Singapore Regulatory Update

15th AHWP Meeting
Kingdom of Saudi Arabia, Riyadh
Health Products Regulation Group
Health Sciences Authority

November 2010

Association of Southeast Asian Nations (ASEAN)

ACCSQ-MDPWG
Chair: Malaysia
Co-Chair: Singapore

Singapore

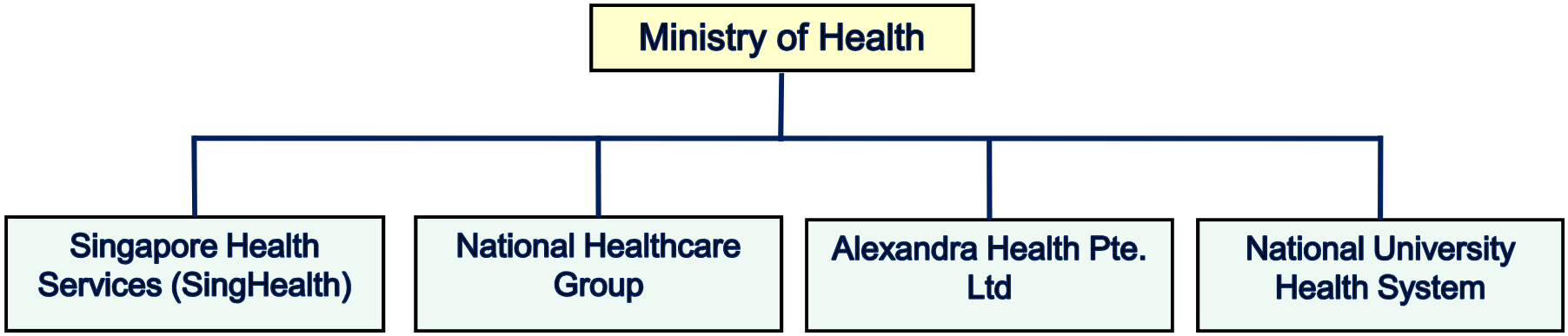
- **Geographical location : 1^0 N of equator**
- **Total land area : 710 sq km**
- **Population : approx 5 mil**

Singapore

- **People** : Chinese (77%), Malay (14%), Indian (8%), Others (1%)
- **Infant mortality rate** : 2.1 per 1,000 live births
- **Av. life expectancy rate** : 80.6 yrs
- **Leading causes of mortality** : Cancer, IHD, pneumonia (61.4% of total deaths in 2007)

Source: MOH Website

Singapore's Public Healthcare System



- **Singapore's public healthcare facilities fall under 4 broad clusters**
- **The Healthcare facilities are divided into 4 integrated healthcare networks, which comprise of**
  - **Hospitals**
  - **National specialist centres**
  - **Polyclinics**
- **Aim : Enable comprehensive yet affordable quality healthcare services**

Overview of HSA

A Statutory Board of the Ministry of Health

The Singapore Public Service

HSA
Health Sciences Authority

Vision

To be the **LEADING INNOVATIVE AUTHORITY**
protecting and advancing **NATIONAL HEALTH** and **SAFETY**

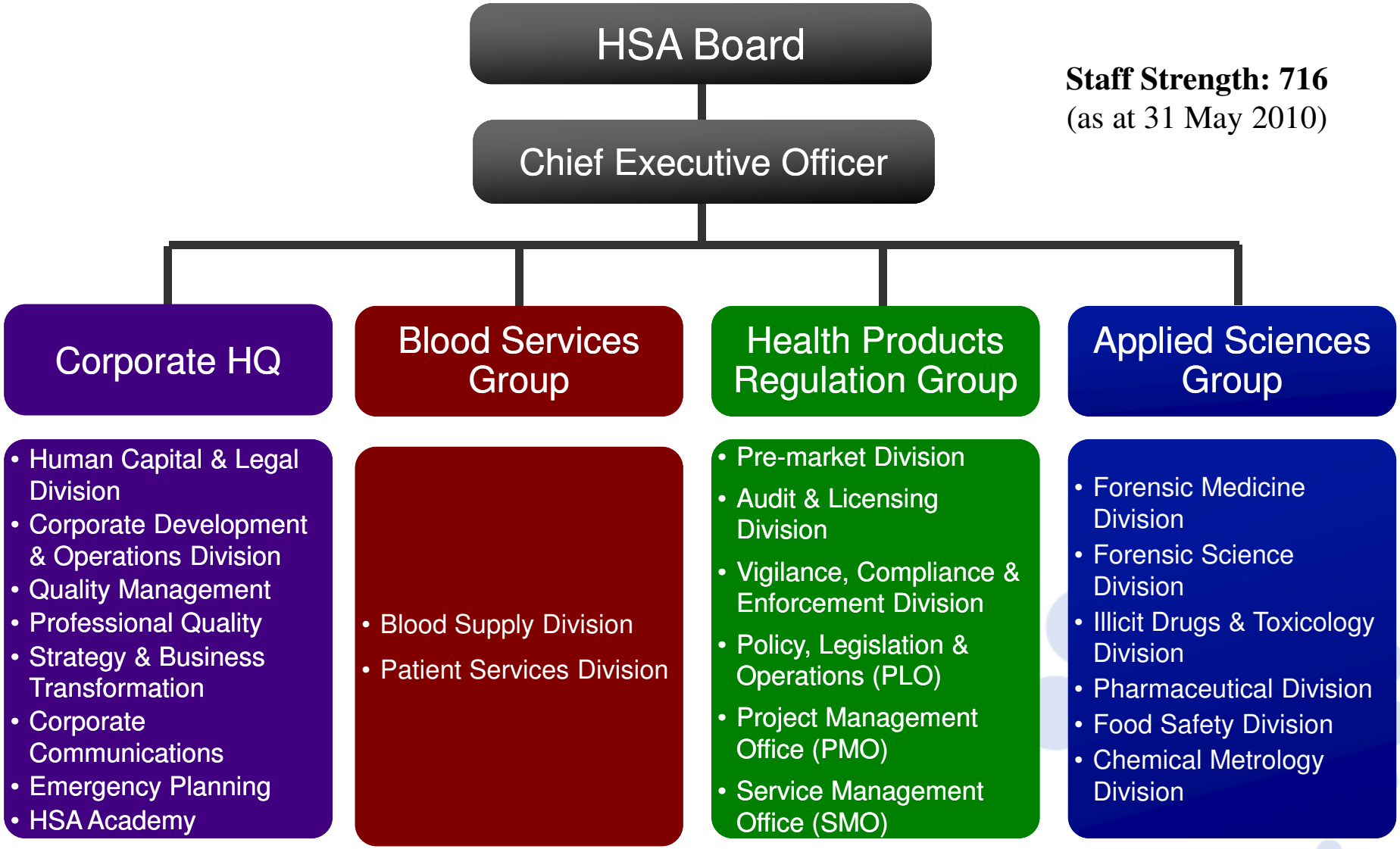
Mission

- To **wisely regulate** health products
- To **serve** the administration of justice
- To **secure** the nation's blood supply
- To **safeguard** public health

