

The role of Academic Health Science Centres in driving innovation

Professor Robert Lechler
19 June 2009



The partners – four highly-performing institutions each bringing complementary and distinctive contributions

Four high-performing institutions

- Guy's and St Thomas' (GSTT)
- King's College Hospital (KCH)
- South London and Maudsley (SLaM)
- King's College London (KCL)

Excellence in clinical service

- Comprehensive portfolio of excellent quality innovative services
- International recognition: in renal and liver disease, dermatology, haematology, children's, neurosciences, foetal medicine and mental health

Excellence in research

- One of top 5 biomedical research universities in UK (2008 RAE)
- Six MRC Centres, three NIHR Research Centres and BHF Centre of Excellence
- Institute of Psychiatry and SLaM leading mental health research centre in Europe

Excellence in education

- Unique breadth of education and training to 9,500 students
- At the forefront of innovation and exploiting new technology
- Capacity building for translational research



The vision – a radical change in healthcare

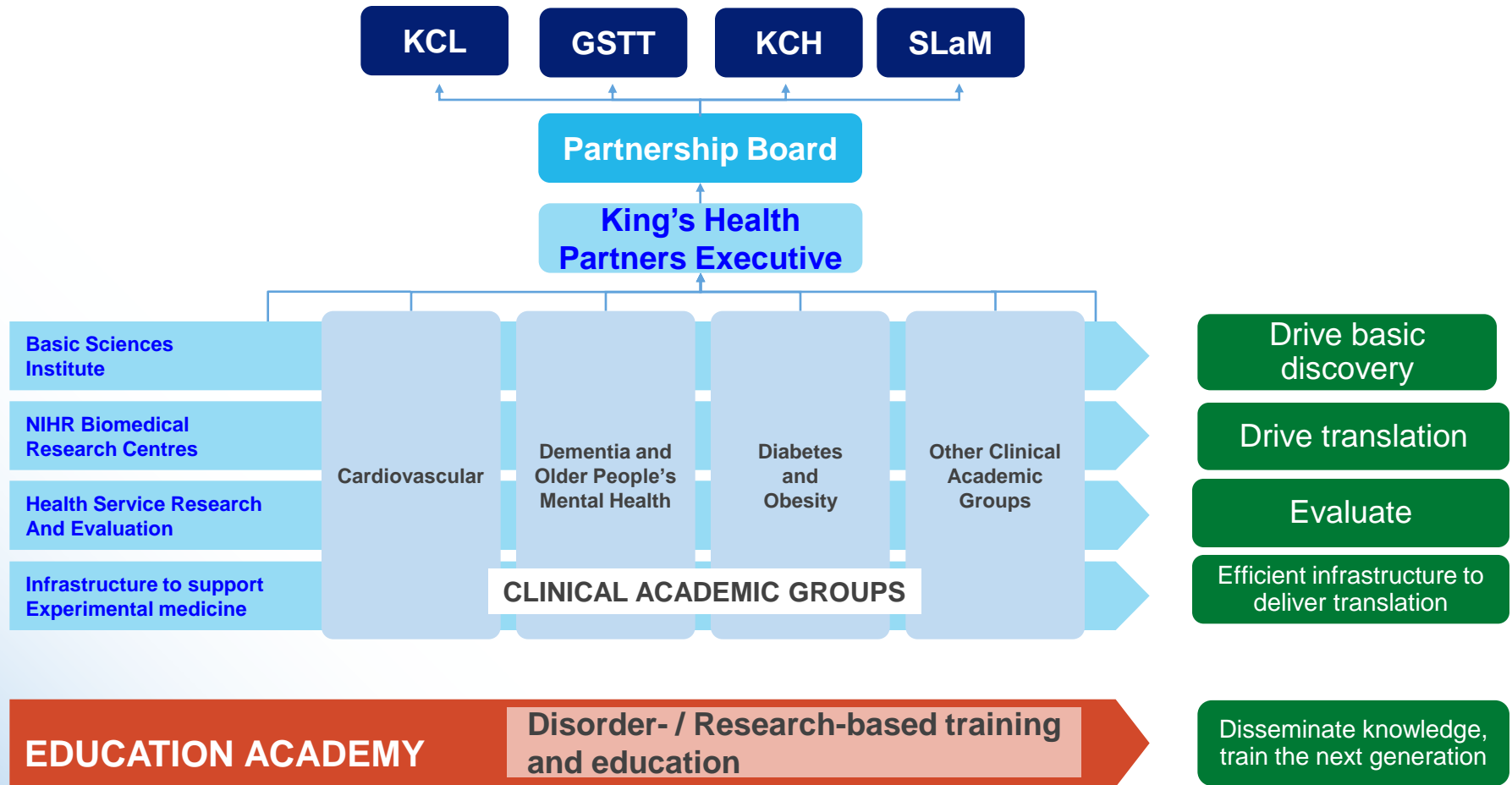
To advance health and well-being by integrating world-class research, care, education and training through:

- **Translating research more rapidly** into clinical practice and effectively disseminating these advances through education and training
- **Harnessing the power of discovery science** to transform the nature of healthcare by moving from treatment towards population screening and disease prevention
- **Recognising the special needs and inequalities** in health among the local population and addressing these through earlier intervention and personalised medicine, as well as helping local people to maintain, improve and enhance their health

- **accelerating the translation of discovery into patient benefit**
- **increasing “productivity” and quality simultaneously**
- **dissolving the barrier between 1^o and 2^o care**
- **shifting the emphasis from treatment of disease towards the promotion of health**

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Clinical Academic Groups: key to accelerating translation....



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Increasing “productivity” and quality simultaneously

- productivity and quality are not enemies!
- higher quality is often cost-effective...
- AHSCs should be engines of service innovation, coupled with evaluation

- accelerating the translation of discovery into patient benefit
- increasing “productivity” and quality simultaneously
- dissolving the barrier between 1^o and 2^o care
- shifting the emphasis from treatment of disease towards the promotion of health

- vertical integration of community and hospital based services to create teams spanning the patient pathway

.... linked with social care and local communities

- “Poly-systems” - transformation of primary and community services through creation of sustainable integrated health networks – changed service models, changed roles, changed use of infrastructure
- commissioning innovation as a lever – from transaction-based to population-based / outcome-focused contracts; GP & Trust incentives to be aligned.

