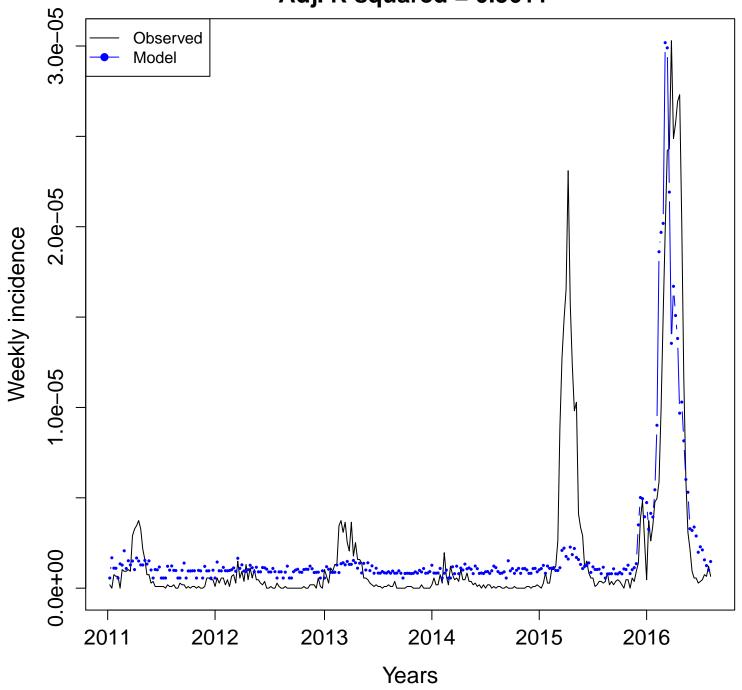
BR-RS Adj. R squared = 0.7242



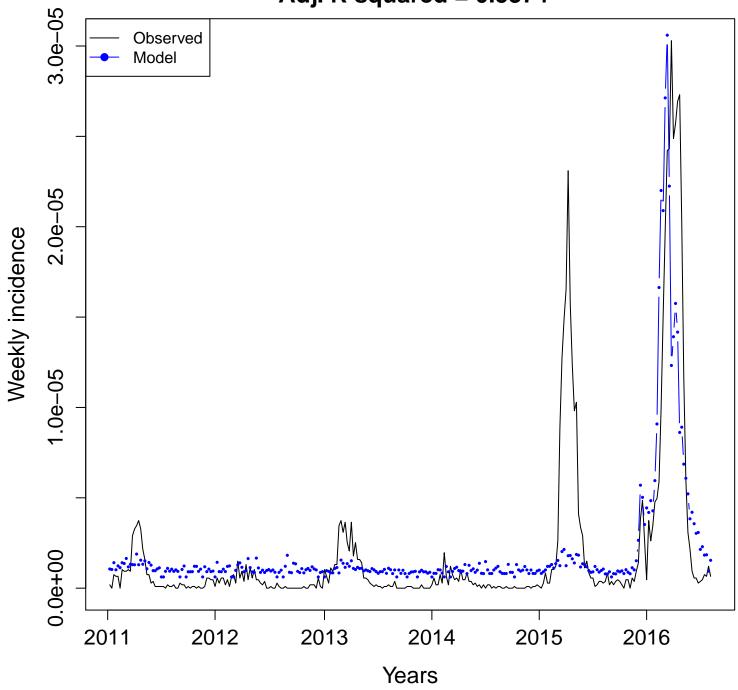
## **Individual terms Adjusted R squared**

Rio Grande do Sul (RS)

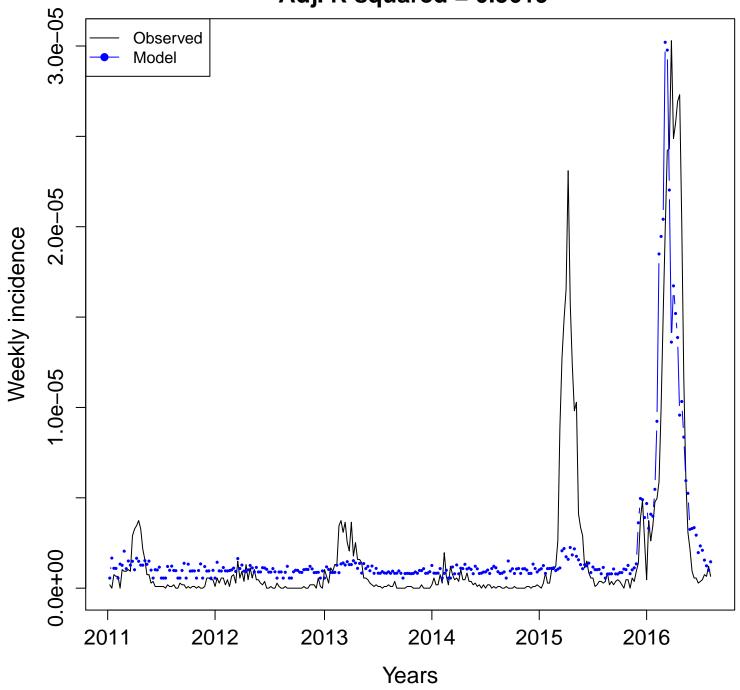
RS- aedes.aegypti Adj. R squared = 0.5611



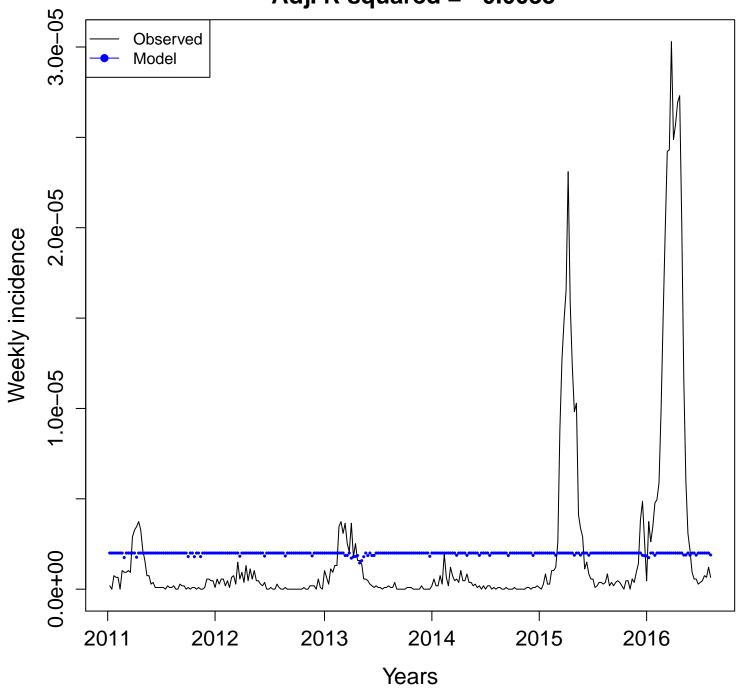
RS- aedes Adj. R squared = 0.5374



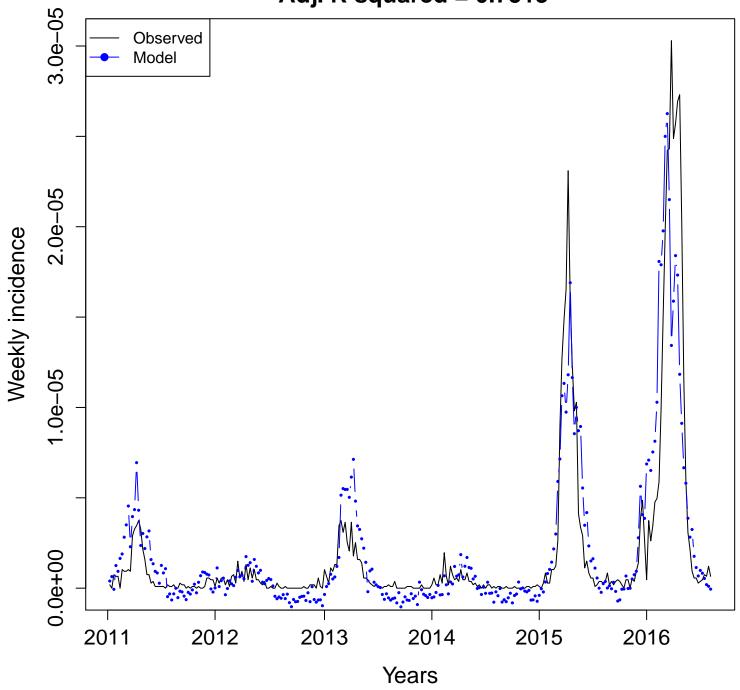
RS- aegypti Adj. R squared = 0.5619



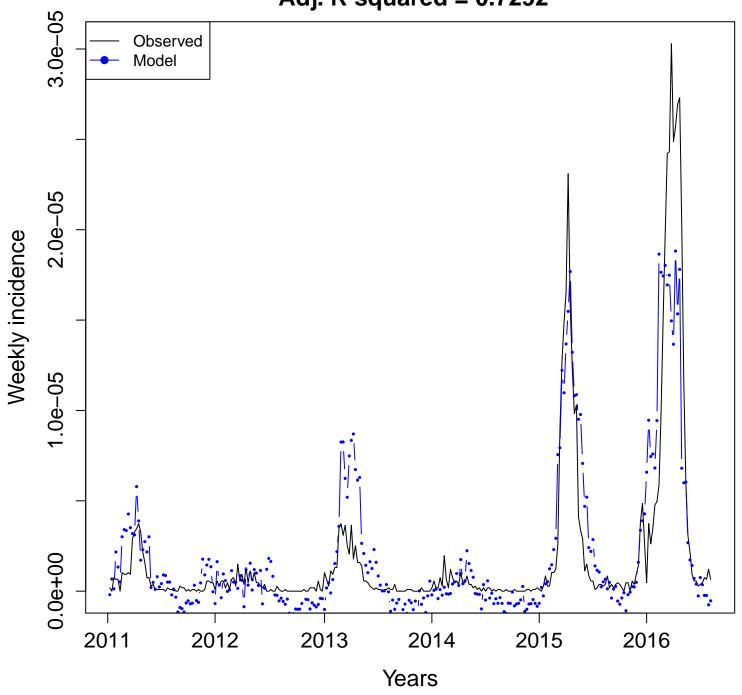
RS- dengue.fever Adj. R squared = -0.0033



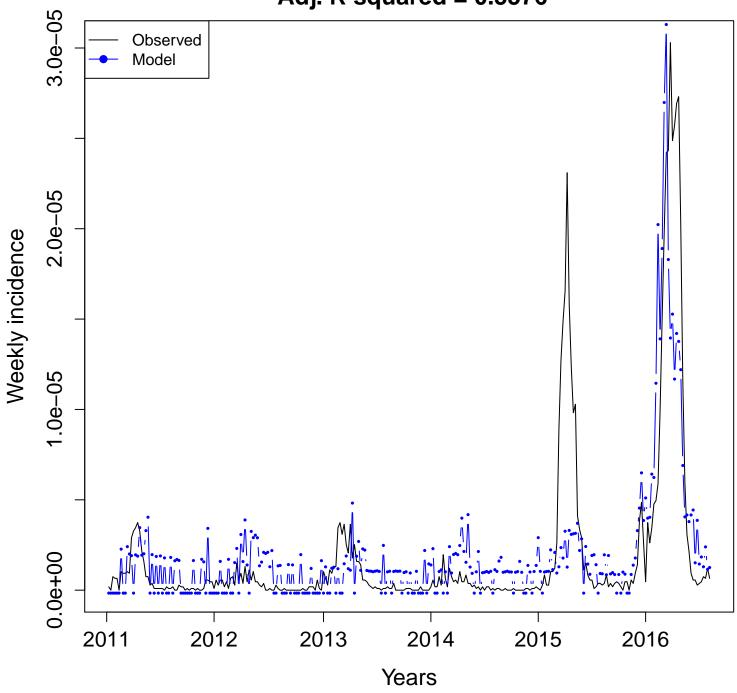
RS- dengue Adj. R squared = 0.7513



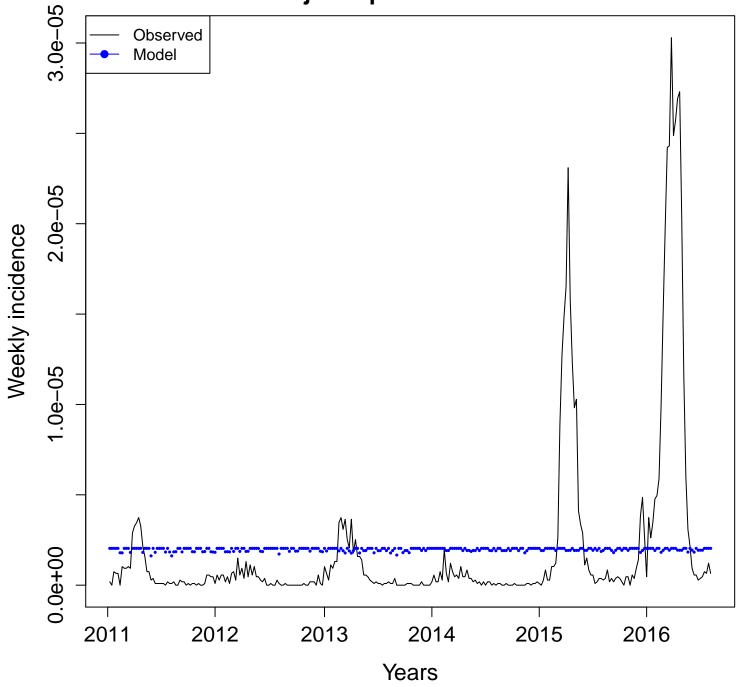
RS- dengue.sintomas Adj. R squared = 0.7292



