



**INTERNATIONAL CONFERENCE ON HARMONISATION OF TECHNICAL  
REQUIREMENTS FOR REGISTRATION OF PHARMACEUTICALS FOR HUMAN USE**

## **E5 Implementation Working Group Questions & Answers (R1)**

**Current version  
dated June 2, 2006**

In order to facilitate the implementation of the E5 guideline, the ICH Experts have developed a series of Q&As:

**E5 Q&As  
Document History**

<b>First Codification</b>	<b>History</b>	<b>Date</b>	<b>New Codification November 2005</b>
E5 Q&As	Approval by the ICH Steering Committee	11 November 2003	E5 Q&As
E5 Q&As	Approval by the ICH Steering Committee of the newly added question	2 June 2006	E5 Q&As (R1)

In November 2005, the ICH Steering Committee adopted a new codification system for ICH Guidelines. The purpose of this new codification is to ensure that the numbering / coding of ICH Guidelines is more logical, consistent and clearer. Because the new system applies to existing as well as new ICH Guidelines a history box has been added to the beginning of all Guidelines to explain how the Guideline was developed and what is the latest version.

With the new codification revisions to an ICH Guideline are shown as (R1), (R2), (R3) depending on the number of revisions. Annexes or Addenda to Guidelines have now been incorporated into the core Guidelines and are indicated as revisions to the core Guideline (e.g., R1).

For better comprehension of the E5 references within the text, please see below the document change history for E5 guideline.

**E5  
Document History**

<b>First Codification</b>	<b>History</b>	<b>Date</b>	<b>New Codification November 2005</b>
E5	Approval by the Steering Committee under <i>Step 2</i> and release for public consultation.	5 March 1997	E5
E5	Approval by the Steering Committee under <i>Step 4</i> and recommendation for adoption to the three ICH regulatory bodies.	5 February 1998	E5

**Current *Step 4* version**

E5	Approval by the Steering Committee of minor <i>Post-Step 4</i> editorial corrections.	11 March 1998	E5(R1)
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## E5 Ethnic Factors : Questions and Answers

Date of Approval	Questions	Answers
1 Nov. 2003	I am planning to develop my new drug globally. Does E5 provide guidance for this approach?	<p>E5 does provide some guidance in this situation. E5 addresses primarily how development programs in one or two regions might support approval in another region. E5 says, in general, that if the data developed in one region satisfy the requirements for evidence in a new region, but there is a concern about possible intrinsic or extrinsic ethnic differences between the two regions, then it should be possible to extrapolate the data to the new region with a single bridging study. The bridging study could be a pharmacodynamic study or a full clinical trial, possibly a dose-response study.</p> <p>The bridging study would allow extrapolation of an adequate data base to the new region. It would seem possible, and efficient, to assess potential regional differences as part of a global development program, i.e. for development of data to occur simultaneously in various regions, rather than sequentially. For example, if multi-regional trials had a sufficient number of trial subjects from the new region, it might be possible to analyze the impact of ethnic differences in those studied, to determine whether the entire data base is pertinent to the new region.</p> <p>The basic issues to be considered in a global study design that could affect a region's willingness to rely on these data are: a) definition and diagnoses of disease condition and patient, b) choice of control group, c) regional target or objective of treatment with choice of efficacy variables, d) methods of assessment of safety, e) medical practice, f) duration of the trial, g) regional concomitant medications, h) severity distribution of eligible subjects, and i) similarity of dose and dose regimens.</p> <p>To determine whether your proposed global program will address the requirements of a specific region, it is recommended that early consultation and discussions be held with regulatory authorities in that region.</p>

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2	Nov. 2003	<p>I have developed my drug in one region, addressing safety, efficacy, dosing, etc., as well as use in special populations such as patients with renal/hepatic impairment, the elderly, children, and pregnant and lactating women. If I can successfully demonstrate (e.g. through a bridging study) that my safety, efficacy and dosing information in the general population are relevant to the new region, will I also need to further address the extrapolatability of the special population data?</p>
		<p>In general, if the studies of special populations are sufficient in design (e.g. include an appropriate range of severity of impairment) to address regulatory requirements of the new region, but are conducted in a foreign region, and if evidence supports the extrapolation of the data in the general population to the new region, you will probably not need to address the issue of special populations again in the new region. Note, however, that for a new indication in a special population (e.g. pediatric depression) a region might require a separate bridging study.</p>
3	Nov. 2003	<p>I believe that my drug is sensitive to ethnic factors and that the medical settings in which it is used may vary among regions. Does this mean that my efficacy study in one region is of no value in support of my application in another?</p>
		<p>No. Assuming the new region finds the studies in the first region pertinent, the regulatory authority of the new region will likely require a controlled study in its own region to establish efficacy (and/or to address other issues). E5 indicates, however, that the second region would be likely to consider a single such study adequate if the data from the foreign region otherwise meet all the requirements of the new region. If the new study supports the same conclusions as the study(ies) in the original region, no further confirmation should be needed, as the data from the original region would likely be considered to confirm the finding in the new region. In that case, the study in the new region need not necessarily have the identical dose and treatment effect size to confirm the findings from the initial region. There might also be situations in which the region would consider further safety data necessary. For example, if the new region considered a higher dose or more frequent dosing necessary and if this finding were not a pharmacokinetic effect, sponsors might need to provide additional safety data.</p>

