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International Complex Disease Alliance: Maps to Mechanisms

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Genetic studies have revealed tens of thousands of loci associated with common diseases, as well as a diverse set of human traits. Some of these discoveries have already advanced our understanding of the biological basis of diseases, led to clear therapeutic hypotheses, and enabled genetic prediction of disease risk. Yet, moving from mapped loci to biological mechanisms to therapeutics remains far too difficult and slow. Fulfilling the true promise of human genetics will require dramatically accelerating progress.

Just as the initial phases of common disease genetics were driven by focused collaborative efforts from the mid 2000s to the present (including foundational research projects, creation of comprehensive catalogs, development of new technology, and wide dissemination of resources), it is now time to lay the foundation for the next phase — by working together to narrow the gap from locus discovery to actionable biomedical insight.

The International Common Disease Alliance is a **scientific forum** for international stakeholders across academia, medicine, biopharma and tech companies, and biomedical funders to release the bottlenecks in moving from *maps to mechanisms to medicine*, including:

- **defining current barriers to progress**, including scientific, technological, computational and organizational obstacles;
- **proposing solutions to drive progress**, including key knowledge, datasets, experimental technologies, computational platforms, and frameworks for data sharing and data harmonization;
- **developing white papers describing effective plans** to enable these solutions; and
- **bringing together the scientific community** on an ongoing basis to share results, assess progress, and update plans.