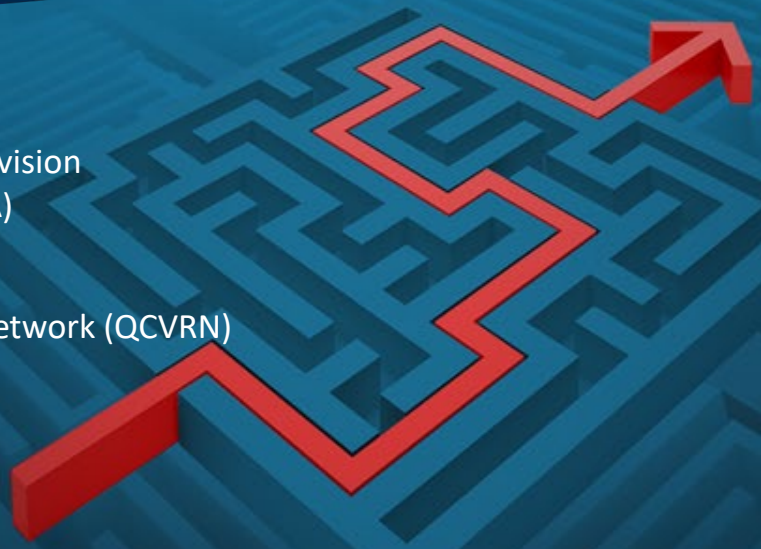
Australian Government
Department of Health
Therapeutic Goods Administration

Medical Device Regulatory Lifecycle

Pre-market process, and clinical evidence requirements



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Medical Devices and Product Quality Division
Therapeutic Goods Administration (TGA)

Queensland Cardiovascular Research Network (QCVRN)
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TGA Health Safety Regulation

Agenda

- The Australian Register of Therapeutic Goods (ARTG)
- What is a medical device?
- Kind of medical device and risk classification
- Regulatory lifecycle and getting a device to market
- Cardiac devices
- Audit processes
- Clinical evidence requirements
- Clinical trial schemes for unapproved products

Australian Register of Therapeutic Goods

All therapeutic goods must be entered in the ARTG before they can be supplied in, imported to, or exported from Australia

- Medicines
- Medical Devices
- Biologicals
- Other Therapeutic Goods

What is a medical device?

- A medical device is a product used for:
  - diagnosis, prevention, monitoring, prediction, prognosis, treatment or alleviation of disease, injury or disability
  - investigation, replacement or modification of the anatomy or of a physiological process
  - support or control of conception
- It does **not** achieve its primary function through pharmacological, immunological or metabolic means.
- It can also be an accessory to a medical device.

Defined in Section 41BD of the Act

What is a medical device?

Examples:

- Tongue depressors
- Bandages
- First-aid kits
- Blood pressure monitors
- Infusion pumps
- Automated external defibrillators
- Implantable pacemakers
- Orthopaedic hip implants
- Pathology tests (IVDs)

What is a kind of medical device?

- Medical devices are included in the ARTG as a '**kind** of medical device'.
- A medical device is taken to be the same kind as another medical device if they have the following characteristics:

For all classes of medical device:

- the same sponsor
- the same manufacturer
- the same classification
- the same Global Medical Device Nomenclature (GMDN) system code

Additionally for Class III and Class AIMD medical devices:

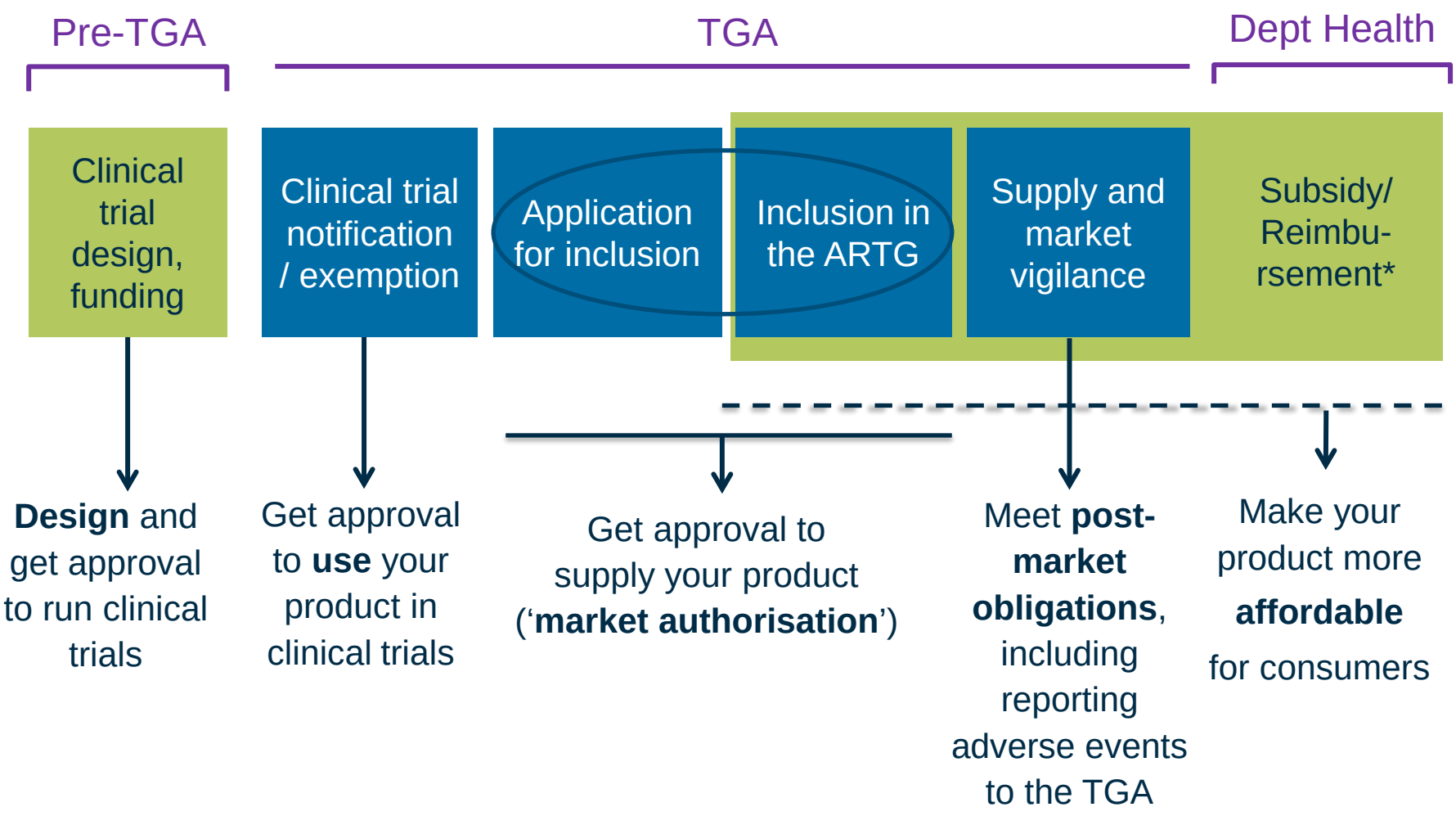
- the same unique product identifier (UPI)

Classification of medical devices

Classification	Class I	Class Is and Class Im	Class IIa	Class IIb	Class III and AIMD
Risk	Low risk	Low-Medium risk		Medium-High risk	High risk
Example	Medical gloves	Sterile dressing/ Weighing scale	IV tubing	Electrosurgical electrode	Cardiovascular catheters /implantable pacemaker

Classification principles and rules are defined in *Therapeutic Goods (Medical Devices) Regulations 2002,* Part 3 Division 3.1 and Schedules 2

Therapeutic good development lifecycle



How does a Medical Device get to the Australian Market?

A sponsor makes an application to include a device on the Australian Register of Therapeutic Goods (ARTG) so that it can be legally supplied in Australia

The applicant must have information available to demonstrate the **quality**, **safety** and **performance** of the medical device

The device must undergo a Conformity Assessment procedure and comply with the Essential Principles.