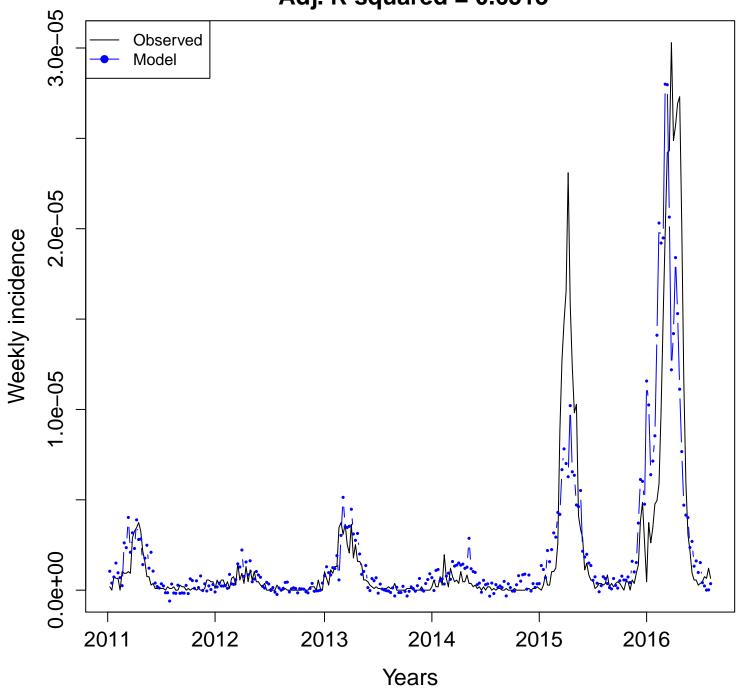
RS- dengue.virus Adj. R squared = 0.5576



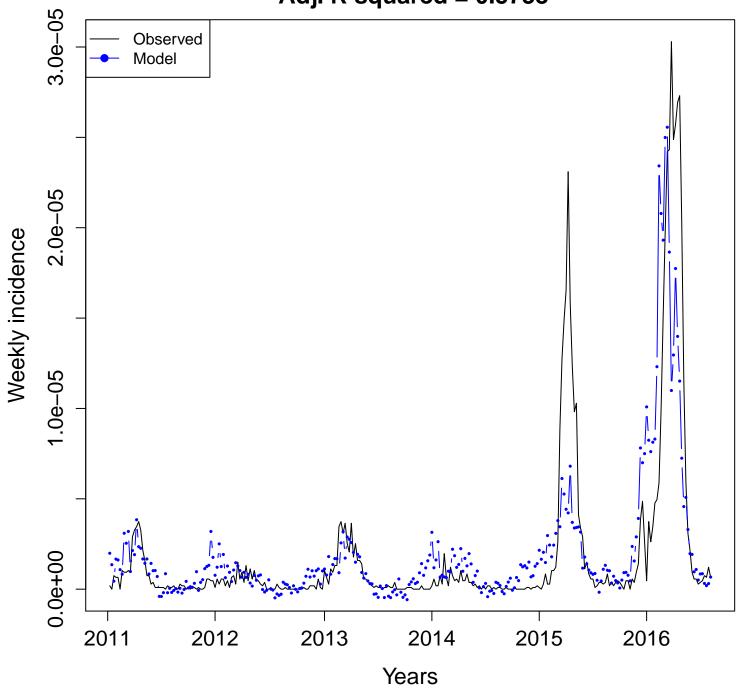
RS- DHF Adj. R squared = -0.0031



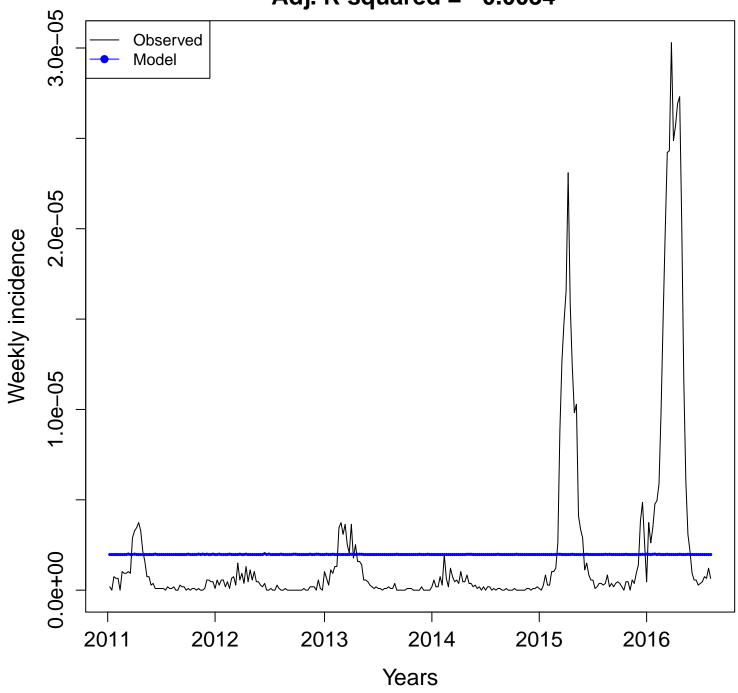
RS- mosquito.dengue Adj. R squared = 0.6513



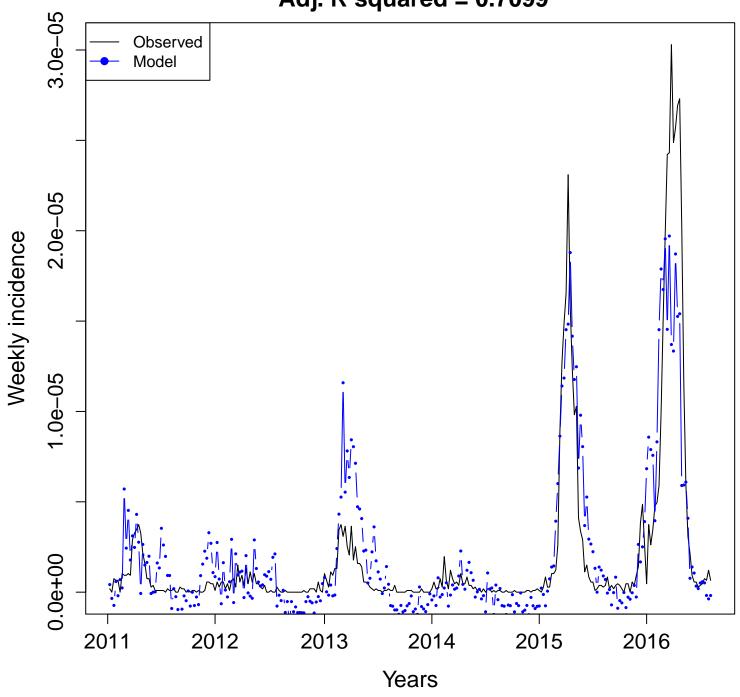
RS- mosquito Adj. R squared = 0.5738



RS- mosquitoes Adj. R squared = -0.0034



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



#### **Santa Catarina (SC)**

### Dengue incidence vs. Google Health Trends (2011–2016)

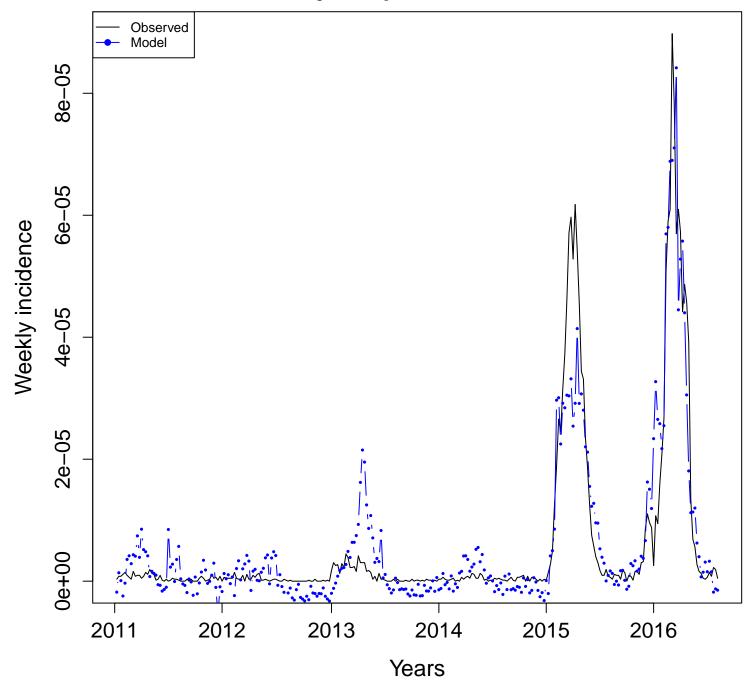
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

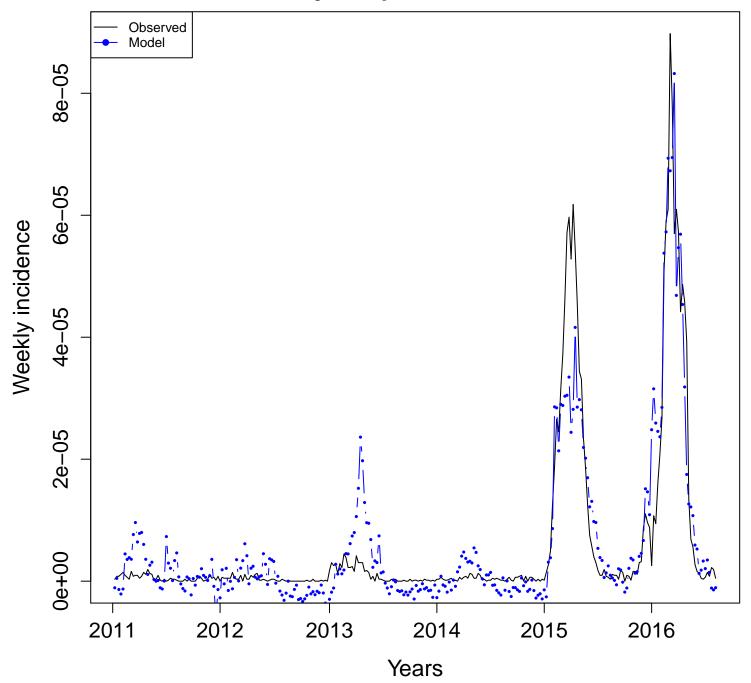
## **Combined terms Adjusted R squared**

