



*c4c aims to enhance the development of
Better Medicines for babies, children and young people
through a pan-European clinical trial network*

Heidrun Hildebrand,
Bayer AG, c4c Project co-lead



This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No 777389. The Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.



How things have developed...

*Since the first implementation of the Pediatric Regulation,
we have seen...*

- ❖ An ever-increasing number of Paediatric Investigation Plans
- ❖ Constant increase in Paediatric clinical trials and the number of children to be involved
- ❖ A growing number of new treatment options being approved for use in children

But also:

- ❖ About 40% of PIPs are not completed as planned
- ❖ Increased competition between studies about shared resources
(Investigators, sites, patients)

A multi-faceted challenge...

Finding the right indication and population

Lack of sufficient trial infrastructure

Diverse standard of care across Europe

Use/acceptance of innovative study designs

Impact on daily lives of patients and families

Divergent Ethical standards

Lack of appreciation of need for clinical research in children in society

Contradictory local regulations

Small patient populations – competing developments

A pan-EU Paediatric Clinical Trial Network

A project under the EU Innovative Medicines Initiative (IMI2)



- Ensure **efficacy, safety & quality** of health products
- **Reduce time** to clinical proof of concept
- Improve the current **drug development process**
- Develop **new therapies** for diseases with **high unmet need & limited market incentives**
- Allow **engagement** in a cross-sector, multi-disciplinary consortium at the forefront of cutting-edge research

CONNECT4CHILDREN

COLLABORATIVE NETWORK FOR EUROPEAN CLINICAL TRIALS FOR CHILDREN



Why PPP

The **paediatric clinical trial infrastructure in the EU is fragmented and not sufficiently developed**.
A broad **multidisciplinary public-private collaboration is required to meet the challenges** and to be transformative and to **collectively address children's needs for better medicines**.



Impact

Improved pediatric development plans and study designs
More efficient implementation and conduct of Paediatric clinical trials
Improved data quality, better trial feasibility and faster enrollment



Status & Value

Expert advice and patient/parent involvement
Access to over 300 Clinical and methodological paediatric experts
Inclusion of YPAGs, patients and parent groups in advice meetings
Single contracting structure, coordination/organization of Expert advice meetings

Single Point of Contact
Access to local networks in 21 European countries and over 250 clinical sites
Aligned processes across the entire network increase efficiency and quality

c4c Training Academy
Providing standardized training to all study sites and site personal
Master courses on Pediatric Drug Development open for all beneficiaries

Paediatric Data Dictionary & TAUG
1st Pediatric Data Dictionary established to allow standardization of data collection across Paediatric studies

c4c makes a difference

Areas of highest impact



Design and planning of studies

Advice requests

- Outcomes directly impacting studies designed and conduct
- Reports supporting discussion with Regulatory authorities



Trial feasibility & opening sites

Significant decrease in time to sign CDAs
Increase in number of high quality sites available for site selection and feasibility



Data standards

Cross-Cutting Paediatric Data Dictionary as basis for CDISC TAUG

- Supporting sharing and interoperability of data



Education

Multiple short courses
Advanced Course in Paediatric Clinical Trials and Drug Development is in progress

