

## Reproduction number estimate using Time-Dependent method

Data is taken from the Department of Italian Civil Protection for key transmission parameters of an institutional outbreak during the 2020 SARS-Cov2 pandemic in Italy

ID 1, Italy -  $R_0(t) = 0.909$   
ID 2, Abruzzo -  $R_0(t) = 1.180$   
ID 4, Calabria -  $R_0(t) = 1.044$   
ID 5, Campania -  $R_0(t) = 1.016$   
ID 6, EmiliaRomagna -  $R_0(t) = 0.793$   
ID 7, FriuliVeneziaGiulia -  $R_0(t) = 0.720$   
ID 8, Lazio -  $R_0(t) = 1.000$   
ID 9, Liguria -  $R_0(t) = 0.870$   
ID 10, Lombardia -  $R_0(t) = 0.809$   
ID 11, Marche -  $R_0(t) = 0.785$   
ID 13, P.A.Bolzano -  $R_0(t) = 0.798$   
ID 14, P.A.Trento -  $R_0(t) = 0.810$   
ID 15, Piemonte -  $R_0(t) = 0.894$   
ID 16, Puglia -  $R_0(t) = 0.871$   
ID 17, Sardegna -  $R_0(t) = 1.011$   
ID 18, Sicilia -  $R_0(t) = 0.969$   
ID 19, Toscana -  $R_0(t) = 0.912$   
ID 20, Umbria -  $R_0(t) = 0.854$   
ID 22, Veneto -  $R_0(t) = 0.894$   
ID 25, Pescara -  $R_0(t) = 1.337$   
ID 36, Napoli -  $R_0(t) = 1.130$   
ID 39, Piacenza -  $R_0(t) = 1.074$   
ID 40, Parma -  $R_0(t) = 0.860$   
ID 41, ReggionellEmilia -  $R_0(t) = 0.853$   
ID 42, Modena -  $R_0(t) = 0.945$   
ID 43, Bologna -  $R_0(t) = 0.920$   
ID 44, Ferrara -  $R_0(t) = 1.009$   
ID 45, Ravenna -  $R_0(t) = 0.846$   
ID 46, ForliCesena -  $R_0(t) = 0.864$   
ID 47, Rimini -  $R_0(t) = 0.690$   
ID 54, Roma -  $R_0(t) = 1.086$   
ID 55, Latina -  $R_0(t) = 1.406$   
ID 57, Imperia -  $R_0(t) = 0.910$   
ID 58, Savona -  $R_0(t) = 0.678$   
ID 59, Genova -  $R_0(t) = 1.260$   
ID 60, LaSpezia -  $R_0(t) = 0.844$   
ID 61, Varese -  $R_0(t) = 0.924$   
ID 62, Como -  $R_0(t) = 0.691$   
ID 63, Sondrio -  $R_0(t) = 1.665$   
ID 64, Milano -  $R_0(t) = 0.923$   
ID 65, Bergamo -  $R_0(t) = 0.962$   
ID 66, Brescia -  $R_0(t) = 0.908$   
ID 67, Pavia -  $R_0(t) = 1.194$   
ID 68, Cremona -  $R_0(t) = 0.469$   
ID 69, Mantova -  $R_0(t) = 0.802$   
ID 70, Lecco -  $R_0(t) = 0.834$   
ID 71, Lodi -  $R_0(t) = 0.744$   
ID 72, MonzaedellaBrianza -  $R_0(t) = 0.869$   
ID 73, PesaroeUrbino -  $R_0(t) = 0.685$

ID 80, Bolzano -  $R_0(t) = 0.931$   
ID 81, Trento -  $R_0(t) = 0.975$   
ID 82, Torino -  $R_0(t) = 1.102$   
ID 83, Vercelli -  $R_0(t) = 1.070$   
ID 84, Novara -  $R_0(t) = 0.948$   
ID 85, Cuneo -  $R_0(t) = 0.928$   
ID 87, Alessandria -  $R_0(t) = 0.885$   
ID 91, Bari -  $R_0(t) = 0.889$   
ID 102, Palermo -  $R_0(t) = 1.301$   
ID 113, Firenze -  $R_0(t) = 1.136$   
ID 119, Prato -  $R_0(t) = 0.928$   
ID 123, Verona -  $R_0(t) = 1.014$   
ID 124, Vicenza -  $R_0(t) = 1.091$   
ID 126, Treviso -  $R_0(t) = 1.024$   
ID 127, Venezia -  $R_0(t) = 1.050$   
ID 128, Padova -  $R_0(t) = 1.345$