

Mediterranean Institute for
Childhood (MedChild Foundation):
A nonprofit model for drug
development in children

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Highlights

- **Over two thirds of prescribed drugs unlicensed or off-label**
- **Research on and for children is needed**
- **Reach balance between the ethical imperatives:**
 - Deliver adequately tested drugs (safety/efficacy)
 - Enhance protection of the child
 - Respect his integrity and dignity
- **Promote supportive research environment: the MedChild PCTO experience**

Unapproved Uses of Approved Drugs

- **2/3 of all medications** marketed today do not carry FDA/EMA approved labelling for use in neonates, infants, children and adolescents
- **Pediatric disclaimers** stating that safety and efficacy of a specified drug has not been studied in children are **frequently included in prescription information**
- Drugs with a pediatric disclaimer are used in practice in an **off label manner** when given to children, and the safety responsibility is thus transferred to the prescribing physician

Pediatric Drug Labelling to improve the Safety and Efficacy of Pediatric Therapies

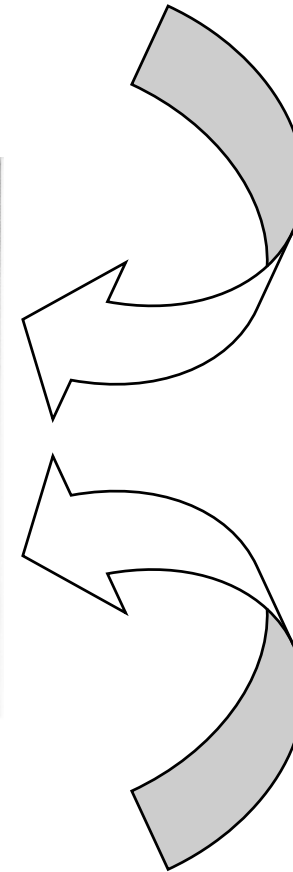
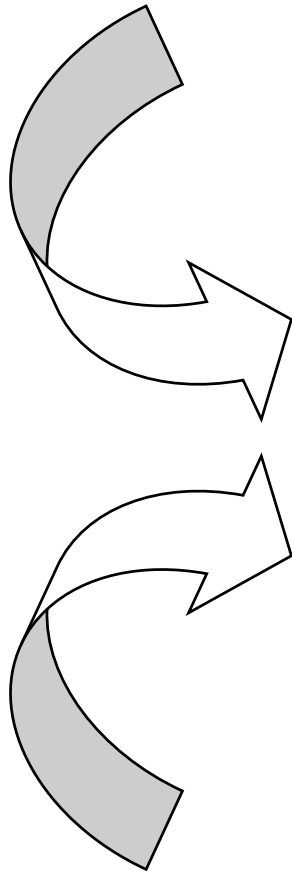
- **Benefits of new drugs for the pediatric population** are clearly perceived today, while in contrast, **ethical and technical hurdles for pediatric research** are still very high
- It is mandatory to **protect children as research subjects** as documented in guidelines and directives for pediatric clinical trials and in the Declaration of Helsinki
- Childhood usage is frequently a small proportion of a given drug's use, and a **high cost** is associated with obtaining pediatric labeling
- Many promising drug candidates for children are discarded for **lack of a viable market**

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- Promote supportive research environment: the PRINTO and the MedChild PCTO examples