**Santa Catarina (SC)** 

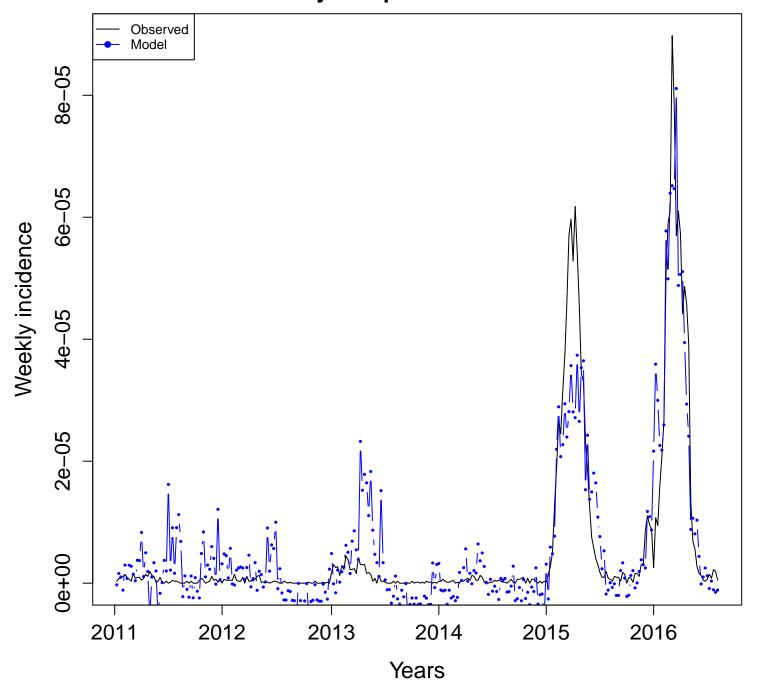
BR-SC Adj. R squared = 0.8255



BR-SC Adj. R squared = 0.8248



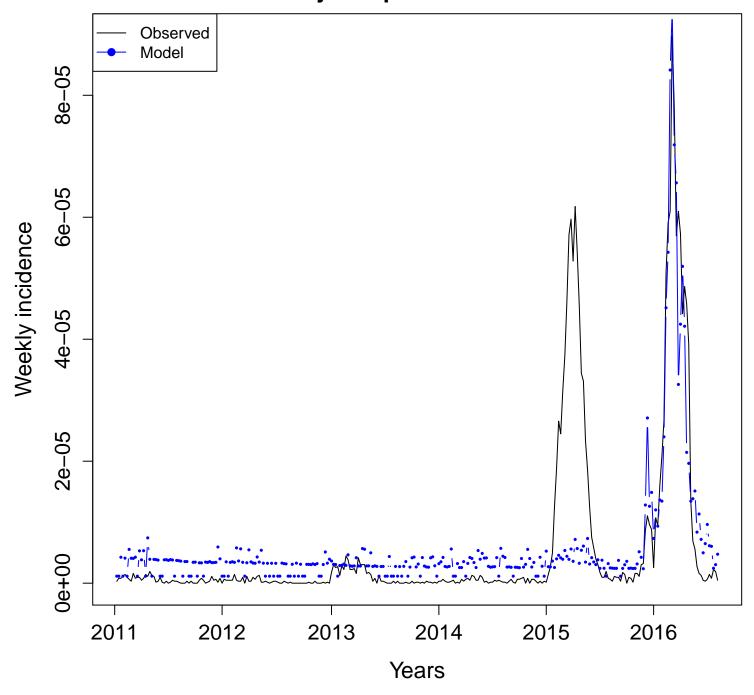
BR-SC Adj. R squared = 0.7878



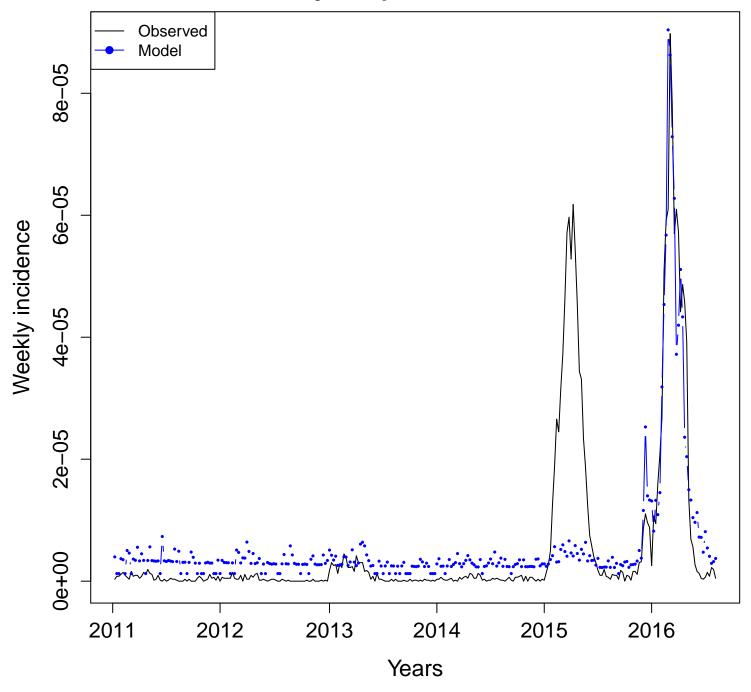
## **Individual terms Adjusted R squared**

**Santa Catarina (SC)** 

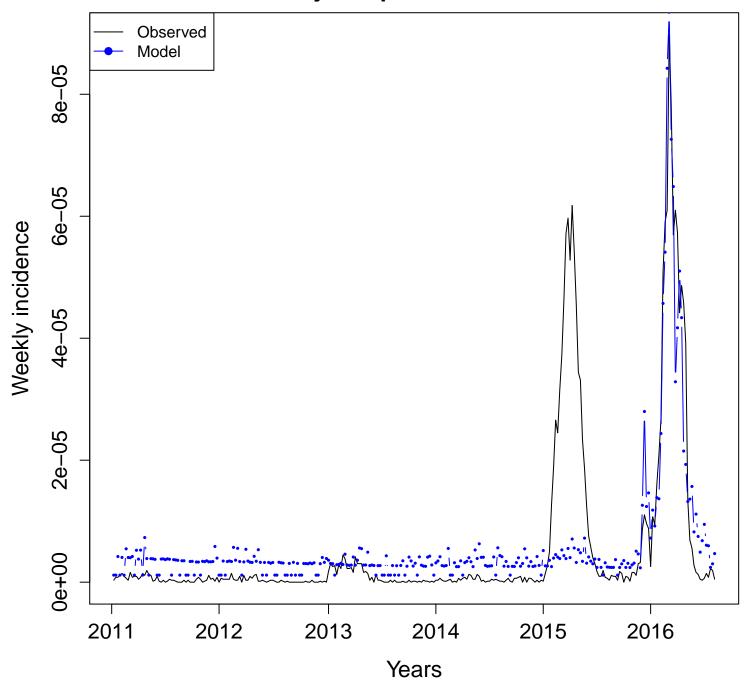
SC- aedes.aegypti Adj. R squared = 0.5592



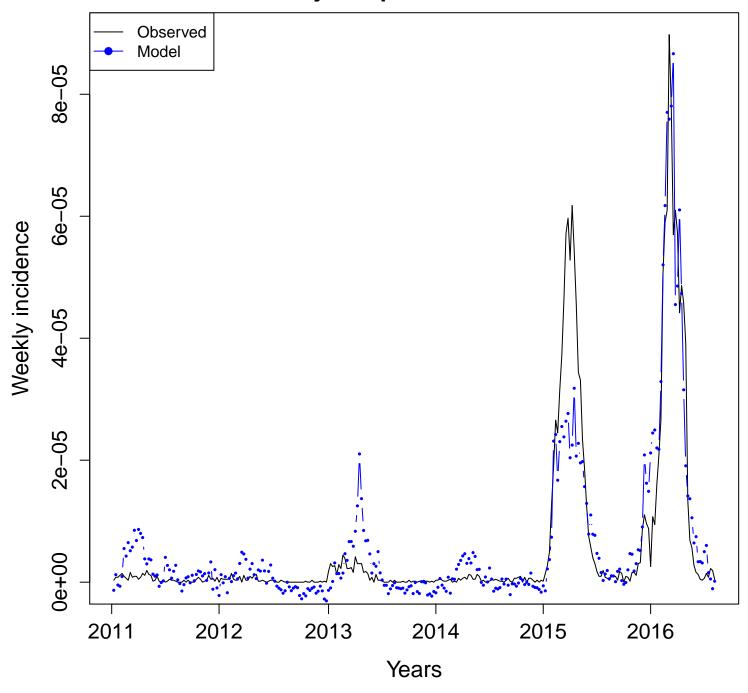
SC- aedes Adj. R squared = 0.5644



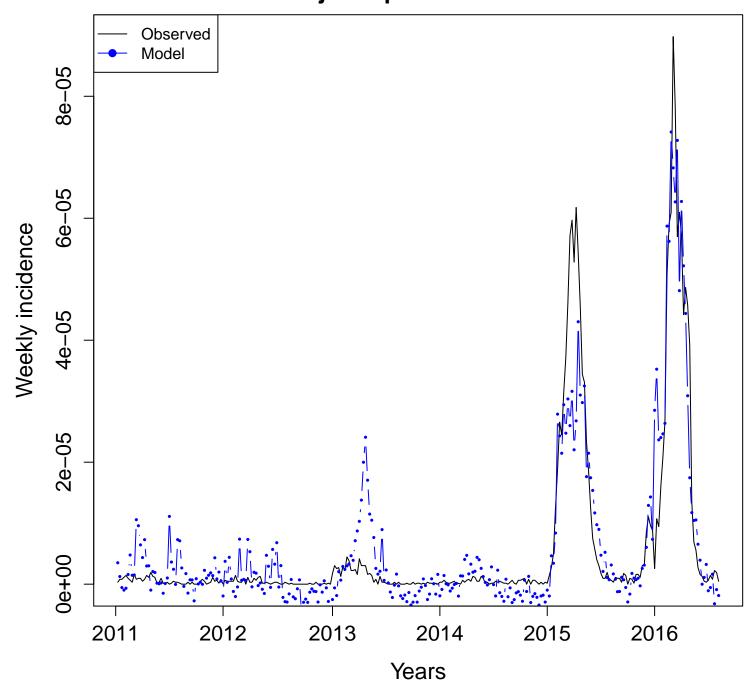
SC- aegypti Adj. R squared = 0.5583



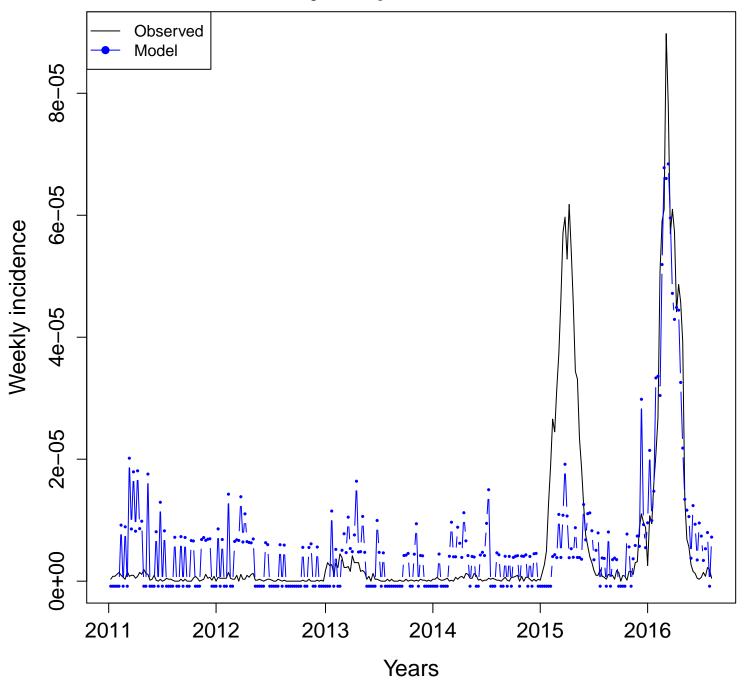
SC- dengue Adj. R squared = 0.8032



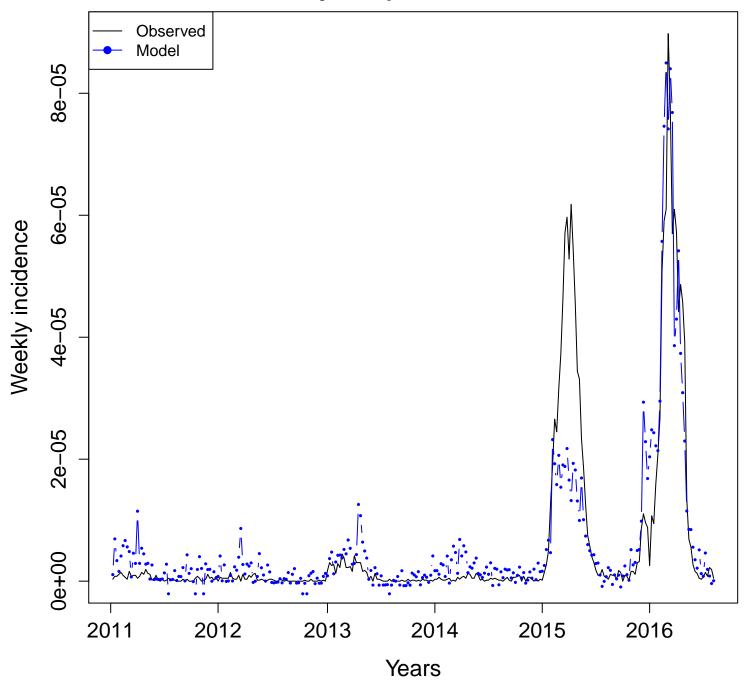
SC- dengue.sintomas Adj. R squared = 0.8105



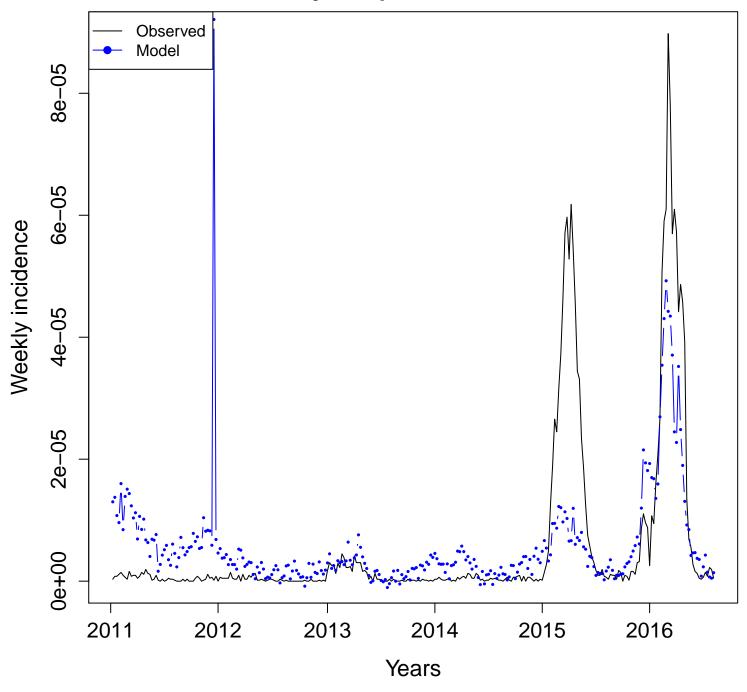
SC- dengue.virus Adj. R squared = 0.5382



