

Academic Health Sciences Centres: a revolution in healthcare? 6th March 2009

Fostering Translational Research
Alex Markham



Fostering Translational Research

Introduction

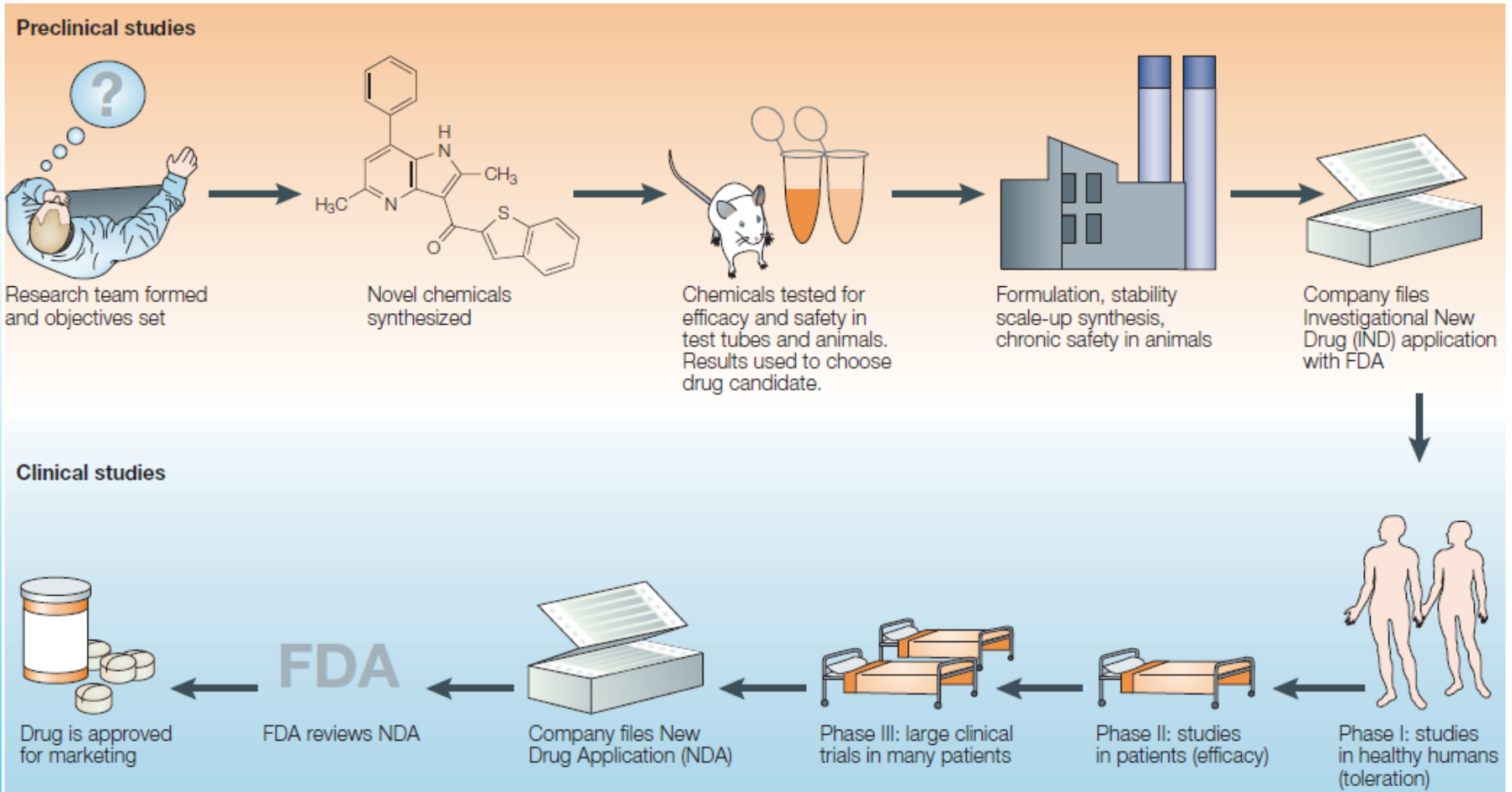
- The Challenge
- UK Clinical Research Collaboration, Clinical Research Networks and NIHR Biomedical Research Centres

Examples of significant recent activities in the UK

- MRC, NIHR and the OSCHR Translational Medicine Board
- Translational Research in Cancer

What can AHSCs learn and how can they add most value?