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Health Indicator	Lambeth	Southwark	Lewisham	Greenwich	Croydon	Bromley	Bexley
Binge drinking adults	Worse than London average	Worse than London average	In line with London average	In line with London average	Better than London average	Better than London average	Better than London average
Deaths from smoking	Worse than London average	Worse than London average	Worse than London average	Worse than London average	Better than London average	Better than London average	Better than London average
Drug Misuse	Worse than London average	Worse than London average	Worse than London average	Better than London average	In line with London average	Better than London average	Better than London average
Early deaths: Cancer	Worse than London average	Worse than London average	Worse than London average	Worse than London average	In line with London average	Better than London average	Better than London average
Early deaths: Heart disease & stroke	Worse than London average	Worse than London average	Worse than London average	Worse than London average	In line with London average	Better than London average	Better than London average
Healthy eating adults	Better than London average	In line with London average	In line with London average	Worse than London average	In line with London average	Better than London average	Worse than London average
Hospital stays due to alcohol	Worse than London average	Worse than London average	Worse than London average	In line with London average	Better than London average	Better than London average	Better than London average
Infant Mortality	Worse than London average	Worse than London average	Better than London average	In line with London average	Worse than London average	Better than London average	In line with London average
Life expectancy	Worse than London average	Worse than London average	Worse than London average	Worse than London average	In line with London average	Better than London average	Better than London average
Mental Illness	Worse than London average	Worse than London average	Worse than London average	Worse than London average	In line with London average	Better than London average	Better than London average
Obese Adults	In line with London average	Worse than London average	Worse than London average	Worse than London average	Worse than London average	Better than London average	Worse than London average
Obese Children	Worse than London average	Worse than London average	Worse than London average	Better than London average	Worse than London average	Better than London average	Better than London average
Physically active adults	Better than London average	In line with London average	In line with London average	Worse than London average	In line with London average	In line with London average	Worse than London average
Teenage Pregnancy	Worse than London average	Worse than London average	Worse than London average	Worse than London average	Worse than London average	Better than London average	Better than London average
Tuberculosis	Worse than London average	Worse than London average	Better than London average	In line with London average	Better than London average	Better than London average	Better than London average
Violent Crime	Worse than London average	Worse than London average	Worse than London average	Worse than London average	Better than London average	Better than London average	Better than London average

Source : Department of Health
Community Health Profiles 2008

Key

- Worse than London average
- In line with London average
- Better than London average

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.

Academic Health Science Centres will be the engine for driving innovation in healthcare.

Professor Robert Lechler

Executive Director, King's Health Partners

Vice-Principal (Health), King's College London

Clinical Academic Groups: Delivering the AHSC Ambition

Professor John Moxham
19 June 2009



The Vision

“To advance health and well-being by integrating world-class research, clinical care, education and training”

The Delivery

“**Clinical Academic Groups** are the building blocks of our Academic Health Sciences Centre, driving real integration at service and departmental level, across the tripartite agenda, in order to improve patient care”

What are the benefits of Clinical Academic Integration?

Benefits for patients

- Access to cutting edge diagnostics and treatments, due to rapid implementation
- Most skilled staff, committed to innovative and excellent care

Benefits for staff

- Access to excellent training & education, clinical experience, and opportunities for personal development
- Researchers have access to large patient populations and clinical material
- Highly prestigious environment

Benefits for students / trainees

- Working with & learning from the best clinicians and researchers
- multiple career opportunities

Key Principles of King's Health Partners

Inclusivity

- King's Health Partners embraces all clinical services and departments within 3 Foundation Trusts, and all relevant Schools of KCL

Scholarship

- Inclusivity poses a challenge – not all clinical services have associated academic activities. Professionals may contribute to the advancement of their fields in many ways (service innovation, publications, education and training programmes) and we will recognise and promote these activities, whilst building academic excellence

Tripartite mission

- The strength of an AHSC is determined by how it addresses the three core activities in an integrated and synergistic manner. Our systems, processes and our culture must support this integration

What is a Clinical Academic Group (CAG)?

- CAGs integrate clinical services together with relevant academic departments, under unified leadership and management structures
- Leaders and managers are responsible for all elements of the tripartite mission (education, research and service delivery)
- CAGs are also responsible for delivering mandatory requirements (e.g. terms of compliance to Monitor, reporting to HEFC) for each of the sovereign organisations

Example of a CAG - Cardiovascular

Rationale for “first wave”

- Motivated leadership
- Self-contained area
- Excellence in clinical service, teaching and research

What have we achieved?

- Agreed integrated leadership model
- Collaboration on all clinical & academic senior appointments
- Developing performance systems and metrics across tripartite agenda
- Common themes around which clinical academic integration is centred

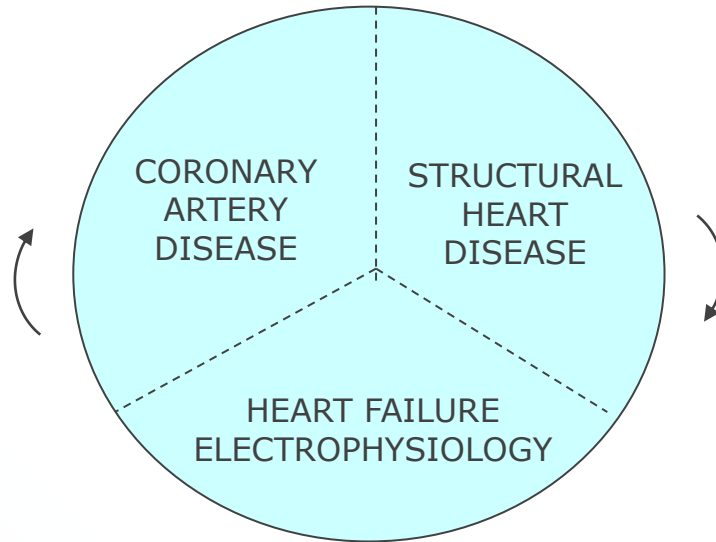
Service, teaching and research delivery

SERVICE DELIVERY

- INTERVENTIONAL CARDIOLOGY
- CARDIAC SURGERY
- PREVENTION
- HEART FAILURE
- ELECTROPHYSIOLOGY
- ADULT CONGENITAL HEART DISEASE
- AORTIC & VALVE DISEASE
- DIAGNOSTICS
- VASCULAR SURGERY

TEACHING TRAINING

Thematic Clinical Academic Units - driving integration



Clinical / translational research
Communication
Main forum for input to strategy
Engine for creative AHSC activities

RESEARCH DELIVERY

- MUSCLE CELL BIOLOGY
- VASCULAR BIOLOGY & INFLAMMATION
- REDOX SIGNALLING & HEART FAILURE
- CARDIOPROTECTION
- STEM CELLS
- VASCULAR RISK
- VASCULAR SURGERY

Other CAG Examples

Diabetes, endocrinology, metabolism, obesity, nutrition and ophthalmology

- Diverse collection of clinical services, but coherent themes around patient pathways, research, mental health and public health

Allergy, Respiratory, Critical Care, Anaesthetics and Pain

- Diverse collection of clinical services
- Brings academic rigour and support to clinical areas with limited academic activity

What do we need to do to deliver successful CAGs?

Harmonise systems and process

- In order to operationalize the CAGs, we will develop common ways of working across the 4 organisations
- We will ensure that standardisation is evidence based and informed by best practice
- Strong supporting infrastructure (e.g. IT, HR) will be critical

Culture change

- We need to promote scholarship, and raise the ambitions of all staff

Stakeholder Engagement

- We cannot deliver our ambition without partnerships, including with our patients and carers, PCTs, GPs, other AHSCs, our network DGHs, etc

CAGs : What will success look like?

