

Pediatric Personalized Research Network Switzerland (SwissPedHealth) – a Joint Pediatric National Data Stream

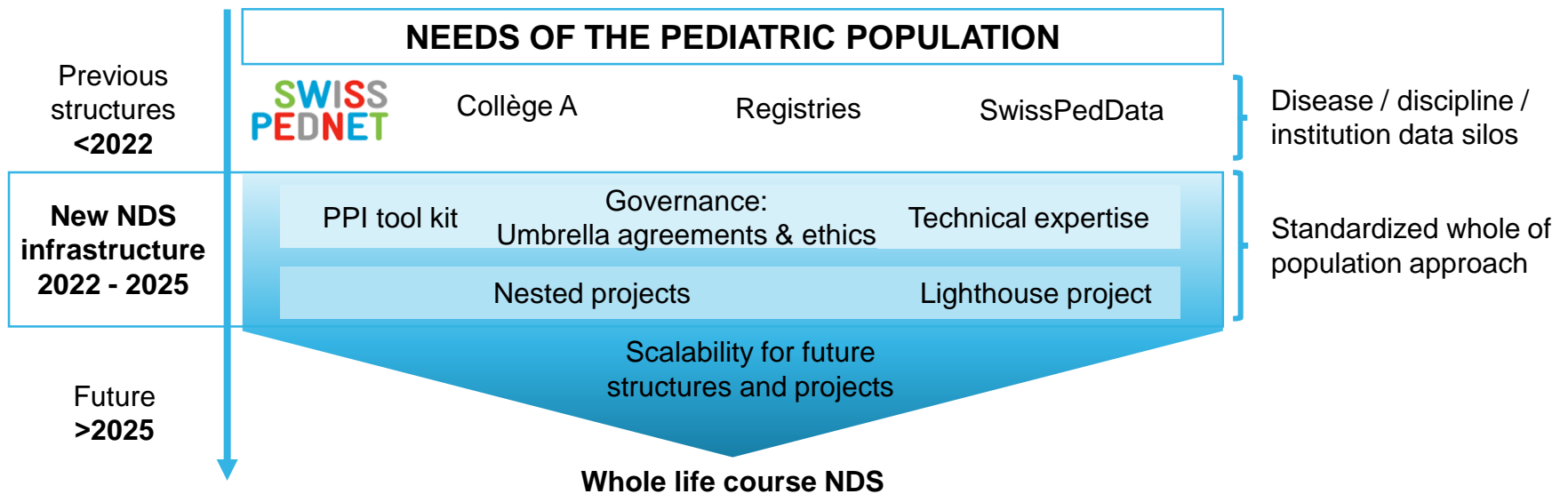
Main applicants:

Prof. Dr. med. Luregn Schlapbach (University Children's Hospital Zurich)

Prof. Dr. Julia Vogt (ETH Zürich)

SwissPedHealth is designed to address the needs of the pediatric population

The pandemic showed we need rapidly available data for better care, decision making & research.



SwissPedHealth aims to make routine data from children's hospitals:

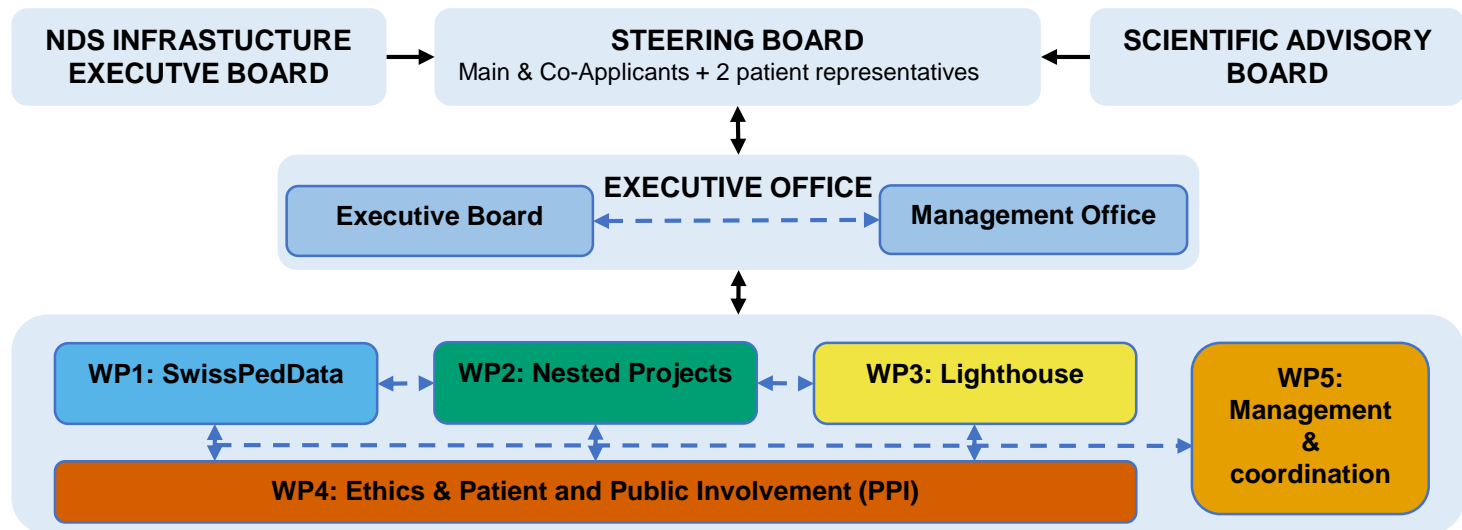
- interoperable, harmonized and quality-controlled with a modular approach
- ready for research and trials, health-policy creation & clinical audits to enable a learning health system

