

# Importance of Pharmacovigilance for Pharmaceutical Industry



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# Role of Pharma Company Globally

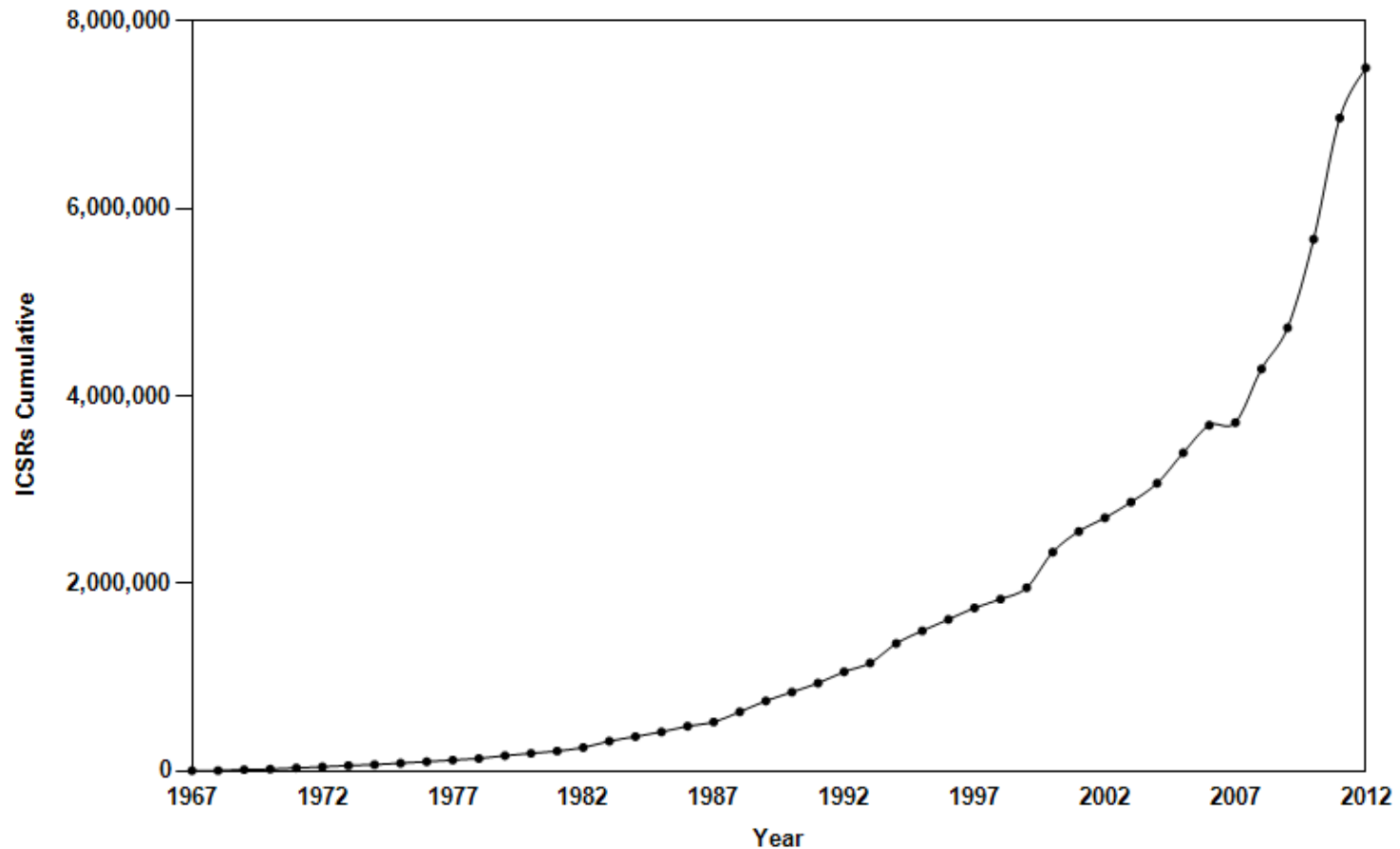


- Investment in R&D of new compounds
- Commitment to bring new drug to market to enhance patients' health and quality of life
- Strict governance to conduct clinical trials and product development activities
- Conduct relations with patients and healthcare professionals in accordance with ethical and legal principles

# Drug Safety Report Worldwide



Growth of the WHO global ICSR database since start  
2012-08-01



Sources: <http://who-umc.org/graphics/26929.gif>

# Drug safety and risk



- The challenge of maximizing drug safety and maintaining public confidence has become increasingly complex.
- Pharmaceutical and biotechnology companies must not only monitor, but also proactively assess and manage drug risk throughout a product's lifecycle, from development to post market.



