Academic Health Science Centres –

engines of innovation or re-inventing the wheel?
The challenges confronting the UK healthcare system:

- Improving service quality while reducing costs
- Redesign of patient pathways
- Shifting emphasis from treatment to prevention
- Accelerating the translation of discovery into patient benefit
Universities and their hospital partners risk being driven apart by:

• the target and management culture of the NHS
• the RAE’s emphasis on basic science
• imminent financial pressures
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- the target and management culture of the NHS
- the RAE’s emphasis on basic science
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An Academic Health Sciences Centre at the heart of a world city

Professor Robert Lechler
The partners – four highly-performing institutions

Guy’s and St. Thomas’

South London and the Maudsley

King’s College Hospital
Our vision –
a radical change in healthcare

King’s Health Partners is pioneering better health and well-being, locally and globally, through integrating excellence…

in research  in education/training  in patient care
The vision –
a radical change in healthcare

To advance health and well-being by integrating world-class research, care, education and training through:

- **Translating research more rapidly** into clinical practice and effectively disseminating these advances through education and training

- **Integrating physical and mental healthcare** to deliver a holistic approach to patient care

- **Harnessing the power of discovery science** to transform the nature of healthcare by moving from treatment towards population screening and disease prevention

- **Developing a workforce that will transform healthcare** – delivering innovation through education
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Clinical Academic Groups: key to accelerating translation

- **KCL**
- **GSTT**
- **KCH**
- **SLaM**

**Partnership Board**

**King’s Health Partners Executive**

- **Basic Sciences Institute**
- **NIHR Biomedical Research Centres**
- **Health Policy and Evaluation Institute**
- **Infrastructure to support Experimental medicine**

**CLINICAL ACADEMIC GROUPS**

- Cardiovascular
- Dementia and Older People’s Mental Health
- Diabetes and Obesity
- Other Clinical Academic Groups

**EDUCATION ACADEMY**

- Disorder- / Research-based training and education

**Drive basic discovery**
**Drive translation**
**Evaluate**
**Efficient infrastructure to deliver translation**
**Disseminate knowledge, train the next generation**
CAG and Research Group Structure

Basic Science Institute

1. Liver, Renal, Urology, Transplant & Gastro/GI Surgery
2. Orthopaedics, Trauma, ENT & plastics
3. Cardio-Vascular
4. Clinical Neurosciences
5. Cancer, Haematology, Palliative Care & Therapies
6. Dental
7. Medicine
8. Diabetes, Nutrition, Endocrine, Obesity & Ophthalmology
9. Genetics, Rheumatology, Infection, Dermatology
10. Imaging
11. Women’s
12. Child Health
13. Pharmaceutical Sciences
14. Allergy, Respiratory, Critical care & Anaesthetics
15. Mental Health of Older Adults & Dementia
16. Child & Adolescent Mental Health
17. Addictions
18. Psychosis
20. Mood, Anxiety & Personality Disorder
21. Psychological Medical

Health Policy and Evaluation Institute
We are creating a platform to support experimental medicine across all three campuses

- State-of-the-art facilities are essential to facilitate Experimental Medicine

- Within King’s Health Partners there is an extensive and growing range of core research facilities and underlying technical skills to support innovation and its rapid translation to care for patients

- Clinical Research Facilities are being tailored to each of our hospital sites:

<table>
<thead>
<tr>
<th>Site</th>
<th>Focus</th>
<th>Co-funder</th>
<th>On Stream</th>
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<tbody>
<tr>
<td>St Thomas’</td>
<td>Cardiovascular, Nutritional, Metabolic &amp; Related studies</td>
<td>GSTT Charity, NIHR BRC, Tate &amp; Lyle plc</td>
<td>Opened 2008</td>
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<tr>
<td>Denmark Hill</td>
<td>Neuroscience &amp; psychiatric studies inc. PET &amp; MRI facilities and cell therapy</td>
<td>Wellcome Trust</td>
<td>Late 2010</td>
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<tr>
<td>Guy’s</td>
<td>Asthma, Allergy &amp; Immunology with a GMP cell therapy suite</td>
<td>GSTT Charity NIHR BRC</td>
<td>Opened May 2010</td>
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- We have established a Joint Clinical Trials Office (JCTO) dedicated to overseeing the management of commercial trials
Guy’s Tower Experimental Medicine Hub

Floor 16: comprehensive DH Biomedical Research Centre / JCTO

Floor 15: CRF, the Joint Clinical Trials Office

Floor 14: Phase 1 unit with Quintiles

Floor 13: GMP manufacturing facility, operated by GSTFT and available for formulation of NCEs

Floor 11: GMP suite attached to Assisted conception unit for ES lines
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The Geography of Cartesian Dualism...
Mental health in general hospitals