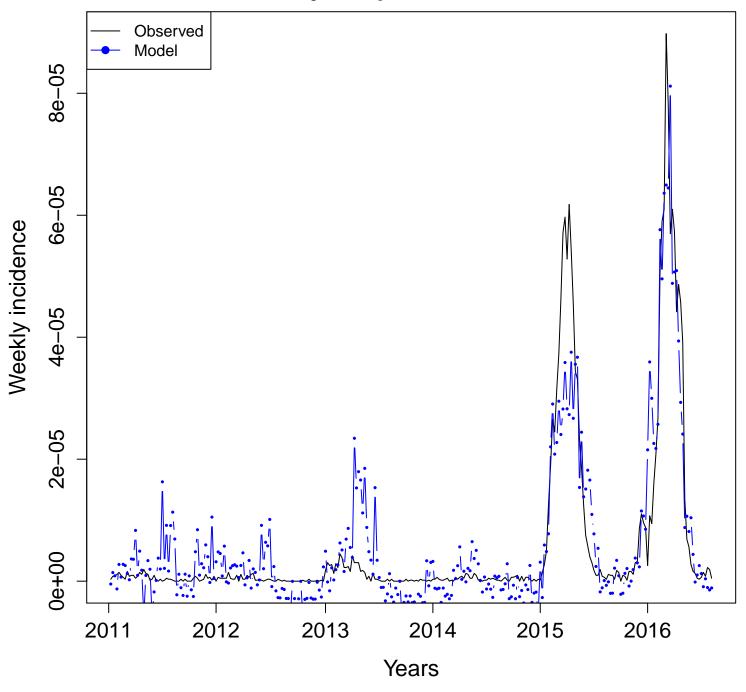
SC- mosquito.dengue Adj. R squared = 0.733



SC- mosquito Adj. R squared = 0.3641



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



#### **Sergipe (SE)**

### Dengue incidence vs. Google Health Trends (2011–2016)

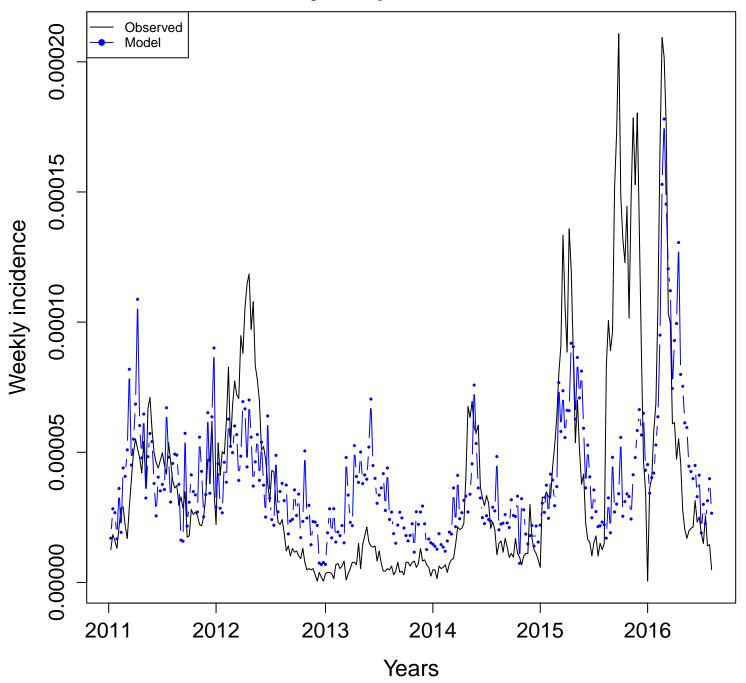
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

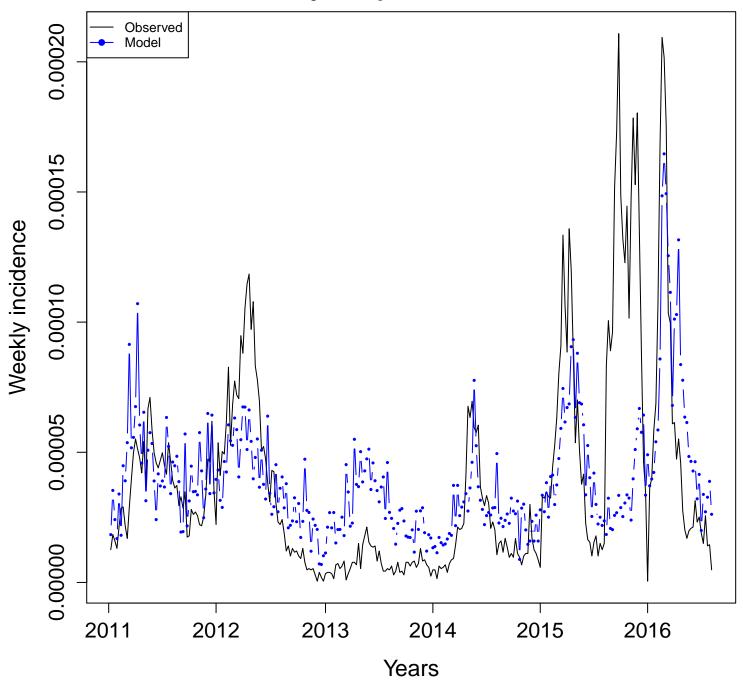
# **Combined terms Adjusted R squared**

Sergipe (SE)

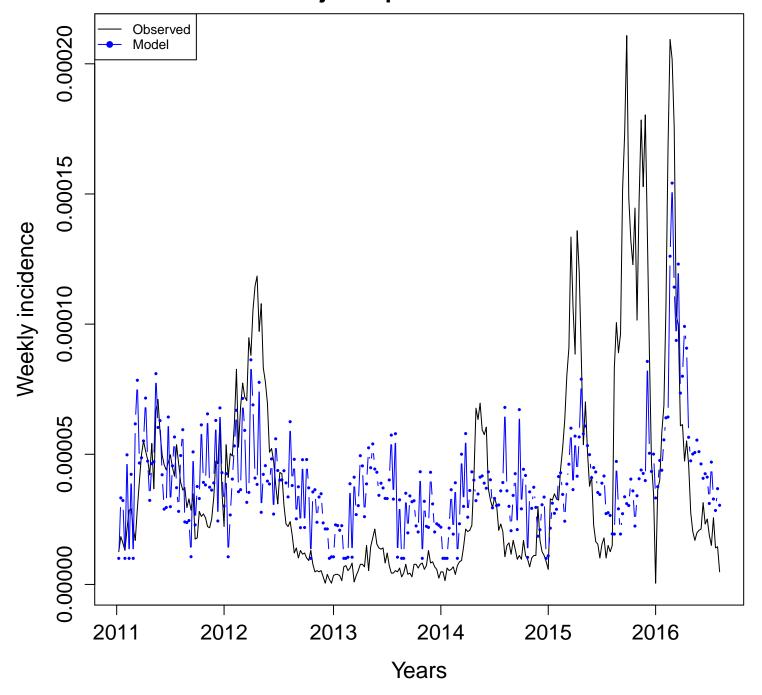
BR-SE Adj. R squared = 0.3085



BR-SE Adj. R squared = 0.3001



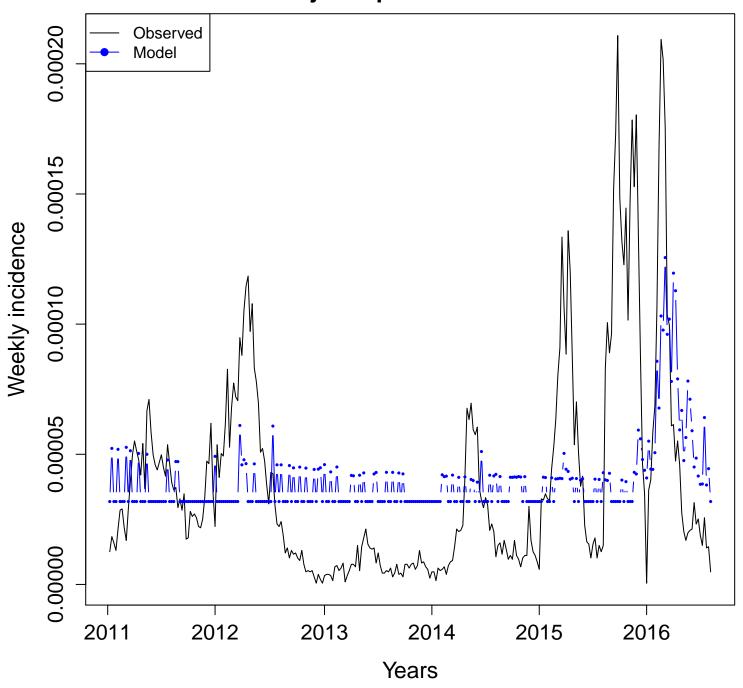
BR-SE Adj. R squared = 0.2159



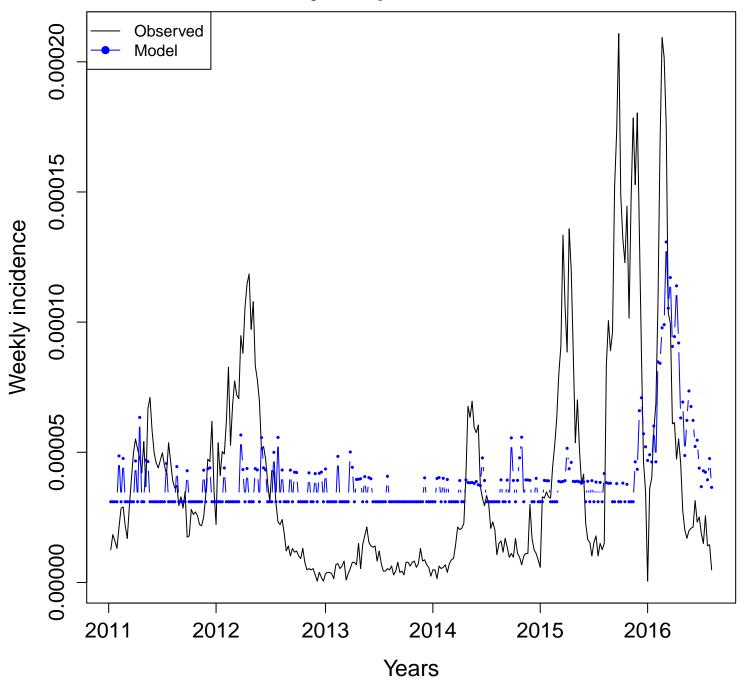
# **Individual terms Adjusted R squared**

Sergipe (SE)

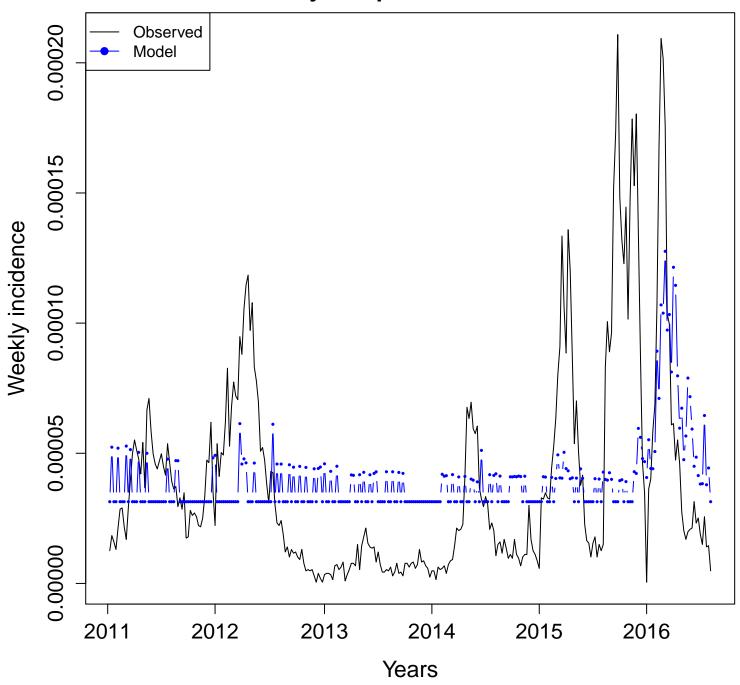
SE- aedes.aegypti Adj. R squared = 0.1128