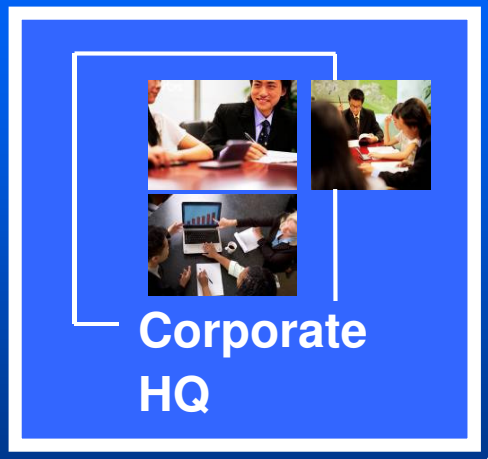
Corporate Headquarters • Health Products Regulation Group • Blood Services Group • Applied Sciences Group

A Statutory Board of the Ministry of Health | The Singapore Public Service : Integrity • Service • Excellence

HSA Organisational Chart



Our Functions & Roles



Options for new & greater synergies across Groups

Blood Services Group

Blood Supply Div : Patient Services Div

Ensures a safe and adequate national supply of blood and blood products

Ensures the appropriate use of blood and blood products

Provides high quality blood banking services

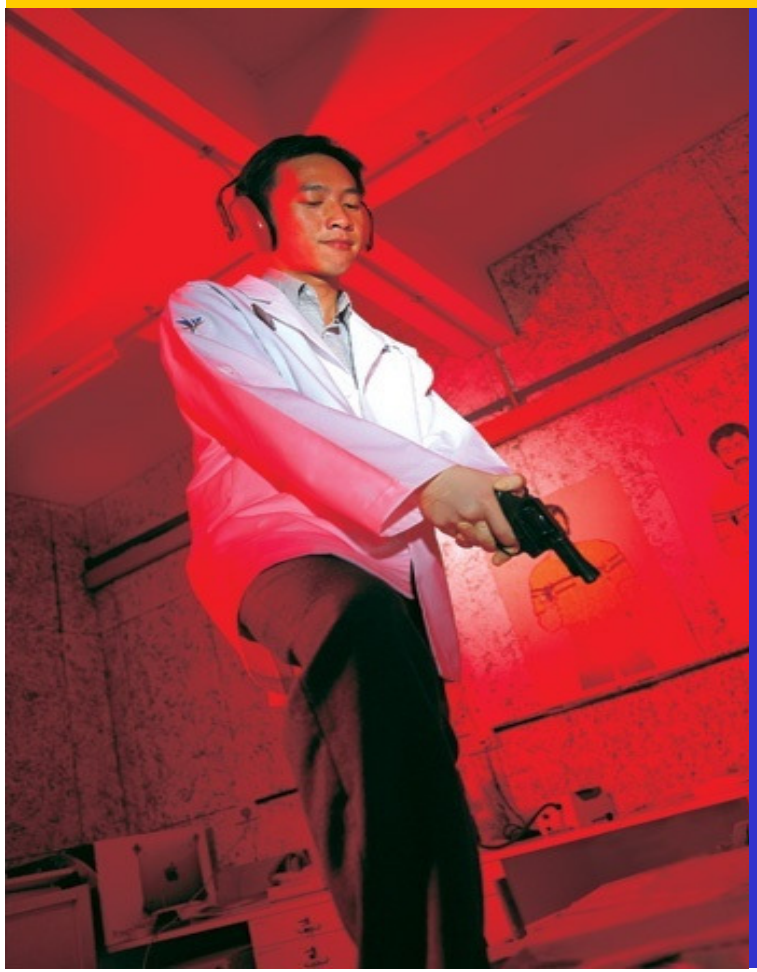
Applied Sciences Group

Forensic Medicine Div : Forensic Science Div : Illicit Drugs & Toxicology Div Pharmaceutical Div : Food Safety Div : Chemical Metrology Div

Applies forensic medical, scientific, investigative, analytical testing and chemical metrology to serve the administration of justice and to safeguard public health.

Applied Sciences Group

Forensic Medicine Div : Forensic Science Div : Illicit Drugs & Toxicology Div Pharmaceutical Div : Food Safety Div : Chemical Metrology Div



- Criminalistics
- Document Examination
- Narcotics
- DNA Profiling
- Toxicology
- Food
- Pharmaceutical
- Cosmetic
- Cigarette
- Water
- Coroner cases
- Medico-Legal consultations
- Private autopsies
- Chemical Metrology

Health Products Regulation Group

Therapeutic Products Div : Complementary Health Products Div : Manufacturing Quality Audit Div
Pharmacovigilance & Compliance Div : Enforcement Div

Ensures that drugs, innovative therapeutics, medical devices and health-related products in Singapore are wisely regulated to meet appropriate standards of safety, quality and efficacy