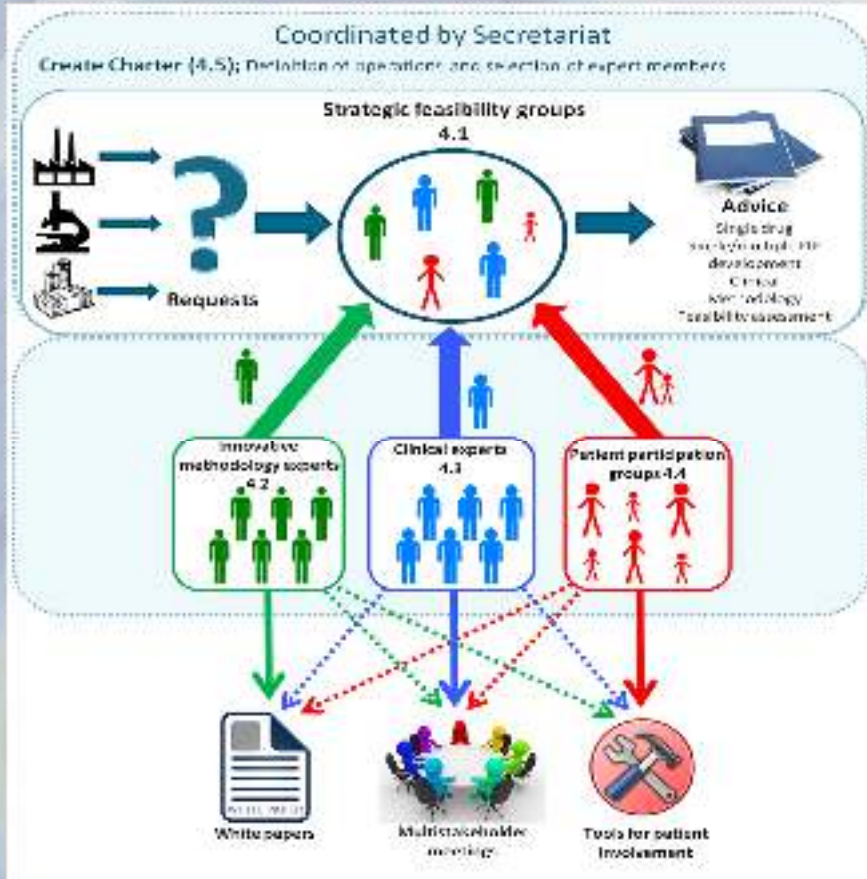


Patient and Public Involvement (PPI)

Improving PPI plans of sponsors, ensuring systematic involvement
Impact design and planning of studies

Strategic Feasibility Advice

Improving the way paediatric studies are planned and designed



25 Expert Groups – over 300 registered experts

Adolescent Medicine	Neuromuscular diseases
Cardiology	Neuroscience & Epilepsy
Endocrinology & Diabetes	Oncology (incl. haematology)
Developmental pharmacology	Pharmacogenomics and other Omics technologies
Ethics	Pharmacometrics
Formulations	Pharmacovigilance
Gastroenterology & Hepatology	PPI (carers, parents, patients, patient organisations, YPAGS)
Health Technology Assessment	Psychiatry
Infectious diseases & Vaccinology	Respiratory
Intensive care	Rheumatology & Autoimmune diseases
Metabolic diseases	RSV
Neonatology	Study design & Clinical trial methodology
Nephrology	

Implementation of the advice

Impacting the design of Pediatric Investigational Plans (PIPs)



advice requests per group:

- Adolescent medicine (2)
- Cardiology (2)
- Developmental Pharmacology (2)
- Ethics (3)
- Formulations (1)
- HTA (1)
- Infectious diseases & Vaccinology (3)
- Intensive Care (3)
- Neonatology (2)
- Nephrology (3)
- Neuroscience & Epilepsy (3)
- Oncology/Heamatology (2)
- Omics (1)
- Psychiatry (2)
- Respiratory (4)
- RSV (1)
- Study design and Clinical trial methodology (4)
- Other; dermatology (1)

Advice Reports support Regulatory discussions & submissions
Master Consultancy Agreements in place to allow easy contracting

c4c Multi-Stakeholder Meetings (MSM)

1st MSM: Paediatric Inflammatory Bowel Disease

- ✓ Virtual event held on 14-15 Apr with more than 100 participants representing academia, patients and advocates, regulators (EMA, PDCO, FDA) and industry
- ✓ Very positive post-meeting feedback
- ✓ Publication in scientific journal under preparation
- ✓ A multi-stakeholder approach enables the identification of solutions to accelerate drug development in paediatrics
- ✓ Initiative fully endorsed by EMA* and FDA

2nd MSM: Atopic Dermatitis

- ✓ Planned on 1-2 March 2022 (Virtual)
- ✓ Programme Committee set-up: representatives of academia, patients and advocates, regulators and industry
- ✓ Meeting open for registration

