Supplementary Information

Using Baidu Search Index to Predict Dengue Outbreak in China

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Table S1 Cross-correlations between the weekly DF incidence rates and the weekly BSI for DF in Guangzhou and Zhongshan from 1 January 2010 to 31 December 2014.

Guangzhou			Zhongshan		
Lag (weeks)	Cross Correlation	Std. Error	Lag (weeks)	Cross Correlation	Std. Error
0	0.924*	0.062	0	0.698*	0.062
1	0.904*	0.062	1	0.658*	0.062
2	0.717*	0.062	2	0.647*	0.062
3	0.505*	0.062	3	0.533*	0.062
4	0.332*	0.062	4	0.489*	0.062
5	0.227*	0.063	5	0.437*	0.063
6	0.151*	0.063	6	0.369*	0.063
7	0.093	0.063	7	0.385*	0.063
8	0.052	0.063	8	0.407*	0.063
9	0.025	0.063	9	0.417*	0.063
10	0.006	0.063	10	0.373*	0.063
11	-0.007	0.063	11	0.302*	0.063
12	-0.013	0.063	12	0.215*	0.063
13	-0.012	0.064	13	0.171*	0.064
14	-0.011	0.064	14	0.136*	0.064
15	-0.006	0.064	15	0.067	0.064
16	-0.006	0.064	16	0.030	0.064
17	-0.006	0.064	17	0.004	0.064
18	-0.006	0.064	18	-0.003	0.064
19	-0.007	0.064	19	-0.016	0.064
20	-0.007	0.064	20	-0.021	0.064

*: $P < 0.05$

Table S2 DF incidence rate percentiles in Guangzhou and Zhongshan, China from 2010 to 2014.

Percentiles (%)	Guangzhou ($1/10^5$)	Zhongshan ($1/10^5$)
25	0.000	0.000
50	0.000	0.000
75	0.031	0.000
80	0.056	0.000
85	0.121	0.063
90	0.476	0.442

Table S3 Spearman's correlations between weekly DF incidence rates and weekly Baidu search query data in Guangzhou and Zhongshan, China from 1 January, 2010 to 31 December 2014.

	DF incidence_GZ	DF incidence_ZS	BDI_GZ	BDI_ZS
ADF_GZ	1.000	0.763**	0.687**	0.729**
ADF_ZS	0.763**	1.000	0.607**	0.800**
BSI_GZ	0.687**	0.607**	1.000	0.064**
BSI_ZS	0.729**	0.800**	0.604**	1.000

**: $P < 0.01$

ADF_GZ: Autochthonous DF in Guangzhou;

ADF_ZS: Autochthonous DF in Zhongshan;

BSI_GZ: Baidu DF search index in Guangzhou;

BSI_ZS: Baidu DF search index in Zhongshan.

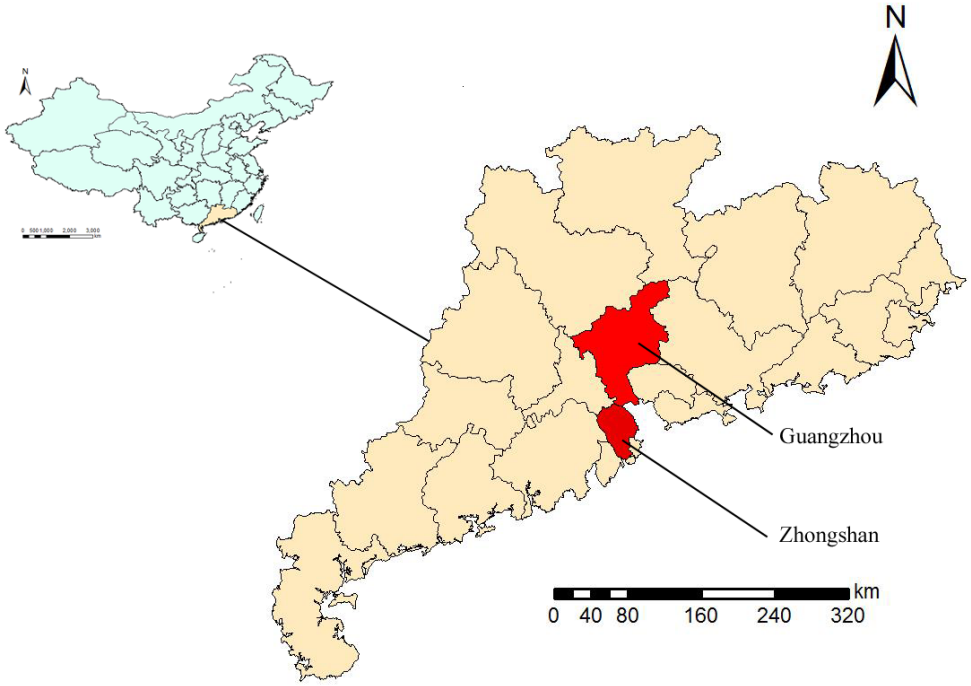

Figure S1 Locations of Guangzhou and Zhongshan, Guangdong province, China.
(It was created with ArcGIS software version 10.3.1, http://www.esri.com/software/arcgis.)