Governance is supported by Collège A and SwissPedNet: a joint effort towards the greater good

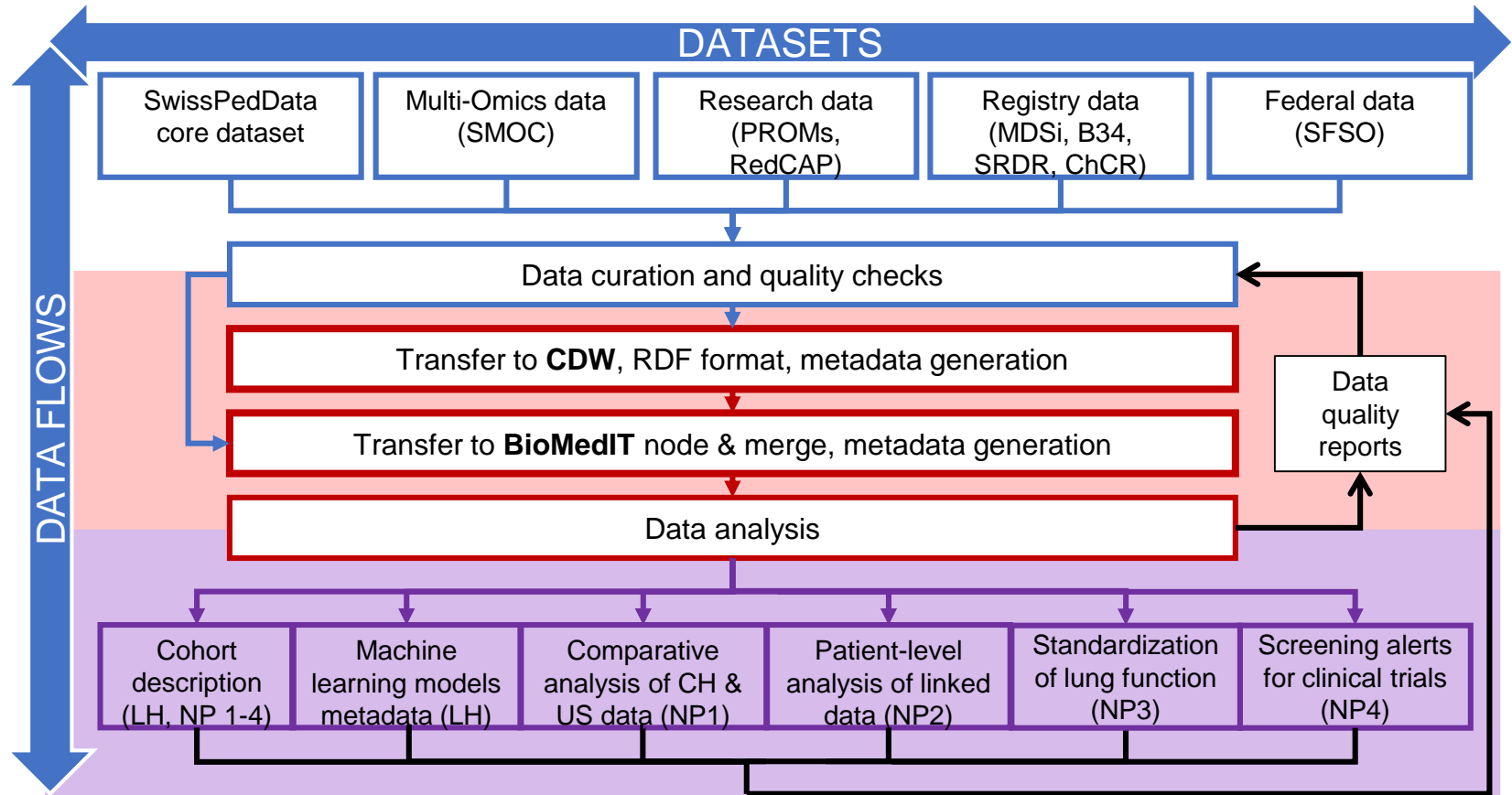
We build on umbrella Infrastructure Consortium Agreements and ethics for the data stream.

