



Phoenix® NLME™

Frequently Asked Questions (FAQ)

Q: What is Phoenix NLME?

A: Phoenix NLME 1.1 is a state of the art population modeling software system for both experienced and novice pharmacokinetic and pharmacodynamic (PK/PD) scientists who need powerful modeling capabilities in a system that is easy to learn, use, and support. With a visual workflow engine, high quality graphics, and an easy to use graphical user interface, population PK/PD modeling has never been this accessible, flexible, and powerful.

Q: How do I buy Phoenix NLME?

A: Phoenix NLME may be purchased as a standalone application that resides on client desktops. It can be purchased from Pharsight by contacting sales via email at sales@certara.com; or via phone in the U.S at +1 919-852-4685; in the E.U. at +49 89 451 03036; in India at +91 984 500 6625; or in Japan at +81 (0)50-3786-9898. For more information, go to www.pharsight.com.

Q: What optimization engines does Phoenix NLME use?

A: Phoenix NLME 1.1 includes the following engines: Iterated Two-Stage, First Order (FO), Extended Least Squares First Order with condition estimates and interaction (NONMEM® FOCEI), Adaptive Gaussian Quadrature / Laplacian for Gaussian and non-Gaussian responses, Lindstrom-Bates FOCE, Naïve Pooled for Gaussian and non-Gaussian responses, and a non-parametric engine which makes no assumptions regarding the random effects distribution. More engines are planned for future versions.

Q: How do Phoenix NLME's run-times compare with those of other tools?

A: Phoenix NLME's FOCE-LB algorithm is typically as fast as or faster than competing solutions with other FOCE engines. Of course, runtimes vary between different software systems depending on the data, model selected, and the hardware environment, and are dependent on selection of initial conditions. Collectively, these factors are known to cause run times to vary by as much as two orders of magnitude.

Phoenix NLME is designed from the bottom up to support parallel execution on multiple processors within a single run. NLME uses the Argonne MPICH2, which allows optimizations to be run on multiple processors simultaneously taking advantage of modern multiple-core processor equipped computers resulting in significant speed gains. With the Phoenix Job Management System, Phoenix NLME runs can be executed remotely on Windows servers.

Phoenix NLME is more than just an optimization engine. It is a fully integrated system of optimization engines coupled with powerful pre- and post-processing data management tools and powerful graphics capabilities. Full system integration lowers the overall time spent manipulating and configuring various systems built by different teams and frees users up to spend more time modeling.

Q: How can I create models?

A: Phoenix NLME has three ways to create and edit models. Its text-based model authoring capability based on Pharsight's new modeling language (PML) allows for the ultimate flexibility in creating models. It also has a graphical modeling tool called the Drug Model Explorer (DME) as well as library of built-in models which allow a user to quickly and easily get up running.

Q: What makes Phoenix NLME different than other population modeling tools?

A: With Phoenix NLME you get a platform that allows you to do your data preparation, model development, model visualization, and model comparisons in one system. All other tools require one or more additional software packages (i.e. SAS, S-Plus, R, Matlab, SigmaPlot, Census) to have equivalent functionality. All the

analyses are saved within a single file (phoenix project), can be easily re-executed, saved as a template, shared with others and exported.

Q: How does Phoenix NLME help me to build population datasets faster?

A: Yes, phoenix has many tools for importing, manipulating, and transforming data. For instance, you can: rename columns; stack or pivot data; create computed columns using free form functions; merge data (like matching demographics with observations); replace codes (like "NS" or "BQL"); and filter data. You can even edit datasheets in Excel with a click of your mouse and then bring them back into Phoenix NLME. However, the main savings is in the fact that Phoenix NLME is very flexible on the structure of the data that it accepts and thus a lot less data manipulation is required. The User's Guide provides a data structure description chapter for Phoenix NLME.

Q: Can I put a NONMEM file directly into Phoenix NLME and run it?

A: Yes, you can use Phoenix NLME engines on most datasets in NONMEM format by converting the NONMEM control file into a Phoenix Model. To do this, you can use NLME's built-in library models, the graphical modeling interface, or you can translate it into PML (Pharsight Modeling Language) code. PML is a new programming language but it has similarities to S+ and R and it is easy to learn.

Phoenix Connect™ allows you to run any of your existing NONMEM work within the Phoenix platform without having to modify any control files and Connect integrates seamlessly with Phoenix NLME.

Q: How does Phoenix NLME reduce the effort I must devote to maintaining my modeling software?

A: Effort spent integrating and maintaining Phoenix NLME will be less than other software systems. Other population modeling systems are comprised of multiple software applications, written by different teams, on different platforms at different times. They require a "non-trivial" amount of effort to install, integrate, learn, use, and maintain. Phoenix NLME contains most all of the tools required by population modelers to pre-process, analyze, and post-process their modeling projects all within one system. Population modelers using Phoenix NLME can potentially spend more time in analysis and less time engaged in systems integration activities.

Q How does Phoenix NLME simplify and improve post-processing?

A: Phoenix NLME's graphics and reporting tools automatically generate a multitude of standard plots and tables on every run but they can also be used to easily create additional user-customized tables and graphs. Any post-processing work that is user-defined can also be saved as a template and accessed the next time a similar run is executed, thus saving time. With the addition of Phoenix Connect™, you can also interact directly with other 3rd-party software tools including R®, NONMEM®, and S-Plus® to help with post-processing while keeping the analyses steps synchronized, linked, and stored within Phoenix NLME.

Q: How can I use Phoenix NLME to create a model repository?

A: Yes, when users combine Phoenix Connect with Phoenix NLME they can safely store all of their inputs, models, and outputs in the Pharsight Knowledgebase Server™ (PKS™). With PKS, knowledge relating to both existing drugs and new compounds is captured, stored, managed, analyzed, summarized and reported upon in a secure, regulatory-compliant environment.

Q: How can I get support for Phoenix NLME?

A: First, please consult the documentation provided with your software or visit www.Pharsight.com/support. If further assistance is needed, contact Pharsight technical support by e-mail, customer support portal (preferred), phone, fax or post.

Customer Support Portal: www.Pharsight.com/support

E-mail: support@pharsight.com

Phone/voice mail: +1-919-852-4620 (US)

+1-919-852-4620 (EU/India)

+81 471-74-9918 (Japan)

Fax: +1-919-859-6871
Post: Pharsight Corporation
5625 Dillard Drive, Suite 205
Cary, North Carolina 27518

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