# Pharmacovigilance



- WHO defined as
  - *'the pharmacological science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem'*
- An umbrella term used to describe the processes for monitoring and evaluating ADRs
  - is a key component of effective drug regulation systems, clinical practice and public health programs.
- It is the study of the safety of marketed drugs examined under the practical conditions of clinical use in large communities

# Pharmacovigilance rational



## Pre Approval Data

- Controlled
- Limited # Pts
- Safety data not mature

## Post Approval Data

- Real life ; uncontrolled
- Off label use
- Generic

- Solicited Safety Data
- Unsolicited Safety Data

Population

Subjects for approval



# Pharmacovigilance important?



- Drugs appear to be safe and well-tolerated, but the safety in the 'real world' is unclear
  - ✦ Chronically/repeatedly use of drugs
  - ✦ Use with other drugs
- Safety in vulnerable groups is unknown
  - ✦ Pregnant women & breastfeeding mother, elderly, young children
- Significant harm to a few patients, rumours and myths
  - ✦ can destroy the credibility, adherence to and success of a treatment.

# Pharmacovigilance important?



- Pharmacovigilance provide evidence
  - medicine-related problems : treatment failure, counterfeit/poor quality medicines, drug interactions, incorrect use.
- Generate evidence that will inspire public confidence and trust.
- Pharmacovigilance systems is strongly recommended
  - Is system of reporting exists?
  - capacity for monitoring?



# Pharmacovigilance – Major Aims



- Early detection of unknown safety problems
- Detection of increases in frequency
- Identification of risk factors
- Quantifying risks
- Preventing patients from being affected unnecessarily

# Pharmacovigilance Partnership



Patient

Policy maker (regulator)