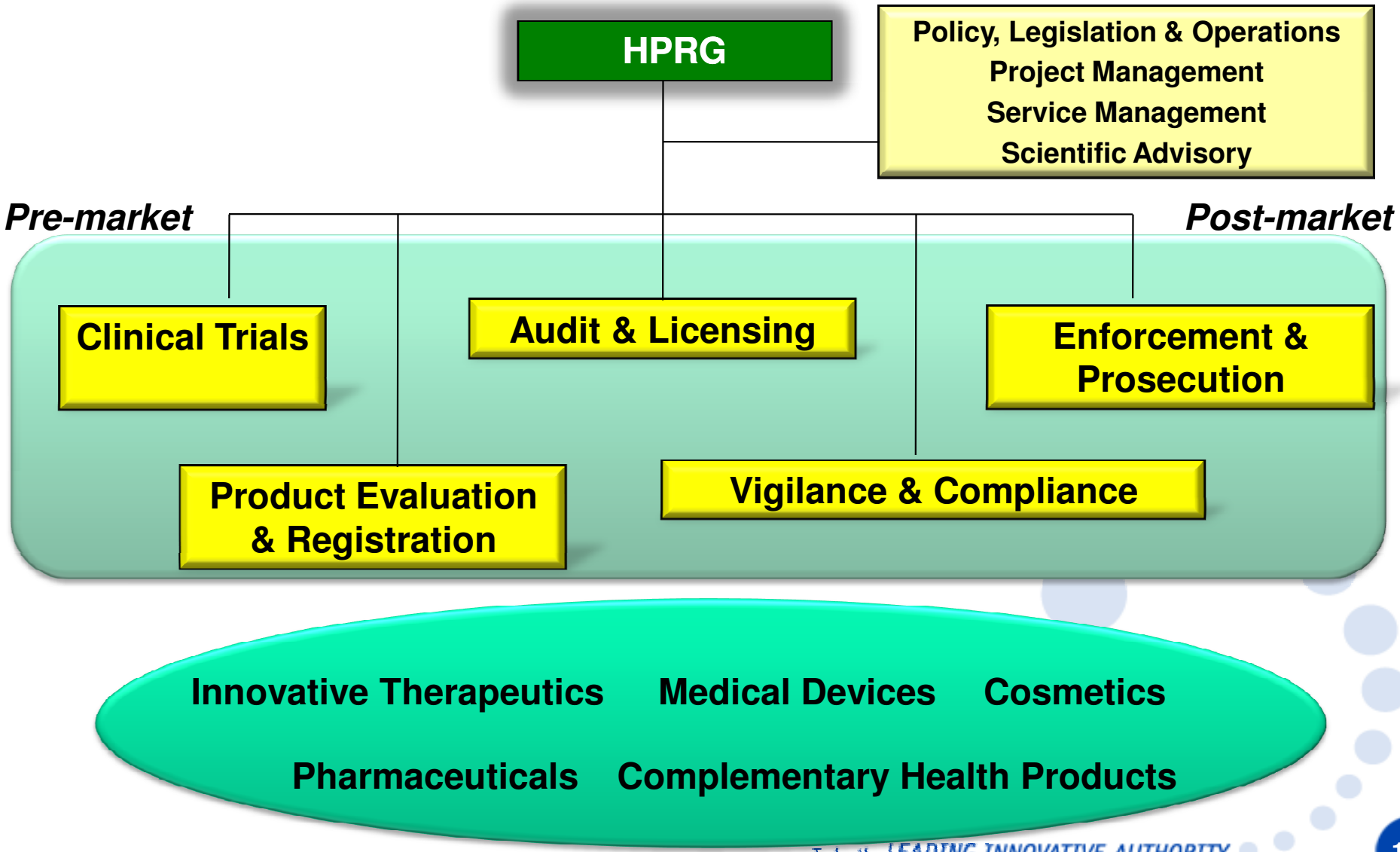

Skybridge at Biopolis

Biopolis at Buona Vista


Dandelion sculpture in Biopolis


A piece of sculpture at Biopolis

Key Functional Areas Of Health Products Regulation Group (HPRG)



Medical Devices Regulation

Overview of Regulatory Control

12 February 2007: Health Products Act 2007 was passed by Parliament

Medical devices is the first product group to be regulated under the Act

10 August 2010: Health Products (Medical Devices) Regulations 2010 was gazetted

Implementation Milestones

Health Products Act

Phase 3B: FULL IMPLEMENTATION
Mandatory PRODUCT Registration of Class A & B

Phase 3A:
- Mandatory PRODUCT Registration of Class C&D
- Mandatory licensing of Dealers

Voluntary Product Registration (VPR)

Phase 2: Accept Product Registration and Licence applications

Phase 1: Post-market Duties (e.g. keep supply records, report adverse events and FSCAs)

1 Nov 2007 | 1 Nov 2008 | 10 Aug 2010 | 1 Jan 2012

Global Harmonisation Task Force

Australia

Canada

European Union

Japan

United States

GHTF

An international forum for medical device regulators and medical device trade associations

Objective: To develop harmonised principles relating to the regulation of medical devices

Singapore's Subscription to the GHTF Guidance Documents

- Definition of "medical device"
- Principles of medical device classification
- Essential principles of safety and performance
- Adverse events and Field Safety Corrective Actions
- Clinical evidence and clinical evaluation

Medical Device – Definition

The medical device definition is gazetted in Schedule 1 of the Health Products Act.

Any instrument, apparatus, implement, machine, appliance, implant, in vitro reagent or calibrator, software, material or other similar or related article that is intended by its manufacturer to be used,

whether alone or in combination, for humans for one or more of the specific purposes of —

(*a) diagnosis, prevention, monitoring,* treatment or alleviation of any disease;

(*b) diagnosis, monitoring, treatment,* alleviation of or compensation for an injury;

(*c) investigation, replacement,* modification, or support of the anatomy or of a physiological process;

(*d) supporting or sustaining life;*

(*e) control of conception;*

(*f) disinfection of medical devices; or*

(*g) providing information for medical* or diagnostic purposes by means of *in vitro* examination of specimens derived from the human body,

and which does not achieve its primary intended action in or on the human body by pharmacological, immunological or metabolic means, but which may be assisted in its intended function by such means.

Device Risk-based Classification

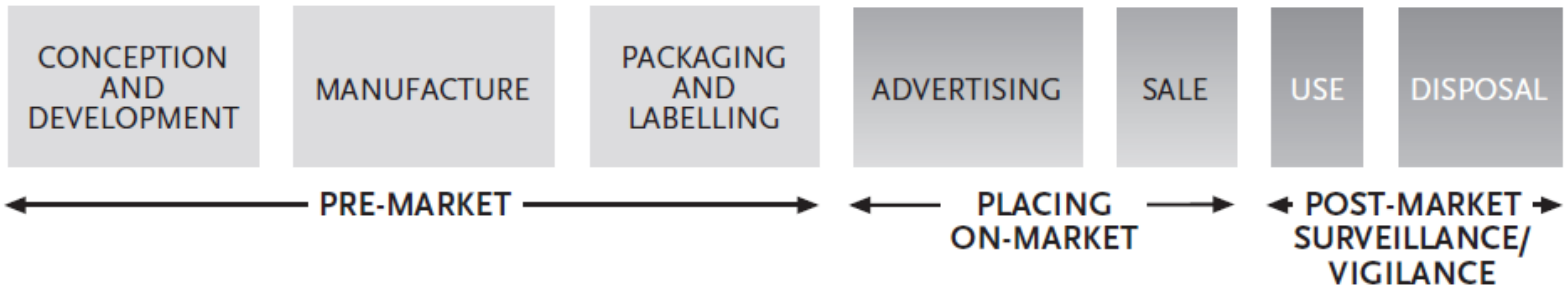
S'pore / GHTF	EU	Risk Level	Device Examples
D	III	High Risk	Absorbable sutures, implantable cardiac pacemaker, heart valves, heart stents, IUDs
C	IIb	Medium-high Risk	Lung ventilator, orthopaedic implant, IOLs, baby incubators, blood bags
B	IIa	Medium-low Risk	Hypodermic needles, single-use catheters, contact lenses, digital blood pressure monitors, hearing aids
A	I	Low Risk	Wheelchairs, tongue depressor, bandage, walking aid, gauze dressings

4 Categories based upon the degree of risk:

HSA Guidances on risk classification

- GN-13: Guidance on risk classification of general medical devices, and
- GN-14: Guidance on risk classification for in-vitro diagnostic medical devices.