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4 Nov. 2003	<p>I believe that my drug is insensitive to ethnic factors and that there are no significant relevant differences in extrinsic factors, including the practice of medicine, among the regions. The pharmacokinetics of the drug are insensitive to intrinsic and extrinsic factors. The diagnosis and therapy of the conditions in the indication do not significantly vary among regions. Nonetheless, the regulatory authority of the new region is requiring an additional study of safety and efficacy for bridging. Is this requirement inconsistent with E5?</p>	<p>No, although you might want to discuss the issue with the regulatory authorities in the new region. E5 makes it clear that the need for a bridging study is always a matter of judgment and does not seek to discourage the new region's asking for one. E5 specifically notes that familiarity with the other region is likely to be an important determinant of whether the new region asks for a bridging study. E5 does indicate the expectation that the regulatory authorities of new regions would request only those additional data necessary to assess the ability to extrapolate foreign data to the new region, but the amount of additional data called for is a matter of judgement on the part of the regulatory authority.</p>
5 Nov. 2003	<p>My drug has been approved in two ICH regions and I am about to meet with regulatory authorities in the third region to discuss an application for marketing. I believe that the new regulatory authority should accept the present data, and that regulatory authority should require little or no additional data. What information should I submit to support my case that additional data are not needed?</p>	<p>There are two distinct issues that need to be considered: 1) the adequacy of the data base and 2) the need for a bridging study. You will need to convince the regulatory authority that the available data are both adequate to meet the new region's requirements and that the data are applicable to the population of the new region. You should therefore indicate how your data address all the regulatory requirements of the new region. Where the choice of control groups, primary endpoints, or other key clinical trial design features are not those known to be considered acceptable to the new region, you should explain how and why they should be considered to meet the regulatory requirements of the new region.</p> <p>You should also indicate why the data and conclusions should be considered relevant to the new population. In doing this, you should identify the intrinsic factors (e.g. racial distribution) that differ between the regions and show that those factors do not substantially affect the drug effect (i.e. demonstrate that the drug is insensitive to any differences in ethnic factors). Data indicating that pharmacologically related compounds have similar effects in the two regions can be quite useful.</p>

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		<p>You should also identify the extrinsic factors (e.g. diagnosis or management of the patient population studied) that you believe are generally similar to those in the intended population in the new region and explain why any significant differences would not alter conclusions to be drawn about the drug effect.</p> <p>Dose-response relationships should be evaluated to determine if these are sensitive to intrinsic or extrinsic factors, and whether the appropriate doses might vary markedly among individuals or ethnic groups.</p>
<b>6</b>	<b>Nov. 2003</b>	<p>I believe that my drug is insensitive to ethnic factors and that drugs in its class have similar activity in all regions. However, the endpoints I studied and/or the control group I used were considered acceptable to the regions in which the studies were conducted but not to the new region. Does E5 indicate that the new region should accept those data as evidence of efficacy?</p>
		<p>No. E5 indicates clearly that it applies only when the foreign clinical data address all the regulatory requirements of the new region, but come from a different region. E5 does not address the regulatory requirements of individual regions. If your choice of clinical endpoints or control group is not considered acceptable to the new region, and if you cannot convince regulators in that region otherwise, then E5 does not apply to this situation. Early discussion with regulators in regions where endpoints, control groups, inclusion criteria or diagnostic criteria might differ should be considered part of planning clinical studies to meet an individual region's requirements. In this situation, the regulatory authority in the new region may require you to conduct a study using agreed-upon criteria in the new region.</p>
<b>7</b>	<b>Nov. 2003</b>	<p>I believe my drug is insensitive to ethnic factors. However, there is a clear difference in medical practice and the use and perceived need for certain drugs in the targeted therapeutic area. Does E5 indicate that the new region should accept those data as evidence of efficacy?</p>
		<p>No. As described, the data base might not be acceptable to the new region, apart from concerns about ethnic differences, because the data do not refer to a disease that the new region considers pertinent.</p>
<b>8</b>	<b>Nov. 2003</b>	<p>My drug has been shown to be effective in preventing certain clinical events. However, the rate of these events</p>
		<p>No. Certainly, in most cases where there is a definitive outcome study in another region, a region would probably not require that the study be</p>

