

R&D Briefing

Global Drug Development and Regulatory Review: Is there a new paradigm?



44

Highlights from the Workshop on

Global Drug Development: Issues for the pharmaceutical industry and the regulatory authorities

Organised by the CMR International Institute for Regulatory Science in Tokyo,
Japan, 26-27 May 2004

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**Centre for Medicines
Research International
Institute for Regulatory Science**

The CMR International Institute for Regulatory Science has been established as a not-for-profit division of the Centre for Medicines Research International Ltd, in order to continue CMR's work in the regulatory and policy arena and to maintain the well-established links that the Centre has with the pharmaceutical industry and regulatory authorities around the world.

The Institute operates autonomously with its own dedicated management and funding that is provided by income from a membership scheme. The Institute for Regulatory Science has a distinct agenda dealing with regulatory affairs and their scientific basis, which is supported by an independent Advisory Board of regulatory experts (see back cover)

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For information on forthcoming Workshops and current and future studies and publications visit the website:
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The Institute programme of activities is published in the Institute Agenda, available from the website

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Global Drug Development

Highlights from the workshop held by the CMR International Institute for Regulatory Science in Tokyo, Japan, 26-27 May 2004

Key points

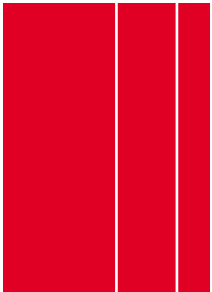


Although most of the major pharmaceutical companies are moving towards simultaneous development and registration of new drugs in Europe and the US, the full integration of Japan into global development plans has yet to be achieved by many companies. The CMR International Institute Workshop on *Global Drug Development* provided an opportunity for senior executives from industry and regulatory agencies to address the scientific issues and the hurdles to be overcome in order to achieve fully integrated drug development.




The belief that the time is right to start discussing some radical changes of philosophy and practice in global drug development was one of the main themes to emerge in the Workshop discussions and recommendations.

There was consensus that the time is right to initiate an international debate on a 'new paradigm' for drug development and regulatory review. It was recommended that the CMR International Institute for Regulatory Science should take a lead in this and build such discussions into its work programme for the coming years.



Elements for a new paradigm included proposals that a formal review of new medicines should take place at the end of Phase II rather than waiting for completion of Phase III, and that some innovative products that address unmet medical need could be released for early marketing on a 'trial' basis, with intensive safety monitoring.



It was proposed that 'rolling reviews', as established in the US, could become the norm and even taken a stage further. It was envisaged that data could eventually be held in a central 'data warehouse', accessible to the authorities, that allowed reviews to take place on a continuous basis, ultimately obviating need for conventional submissions or final study reports.

Among the areas identified for action in the short to medium term were improving safety monitoring and information exchange through a global safety database, and taking steps to maximise the benefits of the harmonisation achieved through ICH, by improving the consistency of interpretation and implementation of guidelines.

The Workshop took place less than two months after the inauguration of the new Japanese Pharmaceuticals and Medical Devices Agency (PMDA), in April 2004 and participation by Dr Osamu Doi, Senior Executive Director of PMDA, gave delegates the opportunity to learn, at first hand, about the structure and objectives of the new agency.

Among the issues that were discussed was the so-called 'Japan gap' – the lag time between filing new drug applications in the Western world and filing in Japan, which can result in a delay of several years before Japanese patients benefit from medicines that are available to patients in other parts of the world.



Background



Although it is the goal of most major pharmaceutical companies to achieve global development for new medicines with simultaneous submission of the regulatory dossier in the three main ICH regions, there are a number of scientific and regulatory hurdles that can impede this strategy. The CMR International Institute convened this Workshop to explore the issues through presentations by industry and regulatory agency experts and discussions in Syndicate Groups. The recommendations from the syndicated discussions explored short and medium term actions for facilitating global drug development within the current R&D paradigm but also made several far-reaching recommendations for a new paradigm for the development and review of new medicines.

A new paradigm for drug development and regulatory review

The Workshop arrived at the conclusion that the way in which new medicines have been developed and reviewed over the past 20 to 30 years is not sustainable for the new generation of medicines. New technologies and the medical need for safer, better targeted medicines tailored to the characteristics of different patients mean that it is time to look for fundamental changes in the philosophy and practice of medicines development. Proposals for the future included:

- **Review at the end of Phase IIb:** A formal regulatory review of data at an earlier stage in development
- **A rolling review** of data after Phase IIb
- **Early controlled marketing** for some medicines, at the end of Phase IIb with the equivalent of the current Phase III development being carried out in a 'real-world' patient population
- **A central 'Data Warehouse'** that would allow regulatory authorities to access and analyse data on new medicines during development and would obviate the need for formal regulatory submissions
- **Joint, coordinated reviews** with the possibility of mutual recognition of the assessment and evaluation of the sections on quality (Chemistry and Manufacturing Controls – CMC) and on nonclinical studies

