

```
. import delimited "C:\Users\doqua\Downloads\SeroTracker-Serosurveys-Reporting-Prevalence-Refined.csv"
(15 vars, 154 obs)
```

```
. meta set es cil ciu, studylabel(study1b1) eslabel("Est. Seroprevalence") studysize(n) civarlevel(95) random(ebayes)
```

Meta-analysis setting information

Study information

```
No. of studies: 154
Study label: study1b1
Study size: n
```

Effect size

```
Type: Generic
Label: Est. Seroprevalence
Variable: es
```

Precision

```
Std. Err.: _meta_se
CI: [_meta_cil, _meta_ciu]
CI level: 95%, controlled by level()
User CI: [cil, ciu]
User CI level: 95%, controlled by civarlevel()
```

Model and method

```
Model: Random-effects
Method: Empirical Bayes
```

```
. meta summarize
```

```
Effect-size label: Est. Seroprevalence
Effect size: es
Std. Err.: _meta_se
Study label: study1b1
```

Meta-analysis summary

```
Random-effects model
Method: Empirical Bayes
```

Number of studies = 154

Heterogeneity:

tau2 = 0.0218

I2 (%) = 99.98

H2 = 6268.01

Effect Size: Est. Seroprevalence

Study	Effect Size	[95% Conf. Interval]		% Weight
Lloyd B Mulenga, 2020	0.021	0.011	0.031	0.65
Neeraj Sood, 2020	0.047	0.024	0.069	0.65
Shiwani Mahajan, 2020	0.040	0.020	0.060	0.65
Holly Biggs, 2020	0.025	0.009	0.041	0.65
Amy K Feehan, 2020	0.036	0.028	0.044	0.65
Shuchi Anand, 2020	0.093	0.088	0.099	0.65
Matthew Samore, 2020	0.008	0.001	0.016	0.65
Kristina Bajema, 2020	0.032	0.006	0.058	0.65
Kristen Maleck, 2020	0.016	0.007	0.026	0.65
Kristen Maleck, 2020	0.068	0.043	0.094	0.65
Constantin Yiannoutsos, 2020	0.026	0.020	0.032	0.65
Tim Bruckner, 2020	0.113	0.087	0.138	0.65
Philip A Chan, 2020	0.029	0.003	0.055	0.65
Elaine Symanski, 2020	0.135	0.090	0.181	0.64
Ahmed R Alsuwaidi, 2020	0.104	0.095	0.114	0.65
Helen Ward, 2020	0.048	0.047	0.050	0.65

Helen Ward, 2020	0.044	0.043	0.045	0.65
Shamez Ladhani, 2020	0.136	0.123	0.150	0.65
Shamez Ladhani, 2020	0.121	0.104	0.138	0.65
Katherine Gaskell, 2020	0.643	0.616	0.670	0.65
Ellen C Hughes, 2020	0.078	0.072	0.085	0.65
Helen Ward, 2020	0.049	0.049	0.050	0.65
Agne Ulyte, 2020	0.033	0.013	0.053	0.65
Silvia Stringhini, 2020	0.211	0.191	0.230	0.65
Aude Richard, 2020	0.078	0.068	0.089	0.65
Niclas Roxhed, 2020	0.125	0.103	0.147	0.65
Paula Iruzubietta, 2020	0.031	0.020	0.042	0.65
Sebastian Videla, 2021	0.128	0.116	0.141	0.65
Jaya George, 2020	0.273	0.243	0.303	0.65
Jackie Kleynhans, 2021	0.260	0.225	0.295	0.64
Jackie Kleynhans, 2021	0.410	0.370	0.450	0.64
Mario Poljak, 2020	0.009	0.004	0.014	0.65
Mohamed Bailor Barrie, 2021	0.026	0.018	0.034	0.65
Anna Popova, 2020	0.058	0.053	0.062	0.65
A Yu Popova, 2020	0.502	0.492	0.512	0.65
Anna Popova, 2020	0.312	0.304	0.320	0.65
Anton Barchuk, 2020	0.074	0.057	0.092	0.65
Eun Hee Nah, 2020	0.004	0.002	0.006	0.65
Luisa Canto e Castro, 2021	0.173	0.158	0.188	0.65
Dagny Lorent, 2020	0.009	0.004	0.014	0.65
Charles Huamani, 2020	0.331	0.300	0.362	0.65
Carlos Alvarez Antonio, 2020	0.660	0.620	0.701	0.64
Mary F Reyes Vega, 2020	0.208	0.177	0.240	0.65
Cristian Diaz Velez, 2020	0.295	0.275	0.314	0.65
Muhammed Imran Nisar, 2020	0.002	-0.002	0.006	0.65
Muhammed Imran Nisar, 2020	0.004	-0.002	0.011	0.65
Muhammed Imran Nisar, 2020	0.087	0.047	0.127	0.64
Muhammed Imran Nisar, 2020	0.151	0.089	0.212	0.63
Muhammed Imran Nisar, 2020	0.128	0.081	0.175	0.64
Muhammed Imran Nisar, 2020	0.215	0.153	0.277	0.62
Mohsina Haq, 2020	0.424	0.416	0.432	0.65
Erik Anda, 2021	0.009	0.007	0.010	0.65
Eric Vos, 2020	0.028	0.020	0.036	0.65
Eric Vos, 2020	0.029	0.004	0.053	0.65
Eric Vos, 2020	0.045	0.038	0.052	0.65
Edgar Rodriguez-Vidales, 2020	0.271	0.258	0.284	0.65
Chantal Snoeck, 2020	0.021	0.014	0.028	0.65
Kastytis Smigelskas, 2020	0.014	0.009	0.019	0.65
Isaac Ngere, 2020	0.347	0.318	0.376	0.65
Takashi Yoshiyama, 2020	0.001	0.000	0.002	0.65
Nobutoshi Nawa, 2020	0.012	0.002	0.023	0.65
Gabriele Pagani, 2020	0.226	0.166	0.285	0.63
Roberto Melotti, 2020	0.269	0.252	0.286	0.65
Maryam Shakiba, 2020	0.222	0.162	0.282	0.63
Hossein Poustchi, 2020	0.171	0.147	0.196	0.65
Hossein Poustchi, 2020	0.200	0.184	0.216	0.65
Seyed Abbas Mousavi, 2020	0.173	0.158	0.188	0.65
Kazem Khalagi, 2020	0.142	0.133	0.152	0.65
Parthasarathi Satpati, 2020	0.041	0.022	0.061	0.65
Manoj Murhekar, 2020	0.007	0.003	0.011	0.65
Amitav Banerjee, 2020	0.340	0.313	0.368	0.65
Nandini Sharma, 2020	0.247	0.240	0.254	0.65
Nandini Sharma, 2020	0.241	0.234	0.247	0.65
Nandini Sharma, 2020	0.284	0.276	0.291	0.65
Manoj Mohanan, 2020	0.467	0.434	0.501	0.64
Aurnab Ghose, 2020	0.513	0.400	0.626	0.57
Sitanshu Sekhar Kar, 2020	0.049	0.034	0.064	0.65
Sitanshu Sekhar Kar, 2020	0.207	0.181	0.233	0.65
Sitanshu Sekhar Kar, 2020	0.345	0.314	0.376	0.65
Sriram Selvaraju, 2020	0.184	0.145	0.223	0.64