Current state	Future state
Independent strategies and priorities for all clinical services and academic departments	A single, coherent, strategy for each CAG, addressing clinical service development, education and training and research
Decision making within independent organisations, without formal reference to others	Shared managerial decision-making on all clinical and academic issues
Senior appointments the responsibility of each partner organisation	The CAG ensures that all senior appointments in any of the partner organisations are discussed and agreed by the CAG leadership team
Clinical services are managed separately, and in some cases are competing (in particular across the 2 acute trusts)	Single management / integrated services across all trusts
Each organisation manages relationships with key stakeholders	Co-ordinated linkages and relationships with key stakeholders such as primary care

CAGs will drive the synergy between clinical and academic activity, to the benefit of all partners, and particularly for patient benefit

Professor John Moxham

Executive Medical Director & Director of Infection
Prevention & Control

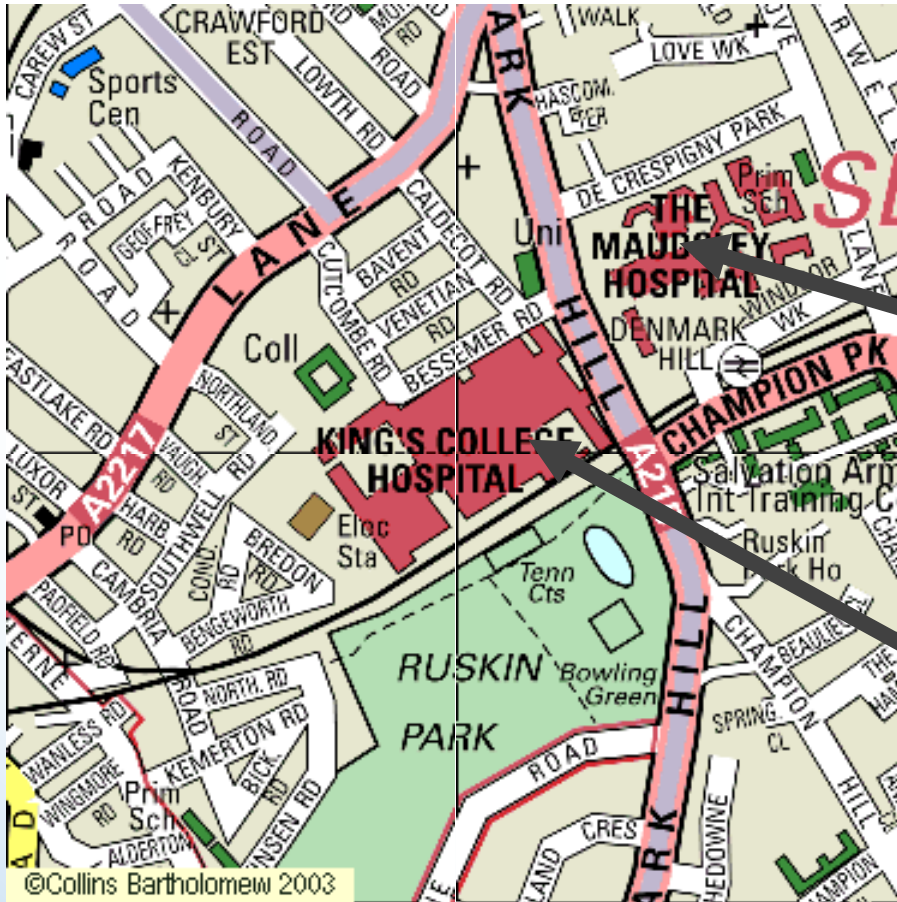
King's College Hospital NHS Foundation Trust

The whole person: mental and physical health

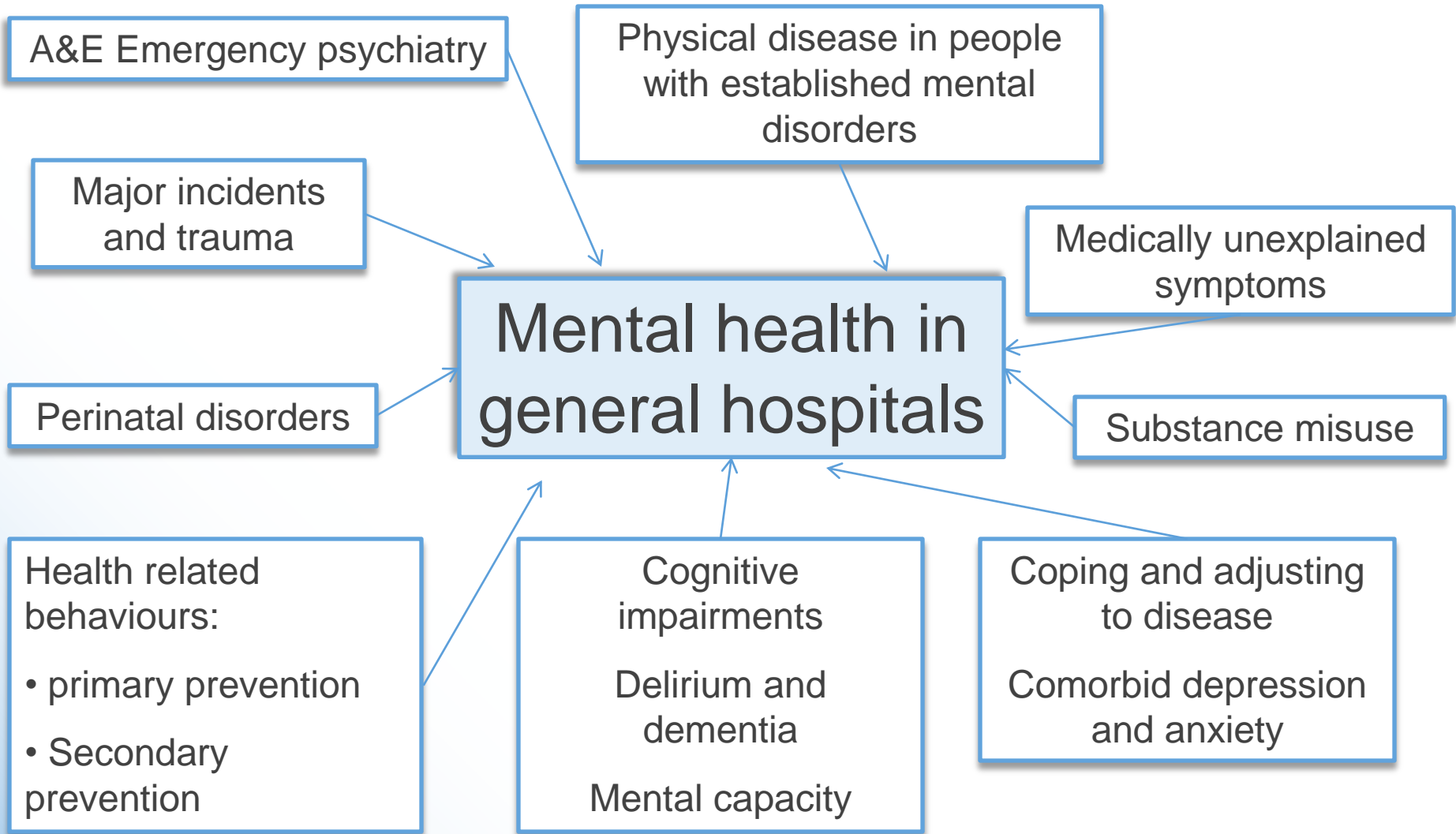
Professor Matthew Hotopf
19 June 2009



The Geography of Cartesian Dualism...



