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Postmarket Surveillance and Vigilance

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Agenda

- Objectives
- Manufacturer's responsibilities
- Post market surveillance
- Vigilance
- Field actions
- Global Exchange System
- “Zero Defect” developing culture
 - Duties, challenges and concerns

Vigilance and Postmarket Surveillance

Objectives

- To continuously improve safety and performance of medical technologies
- Early warning system
 - To identify unforeseen adverse events or other information necessary to protect public health around the world
 - To take measures to reduce likelihood of the same type of adverse incident being repeated in different places at different times

Typical Life Cycle Phases of a product

POST-MARKET

PRE-MARKET

Marketing and market research

Design and development

Disposal/recycling

Process planning and development

After sales

Purchasing

Technical assistance
and servicing

Production

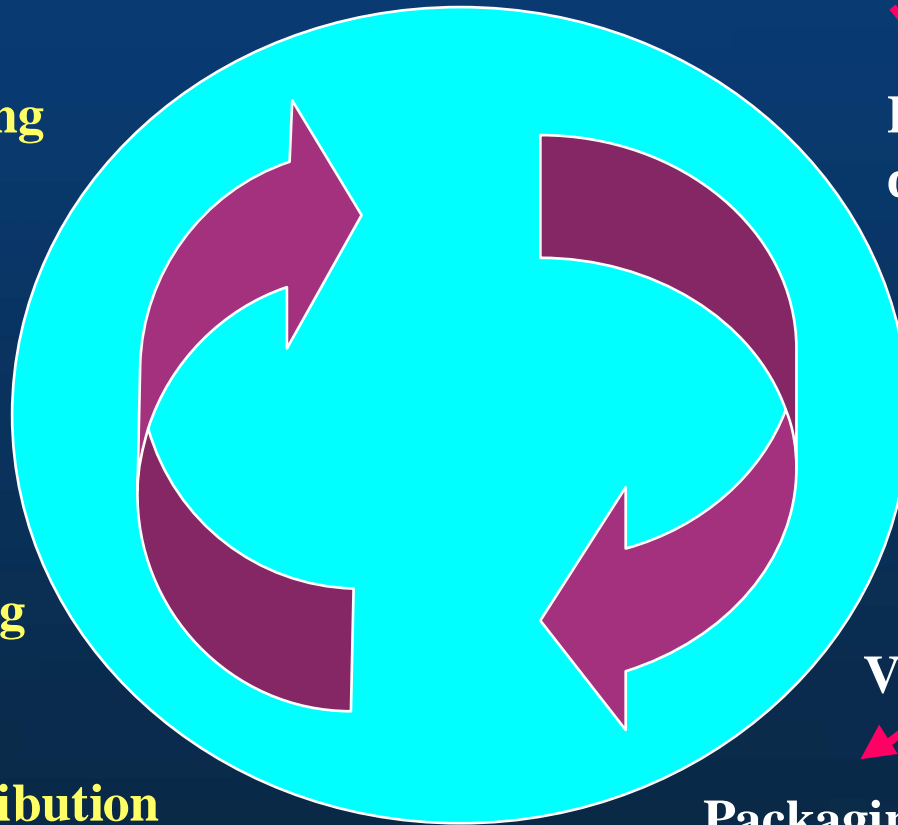
Installation/training

Verification

Sales and distribution

Packaging and storage

ISO 9004-1:1994



Manufacturer's Responsibility

- To institute and keep up to date a **systematic procedure to review experience gained from devices in the post-production phase** and to implement appropriate means to apply any necessary corrective action.