Anup Malani, 2020	0.171	0.158	0.184	0.65
Manoj V Murhekar, 2020	0.066	0.058	0.074	0.65
Rita Isaac, 2020	0.022	0.009	0.035	0.65
Rita Isaac, 2020	0.220	0.163	0.277	0.63
Prajjval Singh, 2020	0.306	0.287	0.324	0.65
Muhammad Khan, 2020	0.367	0.343	0.392	0.65
Sudarshan Ramaswamy, 2020	0.294	0.284	0.304	0.65
Taha Ayub, 2020	0.406	0.386	0.425	0.65
Manoj Murhekar, 2021	0.241	0.230	0.252	0.65
Jaya Singh Kshatri, 2020	0.208	0.195	0.220	0.65
Anup Malani, 2020	0.316	0.304	0.328	0.65
Bela Merkely, 2020	0.007	0.005	0.009	0.65
Zacharoula Bogogiannidou, 2020	0.002	0.001	0.003	0.65
Claudia Santos Hovener, 2020	0.120	0.102	0.138	0.65
Stefanie Theuring, 2020	0.014	0.004	0.025	0.65
Katja Radon, 2021	0.036	0.029	0.043	0.65
Michael Pritsch, 2020	0.018	0.013	0.024	0.65
Anne Gegout petit, 2020	0.025	0.018	0.033	0.65
Adeline Beaumont, 2020	0.354	0.300	0.408	0.63
Stephane Le Vu, 2020	0.004	0.000	0.008	0.65
Stephane Le Vu, 2020	0.041	0.033	0.050	0.65
Stephane Le Vu, 2020	0.049	0.039	0.058	0.65
Berhanu Alemu, 2020	0.088	0.058	0.118	0.65
Tamrat Shaweno, 2020	0.032	0.013	0.051	0.65
Saro Abdella, 2020	0.035	0.016	0.054	0.65
Saro Abdella, 2020	0.006	-0.002	0.014	0.65
Piia Jogi, 2020	0.015	0.007	0.023	0.65
Piia Jogi, 2020	0.063	0.048	0.078	0.65
Hiie Soeorg, 2021	0.201	0.185	0.217	0.65
Laura Espenhain, 2020	0.015	0.009	0.021	0.65
Laura Espenhain, 2020	0.020	0.017	0.023	0.65
Laura Espenhain, 2020	0.024	0.019	0.029	0.65
Laura Espenhain, 2020	0.043	0.035	0.052	0.65
Antoine N Nkuba, 2020	0.166	0.138	0.193	0.65
Salim Mattar, 2020	0.553	0.526	0.579	0.65
Yunbao Pan, 2020	0.024	0.023	0.025	0.65
Zhenyu He, 2020	0.069	0.064	0.074	0.65
Danuta Skowronski, 2020	0.003	-0.002	0.007	0.65
Danuta Skowronski, 2020	0.005	-0.001	0.012	0.65
Kenechukwu Nwos, 2020	0.292	0.243	0.341	0.64
Beatriz Tess, 2020	0.047	0.029	0.065	0.65
Mariangela Silveira, 2020	0.001	-0.000	0.001	0.65
Mariangela Silveira, 2020	0.001	0.000	0.003	0.65
Mariangela Silveira, 2020	0.002	0.001	0.004	0.65
Marcelo Vieira, 2020	0.006	-0.000	0.011	0.65
Marcelo Vieira, 2020	0.009	0.002	0.016	0.65
Marcelo Vieira, 2020	0.014	0.006	0.023	0.65
Marcelo Vieira, 2020	0.020	0.010	0.030	0.65
Marcelo Vieira, 2020	0.038	0.025	0.051	0.65
Marcelo Vieira, 2020	0.058	0.043	0.073	0.65
Marcelo Vieira, 2020	0.083	0.065	0.102	0.65
Rafael Picon, 2020	0.040	0.030	0.051	0.65
Rafael Picon, 2020	0.026	0.016	0.036	0.65
Mozart Julio Tabosa Sales, 2020	0.043	0.030	0.057	0.65
Antonio da Silva, Antonio da Silva, 2020	0.404	0.356	0.453	0.64
Adriano Antunes de Souza AraÃjo, 2020	0.093	0.085	0.101	0.65
Gemilson Soares Pontes, 2020	0.646	0.590	0.703	0.63
Jose O M Albuquerque, 2020	0.097	0.080	0.115	0.65
Pedro C. Hallal, 2020	0.000	-0.001	0.002	0.65
Pedro C. Hallal, 2020	0.001	-0.001	0.003	0.65
Pedro C. Hallal, 2020	0.002	-0.000	0.004	0.65
Pedro C. Hallal, 2020	0.002	-0.001	0.004	0.65
Pedro C. Hallal, 2020	0.005	0.002	0.008	0.65
Pedro C. Hallal, 2020	0.011	0.007	0.014	0.65

