### nature

# index

## **Research hospitals**

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he hospitals of the ninth century were quite different from the plastic-and-steel environments we see today. But there are nevertheless similarities: Abū Bakr al-Rāzī, a physician working from medieval Baghdad and one of the most significant figures in the history of medicine, worked to many of the same principles, informed by the same classical medical scholars such as Hippocrates or Galen, that govern our own health care. For instance, he made use of control groups, suggesting his colleagues use a new treatment on only half a group of patients to understand the difference a proposed medicine might cause. When asked where authorities should build a new bimaristan – a medieval Islamic hospital – he suggested meat should be hung around the city and wherever it took the longest to rot, he reasoned, was the best spot. Al-Rāzī also had a publishing history that would be the envy of many modern scholars – writing more than 200 works on many different fields of medicine and philosophy. Hospitals have been important centres of research – as well as health care – ever since. In this supplement we reveal the current leading hospitals for research in Nature Index journals, which increasingly are located beyond Europe and North America. In particular, we dig into the sometimes-controversial world of China's research hospitals: aiming to understand how medical research is thriving – to the point where it is mounting a serious challenge to the United States in biomedicine – but also how warped incentives and publishing practices have come to damage the credibility of some of the research generated (see page S2). We also take a closer look at some of the longitudinal studies from around the world that aim to challenge and complement existing medical understanding (see page S8), which is often based only around Western populations: an approach that might even have seemed narrow to al-Rāzī as he treated myriad groups from across the Islamic world and beyond.

#### **lack Leeming**

Chief careers editor

\*Nature Index's signature metric Share, used in this supplement, is a fractional count for an article allocated to an institution, city or country/ region, that accounts for the proportion of authors on the article whose institutional affiliation is with that institution or location. Adjusted Share accounts for the annual variation in the total number of articles in Nature Index journals. We point out that the Nature Index provides just one indicator of research performance, and many other factors must be taken into account when assessing the quality of research or institutions.



A HELIOS lab in Singapore. Credit: Charlene Winfred for Nature

#### Contents

A push for prominence China's output in quality

health research is going from strength to strength, but can it overcome questions about the integrity of publishing practices?

The big picture

These long-term programmes seek to improve medical understanding of underserved populations from around the world.

**Contrasting conditions** 

Research hospitals around the world face varying challenges, as these charts illustrate.

S18 The tables

How the leading research hospitals are placed.