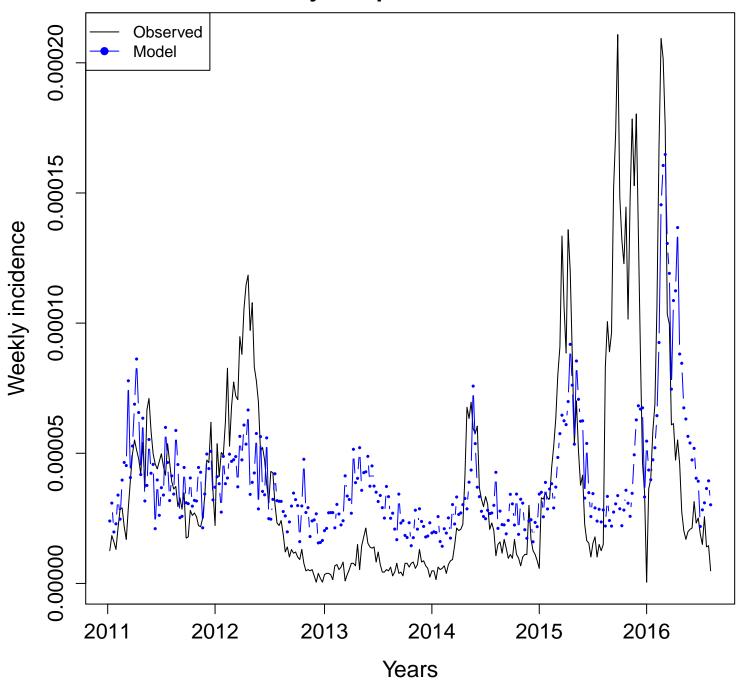
SE- aedes Adj. R squared = 0.1265



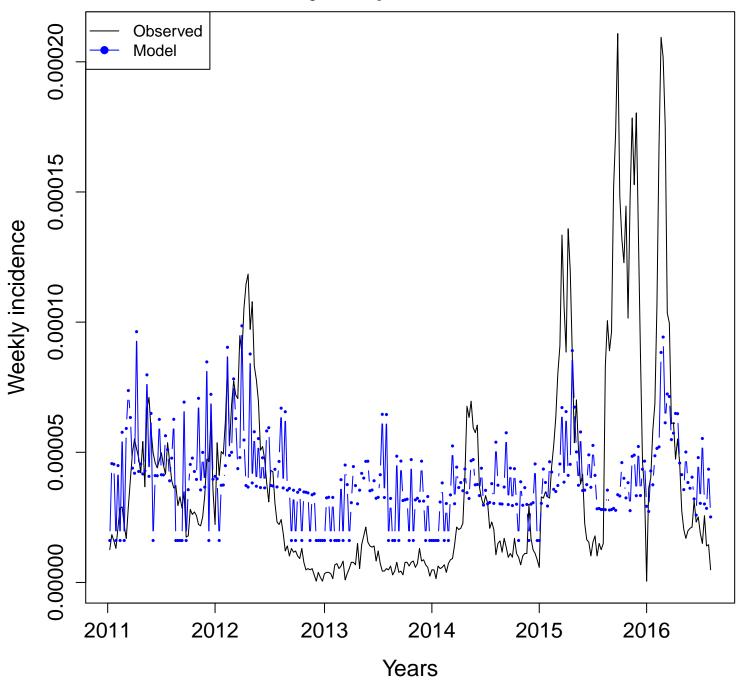
SE- aegypti Adj. R squared = 0.1221



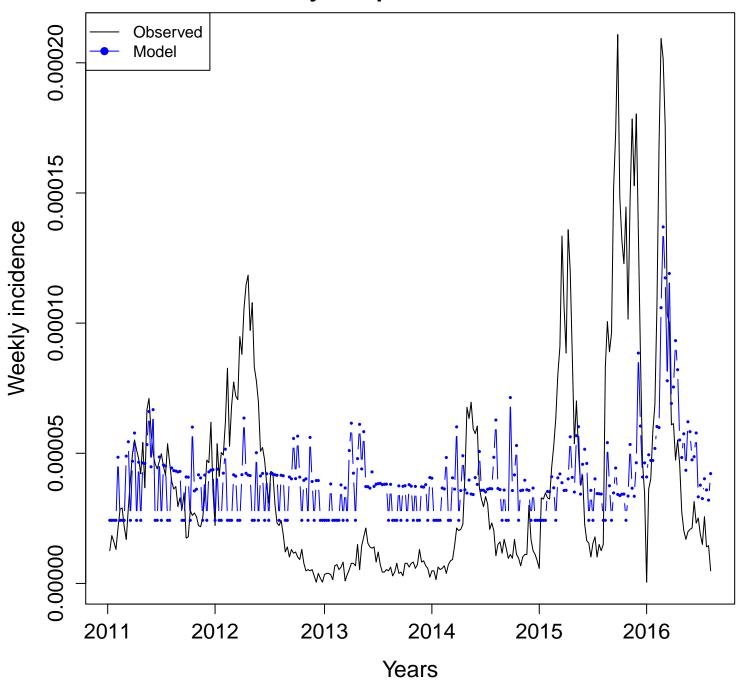
SE- dengue Adj. R squared = 0.2878



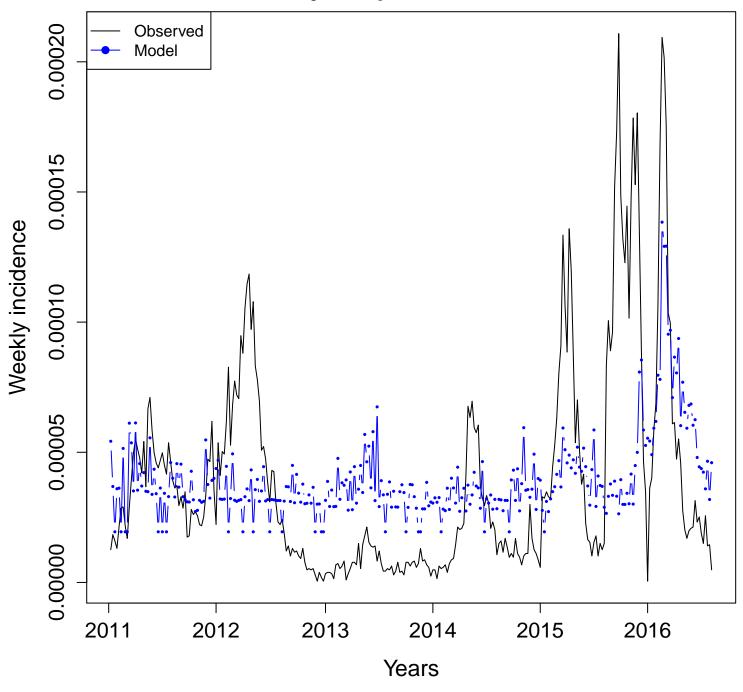
SE- dengue.sintomas Adj. R squared = 0.1506



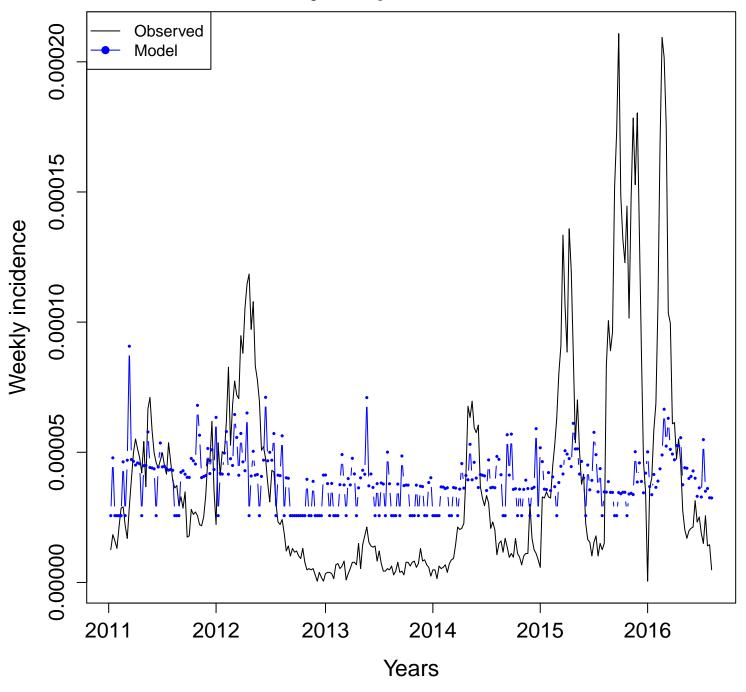
SE- mosquito.dengue Adj. R squared = 0.1392



SE- mosquito Adj. R squared = 0.1539



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



#### São Paulo (SP)

### Dengue incidence vs. Google Health Trends (2011–2016)

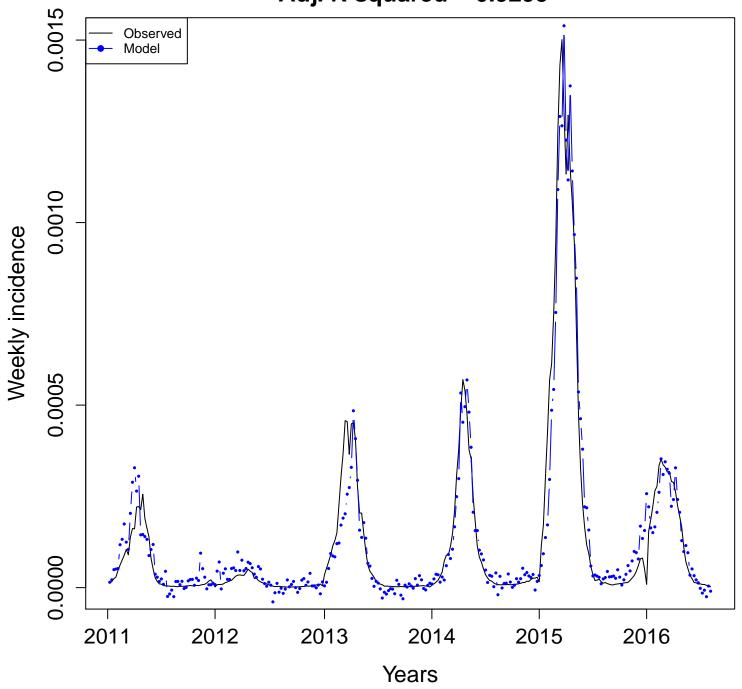
#### **Definitions:**

- Combined terms:
  - All: model with all the available terms. n= number of terms
  - Four: model with "dengue",
     "dengue sintomas", "aedes", and
     "mosquito".
  - Uncorrelated: model with noncorrelated terms. 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.

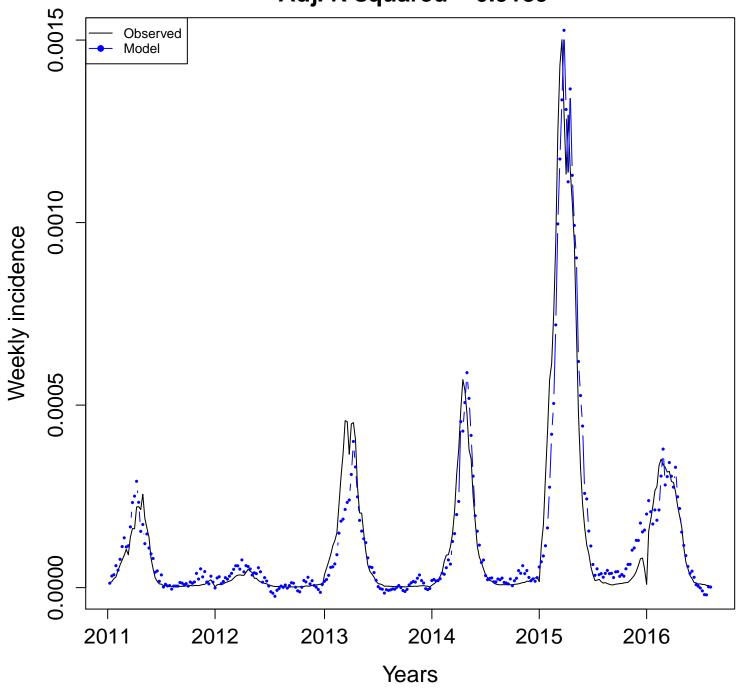
## **Combined terms Adjusted R squared**

São Paulo (SP)

