

SYSTEM AND METHOD FOR PROVIDING PATIENT-SPECIFIC DOSING AS A FUNCTION OF MATHEMATICAL MODELS

ABSTRACT

[0001] A system and method for predicting, proposing and/or evaluating suitable medication dosing regimens for a specific individual as a function of individual-specific characteristics and observed responses of the specific individual. Mathematical models of observed patient responses are used in determining an initial dose. The system and method use the patient's observed response to the initial dose to refine the model for use to forecast expected responses to proposed dosing regimens more accurately for a specific patient. More specifically, the system and method uses Bayesian averaging, Bayesian updating and Bayesian forecasting techniques to develop patient-specific dosing regimens as a function of not only generic mathematical models and patient-specific characteristics accounted for in the models as covariate patient factors, but also observed patient-specific responses that are not accounted for within the models themselves, and that reflect variability that distinguishes the specific patient from the typical patient reflected by the model.

Fig. 2