A&E Emergency psychiatry

Major incidents and trauma

Perinatal disorders

Physical disease in people with established mental disorders

Medically unexplained symptoms

Substance misuse

Coping and adjusting to disease

Comorbid depression and anxiety

Health related behaviours:
- primary prevention
- Secondary prevention

Cognitive impairments

Delirium and dementia

Mental capacity

Mental health in general hospitals
Some examples

- Chronic fatigue syndrome
- Viral hepatitis
- Anxiety in cancer
- Secondary prevention in diabetes
Integrating physical and mental health care

• Psychological Medicine CAG

• Aim to screen all patients admitted to acute Trusts for depression

• Target appropriate interventions
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- **Developing a workforce that will transform healthcare** – delivering innovation through education
From treatment towards the promotion of health

<table>
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<tr>
<th>Health Indicator</th>
<th>Lambeth</th>
<th>Southwark</th>
<th>Lewisham</th>
<th>Greenwich</th>
<th>Croydon</th>
<th>Bromley</th>
<th>Bexley</th>
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<td>Binge drinking adults</td>
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<td>Drug Misuse</td>
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<td>Early deaths: Cancer</td>
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<td>Early deaths: Heart disease &amp; stroke</td>
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<td>Healthy eating adults</td>
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<td>Hospital stays due to alcohol</td>
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<td>Infant Mortality</td>
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<td>Life expectancy</td>
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<td>Mental Illness</td>
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<td>Obese Adults</td>
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<td>Obese Children</td>
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<td>Physically active adults</td>
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<td>Teenage Pregnancy</td>
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<td>Tuberculosis</td>
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<td>Violent Crime</td>
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**Key**
- Red: Worse than London average
- Yellow: In line with London average
- Green: Better than London average

*Source: Department of Health Community Health Profiles 2009*
Integrating community services

• Competed successfully for the community services of Lambeth and Southwark

• Adds a further £100m business to our partnership

• Should facilitate pathway redesign and shift of activity out of hospital
Integrated care pilot

Speeding up the Patient Pathway – example of an elderly orthopaedic patient

Current Patient Pathway (6 Steps)

- **Patient**
  - Assessment
  - Triage
  - Treat
  - Monitor
  - Physiotherapy assessment

- **Physiotherapist**
  - Surgical assessment

- **Orthopaedic Surgeon**
  - Pre-operative assessment
  - Operation
  - Recovery
  - Social/home assessment
  - Home equipment package
  - Hospital Stay 8-11 days
  - Community and Social Care support

- **Community and Social Care support**
  - Pack age to home

Potential Patient Pathway (4 Steps)

- **Patient**
  - Assessment

- **GP**
  - Assessment

- **Integrated Assessment**
  - Physiotherapy assessment
  - Surgical and pre-operative assessments
  - Social/home care designed and assembled

- **Hospital Stay**
  - 3-5 days

- **Operation**

- **Recovery**

- **Community and Social Care support**
  - Pack age to home
The new public health....

• Bringing social scientists, ethicists, geneticists, epidemiologists, behavioural psychologists, and primary care practitioners together to address health inequalities and promote prevention

• Aim is to stratify risk in healthy populations and target early interventions

• Each Clinical Academic Group will be required to develop plans for community based prevention in their strategy.
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Our Simulation Programme

• Brand new Simulation Centre

• Using latest technology - computer controlled human patient manikins that breathe, have a pulse, can blink and speak.

• Trainees can assess and treat a ‘living’ manikin in a realistic ward environment, operating theatre or intensive care unit.

• First hospital simulation centre to include GP surgery and home environments.
Clusters

GMEC provides a collaborative framework across the biomedical value chain

Founders

Discovery → Development → Product Life Cycle Management

Partners

The ROYAL MARSDEN
NHS Foundation Trust

Pfizer

gsk

GlaxoSmithKline

GE

MONITOR GROUP

South London and Maudsley NHS Foundation Trust

London Development Agency

KING'S HEALTH PARTNERS
London’s riches

• Almost 33% of undergraduate medicine and dentistry students are based in London higher education institutions

• Almost 45% of all postgraduate students undertaking medicine and dentistry are based in London.

• 49% total research funding in Clinical Medicine and Dentistry

• Three of five AHSCs

• Three of the world’s top 25 Universities (Times Higher)

• Three of five comprehensive Biomedical Research Centres

• Three Health Innovation and Education Clusters
London’s riches

Three AHSCs working together to make London a/the world-leading healthcare city

• neuroscience
• PET imaging and radiochemistry
• e-health and informatics
Re-inventing the wheel....?
Contrast with Hammersmith Hospital of the 1970s & 1980s

- Balanced emphasis on service quality, research & education
- Commitment to vertical integration of healthcare
- Commitment to prevention and public health
The challenges confronting the healthcare system:

- Improving service quality while reducing costs
- Redesign of patient pathways
- Shifting emphasis from treatment to prevention
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Addressing these challenges is at the heart of the AHSC agenda
Thank you!