

# What comes after the Medical Devices Directive? Global Harmonisation of the Clinical Evaluation of Medical Devices

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# What comes after the Medical Devices Directive? Global Harmonisation of the Clinical Evaluation of Medical Devices

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- GHTF N2R8: 2007
- Similarities and differences between MedDev 2.7.1 and EN ISO 14155
- Future implementation of GHTF N2R8
- Conclusion



## Purpose

To achieve greater uniformity between national medical device regulatory systems.

To enhance patient safety and to increase access to safe, effective and clinically beneficial medical technologies around the world.



**GHTF**

## Structure of GHTF



- Informal grouping of medical device regulators and industry
- Began in 1992 with Canada, European Union, Japan, USA and Australia as founding members
- Has links with European Free Trade association, ISO, IEC, CEN, CENELEC, WHO, PAHO and AHWP
- Currently consists of a Steering Committee, 5 Study Groups and several Ad Hoc Groups



## GHTF Study Groups



- Study Group 1: Regulatory requirements for premarket review
- Study Group 2: Vigilance/ Postmarket surveillance
- Study Group 3: Quality Systems requirements
- Study Group 4: Quality Systems auditing
- Study Group 5: Clinical safety and performance

# Study Group (SG)5

- **SG5 - Final Documents**

<http://www.ghrf.org/sg5/sg5-final.html>

<b>Title</b>	<b>Description</b>
SG5/N2R8:20 07 <a href="#">[PDF]</a>	Clinical Evaluation
SG5/N1R8:20 07 <a href="#">[PDF]</a>	Clinical Evidence – Key Definitions and Concepts

# SG5 Clinical Evaluation

## Definition

- The assessment and analyses of clinical data pertaining to a medical device to verify the clinical safety and performance of the device when used as intended by the manufacturer

# Contents of SG5/N2R8 – What is the process?

## **To conduct a clinical evaluation:**

- **Identify Essential Principles**
- **Identify available clinical data relevant to the device and its intended use**
- **Evaluate data**
- **Generate any clinical data necessary to address outstanding issues**
- **Make conclusions about clinical safety and performance**

## Contents of SG5/N2R8 – Scope of clinical evaluation

Pre and post market clinical data relevant to the intended use including clinical performance data and safety data. This includes the device in question as well as any data relating to devices claimed as comparable by the manufacturer.

## Contents of SG5/N2R8 – Scope of clinical evaluation

- **DESIGN FEATURES/TARGET POPULATION**  
that pose special performance or safety concerns
- **INTENDED PURPOSE AND APPLICATION OF THE DEVICE**
- **SPECIFIC CLAIMS**
- **SIGNIFICANCE OF ANY REMAINING RISKS**

# Contents of SG5/N2R8 – Scope of clinical evaluation

## **EQUIVALENCY CHARACTERISTICS**

- CLINICAL
  - no clinical significant difference in the performance of the device
- TECHNICAL
  - design specifications, critical performance , principles of operation
- BIOLOGICAL
  - biocompatibility of materials