Product Life Cycle Approach



Product owner (otherwise known as legal manufacturer)

Controls on product itself

Local authorised representative

Controls on manufacture/ import/ supply of health products

- manufacturer, importer, wholesaler

End-user

Controls on post-market activity (e.g. Recalls, distribution records, advertisements)

Source: World Health Organisation, Medical Device Regulations: Global overview and guiding principles

Medical Devices Regulation

1. Controls on manufacture/ import/ supply of health products

- manufacturer, importer, wholesaler

2. Controls on product itself

3. Controls on post-market activity

(e.g. Recalls, distribution records, advertisements)

Objective of Regulatory Control:

To ensure supply of safe and effective medical devices in Singapore and not restrict access to novel and useful Medical Devices

Online resources (www.hsa.gov.sg)

http://www.hsa.gov.sg/publish/hsaportal/en/health_products_regulation/medical_devices/regulatory_guidances.html

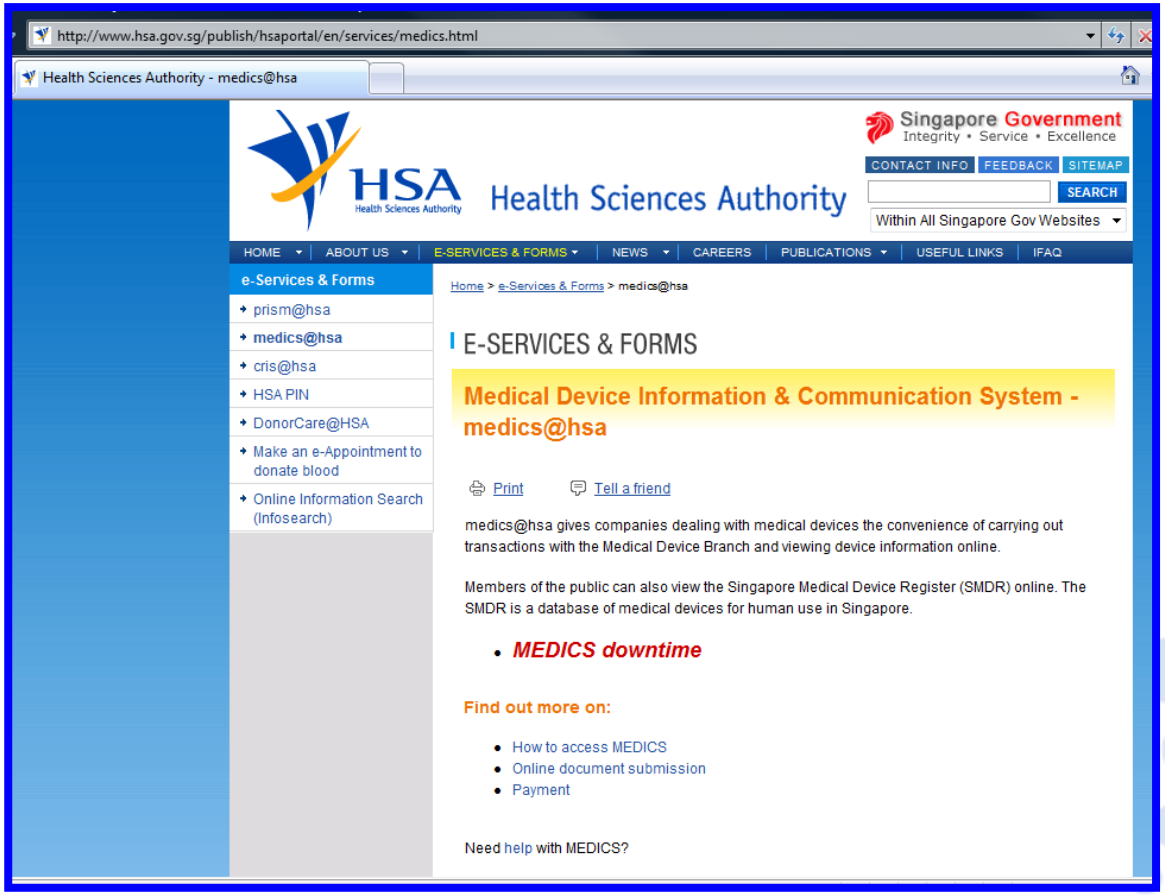
- Presents Regulatory Guidances Documents for Medical Device Stakeholders

Medical Device Information & Communication System (MEDICS)

Online submission system for all applications:

apply@medics
- Dealer's licences
- Registrant's account
- Product registration

change@medics
- withdrawal, amendment, cancellation of
  - Dealer's licences
  - Registrant's account
  - Product registration



Phase 3A: Current Requirements
(From 10 August 2010)

1. DEALERS LICENCES (BUSINESS ACTIVITY)

Implementation of ***Mandatory*** **Dealers Licences**

i.e. Companies will need Manufacturer's, Importer's and/or Wholesaler's Licence to deal in medical devices (regardless of its Risk Class)

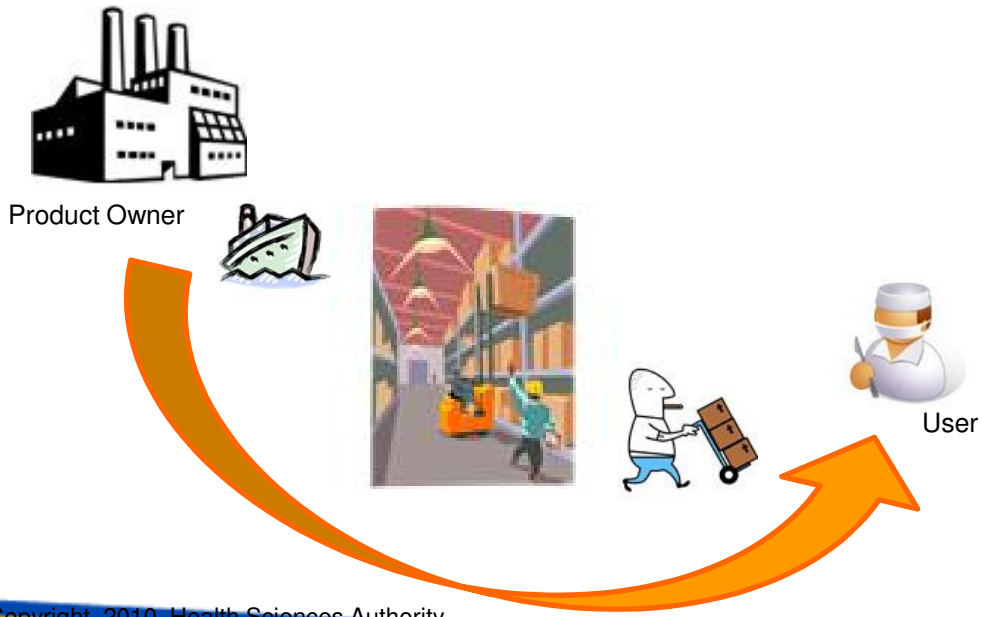
Requirements of Dealer's Licences

Manufacturer's Licence	Importer's Licence	Wholesaler's Licence
ISO 13485 (for finished medical device manufacturing)	GDPMDS * OR ISO 13485 certificate or letter from certification body should state that scope of storage and distribution is included (for local manufacturers)	GDPMDS * OR ISO 13485 certificate or letter from certification body should state that scope of storage and distribution is included (for local manufacturers)
List of Class A exempted medical devices manufactured	List of Class A exempted medical devices imported	N.A.