Pedro C. Hallal, 2020	0.014	0.010	0.018	0.65
Pedro C. Hallal, 2020	0.016	0.011	0.020	0.65
Sereina Herzog, 2020	0.018	0.010	0.026	0.65
Sereina Herzog, 2020	0.052	0.042	0.063	0.65
Sereina Herzog, 2020	0.062	0.051	0.073	0.65
Sereina Herzog, 2020	0.047	0.036	0.058	0.65
Sereina Herzog, 2020	0.037	0.026	0.047	0.65
Sereina Herzog, 2020	0.033	0.023	0.043	0.65
Sereina Herzog, 2020	0.042	0.031	0.052	0.65
Heather F Gidding, 2020	0.002	-0.000	0.003	0.65
theta	0.123	0.100	0.147	

Test of theta = 0: z = 10.35

Prob > |z| = 0.0000

Test of homogeneity: Q = chi2(153) = 83435.27

Prob > Q = 0.0000

.
. meta summarize, subgroup(studyscope)

Effect-size label: Est. Seroprevalence

Effect size: es

Std. Err.: _meta_se

Study label: studylbl

Subgroup meta-analysis summary

Number of studies = 154

Random-effects model

Method: Empirical Bayes

Group: studyscope

Effect Size: Est. Seroprevalence

Study	Effect Size	[95% Conf. Interval]	% Weight
Group: Local			
Neeraj Sood, 2020	0.047	0.024 0.069	0.65
Holly Biggs, 2020	0.025	0.009 0.041	0.65
Amy K Feehan, 2020	0.036	0.028 0.044	0.65
Kristina Bajema, 2020	0.032	0.006 0.058	0.65
Tim Bruckner, 2020	0.113	0.087 0.138	0.65
Elaine Symanski, 2020	0.135	0.090 0.181	0.64
Katherine Gaskell, 2020	0.643	0.616 0.670	0.65
Ellen C Hughes, 2020	0.078	0.072 0.085	0.65
Agne Ulyte, 2020	0.033	0.013 0.053	0.65
Silvia Stringhini, 2020	0.211	0.191 0.230	0.65
Niclas Roxhed, 2020	0.125	0.103 0.147	0.65
Sebastian Videla, 2021	0.128	0.116 0.141	0.65
Jaya George, 2020	0.273	0.243 0.303	0.65
Anton Barchuk, 2020	0.074	0.057 0.092	0.65
Dagny Lorent, 2020	0.009	0.004 0.014	0.65
Carlos Alvarez Antonio, 2020	0.660	0.620 0.701	0.64
Mary F Reyes Vega, 2020	0.208	0.177 0.240	0.65
Muhammed Imran Nisar, 2020	0.002	-0.002 0.006	0.65
Muhammed Imran Nisar, 2020	0.004	-0.002 0.011	0.65
Muhammed Imran Nisar, 2020	0.087	0.047 0.127	0.64
Muhammed Imran Nisar, 2020	0.151	0.089 0.212	0.63
Muhammed Imran Nisar, 2020	0.128	0.081 0.175	0.64
Muhammed Imran Nisar, 2020	0.215	0.153 0.277	0.62
Isaac Ngere, 2020	0.347	0.318 0.376	0.65
Nobutoshi Nawa, 2020	0.012	0.002 0.023	0.65
Gabriele Pagani, 2020	0.226	0.166 0.285	0.63
Roberto Melotti, 2020	0.269	0.252 0.286	0.65
Amitav Banerjee, 2020	0.340	0.313 0.368	0.65
Aurnab Ghose, 2020	0.513	0.400 0.626	0.57
Sriram Selvaraju, 2020	0.184	0.145 0.223	0.64

