



# Design for Humans

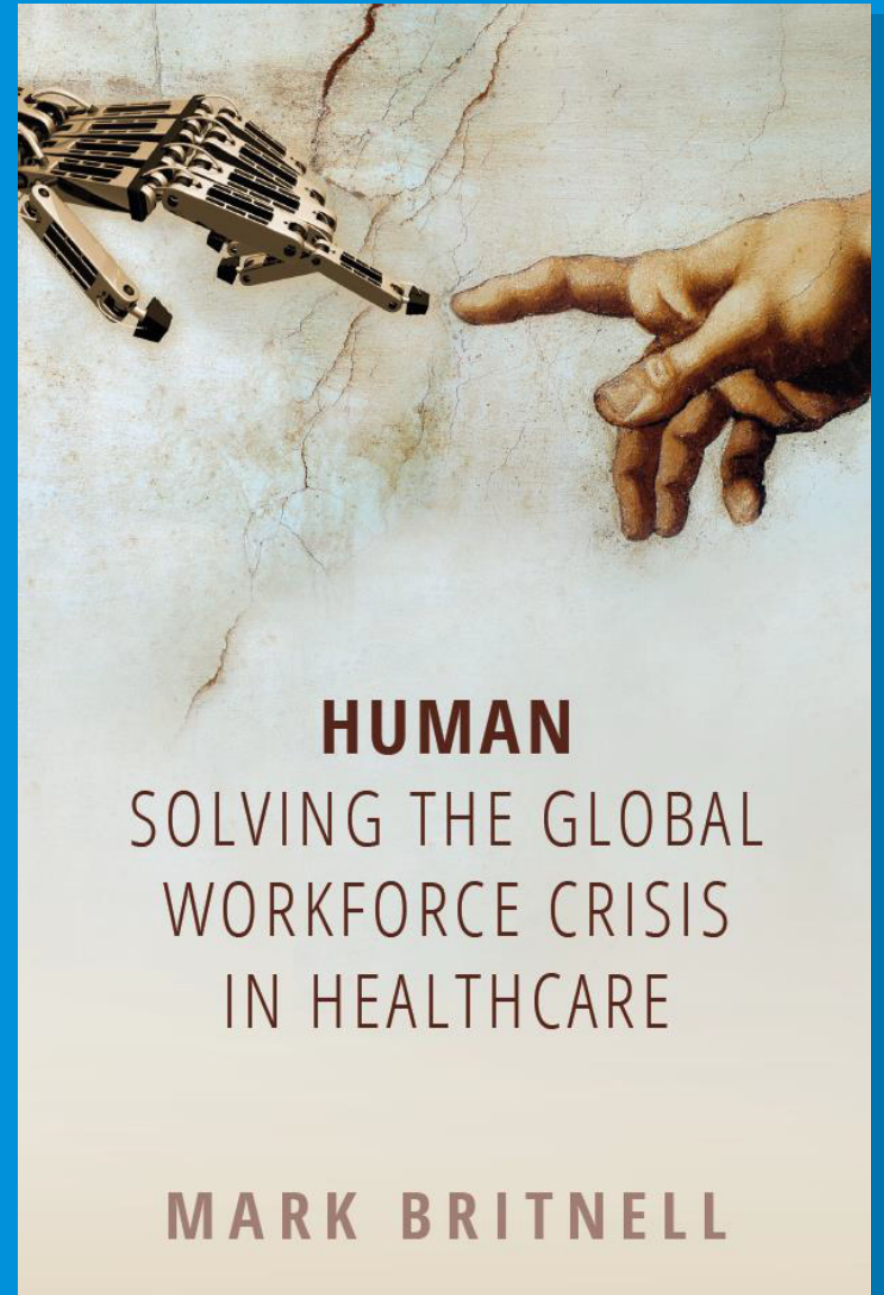
"The greatest danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it."