Medical devices can not be tested like medicines in a traditional clinical trial

Information on their performance and safety is important prior to market authorisation

Most new devices are improvements of older versions based on data collected from real life use

General regulatory requirements

Conformity Assessment

QMS (Manufacturer)

Could include:

- Overview of manufacturing stages
- Quality manual
- Purchasing requirements/supplier control
- Process validations and Change Controls
- Procedures for post-market monitoring system

Product Assessment

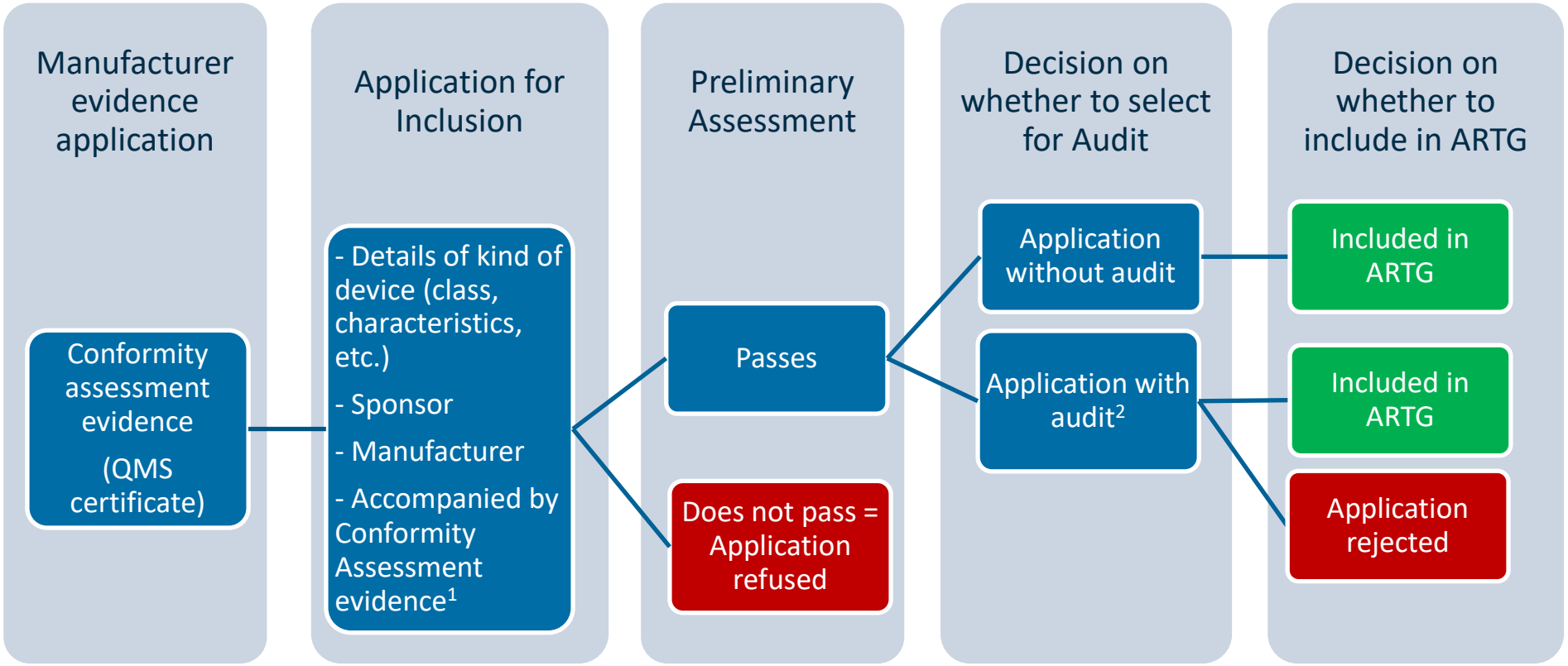
Could include:

- Device Description and History
- Essential Principles Checklist
- Risk Analysis and Control Summary (e.g. ISO 14971)
- Design and Manufacturing Information
- Clinical Evidence Report
- Performance Evaluation
- Product Validation and Verification
- Stability
- Information to be Supplied with the Medical Device

Essential Principles

1. Use of medical devices not to compromise health and safety
2. Design and construction of medical devices to conform to safety principles
3. Medical devices to be suitable for intended purpose
4. Long-term safety
5. Medical devices not to be adversely affected by transport or storage
6. Benefits of medical devices to outweigh any side effects
7. Chemical, physical and biological properties
8. Infection and microbial contamination
9. Construction and environmental properties
10. Medical devices with a measuring function
11. Protection against radiation
12. Medical devices connected to or equipped with an energy source
13. Information to be provided with medical devices
14. Clinical evidence

Medical Device inclusion process



[1] Therapeutic Goods (Medical Devices – Information that Must Accompany Application for Inclusion) Determination 2018
[2] Mandatory audit applies to some categories of medical devices

Products exempt from ARTG inclusion

Some products do not require inclusion in the ARTG if they:

- are declared to not be Therapeutic Goods under the *Therapeutic Goods (Excluded Goods) Determination 2018* (products such as deodorants, disinfectant gases, hair colours, specific software); or
- Declared to not be a medical device under a Therapeutic Goods Order.

