



IRISH MEDICINES BOARD

Quality Management Systems

ICH Q10

Irish Medicines Board Information
Day 2012

27th September 2012

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CONTENT

- Basis for Pharmaceutical System
- ICH Q10 Summary
- Pharmaceutical Quality System Elements
- Management Responsibilities
- Enablers

Knowledge Management
Quality Risk Management



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- By virtue of Article 6 of Directive 2003/94/EC and Directive 91/412/EEC manufacturing authorisation holders are already obliged to establish and implement an effective pharmaceutical quality assurance system in order to comply with Good Manufacturing Practice (GMP) and guidance is provided in Chapter 1 of the GMP Guide.



- At the time of the EU implementation of ICH Q10 it was also recognised that Chapters 1, 2 and 7 of the GMP Guide should be updated to align with the terminology and concepts utilized in ICH Q10.

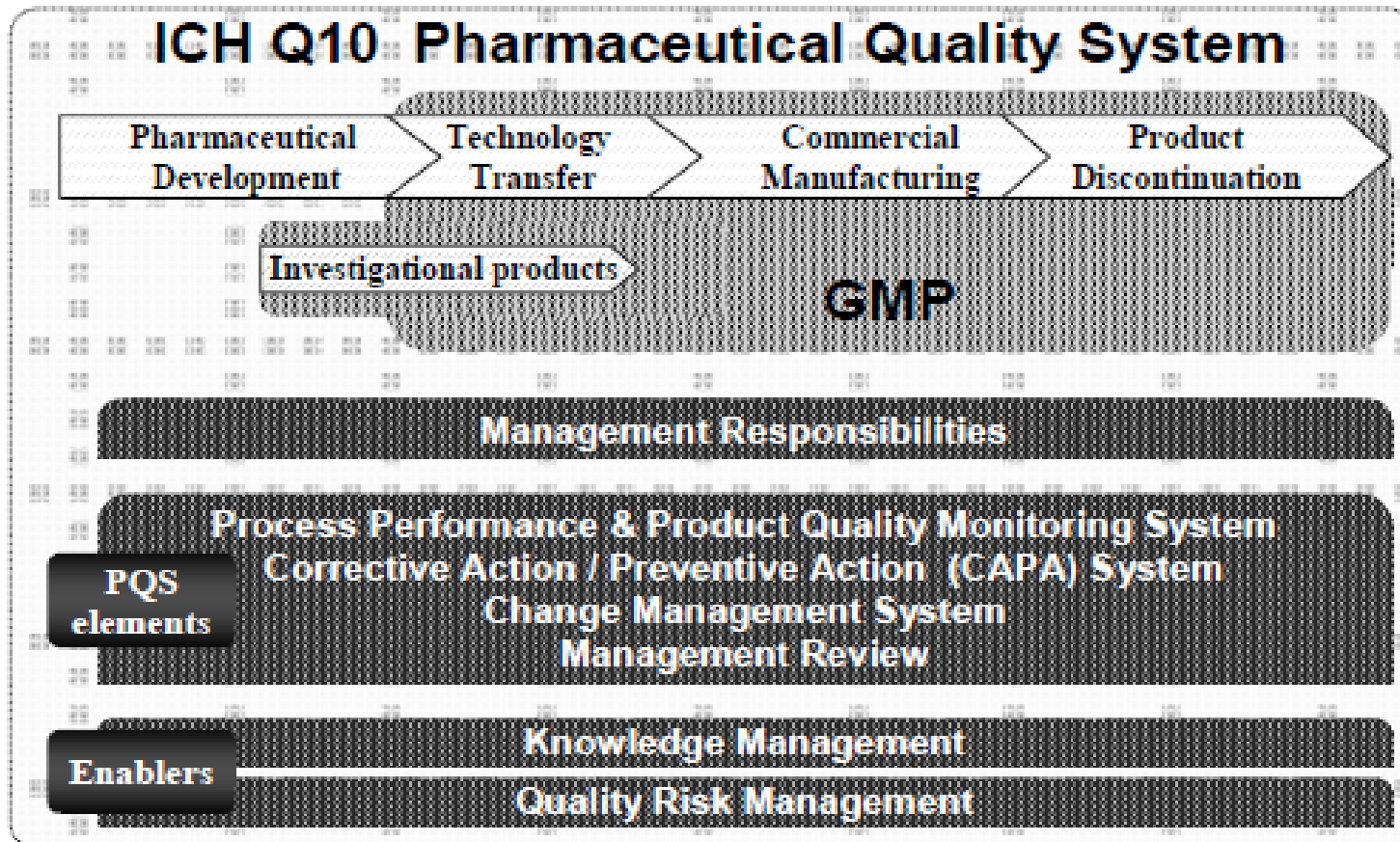


- The content of ICH Q10 that is additional to the scope of GMP is optional. Its use should facilitate innovation, continual improvement and strengthen the link between pharmaceutical development and manufacturing activities.



ICH Q10 SUMMARY

Diagram of the ICH Q10 Pharmaceutical Quality System Model



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- GMP applies to the life cycle stages of:

Investigational Medicinal Products

Technology Transfer

Commercial Production



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Pharmaceutical Quality System Elements

- ICH Q10 Pharmaceutical Quality system can extend to:
 - Pharmaceutical Development
- Facilitate Innovation and Continual Improvement
- Strengthen the link between Pharmaceutical Development and Commercial Manufacturing
- Quality system should be company wide but demonstrated at site level.



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Pharmaceutical Quality System Elements

- The Quality System Design should be:

Well structured.

Appropriate to the size and complexity of the company.

Incorporate Risk Management Principles.