Our consortium:

- unites experts from all 5 university children's hospitals and 2 A-level hospitals
- bridges ETH domain with pediatrics in Switzerland with a focus on rare diseases
- is diverse in terms of hospital, gender, age, discipline, research focus



Data flow and data management



Nested Projects: Using SwissPedData to study key pediatric problems

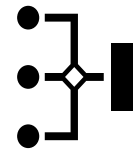
Obesity

- Assessing prevalence, risk factors, fit to growth charts & comparing Swiss vs US data



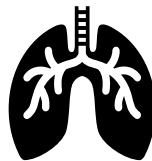
Cancer

- Improving data flows to and from the Swiss Childhood Cancer Registry



Chronic respiratory disease

- Standardizing lung function tests



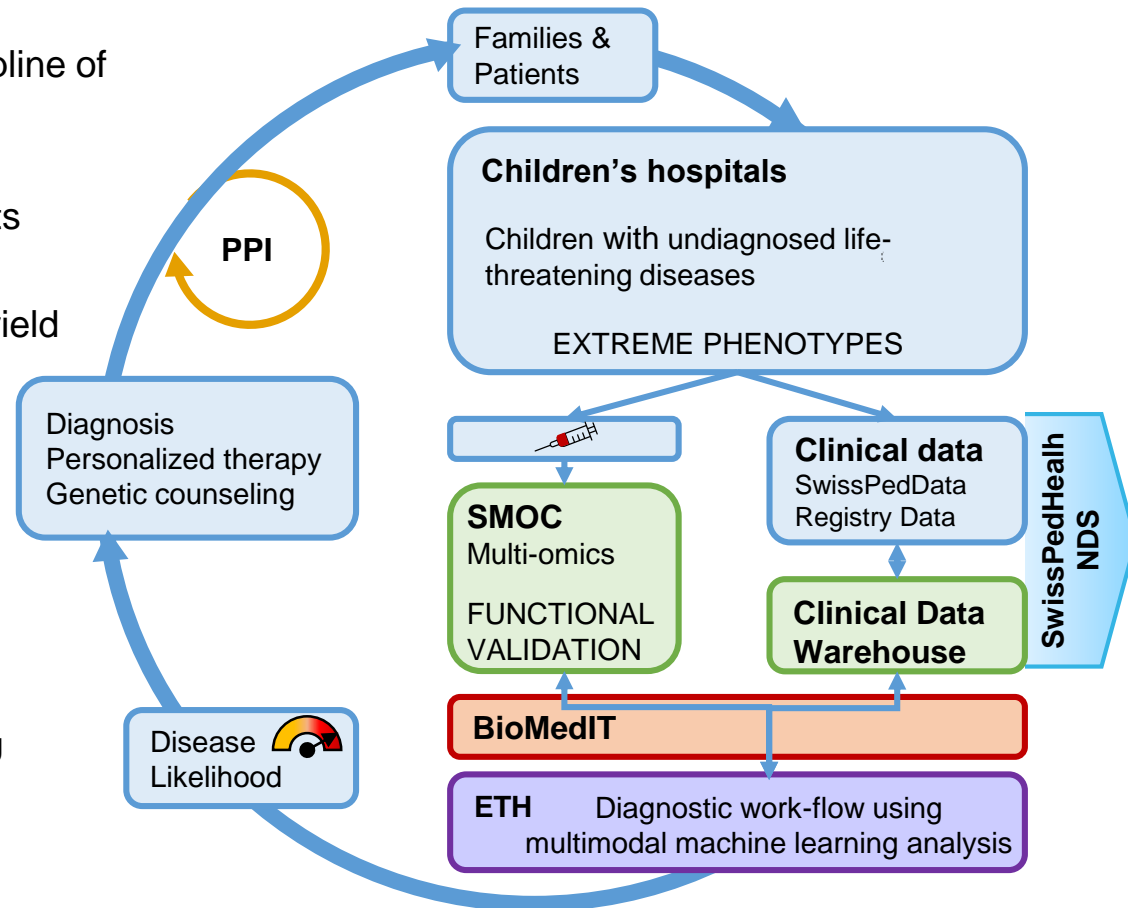
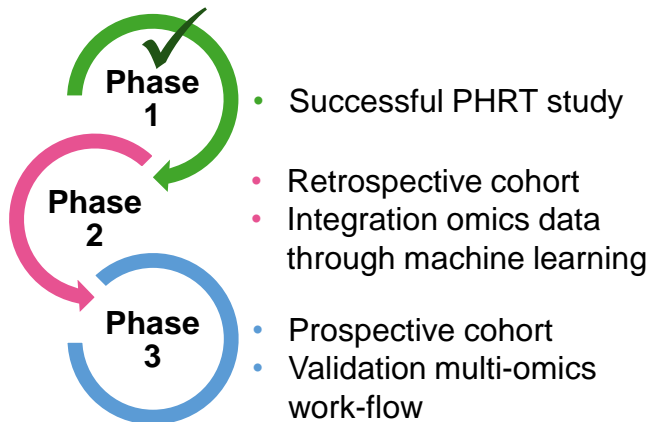
Infectious diseases