Exempt products are still required to meet conformity assessment procedures and essential principles!

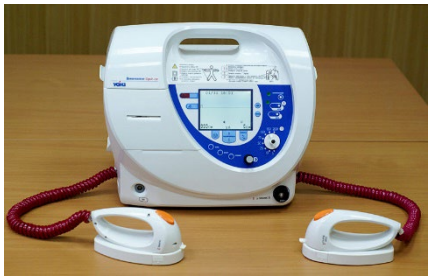
Exclusion	Exemption
means that the devices are completely unregulated by TGA	means that TGA retains some oversight for advertising, adverse events and notification Registration of the devices is not required.

Software based medical devices

- Software and apps that meet the definition of a medical device are regulated by the TGA:
  - software that functions as a medical device in its own right, and
  - software that controls or interacts with a medical device either from within the device or externally.

Blood Pressure Monitor

Defibrillator

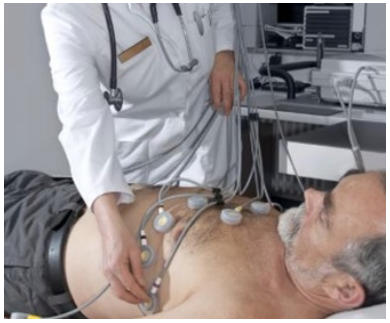


Cardiac devices

- Classification depends on intended purpose and duration of use within the heart and central circulatory system
- Devices for transient use that are not used to diagnose, monitor or correct a disease or defect of the heart or Central Circulatory System are Class IIa
- All others are mostly Class III and subject to mandatory audits, unless accompanied by TGA conformity assessment certificate.

Cardiac Devices - Examples

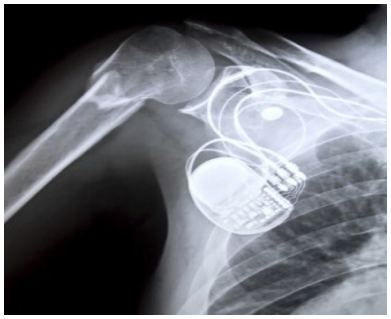
ECG



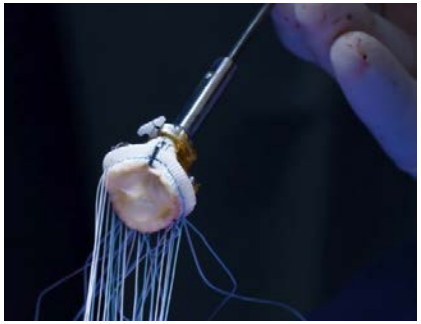
Blood Pressure Monitor

- Low-medium risk devices (**class IIa**)
- No audit required unless there are concerns around device or application
- Manufacturer must hold evidence that device is safe and performs as intended.

Implantable pacemaker



Aortic Valve



- High risk device (**class III/AIMD**)
- **Mandatory audit** requiring clinical evidence of performance and safety (unless have TGA conformity assessment certificate)

What is an audit?

- Verifying compliance with Australian Regulatory Requirements
  - Conformity Assessment Procedures
  - Essential Principles
  - Classification rules