Review at the end of Phase IIb

This is proposed on the premise that there would be a more significant body of data available at end of Phase II than at present, designed to reach a more robust end-point and a much earlier focus on safety issues. With these provisos, it was felt that new medicines could be subject to a formal regulatory review and appraisal when proof-of-concept is achieved at the end of Phase IIb. The outcome of a successful Phase IIb review would then determine the way in which the product moves forward:

- An agreed Phase III development plan with a rolling review of the data as it is generated, leading to a final assessment for marketing at the end of Phase III; or
- Early marketing with a specific agreed programme of investigations to be carried out in the patient population, in the market place; or
- Conditional marketing authorisation with specific limits on use and patient population, etc. (equivalent to current orphan drug programmes and conditional approvals).

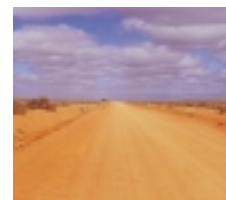
Rolling Review

This would start with early consultations and scientific advice being sought from the start of the clinical programme. After the formal end-of-Phase IIb review described above, a rolling review of data, and consultations on the development programme would continue until full marketing is achieved.

- This paradigm envisages that the phases of development would become more 'blurred' with review opportunities being dictated by the availability of data rather than the more traditional milestones. For example, the review opportunity might be the completion of a particular study rather than a collection of studies. It was noted that there is precedent for this in some processes for the approval of orphan drugs, HIV and oncology products.
- The rolling review would have the intention of satisfying technical requirements for final product approval. It was recognised that this is a quite separate exercise from generating the data required for pricing and reimbursement discussions.



A new paradigm for development and review



Early Marketing under controlled conditions

Where the data is sufficiently robust at the end of Phase II, a 'probationary' approval for marketing should be possible. The conditions attached to early marketing would include studies to confirm efficacy and also to test the safety hypothesis and the risk management programme proposed at end of Phase II.

- The product would be subject to regular safety reviews (perhaps through a system of periodic safety update reports (PSURs)). This would not, however, merely be a larger Phase III trial; the drug would be exposed to a population of 'real life' patients with concomitant illness and use of other medicines.
- Early marketing release would involve a degree of risk to the companies and regulators along with both benefits and, to a certain extent, risks for patients. It would be important to ensure that both the benefits and risks are understood by prescribers and patients, who would need to be fully informed and involved in the development and risk management programme.
- There would need to be an agreed way of designating products that were under 'probationary' marketing release in order to make this clear to physicians and patients. It was acknowledged that issues of informed consent would need to be addressed.
- Once the post-marketing programme had fulfilled its obligations and met expectations the product would be cleared for full marketing under normal conditions.
- This model would not be appropriate for all indications and target populations but would apply primarily to medicines addressing unmet medical need. (It may not, for example, apply to some 'lifestyle' drugs).

Data Warehouse

This proposal takes the concept of the 'rolling review' a stage further and envisages a departure from the convention that data must be analysed by the company and collated into a dossier and submitted to the regulatory authority at a specific point in the drug development programme. Instead, all the safety and efficacy data concerning a product would be held in a central, electronic 'data warehouse' accessible to regulatory agencies at all stages of development.

- Data would be submitted to the data warehouse from discovery to the end of clinical development and reviewed once.
- The body of knowledge about the product would be built up between the regulators and companies working in partnership through the one database.
- The concept derives, in part, from the fact that the FDA reviewers currently carry out their own analysis of the data as part of the review process, rather than relying on the company interpretation.
- There would be no large submission at the end of the development process. Instead companies would issue a notification that the final case report had been entered.
- The stages at which the data should be reviewed would be a matter for agreement between the company and regulators.

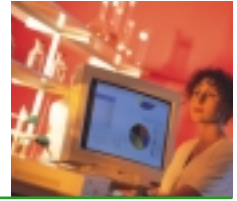
Joint coordinated reviews

The ultimate objective of harmonising procedures and data resources between regulatory agencies is the joint review and evaluation of medicines.

- A situation could be envisaged where a sufficient level of harmonisation has been achieved to allow surrogate reviews to be accepted, with one agency carrying out a review on behalf of other agencies.
- In the end-of-Phase IIb review described earlier it would not be necessary for each agency to carry out a separate review of the nonclinical and CMC data. There could be 'mutual recognition' with a single review, by a designated agency that was accepted by other agencies.
- In order to build the mutual confidence and harmonisation required to implement joint or surrogate reviews, further work would be required on ICH data requirements and guidelines to ensure uniform interpretation and adopt harmonised procedures for scientific evaluation and decision making.