Michelangelo

## Mark Britnell

Global Chairman & Senior Partner  
Healthcare, Government & Infrastructure  
KPMG International

  @markbritnell







## Ambulatory Care And Diagnostics Centre (ACAD)

# University Hospital Birmingham





# Karolinska University Hospital, Sweden: Prosocial design for patient and staff wellbeing



## LIGHT

**Glass structure maximizes natural light to aid healing.**

## SOUND

**Staff carry discreet buzzers, and reliance on alarms, pagers and loudspeakers is minimised.**

## AESTHETIC

**\$13.2m worth of paintings, sculptures and design objects have been installed in staff facilities, staircases and waiting rooms.**

“ During the NKS project, we have prioritized human need. The buildings and rooms have been designed with health care in mind, but they also provide a sense of well-being ”  
Charlotte Ruben, NKS architect

# Odense University Hospital, Denmark: Improved efficiency through hospital design



## Centre For Innovative Medical Technology (CIMT):

- Links university and hospital
- Trials technology pilots from faculty and staff
- Encourages a fail-fast culture

**STRUCTURALLY DESIGNED** to put the patient at the centre of care pathways

**RELATED SPECIALTIES** are clustered together such as geriatrics and orthopaedics

**CO-DESIGNED** with clinicians





# Kaiser Permanente, US: Re-designing outpatient care



Remote monitoring is used to achieve:

1. Pre-emptive care
2. Fewer hospital visits
3. Greater patient engagement



**DIABETES** patients can synch their glucose meters to their phone and transfer readings automatically to their EHR



**HYPERTENSION** patients can record BP readings at home that are transmitted wirelessly to the EHR using Bluetooth technology



**CARDIAC** patients with implantable devices, like a pacemaker, can constantly monitor the electrical activity of their heart



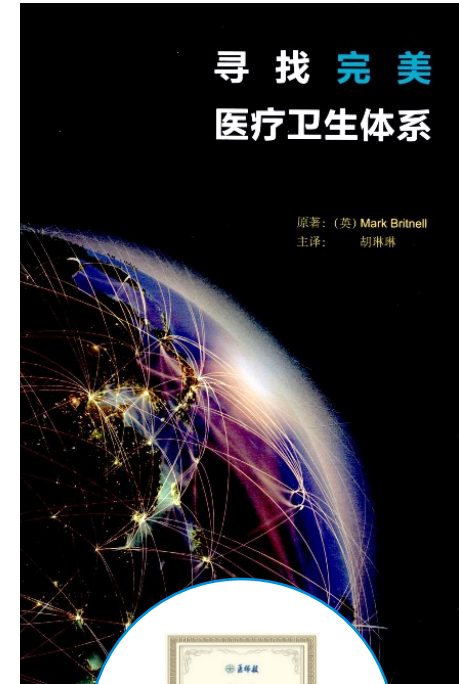
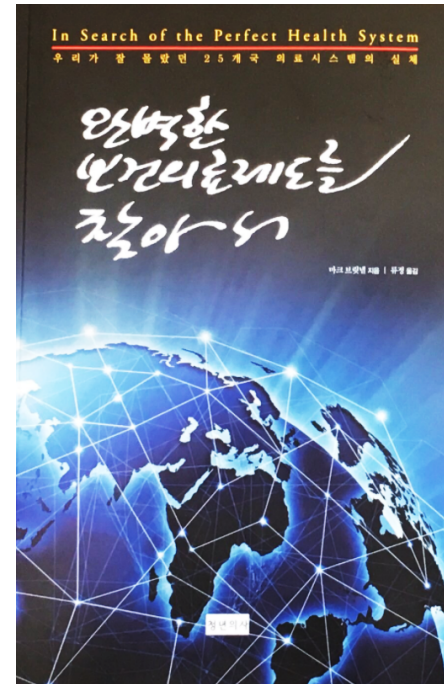
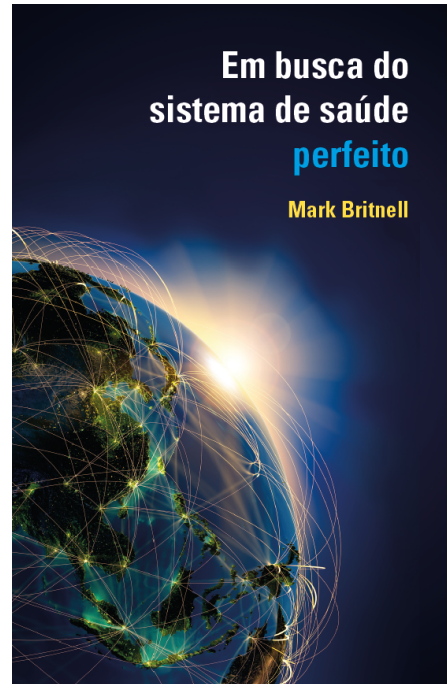
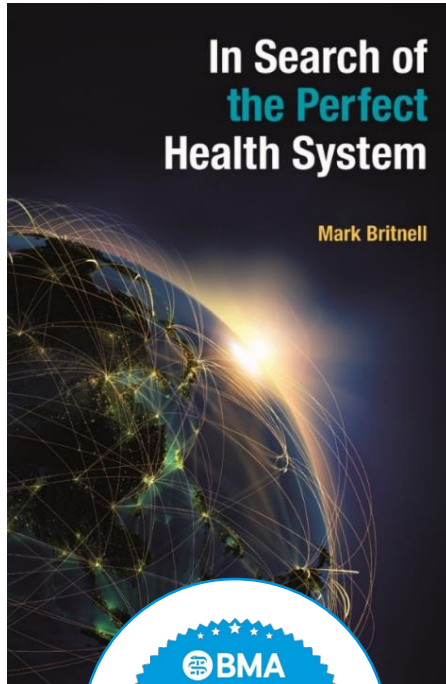
# Silverchain, Australia: Re-designing primary and community care