Conformity Assessment

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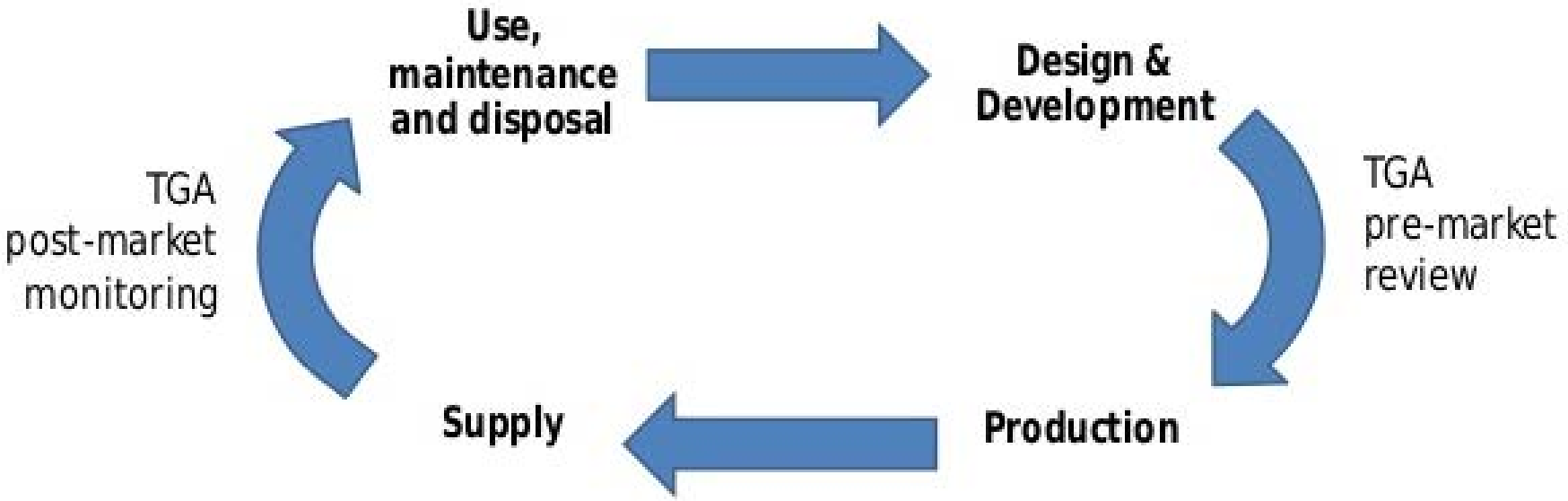
Clinical evidence requirements

Where in the life cycle is the device?



Essential principles always apply!

Essential Principle 14

- Essential principle 14 states:

Every medical device requires clinical evidence, appropriate for the use and classification of the device, demonstrating that the device complies with the applicable provisions of the essential principles.

- Regulation 3.11 provides that clinical evaluation procedures must apply to the device, for the purpose of demonstrating that the device complies with the applicable provisions of the essential principles.

- Clauses 8.3, 8.4, 8.5 and 8.6 of Part 8 of Schedule 3 of the Regulations set out requirements for obtaining clinical data, clinical investigation data, literature review and evaluation of clinical data in relation to a kind of medical device.

Schedule 3 part 8

a) documentation in relation to the design, approval, conduct and results of each investigation carried out by the manufacturer of the device in relation to the use of the device in or on a human body; and

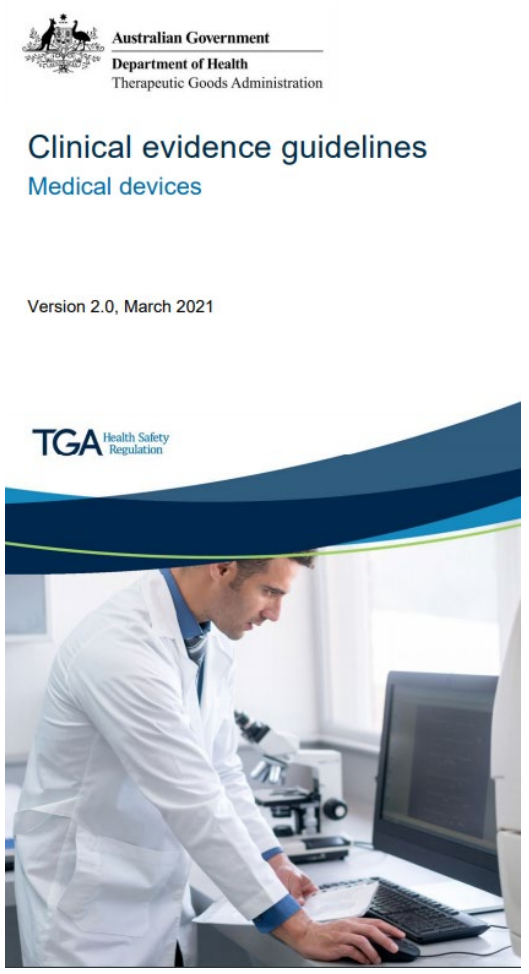
b) a record of qualitative or quantitative information obtained through observation, measurement, tests or any other means used to assess the operation of the device; and

c) a written report by an expert in the relevant field, being a report that contains a critical evaluation of all the clinical investigation data held in relation to the device.