Good Distribution Practice for Medical Devices (GDPMDS)

Rationale

- Ensure that companies dealing with medical devices have a quality distribution system in place
- Ensure that medical device's QUALITY & INTEGRITY is maintained throughout the DISTRIBUTION process



GDPMDS scope

- Product (Medical Devices)
  - Storage & stock handling
  - Delivery
  - Installation & servicing
- The Dealer's Facilities
- Services provided by External Parties (3PL)

Scope of GDPMDS Certification

- GDPMDS scope shall specify the following:
  - Activities performed by the organisation + categories of medical devices handled by the organisation
- Applicable activities for organisation includes:
  - Import
  - Storage
  - Distribution
  - Installation
  - Servicing
- Cover any special storage and handling condition, such as chill room or cold room for cold chain management. Examples of statements include:
  - There is no special storage and handling conditions
  - Temperature for Storage and handling - 4^{o}C to 15^{o}C
- List of facilities that is part of the certification shall be indicated:
  - Address of facilities not at the company's address and activities at that location
  - Location of third party warehouse used and activities at that location

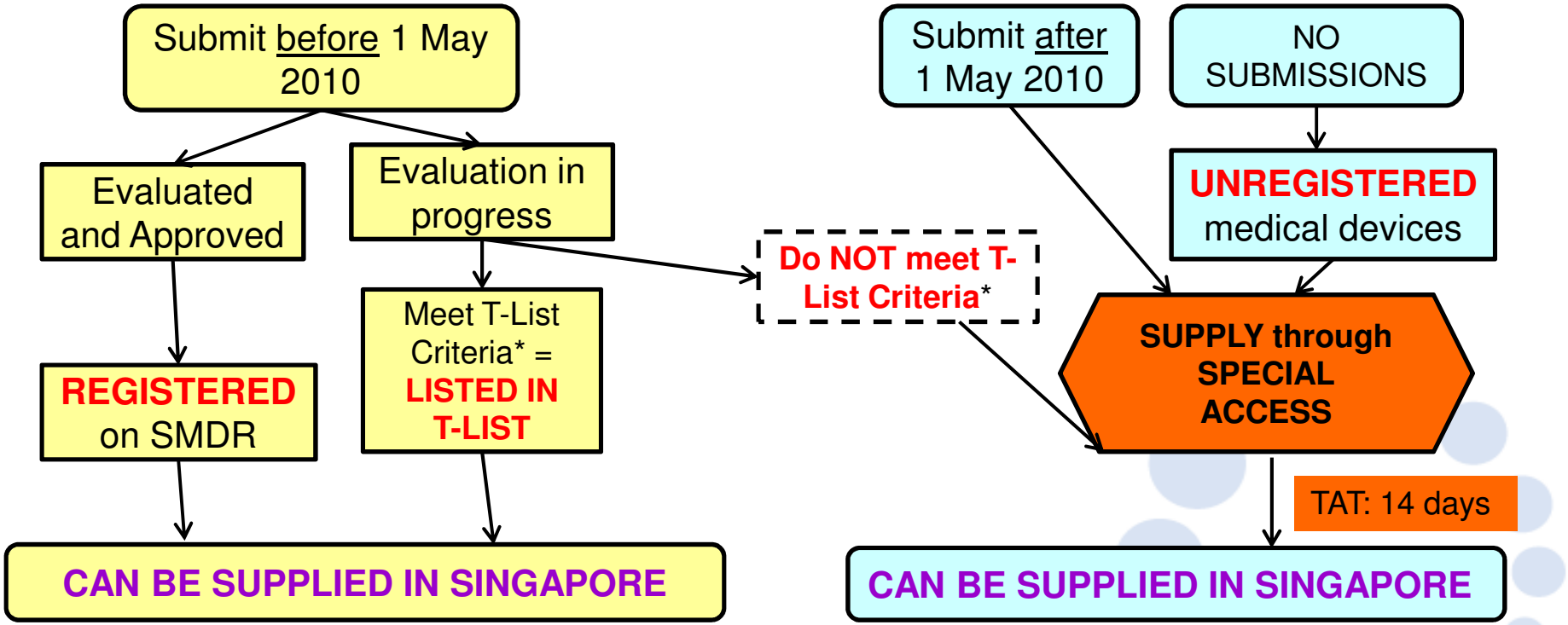
GDPMDS Certification

- Certification to GDPMDS is performed by Independent Third Party Certification Bodies
  - Must be accredited by Singapore Accreditation Council for GDPMDS

- Requirements of GDPMDS are described in the following guidances
  - TS-01-R1 Good Distribution Practice for Medical Devices - Requirements
  - GN-01 Guidance on the Application of Good Distribution Practice for Medical Devices in Singapore

Phase 3A: Current Requirements
(From 10 August 2010)

2. PRODUCT REGISTRATION - Class C and D Devices



CLASS A&B MEDICAL DEVICE: NO IMPORT or SUPPLY CONTROLS UNTIL 2011 **

Common Submission Dossier Template (CSDT)

Product registration applications are to be submitted using the ASEAN CSDT format.

GN-17 (Guidance on CSDT) is the guidelines for the ASEAN CSDT format.

Organisation of CSDT Dossier:

- Executive Summary
- Relevant **Essential Principles** & Method to Demonstrate Conformity
- Device Description
- Summary of Design Verification and Validation Documents
- Device Labeling
- Risk Analysis
- **Manufacturer Information**

- Overview
- Commercial marketing history
- Intended Use and Indications
- Regulatory approval
- **Important Safety or Performance Information**

- **Pre-clinical studies**
  - Biocompatibility
  - Physical/Bench testing
  - Animal Studies
  - Sterilisation Validation
  - Software Validation
  - Biological Safety
- **Clinical evidence**

Class C and D Devices

- Registered Devices:
  - Listed on the Singapore Medical Device Register (SMDR)
  - Can be imported and supplied in Singapore

- Devices submitted (by 30 April 2010) but under processing:
  - Listed on a separate listing -**Transition list****
  - Devices on Transition list can be imported and supplied in Singapore
  - Transition list is subject to periodic review

Transition List (T-list)

Health Sciences Authority

Singapore Government
Integrity • Service • Excellence

CONTACT INFO | FEEDBACK | SITEMAP | SEARCH | Within All Singapore Gov Websites

HOME | ABOUT US | E-SERVICES & FORMS | NEWS | CAREERS | PUBLICATIONS | USEFUL LINKS | IFAQ

Health Products Regulation

- Medicines
- Complementary Medicines
- Cosmetic Products
- **Medical Devices**
  - About Medical Device Branch
  - Overview
  - Regulatory Framework
  - Regulatory Guidances
  - Regulatory Updates
  - Fees and Charges
  - Authorisation Route
  - Transition List
  - Field Safety Corrective Action Reporting
  - Adverse Event Reporting

Home > Health Products Regulation > Medical Devices > Transition List

Trans

Print

Class C and D Medical Device Transition List (Product Registration Applications)
Version 12 (Publication Date: 1 October 2010)

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Transition List No.	Job Reference No.	Registrant	Device name submitted under "Device Info" section in MEDICS	Remarks
TLDMC/00001	MD08514320O	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics Accu-Chek Performa Glucose Monitoring System	
TLDMC/00002	MD08514322Q	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics AMPLICOR Human Papilloma Virus (HPV) Test	
TLDMC/00003	MD08514356Y	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics Linear Array HPV Genotyping Test	
TLDMC/00004	MD08514358A	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics Cobas Taqman HCV Test v2.0 for use with High Pure System	
TLDMC/00005	MD08514359B	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics Cobas Taqman MTB Test	
TLDMC/00006	MD08514360C	Roche Diagnostics Asia Pacific Pte Ltd	Roche Diagnostics Cobas Taqman CT Test v2.0	
TLDMC/00007	MD08514473L	Kingston Medical Supplies	i-Sens Inc/CareSens II Model GM505C &	

