

The iTPA and Translation Manchester: Supporting Translational Research

UoM UK Biobank meeting

27th June 2019



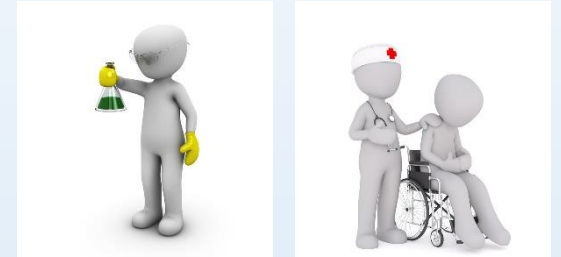
Wellcome Trust Institutional Translational Partnership Award (iTPA)

- **£800k over 2 years to support Translational Research in Manchester**
 - Translational Research Facilitators x2
 - Translational Funding Schemes x2

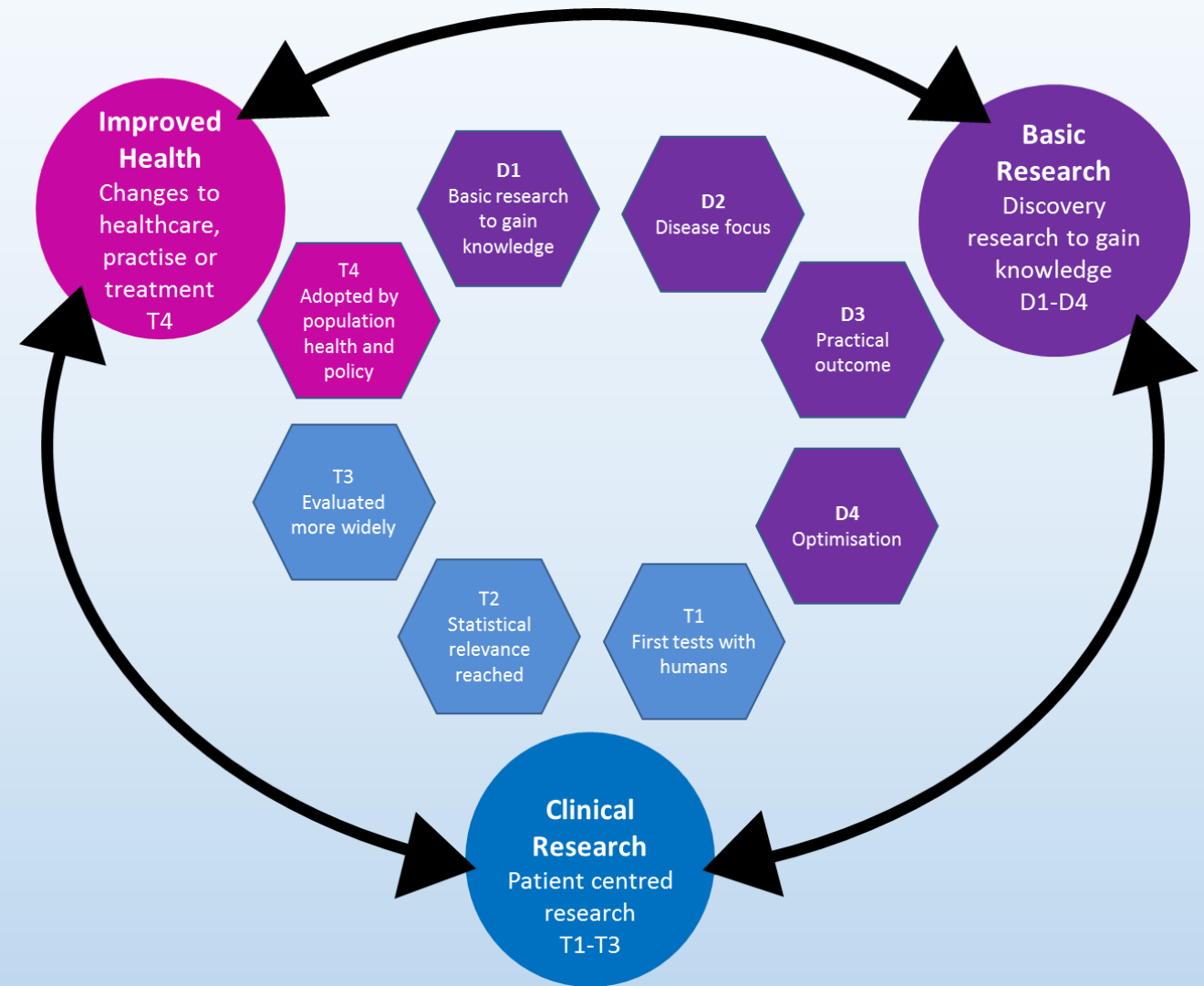
Aim:

To facilitate a demonstrable shift in the **translational research culture, engagement & productivity** at the University of Manchester and associated NHS partners.

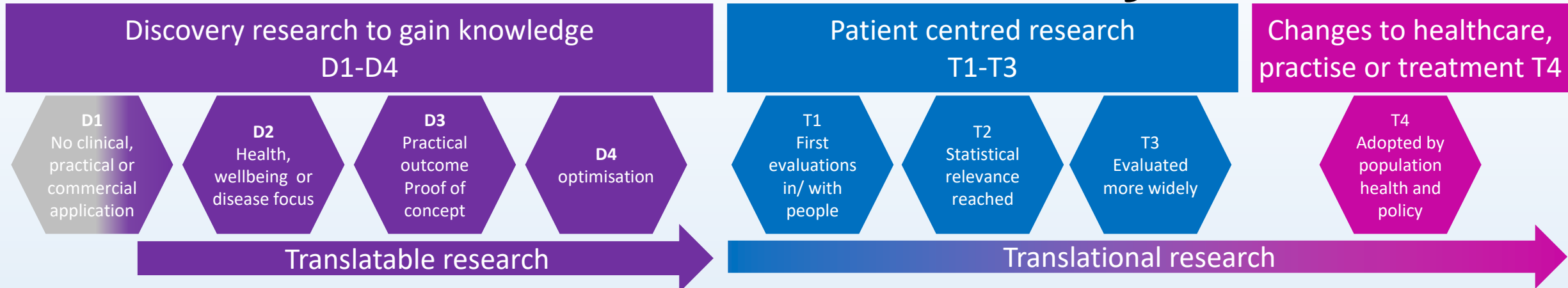
- Establish a **Translational Research Office**
- **Increase engagement** of researchers at UoM with translational research
- **Advance researchers** along the translational pipeline
- **Reduce bottlenecks** through increased support
- **Increase collaborations** between discovery scientists, clinicians and industry partners



Translational Research



The Translational Pathway



D1: Pure basic research to gain knowledge

D2: health or disease-oriented/ strategic research: To obtain new insight or a starting point for diagnosis, treatment or prevention.

Examples:
Establishing connections between imaging data and disease.
Correlating genomics or proteomics and disease.
Health and wellbeing studies.
Epidemiological studies to identify links between environmental factors and disease.

D3: when the initial outcome of D2 research has been identified and its link to the disease has been confirmed

Examples:
Target molecule or metabolic pathway identified and confirmed

D4: when the target from D3 is manipulated to confirm disease association.

Examples:
Identifying a small molecule that alters target activity in a model system.
A diagnostic system based on a biomarker.
Stimulation or blocking of an immune response.

T1: when a new method or treatment is first validated in humans

Examples:
Phase 1 clinical trial
First use of a device in a small target population
First use of software in a clinical validation study
Initial validation of a lifestyle intervention

T2: when a statistically relevant number of events demonstrate the efficacy of the new approach

Examples:
Phase 2 and 3 clinical trials
Greater number of patients testing a device or lifestyle intervention
Multiple clinical sites using newly developed software

T3: when the new approach is being tested more generally

Examples:
Phase 4 trials
Use of device or intervention being routinely used
Software identified as superior to existing tools

