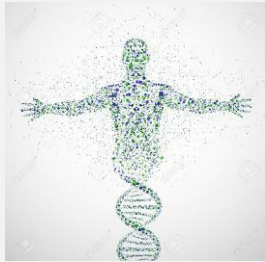

The KHP-RBH partnership: Vision and progress to date

A biomedical and health science revolution



'Omics explosion



Gene editing & replacement



Stratified/precision medicine



Cancer immunotherapy



Insights into biology of psychiatric disease

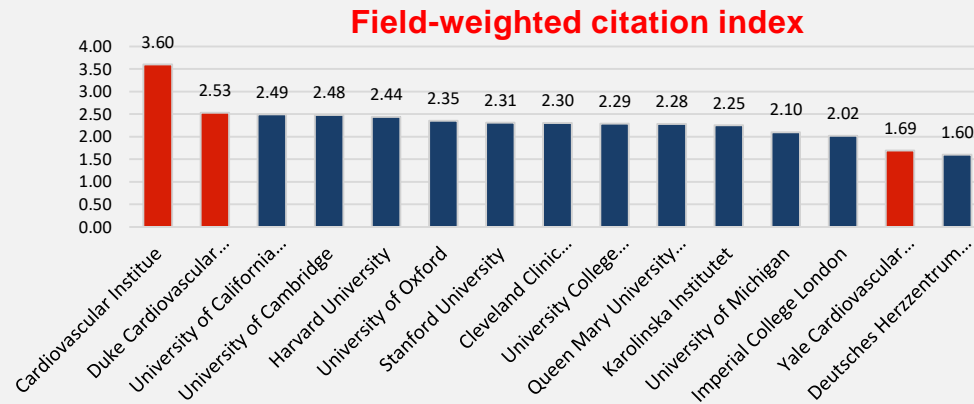


Digital technology

Major challenges remain:

- No new psychiatric drugs for 30 years
- No effective treatment for dementia
- No new class of antibiotics for 30 years (except Teixobactin)
- No success in promoting tissue regeneration *in situ*
- The pandemic of obesity marches on

KHP Cardiovascular Research: Quality profile



KHP Cardiovascular compared with other cardiovascular institutes (in red) and with leading national and international institutions.

REF2014	Percentage of the submission meeting:		
	4*	3*	Total 4*/3*
Overall rating			
UoA1			
KCL	48	45	93
Oxford	53	39	92
Queen Mary's London	40	50	90
Cambridge	58	29	87
Imperial	48	38	86
St. George's	29	37	66

KHP Cardiovascular Research: Funding profile

BHF Research Funding

Top 10 institutions - number of awards 2016-17

Institution	Number of awards
King's College London	26
University College London	25
Imperial College London	23
University of Oxford	18
University of Edinburgh	15
University of Leeds	15
University of Bristol	14
University of Cambridge	11
University of Glasgow	10
University of Manchester	9

Top 10 institutions - amount awarded 2016-17

Institution	Amount awarded
King's College London	£14.0m
University of Oxford	£11m
Imperial College London	£8.4m
University of Leeds	£6.7m
University College London	£6.3m
University of Leicester	£5.9m
University of Edinburgh	£5.9m
University of Cambridge	£5.4m
University of Bristol	£4.2m
University of Glasgow	£3.3m

Cardiovascular

Cardiovascular

Category	Number of current awards	Total value	%
Research Councils, incl. Royal Society & British Academy	5	£2,695,646	3.62 %
UK Charities	61	£52,058,904	69.99 %
NIHR	4	£7,803,251	10.49 %
Industry - UK	2	£1,779,185	2.39 %
Industry - Overseas	2	£439,686	0.59 %
European Commission & EU Government	2	£3,699,505	4.97 %
Other Sources - Overseas	6	£5,905,445	7.94 %
Total	82	£74,381,622	100%