Capable of consistent delivery of products with appropriate quality attributes.



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Pharmaceutical Quality System Elements

The PQS should ensure that:

Product and process knowledge should be managed throughout the lifecycle.

The selection and monitoring of suppliers and verifying every delivery is from the approved supply chain.

Processes are in place to manage outsourced activities.



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Pharmaceutical Quality System Elements

- The PQS should ensure that:
 - Process Performance and Product Quality are in a state of control.
- This is achieved by managing product and process knowledge throughout all lifecycle stages.
- Medicinal products should be designed and developed in a way that takes into account of the requirements of GMP.



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Pharmaceutical Quality System Elements

- Effective monitoring and control systems should establish a state of control for product and process performance.
- Products should be monitored to enable preventive actions to avoid potential recurring deviations.



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Pharmaceutical Quality System Elements

- The Management Review system should include:

Results of Regulatory inspection and findings, audits and Commitments to Regulatory Authorities.

Periodic Quality Reviews.

Identification of actions such as process improvements, training, realignment of resources and capture and dissemination of knowledge.



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Quality Organization

- Resource Management:

Management should determine and provide adequate and appropriate resources (Human, Financial, Materials, Facilities and Equipment) to implement and maintain the pharmaceutical quality system and continually improve its effectiveness.

Management should ensure that resources are appropriately applied to a specific product process or site.



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Quality Organization

- There should be an organizational chart showing the relationships between:
The Heads of Production, Quality Control, Quality Assurance and the Qualified Persons.
- Roles and Responsibilities should be defined.
- The duties of the Qualified Persons are defined in Annex 16 and Article 51 of Directive 2001/83/EC.



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Quality Risk Management

- Quality Risk Management may be used:
 - In the investigation of deviations and product defects to identify root causes.
 - In the evaluation of planned changes prior to implementation taking regulatory requirements into account.



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Corrective and Preventative Actions (CAPAS)

- Investigations should identify true root causes of deviations.
- If not possible the most likely root cause should be identified and addressed.
- Human error should be formally addressed to ensure system or procedural causes are not overlooked.
- CAPAS should be put in place and their effectiveness monitored.



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Management Responsibility

- Leadership is essential to establish and maintain a company-wide commitment to quality and for the performance of the quality system.
- Senior Management has the ultimate responsibility to ensure an effective PQS is in place.
- Senior Management should ensure the commitment and support of staff at all levels in the organization.



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Management Responsibility

- Management responsibilities include ensuring :

That the PQS is adequately resourced.
Roles, Responsibilities and Authorities are defined, communicated and implemented.

Participation in Periodic Management Review.

The PQS is defined and documented in a Quality Manual.



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Change Management System

- The change management system should include:

Quality Risk Management- *evaluation should be commensurate with the level of risk.*

Changes should be evaluated relative to the Marketing Authorization. *ICH 8 design space latitude does not exclude the requirement to evaluate changes within design space as a change within change control. Such changes do not require regulatory action.*



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Change Management System

- Proposed Changes should be evaluated by expert teams with the appropriate expertise to ensure the change is technically justified.
- Prospective evaluation criteria for a proposed change should be set.
- Changes should be evaluated after implementation to ensure the change objectives were achieved and that there was no deleterious effect on product quality.



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Knowledge Management

- Knowledge management is a systematic approach to acquiring, analyzing, storing, and disseminating information related to products, manufacturing process and components.
- Sources of knowledge include: prior knowledge, pharmaceutical development studies, technology transfer records, process validation studies, manufacturing experience, innovation, continuous improvement and change management activities.



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Continual Improvement

- Based on lifecycle goals and Four specific Pharmaceutical Quality System elements.
- Lifecycle stage goals
 - Pharmaceutical Development
 - Technology Transfer
 - Commercial Manufacturing
 - Product Discontinuation



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Continual Improvement

- The four PQS elements are:
 - Process Performance and Product Quality Monitoring System.
 - Corrective Action and Preventative Action (CAPA) System.
 - Change Management System
 - Management Review of Process Performance and Product Quality.



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External Factors impacting the PQS

- Emerging regulations, guidance and quality issues.
- Innovations that might enhance the PQS.
- Changes in business environment and objectives.
- Changes in product ownership.
- External factors should be monitored by management.



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Benefits of ICH Q10 Approach

Potential opportunities to enhance science and risk based regulatory approaches *

*Note: This annex reflects potential opportunities to enhance regulatory approaches. The actual regulatory process will be determined by region.

Scenario	Potential opportunity
1. Comply with GMPs	Compliance – status quo
2. Demonstrate effective pharmaceutical quality system, including effective use of quality risk management principles (e.g., ICH Q9 and ICH Q10).	Opportunity to: <ul style="list-style-type: none">• increase use of risk based approaches for regulatory inspections.
3. Demonstrate product and process understanding, including effective use of quality risk management principles (e.g., ICH Q8 and ICH Q9).	Opportunity to: <ul style="list-style-type: none">• facilitate science based pharmaceutical quality assessment;• enable innovative approaches to process validation;• establish real-time release mechanisms.
4. Demonstrate effective pharmaceutical quality system and product and process understanding, including the use of quality risk management principles (e.g., ICH Q8, ICH Q9 and ICH Q10).	Opportunity to: <ul style="list-style-type: none">• increase use of risk based approaches for regulatory inspections;• facilitate science based pharmaceutical quality assessment;• optimise science and risk based post-approval change processes to maximise benefits from innovation and continual improvement;• enable innovative approaches to process validation;• establish real-time release mechanisms.



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 - ICH Q10

Questions ???



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- Thank You



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