Mental health in general hospitals



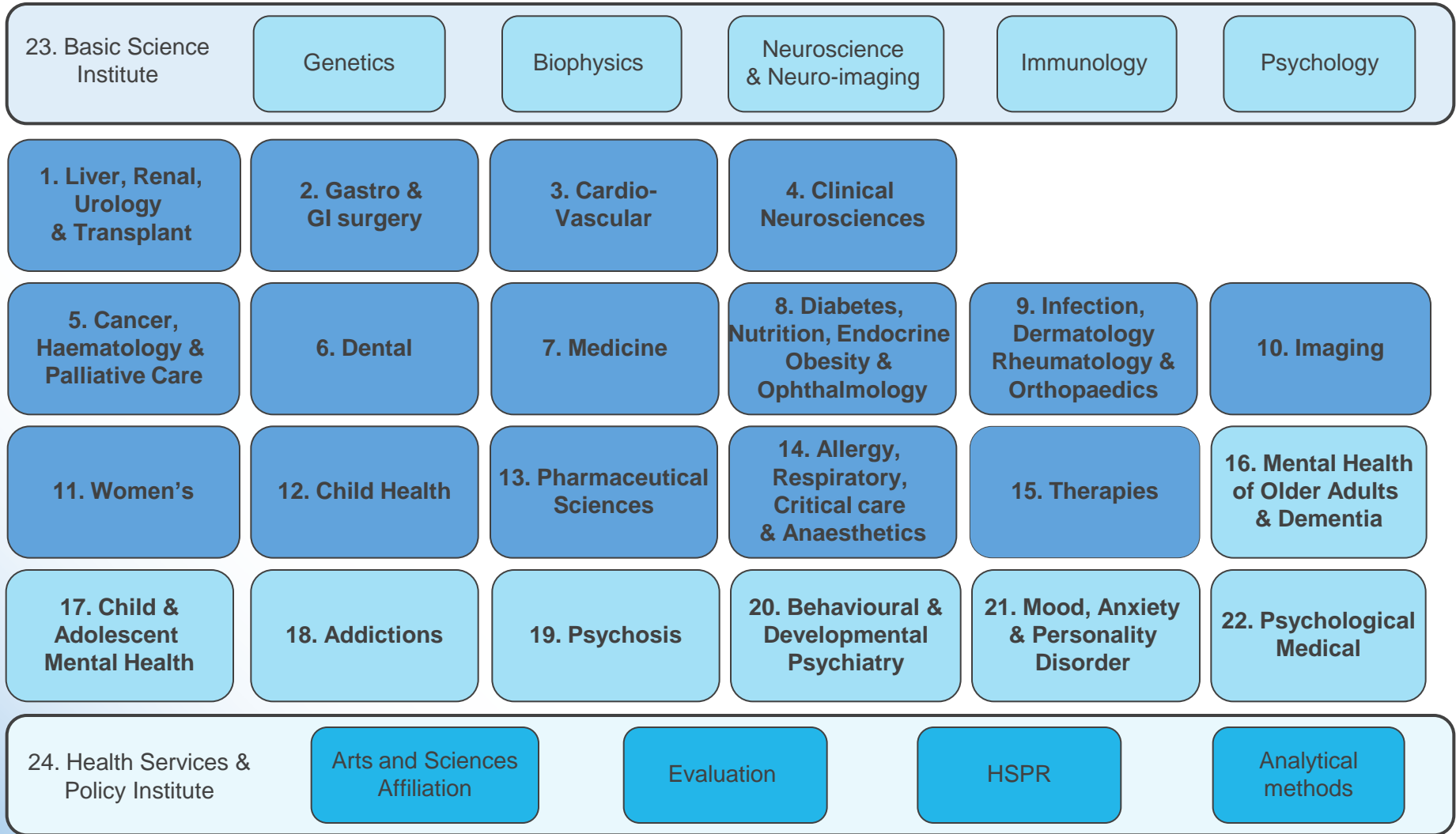
Psychiatric liaison with existing clinical services

- A&E
- Breast cancer
- Cancer
- Cardiology
- Chronic fatigue syndrome
- Clinical Neurosciences
- Dermatology
- Diabetes
- Gastroenterology
- Haematology
- Occupational Health
- Pain
- Renal
- Respiratory
- Pain
- Perinatal

The need for psychological care is recognised in policy...



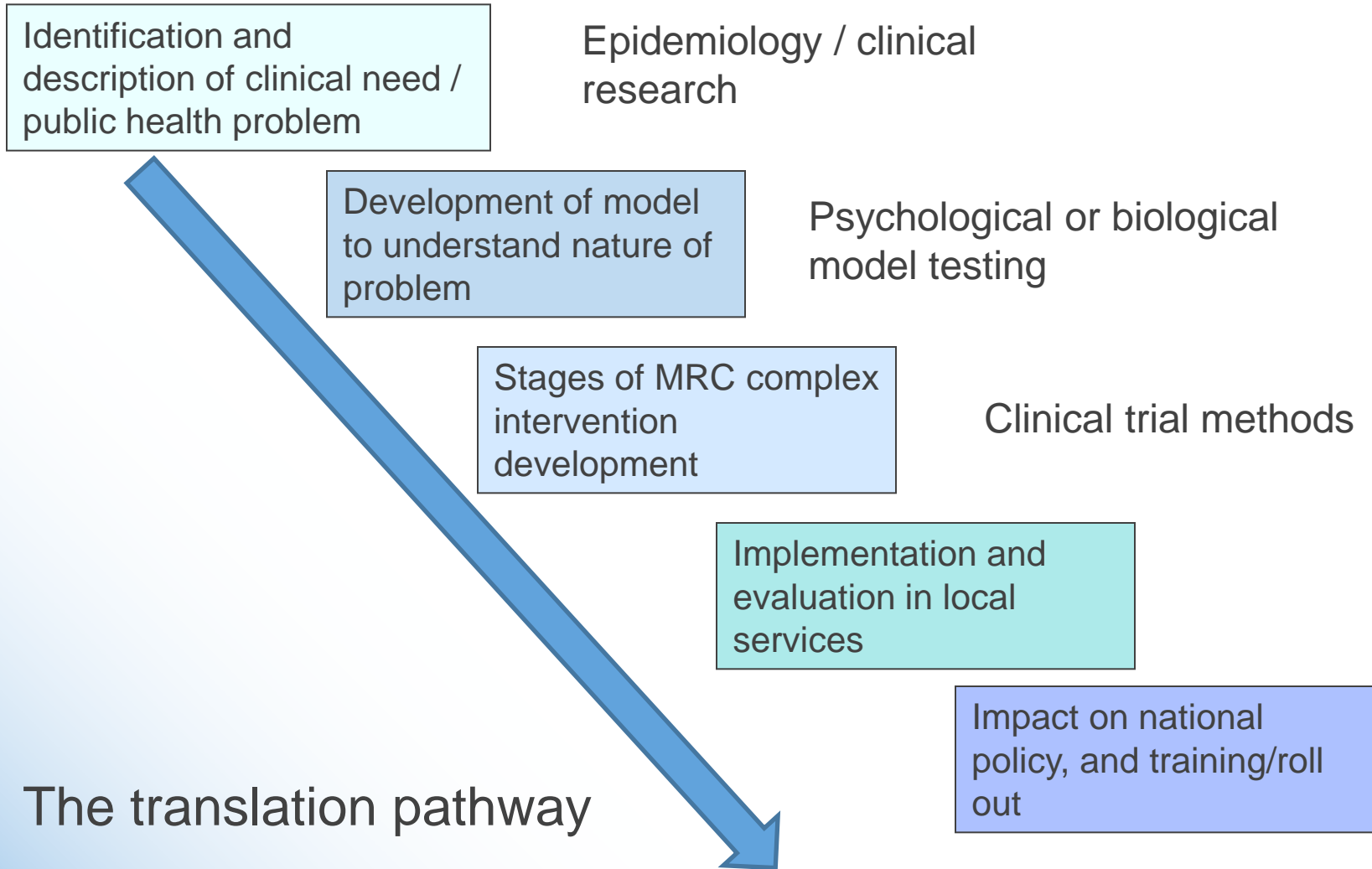
CAG and Research Group Structure – Feb 09



