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EDITORIAL

A new section to promote clinical trials and related methodology

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Clinical trials are the cornerstone for clinical advances in patient care. Recent methodological advances have changed many aspects of them. We decided to launched a new section dedicated to clinical trials and related methodology to specifically enlighten innovations in clinical trial design and to better address and discuss how novel insights reported can lead to substantial changes in clinical practice.

Besides reporting randomized clinical trials, as usual, this new section also aims at bridging findings and clinical implementation to better support clinical decision-making in any pediatric subspeciality. In that way, a special critical evaluation of the methods will be more than welcome. Specifically, a better assessment of trial strengths and weaknesses through a deeper understanding of the statistical methods used in trials is key to assess the quality of evidence produced in trials.

To do so, we invite contributors to provide concise and didactic explanations of methodology used within each trial report to improve interpretation of reported findings. Clinical trials designed using innovative, emerging statistical methods will also be appreciated.

Dynamic changes recently observed in the field of clinical trials in general but also in those enrolling pediatric populations, were at the basis of this new section to address some of the shortcomings characterizing traditional randomized trial. They include issue in reaching sample size, cost, duration and the frequent lack of power to definitely conclude about their clinical impact.[1] As an example, while most of interventions tested are usually implemented after a long delay and with high variability across centers or countries, some adaptive trial designs could improve the efficiency of clinical trials.[2] They include design to better identify minimal tolerated dose, Bayesian logistic regression method in dose escalation trials, dose-ranging design, seamless phase 2–3 design, sample size re-estimation, group sequential design, and finally population-enrichment design. It's not only a matter of efficiency but also an ethical solution towards participants and patients in a context of financial shortage.

Another example of recent changes in clinical pediatric trials come from patient-centric protocol development to integrate patient voice into clinical trial design and conduct. Patient Expert Engagement Resource and parental voice are expected to enhance recruitment, retention, satisfaction, and to increased likelihood of trial success.[3] However, parent/patient involvement in a clinical trial often occur too late in the clinical trial development process to produce a meaningful difference. A global approach to co-creation trial design in partnership with parents, care partners, and other key stakeholders may also change the face of pediatric clinical trials. Improving diversity and inclusion of representatives of patient populations has been also requested by FDA (section 3601 of Food and Drug Omnibus Reform Act (FDORA)).

Another challenge of modern clinical trials is to adopt a "precision medicine" strategy, in particular in underserved populations like pediatric and neonatal patients. Indeed, targeted therapies need often coordinated efforts to evaluate more than one treatment in more than one type of disease or subgroup of patients. Umbrella trials are trials evaluating distinct (often biomarker-defined) subgroups within a conventionally defined single disease. Patients classified according to the presence of biomarkers or other characteristics can be assigned to a stratum differentially treated using various/multiple drugs. Basket trials involve many different diseases, patients will be screened for a common target and grouped to test one targeted therapy. Basket trial could also test various biomarker–drug pairs in several strata. Multiple targeted therapies in the context of a single disease, allowed to enter or leave the platform on the basis of a decision algorithm, characterize platform trials. This is 3 examples of innovative trial designs allowing better coordination than can be achieved in single trials designed and conducted independently.[4]

Finally, transparency and reliability in study methods, ensuring standardized data collection for relevant outcomes, and using new approaches to improve data synthesis are also critical to better design, analyze, interpret, and change from past practice to evidence-based change in clinical decisions. In this perspective, current legal regulations, international standards, ethical guidelines and recent policies pertaining to dissemination of clinical trial results have recently evolved.[5]

For all the reasons mentioned above and many others, a new section focused on clinical trials and their evolving methodology appear to be timely and of great interest for the journal's readers. This new section is directly related to epidemiology section of the European Society of Pediatric Research and submissions are expected from all pediatric sub-specialties.

We expect to receive high-quality studies from the front line of clinical research, with a special interest in novel approaches to clinical trial design improving clinical relevance of reported findings. We also want to stimulate submissions from nurses and early career investigators.

While Pediatric Research publishes a vast spectrum of research reports from bench to and post-marketing observational studies, this new section will only focused on clinical research towards the audience of pediatric researchers but also researchers in public health and epidemiologists. Hence, we wish to create a transdisciplinary forum where pediatricians and methodologists can publish, read, and discuss how next-generation clinical trials may truly change clinical practice.

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Olivier Baud[1,2]✉

[1]Division of Neonatology and Pediatric Intensive Care, Children's University Hospital of Geneva and University of Geneva, Geneva, Switzerland. [2]NeuroDiderot, INSERM, University Paris-Cité, Paris, France. ✉email: olivier.baud@hcuge.ch

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COMPETING INTERESTS

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