



## **DEPARTMENT OF HEALTH AND HUMAN SERVICES**

### **Food and Drug Administration**

**[Docket No. FDA-2010-D-0133]**

### **Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing; Draft Guidance for Industry; Availability**

**AGENCY:** Food and Drug Administration, Health and Human Services (HHS).

**ACTION:** Notice of availability.

**SUMMARY:** The Food and Drug Administration (FDA or Agency) is announcing the availability of a draft guidance for industry entitled "Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing." In general, drug development programs should be conducted so that when products are approved, the labeling provides appropriate dosing recommendations for patients with renal impairment. This draft guidance revises and replaces the draft guidance entitled "Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing and Labeling" (March 2010) and is meant to assist sponsors in the design and analysis of studies that assess the influence of impaired renal function on the pharmacokinetics (PK) and/or pharmacodynamics of an investigational drug and how such information can impact dosing.

**DATES:** Submit either electronic or written comments on the draft guidance by [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*] to ensure that the Agency considers your comment on this draft guidance before it begins work on the final version of the guidance.

**ADDRESSES:** You may submit comments on any guidance at any time as follows:

### *Electronic Submissions*

Submit electronic comments in the following way:

- Federal eRulemaking Portal: <https://www.regulations.gov>. Follow the instructions for submitting comments. Comments submitted electronically, including attachments, to <https://www.regulations.gov> will be posted to the docket unchanged. Because your comment will be made public, you are solely responsible for ensuring that your comment does not include any confidential information that you or a third party may not wish to be posted, such as medical information, your or anyone else's Social Security number, or confidential business information, such as a manufacturing process. Please note that if you include your name, contact information, or other information that identifies you in the body of your comments, that information will be posted on <https://www.regulations.gov>.
- If you want to submit a comment with confidential information that you do not wish to be made available to the public, submit the comment as a written/paper submission and in the manner detailed (see "Written/Paper Submissions" and "Instructions").

### *Written/Paper Submissions*

Submit written/paper submissions as follows:

- Mail/Hand delivery/Courier (for written/paper submissions): Dockets Management Staff (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852.
- For written/paper comments submitted to the Dockets Management Staff, FDA will post your comment, as well as any attachments, except for information submitted, marked and identified, as confidential, if submitted as detailed in "Instructions."

*Instructions:* All submissions received must include the Docket No. FDA-2010-D-0133 for "Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing." Received comments will be placed in the docket and, except for those submitted as "Confidential Submissions," publicly viewable at <https://www.regulations.gov> or at the Dockets Management Staff between 9 a.m. and 4 p.m., Monday through Friday, 240-402-7500.

- Confidential Submissions--To submit a comment with confidential information that you do not wish to be made publicly available, submit your comments only as a written/paper submission. You should submit two copies total. One copy will include the information you claim to be confidential with a heading or cover note that states "THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION." The Agency will review this copy, including the claimed confidential information, in its consideration of comments. The second copy, which will have the claimed confidential information redacted/blacked out, will be available for public viewing and posted on <https://www.regulations.gov>. Submit both copies to the Dockets Management Staff. If you do not wish your name and contact information to be made publicly available, you can provide this information on the cover sheet and not in the body of your comments and you must identify this information as "confidential." Any information marked as "confidential" will not be disclosed except in accordance with 21 CFR 10.20 and other applicable disclosure law. For more information about FDA's posting of comments to public dockets, see 80 FR 56469, September 18, 2015, or access the information at: <https://www.govinfo.gov/content/pkg/FR-2015-09-18/pdf/2015-23389.pdf>.

*Docket:* For access to the docket to read background documents or the electronic and written/paper comments received, go to <https://www.regulations.gov> and insert the docket number, found in brackets in the heading of this document, into the "Search" box and follow the prompts and/or go to the Dockets Management Staff, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852, 240-402-7500.

You may submit comments on any guidance at any time (see 21 CFR 10.115(g)(5)).

Submit written requests for single copies of the draft guidance to the Division of Drug Information, Center for Drug Evaluation and Research, Food and Drug Administration, 10001 New Hampshire Ave., Hillandale Building, 4th Floor, Silver Spring, MD 20993-0002. Send one self-addressed adhesive label to assist that office in processing your requests. See the SUPPLEMENTARY INFORMATION section for electronic access to the draft guidance document.

**FOR FURTHER INFORMATION CONTACT:** Lauren Milligan, Center for Drug Evaluation and Research, Food and Drug Administration, 10903 New Hampshire Ave., Bldg. 51, Rm 3159, Silver Spring, MD 20903-0002, 301-796-5008, or [OCP@fda.hhs.gov](mailto:OCP@fda.hhs.gov).

**SUPPLEMENTARY INFORMATION:**

I. Background

FDA is announcing the availability of a draft guidance for industry entitled "Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing." Drugs are eliminated from the body by a variety of mechanisms. Most drugs are cleared by a combination of some or all of the following pathways: metabolism and transport in the small intestine, metabolism and transport in the liver, and glomerular filtration and tubular secretion of unchanged drug by the kidneys (i.e., renal excretion). If a drug is

eliminated primarily through renal excretion, then impaired renal function usually alters the drug's PK to an extent that the dosage regimen may need to be changed from that used in patients with normal renal function. For most drugs that are likely to be administered to patients with impaired renal function, it is important to characterize PK in subjects with impaired renal function to provide appropriate dosing recommendations.

The safety and efficacy of a drug are generally established for a particular dosage regimen (or range of dosage regimens) in late-phase clinical trials that enroll patients from the target patient population. Frequently, however, individuals with advanced kidney disease are explicitly excluded from participation in these studies, hindering the assessment of the effects of severely impaired kidney function on the PK of a drug or the patient's clinical response. A well-planned drug development program can enable prospective dosage adjustment based on the observed or expected changes in the PK of a drug due to impaired renal function prior to initiating phase 2 or phase 3 trials.

This guidance replaces the 2010 version and provides updated recommendations on the following topics:

- (1) When a dedicated study of a drug's PK in subjects with impaired renal function is recommended and when it may not be needed;
- (2) The design and conduct of pharmacokinetic studies in subjects with impaired renal function;
- (3) Considerations for characterizing a drug's PK in patients undergoing intermittent or continuous dialytic therapies;
- (4) The use of pharmacokinetic information from phase 2 and 3 studies to inform dosing recommendations for patients with renal impairment; and

(5) The analysis and reporting of the results of studies that characterize the impact of renal impairment and how these data inform dosing.

This draft guidance is being issued consistent with FDA's good guidance practices regulation (21 CFR 10.115). The draft guidance, when finalized, will represent the current thinking of FDA on "Pharmacokinetics in Patients with Impaired Renal Function--Study Design, Data Analysis, and Impact on Dosing." It does not establish any rights for any person and is not binding on FDA or the public. You can use an alternative approach if it satisfies the requirements of the applicable statutes and regulations.

## II. Paperwork Reduction Act of 1995

FDA tentatively concludes that this draft guidance contains no collection of information. Therefore, clearance by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501-3521) is not required.

However, this draft guidance refers to previously approved FDA collections of information. These collections of information are subject to review by OMB under the PRA. The collection of information in 21 CFR 201.57 has been approved under OMB control number 0910-0572.

## III. Electronic Access

Persons with access to the internet may obtain the draft guidance at either <https://www.fda.gov/drugs/guidance-compliance-regulatory-information/guidances-drugs> or <https://www.regulations.gov>.

Dated: August 31, 2020.

**Lowell J. Schiller,**

*Principal Associate Commissioner for Policy.*

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