Anup Malani, 2020	0.171	0.158	0.184	0.65
Rita Isaac, 2020	0.022	0.009	0.035	0.65
Rita Isaac, 2020	0.220	0.163	0.277	0.63
Sudarshan Ramaswamy, 2020	0.294	0.284	0.304	0.65
Taha Ayub, 2020	0.406	0.386	0.425	0.65
Claudia Santos Hovener, 2020	0.120	0.102	0.138	0.65
Stefanie Theuring, 2020	0.014	0.004	0.025	0.65
Katja Radon, 2021	0.036	0.029	0.043	0.65
Michael Pritsch, 2020	0.018	0.013	0.024	0.65
Anne Gegout petit, 2020	0.025	0.018	0.033	0.65
Adeline Beaumont, 2020	0.354	0.300	0.408	0.63
Berhanu Alemu, 2020	0.088	0.058	0.118	0.65
Saro Abdella, 2020	0.035	0.016	0.054	0.65
Saro Abdella, 2020	0.006	-0.002	0.014	0.65
Piia Jogi, 2020	0.015	0.007	0.023	0.65
Piia Jogi, 2020	0.063	0.048	0.078	0.65
Antoine N Nkuba, 2020	0.166	0.138	0.193	0.65
Salim Mattar, 2020	0.553	0.526	0.579	0.65
Yunbao Pan, 2020	0.024	0.023	0.025	0.65
Kenechukwu Nwos, 2020	0.292	0.243	0.341	0.64
Beatriz Tess, 2020	0.047	0.029	0.065	0.65
Marcelo Vieira, 2020	0.006	-0.000	0.011	0.65
Marcelo Vieira, 2020	0.009	0.002	0.016	0.65
Marcelo Vieira, 2020	0.014	0.006	0.023	0.65
Marcelo Vieira, 2020	0.020	0.010	0.030	0.65
Marcelo Vieira, 2020	0.038	0.025	0.051	0.65
Marcelo Vieira, 2020	0.058	0.043	0.073	0.65
Marcelo Vieira, 2020	0.083	0.065	0.102	0.65
Rafael Picon, 2020	0.040	0.030	0.051	0.65
Rafael Picon, 2020	0.026	0.016	0.036	0.65
Mozart Julio Tabosa Sales, 2020	0.043	0.030	0.057	0.65
Gemilson Soares Pontes, 2020	0.646	0.590	0.703	0.63
Heather F Gidding, 2020	0.002	-0.000	0.003	0.65
theta	0.146	0.104	0.188	
Group: National				
Lloyd B Mulenga, 2020	0.021	0.011	0.031	0.65
Shuchi Anand, 2020	0.093	0.088	0.099	0.65
Helen Ward, 2020	0.048	0.047	0.050	0.65
Helen Ward, 2020	0.044	0.043	0.045	0.65
Shamez Ladhani, 2020	0.136	0.123	0.150	0.65
Shamez Ladhani, 2020	0.121	0.104	0.138	0.65
Helen Ward, 2020	0.049	0.049	0.050	0.65
Mario Poljak, 2020	0.009	0.004	0.014	0.65
Mohamed Bailor Barrie, 2021	0.026	0.018	0.034	0.65
Eun Hee Nah, 2020	0.004	0.002	0.006	0.65
Luisa Canto e Castro, 2021	0.173	0.158	0.188	0.65
Mohsina Haq, 2020	0.424	0.416	0.432	0.65
Erik Anda, 2021	0.009	0.007	0.010	0.65
Eric Vos, 2020	0.028	0.020	0.036	0.65
Eric Vos, 2020	0.029	0.004	0.053	0.65
Eric Vos, 2020	0.045	0.038	0.052	0.65
Chantal Snoeck, 2020	0.021	0.014	0.028	0.65
Kastytis Smigelskas, 2020	0.014	0.009	0.019	0.65
Takashi Yoshiyama, 2020	0.001	0.000	0.002	0.65
Hossein Poustchi, 2020	0.171	0.147	0.196	0.65
Hossein Poustchi, 2020	0.200	0.184	0.216	0.65
Kazem Khalagi, 2020	0.142	0.133	0.152	0.65
Manoj Murhekar, 2020	0.007	0.003	0.011	0.65
Manoj V Murhekar, 2020	0.066	0.058	0.074	0.65
Prajjval Singh, 2020	0.306	0.287	0.324	0.65
Manoj Murhekar, 2021	0.241	0.230	0.252	0.65
Bela Merkely, 2020	0.007	0.005	0.009	0.65