A new paradigm for development and review



The Syndicates identified short and medium-term changes and developments that would facilitate an integrated approach to global drug development and pave the way for the more radical approaches for a new development and review paradigm.

Human Safety: Global Safety Database

Public confidence in both regulators and industry would be enhanced by improved management of drug safety issues both during development and after marketing. Workshop participants recommended that there should be a single, global safety database that would operate from the time of first development of a medicine to its launch and throughout the life of the product.

- A single database should be established – or designated - where industry could file its safety data once, enabling it to become immediately available to all agencies and interested parties, rather than the current system of multiple filings to different agencies.
- The role of the ICH guidelines and the MedDRA terminology, as well as the Uppsala Monitoring Centre in Sweden, were acknowledged but it was felt that a new initiative should, nonetheless, be undertaken.
- It was recognised that the ability of different agencies to maintain and interrogate local databases is very variable, depending on resources, and it was felt that having a single database would remove some of these differences between agencies.
- The database would include events reported directly to agencies that had not come through the company reporting system.
- Among the advantages identified were that it would:
 - > Enhance the transparency of data to all parties;
 - > Facilitate a single risk management protocol that could be utilised worldwide, whilst allowing local or regional implementation;
 - > Encourage pan-regional and regional discussions between agencies and industry on emerging safety issues, at an early stage.

Synchronised timelines

One of key factors in successful global drug development is the ability to obtain joint scientific advice from agencies, under bilateral confidentiality agreements, followed by simultaneous submissions. It was suggested that Agencies should harmonise their timelines for submissions and synchronise the clock times when simultaneous applications are made.

- Synchronisation would help companies to deal more efficiently with questions on applications, as these would arise within the same time frame.
- It would allow for more interagency discussions and better resource planning.
- The need to abide by internationally agreed timelines would also assist agencies in justifying the additional resources that may be required to meet these objectives.

Endpoints and surrogate markers

There was agreement that priority should be given to harmonisation, possibly through ICH, of guidance on the establishment of clinical endpoints and the use of surrogate markers. Discussions would, however, need to involve other stakeholders besides the industry and regulatory agencies, including academia, patient groups and practising clinicians. General guidance would be needed as well as separate 'points to consider', documents, for different therapeutic areas.

- It was recommended that the CMR International Institute should include the topics of clinical endpoints and surrogate markers in its programme of work for the near future.



The environment for global development



Maximising the benefits of ICH

The Workshop felt that the full potential of the ICH harmonisation is not being realised and that there is a need for programmes of re-education on the concepts and details of the ICH clinical guidelines among regulators and industry.

- Some guidelines need to be revisited to ensure that they are being interpreted and applied in a consistent and even-handed manner. It was recognised that industry might need to provide funds for appropriate training programmes.
- When new ICH topics are addressed, it was suggested that academia should be involved at an early stage in the discussion in order to help generate guidelines that start from a therapeutic rather than a regulatory point of view. Academia would also have a role in international arbitration when trying to bring together different medical views and opinions on essential matters in ICH.
- It was recommended that a study should be carried out by CMR on the implementation and interpretation of the ICH guidelines in the different regions in order to identify the major causes for concern among pharmaceutical companies and regulatory agencies.

Acceptance of Foreign data

Renewed efforts are required to improve the use of bridging studies and clarify the situations in which they are considered necessary. It was felt that the ICH E5 guideline on the acceptance of foreign clinical data was not being implemented in a harmonised manner and that repetition of clinical studies is still being required in many situations where they are not necessary.

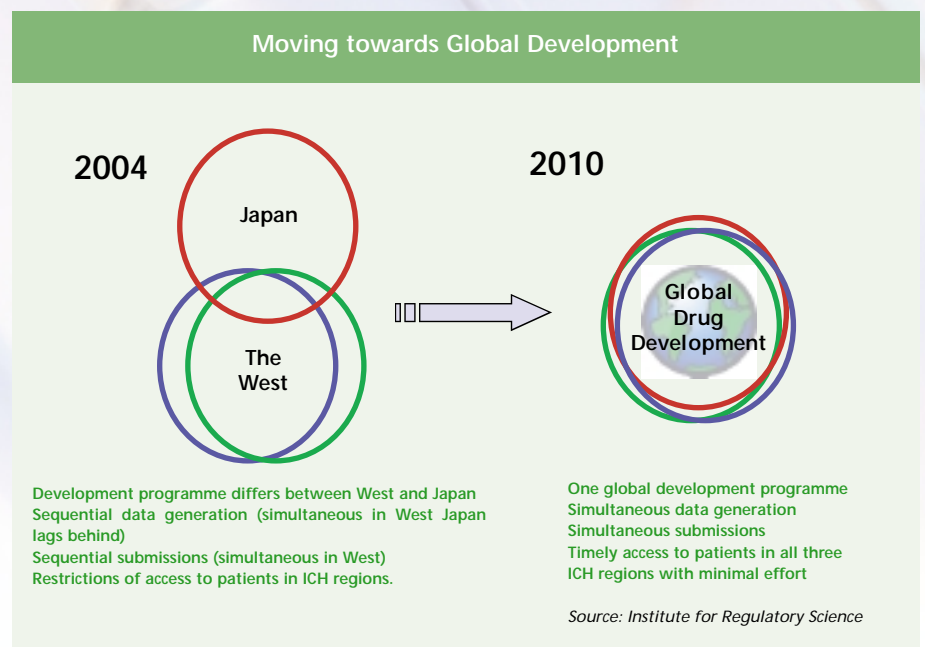
- Further interpretation of the conditions under which foreign clinical data is accepted should focus not only on the acceptance of Caucasian data in Japan but also on data from Japanese and other Asian patients, in applications to the EU and USA.