Product Registration Controls

1. Evaluation Routes
2. Special Authorisation Routes
3. Custom-made Medical Devices
4. Radiation-emitting Devices
5. Post Market Controls

Evaluation Routes

Two Routes of Evaluation:

(i) ABRIDGED, and

(ii) FULL (for products that do not qualify for the Abridged Route)

Abridged Evaluation Route

- Devices with prior approval from at least 1 reference agency qualify for abridged evaluation route.
- Reference agencies (GHTF):
  - Australia – TGA
  - Canada – Health Canada
  - EU – CE marked by Notified Bodies
  - Japan – MHLW
  - USA – USFDA

GN-15 Guidance on Medical Device Product Registration

- Types of Approvals granted by the reference agencies that qualify for an abridged evaluation


Australia


Canada


European Union


Japan


United States

Authorisation Routes for Unregistered Medical Devices

Purpose:

- Allow Qualified Practitioners access to novel medical devices.
- Enable companies to import and supply unregistered medical devices for emergency use by means of “Authorization Routes” after the Implementation of Phase 3A.
- Facilitate supply of existing medical devices which companies do not want to register.

Custom-made Medical Devices

- Product registration is not required prior to supply of custom-made medical devices.
- No need to apply through authorisation route.
- However, all dealer's licence requirements apply.

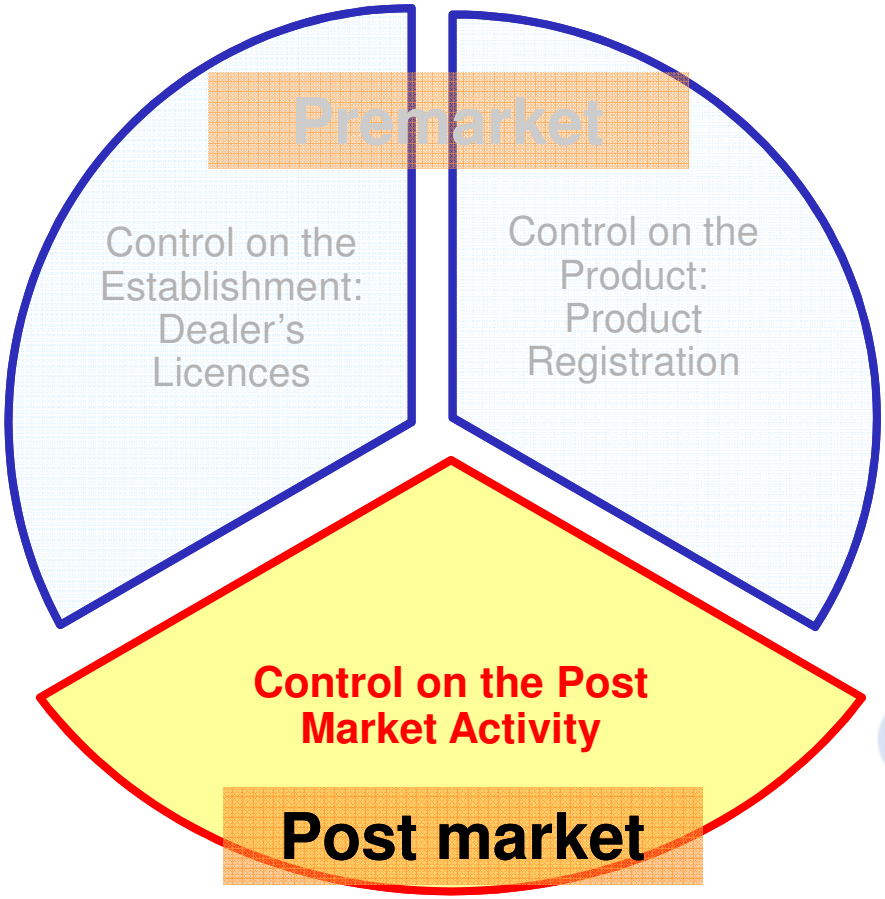
Radiation-emitting Devices

International Practices for Controls of Radiation-emitting Devices:

1. Australia
   - Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)
   - Therapeutic Goods Administration (TGA)
2. USA
   - Environmental Protection Agency (EPA)
   - US Food and Drug Administration (FDA)
3. Canada
   - Canadian Nuclear Safety Commission (CNSC)
   - Health Canada (HC)

Singapore
-Center for Radiation Protection and Nuclear Science (CPRNS) ***(Dealers' Licences)***
-Health Sciences Authority - Medical Device Branch ***(Product Registration)***

Post Market Control



Post Market System

Advantages

- Identifying the risks and hazards associated with a medical device
- An effective form of regulatory oversight in the absence of pre-market approvals or product registration system
- *Enables timely intervention by Regulatory Authority to safeguard public health*

Important Learning Points

- All medical devices possesses inherent risk, regardless of risk class
- Limitations of premarketing assessment & development criteria

Lifecycle approach to safely monitoring for Medical Devices

Process

Risk detection

Monitoring AEs & safety signals

Risk assessment

Assessing risk-benefit profile

Risk minimisation

Minimising risk by appropriate regulatory actions

Risk communication

Communicating information to optimise safe & effective use

Risk Detection

Aim:

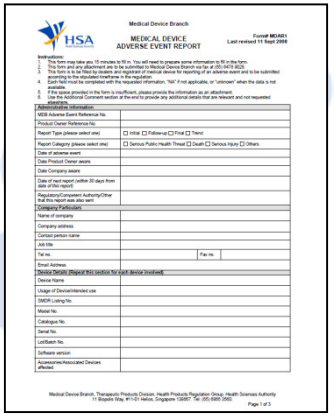
To monitor safety of medical devices and detect safety issues that were undetected in premarket or an ↑ in frequency of known risks

Reporting Channels:

Mail

Fax

Tel



Email to HSA_md_info@hsa.gov.sg

Online reporting

Post Market Control

Field Safety Corrective Action (FSCA)

- A risk control measure which is performed to reduce the likelihood of occurrence or recurrence of an adverse event
- Divided into
  - **Product Recall**
  - **Other Corrective Actions**

Adverse Event

- Relates to an adverse effect arising from the use of a medical device.