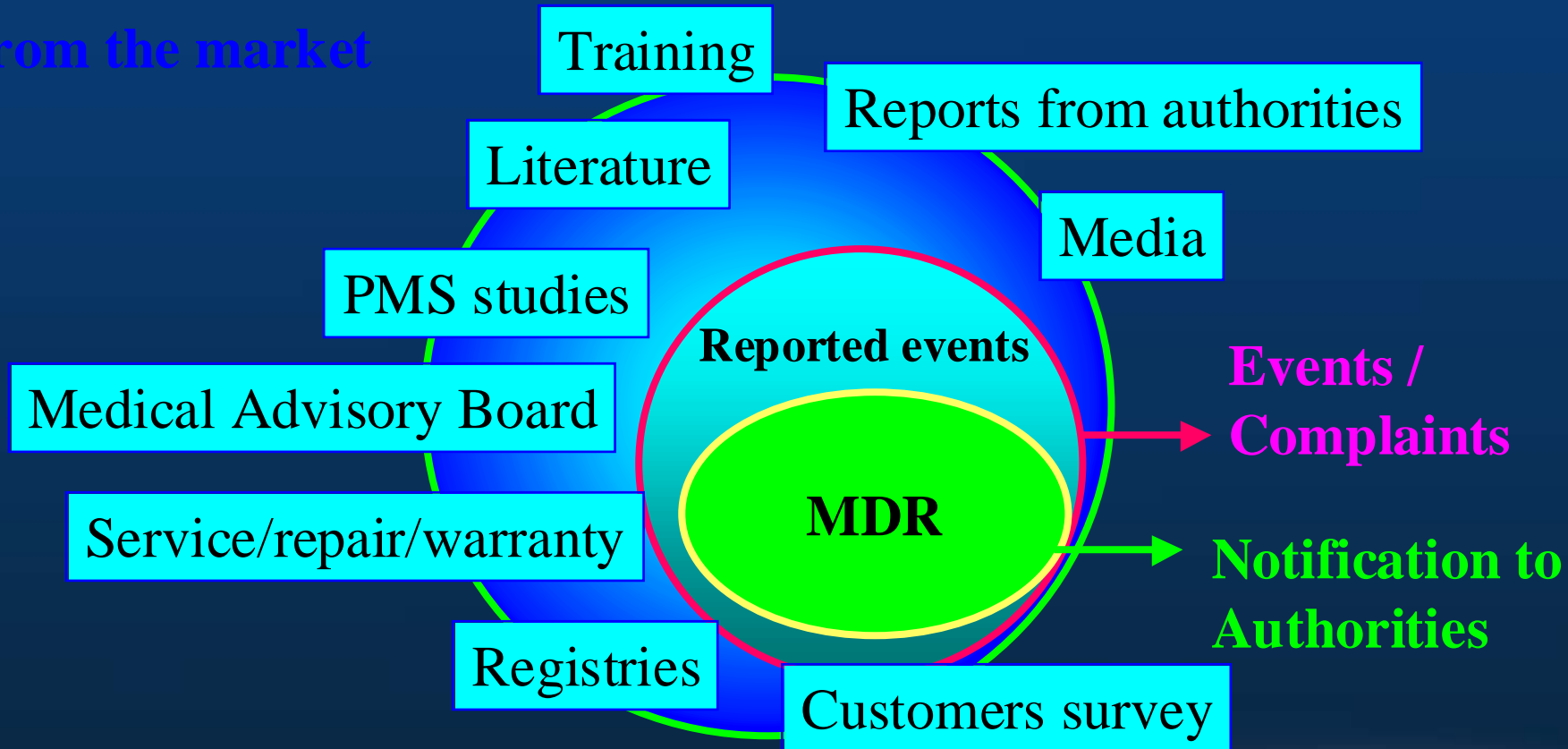
Directive 93/42/EC - Annex II

Experience gained from devices

- Direct or indirect customers complaints
- Post-marketing studies, physician evaluation studies
- Clinical studies (conditional approval)
- Patients registries, patients tracking
- Service/repair/warranty claims
- Customers comments, outcomes of survey
- Literature
- Authority reports
- Media

Reported Events Constitute Only a Part of the Feedback from the Market

Feedback
from the market



What Do We Mean by Postmarket Surveillance?

- Definition has not yet been developed by GHTF
- Meaning is today very unclear.
- It does not imply automatically mandatory postmarket clinical studies (conditional approval)
- Part of risk management process
- Incorporates but is not limited to the vigilance system.

What Do We Mean by Postmarket Surveillance?

For the purpose of this presentation...

Group of activities defined by the manufacturer which allows the gathering of necessary data to continuously assess the performance and safety of its device after it has been placed on the market.

Manufacturer's Challenges

To identify those activities which will provide the necessary information to assess the performance and safety of its product along its lifetime.

To be taken into account...

- **Proportional to the intended use of the device and risks associated to its use.**
- **Whether an established technology is new for a particular manufacturer**
- **Whether the device incorporates a new technology or therapy**
- **The extent of scientific knowledge**
- **The state of the art**
- **Market experience with similar products and technology.**
- **The expected lifetime of the device and patient outcomes.**
- **The economic impact**

Activities Which May Be Used in a Postmarket Surveillance System

- Evaluation of reported events (vigilance)
- Corrective preventive actions system
- Continuous review of scientific literature
- Active survey of a sample of used devices
- Post marketing study
- Periodic performance reliability report
- Regular analysis of data contained in registries
- Patient tracking
- **In very limited cases,** a specific study shall be required to assess long term performance and safety of devices.

Postmarket Surveillance

Some Conclusions...

- Very difficult to draw up general guidelines
- Extent of the Postmarket Surveillance system and objectives to be decided on a case by case basis to generate the necessary data.
- To be practical and least burdensome
- Economic implications to be considered

Harmonized Vigilance Requirements

- The GHTF SG2's objectives:
 - One single set of reporting rules (N21-N36-N31)
 - One reporting timeframe (N 33)
 - To report to a single authority (N32)
 - One single format to report adverse events (N32)
 - One single format to exchange info (N9)
- Major progresses achieved so far by SG2
- Implementation of N21 in the GHTF members' regulatory systems is ongoing

Vigilance System

We all have limited resources!