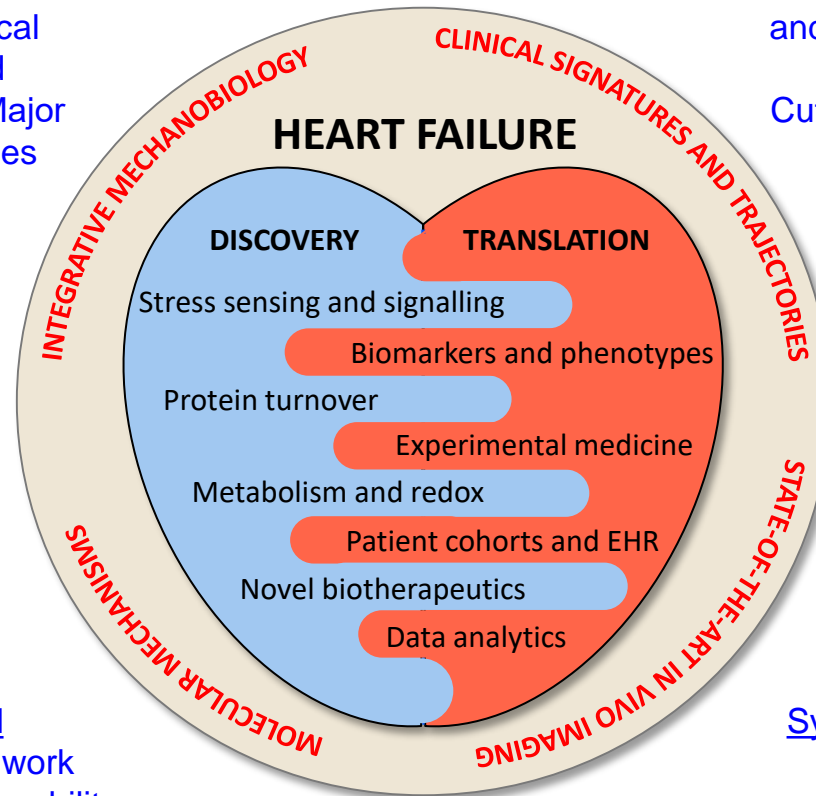
King's BHF Centre: Inter-disciplinary approach integrating discovery and translation

4 inter-related themes

Novel
pathophysiological
pathways and
mechanisms ↔ Major
clinical challenges

Critical mass

Internationally rated PIs
and expertise to maximise
added value
Cutting edge technologies



Track record

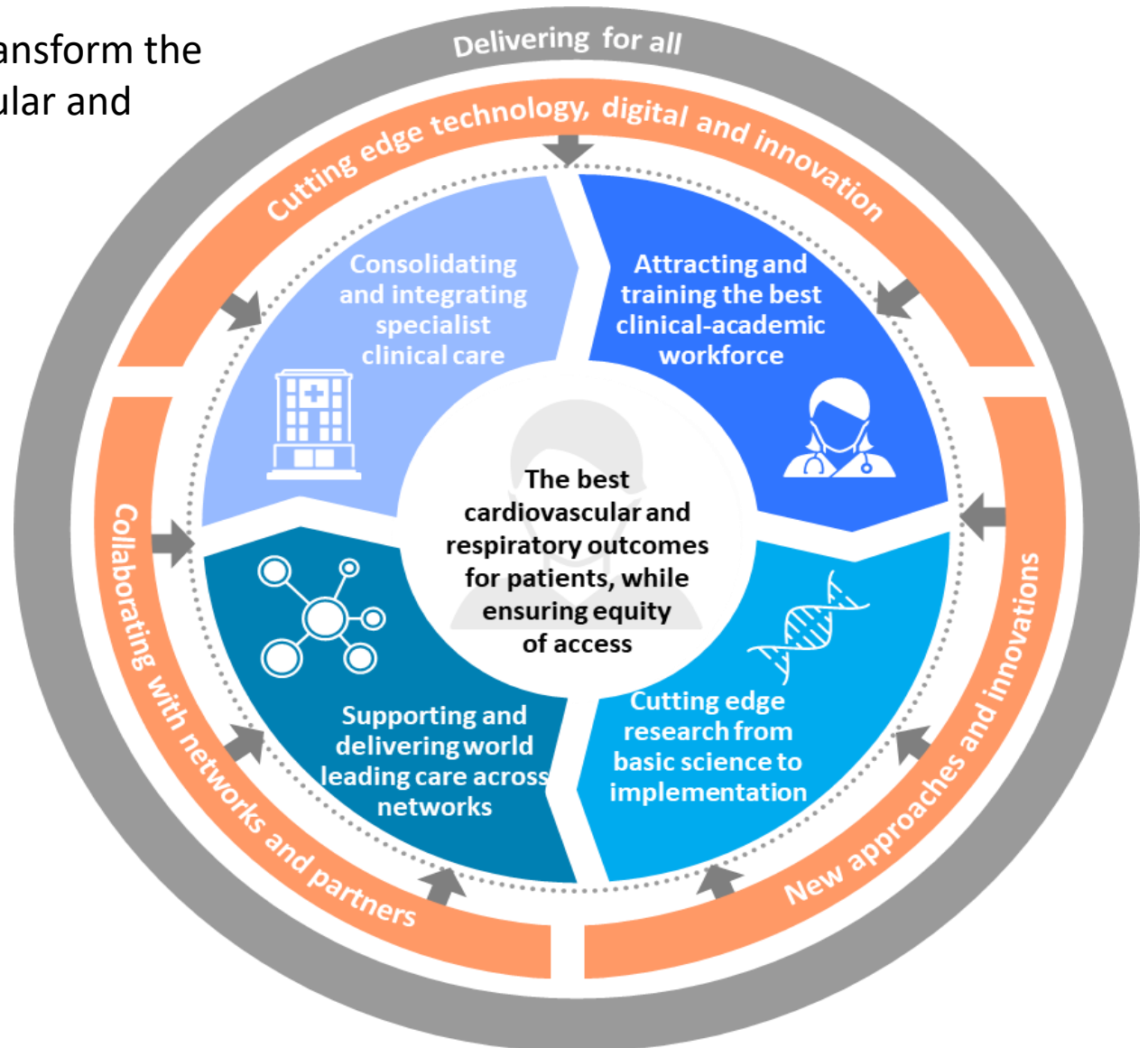
Inter-disciplinary work
Bench to bedside capability
Research training /
mentorship