Zacharoula Bogogiannidou, 2020	0.002	0.001	0.003	0.65
Stephane Le Vu, 2020	0.004	0.000	0.008	0.65
Stephane Le Vu, 2020	0.041	0.033	0.050	0.65
Stephane Le Vu, 2020	0.049	0.039	0.058	0.65
Hiie Soeorg, 2021	0.201	0.185	0.217	0.65
Laura Espenhain, 2020	0.015	0.009	0.021	0.65
Laura Espenhain, 2020	0.020	0.017	0.023	0.65
Laura Espenhain, 2020	0.024	0.019	0.029	0.65
Laura Espenhain, 2020	0.043	0.035	0.052	0.65
Sereina Herzog, 2020	0.018	0.010	0.026	0.65
Sereina Herzog, 2020	0.052	0.042	0.063	0.65
Sereina Herzog, 2020	0.062	0.051	0.073	0.65
Sereina Herzog, 2020	0.047	0.036	0.058	0.65
Sereina Herzog, 2020	0.037	0.026	0.047	0.65
Sereina Herzog, 2020	0.033	0.023	0.043	0.65
Sereina Herzog, 2020	0.042	0.031	0.052	0.65
theta	0.073	0.046	0.099	
Group: Regional				
Shiwani Mahajan, 2020	0.040	0.020	0.060	0.65
Matthew Samore, 2020	0.008	0.001	0.016	0.65
Kristen Maleck, 2020	0.016	0.007	0.026	0.65
Kristen Maleck, 2020	0.068	0.043	0.094	0.65
Constantin Yiannoutsos, 2020	0.026	0.020	0.032	0.65
Philip A Chan, 2020	0.029	0.003	0.055	0.65
Ahmed R Alsuwaidi, 2020	0.104	0.095	0.114	0.65
Aude Richard, 2020	0.078	0.068	0.089	0.65
Paula Iruzubieta, 2020	0.031	0.020	0.042	0.65
Jackie Kleynhans, 2021	0.260	0.225	0.295	0.64
Jackie Kleynhans, 2021	0.410	0.370	0.450	0.64
Anna Popova, 2020	0.058	0.053	0.062	0.65
A Yu Popova, 2020	0.502	0.492	0.512	0.65
Anna Popova, 2020	0.312	0.304	0.320	0.65
Charles Huamani, 2020	0.331	0.300	0.362	0.65
Cristian Diaz Velez, 2020	0.295	0.275	0.314	0.65
Edgar Rodriguez-Vidales, 2020	0.271	0.258	0.284	0.65
Maryam Shakiba, 2020	0.222	0.162	0.282	0.63
Seyed Abbas Mousavi, 2020	0.173	0.158	0.188	0.65
Parthasarathi Satpati, 2020	0.041	0.022	0.061	0.65
Nandini Sharma, 2020	0.247	0.240	0.254	0.65
Nandini Sharma, 2020	0.241	0.234	0.247	0.65
Nandini Sharma, 2020	0.284	0.276	0.291	0.65
Manoj Mohanan, 2020	0.467	0.434	0.501	0.64
Sitanshu Sekhar Kar, 2020	0.049	0.034	0.064	0.65
Sitanshu Sekhar Kar, 2020	0.207	0.181	0.233	0.65
Sitanshu Sekhar Kar, 2020	0.345	0.314	0.376	0.65
Muhammad Khan, 2020	0.367	0.343	0.392	0.65
Jaya Singh Kshatri, 2020	0.208	0.195	0.220	0.65
Anup Malani, 2020	0.316	0.304	0.328	0.65
Tamrat Shaweno, 2020	0.032	0.013	0.051	0.65
Zhenyu He, 2020	0.069	0.064	0.074	0.65
Danuta Skowronski, 2020	0.003	-0.002	0.007	0.65
Danuta Skowronski, 2020	0.005	-0.001	0.012	0.65
Mariangela Silveira, 2020	0.001	-0.000	0.001	0.65
Mariangela Silveira, 2020	0.001	0.000	0.003	0.65
Mariangela Silveira, 2020	0.002	0.001	0.004	0.65
Antonio da Silva, Antonio da Silva, 2020	0.404	0.356	0.453	0.64
Adriano Antunes de Souza AraÃjo, 2020	0.093	0.085	0.101	0.65
Jose O M Albuquerque, 2020	0.097	0.080	0.115	0.65
Pedro C. Hallal, 2020	0.000	-0.001	0.002	0.65
Pedro C. Hallal, 2020	0.001	-0.001	0.003	0.65
Pedro C. Hallal, 2020	0.002	-0.000	0.004	0.65
Pedro C. Hallal, 2020	0.002	-0.001	0.004	0.65

Pedro C. Hallal, 2020	0.005	0.002	0.008	0.65
Pedro C. Hallal, 2020	0.011	0.007	0.014	0.65
Pedro C. Hallal, 2020	0.014	0.010	0.018	0.65
Pedro C. Hallal, 2020	0.016	0.011	0.020	0.65
theta	0.140	0.098	0.183	
Overall				
theta	0.123	0.100	0.147	

Heterogeneity summary

Group	df	Q	P > Q	tau2	% I2	H2
Local	62	14746.55	0.000	0.029	99.95	1940.81
National	42	25591.32	0.000	0.008	99.98	4031.97
Regional	47	41505.41	0.000	0.022	99.99	6834.89
Overall	153	83435.27	0.000	0.022	99.98	6268.01

Test of group differences: $Q_b = \chi^2(2) = 11.83$ Prob > $Q_b = 0.003$

.
. meta summarize, subgroup(country)

Effect-size label: Est. Seroprevalence
Effect size: es
Std. Err.: _meta_se
Study label: studylbl

Subgroup meta-analysis summary
Random-effects model
Method: Empirical Bayes
Group: country

Number of studies = 154

Effect Size: Est. Seroprevalence

Study	Effect Size	[95% Conf. Interval]	% Weight
Group: Australia			
Heather F Gidding, 2020	0.002	-0.000 0.003	0.65
theta	0.002	-0.000 0.003	
Group: Belgium			
Sereina Herzog, 2020	0.018	0.010 0.026	0.65
Sereina Herzog, 2020	0.052	0.042 0.063	0.65
Sereina Herzog, 2020	0.062	0.051 0.073	0.65
Sereina Herzog, 2020	0.047	0.036 0.058	0.65
Sereina Herzog, 2020	0.037	0.026 0.047	0.65
Sereina Herzog, 2020	0.033	0.023 0.043	0.65
Sereina Herzog, 2020	0.042	0.031 0.052	0.65
theta	0.041	0.031 0.052	
Group: Brazil			
Beatriz Tess, 2020	0.047	0.029 0.065	0.65
Mariangela Silveira, 2020	0.001	-0.000 0.001	0.65
Mariangela Silveira, 2020	0.001	0.000 0.003	0.65
Mariangela Silveira, 2020	0.002	0.001 0.004	0.65
Marcelo Vieira, 2020	0.006	-0.000 0.011	0.65
Marcelo Vieira, 2020	0.009	0.002 0.016	0.65
Marcelo Vieira, 2020	0.014	0.006 0.023	0.65