- Investigating antibiotic utilization patterns

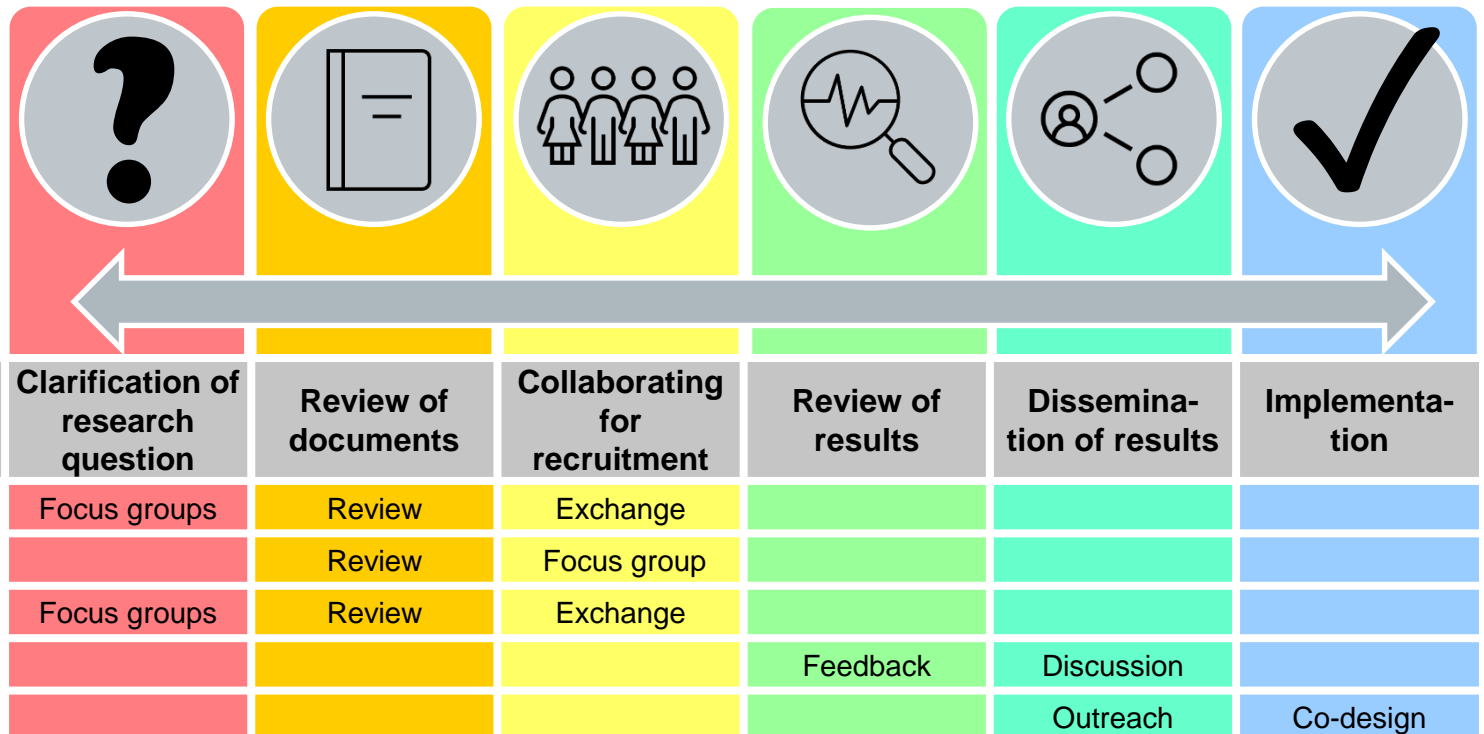


Lighthouse: A multi-omics work-flow to diagnose rare diseases in children with extreme phenotypes

- Pediatrics to a large extent is a discipline of rare diseases
- Rapid WES / WGS programs:
 - have >50% undiagnosed patients
 - are not optimized for discovery
- Multi-omics can improve diagnostic yield and provide functional validation



Patient & Public Involvement strategy



The SwissPedHealth consortium

Expertise in pediatrics, rare diseases and omics, epidemiology, governance, PPI, computer science and engineering to improve children's health care.

Main applicants

- Schlapbach, Luregn
- Vogt, Julia

SPHN co-applicants

- Kuehni, Claudia
- Bielicki, Julia
- Posfay-Barbe, Klara
- Baumgartner, Matthias
- Latzin, Philipp
- Giannoni, Eric

PHRT co-applicants

- Fellay, Jacques
- Borgwardt, Karsten
- Vayena, Effy

Associated applicants

- Ormond, Kelly
- Stocker, Martin
- Lauener Roger
- Schulzke, Sven
- Froese, Sean
- Goetze, Sandra
- Pedrioli, Patrick
- Pachlopnik Schmid, Jana
- Zamboni, Nicola
- Rauch, Anita
- Spycher, Ben
- Forrest, Christopher