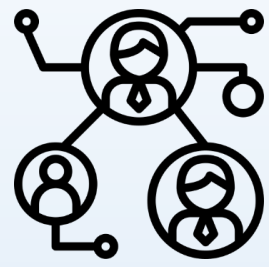
T4: translating findings to population health

Examples:
Adoption into policy and/ or guidelines as a routine method or approach

How we support Translational Researchers



Work with researchers to ensure translatability of projects



Form connections



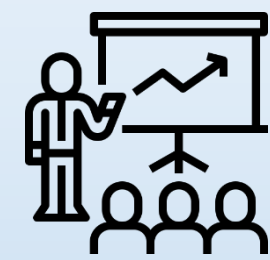
Help identify, troubleshoot and overcome hurdles to translation



Develop pipelines



Translation Manchester Network



Training

How we support Translational Researchers: Funding

Access to Expertise (A2E)

- Up to £25K per project for expert support to overcome a specific *research hurdle within a translational project*
- 15 projects supported to date

Projects for Translation (P₄T)

- Up to £55K per project to overcome a *translational hurdle* as part of an ongoing project
- 5 projects supported to date



How we support Translational Researchers: Funding:A2E

2018

1. **Prof Kathryn Abel:** *mSootheBox: Developing a Digital Health Intervention for Self Harm Management for Children and Young People*
 - 9 months access to [augmented reality expertise](#) and funds to establish an expert Research User Group
2. **Dr Jordi Bella:** *Cost of goods model for the manufacture of engineered recombinant collagens for tissue regeneration applications*
 - 6 months access to expertise to develop a [cost of goods model](#)
3. **Dr Jeremy Derrick:** *Stratification by Immuno-profiling of IgG in Rheumatoid Arthritis and Psoriasis Patients*
 - 3 months access to [informatics expertise](#)
4. **Prof Tracy Hussell:** *Macrophage adaptation in the inflamed lung*
 - 12 months [access to clinician time](#) for clinical sample collection
5. **Dr Matthias Pierce:** *'CAPRI': Children and Adolescents with PaRental mental Illness: Understanding the 'who' and the 'how' of targeting interventions*
 - 9 months access to an [expert health economist](#)
6. **Dr Stephen Richardson:** *Development of an adipose stem cell-GDF6 regenerative therapy for intervertebral disc degeneration and back pain*
 - 9 months access to an [expert health economist](#) and expert Research User Group
7. **Prof Mark Travis:** *Determining a novel pathway that controls TGF-beta activation in the human immune system*
 - 3 months access to [research nurse and clinician time](#) for clinical sample collection

2019

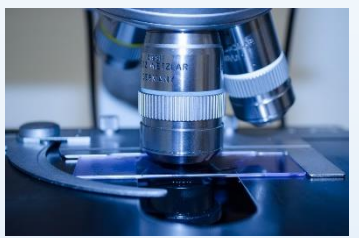
1. **Dr Silke Brix:** *Risk stratification and modified immunotherapy to reduce mortality in elderly patients with ANCA-associated glomerulonephritis*
 - 4 months access to [statistical expertise](#)
2. **Dr Govind Oliver:** *Technology enhanced care in cardiac arrest*
 - 8 months access to [software development expertise and clinician time](#)
3. **Prof Paul Bishop:** *In-silico prediction of potential for immunogenicity of AMD therapeutics*
 - 3 months access to [in silico evaluation expertise](#)
4. **Dr Anna Woollams:** *Using clinical imaging to optimise therapy for individuals with aphasia*
 - 9 months access to [app development and delivery expertise](#)
5. **Dr James Fildes:** *Developing an arterial leukocyte filter that mimics leukocyte adhesion*
 - 6 months access to [external peptide synthesis expertise](#)
6. **Dr Jordi Bella:** *Engineered recombinant collagens for tissue regeneration applications*
 - 9 months access to expertise in [Target Product Profile development](#)
7. **Prof Tony Day:** *Development of Link-TSG6 as a protein biological with disease-modifying and anti-inflammatory properties*
 - 5 months access to [bioinformatics expertise](#)
8. **Dr Emma Gowen:** *Developing a partnership between Autism@Manchester and GMMH NHS autism services*
 - 9 months access to [clinician and research co-ordinator time](#)

