



Innovation project to enable precision medicine in clinical practice

UTILIZING DATA IN HEALTHCARE

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The medical model of precision medicine aims to individualize and tailor healthcare to the individual patient. This customization requires a synthesis of all relevant information in the processes of diagnosis, intervention and follow-up. New technologies, such as machine learning and advanced data analysis, permit the efficient use of large and complex sets of data, necessary to enable precision medicine. Simultaneously, the BigMed project has identified multiple dimensions of barriers that must be overcome before the benefits of precision can be reaped by patients, healthcare providers and society at large.

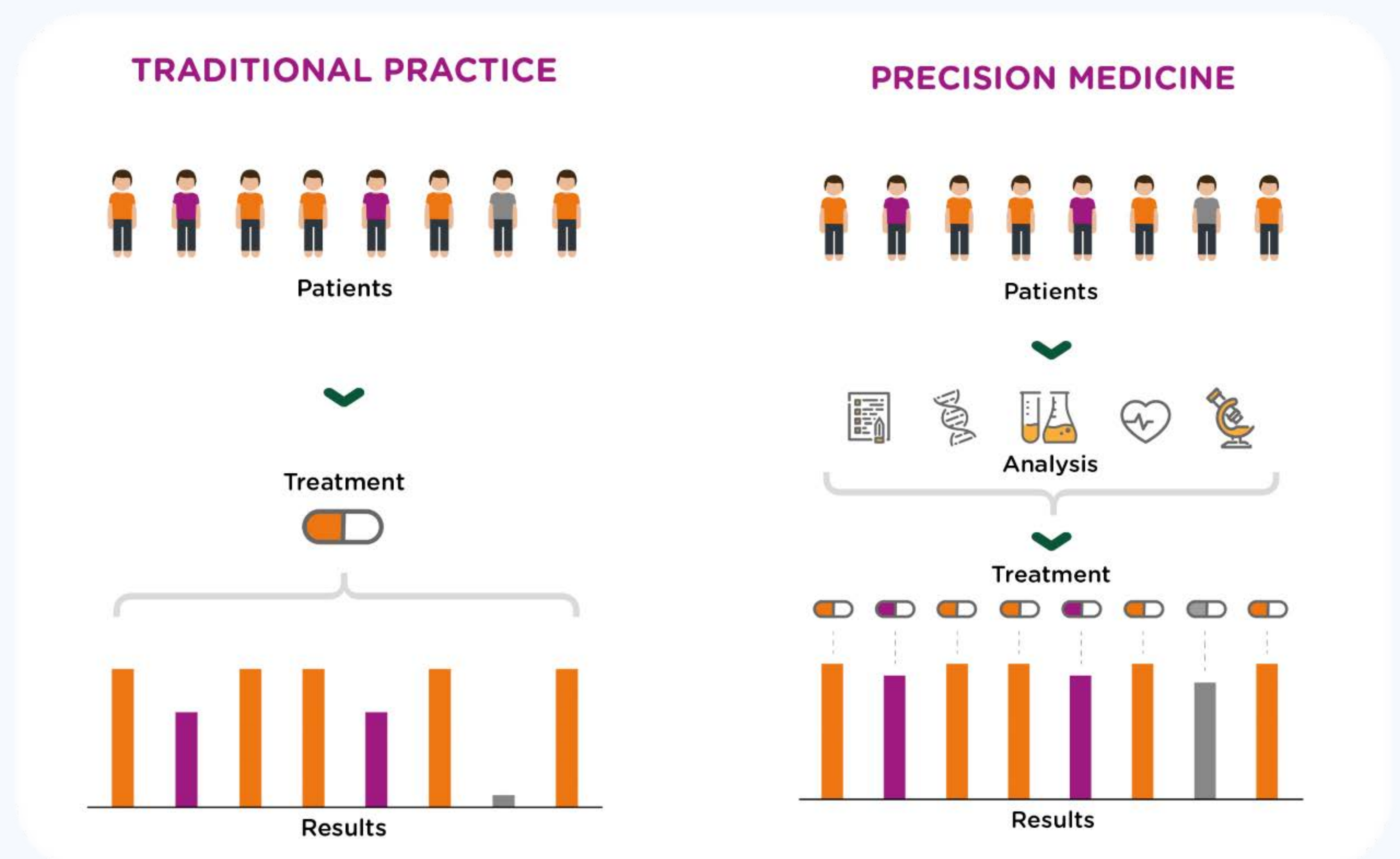
The shift from traditional to precision medicine

Traditional practice:

- One-size-fits-all approach
- Patient cohorts not matching the average may respond poorly or not at all

Precision medicine:

- Stratify into smaller patient cohorts by using more sources of information, such as:
 - Medical records
 - Genetic data
 - Medical test results
 - Medical imaging and measurements
 - Scientific literature
 - Socioeconomic data
- Diagnosis and intervention can be tailored to the individual patient, yielding better patient outcomes



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- Privacy concerns
- Regulations lagging behind technological development



- Complex and change-adverse organizations
- Scepticism to industry involvement



- Lack of cross-disciplinary competences needed for utilization of data
- Unconsciousness of benefits of precision medicine



- Legacy ICT systems
- Unstandardized data formats



- Inefficient incentive models
- Lack of evidence for cost benefits of precision medicine