Marcelo Vieira, 2020	0.020	0.010	0.030	0.65
Marcelo Vieira, 2020	0.038	0.025	0.051	0.65
Marcelo Vieira, 2020	0.058	0.043	0.073	0.65
Marcelo Vieira, 2020	0.083	0.065	0.102	0.65
Rafael Picon, 2020	0.040	0.030	0.051	0.65
Rafael Picon, 2020	0.026	0.016	0.036	0.65
Mozart Julio Tabosa Sales, 2020	0.043	0.030	0.057	0.65
Antonio da Silva, Antonio da Silva, 2020	0.404	0.356	0.453	0.64
Adriano Antunes de Souza AraÃjo, 2020	0.093	0.085	0.101	0.65
Gemilson Soares Pontes, 2020	0.646	0.590	0.703	0.63
Jose O M Albuquerque, 2020	0.097	0.080	0.115	0.65
Pedro C. Hallal, 2020	0.000	-0.001	0.002	0.65
Pedro C. Hallal, 2020	0.001	-0.001	0.003	0.65
Pedro C. Hallal, 2020	0.002	-0.000	0.004	0.65
Pedro C. Hallal, 2020	0.002	-0.001	0.004	0.65
Pedro C. Hallal, 2020	0.005	0.002	0.008	0.65
Pedro C. Hallal, 2020	0.011	0.007	0.014	0.65
Pedro C. Hallal, 2020	0.014	0.010	0.018	0.65
Pedro C. Hallal, 2020	0.016	0.011	0.020	0.65
theta	0.063	0.009	0.117	
Group: Cameroon				
Kenechukwu Nwos, 2020	0.292	0.243	0.341	0.64
theta	0.292	0.243	0.341	
Group: Canada				
Danuta Skowronski, 2020	0.003	-0.002	0.007	0.65
Danuta Skowronski, 2020	0.005	-0.001	0.012	0.65
theta	0.004	0.000	0.008	
Group: China				
Yunbao Pan, 2020	0.024	0.023	0.025	0.65
Zhenyu He, 2020	0.069	0.064	0.074	0.65
theta	0.046	0.002	0.091	
Group: Colombia				
Salim Mattar, 2020	0.553	0.526	0.579	0.65
theta	0.553	0.526	0.579	
Group: Democratic Republic of the Congo				
Antoine N Nkuba, 2020	0.166	0.138	0.193	0.65
theta	0.166	0.138	0.193	
Group: Denmark				
Laura Espenhain, 2020	0.015	0.009	0.021	0.65
Laura Espenhain, 2020	0.020	0.017	0.023	0.65
Laura Espenhain, 2020	0.024	0.019	0.029	0.65
Laura Espenhain, 2020	0.043	0.035	0.052	0.65
theta	0.025	0.013	0.037	
Group: Estonia				
Piia Jogi, 2020	0.015	0.007	0.023	0.65
Piia Jogi, 2020	0.063	0.048	0.078	0.65
Hiie Soeorg, 2021	0.201	0.185	0.217	0.65
theta	0.093	-0.016	0.202	

Group: Ethiopia					
	Berhanu Alemu, 2020	0.088	0.058	0.118	0.65
	Tamrat Shaweno, 2020	0.032	0.013	0.051	0.65
	Saro Abdella, 2020	0.035	0.016	0.054	0.65
	Saro Abdella, 2020	0.006	-0.002	0.014	0.65
	theta	0.038	0.005	0.071	
Group: France					
	Anne Gegout petit, 2020	0.025	0.018	0.033	0.65
	Adeline Beaumont, 2020	0.354	0.300	0.408	0.63
	Stephane Le Vu, 2020	0.004	0.000	0.008	0.65
	Stephane Le Vu, 2020	0.041	0.033	0.050	0.65
	Stephane Le Vu, 2020	0.049	0.039	0.058	0.65
	theta	0.093	-0.034	0.219	
Group: Germany					
	Claudia Santos Hovener, 2020	0.120	0.102	0.138	0.65
	Stefanie Theuring, 2020	0.014	0.004	0.025	0.65
	Katja Radon, 2021	0.036	0.029	0.043	0.65
	Michael Pritsch, 2020	0.018	0.013	0.024	0.65
	theta	0.047	-0.002	0.095	
Group: Greece					
	Zacharoula Bogogiannidou, 2020	0.002	0.001	0.003	0.65
	theta	0.002	0.001	0.003	
Group: Hungary					
	Bela Merkely, 2020	0.007	0.005	0.009	0.65
	theta	0.007	0.005	0.009	
Group: India					
	Parthasarathi Satpati, 2020	0.041	0.022	0.061	0.65
	Manoj Murhekar, 2020	0.007	0.003	0.011	0.65
	Amitav Banerjee, 2020	0.340	0.313	0.368	0.65
	Nandini Sharma, 2020	0.247	0.240	0.254	0.65
	Nandini Sharma, 2020	0.241	0.234	0.247	0.65
	Nandini Sharma, 2020	0.284	0.276	0.291	0.65
	Manoj Mohanan, 2020	0.467	0.434	0.501	0.64
	Aurnab Ghose, 2020	0.513	0.400	0.626	0.57
	Sitanshu Sekhar Kar, 2020	0.049	0.034	0.064	0.65
	Sitanshu Sekhar Kar, 2020	0.207	0.181	0.233	0.65
	Sitanshu Sekhar Kar, 2020	0.345	0.314	0.376	0.65
	Sriram Selvaraju, 2020	0.184	0.145	0.223	0.64
	Anup Malani, 2020	0.171	0.158	0.184	0.65
	Manoj V Murhekar, 2020	0.066	0.058	0.074	0.65
	Rita Isaac, 2020	0.022	0.009	0.035	0.65
	Rita Isaac, 2020	0.220	0.163	0.277	0.63
	Prajval Singh, 2020	0.306	0.287	0.324	0.65
	Muhammad Khan, 2020	0.367	0.343	0.392	0.65
	Sudarshan Ramaswamy, 2020	0.294	0.284	0.304	0.65
	Taha Ayub, 2020	0.406	0.386	0.425	0.65
	Manoj Murhekar, 2021	0.241	0.230	0.252	0.65
	Jaya Singh Kshatri, 2020	0.208	0.195	0.220	0.65
	Anup Malani, 2020	0.316	0.304	0.328	0.65
	theta	0.239	0.183	0.295	
Group: Iran (Islamic Republic of)					
	Maryam Shakiba, 2020	0.222	0.162	0.282	0.63