(Adverse event = an incident involving a medical device)

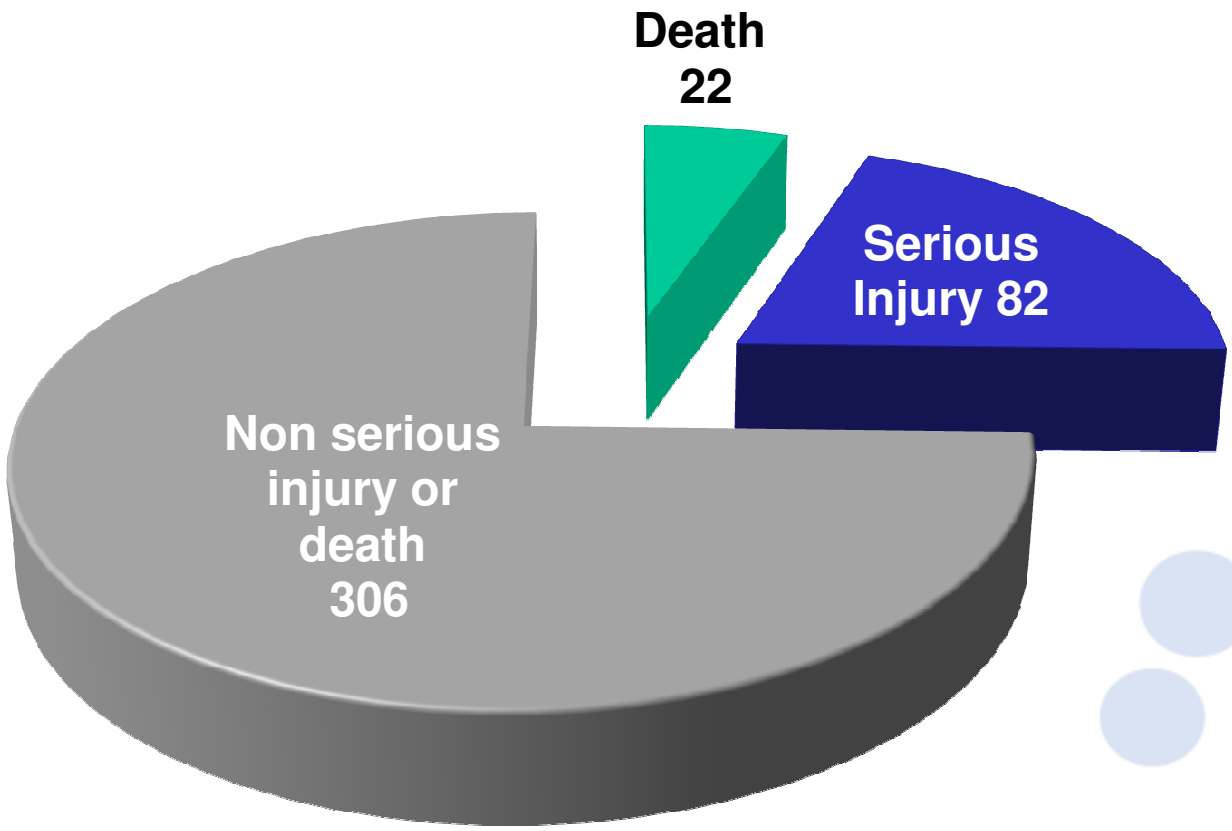
Adverse Events (AE) Reporting

What are **Reportable Adverse Events**?

Any adverse event (AE), which meets the three basic reporting criteria listed below, is considered as a reportable AE. The criteria are that:-

- an AE has occurred;
- the medical device is associated with the AE;
- the AE led to one of the following outcomes;
  - a serious threat to public health;
  - death of a patient, user or other person;
  - serious deterioration in state of health, user or other person;
  - no death or serious injury occurred but the event might lead to death or serious injury of a patient, user or other person if the event recurs.

Adverse Events (AE) Reporting



Since 1 November 2007

Recall & FSCA Reporting Timeline

Notification Report submitted **before the commencement of FSCA**

↓

Commence FSCA

↓

Preliminary Report submitted within **24 hours** from the commencement of FSCA

↓

After **21 days** from the commencement of FSCA

FSCA Completed

FSCA not Completed

↓

Submit Follow Up report with new approved deadline

↓

Submit **Final Report**

Recall & FSCA Assessment

Risk assessment

- **Root cause** analysis
- **Health Hazard** analysis
- Summary of Corrective and Preventative Action **(CAPA)**
- **Validation** studies conducted for product modifications to correct product issue

Effectiveness of corrective action

- MD Consignee **acknowledgement of FSCA completion**
- **Service reports** for corrective actions involving installation, device modifications or software upgrades
- Destruction certificates or airway bill of **return of recalled products** for product recalls

FSCA information

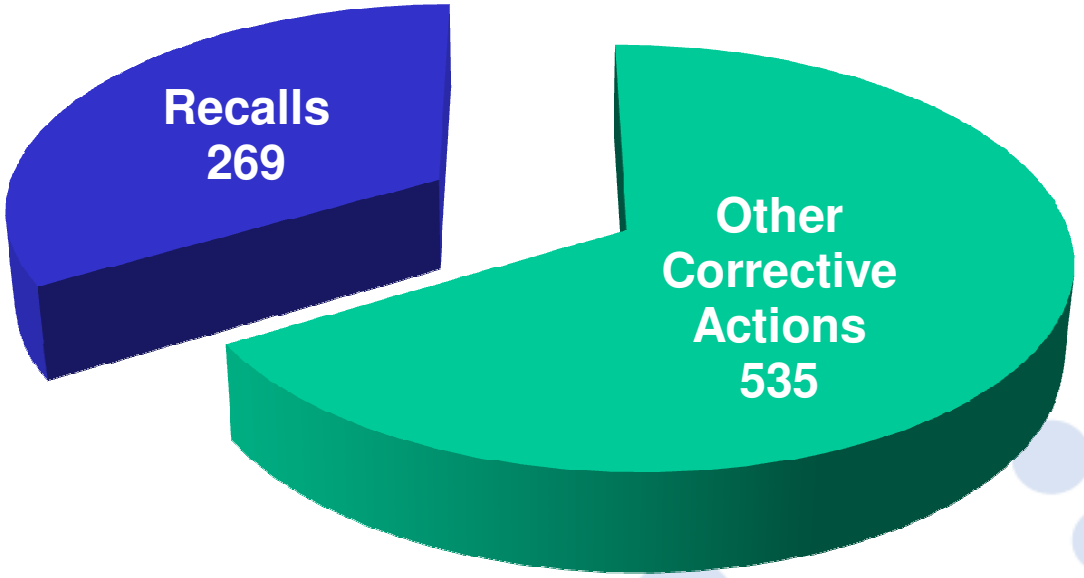
- **Distribution records**:-
  - Number of affected units imported and locally supplied
  - List of affected consignees
- **Product owner's Field Safety Notice** (FSN)

Recall & FSCA

Device categories affected:

- Defibrillators
- Catheters
- Orthopedic implants
- Surgical instruments
- Stretchers
- Wheelchairs
- X-ray/CT system
- Ultrasound system
- Infusion pumps
- Hot cold gel packs
- Contact lenses
- *In-vitro* diagnostic devices

No. of FSCAs in Singapore
Between Nov 2007 to Jul 2010



Risk Communication

Aim:

To enhance safe use & minimise risks of devices

To update & inform intended audience of safety issues in a timely, transparent & unbiased manner

Communication Channels:

- **Press releases**
- **Dear Healthcare Professional Letters (via conventional mail, e-mail, SMSes, faxes)**
- **Updates on HSA website, MOH healthcare professional portal****
- **ADR News bulletin**
- **Manning of hot-lines during crisis**
- **Handling of media queries**

Risk Communication

Dear Healthcare Professional Letters

SAFETY INFORMATION

HSA
Health Sciences Authority

Health Sciences Authority
11 Biopolis Way #11-03 Helios
Singapore 138667
http://www.hsa.gov.sg
Fax: 6478 9069

Dear Healthcare Professional

HSA'S EXPERT ADVISORY COMMITTEE'S RECOMMENDATIONS

The Health Sciences Authority has convened an expert advisory committee to review the risk-benefit balance of COX-2 selective and non-selective NSAIDs. The Committee comprised 11 experts representing relevant specialties and expertise, viz rheumatology, cardiology, gastroenterology, colorectal surgery, pharmacology, orthopaedic surgery, family medicine, dermatology, pharmacy and pharmacovigilance (see Annex 1).