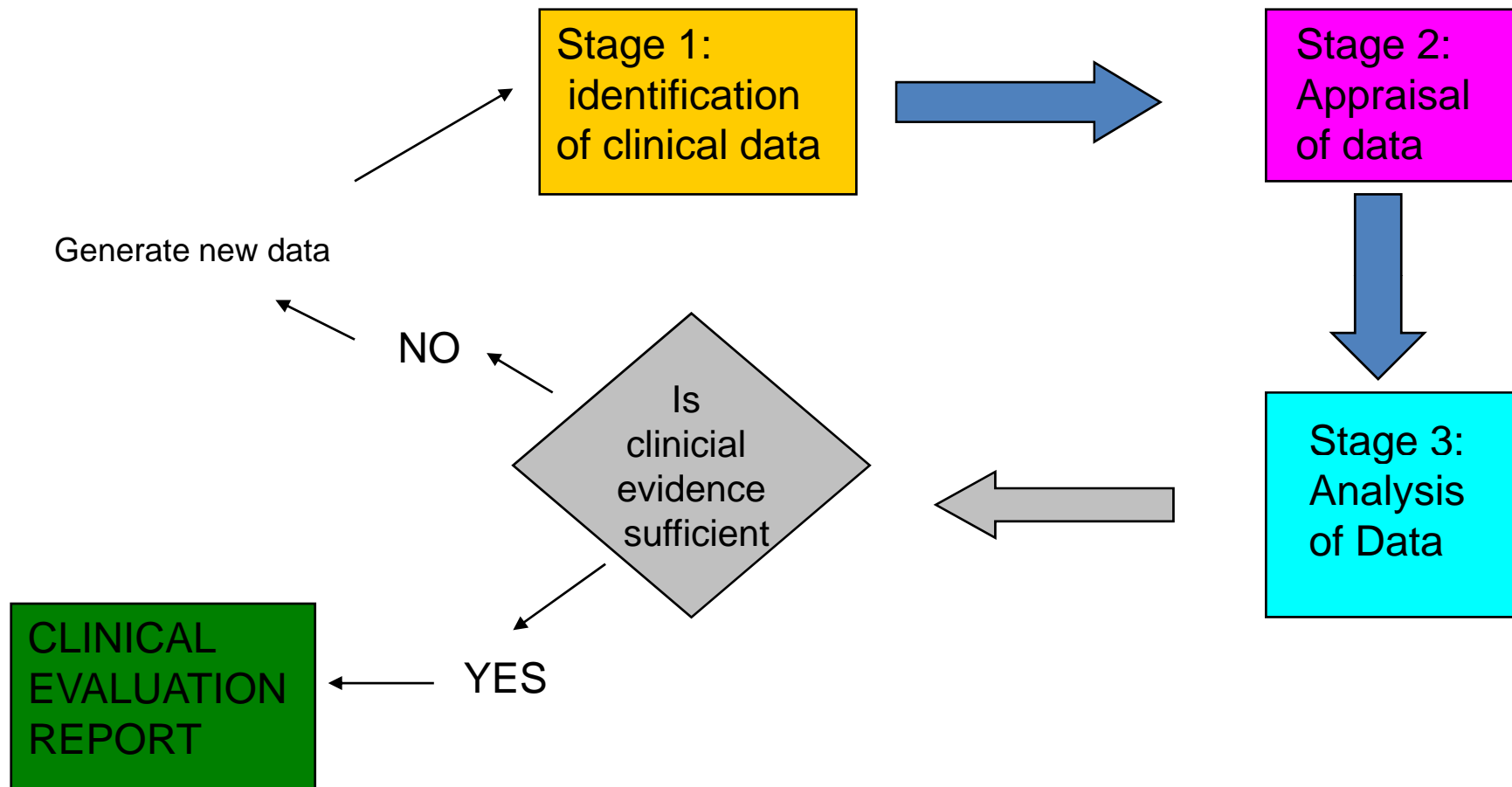
## Contents of SG5/N2R8 – How is a clinical evaluation performed?

- Identification of pertinent standards and clinical data
- Appraisal of each individual data set, in terms of its relevance, applicability, quality and clinical significance
- Analysis of individual data sets whereby conclusions are reached about the performance, safety and information relating to the medical device

## Contents of SG5/N2R8 – Who should perform the clinical evaluation

- Suitably qualified individual or individuals
- The evaluator should possess knowledge of the following:
  - Device technology and its application
  - Research methodology
  - Diagnosis and management of the condition intended to be treated or diagnosed
- Manufacturer must provide justification

# Contents of SG5/N2R8 – Stages of a Clinical Evaluation



# Contents of SG5/N2R8 – Stage One

## IDENTIFY CLINICAL DATA FROM LITERATURE SEARCHING:

- Published clinical data related to the device or comparable devices
- Assessment of the data
- Protocol to be devised (example in Appendix A)
- Report to present the results of the search (example in Appendix B)