How we support Translational Researchers: Funding: P4T

PI Name	Collaborators	Ongoing project
Brian Bigger	Sue Kimber (UoM) clean room facility, Rob Wynn & Simon Jones (MFT), iMATCH consortium (Manchester), (Indiana Vector core, Indiana USA)	Establish manufacturing scale-up of lentiviral transduction of peripheral blood derived CD34+ stem cells at GMP
Professor Tony Day (PI) & Dr Caroline Milner (CoI)		Development of Link_TSG6 as a protein biological with disease-modifying and anti-inflammatory properties
Mike Bromley	David Denning; Nick Read; Elaine Bignell, Jaya Chidambaram (Manchester Eye Hospital)	The Aspergillus fumigatus Gene and Non-Coding RNA Knockout Library.
Dr Ellen Poliakoff	Dr Jude Bek (UoM) Dr Emma Gowen (UoM)	Action Imagery and Observation in Neurorehabilitation for Parkinson's Disease (ACTION-PD)
Professor William Newman	Prof Craig Smith, Dr Dwaipayam Sen, John McDermott, SME Genedrive, Katherine Payne	Development and implementation of a point-of-care pharmacogenetic test to avoid antibiotic-related hearing loss in neonates

Translatable/ Translational Areas

Discovery/ fundamental science



Medical devices



Diagnostic imaging



Lifestyle interventions



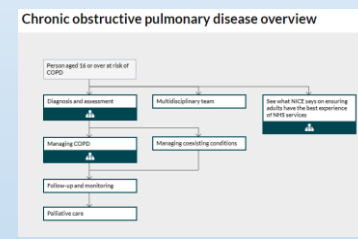
Medical therapies



Software development



Treatment pathways



Medical procedures



Diagnostic tests



Education & training



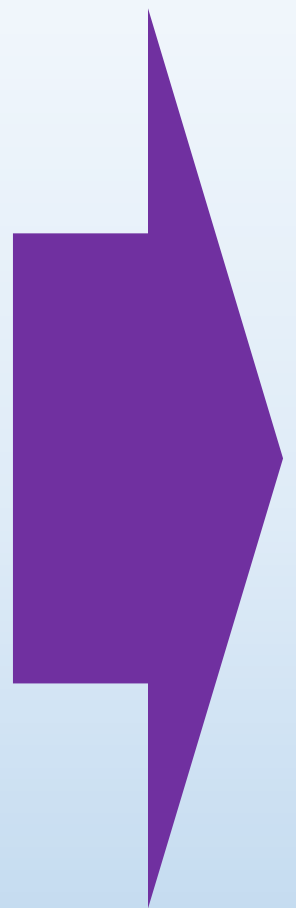
Drug development



Technologies



Adoption to policy

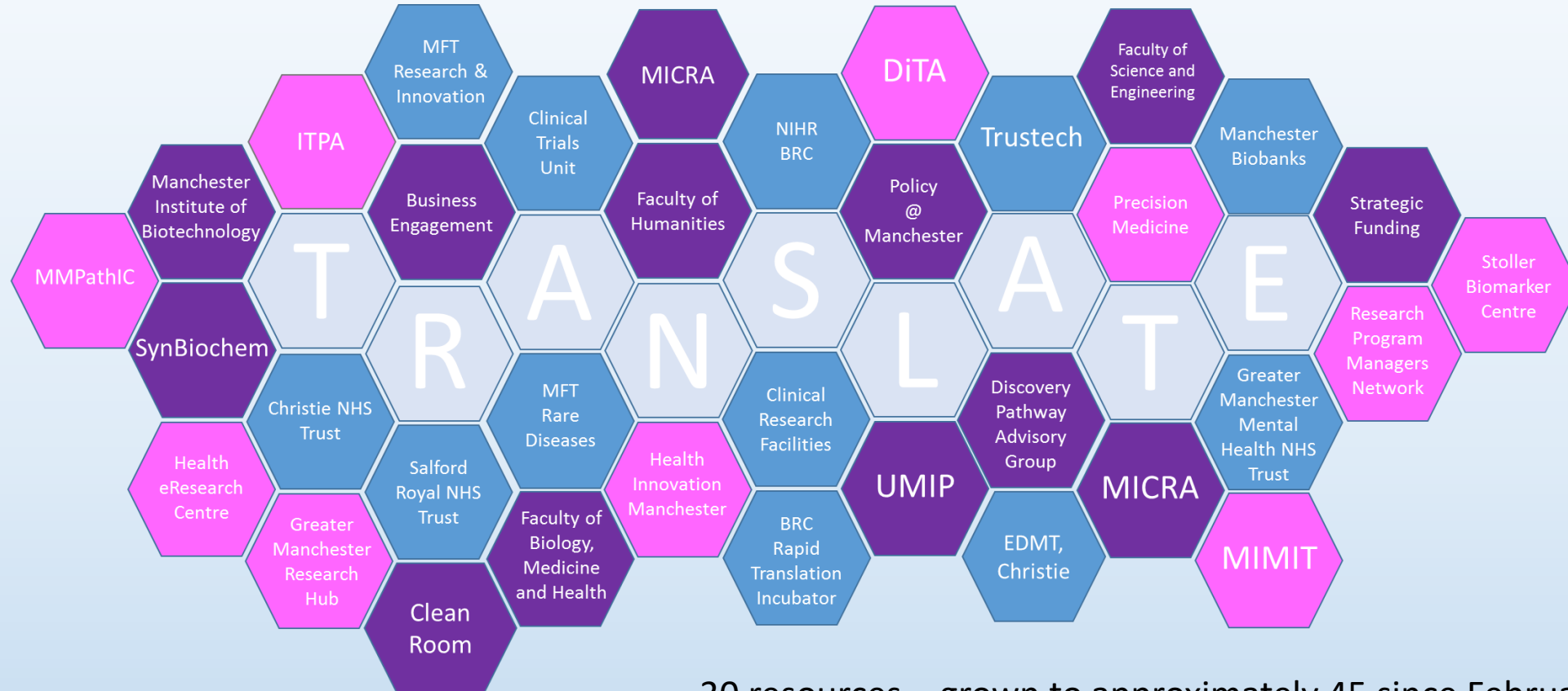


To Date: Resource and networking

- Launched Translation Manchester website (Feb 19)
 - Single point of reference for Translational research
 - <https://www.translation.manchester.ac.uk>
 - Building and adding resources (pipelines, pathways, webinars)
- Developed a Translation Manchester Network
 - Facilities and resources for translational research in Manchester
 - 30 representative facilities/ resources + 15 to be added
 - <http://documents.manchester.ac.uk/display.aspx?DocID=41839>



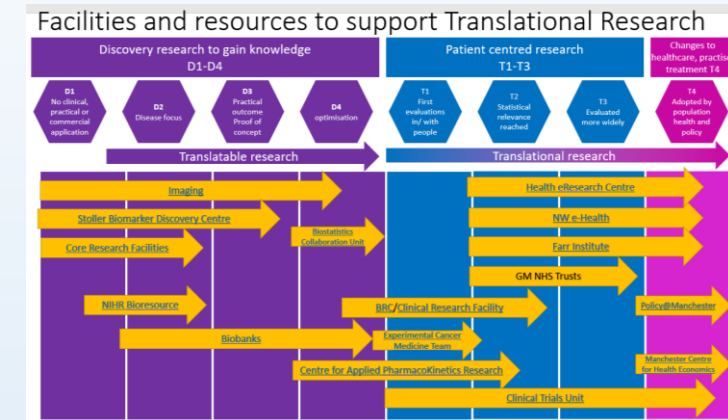
To Date: Translation opportunities in Manchester