Training and accreditation of reviewers

Considerable responsibility is assigned to individual assessors during the review of an application but it was noted that there are no international agreements on requirements for training, competency or accreditation.

- Support and encouragement was expressed for the current schemes for exchange of regulatory personnel between agencies as part of training programmes and in order to gain 'hands on' experience of, and insight into, regulatory procedures in a different culture.
- Several agencies have internal procedures for peer review of assessments, quality management systems and competency programmes but consolidated information on these is not readily available.
- It was recommended that the CMR International Institute should collect such information as part of future studies on building quality into the regulatory review process.

figure 1





Other points from the Syndicate discussions

The following summarises further points raised by the Syndicate groups in discussion of regulatory hurdles in the way of global development and possible remedies:

■ Use of comparator products:

Differences in requirements between Europe and the US over the use of active comparator versus placebo remain a barrier to the design of global clinical protocols.

- > International discussions on this topic need to continue.
- > Even within Europe differences in views on the dose and type of comparator can be an impediment.

■ Quality specifications:

Renewed international efforts are needed to address the lack of pharmacopoeial harmonisation and differences in implementation of ICH quality guidelines. These can result in the same products being authorised with different specifications which increases the costs and resources needed for maintenance and leads to difficulties in compliance.

■ Pre-clinical testing:

Although animal data is generally regarded as having less value once clinical experience accumulates, there have been instances where the Japanese authorities have asked for additional animal studies to be carried out on products that are already established on the market in the other regions. This is one of the consequences of the lag time between filing an application in the West and in Japan.

■ Clinical trial authorisations:

The need to make multiple applications for clinical trial authorisation in different regions and countries is a time-consuming impediment to global clinical programmes. A system that allowed a single filing, mutually recognised in other regions, would be a major benefit.

■ GCP and GMP inspections:

Further mutual recognition agreements (MRAs) should be implemented to avoid the current need for repeated inspections by regulatory authorities.

■ GCP in Japan:

Many outside observers feel the implementation of GCP in Japan to be complex and it would be helpful if PMDA could draw up guidelines for the conduct of multinational trials in Japan.

Syndicate Sessions

Session Chairman: **Dr Hatsuo Aoki**, President & Chief Executive Officer, Fujisawa Pharmaceutical Co Ltd, Japan

Topic A: Integrated drug development in ICH regions: What does a current regulatory development roadmap look like for true simultaneous development today, where are the hurdles and what are the practical solutions?

Syndicate 1

Chair: Prof. Thomas Kühler, Director of Operations, Medical Products Agency, Sweden
Rapporteur: Dr Simon Larkin, Director, Drug Development, Europe, Kyowa Hakko UK Ltd

Syndicate 2

Chair: Prof. Bernd-Günter Schulz, Head of Global Regulatory Affairs, Schering AG, Germany
Rapporteur: Prof. Samuel Vožeh, Head Business Unit Prescription Medicines, Veterinary Medicines and Pharmacovigilance, Swissmedic

Topic B: Looking towards the next 10 years, with advances in technology, continuing resource constraints and increased globalisation, what would an ideal regulatory landscape look like and how could this be achieved?