# Contents of SG5/N2R8 – Stage One

## DATA GENERATED THROUGH CLINICAL EXPERIENCE

- Data from outside of clinical investigations (eg post market surveillance reports, registries, long term safety and performance data)
- Adverse event databases
- Compassionate usage programs
- Recalls, notifications, hazard alerts

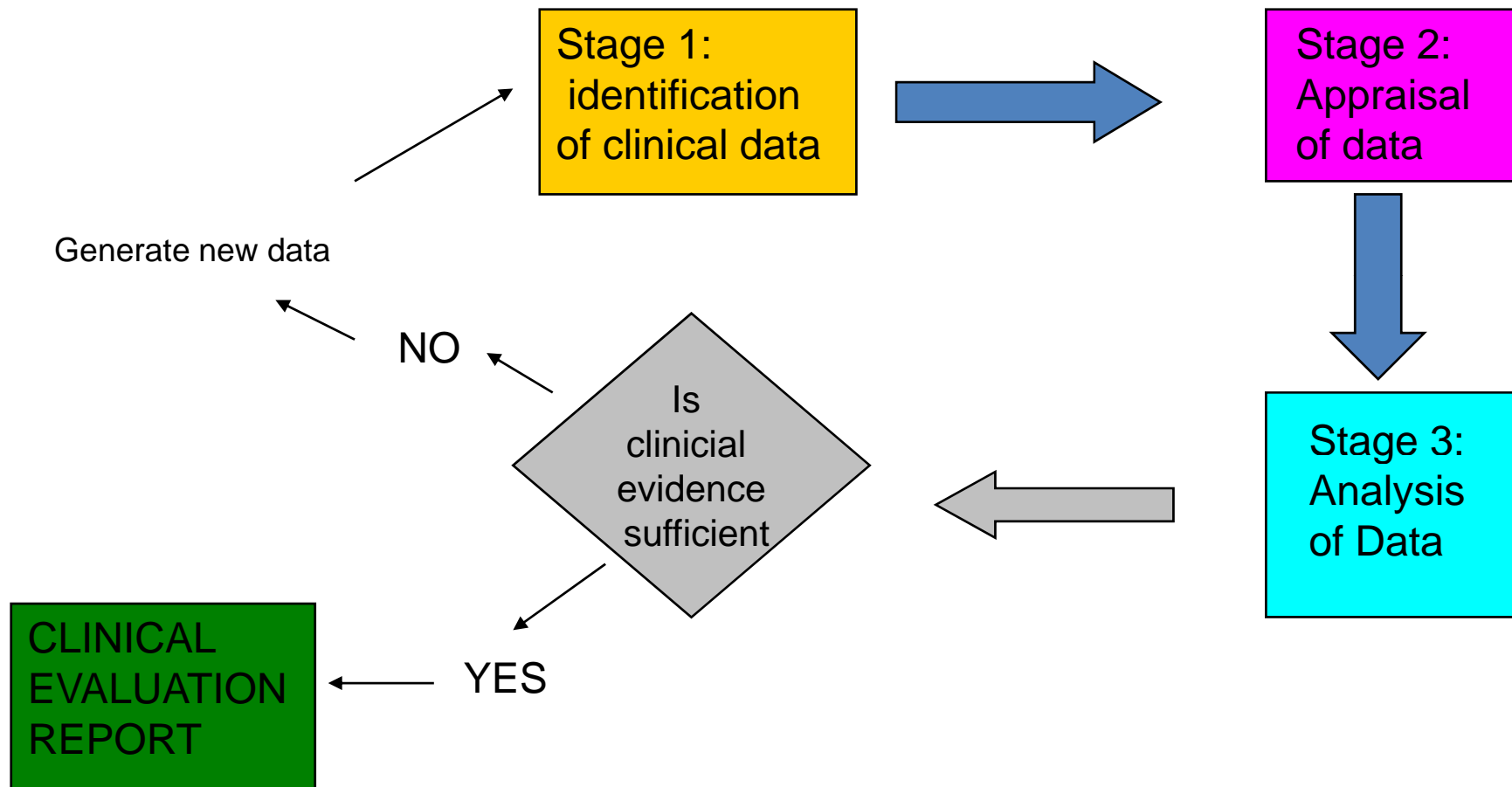
## Contents of SG5/N2R8 – Stage One

### DATA GENERATED FROM CLINICAL INVESTIGATIONS in accordance with ISO 14155 parts 1 and 2 , Declaration of Helsinki

may include:

- Clinical investigation plan and any amendments
- Ethics Committee documents
- Case report forms
- Regulatory authority approvals
- Signed and dated final report