Physician and  
association

**PHARMACOVIGILANCE**

Pharmaceutical  
Industry

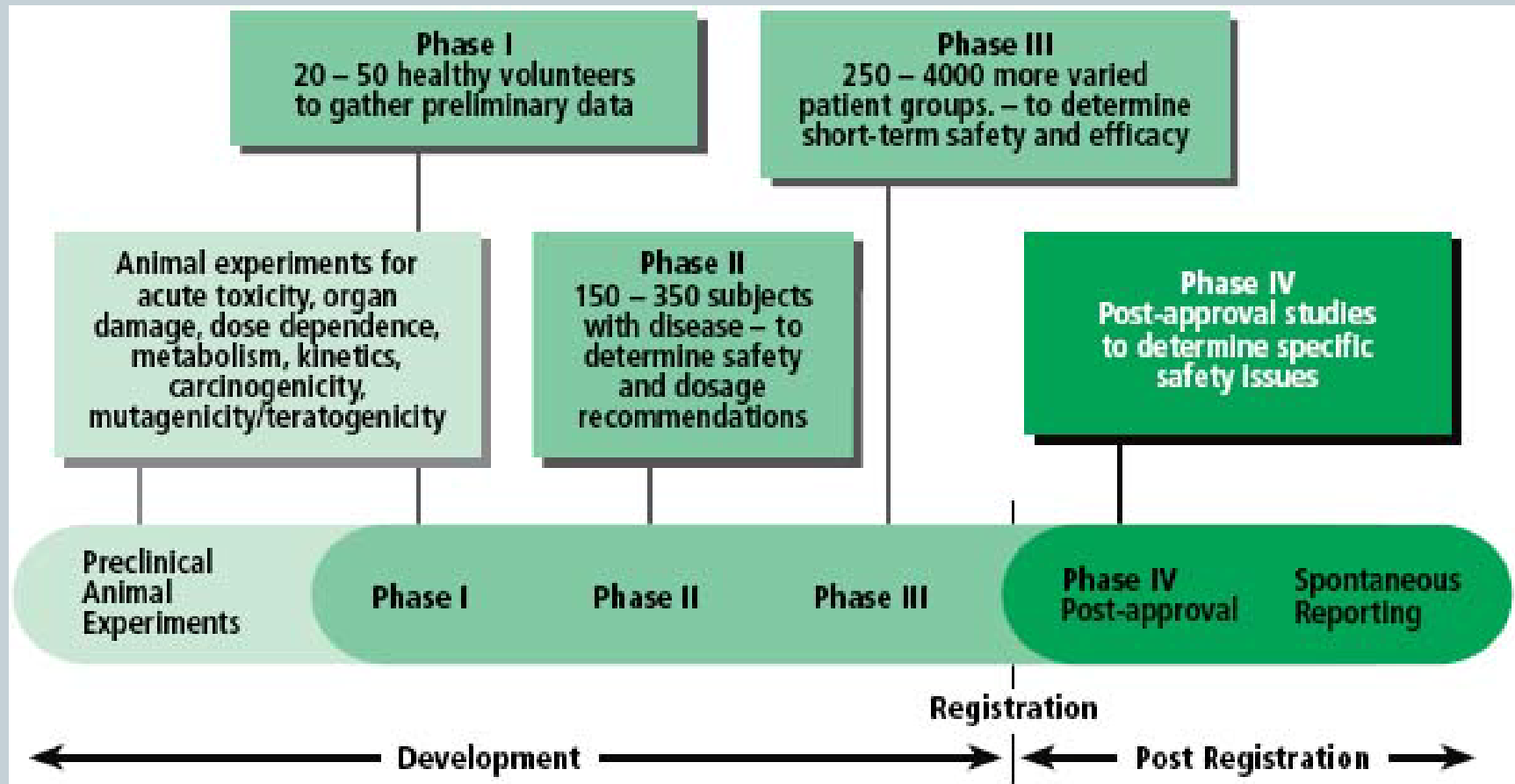
Public

Press (media)



# Pharmacovigilance Practice within the Industry

# Clinical development of medicines



# Pharmacovigilance during clinical research



## Adverse events during clinical studies

- Submit to regulatory authorities within specified time frame
- Notify all investigators and ethics committees
- Safety review by independent Drug Safety Monitoring Boards
- Provide annual reports
  - Summary and analysis of all the serious adverse events
  - New safety findings from animal studies
  - Evaluations of benefit and risk

# When Product is Marketed



Safety reporting is an obligation for companies in Marketing Phase

Include:

- **Phase IV Studies** (Post authorization studies)
  - Clinical trials (intervene disease management )
  - Pharmacoepidemiological studies (non-interventional or observational)
- **Risk Management Plan**
- **Periodic Safety Updates Report (PSUR)**
- **Spontaneous Reports**

# Risk Management Planning (RMP)



RMP : a strategic safety program designed to decrease product risk

## Three main elements

- 1) **Safety reports** in pre-clinical and clinical phases
- 2) **Pharmacovigilance Plan** - company must indicate how to resolve the uncertainties (e.g., extra studies)
- 3) **Risk minimization plan** – how the company propose to reduce the severity or frequency of known adverse reactions (e.g., special communication programmes, or educational exercices, registration programmes for patients or pharmacists)

Indicate timelines for those plans

# Periodic Safety Update Reports (PSUR)



- Overview of the safety of the product, including all Adverse Drug Reports
- Summary of the worldwide registration and usage status
- Actions taken about safety issues
- A regulatory requirement for authorized medicine
- Generated every 6 months for the first 2 years of launch, then annually for 5 years