Clinical Assessment

Clinical evidence guidelines for Medical Devices is available on the TGA website and explains our interpretation of the requirements

https://www.tga.gov.au/publication/clinical-evidence-guidelines-medical-devices



Expectations

Not a blanket response

- Depends on the risk-benefit profile of the device
- Novel devices/technologies
- Software as Medical device

Expectations

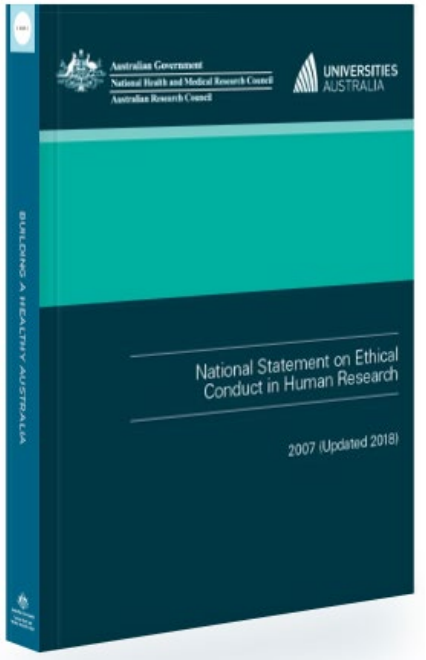
Points to consider:

- Standards
  - ISO14155 - Good Clinical Practice
  - ISO 5840-1; ISO 5840-2 and ISO 5840-3 - Cardiovascular implants- cardiac valve prostheses

Expectations

Points to consider:

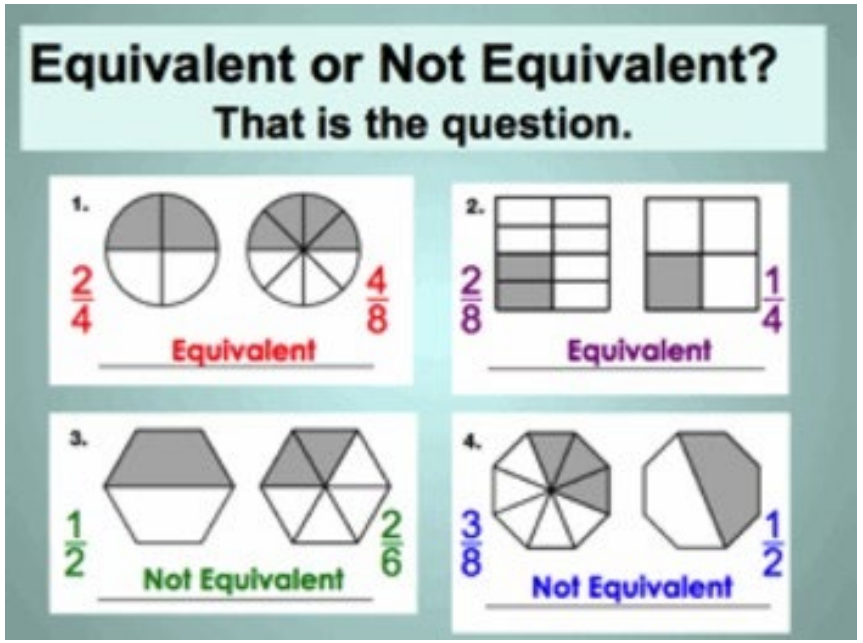
- Different type of clinical data
  - Clinical investigations
    - In Australia, subject to NHRMC National Statement of Ethical Conduct in Human Research
  - Literature review
  - Post-market data
  - Registry data



Expectations

Points to consider:

- The concept of “substantial equivalence”



Clinical investigations

- = trial/study

- Safety and Performance

Risk based approach:

- New design features, including new materials
- Foreseeable risks
- Incorporation of medicinal substances
- Use of animal tissues
- New intended purposes, including new medical indications, new target populations (age, gender, etc.)