The Challenge: too expensive, less innovative, some specific UK problems and advantages

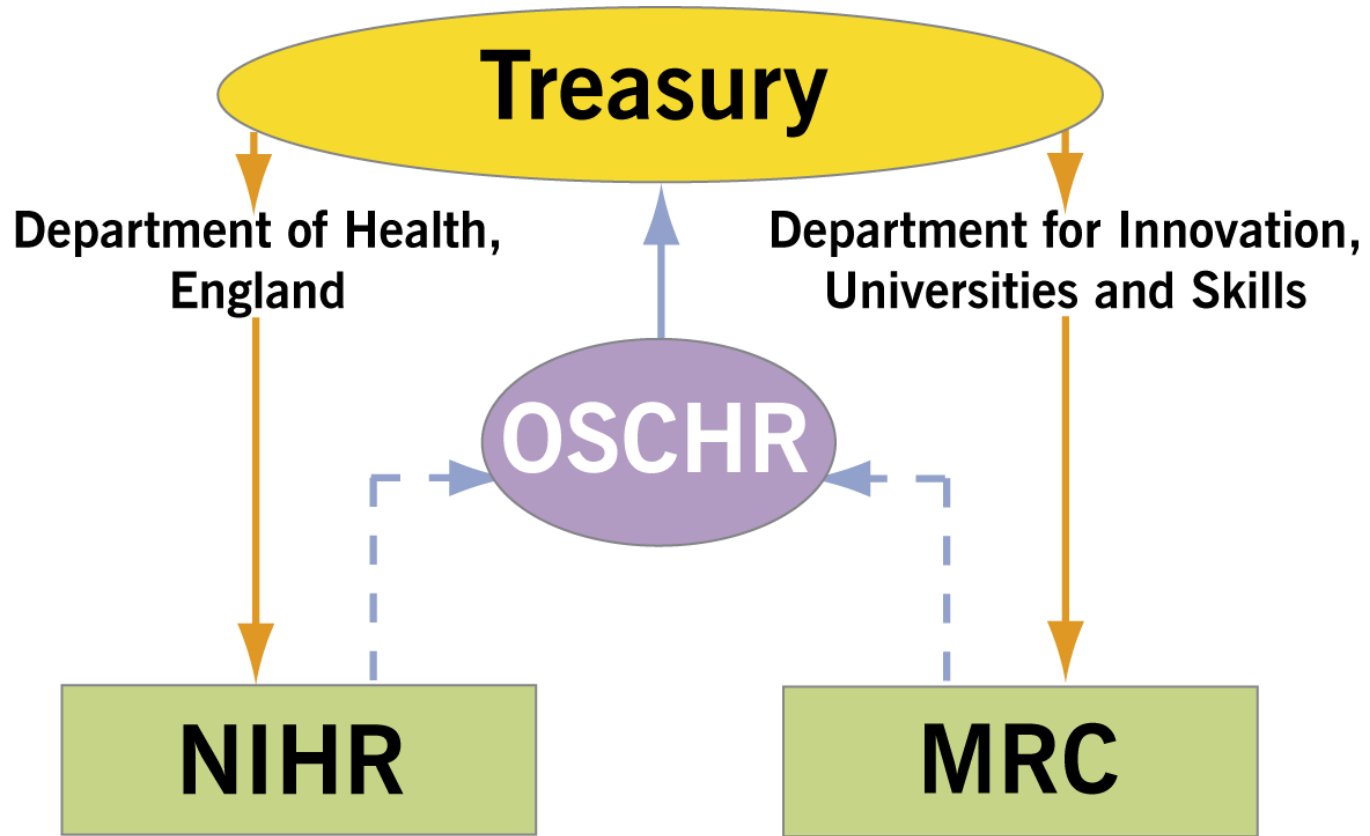


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First Opportunity for Academic Health Sciences Centres

- Make Model Agreements for both Commercial and Non-Commercial Research in the NHS **REALLY** work across the entire AHSCs Network
- If you can do this, other Centres would have to follow suit.....or effectively be completely excluded from UK clinical trials participation
- It is therefore essential that AHSCs work effectively **TOGETHER** or this will be a lost opportunity. Academic competition cannot be allowed to undermine this.
- Collaboration with UKCRN, NIHR IT System and the Research Ethics Committees
- Joint working has to be the theme for AHSCs

Since the Cooksey Report in December 2006.....