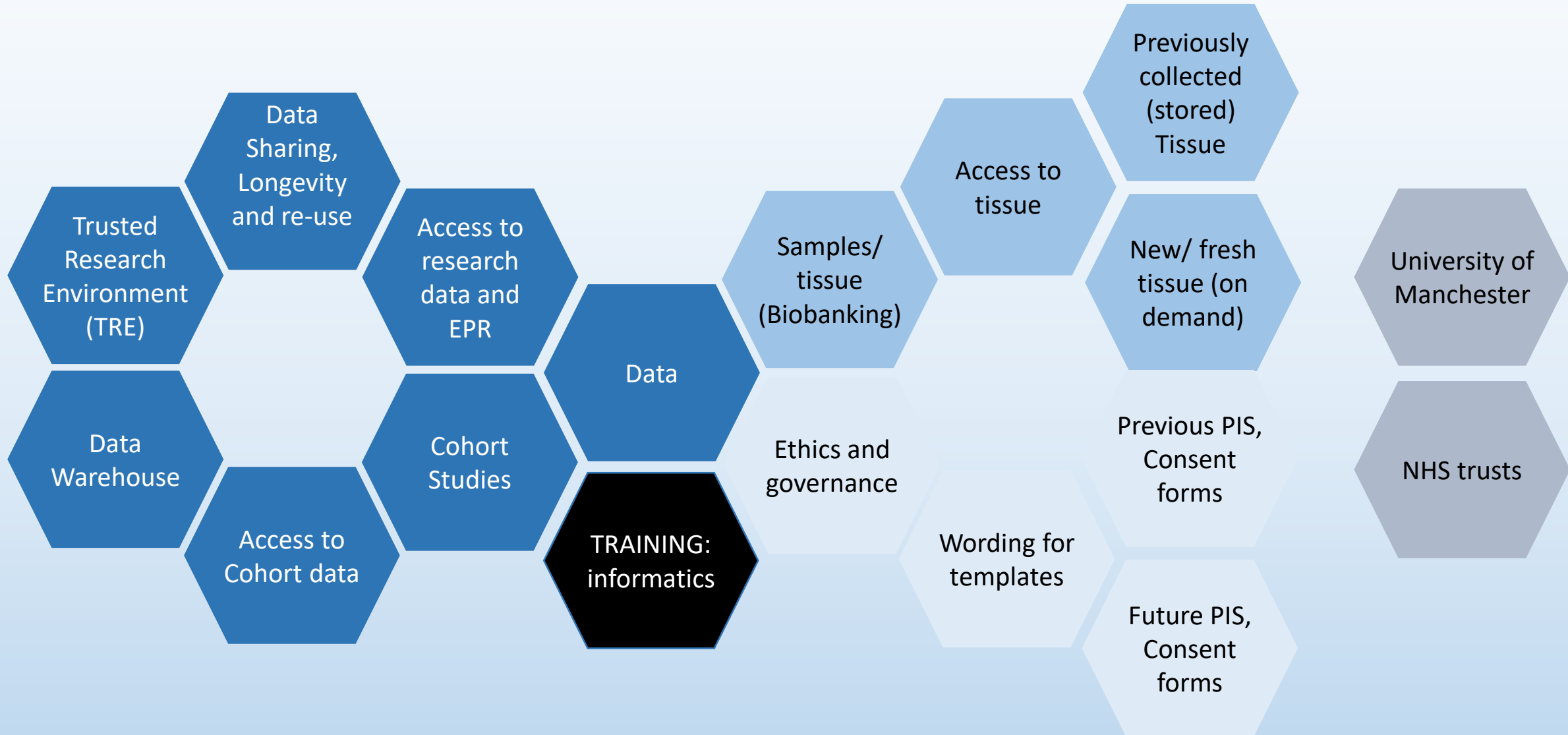
30 resources – grown to approximately 45 since February 2019

To Date: Gaps and bottlenecks

- Identifying gaps in expertise and opportunities for partnering with industry
 - Database of Manchester cohorts (samples and data)
 - NIHR HIC metadata catalogue
- Identifying bottlenecks and developing roadmaps and webinars to overcome them
 - NIHR BRC Rapid Translation Incubator Workshop: Setting up Experimental Medicine Studies



To Date: Institutional Hurdles



Contact

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