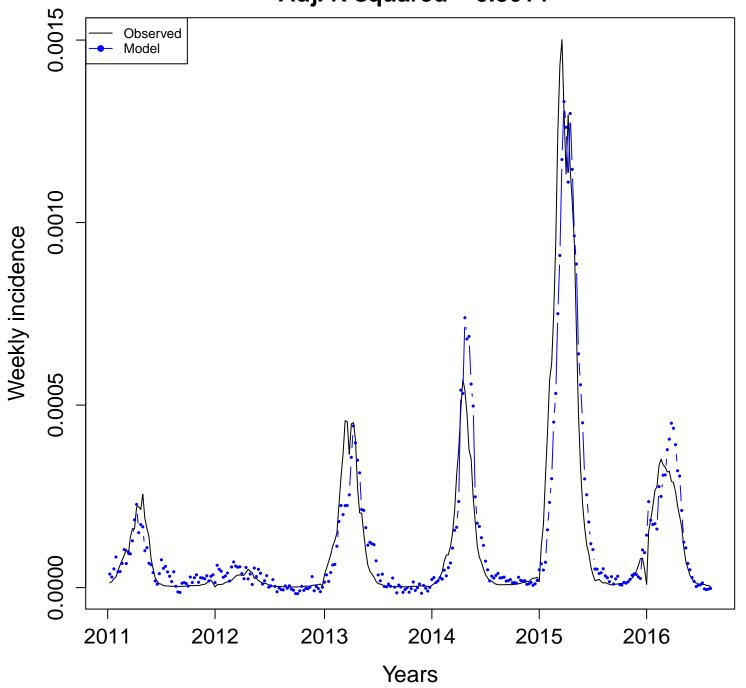
BR-SP Adj. R squared = 0.9295



BR-SP Adj. R squared = 0.9189



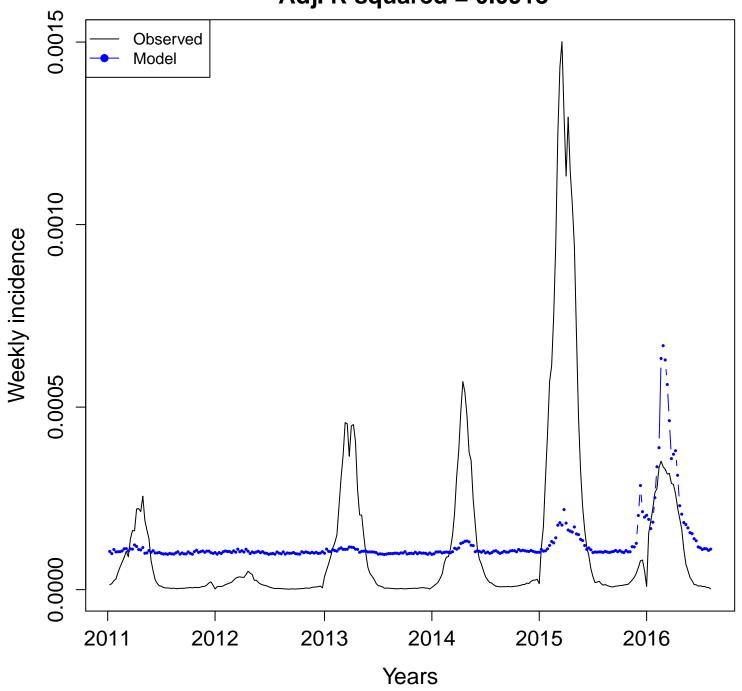
BR-SP Adj. R squared = 0.8614



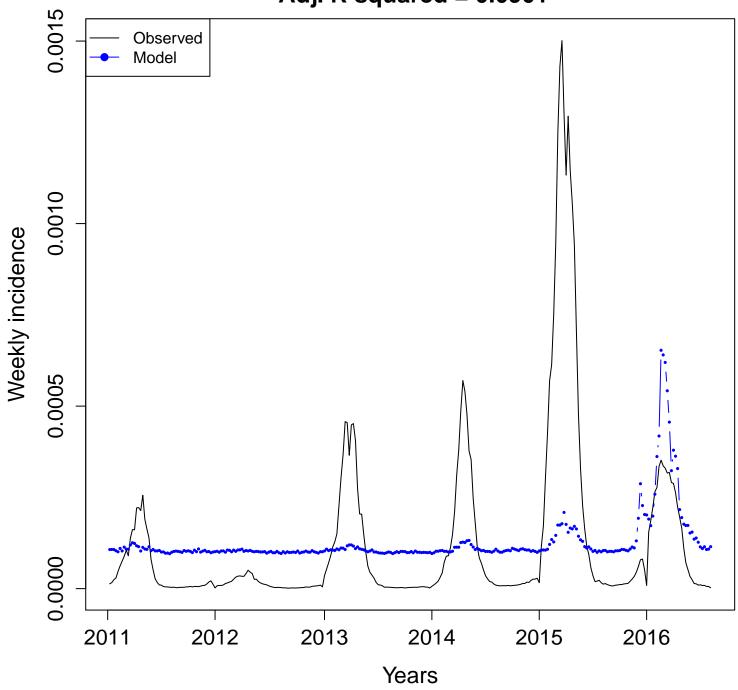
# **Individual terms Adjusted R squared**

São Paulo (SP)

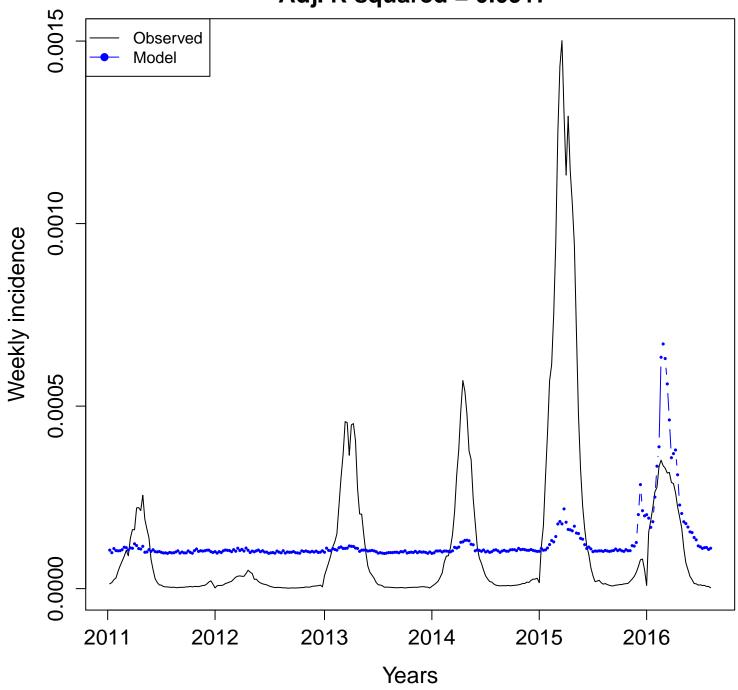
SP- aedes.aegypti Adj. R squared = 0.0918



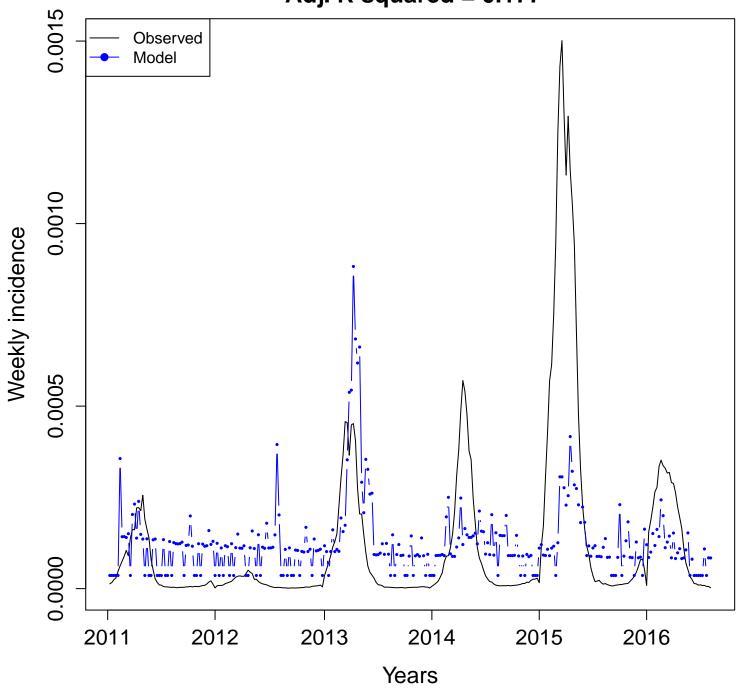
SP- aedes Adj. R squared = 0.0901



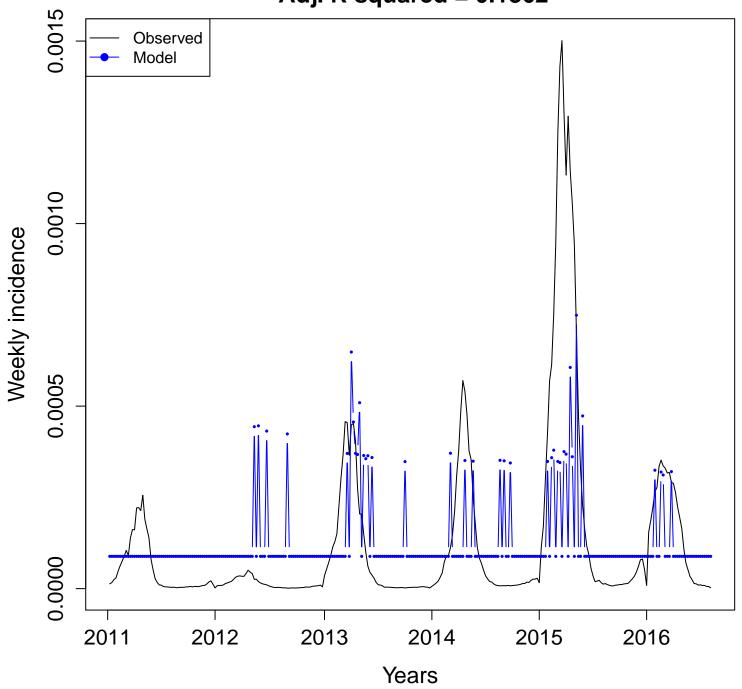
SP- aegypti Adj. R squared = 0.0917



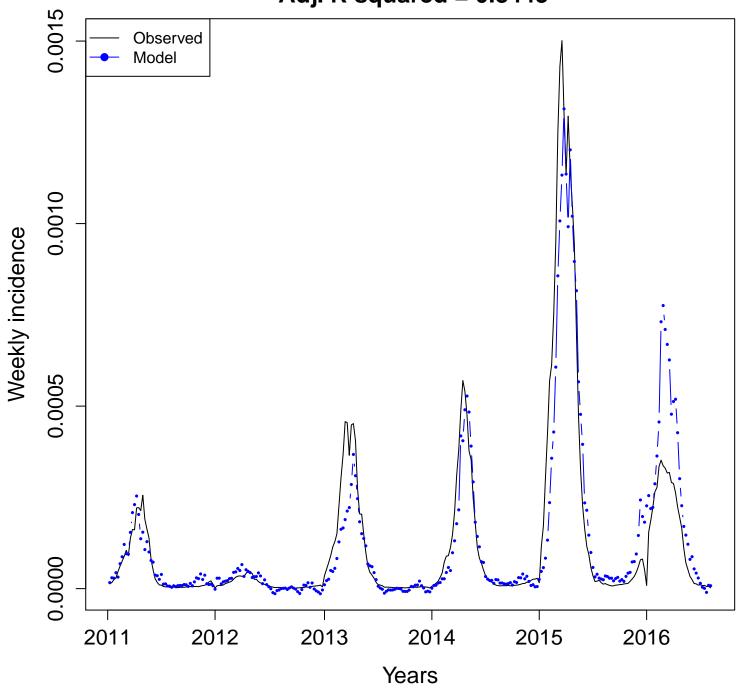
SP- dengue.fever Adj. R squared = 0.177



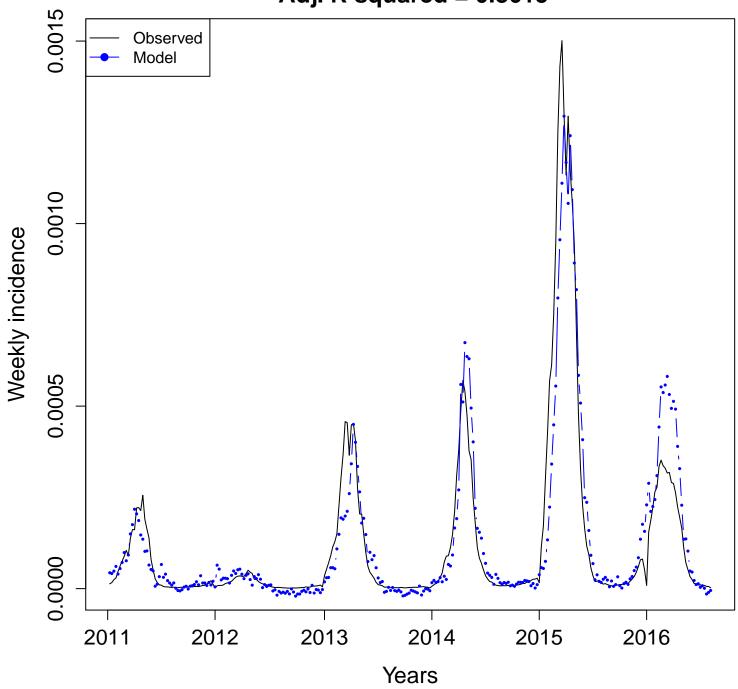
SP- dengue.hemorrhagic.fever Adj. R squared = 0.1862