Synergistic partnerships

Göttingen / U Penn
Crick
Industry

The KHP-RBH Partnership's vision

The KHP-RBH Partnership will transform the care of patients with cardiovascular and respiratory health conditions by creating **a new health system** that touches the lives of up to 15 million people in London and the south of England



Partnership can uniquely deliver for patients, innovation and workforce

We are grasping a once in a generation opportunity to connect our outstanding institutions to form a new partnership that will place us in the global top five in delivering world-leading Heart and Lung research and personalised care

Together as willing partners, we can deliver 3 key outcomes:

- 1. Patients will receive the best possible outcomes through consolidation of subspecialty expertise**
- 2. Pioneering innovation will benefit the UK health economy**
- 3. This will allow us attract and train the next generation of a world-class workforce**

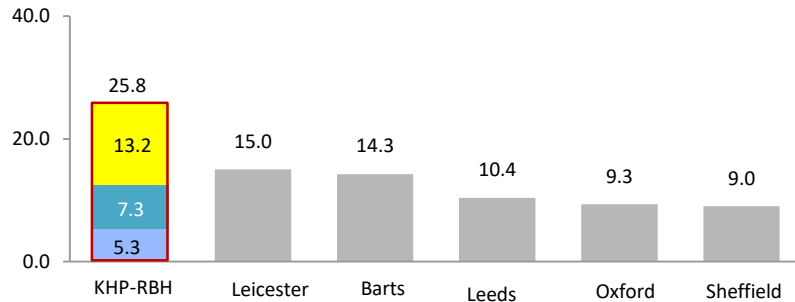
We will deliver these outcomes by:

- 1. Supporting networks to deliver best practice**
- 2. Putting ourselves at the forefront of the technological revolution in healthcare**
- 3. Enabling patients to direct their own care**
- 4. Concentrating the majority of complex and specialist services in state of the art facilities at the Westminster Bridge site**
- 5. Creating state-of-the-art models of ambulatory care within the network**

Scale of the KHP-RBH Partnership: Clinical services

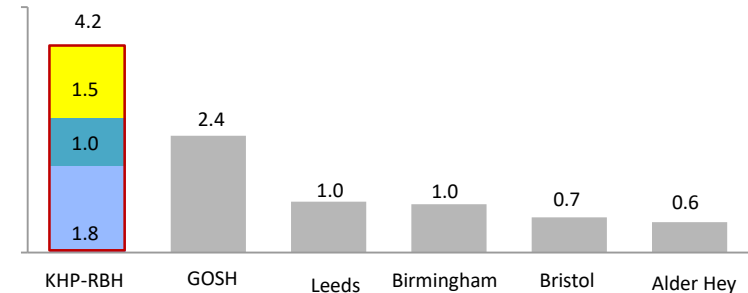
Top 6 UK: Cardiology inpatient spells 2017/18

FY.18 Inpatient Spells ('000's)



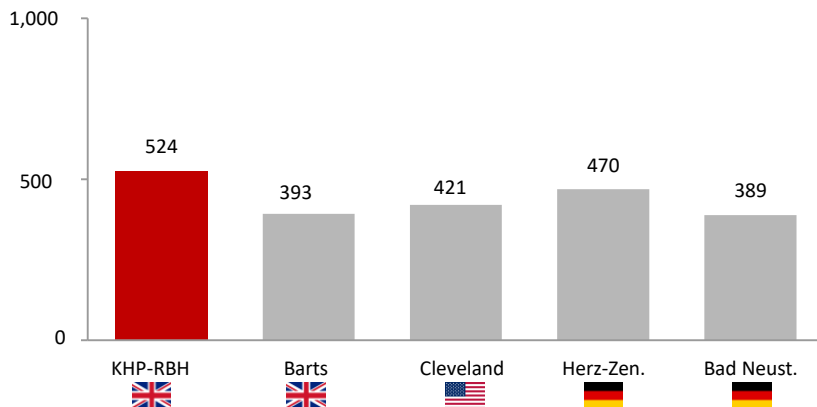
Top 6 UK: Paeds cardio inpatient spells 2017/18