Syndicate 3

Chair: Dr John Lim, Director, Centre for Drug Administration, Health Sciences Authority, Singapore
Rapporteur: Dr Paul Huckle, Senior VP, European and International Regulatory Affairs, GlaxoSmithKline, UK

Syndicate 4

Chair: Dr Graham Burton, Senior VP, Regulatory Affairs, Pharmacovigilance and Project Management, Celgene Corporation, USA
Rapporteur: Dr Leonie Hunt, Director, Drug Safety and Evaluation Branch, Therapeutic Goods Administration, Australia



Workshop Programme



PROGRAMME

Chairman: Dr Murray Lumpkin,
Principal Associate Commissioner,
FDA, USA

KEYNOTE PRESENTATION: The role of the new Japanese regulatory organisation in bringing global medicines to the Japanese patient.
Dr Osamu Doi, Senior Executive Director, Pharmaceuticals and Medical Devices Agency (PMDA)

Global Cooperation in Drug Development: A US viewpoint (by video)
Dr Lester Crawford, Acting Commissioner, US Food & Drug Administration, (FDA)

Integrating Japan into global development: A multinational company perspective.
Dr Mike Ferris, Head of Drug Innovation and Approval, Aventis Pharma Japan.

Working in a western environment: A Japanese company perspective:
Dr John Alexander, President, Sankyo Pharma Inc., USA

Session 1: Regulatory and Scientific Approaches to Global Drug Development

Quotes and extracts from the workshop report

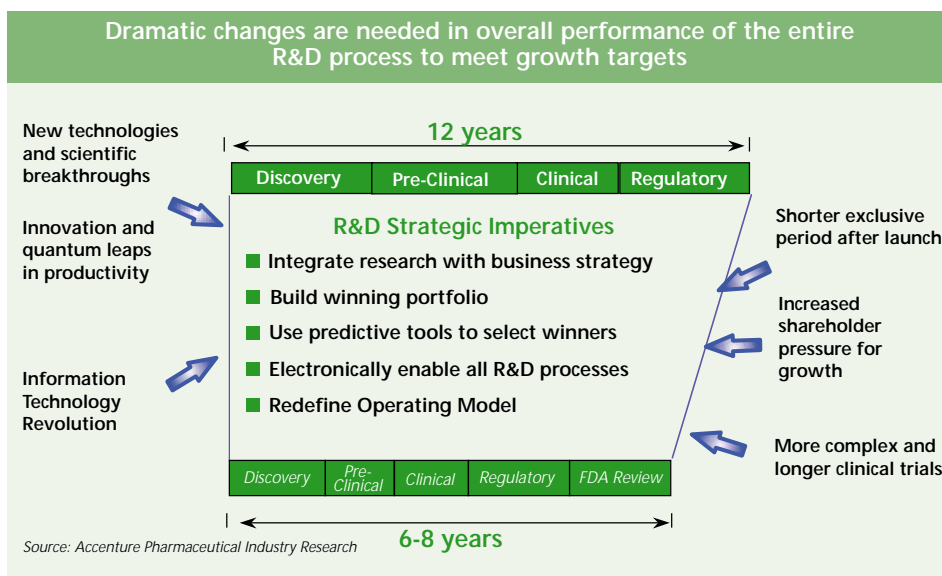
The world of genomics, proteomics, nanotechnologies, and biomedical information technologies will surely usher in new areas of health promotion that can only be barely imagined, at present. The task of such innovation is, however, becoming increasingly difficult. It requires heavy investment and can be an increasingly lengthy and costly business that involves a great deal of risk and unpredictability – much of it based simply on the unknowns of disease, but some also based on regulatory environments that can seem opaque and unresponsive.
Dr Lester Crawford

If Japan is included in global first-time-in-man studies this can be regarded as true global development. It will generate early data on intrinsic ethnic factors and also has the advantage that, by involving local company personnel and opinion leaders from the beginning, there will be enhanced knowledge, interaction and interest.
Dr Mike Ferris

Dr Doi summarised the benefits that could be expected from the new review and pharmacovigilance procedures established under the PMDA. He felt that, under the previous system, there were too few reviewers and too little time to be able to listen fully to the opinions of companies and he was confident that this would change with increased human resources and the ability to have more frequent and meaningful discussions between the two parties.
Dr Osamu Doi

The general picture shows healthcare costs outstripping resources, a deficit of innovative drug discoveries, soaring development costs and intense competition. Most Japanese companies are small to medium sized by pharmaceutical industry standards and face the challenge of very limited R&D budgets compared with the major players.
Dr John Alexander

figure 2

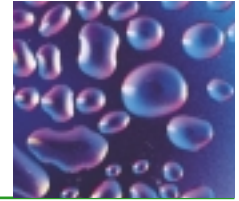


Although the Japanese market has, historically, been very attractive it will not be possible to continue the 'stand-alone' approach to studies there, particularly in view of the cost of carrying out clinical trials in Japan. Dr Ferris believed that the future lay in carrying out Asian studies, with Japan as a leading participant in those programmes. China, he said, is a very exciting and challenging objective
Discussion session

From the presentation by Dr John Alexander



Workshop Programme



PROGRAMME
Chairman: Dr Robert Peterson,
 Director General, Therapeutic
 Products Directorate, Health
 Canada