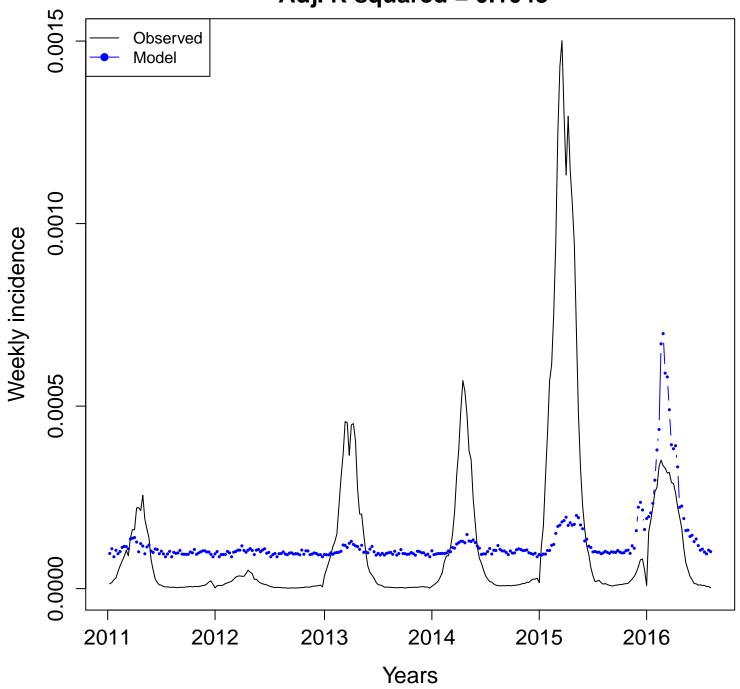
SP- dengue Adj. R squared = 0.8443



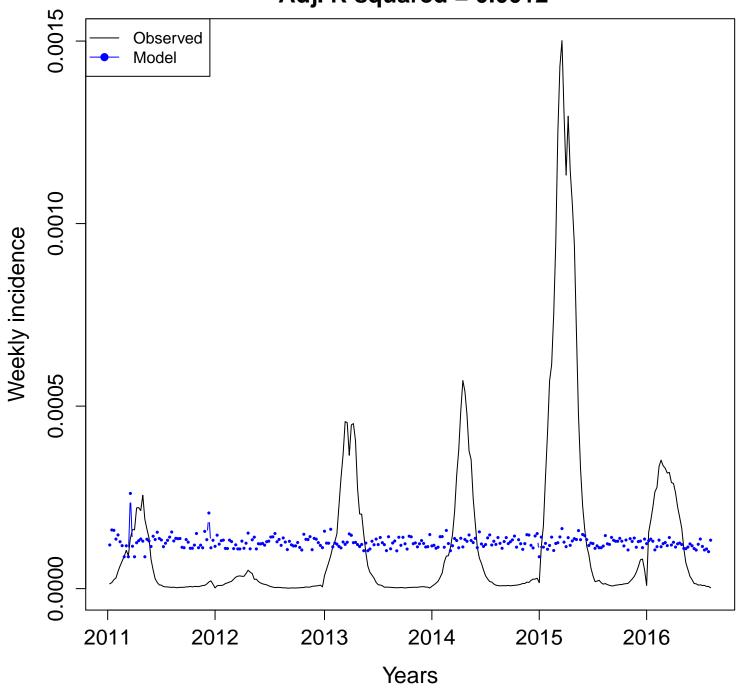
SP- dengue.sintomas Adj. R squared = 0.8615



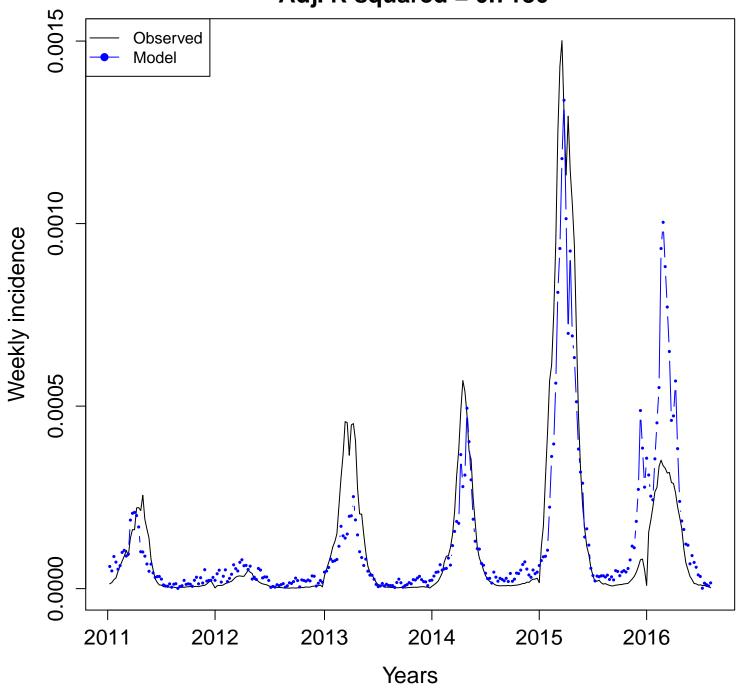
SP- dengue.virus Adj. R squared = 0.1043



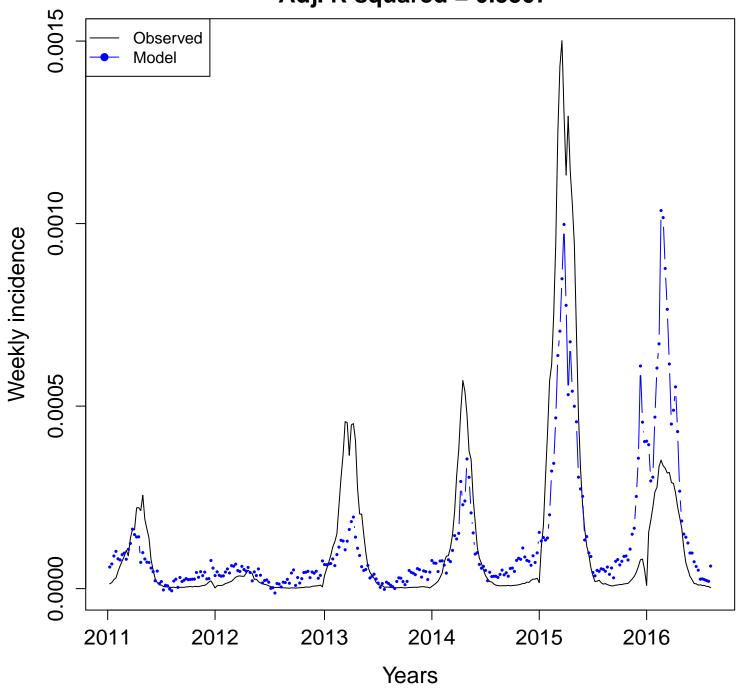
SP- DHF Adj. R squared = 0.0012



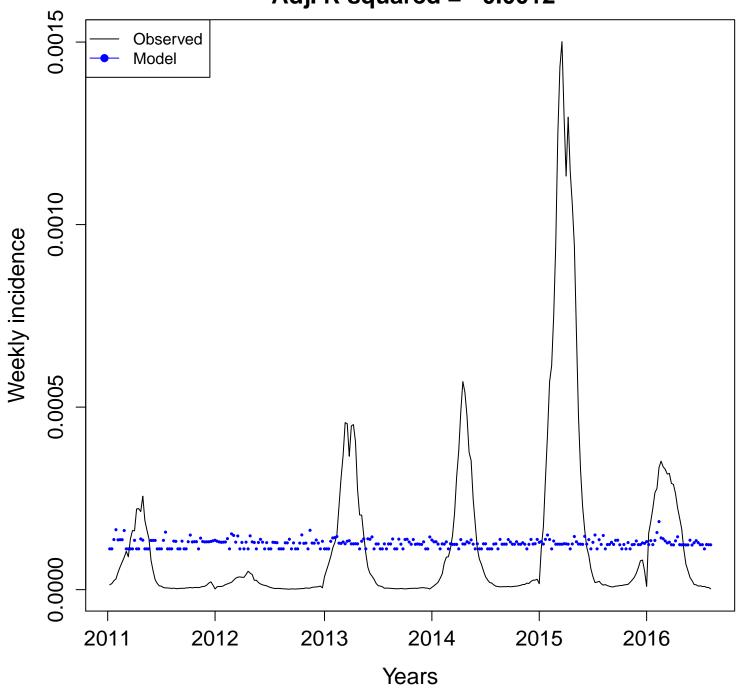
SP- mosquito.dengue Adj. R squared = 0.7186



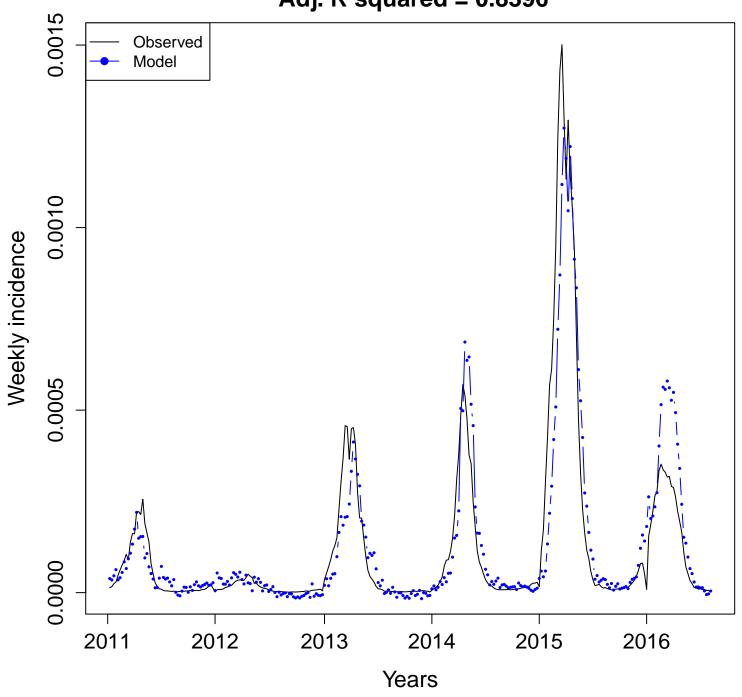
SP- mosquito Adj. R squared = 0.5507



SP- mosquitoes Adj. R squared = -0.0012



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



### **Tocantins (TO)**

### Dengue incidence vs. Google Health Trends (2011–2016)

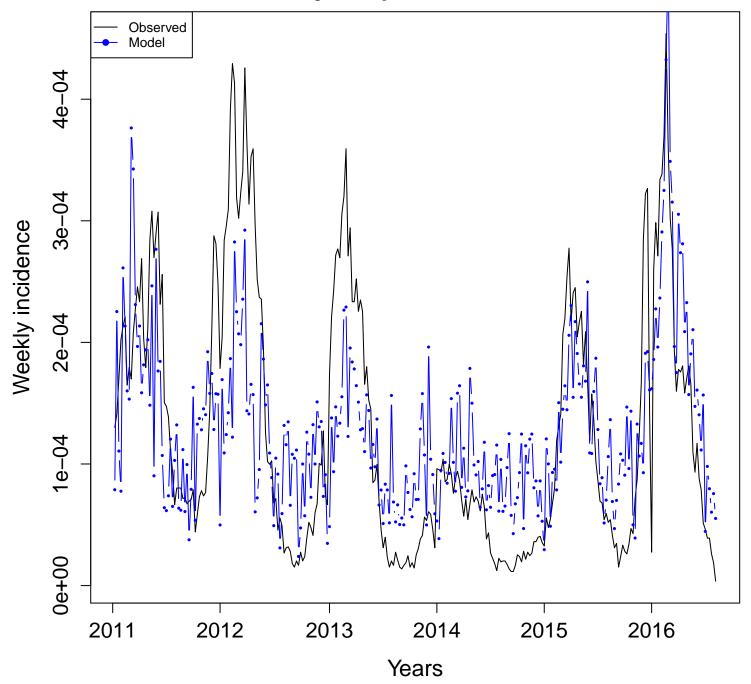
#### **Definitions:**

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     "dengue sintomas", "aedes", and
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  - Uncorrelated: model with noncorrelated terms. 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.