# Contents of SG5/N2R8 – Stages of a Clinical Evaluation

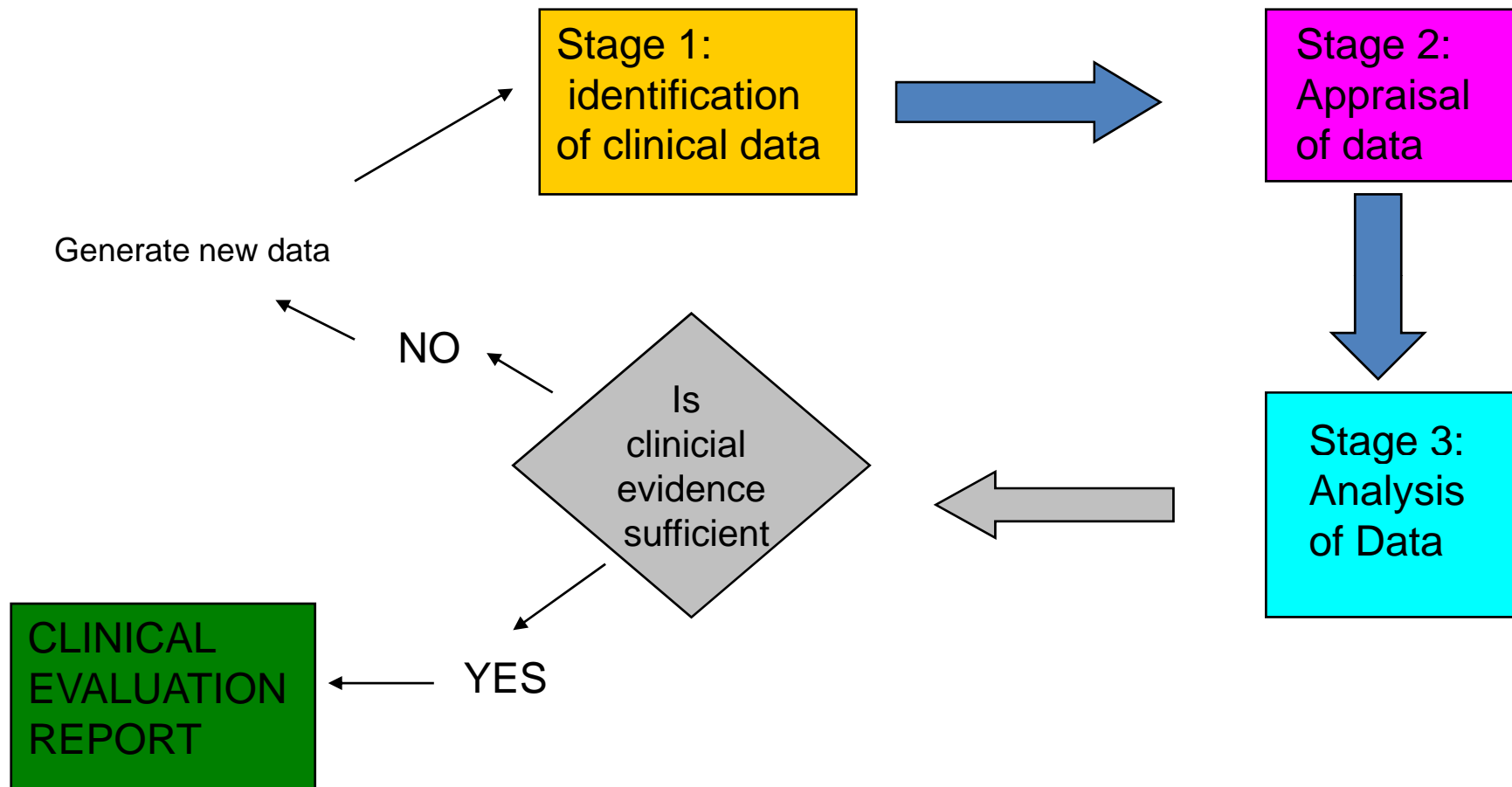


# Contents of SG5/N2R8 – Stage Two

## APPRAISAL OF CLINICAL DATA

- Assessment of quality and its relevance to the device in question
- Further appraisal to determine the contribution of each data set to establish the safety and performance of the device
- Appendix C an example of methodology of clinical data