Industry

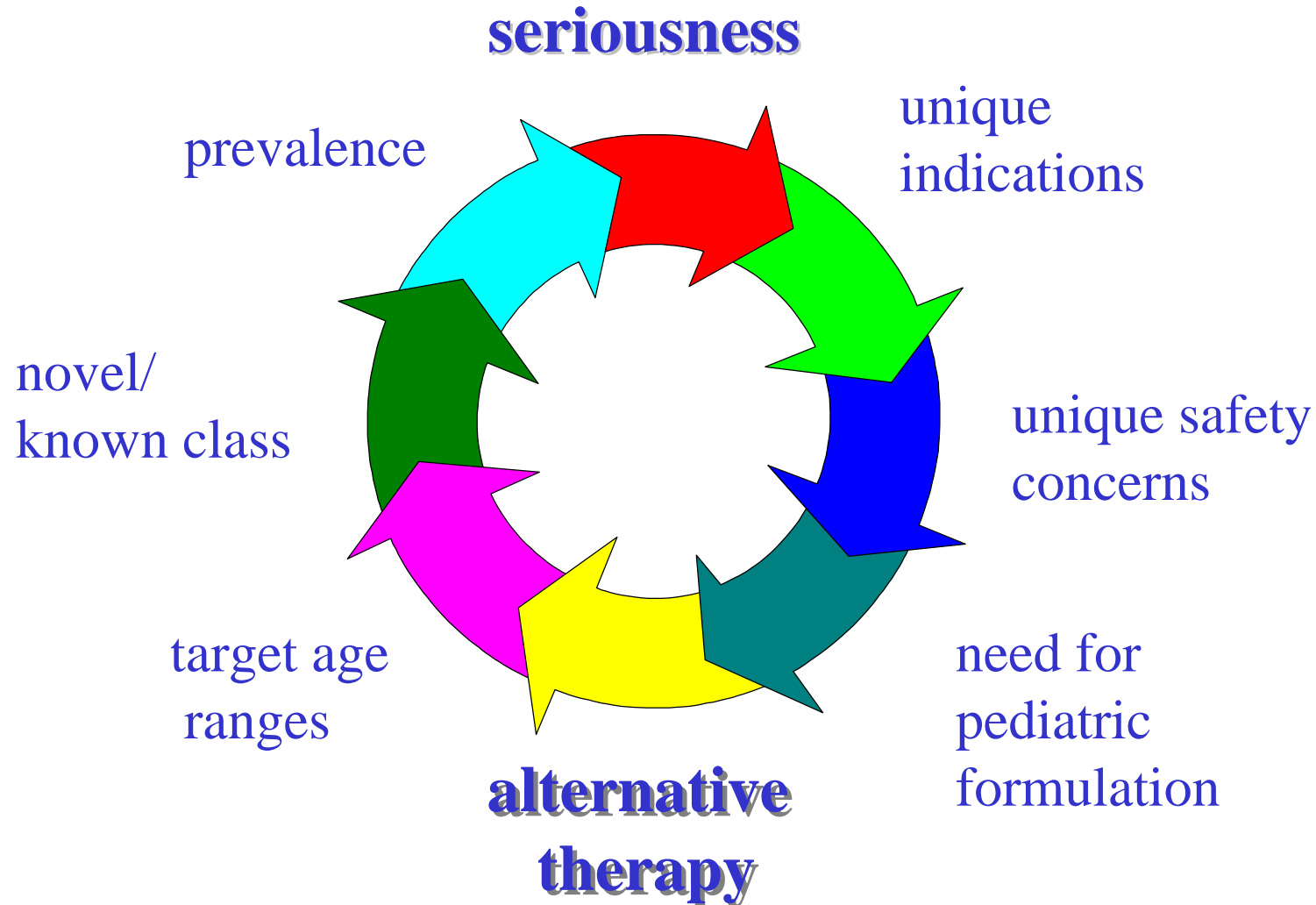
**Regulatory
Authorities**



**Health
Professionals**

Society

Industry and Health Professionals: the Pediatric Drug Development Program



Regulatory Authorities: Introduction of several new Laws and Regulations

- **1997 - US Pediatric Exclusivity Provision act** enabled the FDA to create powerful incentives for pediatric research on patented drugs
- **1997 - The European Council pediatric clinical trial directives**
- **1998 - Pediatric Rule** enabled the FDA to require studies if the drug in question is likely to be used in a substantial number of paediatric patients
- **2000 - ICH guideline on Pediatric Clinical Trials** finalized