Background information

2 The degree of COX-2 selectivity of COX-2 selective NSAIDs has not been definitively established as there is considerable overlap with the other NSAIDs when assessed by different *in vitro* assay techniques[1]. Commonly known COX-2 selective NSAIDs include drugs such as celecoxib, etoricoxib, rofecoxib[2] and valdecoxib[3]. However, based on the findings of *in vitro* tests, some of the older NSAIDs such as diclofenac, meloxicam and nimesulide have also shown to have more COX-2 selectivity compared to other NSAIDs such as ibuprofen, indomethacin, ketoprofen, ketorolac, mefenamic acid, naproxen and piroxicam.

Conclusion on the risk-benefit assessment of COX-2 selective and non-selective

Public advisories (website, press, TV)

H18 | HOME THE STRAITS TIMES FRIDAY APRIL 29, 2005

Give painkillers at lowest effective dose, says HSA

Patients with certain conditions should avoid NSaids entirely

By Judith Tan

PAINKILLERS which belong to the class of drugs known as NSaids (non-steroidal anti-inflammatory drugs) should be given to patients at the lowest dose which is effective. And it should be for as short a time as possible.

In fact, patients who have just undergone heart surgery should not be given NSaids at all, said a panel of experts convened by the Health Sciences Authority (HSA) earlier this month.

The HSA, which formed the panel after concerns surfaced over the drugs' safety, released its recommendations yesterday.

NSaids are used for both short- and long-term pain relief. They include:

- Cox-2 selective inhibitors, such as Vioxx, Bextra, Celebrex and Arcoxia, and
- a large group of non-selective inhibitors, commonly used medicines such as Advil, Nurofen, Ponstan, Synflex and Motrin.

The panel recommended care with the Cox-2 inhibitors or coxibs, which have been linked to a higher risk of heart attack and stroke. Coxibs are often prescribed for long-term pain sufferers, like arthritis patients, because, unlike the other NSaids, they do not hurt the stomach lining.

Only two are still available in Singapore — Pfizer's Celebrex, and Merck Sharp & Dohme's Arcoxia.

Vioxx and Bextra are no longer on sale.

The panel said Celebrex and Arcoxia should not be prescribed for patients with established ischaemic heart disease, stroke or congestive heart failure. Doctors should also be cautious about giving them to patients with hypertension and diabetes and to smokers.

Arcoxia should also not be given to patients with uncontrolled high blood pressure.

Because of the recommendations, the HSA will work with Pfizer and Merck to strengthen the warnings on the package inserts of both Celebrex and Arcoxia.

At the same time, the panel found there is not enough evidence that other non-selective NSaids carry the same risk.

Concern over these drugs has also arisen in the United States. The Food and Drug Administration there has asked for strong warnings to be printed on the packaging of these over-the-counter medicines.

The HSA said it will continue to monitor the safety profile of these drugs.

A member of the expert panel said yesterday the risk of side effects of coxibs increases with dosage and how long patients are on them.

"It is generally not true that patients suffering from chronic pain need a high dose of coxibs," said Associate Professor Fong Kok Yong, head of the department of rheumatology and immunology at Singapore General Hospital.

Such patients can turn to other types of painkillers, topical gels, joint injections and non-drug options like physiotherapy and acupuncture, which are much safer.

Singapore representatives from Pfizer and Merck told The Straits Times they will work with the HSA on the content of the warnings.

The HSA has already issued an advisory to all health-care professionals on the recommendations and measures.

POSED PHOTO: CAROLINE CHIA

PHOTO: AFP

END THE PAIN: Cox-2 selective inhibitors such as Pfizer's Celebrex (above) are still available in Singapore, but the HSA will work with the manufacturer to strengthen the warnings on its package inserts. Patients suffering from chronic pain can turn to other types of painkillers, topical gels, joint injections and non-drug options.

When they're safe – and when they aren't

- I have been taking Celebrex or Arcoxia. Is it safe to continue?

Discuss your drug therapy with your doctor at your next visit. He will be able to advise whether it is better to continue the medicine or change to another type of treatment, depending on your overall heart and gastrointestinal risks.

- How long is it safe to take Celebrex or Arcoxia?

The longer the use, the higher the risk. Your doctor will have to regularly assess your need to continue the treatment. It is not possible to provide estimates of risk based on available evidence. It is therefore best to use the medicine for the shortest time at the lowest dosage necessary and have a periodic review of your medication.

- Who should not take NSaids?

Patients with ischaemic heart disease, stroke or congestive heart failure, patients who have undergone heart surgery, those with hypertension and whose blood pressure is not properly controlled. Women who are pregnant, or think they are, should not take NSaids. If you are not sure whether you fall into these categories, check with your doctor.

- Can Celebrex or Arcoxia or other NSaids be given to the elderly?

The elderly are more prone to kidney problems when taking NSaids. The doctor will have to monitor this group of patients more closely if he decides they need the medicine and the medicine is useful for them.

- Is it safe to take NSaids bought over the counter, such as ibuprofen and naproxen?

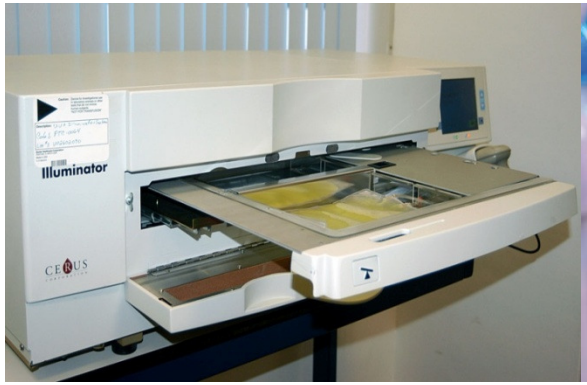
NSaids that can be bought without prescription should be taken only for a short term and at the lowest recommended dose. If you need to take it beyond the course or dosage, seek the advice of the pharmacist or your doctor.

Meeting the Challenges Ahead

- ***Biomedical Advances***
- ***Socio-Political Environment***
- ***Resources & Capabilities***
- ***Achieving Thought Leadership***

Fast Paced New Technologies

- New biologics products
- Novel cellular therapies
- New blood processing technologies
- Pharmacogenetics
- Nanotechnology
- New devices - RFID, drug-coated therapeutic devices



Thank You