- Appendix D method of Data Appraisal (weighting factors)

# Contents of SG5/N2R8 – Stages of a Clinical Evaluation



# Contents of SG5/N2R8 – Stage Three

## ANALYSIS OF CLINICAL DATA

determination that the appraised data set available for medical device demonstrates the clinical performance and safety of the device in relation to its intended use

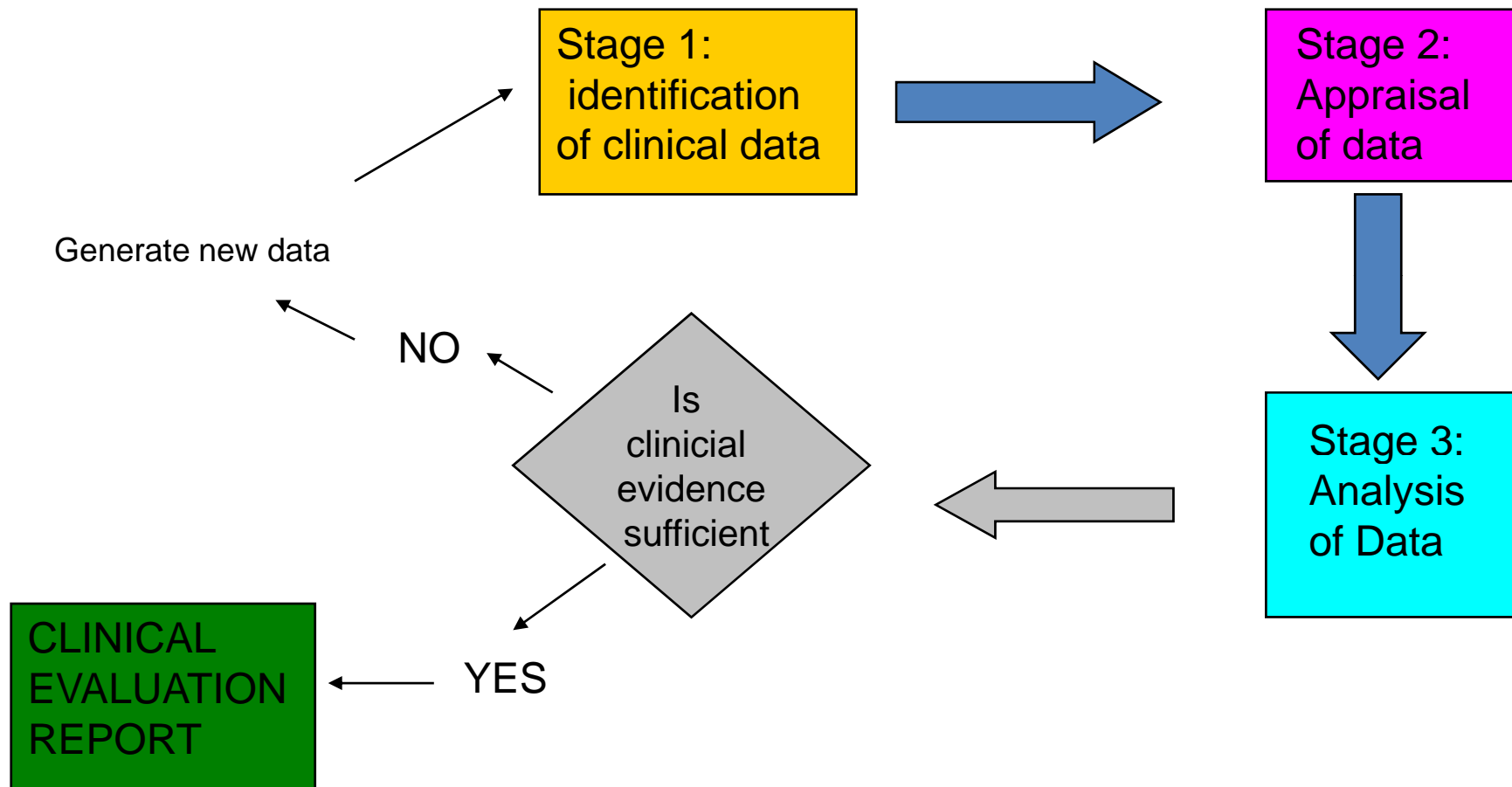
Consideration given to:

- quantitative or qualitative
- any bias

## Contents of SG5/N2R8 – Stage Three (cont`d)

- Does the device perform as intended?
- Are there any safety concerns?
- Do the benefits outweigh the risks?
- Reference the number of patients, number and severity of adverse events, any alternative treatments.

# Contents of SG5/N2R8 – Stages of a Clinical Evaluation



# Contents of SG5/N2R8 – Clinical Evaluation Report

Should outline:

- The scope and content of the evaluation
- Inputs (clinical data)
- The approval and analysis stages
- Conclusions about the safety and performance of the device

# Contents of SG5/N2R8 – Clinical Evaluation Report

Should outline:

- The technology on which the medical device is based
- The intended use of the device and any claims made about the devices clinical performance and safety
- The nature and extent of the clinical data that has been evaluated
- How the referenced information demonstrates the clinical performance and safety

# Contents of SG5/N2R8 – Clinical Evaluation Report

- Report should be signed and dated plus manufacturer`s justification of the choice of the evaluator
- Example provided in Appendix E.

## EN 14155 and MedDev 2.7.1

- EN 14155: 2003 - harmonised standard
- MedDev 2.7.1 (published in 2003) – guidance document for manufacturers and notified bodies

## Similarities between EN 14155 , MedDev 2.7.1 and SG5/N2R8

- Identification of relevant documentation (published or unpublished)
- Assessment of quality of information
- Critical Evaluation using both favourable and unfavourable data.
- Conclusion including benefit / risk ratio

# Differences

- Clinical evaluation is an ongoing process conducted throughout the life cycle of a medical device
- Assessment on any claims made about the device, adequacy of product labelling and product information(particulary contraindications, precautions/warnings) and the suitability of instructions for use
- Any design features that pose special performances or safety concerns (eg presence of medicinal, human or animal components)

# Differences

- Description of the stages of collection of clinical data (flowchart provided)
- Description of how to document the clinical evaluation in the final report

## Implementation of SG5/N2R8

- Some content has been adopted in 2007/47/EC Amendment to Medical Devices Directive effective from 21 March 2010.
- Revisions in progress with US FDA and Australia regarding clinical data.

## Conclusion

- GHTF Study Group 5 N2R8 provides clear and detailed guidelines for the requirements of a clinical evaluation.
- EN 14155 currently being revised
- MedDev 2.7.1 also under review

*Thank you for your attention*

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