A model for delivering services

Level	Group	Assessment	Intervention
1	All health and social care professions	Recognition of psychological needs	Information giving, communication and psychological support
2	Health and social care professionals with additional expertise	Screening for distress	Psychological techniques such as problem solving
3	Trained and accredited professionals	Assess for distress	Counselling and specific psychological interventions delivered according to an explicit theoretical framework.
4	Mental health specialists	Diagnosis	Specialist interventions such as psychotherapy CBT, medication etc

Research strategy



The translation pathway

Some examples

- **Chronic fatigue syndrome**
- Viral hepatitis
- Anxiety in cancer
- Secondary prevention in diabetes

A model for fatigue in CFS

PREDISPOSING FACTORS

personality: perfectionist, driven, high standards, previous anxiety/depression

PRECIPITATING FACTORS

Life events, stress, busy lifestyle,
illness/infection

SYMPTOMS

rest/reduced activity

Worsening of symptoms

sleep problems & reduced fitness

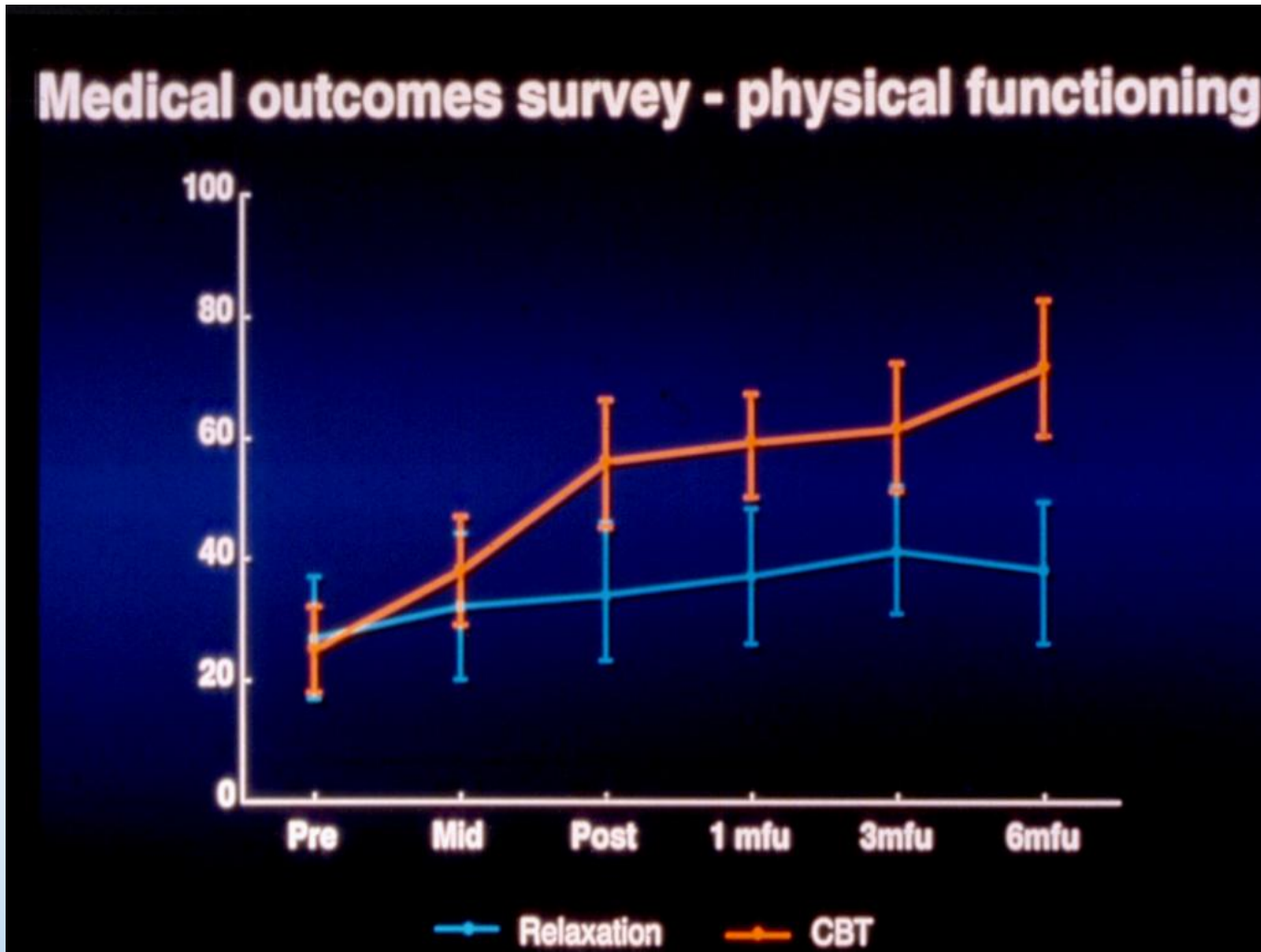
over-activity alternating with inactivity
depending upon symptoms

Increased symptoms
upon activity

Frustration, helplessness,
anxiety, depression

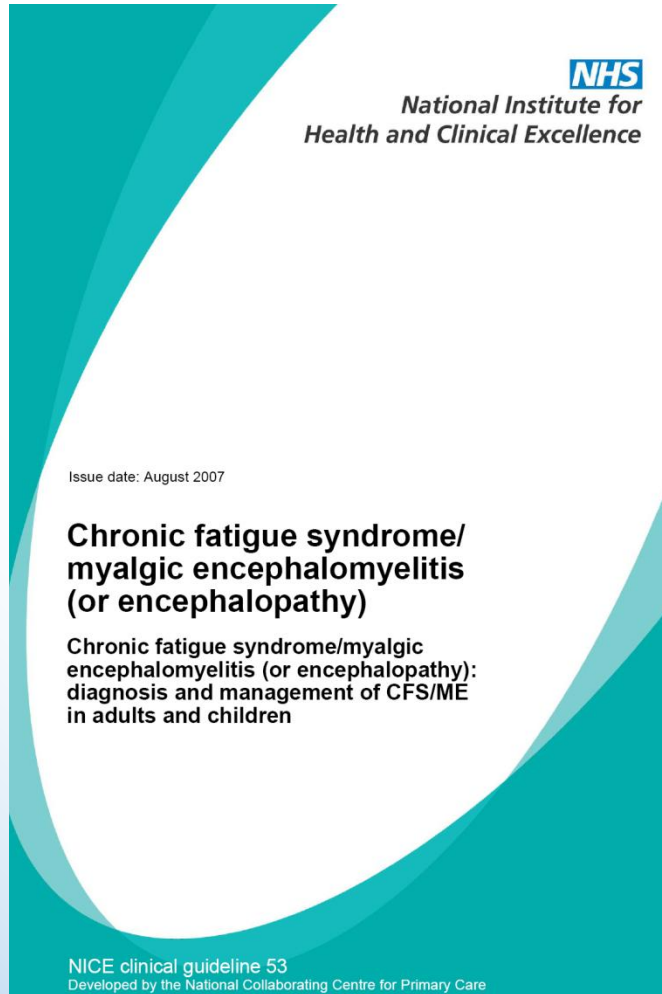
Fear and further
reduction of activity

CBT improves chronic fatigue syndrome



Deale et al (1997)

