METHODS
To give context to the frequency of episcopal reporting of \( u_i \) parameter estimates, we performed a survey of models (PK, PD, PBPK, pharmacometrics) published in the journals: Pharmacology, Clinical Pharmacology & Therapeutics, Pharmacology, Biochemistry, & Pharmacology, Pharmacology, Biopharmaceutics, & Drug Disposition, Pharmacology, Drug Delivery, & Photobiology. Each manuscript was examined to see if the authors reported 1) either the method used to compute \( \omega \) or the \( u_i \) parameter estimates themselves, or 2) neither the equation used to compute \( \%CV \) nor the \( u_i \) parameter estimates. Three time frames were considered: 2012-2015, 2016-2017, and 2018. This choice of range and stratification was intended to give both a broad scope of the literature and a look at current practices in a core pharmacometrics journal.

To illustrate the importance of this issue, two different simulation exercises were performed using the identified models. The first exercise was performed using a model for vancomycin based on the paper by Mould et al., which was chosen as it reported the parameter estimates and represented a first order model. For this exercise, three simulations were performed. The first simulation used the \( u_i \) estimates reported in the paper. The second simulation used an erroneous \( u_i \) value that was obtained from calculating the \( \%CV \) with Eq. 3 and calculating the resulting \( u_i \) value with Eq. 4. The third simulation was repeated in the same way, but utilized Eq 2 and Eq 5.

Results of the simulations were then used to calculate the magnitude of between-subject variability (\( \%CV \)) for each run and compare it to the original value.

Another example of the impact of using the incorrect assumption regarding variability is provided in the table below, where differences from the true value are presented assuming simulation estimates were calculated with the incorrect assumption regarding \( \%CV \\) calculation. Table 3 demonstrates the magnitude of error that will result in simulations from a published model if the wrong equation is used to derive the \( u_i \) estimate from the \( \%CV \) value reported in a manuscript. When the wrong assumption is used, between-subject variability in model-based simulations will be systematically under- or over-estimated. The impact of the discrepancy will increase with increasing values of the true \( u_i \) value.

**SUMMARY**

Accurate reporting of either the \( u_i \) estimate in parameter tables or the method used to calculate \( \%CV \) is important, especially as the magnitude of between-subject variance estimates increases. Enhanced clarity in reporting and clear statements regarding assumptions will improve the reproducibility of modeling and simulation results and allow for accurate re-use of models and modeling findings.

**REFERENCES**