Factors that impede or assist true
 global development in the ICH
 regions.
*Professor Stuart Walker, President
 and Founder of CMR International*

What are the key questions that
 need to be addressed in a global
 development plan to utilise a
 single protocol?
*Dr Christine Cioffe, Vice President
 Project Management, Merck and
 Company Inc.*

Dialogue with regulators during
 global development: When, why
 and how?
*Dr Stewart Geary, Deputy Director,
 Corporate Regulatory Compliance
 and Quality Assurance
 Headquarters, Eisai Co Ltd, Japan,
 Eisai Co Ltd, Japan*

The regulators; role in enhancing
 medical science innovation
*Dr Murray Lumpkin, Principal
 Associate Commissioner, FDA, USA*

Session 2: Global Development Protocols: Scientific and Regulatory issues

Quotes and extracts from the workshop report

A fundamental role of the regulator is to provide assurance to the broader community that products coming on to the market meet appropriate criteria and standards and are truly innovative. These assurances have, traditionally, been provided by setting and enforcing science-based standards that are transparent to the industry and public alike. The challenge will be to develop standards for the new generation of 21st century products that will continue to provide these assurances without inhibiting innovation.

Dr Murray Lumpkin

Partnership is a word that is now frequently used in relation to working closely with the agencies. Industry is now looking towards strengthened tripartite agreements to facilitate exchange of information and coordination of regulatory advice.

Professor Stuart Walker

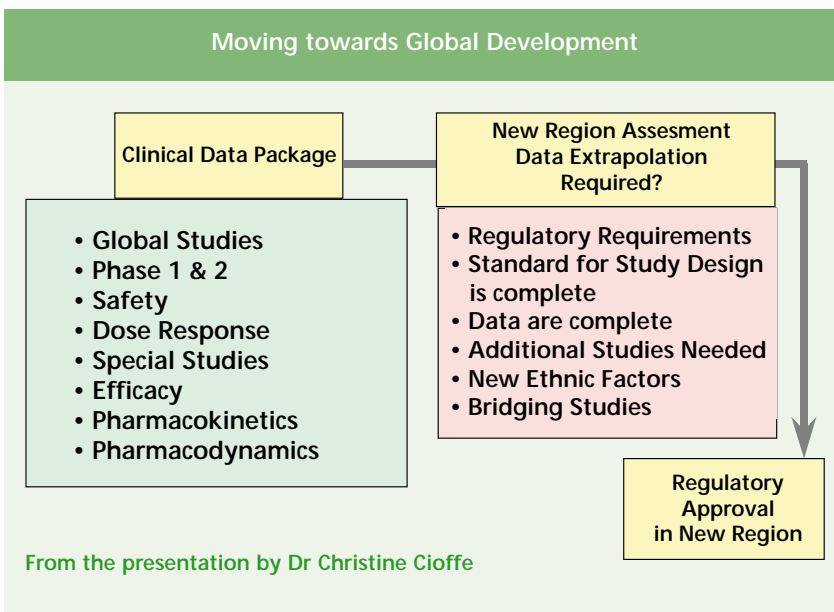
Differences in risk management had been cited as one of the hurdles in global development and review, but Dr Jefferys suggested that this was frequently related to differences in healthcare delivery systems.

Discussion session

With regard to media reaction there is little difference between the US and Japan, when something goes wrong. However, one of the challenges over the years has been to try to educate not only the news media but more importantly the patient groups involved with the products. Here there has been some success with the HIV/AIDS advocacy groups, who have accepted that serious but rare adverse events are, statistically, not going to be detected in a normal clinical development programme and that demands for a greater level of assurance will result in unacceptable delays in new products reaching the market

Discussion session

figure 3



If different advice is obtained from two regulators on a single protocol there is no formal mechanism to reconcile that advice, and certainly no rapid mechanism. When advice differs substantially, it can result in development programmes being duplicated and this tends to happen as a result of the different philosophies over the use of placebo versus active comparator in the US and Europe.

Dr Stewart Geary



Workshop Programme



PROGRAMME
 Chairman: **Dr David Jefferys**,
 Department of Health, Special
 Adviser – Healthcare Industries,
 UK

Construction of a Global dossier:
 what needs to be considered,
 and what are seen as the critical
 success factors?
*Dr Tim Franson, Vice President,
 Global Regulatory Affairs, Eli
 Lilly & Company Limited, USA*

Same dossier, same data: but
 three reviews in three regions: Is
 this a valuable exercise or
 wasted resource?
*Dr George Butler, Vice President
 and Head, Worldwide
 Regulatory Affairs, AstraZeneca
 pharmaceuticals, USA*

Global Cooperation in Drug
 Development: A European
 viewpoint (by video)
*Mr Thomas Lönngren, Executive
 Director, European Agency for
 the Evaluation of Medicinal
 Products, (EMA)*

Session 3: The Global Dossier and its Review

Quotes and extracts from the workshop report

Whilst the point at which the dossier is submitted might be considered definitive it is, in fact, only a 'snapshot' of one point in time in the evolution of that product and its documentation. This is particularly true with respect to the accumulation of new safety data. After approval and launch the database on the product continues to evolve and is particularly important in relation to an on-going evaluation of the risk-benefit of the medicine and its place in medical practice.