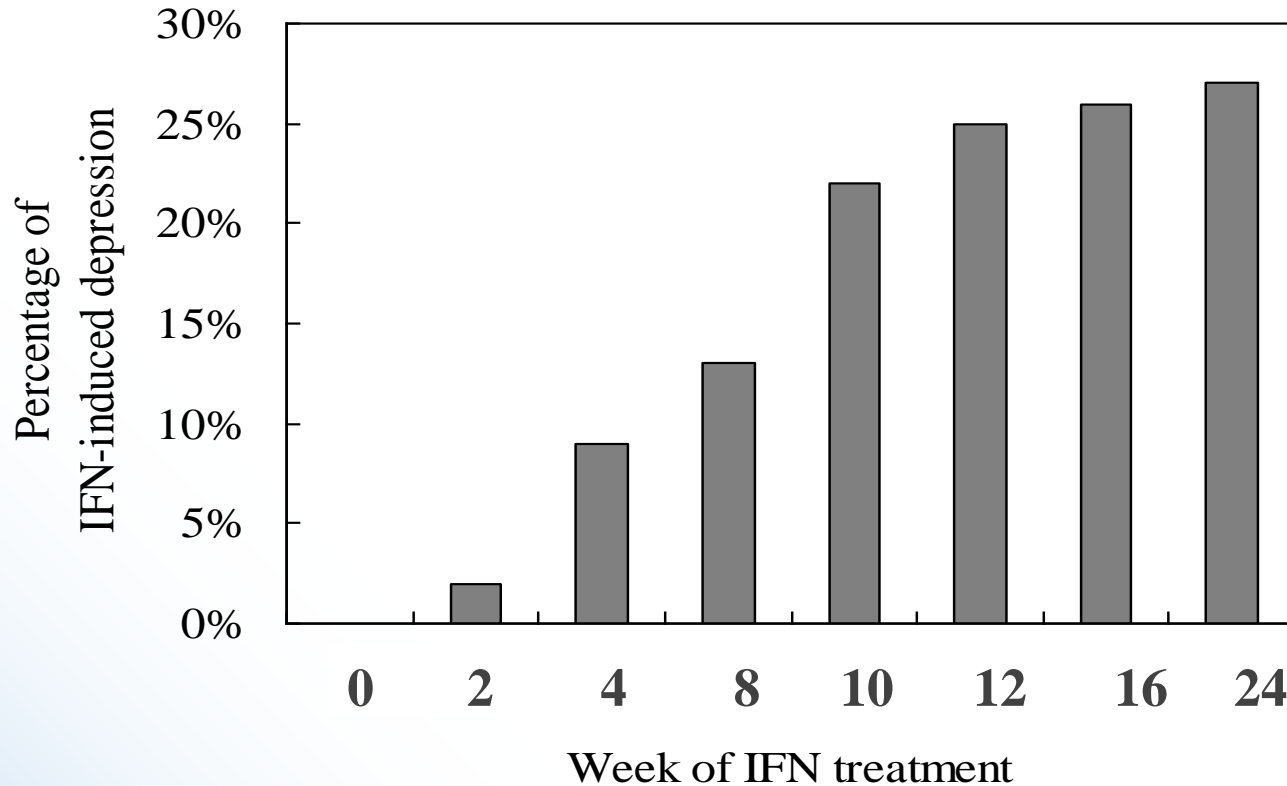
CBT is recognised in national policy on CFS



Some examples

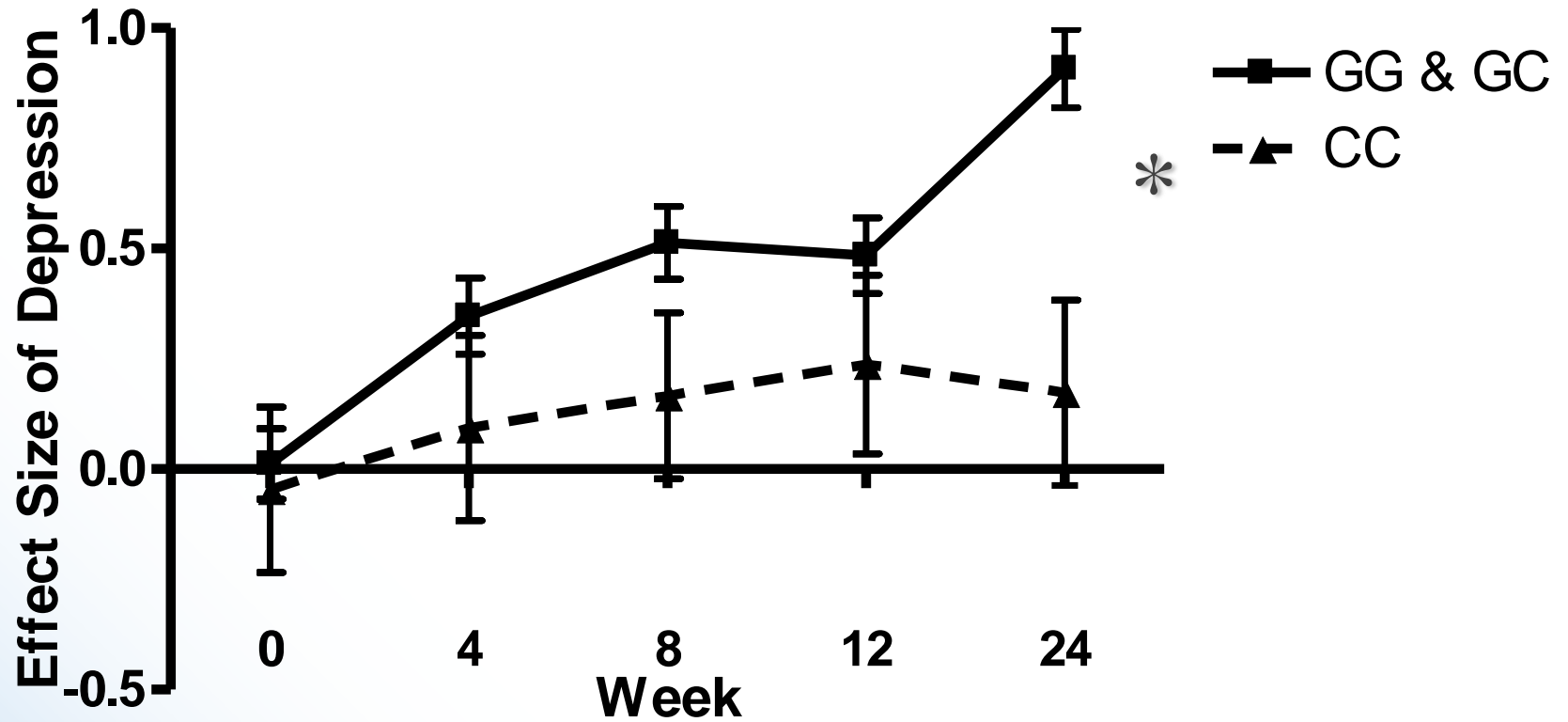
- Chronic fatigue syndrome
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Depression progressively worsens during Ifn-alpha and Ribavirin Treatment



