

Analysis of the Global Burden of Disease study highlights the global, regional, and national trends of gout and its risk factor, 1990 to 2050.

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Supplementary Statistical Analysis Methods

ARIMA model

ARIMA is used for forecasting models in time series analysis. ARIMA consists of three main component parameters called P, D and Q. P represents autoregressive and indicates the number of the lagged observations in the model; D represents integral and indicates the number of times the input raw data are differenced to keep the model stationary; and Q represents moving average and indicates the size of the moving average window applied to the lagged observations. When the data are non-stationary, one or more differencing steps can be applied to eliminate the non-stationarity. r is used to build the Arima model. First, the data are analyzed and the differences between consecutive data are calculated to select the P that smooths the data. the loop step "p<data.size/10, q<data.size" is used to generate all combinations of P and Q. The P and Q with the minimum Bayesian information criterion are selected, and the predictions are generated.