	Hossein Poustchi, 2020	0.171	0.147	0.196	0.65
	Hossein Poustchi, 2020	0.200	0.184	0.216	0.65
	Seyed Abbas Mousavi, 2020	0.173	0.158	0.188	0.65
	Kazem Khalagi, 2020	0.142	0.133	0.152	0.65
	theta	0.176	0.152	0.201	
Group: Italy					
	Gabriele Pagani, 2020	0.226	0.166	0.285	0.63
	Roberto Melotti, 2020	0.269	0.252	0.286	0.65
	theta	0.257	0.220	0.295	
Group: Japan					
	Takashi Yoshiyama, 2020	0.001	0.000	0.002	0.65
	Nobutoshi Nawa, 2020	0.012	0.002	0.023	0.65
	theta	0.005	-0.005	0.016	
Group: Kenya					
	Isaac Ngere, 2020	0.347	0.318	0.376	0.65
	theta	0.347	0.318	0.376	
Group: Lithuania					
	Kastytis Smigelskas, 2020	0.014	0.009	0.019	0.65
	theta	0.014	0.009	0.019	
Group: Luxembourg					
	Chantal Snoeck, 2020	0.021	0.014	0.028	0.65
	theta	0.021	0.014	0.028	
Group: Mexico					
	Edgar Rodriguez-Vidales, 2020	0.271	0.258	0.284	0.65
	theta	0.271	0.258	0.284	
Group: Netherlands					
	Eric Vos, 2020	0.028	0.020	0.036	0.65
	Eric Vos, 2020	0.029	0.004	0.053	0.65
	Eric Vos, 2020	0.045	0.038	0.052	0.65
	theta	0.036	0.024	0.047	
Group: Norway					
	Erik Anda, 2021	0.009	0.007	0.010	0.65
	theta	0.009	0.007	0.010	
Group: Pakistan					
	Muhammed Imran Nisar, 2020	0.002	-0.002	0.006	0.65
	Muhammed Imran Nisar, 2020	0.004	-0.002	0.011	0.65
	Muhammed Imran Nisar, 2020	0.087	0.047	0.127	0.64
	Muhammed Imran Nisar, 2020	0.151	0.089	0.212	0.63
	Muhammed Imran Nisar, 2020	0.128	0.081	0.175	0.64
	Muhammed Imran Nisar, 2020	0.215	0.153	0.277	0.62
	Mohsina Haq, 2020	0.424	0.416	0.432	0.65
	theta	0.144	0.036	0.253	
Group: Peru					
	Charles Huamani, 2020	0.331	0.300	0.362	0.65

Carlos Alvarez Antonio, 2020		0.660	0.620	0.701	0.64
Mary F Reyes Vega, 2020		0.208	0.177	0.240	0.65
Cristian Diaz Velez, 2020		0.295	0.275	0.314	0.65
theta		0.373	0.179	0.567	
Group: Poland					
Dagny Lorent, 2020		0.009	0.004	0.014	0.65
theta		0.009	0.004	0.014	
Group: Portugal					
Luisa Canto e Castro, 2021		0.173	0.158	0.188	0.65
theta		0.173	0.158	0.188	
Group: Republic of Korea					
Eun Hee Nah, 2020		0.004	0.002	0.006	0.65
theta		0.004	0.002	0.006	
Group: Russian Federation					
Anna Popova, 2020		0.058	0.053	0.062	0.65
A Yu Popova, 2020		0.502	0.492	0.512	0.65
Anna Popova, 2020		0.312	0.304	0.320	0.65
Anton Barchuk, 2020		0.074	0.057	0.092	0.65
theta		0.237	0.029	0.444	
Group: Sierra Leone					
Mohamed Bailor Barrie, 2021		0.026	0.018	0.034	0.65
theta		0.026	0.018	0.034	
Group: Slovenia					
Mario Poljak, 2020		0.009	0.004	0.014	0.65
theta		0.009	0.004	0.014	
Group: South Africa					
Jaya George, 2020		0.273	0.243	0.303	0.65
Jackie Kleynhans, 2021		0.260	0.225	0.295	0.64
Jackie Kleynhans, 2021		0.410	0.370	0.450	0.64
theta		0.314	0.220	0.407	
Group: Spain					
Paula Iruzubieta, 2020		0.031	0.020	0.042	0.65
Sebastian Videla, 2021		0.128	0.116	0.141	0.65
theta		0.079	-0.016	0.175	
Group: Sweden					
Niclas Roxhed, 2020		0.125	0.103	0.147	0.65
theta		0.125	0.103	0.147	
Group: Switzerland					
Agne Ulyte, 2020		0.033	0.013	0.053	0.65
Silvia Stringhini, 2020		0.211	0.191	0.230	0.65
Aude Richard, 2020		0.078	0.068	0.089	0.65
theta		0.107	0.003	0.212	