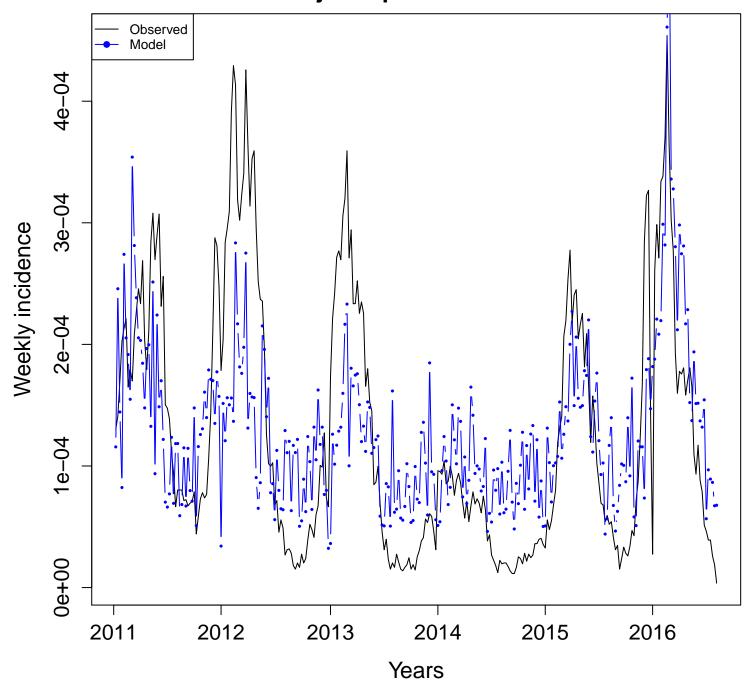
# **Combined terms Adjusted R squared**

**Tocantins (TO)** 

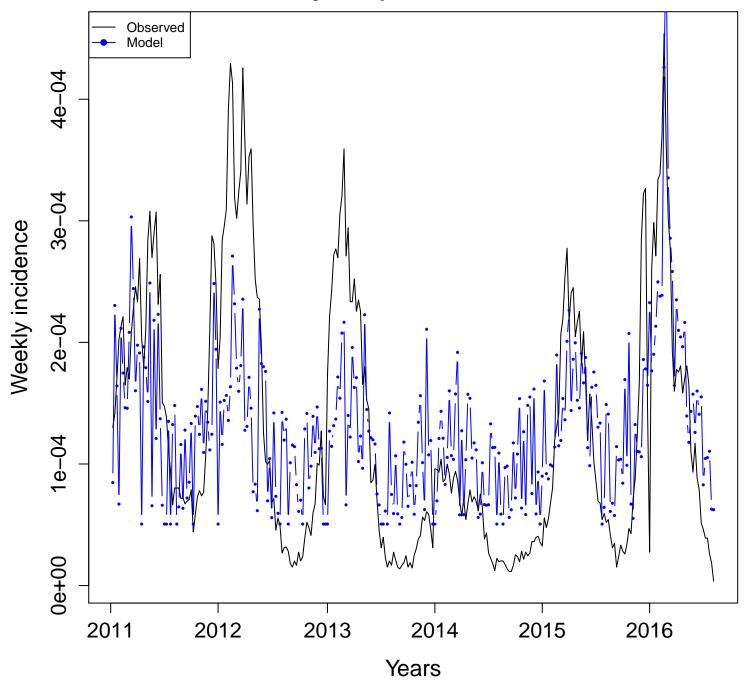
BR-TO Adj. R squared = 0.4151



BR-TO Adj. R squared = 0.4009



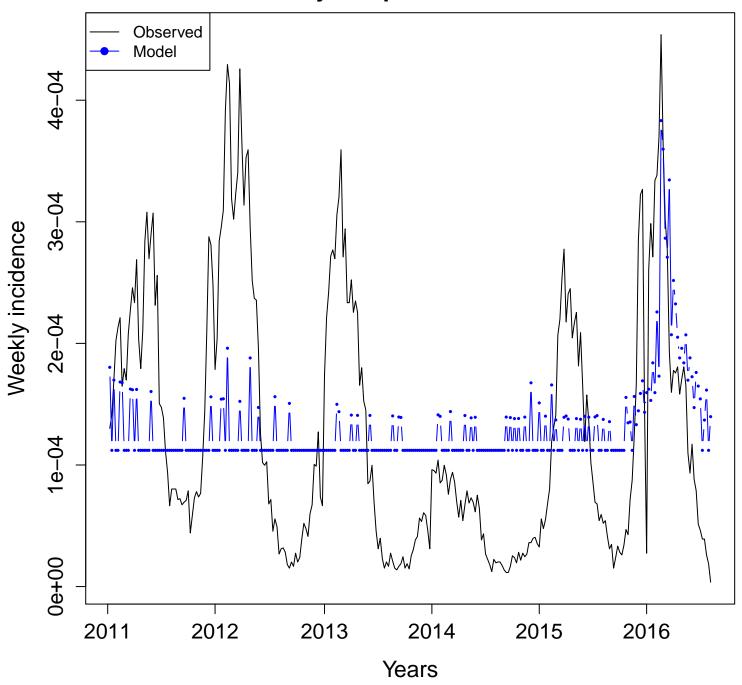
BR-TO Adj. R squared = 0.3415



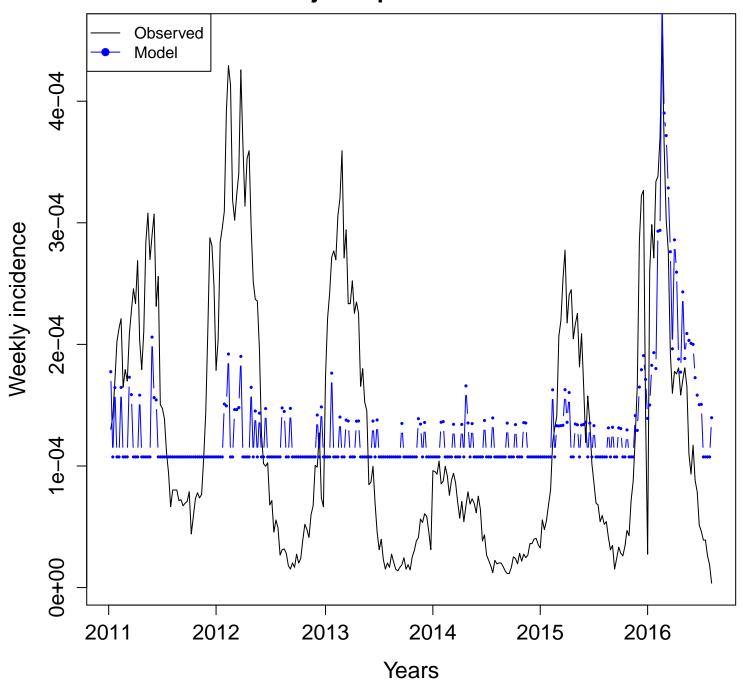
# **Individual terms Adjusted R squared**

**Tocantins (TO)** 

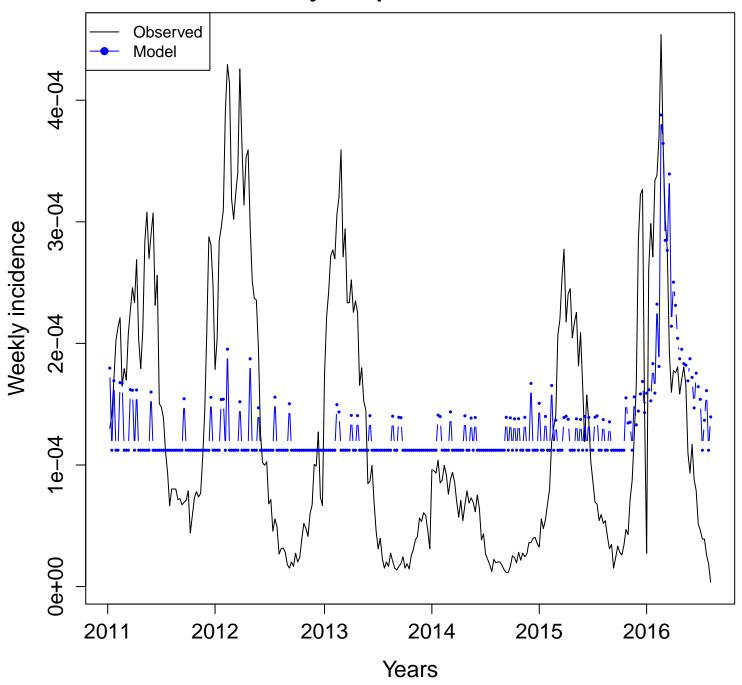
TO- aedes.aegypti Adj. R squared = 0.113



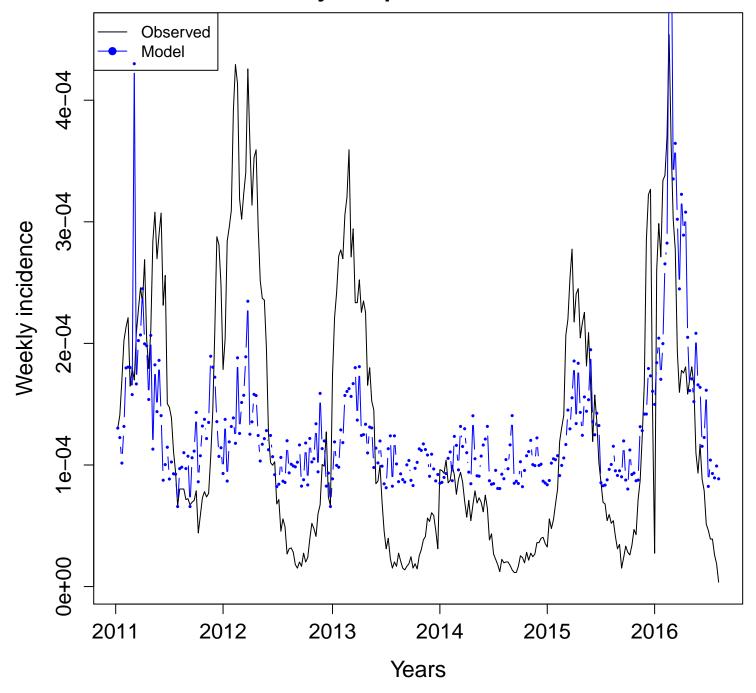
TO- aedes Adj. R squared = 0.1808



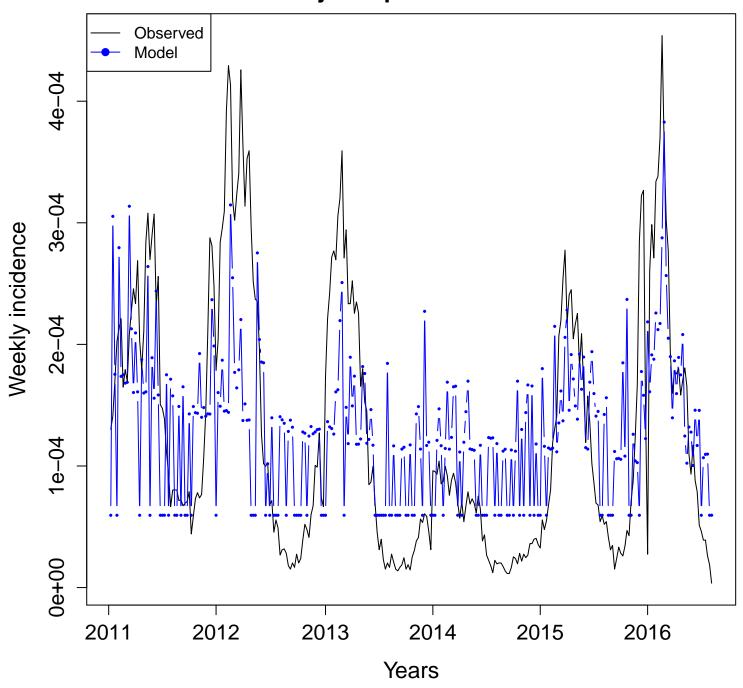
TO- aegypti Adj. R squared = 0.1144



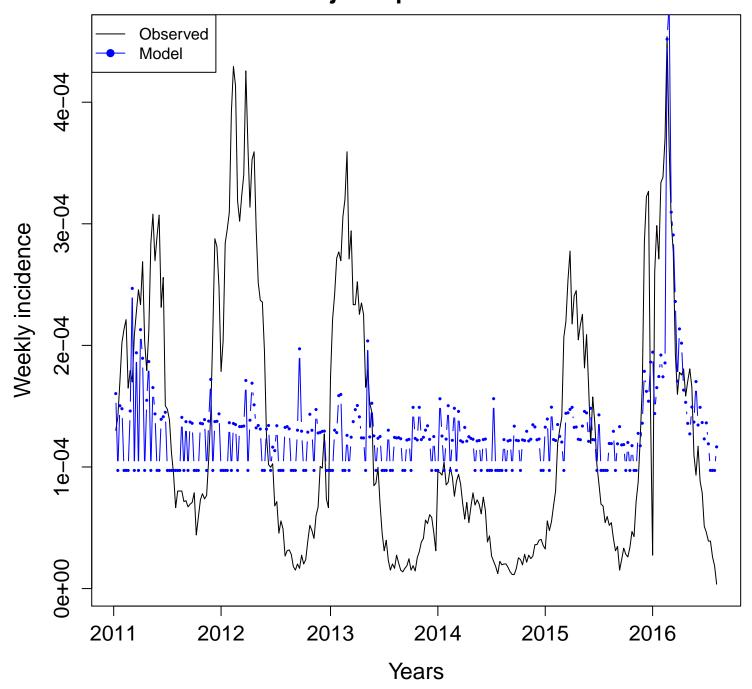
TO- dengue Adj. R squared = 0.3133



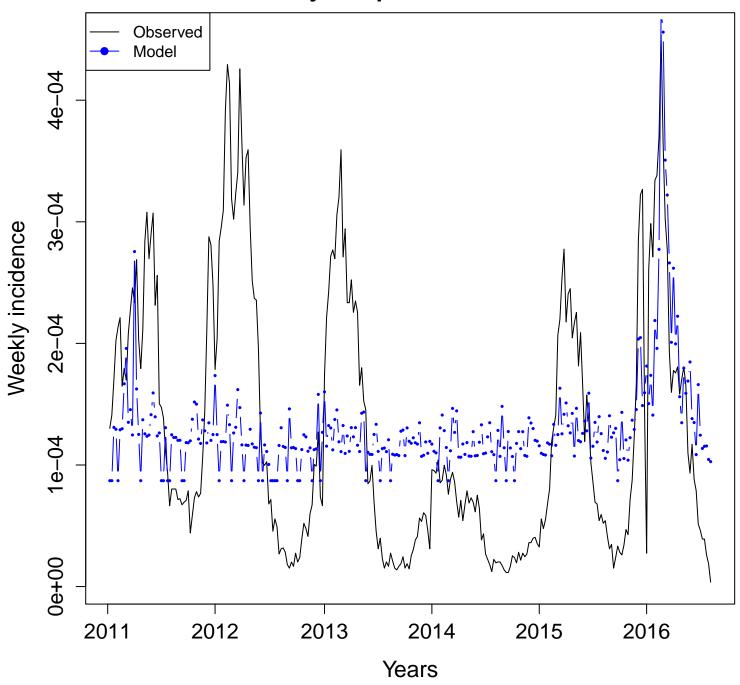
TO- dengue.sintomas Adj. R squared = 0.303



TO- mosquito.dengue Adj. R squared = 0.15



TO- mosquito Adj. R squared = 0.1681



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