E-Health

Translational
Medicine Board

Public Health
Research Board

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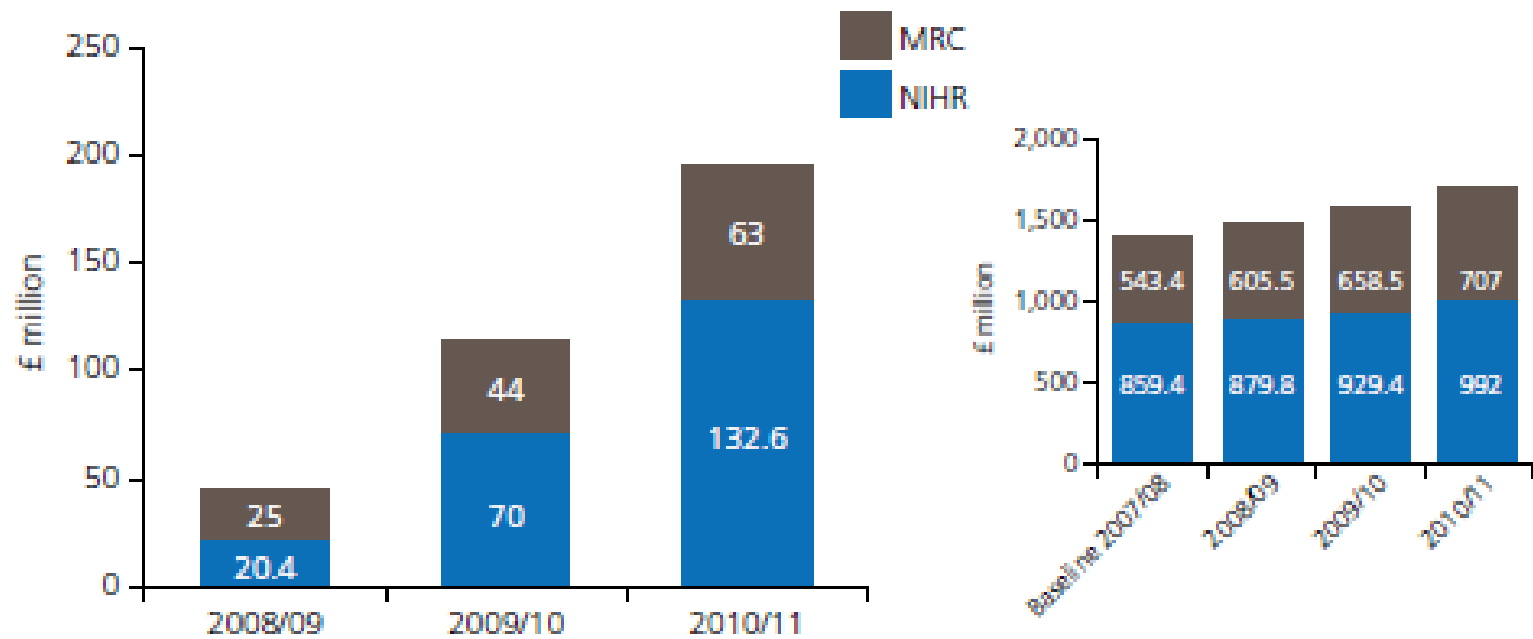


Figure 2: Increase of funding for the MRC/NIHR from the Cooksey uplift in the CSR 2007 (main graph) and MRC/NIHR budgets after the CSR 2007 (insert) over the current CSR period (£ million).

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- Please don't shoot the messenger
- Translational Research has started from a very low baseline in some areas
- Support will be needed to sustain the case in the 2011 Comprehensive Spending Review
- Please make your concerns known to OSCHR/MRC/NIHR before complaining in the public domain
- We realise it isn't perfect at this stage
- AHSCs will need to work with their "surrogates" to maintain (and increase) current funding

Fostering Translational Research: the OSCHR Process

Strategic Initiatives: Patient Cohorts, Biomarkers, Disease Models, University Translational Pump Priming, Translational Stem Cell Research

Developmental Pathway Funding Scheme : Increasing role for MRCT and MRCT Development Lab

Early Clinical Studies

Evaluation and Trials: Efficacy and Mechanism Evaluation, Health Technology Assessment, Global Trials

Methodology: Clinical Trials Unit Infrastructure, Methodology Research Programme, MRC Methodology Hubs

Public Health and E-Health Records Research

OFFICE FOR STRATEGIC COORDINATION
OF HEALTH RESEARCH

CHAIRMAN'S FIRST PROGRESS REPORT



Table 1: A summary of the new initiatives described in Chapter 3 together with information on the planned commitment of funds from the Cooksey uplift at the end of the current CSR period.

Key initiative	Aims	Intended impact	Planned commitment at the end of 2010/11
Translational Medicine Research <i>Supporting Developmental Research</i>			
Developmental Pathway Funding Scheme	To support the development of novel therapies, interventions and diagnostics, and the research tools used to achieve this development.	Scientific advances are progressed more quickly from discovery to early evaluation.	£10.1 million
Early Clinical Studies	To strengthen support for exploratory "first into man" studies and early-stage clinical trials (Phase I/II trials).	Increased volume of high-quality exploratory clinical studies being undertaken in the UK.	£6 million ¹
Targeted Initiatives against Identified Bottlenecks in Translational Research			
Models of Disease	To validate and qualify potential <i>in vivo</i> , <i>in vitro</i> and <i>in silico</i> models of human disease.	Robust models of disease allowing the faster identification of targets and development of novel therapies.	£3.3 million
Biomarkers	To support the further development of potential biomarkers and/or to evaluate potential biomarkers for their predictive and prognostic capability for the diagnosis of disease, disease heterogeneity and underlying mechanisms, susceptibility, exposure or response to interventions.	Robust biomarkers of disease allowing the faster identification of targets, development and evaluation of novel therapies.	£3.2 million