Group: The United Kingdom					
	Helen Ward, 2020	0.048	0.047	0.050	0.65
	Helen Ward, 2020	0.044	0.043	0.045	0.65
	Shamez Ladhani, 2020	0.136	0.123	0.150	0.65
	Shamez Ladhani, 2020	0.121	0.104	0.138	0.65
	Katherine Gaskell, 2020	0.643	0.616	0.670	0.65
	Ellen C Hughes, 2020	0.078	0.072	0.085	0.65
	Helen Ward, 2020	0.049	0.049	0.050	0.65
	theta	0.160	-0.000	0.320	
Group: United Arab Emirates					
	Ahmed R Alsuwaidi, 2020	0.104	0.095	0.114	0.65
	theta	0.104	0.095	0.114	
Group: United States of America					
	Neeraj Sood, 2020	0.047	0.024	0.069	0.65
	Shiwani Mahajan, 2020	0.040	0.020	0.060	0.65
	Holly Biggs, 2020	0.025	0.009	0.041	0.65
	Amy K Feehan, 2020	0.036	0.028	0.044	0.65
	Shuchi Anand, 2020	0.093	0.088	0.099	0.65
	Matthew Samore, 2020	0.008	0.001	0.016	0.65
	Kristina Bajema, 2020	0.032	0.006	0.058	0.65
	Kristen Maleck, 2020	0.016	0.007	0.026	0.65
	Kristen Maleck, 2020	0.068	0.043	0.094	0.65
	Constantin Yiannoutsos, 2020	0.026	0.020	0.032	0.65
	Tim Bruckner, 2020	0.113	0.087	0.138	0.65
	Philip A Chan, 2020	0.029	0.003	0.055	0.65
	Elaine Symanski, 2020	0.135	0.090	0.181	0.64
	theta	0.049	0.029	0.070	
Group: Zambia					
	Lloyd B Mulenga, 2020	0.021	0.011	0.031	0.65
	theta	0.021	0.011	0.031	
Overall					
	theta	0.123	0.100	0.147	

Heterogeneity summary

Group	df	Q	P > Q	tau2	% I2	H2
Australia	0	0.00	.	0.000	.	.
Belgium	6	51.64	0.000	0.000	86.89	7.63
Brazil	25	1792.37	0.000	0.020	99.99	10385.11
Cameroon	0	0.00	.	0.000	.	.
Canada	1	0.48	0.489	0.000	3.20	1.03
China	1	285.90	0.000	0.001	99.65	285.90
Colombia	0	-0.00	.	0.000	.	.
Democratic R~o	0	0.00	.	0.000	.	.
Denmark	3	31.13	0.000	0.000	95.53	22.37
Estonia	2	417.02	0.000	0.009	99.56	226.80
Ethiopia	3	35.01	0.000	0.001	93.50	15.37
France	4	268.14	0.000	0.021	99.92	1245.93
Germany	3	124.61	0.000	0.002	99.22	127.83
Greece	0	0.00	.	0.000	.	.
Hungary	0	0.00	.	0.000	.	.
India	22	12643.35	0.000	0.019	99.82	570.79
Iran (Islami~)	4	45.08	0.000	0.001	89.37	9.41
Italy	1	1.85	0.173	0.000	46.09	1.85

Japan	1	4.38	0.036	0.000	77.18	4.38
Kenya	0	0.00	.	0.000	.	.
Lithuania	0	0.00	.	0.000	.	.
Luxembourg	0	0.00	.	0.000	.	.
Mexico	0	0.00	.	0.000	.	.
Netherlands	2	10.28	0.006	0.000	72.01	3.57
Norway	0	0.00	.	0.000	.	.
Pakistan	6	8942.80	0.000	0.021	99.88	818.64
Peru	3	324.93	0.000	0.039	99.42	173.89
Poland	0	-0.00	.	0.000	.	.
Portugal	0	0.00	.	0.000	.	.
Republic of ~a	0	0.00	.	0.000	.	.
Russian Fede~n	3	7644.49	0.000	0.045	99.96	2397.04
Sierra Leone	0	0.00	.	0.000	.	.
Slovenia	0	0.00	.	0.000	.	.
South Africa	2	37.00	0.000	0.007	95.36	21.54
Spain	1	130.37	0.000	0.005	99.23	130.37
Sweden	0	0.00	.	0.000	.	.
Switzerland	2	181.14	0.000	0.008	99.17	120.43
The United K~m	6	2225.78	0.000	0.047	100.00	39493.27
United Arab ~s	0	0.00	.	0.000	.	.
United State~a	12	515.65	0.000	0.001	97.61	41.77
Zambia	0	0.00	.	0.000	.	.
Overall	153	83435.27	0.000	0.022	99.98	6268.01

Test of group differences: $Q_b = \text{chi2}(40) = 5769.85$ Prob > $Q_b = 0.000$

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