*2020 progress report on Joint EMA/EC action plan on paediatrics



19 National Hubs serving 21 countries across Europe

Providing access to over 250 clinical sites



* Finland & Iceland and Norway & Denmark are joined networks

c4c established

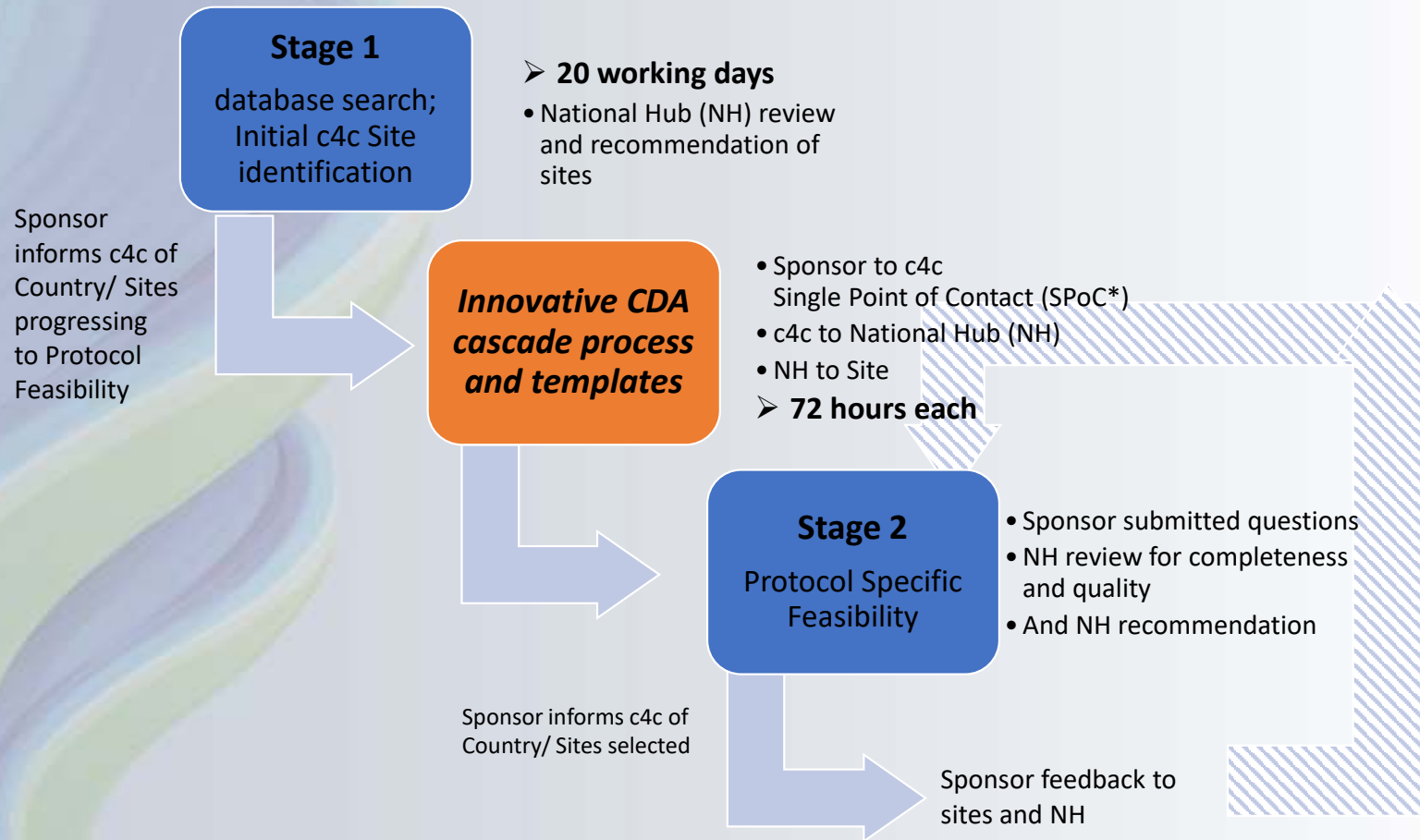
- 19 paediatric national networks in 21 countries*
- 2 new paediatric national networks under negotiation

Closely cooperating with

- 8 European multinational specialty networks
- 3 global research networks

c4c Site Feasibility Services

Increased efficiency through unique CDA process



c4c Site Identification and Feasibility Service

Fast identification of high number of high quality sites

Stage 1- Initial sites identified by c4c
Within 20 working days

Trial	Number of c4c sites identified
Sponsor A	101
Sponsor B	142
Sponsor C_a	161
Sponsor C_b	160
Sponsor D	171

Stage 2- Protocol specific feasibility

	Number of sites	Mean Time to complete*
Sponsor A	8	15 days
Sponsor B	74	9 days
Sponsor C_a	65	16 days
Sponsor C_b	ongoing	
Sponsor D	ongoing	

- *Minimum time 2 days;
- *Maximum time 38 days

c4c work supporting Data Harmonisation and standardisation

Paving the way for better data quality and re-usability



Cross Cutting Paediatric Data Dictionary

IMPACT: *More harmonised paediatric data = More efficient and effective trials*

Data Recommendations

IMPACT: *Higher quality more interoperable data = increased scientific knowledge*



cdisc

Therapeutic Area User Guide (TAUG)

IMPACT: *c4c is influencing standards development on a global level = potential to de-risk paediatric trials*

Training and Education



c4c Paediatric Medicine Academy

Teachers from Academic and Pharma Partners

Integrated educational program

to address best practice in paediatric CTs and paediatric medicine development



Students/Users

Trainings addressing different professionals roles

c4c Academy Platform

Virtual Learning Environment hosting courses



c4c Academy Management Secretariat

Administrative management of the courses

Education Board (EB)

To provide quality oversight and address educational needs



Expected long term impact of c4c

- **Access to new experimental therapies** for children in well-designed clinical trials
- Better training for research personnel and **improved trial readiness** at all participating sites
- **Improved efficiency** in executing trials (faster, cheaper)
- **Improved data quality** for labelling of next generation medicines for children
- Enhanced role of **clinicians and patient/parent advocacy groups** in planning and designing studies
- **Broadening the access** of academic medical centers and clinical faculty across Europe to new experimental therapies



Follow us on:

www.conect4children.org

Twitter: @c4c_network

LinkedIn: conect4children

Instagram: @conect4children

Facebook: conect4children

Thank you!

