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How does DoseMeRx "learn" over time?

The value of drug levels in individualizing a patient model



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DoseMeRx uses a population pharmacokinetic model which incorporates the patient's demographics (e.g. weight, height, sex) and any previous relevant laboratory values (e.g. serum creatinine) together with Bayesian methods to estimate an individual patient's clearance, volume of distribution, and other PK parameters.

In the absence of a drug level, the population model will be used to calculate the dose. However, a single laboratory result (e.g. drug level) is all that DoseMeRx needs to begin individualization of the pharmacokinetic model resulting in targeted recommendations.

Due to the way that Bayesian dosing works, if your patient is similar to the cohort used to develop the model, a single level will give a high-quality fit. However, for patients that are different than the model cohort, obtaining an additional level at a different time during the interval, will give another point for DoseMeRx to use in the Bayesian fitting. When fitting a model to a patient, DoseMeRx will strive to fit all of the observed data to find the most likely set of individualized pharmacokinetic values to minimize these sources of external influences to the extent possible.

DoseMeRx is able to learn over time and create a more customized, individualized model of your patient as more information (e.g. updated lab values and drug levels) are received for the patient. Each subsequent laboratory result recorded improves DoseMeRx's interpretation of any outlying data and also minimizes the need to switch to a different model.

Did this answer your question?



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