EPTRI

European Paediatric Translational Research Infrastructure

EPTRI to Underpin Paediatric Clinical Studies

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EPTRI plan to underpin clinical research

EPTRI can play two different roles:

- "inject" expertise from EPTRI into clinical studies
  - E.g.
  - Dose
  - Formulation
- "project" expertise from clinical studies into the work covered by EPTRI and the plans for medicines development.
  - E.g.
  - Clinical need
  - What is possible

EPTRI plan to underpin clinical research

1. To integrate the concept of underpinning paediatric clinical trials in the EPTRI process to select services and research activities to be performed as well as to identify access providers
2. To set up an EPTRI Centralised service dedicated to inform and assist users willing to translate knowledge and expertise from non-clinical research to underpin paediatric clinical research and to further exploit their project proposals in a collaborative framework.
3. To create a framework for a common plan of action with relevant paediatric initiatives

Clinical input to service selection

1. To integrate the concept of underpinning paediatric clinical trials in the EPTRI process to select services and research activities to be performed as well as to identify access providers
2. To set up an EPTRI Centralised service dedicated to inform and assist users willing to translate knowledge and expertise from non-clinical research to underpin paediatric clinical research and to further exploit their project proposals in a collaborative framework.
3. To create a framework for a common plan of action with relevant paediatric initiatives

Centralised Service: Advice on clinical phases

EPTRI can contribute to underpin clinical research with:

1. the preparation of particular clinical studies
2. actions that are generic to paediatric research

EPTRI services can contribute to the contents of the preparation of clinical studies as early as possible, well before the development of a protocol. To this aim, it will be important to promote early dialogue between pre-clinical and clinical expertise so that studies can be planned around the most appropriate science.

Centralised Service: Advice on clinical phases

Key protocol element	Need for paediatric-specific content	Relevant EPTRI platforms and other services
Type of study, study design and methodology **Pre-clinical package about product to support CMC (Chemistry, Manufacturing and Controls), formulation, safety, efficacy**	Well-justified decisions based on data and experience, including recommendations about whether the pre-clinical knowledge is sufficient to justify the trial (taking account of a risk-benefit assessment) or whether fundamental research is needed before protocol development can start	Paediatric Medicines Discovery Advice on clinical phases
Type of study, study design and methodology Validation of biomarkers **(laboratory and clinical)**	Select Endpoints to be used in paediatric studies	Paediatric Biomarkers and Biosamples
Package about product to support decisions about dosing and assessments about safety **Sample size (including effect size and power calculations)** **Implications of mechanism of action on effect size**	Based on preclinical or in silico studies paediatric tailored Well-justified decisions based on data and experience	Developmental Pharmacology

Centralised Service: Advice on clinical phases

Key protocol element	Need for paediatric-specific content	Relevant EPTRI platforms and other services
Pre-formulation package about product to support CMC	Paediatric formulation is different from adults. Preformulation needs to select the best final product including recommendation whether existing formulations are adequate or formulation work is needed before the clinical phases can proceed	Paediatric Formulations
Ethic evaluation of paediatric study design	Paediatric research procedures respond to ad hoc ethic recommendations	Paediatric ELSI
Useful range of any biomarkers, natural history of effect, size and variation	To be applied to paediatric diseases	Paediatric Biomarkers and Biosamples
Study population: inclusion and exclusion criteria **Data that support decision-making about drug development programmes and the design of protocols** **Parameters assessed during the trial**	Justification for, and specification of, eligibility criteria (including screening pathways prior to formal recruitment) Justification for, and operational details of, duration of treatment and observation	Developmental Pharmacology Paediatric Biomarkers and Biosamples Paediatric Formulations
Endpoints and outcomes: **Data that support decision-making about drug development programmes and the design of protocols**	Justification for, and operational details of, endpoints and outcomes.	Developmental pharmacology Paediatric Biomarkers and Biosamples

Centralised Service: Advice on clinical phases

Another relevant aim of the service is to "project" expertise from clinical studies into the work covered by EPTRI and the plans for medicines development. This will also imply direct collaborations with clinical resources to be supported with ad hoc agreements.

The service will provide support in term of:

a) Information sharing

b) Introductions to expertise

c) Mediating collaborations with clinical resources

Framework with other initiatives

Functional and operational links have been already established with:

- IMI-2 c4c pan-European Network for paediatric clinical trials
- many specialty Networks and Research Consortia
- ERNs and EJP RD

Conclusion

Paediatric drug development needs to be:

- Adapted to the needs of babies, children and young people
- Horizontally integrated (geographically)
- Vertically integrated (preclincial and clinical)

EPTRI provides horizontal integration and is vertically integrated