Key initiative	Aims	Intended impact	Planned commitment at the end of 2010/11
Patient Research Cohort Initiative	<p>To support the creation or further development of small cohorts of individuals who have been precisely defined in terms of their phenotype and medical history.</p> <p>To enable novel interventions to be tested more swiftly through exploratory trials in small groups of carefully-characterised patients, using relevant clinical endpoints or well-validated proxy measures for those end-points.</p>	<p>To fill a key translational gap (Cooksey's "first translational gap") by taking novel interventions swiftly from the laboratory into early-stage clinical studies.</p> <p>To speed up the development of more targeted therapies, new diagnostics and novel preventative measures in areas of high health need – bringing benefits for patients and encouraging companies to innovate in the UK.</p>	£1.1 million ²
Underpinning Infrastructure Initiative	To help universities to quickly develop their translational research activities, supporting the recruitment of key research leaders to the UK, making substantial investments in the UK's research infrastructure, and supporting staff to deliver translational programmes.	Increased capacity and capability for the UK academic sector to undertake world-leading and cutting-edge translational research.	£8.3 million
Stem Cells and Regenerative Medicine	To support fundamental stem cell research, furthering translation towards application and therapeutic development, and building further capacity in stem cell research.	Maximising the competitiveness and impact of UK stem cell research, with world-class tools, resources and skills.	£8.1 million ³

Key initiative	Aims	Intended impact	Planned commitment at the end of 2010/11
Large-Scale Evaluations			
Efficacy and Mechanisms Evaluation (EME) Programme	To support clinical trials and other well-designed studies which are focused on adding to our understanding of mechanisms and efficacy of interventions.	To fill a key translational gap by taking promising interventions swiftly from early-stage clinical studies into larger clinical studies designed to provide greater understanding of an intervention's efficacy or mechanism of action.	No specific funding from CSR uplift ⁴
Programme of Large-Scale Evaluation and Trials	To provide reliable, relevant research evidence on the effectiveness, costs, and broader impact of promising health interventions.	To fill a key translational gap by evaluating the performance of a promising intervention in a real health service setting.	£67 million ⁵
Centres for Leadership in Applied Health Research and Care	To develop an innovative model for conducting applied health research and translating research findings into improved outcomes for patients.	To fill a key translational gap (Cooksey's "second translational gap") by identifying and evaluating those new interventions that are effective and appropriate for everyday use in the NHS, and establishing effective processes to implement them in routine clinical practice.	£20 million

Key initiative	Aims	Intended impact	Planned commitment at the end of 2010/11
Methodology			
Methodology Research Programme	To support methods research in all areas of health research.	New and better methods and approaches in health research.	£4.0 million ⁶
Hubs for Trials Methodology Research	To strengthen the methodological research platform underpinning clinical trials research.	Increased national capacity and centres of excellence in clinical trials methodology research.	£3.7 million
Clinical Trials Unit Infrastructure Awards	To provide stability to clinical trials units.	To ensure sufficient research capacity to support a major expansion in clinical trials funded by the NIHR.	£3.7 million
Capacity Building/Human Capital			
Translational Training Awards	To increase the number of training awards to scientists engaged in pre-clinical and clinical translational research, population health sciences, translational public health research and the underpinning methodologies.	To train the translational research leaders of tomorrow.	£8.8 million

Key initiative	Aims	Intended impact	Planned commitment at the end of 2010/11
NHS Research Infrastructure			
Biomedical Research Units	To support the NHS infrastructure for translational clinical research in priority areas of high disease burden and clinical need, which are currently under-represented in the existing NIHR Biomedical Research Centres, and in which the country has identified research strengths.	To meet Cooksey's suggestion that there needs to be scope for other NHS/university partnerships to develop, in order to provide a challenge to the established Biomedical Research Centres in future funding competitions, and thus helping to drive excellence in the system. To respond to Cooksey's suggestion that greater priority should be given to supporting medicines and therapies that tackle unmet health needs in the UK.	£8.2 million ¹¹
Overall commitment: NIHR: £132.6 million; MRC: £63.1 million			

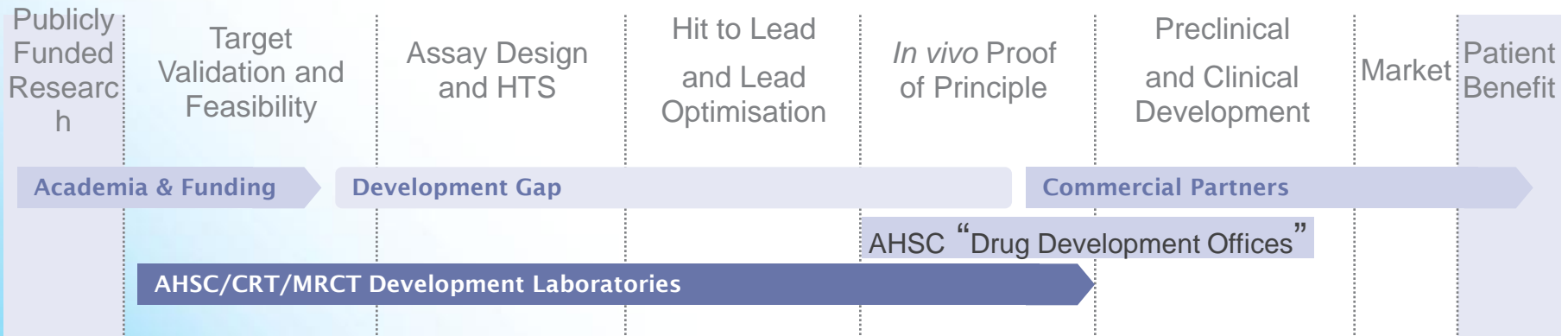
Fostering Translational Research: Lessons for AHSCs from the Cancer Translational Research Experience

What is in place for Cancer Translational Research?