Clinical evidence guidelines

- 10 main chapters
  - 5 included in part 2 “Requirements for specific high risk devices”
    - 3 related specifically to cardiovascular devices:
      - Cardiovascular devices to promote patency or functional flow
      - Implantable pulse generator systems
      - Heart valve replacement using a prosthetic valve

Unapproved products

- Authorised prescribers (AP)
- Special access scheme (SAS)
- Personal importation scheme
- Clinical trials

Clinical Trials

- Clinical trials conducted in Australia are subject to various regulatory controls to ensure the safety of participants.
- There are two avenues for the importation into and/or supply in Australia of 'unapproved' therapeutic goods for use in a clinical trial:
  - Clinical Trial Notification (CTN) scheme; and
  - Clinical Trial Approval (CTA) scheme.

- Clinical trials that do not involve 'unapproved' therapeutic goods are not subject to requirements of the CTN or CTA schemes.
- It is the responsibility of the Australian clinical trial sponsor to determine whether a product is considered an 'unapproved' therapeutic good.

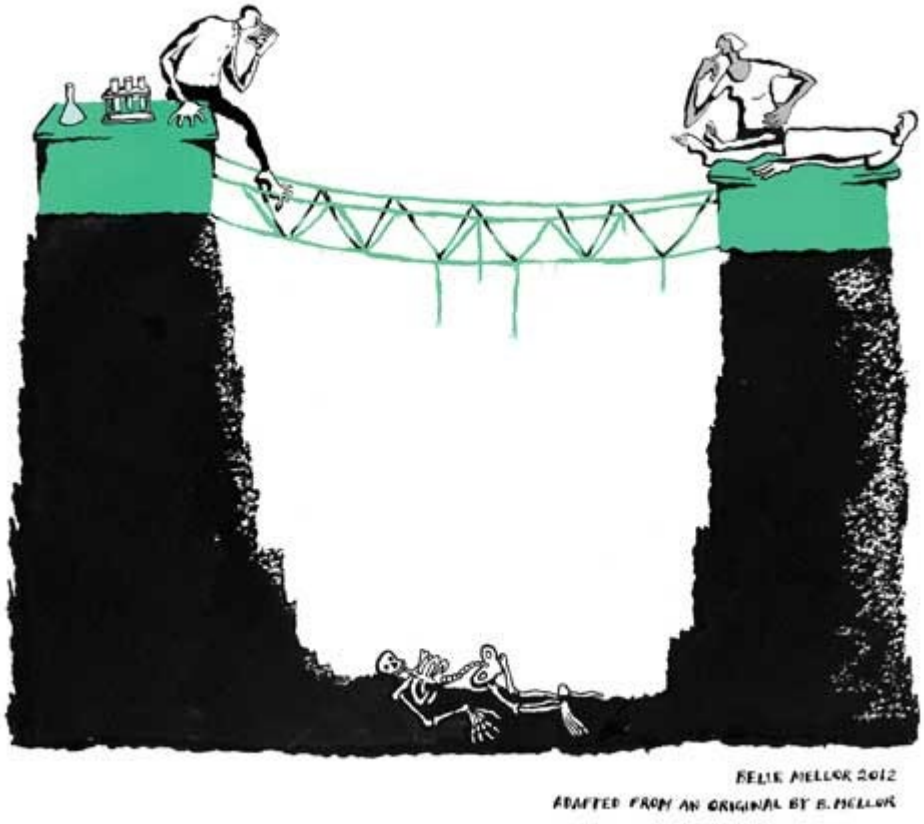
https://www.tga.gov.au/clinical-trials

Upcoming consultation by the Australian Commission on Safety and Quality in Health Care

https://www.safetyandquality.gov.au/

- Consultations on requirements for the National One-Stop-Shop and the National Clinical Trials Front Door

We are here to help



Butler D. Translational research: crossing the valley of death. Nature News. 2008 Jun 11;453(7197):840-2.

Further information

TGA website

Clinical evidence guidelines: Medical devices
https://www.tga.gov.au/publication/clinical-evidence-guidelines-medical-devices
Clinical trials https://www.tga.gov.au/clinical-trials
SME Assist https://www.tga.gov.au/sme-assist

Federal Register of Legislation

- *Therapeutic Goods Act 1989* Chapter 3, Part 4-5
- *Therapeutic Goods (Medical Devices) Regulations 2002* Essential principles; Classification rules; Conformity assessment procedures

Contact the TGA Medical Devices Branch

- devices@tga.gov.au ph.: 1800 141 144

Questions

Australian Government

Department of Health

Therapeutic Goods Administration