- Authorities should concentrate on the identification of **major issues** they are made aware of via the vigilance system or other means at their disposal.
- Manufacturers resources should be **fully** engaged in actual investigation of reported events and continuous improvement and **not diluted** to answer premature queries.
- Level of involvement of authorities in the investigation of an adverse event should relate to the level of pre-market review

Level of Involvement of Authorities in Postmarket Phase

- The more the authorities are involved in the pre-market review of the design of medical devices and the less theoretically, they shall be involved in the postmarket phase.
- Lower classes devices deserve probably a higher level of surveillance due to the fact that authorities have not fully reviewed their design.

For a Class III device

PRE-MARKET

- Authorities perform an extensive review of the design including:
 - Risk analysis
 - Clinical evaluation
 - Risk management
- Residual risks and their prevalence are reviewed and considered as acceptable by the authorities

Periodic performance report

POST-MARKET

- Identify unanticipated adverse events and abnormal trend of anticipated adverse events through i.e. **vigilance**
- Verify that the **foreseen prevalence of anticipated adverse events** remains within the **expected limits**
- Monitor long term performance and safety

Better Use of Resources in Case of Class III

- Manufacturers shall **concentrate** on adverse incidents investigation and review of all other data gathered in post market phase and shall report adverse events in accordance with N21 and provide performance report on a regular basis.
- **Passive** monitoring of anticipated incidents
- **Active** review of periodic performance report, unanticipated adverse event and abnormal trend of anticipated adverse events.

Field Actions

Serve also to Protect the Interests of the Manufacturer

- To be and remain competitive, the manufacturer
 - **Must supply safe and reliable products.**
 - **Maintain the confidence of its customers**
- Life sustaining devices are constantly evaluated by physicians.
 - **More than 1000 scientific papers published on St. Jude Medical mechanical heart valve prosthesis.**
- Manufacturers are usually implementing corrective actions sooner than later to minimize litigation.

Field Actions

- Are usually initiated by the manufacturer
- But may be imposed by an authority in case of disagreement with manufacturer.

Field Actions

- Shall be the result of a thorough **risk assessment**
- Shall be **reasonable and proportional** to the identified risk
- Shall be based on **science rather than feelings** or political influence
- Proposed action shall be **validated** by a panel of clinical experts.
- Must achieve their intended purposes

Unjustified or disproportional field actions may:

- **Expose patients to unnecessary risks (unnecessary explants)**
- **Create unnecessary psychological pain to patients**
- **Prevent patients from a unique treatment**
- **Hamper innovation**
- **Lead to serious and undue criticism by professionals**
- **Refrain manufacturers to introduce new technologies in certain markets.**
- **Result in very serious and unnecessary economical consequences**

Corrective Actions

In case of implanted devices, replacement always remains a matter of clinical judgement, including balancing the clinical risk associated with implant replacement against the risk of device malfunction.

Real Case

- **Malfunction identified in pacemaker microprocessor which may lead to single chamber atrial pacing**
- **Potential of being catastrophic for pacemaker dependent patients with total AV nodal block.**
- **Number of units distributed: 144000 units**
- **Failure rate: 0.00014**
- **1371 elective explants resulting from the advisory notice.**
- **8 failures identified in the 1371 devices (0.006%). One having the potential for serious patient injury.**
- **No serious injury reported.**

Proposal

- In collaboration with industry, SG2 should assess the impact of some field actions:
 - Was it the right measure ?
 - Did the measure achieve its intended purpose
 - Can we learn lessons, improve the decision process and as a result increase patient safety ?

Global Exchange System

- Both authorities and manufacturers have a common objective which is to protect patient safety.
- The system constitutes a mean to spread information quickly and therefore prevent certain adverse events to reoccur.
- The system must be adequately used. Unjustified or disproportional reactions may undermine the system.

Hence the importance that all authorities which join the system fulfil the criteria defined by SG2 and be properly trained.

"Zero Defect"

- Culture of zero defect seems to develop in certain countries
- Precautionary principle is being promoted by the European Commission as a result of the BSE crisis in the food sector
- Patient associations are more and more involved
- Immediate and disproportional reaction of media and politics on every issue in certain countries

Culture of Zero Defect

- Over-reaction or emotional reaction of public or politicians may lead to inappropriate regulatory actions which will not prevent other major problems from occurring.
- Reaction must be based on evidence, be proportional to the risk and be the result of a thorough risk evaluation.
- Authorities and industry must promote the benefits of medical technologies and educate public and politicians on potential risks associated to their use.
 - Patients and politicians easily accept side effects of drugs but refuse to accept risks associated to the use of certain medical technologies.

Conclusions

- Recognize the excellent and very useful work achieved by SG2 so far.
- Recognize the willingness and the ongoing efforts of GHTF authorities to implement the agreed principles.
- Look forward to the full implementation of the GHTF vigilance and post market surveillance models in view of enhancing patient safety but also simplifying our work.