- The right Funding Committees across the Development Pathway.
- Milestone driven Project Management.
- Cancer Research Technology with its own Development Lab, IPR control, full integration with the Funding Committees and enormous flexibility.
- Drug Development Office with 20 years experience in Regulatory Affairs, Formulation, Biologicals Production, Accredited Phase1/2 Centres, Experimental Cancer Medicine Centres network.
- Clinical Trials Advisory and Awards Committee integrating Clinical Trials Units, Clinical Studies Groups, NCRN and TRICC.

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AHSC/CRT/MRCT Development Laboratories to Bridge the Gap Between Academia and Industry plus Regulatory Affairs skills



CR-UK Funding Committee Remits

Discovery Committee (DC)

Pre-clinical drug discovery (target identification to lead optimization)

Translational research platform methodology development

Biomarker (imaging and non-imaging) discovery and assay development

New Agents Committee

Pre-clinical development and early phase (I/II) clinical evaluation of novel agents (single agent, combinations and imaging)

Feasibility Study Committee

Pilot studies (usually phase II) of all therapeutic modalities as a prelude to late phase trials

Clinical Trial Awards and Advisory Committee

Late phase clinical trials (usually phase III) of all therapeutic modalities

Translational Research in Clinical Trials Committee

Exploratory biomarker studies using validated assays

Tissue collections as part of clinical trials (usually phase III)

Biomarker studies as part of clinical trials (usually phase III)

Fostering Translational Research: Lessons for AHSCs from the Cancer Translational Research Experience

What does this ca £50m pa spend generate?

- 70 projects in Preclinical Development [15 DDO, 20 CRTD, 20 ICR, 5 Newcastle, 5 Drug Discovery Programme, 20 Discovery Committee]
- 22 projects in Phase1
- 20 projects in Phase2
- 8 projects in Phase3
- 5 (+3) licensed, Temozolomide sales \$1.002 Bn in 2008.
- Projects in clinic increased from 20 to 50 over last 5 years

**So step changes in Translational activity can be made
in relatively short timeframes.**

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Opportunities for the AHSCs

- Recruit talent from Pharma
- Phase1 studies in healthy volunteers in some disease areas. Collaborate with Contract Research Organisations/Association for Human Pharmacology in the Pharmaceutical Industry (AHPPI). The 29 UK Phase1 Units do 600 trials pa: 82% by CROs, 18% by Pharma, 0% by academia last year.
- Shared Development Labs and Regulatory Affairs Functions. Single AHSCs may not have enough throughput to justify independent facilities. There may not be enough talent to populate several.
- Shared national facilities for manufacturing, formulation, toxicology.

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More challenging opportunities for the AHSCs

- Single AHSC takes responsibility for handling all commercial activity for all AHSCs in a specific disease area. Builds relationships and expertise. CRT example shows massive advantage for deal-making that any Oncology company sees them as first port of call.
- Single Funding Committee assesses projects from all AHSCs
- Single Project Milestone assessment process shared by all AHSCs.
- Common Review Committee for Clinical Trials