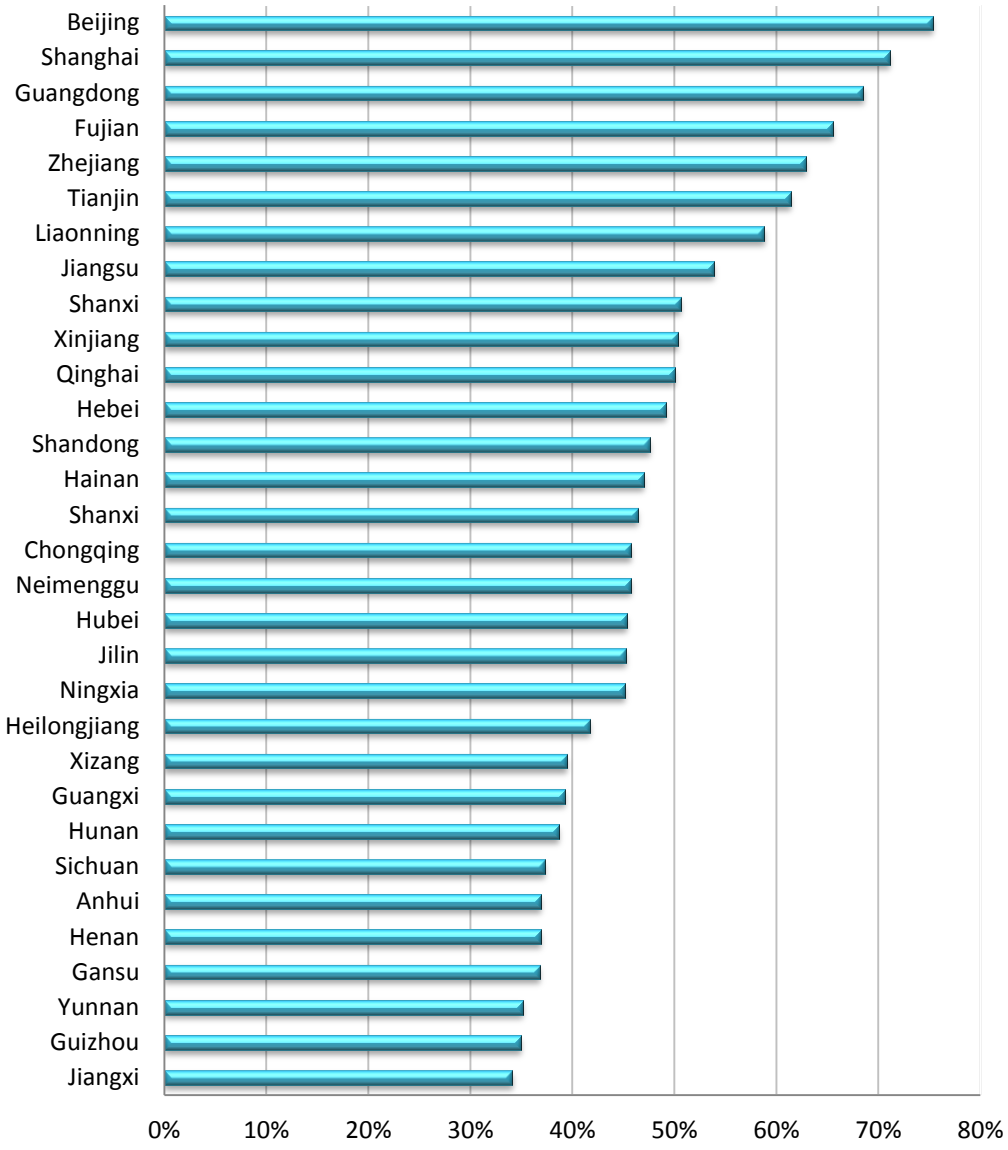

Figure S2 Internet penetration rates in different province of China in 2014.