Su et al., 2008

IFN-alpha-Induced depression in those with the “High IL-6” Polymorphism

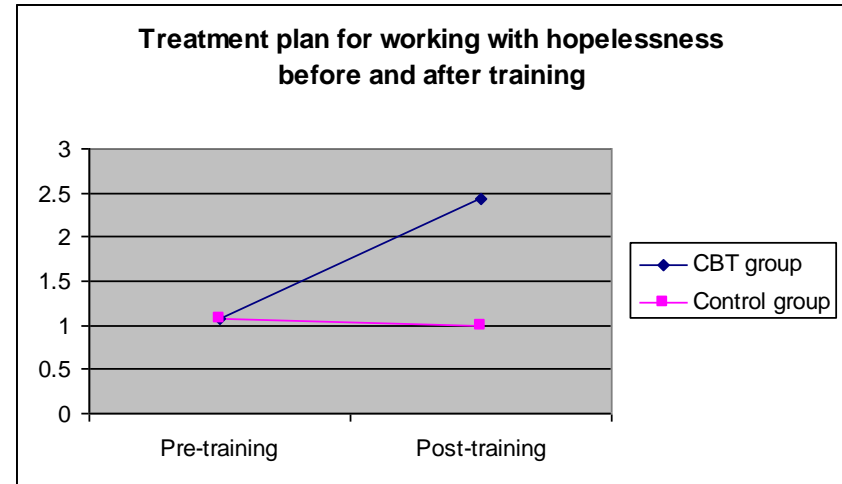
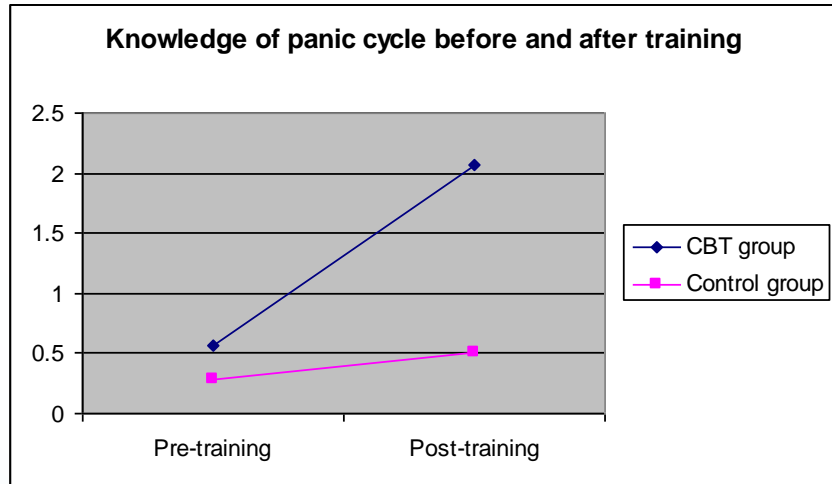


Bull et al., 2007

Some examples

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Impact of training: knowledge



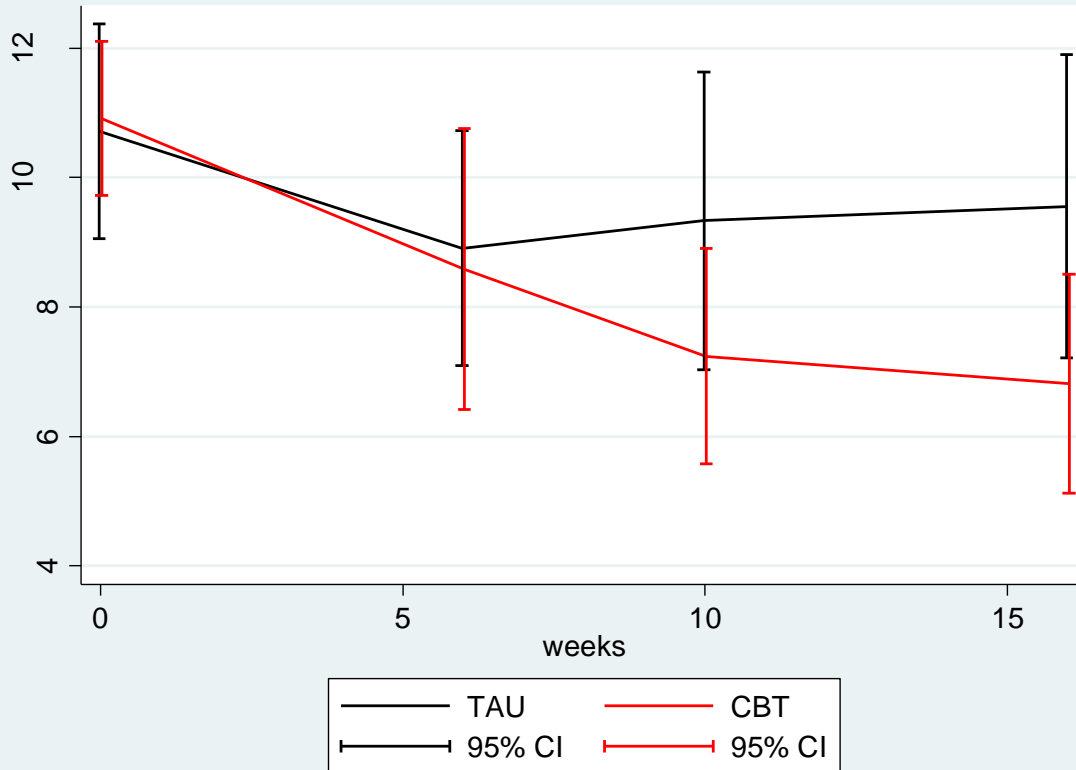
Impact of training: skills

Nurses asked to see an actor playing a young man with advanced cancer and anxiety symptoms.