FY.18 Inpatient Spells ('000's)



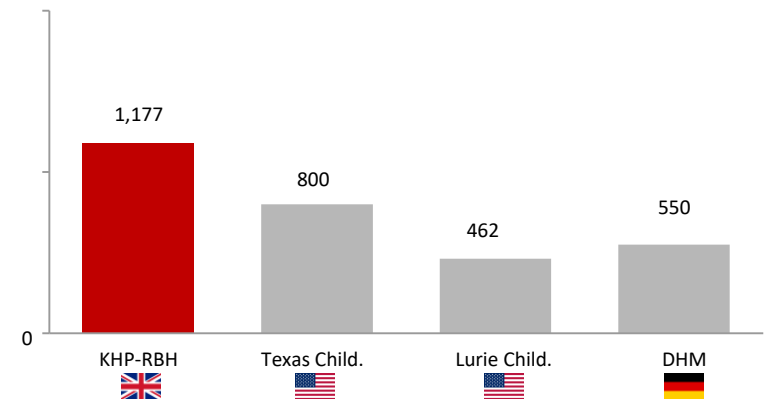
Global: # CV/cardiology beds¹, 2017/18

CV/cardiology beds



Global: Annual paediatric CHD procedures²

paediatric congenital heart surgical procedures



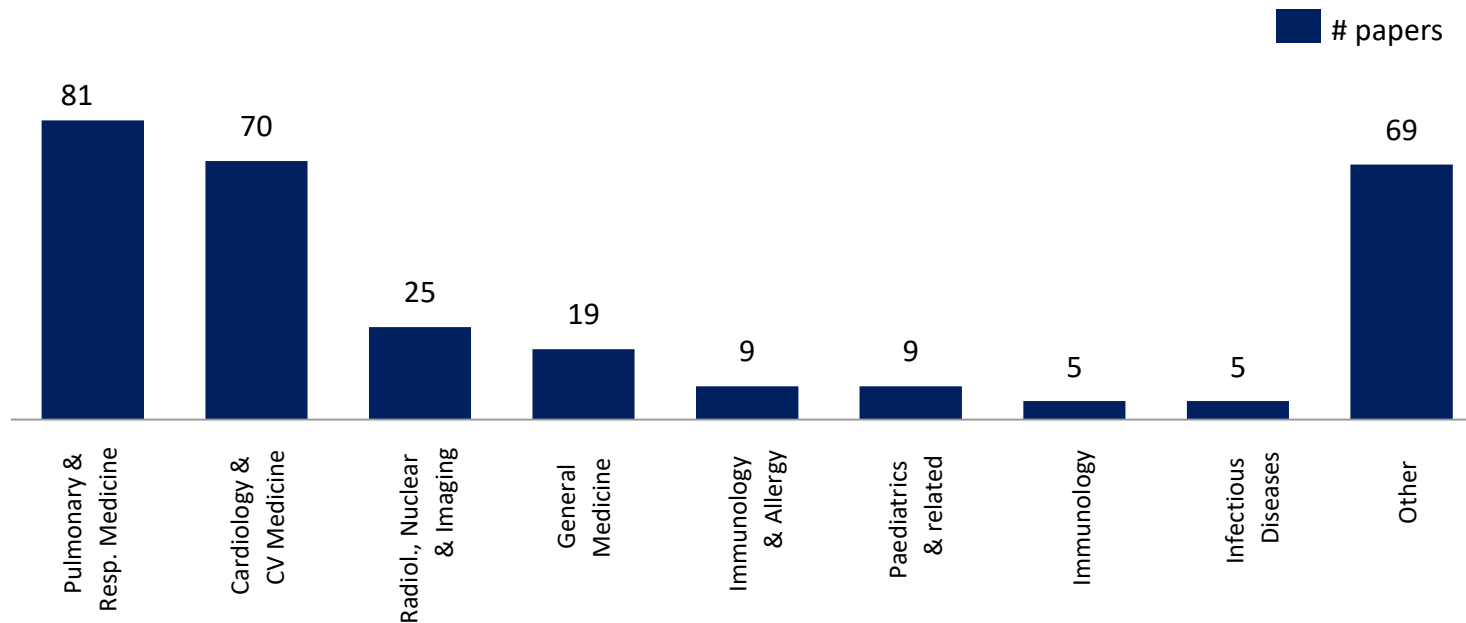
■ Royal Brompton & Harefield NHS Trust
 ■ King's College Hospital NHS Foundation Trust
 ■ Guy's & St Thomas' NHS Foundation Trust
 ■ Kings College London
 ■ KHP-RBH Partnership⁵