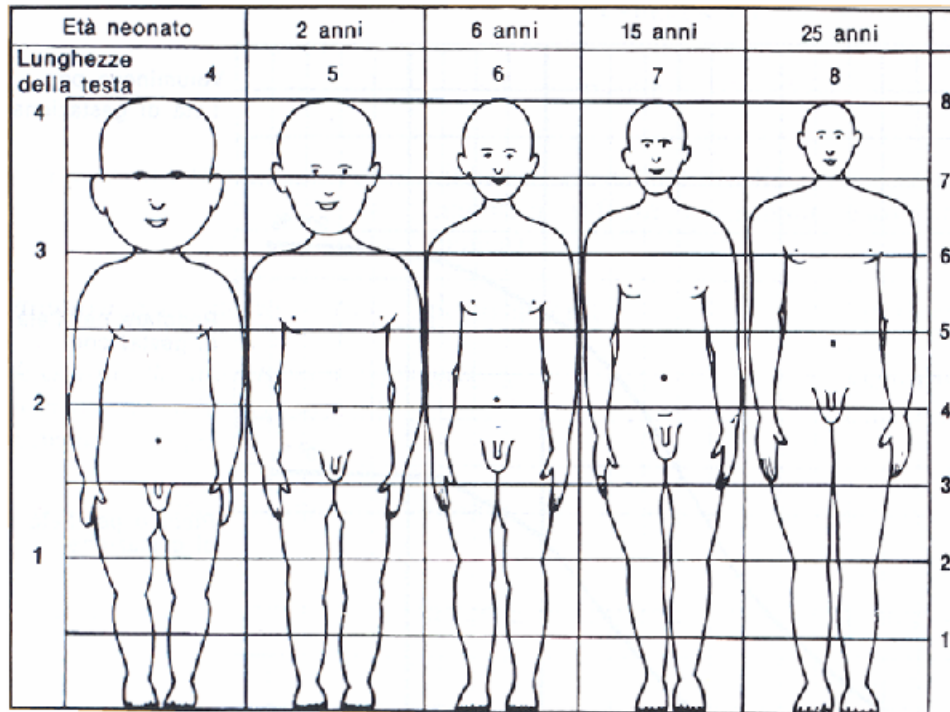
Regulatory Authorities: Introduction of several new Laws and Regulations

- Since **2001**, a Pediatric Plan has to be presented to FDA for all new chemical entities for which a pharmaceutical company requests an investigational new drug application
- Incentives to generate clinical data on older drugs are created in the US with the “**Pediatric Priority List**”
- **2002** - European Commission: “**Better medicines for children**”
- **2004 -2007 Proposed EU Regulation on medicinal products for Pediatric use** by EU Parliament and Council

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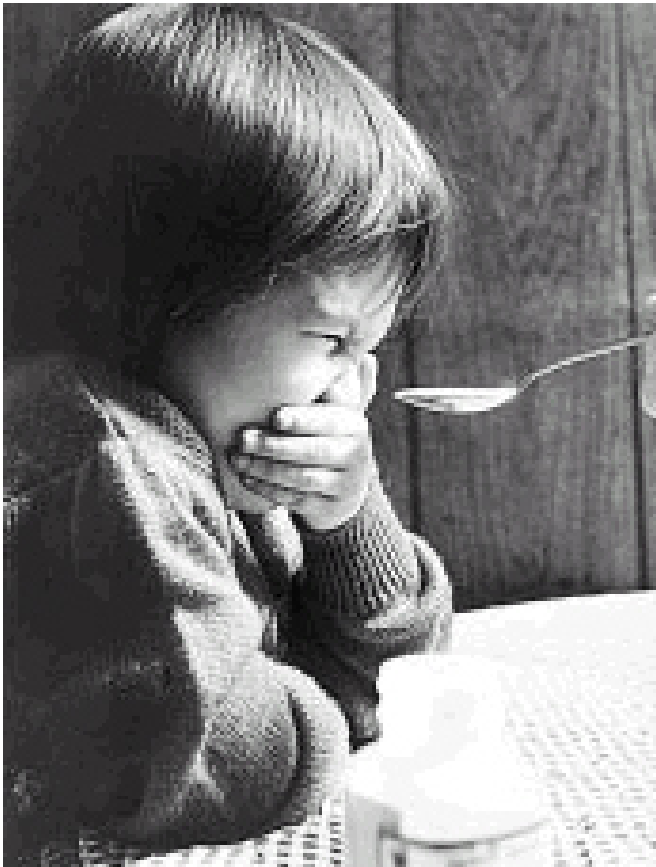
The diversity between children and adults



- **Body weight** doubled in 6 months, 3-fold increase in 12 months
- **Body surface area** doubled in 12 months
- **Different pharmacokinetics** (PK=what the body does to a drug in terms of absorption, distribution, metabolism, and excretion)
- Different presentation of similar **diseases**

Pediatric formulations: why do we need them?

Right dosage form with
right taste!