Dr Tim Franson

Fifteen years ago it would have been impossible to believe that the, then, 12 members of the EU could work together on parallel submissions and arrive at consensus but we are now looking at the prospect of the centralised procedure applying in the 25 countries of the expanded Union.

Discussion session

Pharmaceuticals are no longer developed for individual countries, or on a regional basis, but they are increasingly being developed for the World and regulatory requirements must also be applicable to global drug development. This is even more important when considering the new medicines that will be developed in future based on new technologies and the mapping of the human genome.

Dr Thomas Lönngren

The stage at which questions start to come in from regulators is one of the most stressful for the product development teams. In theory, questions should be answered pragmatically, as they are received. In practice deficiency letters may be coming in from all quarters and it is 'a question of which aeroplane you get on'.

Dr George Butler

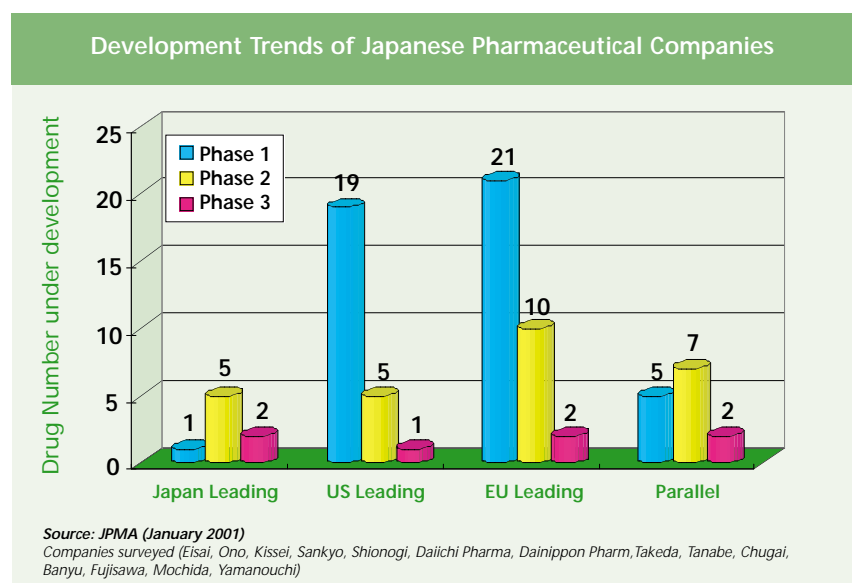
figure 4

Defining the Goals for Global Development

The current goal of Global Drug Development was defined, during the Workshop, as a single integrated development programme, leading to a single set of data (including bridging studies) within a timetable that would allow simultaneous submission (within one month) in the major markets.

There was a view that simultaneous submission was not necessarily a critical factor but there was unanimity that the ultimate goal was earlier access to significant markets.

