IHI Call Days | Call 9

Data Integration and Validation for Evidence-based Research Solutions (DIVERSE)

Contact person name: Dr Felix V Agakov

Organisation: Pharmatics (UK)

E-mail: fa@pharmaticsltd.com

Link to the IHI brokerage platform:

- Proposal sharing tool: https://tinyurl.com/35u7pmbf
- Participant profile: https://tinyurl.com/4xd4kbd9

innovative health initiative

Challenges and objectives

o Problems we are solving

    o Identification and automatic integration of the most up-to-date relevant evidence throughout discovery, **clinical development**, **implementation**, and **surveillance**

    o Seamless integration with existing processes across health industry sectors

o IHI objective(s) are you addressing?

    o **SO2** – integrating fragmented R&I efforts to enable the development of tools, platforms, and processes for prediction, prevention, diagnosis, treatment, and management

o Which unmet public health need are you addressing?

    o Evidence-based prediction, prevention, treatment, and management of cardiometabolic conditions

innovative
health
initiative

Your approach to solve the problem

- Short description:

  - Bridge gaps between research, clinical practice, and technology by developing a platform and tools using foundation AI models to integrate diverse multimodal **biomedical evidence**.

  - AI will build upon and surpass current *foundation models* by integrating **causality** derived from trials, **statistical results** from literature, and rich preclinical and clinical annotations.

  - Develop tools to **automatically integrate** evidence with existing processes to enhance trial design and analysis, improve surveillance, and facilitate prevention and treatment.

  - Using accessible individual-level datasets, fine-tune and demonstrate the platform for specific **cardiometabolic disorders** and comorbidities to address public health challenges in secondary and tertiary prevention, treatment, and management.

innovative
health
initiative

Is your project suitable for IHI?

- Need for public private collaboration:

  - Access to a broader range of **data** and **expertise**, essential for developing and fine-tuning AI foundation models across **diverse types of biomedical evidence**.

  - **Efficient translation** by integrating with both R&D processes in industry and workflows in clinical practices, maintaining academic rigor.

  - **Alignment** with public health needs through public sector involvement and practical development and scalability requirements through industry collaboration.

- Industry contribution and interdisciplinarity:

  - Multimodal evidence integration necessitates collaboration with diverse sectors, including life sciences, biotech, medical devices, pharmaceuticals, and AI/IT.

  - Industries contribute real-world data, trial results, and expertise, using the platform to design, test, and refine novel interventions, enhancing clinical investigations and improving product safety and efficacy.

innovative
health
initiative

Outcomes and Impact

- Concrete results/outcomes and impact?
  - Platform and tools to improve clinical studies. Demonstrated improvement in prediction, prevention and treatment of cardiometabolic disorders through evidence integration. Enhanced implementation through best practices.

- How do you envisage your proposal to ensure translation from research to innovative solutions that can be integrated/implemented into the healthcare ecosystem
  - Involve industries, providers, and patients throughout development and evaluation. Seamlessly integrate with existing industry R&D and provider workflows. Generate evidence to support local adoption and broader implementation.

- How does your project proposal contribute to strengthening the competitiveness of the Union's health industry?
  - Develop the world's first AI foundation models for integrating global evidence, ensuring faster development and adoption of innovative healthcare solutions across the EU/UK.

- How does your project proposal contribute to the expected benefits for patients?
  - Faster access to the latest treatments through more efficient development and implementation.
  - Improved outcomes through enhanced safety and efficacy via evidence integration.

innovative
health
initiative

Expertise and resources

- We have SME and academic partners with expertise in:
  - AI/ML for biomedical data and evidence.
  - Cardiovascular conditions.
  - IT, interoperability, regulation.
  - Consultancy (tentative).
  - Patient organisation (tentative).

- We are looking for:
  - Pharma and life technology industries to provide expertise for platform development and evaluation.
  - Tech industries to provide expertise and infrastructure for AI/ML development.
  - Owners/custodians of data and/or evidence repositories
  - Specialists in cardiometabolic disorders.
  - Academic project coordinator.

innovative health initiative

Additional information

- Looking to form a consortium or join an existing consortium that may benefit from data- and evidence-based multimodal biomedical AI

- Please contact Dr Felix Agakov, fa@pharmaticsltd.com

- Pharmatics UK: www.pharmaticsltd.com

innovative
health
initiative