- Accurate dosing
- Enhanced compliance
- oral - suspensions, “sprinkles”, chewable tablets
- different flavours, colours
- Avoid toxic excipients

Health Professionals and Society: reach balance between the ethical imperatives

- Rights to receive adequately tested medication
 - Respect for dignity, voice & needs of the child
 - Importance of the Informed Consent and Assent
 - Minimize risks, distress and discomfort
 - Adequate pediatric expertise required: Industry, Physicians, Trial site, Ethical Committee

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The MedChild Institute - Mission

- Promote an in-depth understanding of the conditions of children across the Mediterranean
- Facilitate the exchange of knowledge, innovative policies and best practices, which will provide new ways for preventing, mitigating, or coping with children's exposure to social risks, and to promote children's rights within the framework of **Euro-Mediterranean cooperation**
- Conduct clinical trials and related translational research in pediatric therapeutics according to the GCP/ICH by setting a **Pediatric Clinical Trial Office (PCTO)**

The MedChild Pediatric Clinical Trial Office (PCTO) – Mission

- Establish a [platform for pediatric clinical trials](#) conducted by pediatric clinical centers of excellence in order to facilitate and promote [pediatric labeling](#) of new drugs or drugs already on the market
- Foster cooperative research efforts among academia, regulatory agencies, industry, and health professionals on international basis with priority given to the [Euro-Mediterranean cooperation](#)

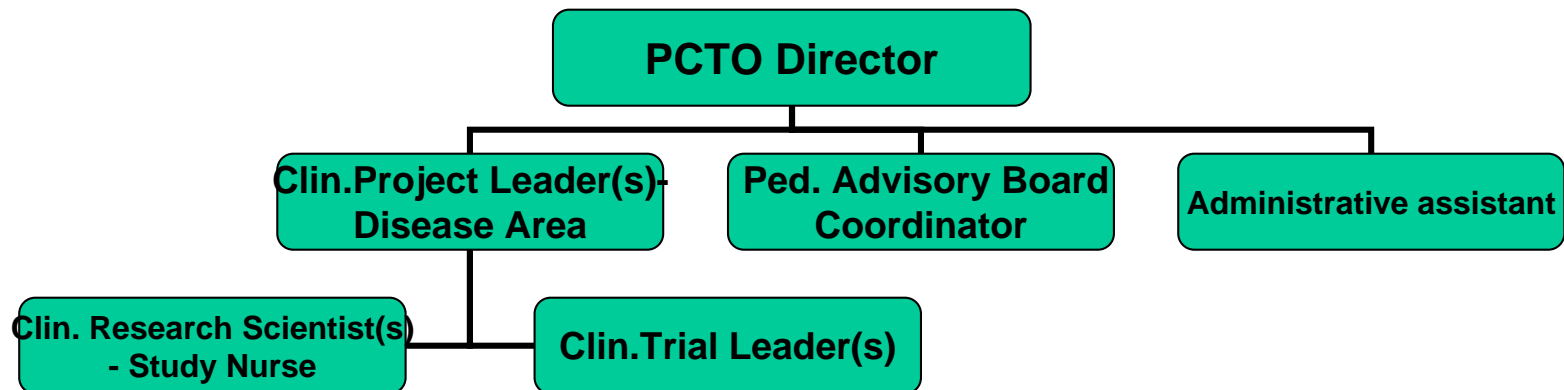
The MedChild Pediatric Clinical Trial Office (PCTO) - Capabilities

- Conduct Phase I - IV clinical pharmacology trials that conform to GCP/ICH regulatory requirements in a safe, effective and timely fashion
- Produce data that enable expanded labeling of drugs for pediatric patients
- Group academic Pediatric Clinical Pharmacologists in the Mediterranean area who can provide expert consultation regarding protocol development and design
- Group highly skilled Pediatric Clinical Research professionals and sub specialists who work together to effectively take a study from concept/ protocol design through implementation, data analysis and report generation

Activities of the MedChild Pediatric Clinical Trial Office (PCTO)

- Study recruitment
- Study design
- Protocol review
- Budget negotiation
- Grants' administration
- Regulatory documentation oversight
- Submission to IRB, ECs
- Coordination of ancillary services (pharmacy, lab, radiology)
- Identification of clinical study sites
- Participant recruitment
- Study nursing
- Case record form maintenance
- Data management
- Data analysis
- Data reporting
- Interfacing among sponsors, clinical research organizations, site monitors, and local investigators

Organisation Chart - MedChild Pediatric Clinical Trial Office (PCTO)



Institutional Impact (Performance Indicators)

- **The major impact of the PCTO would not be for the PCTO to be a “money maker”!**
- **Performance indicators:**
 - No. of clinical studies performed
 - No. of clinical studies performed by type of sponsors
 - Qualitative appraisal of the studies to be conducted
 - No. of investigators/ countries/ networks using MedChild PCTO capabilities
 - Amount of total clinical research funds coming into the institution, and support that these funds will provide to researcher programmes

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