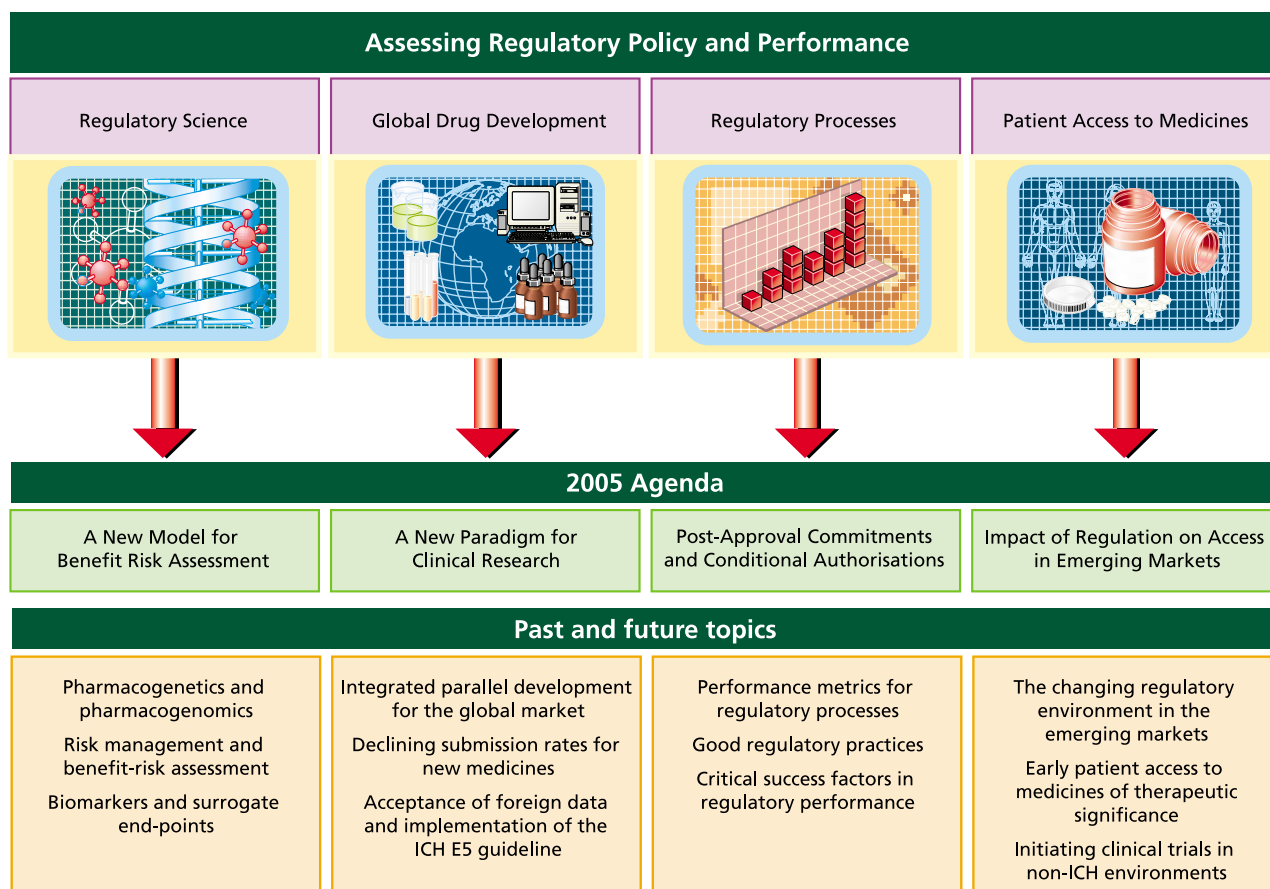
Looking ten years hence, however, those markets will not necessarily be the 'big three' of today – USA, Europe and Japan. The growing importance of the emerging markets, especially China must be a factor in the future goals of global development.



Many Japanese companies are starting their clinical development outside Japan in order to respond to the requirements of different regulatory agencies and also to position their products in the global market.

Dr Hatsuo Aoki, Session 4

CMR International Institute for Regulatory Science



Members of the Regulations Advisory Board (2005)

Dr Robert Peterson (<i>Chairman</i>), Director General, Therapeutic Products Directorate, Health Canada	Canada
Prof. Gunnar Alván, Director General, Medical Products Agency	Sweden
Prof. Sir Alasdair Breckenridge, <i>Chairman</i> , Medicines and Healthcare products Regulatory Agency (MHRA)	UK
Dr Osamu Doi, Senior Executive Director, Pharmaceuticals and Medical Devices Agency (PMDA)	Japan
Dr Leonie Hunt, Director, Drug Safety and Evaluation Branch, Therapeutic Goods Administration	Australia
Dr John Jenkins, Director, Office of New Drugs, Center for Drug Evaluation and Research (CDER), Food and Drug Administration	USA
Dr Murray Lumpkin, Principal Associate Commissioner, Food & Drug Administration	USA
Thomas Lönngren, Executive Director, European Agency for the Evaluation of Medicinal Products, (EMA)	EU
Dr Milan Smid, Director, State Institute for Drug Control	Czech Republic
Prof. Samuel Vožeh, Head of Business Unit, Prescription Medicines, Veterinary Medicines and Pharmacovigilance, Swissmedic	Switzerland
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Dr George Butler, Vice President, Customer Partnerships, AstraZeneca Pharmaceuticals	USA
Dr Christine Cioffe, Vice President, Project Management, Merck and Company Inc.	USA
Dr Tim Franson, Vice President, Global Regulatory Affairs, Lilly Research Laboratories	USA
Dr Stewart Geary, Deputy Director, Corporate, Regulatory Compliance and Quality Assurance Headquarters, Eisai Co. Ltd	Japan
Dr Edmund Harrigan, Senior Vice President, Worldwide Regulatory Affairs, Pfizer Inc.	USA
Dr Paul Huckle, Senior Vice President, European and International Regulatory Affairs, GlaxoSmithKline R&D Ltd	UK
Prof. Stuart Walker, President and Founder of CMR International	UK

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