# Spontaneous Reporting



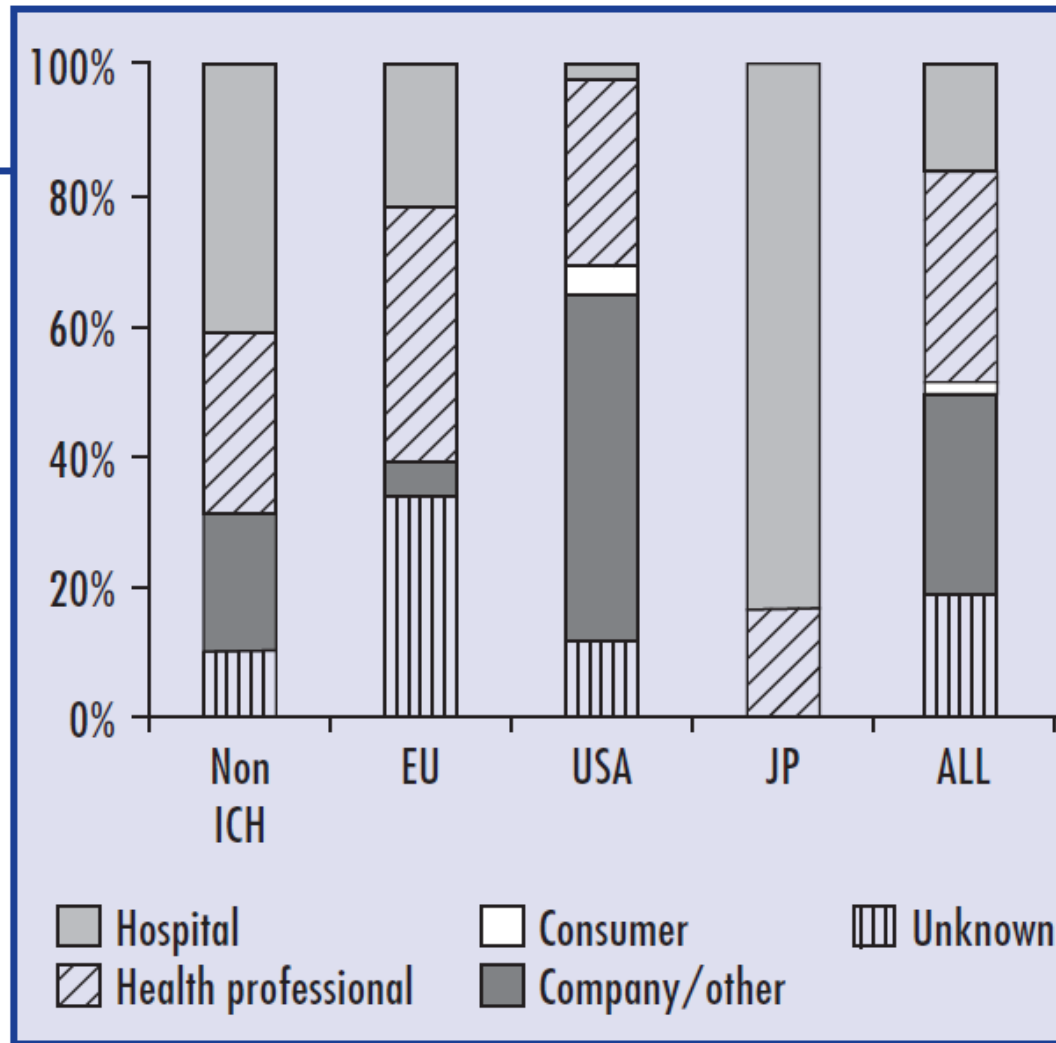
- Spontaneous reporting
  - Reporting by HCPs
  - Any serious adverse reactions : Legal obligations on the company to report within a specified time frame to the regulatory authority
  - Non-serious reactions: included in periodic safety update reports
  - Entered on the data base of company and regulatory body
- Literature screening on weekly basis

# Pharmacovigilance Team at the Company



- Each R&D international company has a dedicated Clinical Safety team for:
  - Overseeing the above plans
  - Signal detection from ADR reporting
  - Perform trend analysis
- Local Office of R&D company has dedicated regulatory/medical affairs expert for looking after the local pharmacovigilance plans and coordinating with the global team

# Sources of Report at WHO-UMC



Source: Drug Information Journal, Vol. 42, pp. 409–419, 2008

# Number of Medicinal Products



Medicinal Product Records in WHO-DD, March 1, 2006, for the Top 15 Countries

Country	Medicinal Product Records	Product Names	Combination of Ingredients
United States	72,700	9,100	3,800
Puerto Rico	51,900	3,600	1,600
India	40,800	14,500	2,100
Germany	37,400	10,700	5,200
Japan	36,500	15,600	3,600
China	29,000	4,100	1,500
Taiwan, Province of China	24,100	7,700	1,700
UK	24,100	7,400	3,300
Thailand	23,700	7,600	1,600
Pakistan	21,000	6,400	1,300
Russian Federation	20,500	3,800	1,600
Republic of Korea	20,500	7,800	1,800
Netherlands	20,100	3,400	1,900
Brazil	17,100	5,500	1,600
Indonesia	17,000	5,500	1,800

The second and third columns are unique product names and unique combinations of ingredients.

# Improving Pharmacovigilance



- Increase the awareness of healthcare professionals and the public on the understanding of importance of pharmacovigilance
- Develop and promote an effective channel for ADR reporting, such as online reporting system
- All the parties involved in pharmacovigilance reporting are coordinated under a platform from BPOM
- A centralized database for safety reports to facilitate systematic follow up and detailed analyses
- Improve communication among stakeholders in the reporting of adverse events such as, the regulator, the health care providers, and manufacturer for pharmacovigilance

# Good Pharmacovigilance Practice (GVP)



## Modules

- Pharmacovigilance system and its quality system
- Pharmacovigilance master file
- Pharmacovigilance inspection
- Pharmacovigilance audit
- Risk management system
- Management and reporting of ADR medicinal product
- Periodic safety update report (PSUR)
- Post-authorisation safety studies
- Additional monitoring
- Safety communication



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