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	is clearly different in the new region, even though the pathophysiology is the same. Does E5 indicate that the new region should accept those data as pivotal evidence of efficacy?	repeated locally. There could, however, be exceptions; for example, if the event rate is indeed lower in the new region, and the risk reduction is the same in both regions, the actual number of patients benefited will be smaller and an adverse effect could become more important, affecting the benefit to risk relationship of the drug. A new region, in some cases, might need a clinical trial to assess the value of the drug.
<b>9</b>	<b>Nov. 2003</b>	My drug is approved for various indications in one region and it is shown in a bridging study in the primary indication that the data can be extrapolated. Does this mean that the new regions should accept all indications without further data?
		No. Whether or not the new region will require further data would be decided on a case-by-case basis, depending on whether the "bridged" indication was thought to satisfy all concerns about potential ethnic differences. For example, the additional indications might be extensions of the primary indication (perhaps not calling for an additional bridging study) or quite new uses (perhaps calling for bridging). It is recommended that early consultation and discussions be held with the authorities in the new region.
<b>10</b>	<b>Nov. 2003</b>	E5 expresses the principle that, as experience with interregional acceptance of foreign clinical data increases, there will be a better understanding of situations in which bridging studies are needed and that it is hoped that, with these experiences, the need for bridging data will lessen. Is this principle still valid?
		Yes, this is the expectation. The accumulation of experience by each region with implementation of the E5 guidance continues to add to our understanding of situations in which a bridging study would be considered necessary by a new region. The expectation continues to be that, with this experience, the need for a bridging study will lessen.
<b>11</b>	<b>June 2006</b>	There seems to be an impression that the E5 bridging study would always be conducted after data in the original region is complete. Is this correct?
		Bridging data should allow for extrapolation of data from one region to another. Although E5 speaks generally to extrapolation of data to a new region, E5 was not intended to suggest that the bridging study should necessarily follow development in another region. In the answer to Q1, it is made clear that it is also possible to include earlier studies conducted in several regions in a global drug development program so that bridging data might become available sooner. This can expedite completion of a global clinical development program and facilitate registration in all regions. A bridging study therefore can be done at the beginning, during or at the end
		It may be desirable in certain situations to achieve the goal of bridging by conducting a multi-regional trial under a common protocol that includes sufficient numbers of patients from each of multiple regions to reach a conclusion about the effect of the drug in all

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	<p>regions. Please provide points to consider in designing, analyzing and evaluating such a multi-regional trial.</p>	<p>of a global development program. For a multi-regional trial to serve as a bridging study for a particular region, it would need to have persuasive results in that region, because it is these regional results that can convince the regulators in that region that the drug is effective, and can "bridge" the results of trials in other regions in the registration application.</p> <p>A multi-regional trial for the purpose of bridging could be conducted in the context of a global development program designed for near simultaneous world-wide registration. The objectives of such a study would be: 1) to show that the drug is effective in the region and 2) to compare the results of the study between the regions with the intent of establishing that the drug is not sensitive to ethnic factors. The primary endpoint(s) of the study should be defined and acceptable to the individual regions and data on all primary endpoints should be collected in all regions under a common protocol. In instances where the primary endpoints to be used by the regions are different, data for comparison purposes on all primary endpoints should be collected in all regions.</p> <p>For a study intended to serve as a bridging study, the following points should be considered:</p> <p><b>Planning</b></p> <p>The multi-regional trial would have to satisfy requirements of the region where the application is to be filed with respect to design and analysis (see answer to Q1). In general, a multi-regional study should be designed with sufficient numbers of subjects so that there is adequate power to have a reasonable likelihood of showing an effect in each region of interest. Minor differences in design (e.g., age inclusion criteria, concomitant medication, etc.) may be acceptable and prior discussion with regulatory agencies is encouraged. For safety evaluation, it is important to make as uniform as</p>



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		<p>possible the method for collection and assessment of safety information among regions.</p> <p><b>Analysis</b></p> <p>Given the goal of the multi-regional bridging study, it is critical to provide efficacy and safety results by region, with attention given to the usual analyses (e.g., demographic and baseline variables, patient disposition). It will be of interest also to examine consistency of effects across regions. In a dose response study, it will be especially important to analyze dose response relationships for efficacy and safety both within the regions and across the regions.</p> <p><b>Evaluation</b></p> <p>It is difficult to generalize about what study results would be judged persuasive, as this is clearly a regional determination, but a “hierarchy of persuasiveness” can be described.</p> <p>1. Stand Alone Regional Result</p> <p>The most persuasive would be demonstration of the effect in the entire study, with the results of each region of interest also demonstrating a statistically significant result. It will also be important to compare results across regions.</p> <p>2. No Significant Regional Result but Similar Results across Regions</p> <p>With an effect demonstrated in the entire study, an analysis of results by region might not show a significant result in a region of interest but the data might nonetheless be persuasive to regulators in that region. Consistent trends in endpoint(s) intended for comparison across the regions or, in the case of a dose-response study, similar dose-response relationships across</p>

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		<p>regions, might support an argument that the drug is not sensitive to intrinsic or extrinsic ethnic factors. Other data, for example, from approved drugs in the same class within region(s) could support such a bridging conclusion.</p> <p><b>Other consideration</b></p> <p>This Q &amp; A discusses use of multi-regional studies as bridging studies. There are other possible uses of multi-regional studies. For example, at an early stage of development, such studies could compare various endpoints in an exploratory setting in different regions to guide a synchronized global development plan.</p>