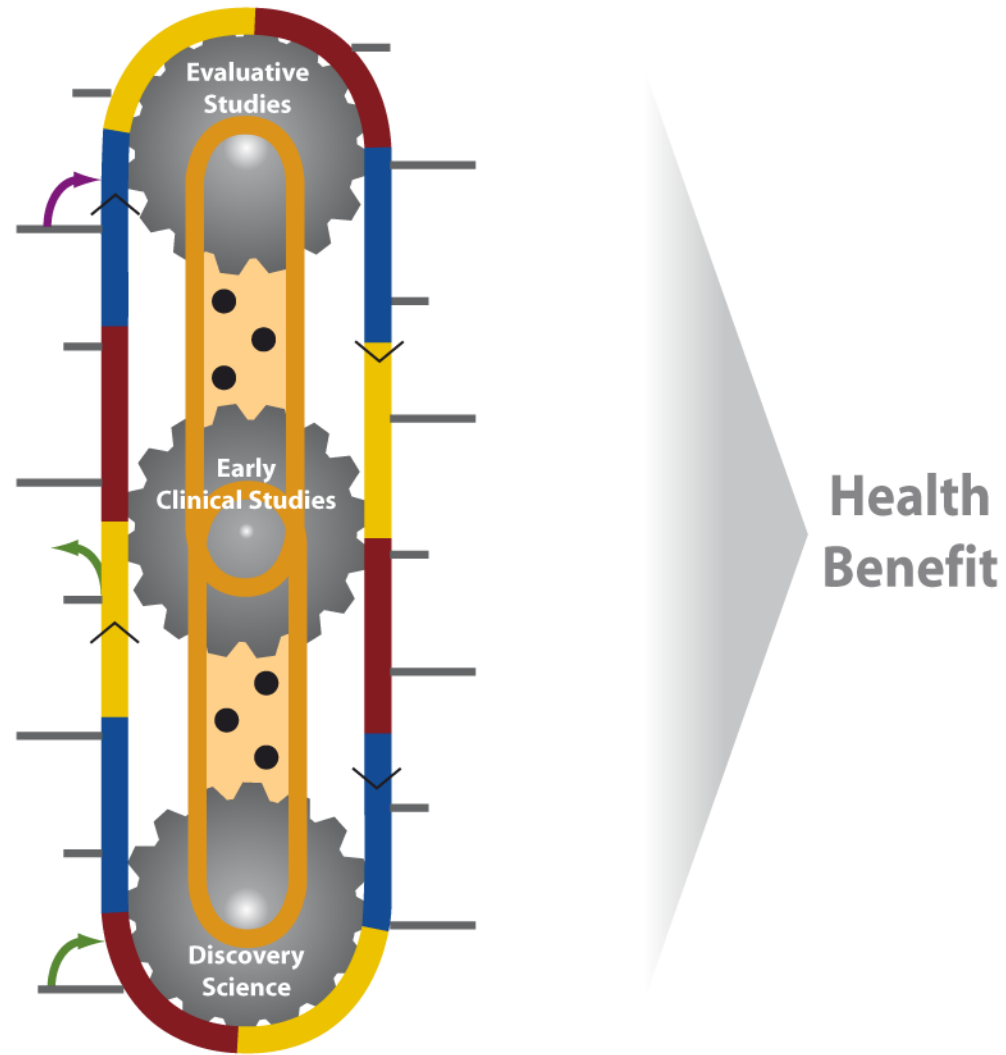
This is not like the RAE !!