Data Sources: HES data, USNews, Scopus, Partnership modelling, hospital websites, German hospital survey database, NIHR data. 1. Includes total CV beds for RBH-KHP, total CV beds for Cleveland, and total beds for Herz-Zentrum and Bad Neustadt. 2. Includes interventional procedures only for RBH-KHP; RBH-KHP is 2017/18 data; others latest data on website (Jun 2019). 5. Incl. Harefield. Herz-Zen = Universitäts-Herz-Zentrum Freiburg-Bad Krozingen; HDZ-NRW = Herz- und Diabeteszentrum NRW; Bad Neust. = Rhön-Klinikum Herz- und Gefäß- Klinik, Bad Neustadt; DHM = The German Heart Centre, Bavaria; Lurie Child. = Ann and Robert H. Lurie Children's Hospital; Texas Child. = Texas Children's Hospital; Cleveland = The Cleveland Clinic

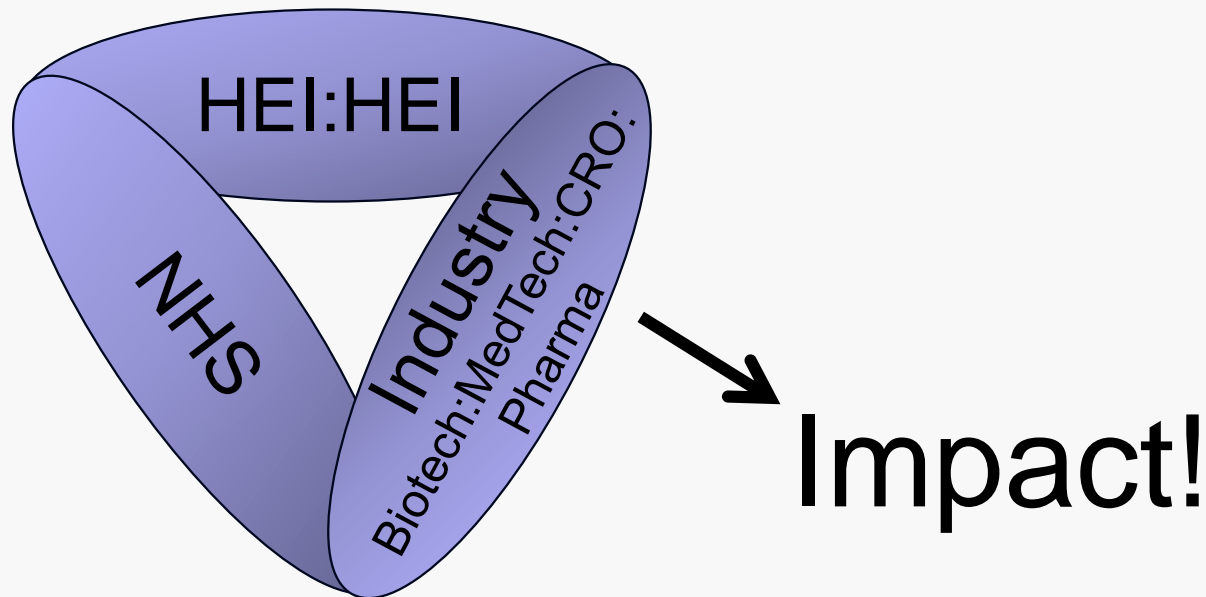
Scale of the KHP-RBH Partnership: Research

- From 2014 to 2018 KHP and RBH have collaborated on over 300 research publications of the highest quality *(cited over four times as often than normally expected for papers in the respective fields of research)*
- We currently have over 400 clinical trials underway across all sites
- RB&HFT and KHP have received >£150m funding for CV and respiratory research over last 5 years

RB&HFT and KHP collaborate in a range of disciplines



Success in translation of discovery and innovation into patient benefit depends on partnerships



A tri-partite relationship to deliver a tri-partite mission

Impact - industry partnerships

Major strategic partnerships:

- UCB
- Siemens
- GSK
- Medtronic
- Nvidia
- IBM
- Celgene
- MSD