**“ Hospitals and GP practices will be both physical and virtual, to meet healthcare needs more efficiently – and to give people more choice. ”**





# "In search of the perfect health system"



Sold in 109 countries  
Translated into Mandarin, Korean and Portuguese



# The perfect health system...



# Different country, same problems

- 1 **Prevention and promotion** across public and private sectors
- 2 Population and patient **segmentation** and **stratification**
- 3 **Scaled-up** primary care
- 4 **Centralised and localised** clinical services as necessary
- 5 Clinical pathways supported by **improvement science**
- 6 Workforce **development** and **motivation**
- 7 Hospitals as **health systems**
- 8 **Medical home** as a hub for aged care
- 9 **Community-based** mental health services
- 10 Patients as **partners**. Communities as **carers**. **A dignified death.**





# The global healthcare workforce crisis

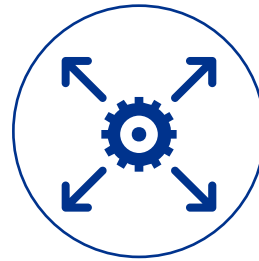
**We face a future of too much work with too few workers**

18 million

The global shortfall of health workers by 2030

20%

Of the total capacity to care



**UK**

**9.2%**

of all NHS posts vacant



**USA**

**1m+**

nurses and **120,000**

doctors by 2030



**India**

Needs

**3.9m**

doctors and nurses



**China**

Needs

**180,000**

Obstetricians by 2022



**Japan**

Tripled nurses from **550,000** to **1.7m** in 13 years but still

need **250,000**

more by **2025**



# Ten changes to tackle the global health workforce crisis

With 10 large-scale changes we can increase the capacity to care by roughly

**20%** meeting the anticipated shortfall in health staff



- 1 Productivity. Health is wealth
- 2 Entrepreneurial government
- 3 New models of care
- 4 Patients as partners
- 5 Communities as carers
- 6 Professionals. Top of their game
- 7 New cadre of care workers
- 8 Digital dividend
- 9 Agile learning organisations
- 10 Managed and motivated workforce







“I first worked with Mark twenty-four years ago. He has worked across the world since. This book confronts the truism that there is no healthcare without a workforce.”

— Professor Dame Sally Davies, Chief Medical Officer for the UK Government —



“Mark shows us that, in health, every country has something to teach and every country has something to learn.”

— Dr Yasuhiro Suzuki, Chief Medical and Global Health Officer and Vice-Minister for Health, Japan —



“Humans need to master the technological and digital potential offered through the Fourth Industrial Revolution. This book makes a compelling case for doing so.”

— Ms Sangita Reddy, Managing Director of Apollo Hospitals in India —



“This is a terrific book. It reminds us that demography is not our destiny and offers far reaching solutions to seemingly intractable health system problems.”

— Professor David Bloom, Harvard T.H. Chan School of Public Health, USA —



“Britnell calls for politicians and professionals, patients and the public, to act now to avoid a global workforce crisis.”

— Professor Detlev Ganten, President World Health Summit, Germany —



“This book is a call to action. Mark reminds us that people are the biggest challenge – and best solution – to the problems in healthcare.”

— Dr Francisco Balestrin, President International Hospital Federation, Brazil —



“Students and scholars alike will find this book illuminating. It has global reach and is infused with practical examples of what works.”

— Professor Ling Li, Peking University, People’s Republic of China —