Integrated Translational Research Strategy

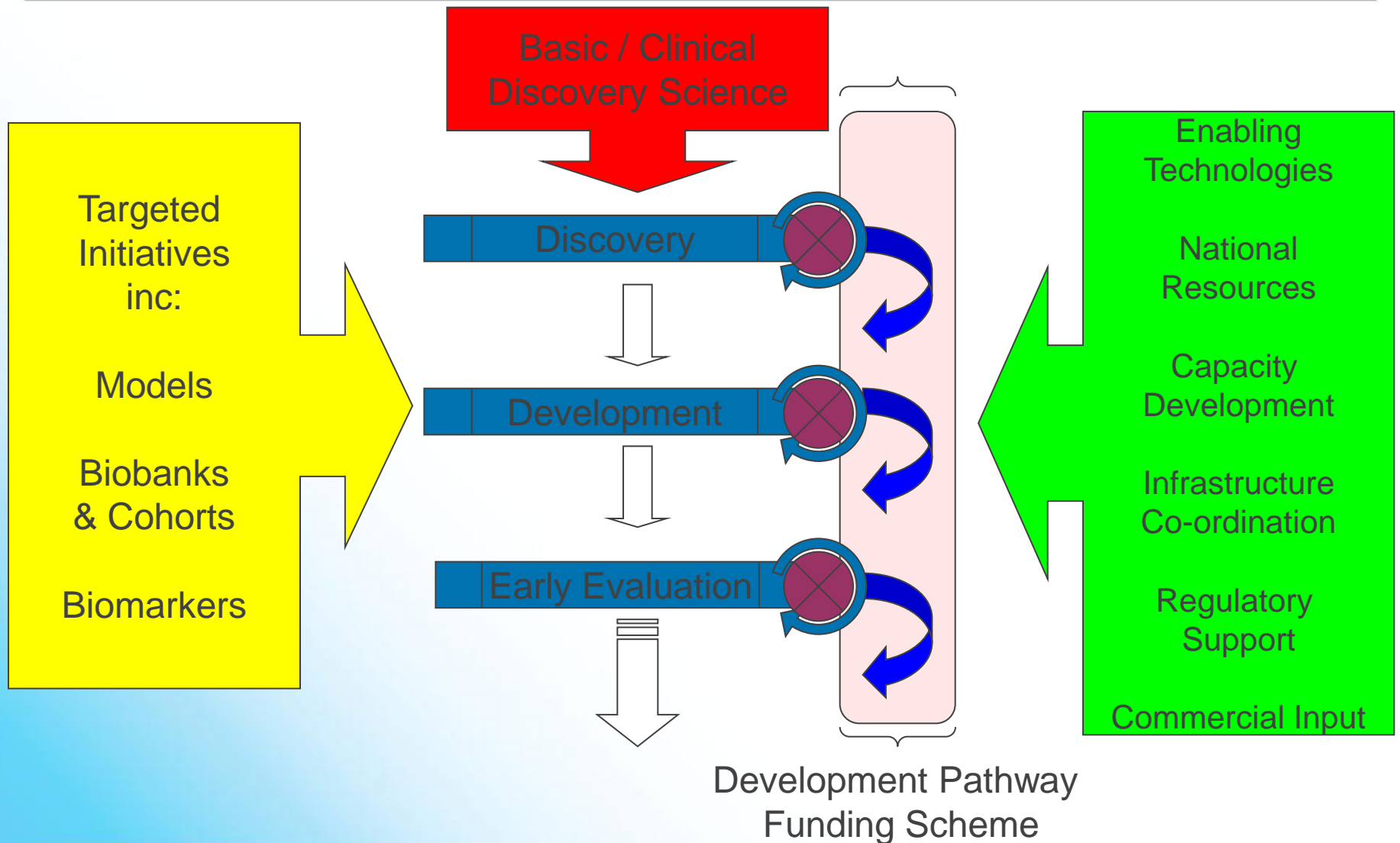
Infrastructure

Human Capital

Methodology



New Initiatives Building on Existing Activities



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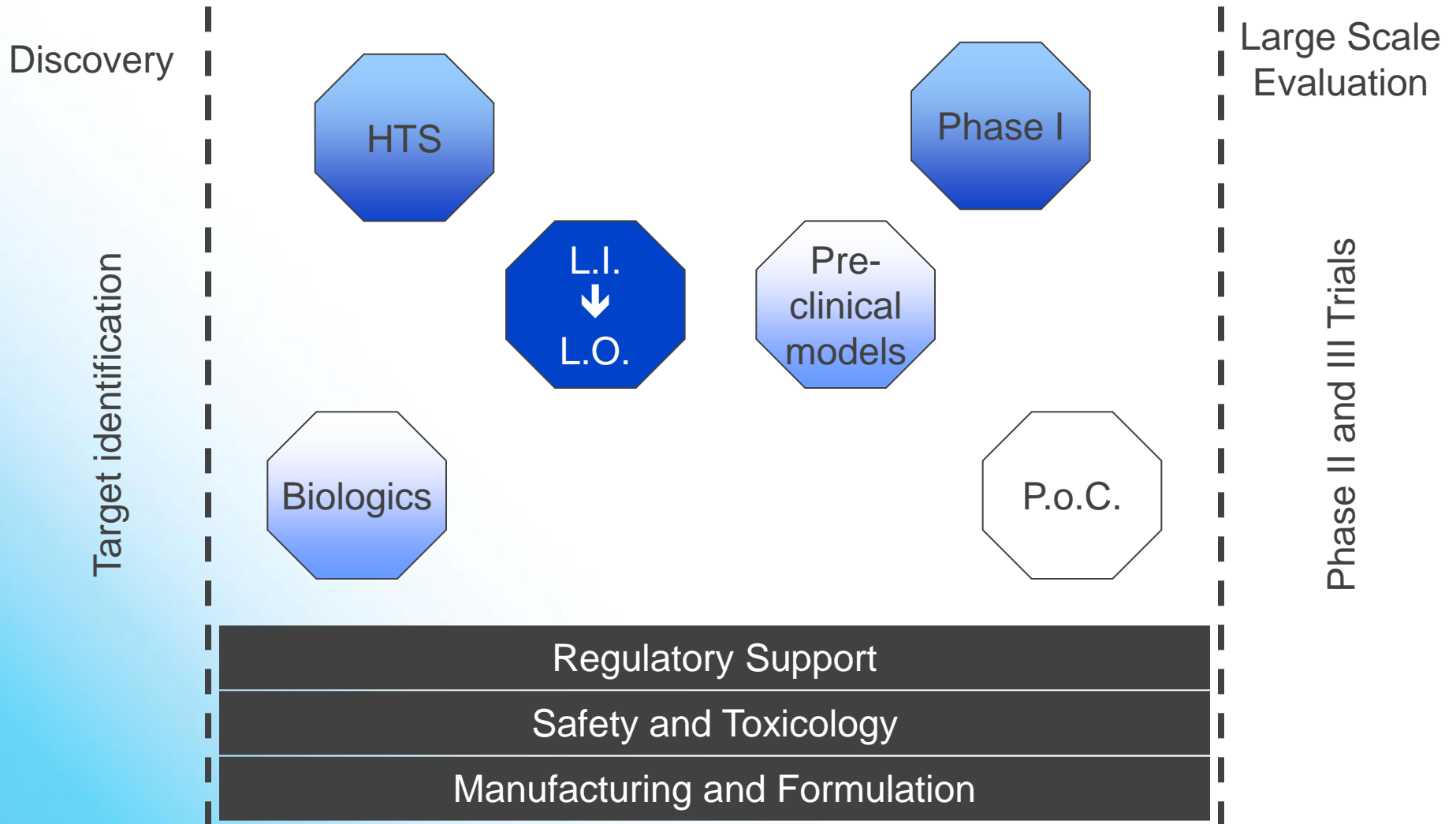
The Ultimate Metrics for UK Translational Research Activity?

