Figure 1: Explanation of the derivation of effectiveness parameters; daily case data (velocity *v*; following a hypothetical Gaussian function of *v* = 1000 exp[–(*t* – 20)2/72]) against time *t* ( = average velocity of the effective phase *TE*; *v*max = peak velocity); acceleration *a*, first time derivative of the daily case data (*a*max = +*aE* = maximum acceleration; *a*min = –*aE* = minimum; *a* = *a*max – *a*min; *a*/ *TE* = acceleration gradient across the effective phase); jerk *j*, second time derivative of the daily case data ( = average jerk of the effective phase); and effectiveness *E* of control measures against time ( = average effectiveness of the effective phase); *tE*1,2 = start and end of effective phase.

Figure 2: velocity, acceleration, jerk and effectiveness of the spreading virus against time (day 1 = 01/01/2020) for 4 different velocity profiles: **a**: Gaussian (Australia, log** = +0.01, medium effective ** = 1.56∙10–3), **b**: triangular (Ireland, log** = +0.22, very effective ** = 3.25∙10–3), **c**: short trapezoidal (New Zealand, log** = –0.10, medium effective ** = 1.13∙10–3); **d**: long trapezoidal (Malaysia, log** = –0.22, ineffective ** = 0.20∙10–3); green curve: filtered velocity data and their time derivatives; light blue and pink curves denote upper and lower confidence intervals (note that after differentiation, upper and lower boundaries can switch their positions); *tE*1,2 = start and end of effective phase; *a* = acceleration;

Figure 3: **a**: average effectiveness () against the duration of the effective phase (*TE*); blue curve: Gaussian function; green area: velocity profiles between triangular and Gaussian; yellow area: velocity profile transition from triangular across Gaussian to trapezoidal; pink area: velocity profiles between Gaussian and trapezoidal; dark-green dashed lines: isolines of the /*TE* ratio (**); dashed black curve: power function fit of all data; note that data located on the blue curve (Gaussian function) are not necessarily Gaussian but can be pseudo-Gaussian, as the transition from triangular to trapezoid velocity profile (as shown in subfigure 3**b**) can be a very short trapezoid plateau (shorter than the one of New Zealand shown in Figure 2b).

**b**: average effectiveness () against the duration of the effective phase (*TE*) on a double-logarithmic graph; the pink lines are isolines of the shape parameter *s*, associated with the width of the velocity profile (the smaller *s*, the more effective); the light-blue lines are isolines of shape parameter *h*, associated with the shape of the velocity profile, indicating the transition from triangular velocity profile over Gaussian and trapezoidal to a hypothetical rectangular profile.

**c**: average effectiveness () against the duration of the effective phase (*TE*) on a double-logarithmic graph; parameter ** is the ratio of  to *TE*, (the greater, the more effective); parameter ** is another parameter associated with the shape of the velocity profile, which indicates the transition from triangular velocity profile over Gaussian to a trapezoidal profile.

**d**: ** against log** on a single-logarithmic graph; the green, yellow and pink areas correspond to the ones shown in (**a**).

Figure 4: Maps of Europe, showing the effectiveness of control measures of each country, for countries whose effective phase *TE* ended the latest on 15 May 2020; upper row: (**a**): duration of effective phase *TE*; (**b**) average effectiveness ; (**c**) ** (/*TE* ratio); (**d**) log** (shape parameter: blue: Gaussian velocity profile, green: triangular velocity profile, red: trapezoidal velocity profile); for subfigures (**a**), (**b**) and (**c**): the darker the more effective.

Figure 5: average effectiveness  calculated from the effective reproductive number *Reff* against the average effectiveness  (**a**) and slope of the regression of  vs  (**b)**; in (**a**), the dashed grey line represents the linear fit function of the regression, whereas the dashed blue line represents the function expected from a Gaussian model; in (**b**), to assess the dependency of the regression slope on the shape parameter log**, the data of ,  and log** were sorted with respect to log**; and the averages of log** and the regression slope of  vs  were calculated across a running window of 15 data; dashed green line: slope value expected from a Gaussian model; dashed blue line: Gaussian model data at log** = 0.

Figure 6: instantaneous effectiveness *E* (**a**) and average effectiveness  (**b**) against time in days (day 1 = 01/01/2020) for countries, states and provinces whose effective phase ended the latest on 15 May 2020; 3-letter country codes according to ISO 3166-1 Alpha-3; Chinese provinces 2-letter codes: ISO 3166-2:CN; 2-letter code of the states of the USA: ISO 3166-2:US; KOS = Kosovo; note that countries can exhibit multiple effectiveness peaks, as seen in (**a**) for Uruguay and some Chinese provinces, and in Figure 2.

Figure 7: comparison of countries with and without lockdown measures for *TE* (**a**),  (**b**), and ** (**c**) by means of Box-Whisker plots; (**d**) time between the first day of lockdown and the first day of *TE*.