Audiotaped and rated blind by experienced CBT therapists using Cognitive Therapy First Aid Rating Scale (Mannix, 2006)

CBT = 35.9 TAU = 19.0 $p=0.02$

Mean HAD Anxiety Scores



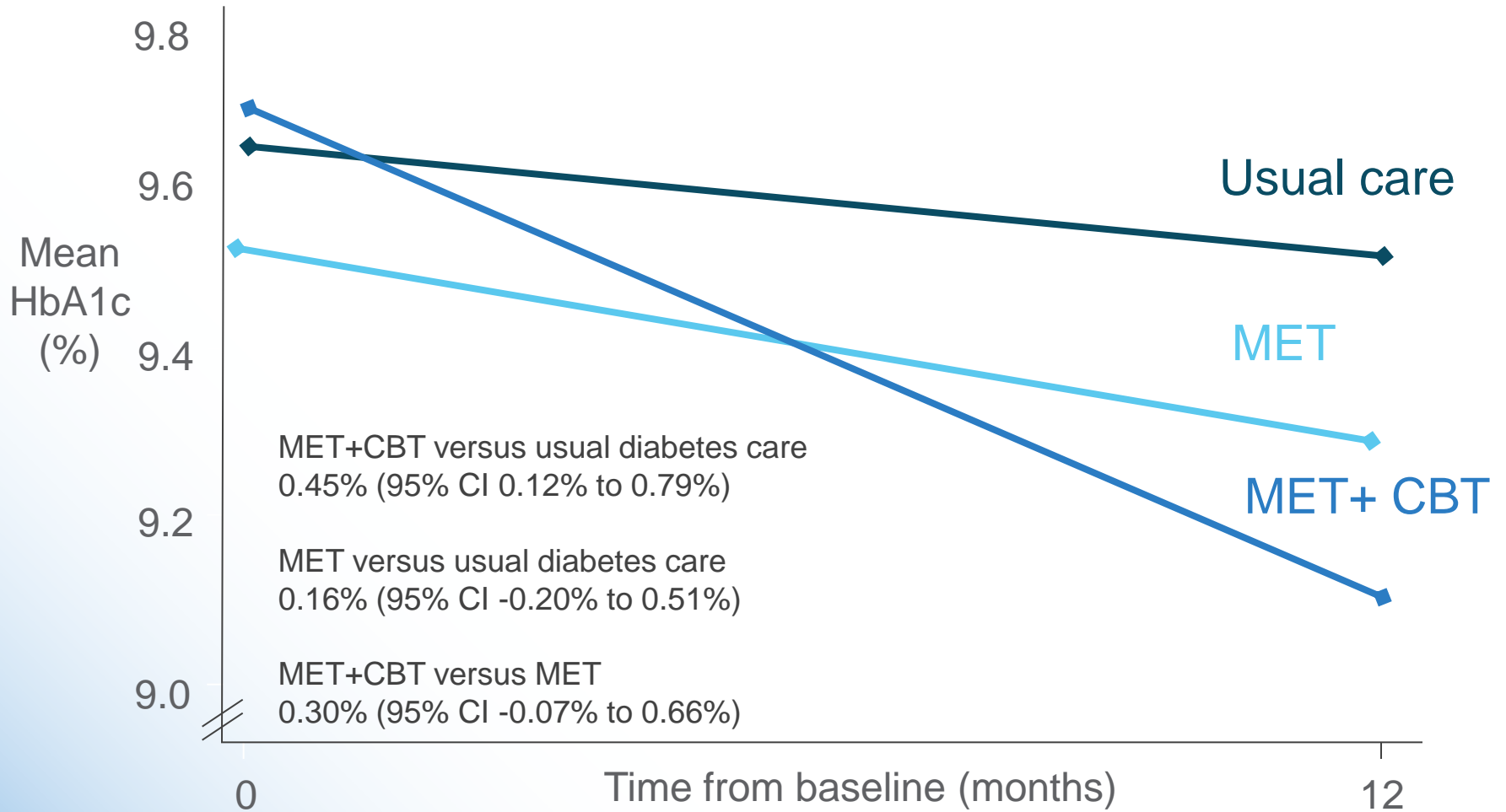
Statistical analyses using GLLAMM. Random intercept model taking account of clustering by nurse: group*time interaction: coefficient -0.20, 95% CI: -0.35, -0.05; $p=0.01$

Some examples

- Chronic fatigue syndrome
- Viral hepatitis
- Anxiety in cancer
- **Secondary prevention in diabetes**

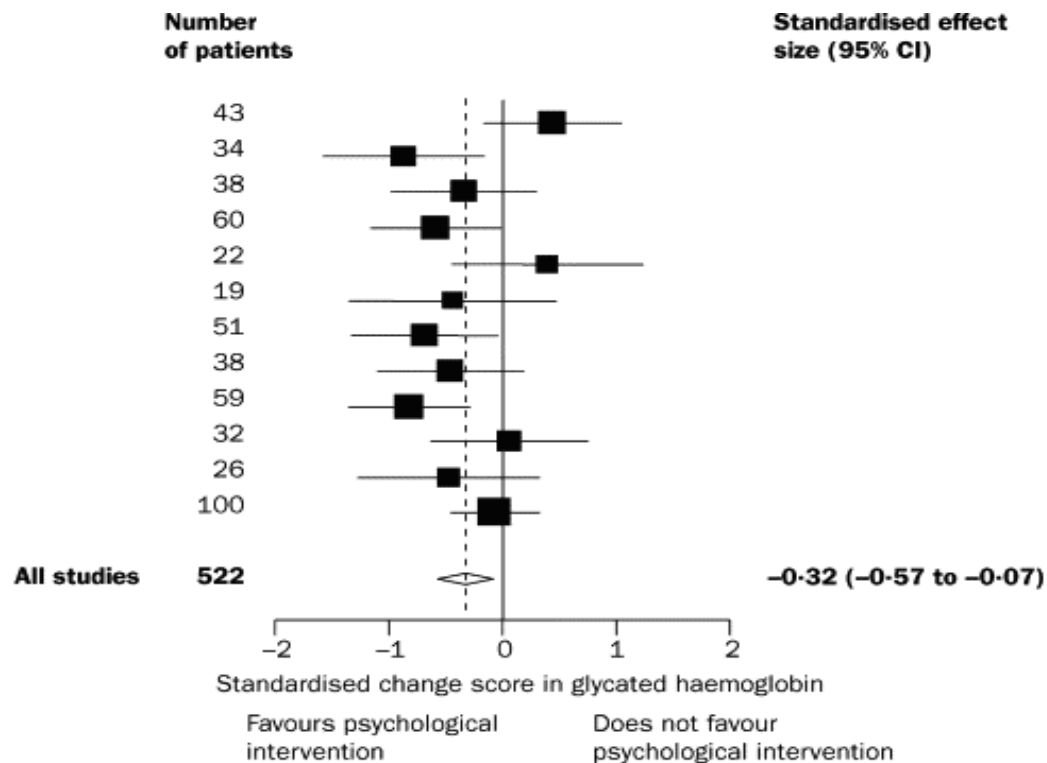
RCT in type 1 diabetes

mean HbA1c at baseline and 12 months in usual care, MET and MET+CBT (n=305)



Ismail et al Annals Intern Med 2008

Psychological treatments for glycaemic control in type 2 diabetes



Reduction in HbA1c = 0.76% (-1.34 to -0.18)

Added value of the AHSC structure

- Coordinated approach to identify gaps in knowledge and clinical services
- Better able to prioritise clinical provision according to need
- Scope for flexibility within a broad framework
- Scope to embed teaching and training explicitly in clinical and research
- Scope for reciprocity – improved medical care for patients with psychiatric disorder
- Explicit recognition of the importance of mental health in physical healthcare settings
- Key to achieving high quality acute services

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Questions?

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