- There are 3049 current open MHRA Clinical Trial Approvals
- This includes commercial and academic studies
- No “asset” can go from “bench to bedside” without a CTA
- Previous evidence suggests that an additional £196m pa Cooksey Uplift ought to give us an extra 200 projects in the clinic
- The improved UK environment ought to increase Pharma clinical activity here also
- It may be too soon to expect 3600 (plus 20%) open CTAs by April 2011 but unless there are signs of progress in this regard, the case for increased support may be difficult to make.

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Thank you.

Early Translational Pathway



Main section title in one line or two lines

To create an effective presentation, you need to start with a good template to ensure your PowerPoint presentation is consistent and professional throughout

- Don't overcrowd your slides with too much text
- Aim for one line of text per bullet and don't change the text sizes set in the document
- If you find you need to reduce the size of the text, consider splitting the slide into two instead
- The new template has been constructed using multiple slide masters, so please read this document carefully to ensure you get the best out of it
- The slide master stores information about font styles, placeholder sizes and positions, background design and colour schemes
- When creating a new slide, it will contain all the colours, fonts, logos and bullets positioned correctly

Main section title in one line or two lines

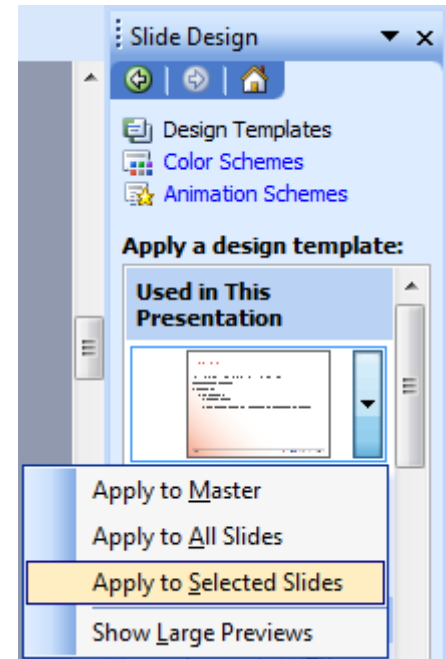
There are two specific functions you need to be aware of when using this template

- Multiple masters – there are two sets of slide masters within this presentation
 - Red template
 - Blue template
- Paragraph levels

Slide masters

Switching to the other colour scheme

- Format, Slide Design
- Click on the down arrow on the right of the thumbnail you wish to apply and select appropriate option (as shown)

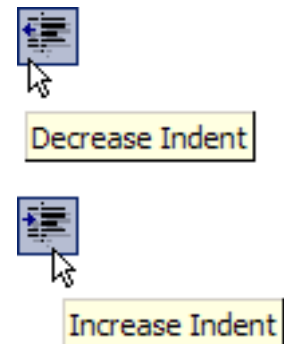


Title and text – title in one or two lines

Paragraph levels

There are five paragraph levels available in PowerPoint, we have customised these to give you the option of a bold heading, a paragraph with no bullets and three bullet level options

- To switch between the different paragraph levels, click Increase/Decrease Indent buttons located on the formatting toolbar



Title and two column text – title in one or two lines

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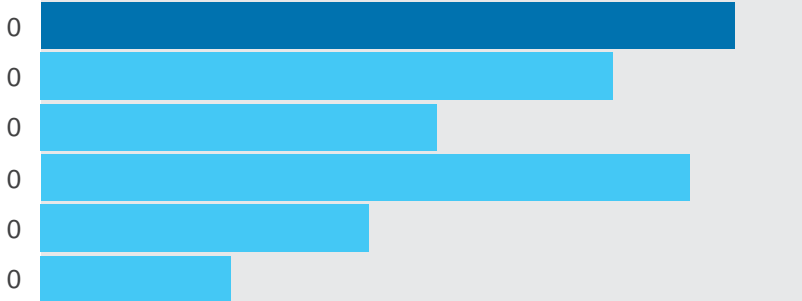


Content slide – Text with charts



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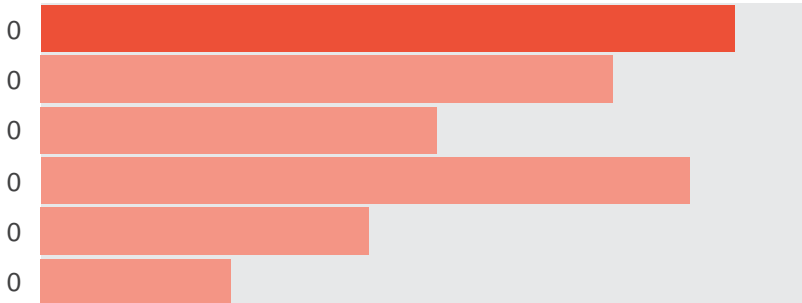


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